

# Bat Survey Report

Slip Cottage  
Hawley  
Hampshire, GU33 6NH  
NGR: SU 75462 29335



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### **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 as legal advice. Should this be required, then a suitably qualified professional practitioner should be contacted.

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# 1 Summary

- 1.1 This report provides the findings of a suite of evening emergence and dawn re-entry survey of two buildings within the property of Slip Cottage, Hawley, Hampshire, GU33 6NH, NGR: SU 75462 29335. A previous report (Sylvatica Ecology 2022) identified evidence of roosting bats within the main residential building, giving this a category of high potential and the ancillary (garage) building having a category of moderate potential for bats.
- 1.2 The site was situated in rural Hampshire, close to the village of Liss. The habitats within the immediate vicinity consisted of a mixture of arable and pasture farmland with associated boundary hedgerows, woodland and ponds. All of these habitats provided high quality foraging habitat for bat species.
- 1.3 The survey work used the guidance detailed within Bat Surveys Guidelines for Professional Ecologists – Good Practice Guidelines (BCT 2016) as the basis to the survey methodology and the interim guidance note on surveys and night vision equipment (BCT 2022).
- 1.4 A soprano pipistrelle roost was found under the hanging tiles on the north face of the western facing dormer window and a common pipistrelle roost was located on the hanging tiles on the southern face of the main residential building. Foraging activity for a range of bat species have been observed and recorded.
- 1.5 Without mitigation, the impact is likely to be permanent and would result in both the disturbance and likely destruction of the common pipistrelle roost present at the dormer window and will result in the disturbance of the common pipistrelle roost entrance at the southern gable end of the main residential building. This work, carried out without licence would constitute an offence under the Wildlife and Countryside Act (1981). Due to the low numbers of commonly encountered bats being present, a Low Impact Class Licence would be the appropriate licence type for this location.

## 2 Introduction

### Aims and Objectives of this Study

2.1 This report provides the findings of a suite of evening emergence and dawn re-entry survey of two buildings within the property of Slip Cottage, Hawley, Hampshire, GU33 6NH, NGR: SU 75462 29335. A previous report (Sylvatica Ecology 2022) identified evidence of roosting bats within the main residential building, giving this a category of high potential and the ancillary (garage) building having a category of moderate potential for bats.

2.2 Figure 1: Site Location in Wider Landscape



### Surrounding Habitats

2.3 The site was situated in rural Hampshire, close to the village of Liss. The habitats within the immediate vicinity consisted of a mixture of arable and pasture farmland with associated boundary hedgerows, woodland and ponds. All of these habitats provided high quality foraging habitat for bat species.

### Legal Status of Bats

2.4 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’.

2.5 Bats are also protected under the Conservation of Habitats and Species Regulations 2019. 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.

2.6 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 Methodology

3.1 The survey work used the guidance detailed within Bat Surveys Guidelines for Professional Ecologists – Good Practice Guidelines (BCT 2016) as the basis to the survey methodology and the interim guidance note on surveys and night vision equipment (BCT 2022).

#### 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 20 years on a number of differing locations throughout the United Kingdom for a variety of protected species, including bats (Class 2 2015-12576-CLS-CLS) reptiles, amphibians including great crested newt (*Triturus cristatus*) (Class 1 2016-20290-CLS-CLS) and terrestrial mammals including dormice (2015-13188-CLS-CLS) and birds including barn owl licence (CL29/00236). Richard is also qualified in track and sign and trailing via an international system of assessment ([www.trackercertification.com](http://www.trackercertification.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).

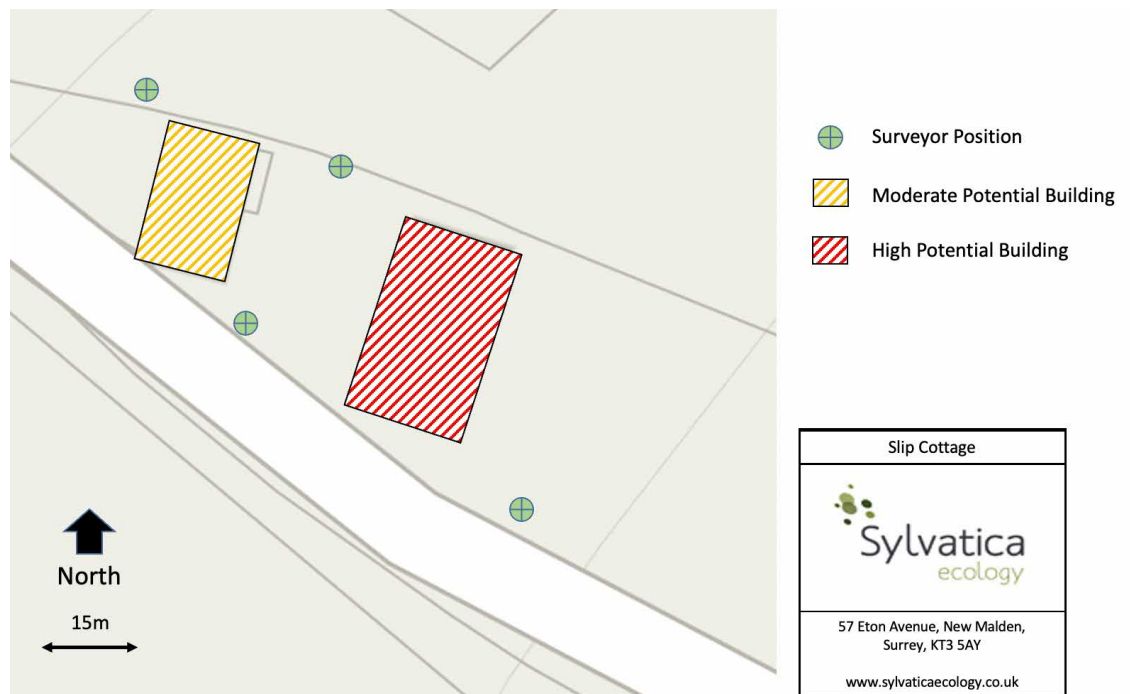
3.4 The night vision observation equipment gave a view of the features of the building surveyed that was not possible with the naked eye, enabling effective observation to continue in the dark. The cameras were installed on tripods, which enabled the surveyor to work normally without having to hold the 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 Dawn re-entry surveys are normally used when species that are harder to observe such as roof void dwelling species i.e. brown long-eared bats (*Plecotus auritus*), have been recorded foraging locally during the evening survey around the emergence time of this species but have not been seen emerging from buildings. This type of survey will then allow re-entry to be observed in better light conditions. However, there was no evidence of roof dwelling species recorded from the internal/ external inspection.

3.7 Figure 2: Surveyor Positions and Buildings Surveyed



## 4 Results

4.1 This section provides an account of the results from inspections 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
12/05/2022	20:39	20:10 – 22:10	16°C	None	SW (1)
26/05/2022	20:58	20:30 – 22:30	17°C	None	S (3)
10/06/2022	04:47	03:20 – 05:00	14°C	None	SW (2)
12/07/2022	05:02	03:30 – 05:10	16°C	None	Still

4.3 The weather conditions during the evening emergence surveys were warm and clear. There was no precipitation during the surveys, or immediately before. The dawn survey was slightly cooler, which was to be expected

### Bat Survey Results

4.4 Table 2: 12<sup>th</sup> May 2022 - Emergence Survey

Time	Species	Passes	Activity and Location
20:50	C.pip	1	Brief pass. Not seen
21:07	C.pip	1	Brief pass. Not seen
21:09	C.pip	2	Brief pass. Not seen
21:11	C.pip	1	Brief pass. Not seen
21:13	S.pip	1	Emergence from under hanging tile on dormer window, northern face
21:14 – 21:23	2 x C.pip	>20	Foraging around garden to the east
21:27 – 21:46	C.pip	>20	Foraging to the north and around pond
21:30	BLE	1	Heard, not seen
21:37	Noc	1	Heard, not seen
21:40	S.pip	1	Very brief pass < 1 sec
21:42	Myotis	1	Single brief pass < 1sec
21:58 – 22:30	S.pip	>40	Foraging to the north and around pond
S.pip = Soprano Pipistrelle C.pip = Common Pipistrelle Noc = Noctule Myo – Myotis Sp. BLE = Brown Long Eared			



4.5 A single soprano pipistrelle (*Pipistrellus pygmaeus*) emergence was observed from under a hanging tile on the northern face of western facing dormer window. Common pipistrelle (*Pipistrellus pipistrellus*) foraging and commuting was observed and recorded throughout the survey period. A single pass of brown long eared, noctule (*Nyctalus noctula*) and myotis (*Myotis* sp.) was recorded during the survey. No bats were observed emerging from the garage unit building.

4.6 Table 3: 20<sup>th</sup> May 2022 – Emergence Survey

Time	Species	Passes	Activity and Location
20:49	S.pip	1	Emergence from under hanging tile on dormer window, northern face
21:02	Ser	1	Heard, not seen
21:07	S.pip	1	Emergence from under hanging tile on dormer window, northern face
21:19	S.pip	1	Emergence from under hanging tile on dormer window, northern face
21:37	C.pip	1	Brief pass, heard not seen
21:47	S.pip	7	Foraging around pond to the north
21:52 – 22:26	S.pip	>40	Foraging around pond to the north
Ser = Serotine S.pip = Soprano Pipistrelle C.pip = Common Pipistrelle			

4.7 Three soprano pipistrelle were observed emerging from the hanging tiles on the northern face of the western facing dormer window. A single serotine (*Eptesicus serotinus*) pass was recorded, with common pipistrelle and soprano pipistrelle foraging recorded locally.

4.8 Table 4: 10<sup>th</sup> June 2022 – Dawn Re-Entry Survey

Time	Species	Passes	Activity and Location
03:29	C.pip	1	Faint call, not seen
03:31	2 x C.pip	1	Foraging to the north
03:42	C.pip	1	Faint call, not seen
03:47	C.pip	>10	Foraging around garden and southern hanging tiles
03:49	S.pip	1	Foraging around pond to the north
03:57	S.pip + C.pip	>15	Swarming behaviour around northern gable end of residential building
04:06	C.pip	4	Several brief passes, but not seen
04:22 to 04:24	C.pip	>15	Foraging around southern hanging tiles. Landing on tiles repeatedly, then re-entering under tile.

04:33	S.pip + C.pip	5	A single S.pip re-entered building under hanging tile at dormer window. C.pip flew off to the north
C.pip = Common Pipistrelle S.pip = Soprano Pipistrelle			

4.9 Two re-entry locations were observed during this survey. A soprano pipistrelle was observed re-entering the western facing dormer window, around the northern hanging tiles and a single common pipistrelle was observed re-entering under a hanging tile on the southern face of the building.

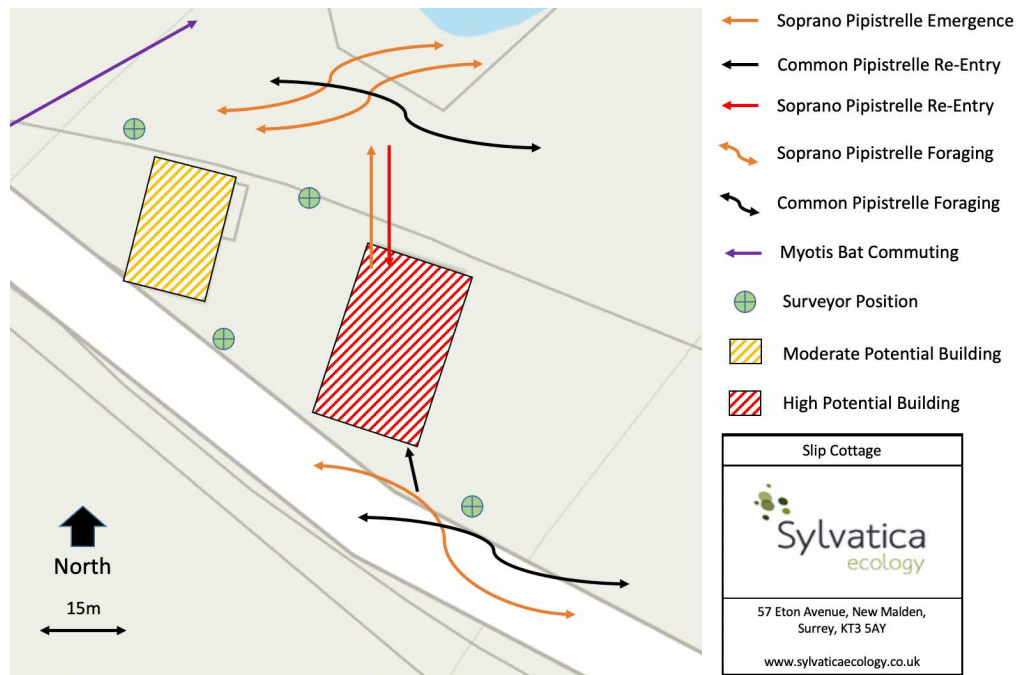
4.10 Table 4: 12<sup>th</sup> July 2022 – Dawn Re-Entry Survey

Time	Species	Passes	Activity and Location
03:36	S.pip	1	Commuting pass, heading up lane
03:49	C.pip	1	Commuting pass towards pond
03:51	C.pip	1	Heard not seen. Foraging pass
03:53	Daub	1	Commuting towards pond
03:56	C.pip	1	Commuting south east, over garage
04:08	Myo	1	Heard not seen. Foraging pass
04:11	S.pip	1	Brief foraging pass along lane
04:13	C.pip	1	Commuting towards main house
04:14	C.pip	1	Commuting towards main house
04:22	C.pip	1	Commuting towards main house
S.pip = Soprano Pipistrelle C.pip = Common Pipistrelle Daub = Daubenton's bat Myo = Myotis species			

4.11 No bats were observed re-entering the garage building. Common pipistrelle and soprano pipistrelle foraging and commuting were observed and recorded through the survey period. A single pass of Daubenton's bat (*Myotis daubentoni*) and another of a myotis (*Myotis* sp.) were observed.

## Summary of Bat Activity

4.12 Figure 4: Bat Activity and Surveyor Location



## 5 Discussion and Recommendation

5.1 A soprano pipistrelle roost was found under the hanging tiles on the north face of the western facing dormer window and a common pipistrelle roost was located on the hanging tiles on the southern face of the main residential building. Foraging activity for a range of bat species have been observed and recorded.

### Roost Categorisation

5.2 Table 5: Roost Type Definitions (BCT 2016)

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 country ( weird turn of phrase but I'm guessing it's textbook definition?)
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 or small groups of breeding females throughout the breeding season.

- 5.3 The maximum number of bats present at this location was six. These were still relatively low numbers of bats and it is not likely to constitute a maternity colony of common pipistrelle. The low numbers and species of bat recorded were indicative of these being a day/ transitional roost for low numbers of a common bat species.

#### Impact Assessment

- 5.4 As a result of the proposed works it is predicted that there will be an impact on the bat roosts present within this building. This will be as a result of direct disturbance/ destruction through the works, removal of the hanging tiles around the location of the roost, notably around the dormer window and around the hanging tiles on the southern face of the main residential building.

- 5.5 Without mitigation, the impact is likely to be permanent and would result in both the disturbance and likely destruction of the common pipistrelle roost present at the dormer window and will result in the disturbance of the common pipistrelle roost entrance at the southern gable end of the main residential building. This work, carried out without licence would constitute an offence under the Wildlife and Countryside Act (1981). Due to the low numbers of commonly encountered bats being present, a Low Impact Class Licence would be the appropriate licence type for this location.

#### Mitigation Licencing

- 5.6 A mitigation licence is required from Natural England as it is predicted that there will be disturbance/ destruction of the two roosts as a result of the works. The licence would require the production of a method statement of works, which would include measures such as hand removal of the roof tiles and 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 Four bat boxes would be installed prior to the works. These could be installed in the adjacent trees and could consist of types that would be specific to the bat species present. For common and soprano pipistrelle these would be 2F bat boxes. Should any bats be found during the removal of the tiles, then they can be relocated to these. Replacement roost locations would then be installed into the newly constructed areas. These would utilise bat access tiles/ bricks, the type and design would be suitable to the design of any newly constructed location (examples can be viewed in Section 7), with bitumen felt being used at these locations to avoid entanglement of bats on semi-permeable membrane.
- 5.8 To account for the foraging activity of bat species within the local area, particularly the nationally rare western barbastelle, any lighting installed at the property will conform to the specifications which are outlined within BCT Guidance Note (2018). 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 (is there a prescribed range for this?)

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)

## 6 References

BCT (2016) Bat Survey Guidelines for Professional Ecologist – Good Practice Guidelines

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

English Nature (2004) Bat Mitigation Guidelines IN13.6

HMSO (1981) The Wildlife and Countryside Act 1981 (as amended) HMSO, London.

HMSO (2017). The Conservation (Natural Habitats, &c). (As amended) Regulations 2017.

Mitchell-Jones, T & McLeish, A.P (2004) Bat Workers Manual, Joint Nature Conservation Committee.

Russ J (2021) Bat Calls of Britain and Europe – A Guide to Species Identification. Pelagic Publishing

Sylvatica Ecology Ltd (2022) Bat Roost Potential Survey – Slip Cottage

## 7 Examples of Suitable Bat Boxes and Access Tiles

Schwegler 2F Bat Box – General Purpose



1FE Schwegler Bat Access Panel



Bat Access Tile Set

