

**Updated (2024)
Nocturnal Bat Survey Report for
Warren Creek,
The Warren, Caversham,
Reading, Berkshire, RG4 7TQ**



NKM Associates

29th August 15th September 2023 and 25th May 2024

QUALITY CONTROL

Date	Version	Name
29.8.23 15.9.23 25.5.24	Nocturnal Surveys	Neil Musgrave – BEng (Hons)
30.5.23	Updated report prepared	Neil Musgrave – BEng (Hons)
30.5.23	Checked	Clare Charlton – BA (Hons) PG Cert
31.5.23	Reviewed and issued	Neil Musgrave – BEng (Hons)

The information in this report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. The conclusions and recommendations expressed are reasoned judgements based on the evidence.

Every reasonable attempt has been made to comply with BS42020:2013 *Biodiversity – Code of practice for planning and development*, *CIEEM Guidelines for Ecological Report Writing* (CIEEM, 2017) and Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition, Collins, 2023). If there has been deviation from recognised practice, justification/explanation has been given.

CONTENTS

Page No.

SUMMARY	4
1. INTRODUCTION	6
2. METHODOLOGY	7
3. RESULTS.....	9
3.1 First emergence Survey	9
3.2 Second Emergence Survey.....	11
4. CONCLUSIONS AND RECOMMENDATIONS.....	15
5. REFERENCES	17
APPENDICES.....	17
Appendix 1: Location plan	18
Appendix 2: Site layout	19

SUMMARY

At Warren Creek, The Warren, Caversham, Reading, planning permission is being sought to demolish the existing building and replace it with a new dwelling.

A Preliminary Ecological Appraisal and Preliminary Roost Assessment of Warren Creek was undertaken by Arbtech in early August 2023.

The Preliminary Roost Assessment observed approximately 15-20 Soprano Pipistrelle *Pipistrellus Pygmeus* droppings (confirmed by DNA analysis) directly below the northern gable end of the loft space of the house.

As such two nocturnal surveys were to be undertaken to confirm the type of roost and the numbers of bats using it and if any other species were using the house as a roost.

In late August 2023 NKM Associates were instructed to undertake two nocturnal surveys of the building.

The nocturnal surveys were undertaken on the evenings of 29th August and 15th September 2023.

The first emergence survey recorded Common Pipistrelle *Pipistrellus pipistrellus*, / Soprano Pipistrelles and Noctules *Nyctalus noctula* flying round and over the site. No bats emerged from the house.

The second emergence recorded Common / Soprano Pipistrelles, Brown Long-eared bats *Plecotus auritus*, Daubenton's bats *Myotis Daubentonii* and Noctule bats flew round and over the site, no bats emerged from the house.

*

At the request of the District Ecology Officer for a third nocturnal survey the survey was undertaken on 25th May 2024.

The third emergence recorded Common / Soprano Pipistrelles, Brown Long-eared bats, Daubenton's bats and Noctule bats flying round and over the site, no bats emerged from the house.

Taking all the visits into account, the status of bats at the site is considered thus:

- Soprano Pipistrelle – house; day roost used occasionally

Since the roost will be lost with the demolishing of the building, suitable mitigation will be required.

As such a Schwegler 1FD or similar bat box will be installed on a retained tree.

Since no roosting bat was recorded during the daytime inspection or nocturnal surveys, the site is not eligible for registration under the Bat Mitigation Class Licence (BMCL) scheme, as the BMCL scheme is not to be used where mitigation works would be undertaken on a precautionary basis only, as in this case.

Instead, Natural England have advised that Reasonable Avoidance Measures should be carried out, with appropriate mitigation or compensation where necessary.

The bat box will be installed prior to the commencement of any works

Other measures will include a 'toolbox talk' to contractors about bats and what to do if one is unexpectedly encountered, a pre-works inspection of the roof void, supervision of any destructive roof works, the latter undertaken by hand.

If a bat is discovered all work will stop and a suitable licence from Natural England will be applied for and once granted, work can recommence.

It should be noted that there will be no timing constraints, and an ecologist will be present at all key stages to ensure the replacement roosting provision is correctly installed.

1. INTRODUCTION

A Preliminary Ecological Appraisal and Preliminary Roost Assessment of Warren Creek was undertaken by Arbtech in early August 2023.

The Preliminary Roost Assessment observed approximately 15-20 Soprano pipistrelle droppings (as confirmed by DNA analysis) directly below the northern gable end of the loft space.

As such two nocturnal surveys were to be undertaken to confirm type of the roost and what numbers of bats were using it and if any other species used the building as a roost.

In late August 2023 NKM Associates were instructed to undertake these two nocturnal surveys of the building.

The nocturnal surveys were undertaken on the evenings of 29th August and 15th September 2023.

At the request of the District Ecology Officer for a third nocturnal survey the survey was undertaken on 25th May 2024.

The results of the nocturnal surveys are contained in this report.

In England, Scotland and Wales, all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended), through inclusion in Schedule 5. In England and Wales this Act has been amended by the Countryside and Rights of Way Act 2000 (CROW) and the Natural Environment and Rural Communities Act 2006 (NERC), which add an extra offence, makes species offences arrestable, increases the time limits for some prosecutions, and increases penalties.

All bats are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations (the Habitats Regulations), which defines 'European protected species of animals'. In England this is the Conservation of Habitats and Species Regulations 2010, in Scotland the Habitat Regulations 1994 (as amended), and in Northern Ireland the Conservation Regulations 1995.

All bats are also protected under the Bern Convention Appendix II, the Bonn Convention Appendix II, and the Wild Mammals (Protection) Act 1996.

The above legislation can be summarised thus (Mitchell-Jones and McLeish, 2004):

- ❑ *Intentionally or deliberately kill, injure or capture (or take) bats*
- ❑ *Deliberately disturb bats (whether in a roost or not)*
- ❑ *Recklessly disturb roosting bats or obstruct access to their roosts*
- ❑ *Damage or destroy roosts*
- ❑ *Possess or transport a bat or any part of a part of a bat, unless acquired legally*
- ❑ *Sell (or offer for sale) or exchange bats, or parts of bats*

The word 'roost' is not used in the legislation but is used here for simplicity. The actual wording is 'any structure or place which any wild animal...uses for shelter or protection' (WCA), or 'breeding site or resting place' (Habitats Regulations).

As bats generally have both a winter and a summer roost, the legislation is clear that all roosts are protected whether bats are in residence at the time or not.

2. METHODOLOGY

To fully assess bat occupation of a particular site, the Bat Conservation Trust (2023) recommends that information gathered from a desk study of known bat records, and a daytime site walkover, is used to inform the type and extent of future bat survey work, potentially including nocturnal emergence surveys.

The preliminary roost assessment (PRA) is usually in the form of a diurnal walkover and can be carried out at any time of the year. It provides an opportunity to check for signs of bat occupancy and/or the suitability for bat roosting.

Evidence of bat activity includes droppings, scratch marks, feeding remains, carcasses, or even roosting animals, whilst suitability is determined by the type and number of potential roost features (PRFs) typically used by bats.

Roosting places vary depending on the species. Pipistrelles usually inhabit narrow cracks or cavities around the outside of buildings, but they will roost in similar niches inside larger barns. Typical sites include soffit spaces, gaps behind fascia boards and end rafters, crevices around the ends of projecting purlins, under warped or lifted roof and ridge tiles, or in gaps in stone and brickwork where mortar has dropped out.

Larger species such as Brown Long-eared Bats *Plecotus auritus*, Myotis bats (Natterer's *Myotis nattereri* and Whiskered/Brandt's *M. mystacinus*/*M. brandtii*), and Lesser Horseshoes *Rhinolophus hipposideros*, like to roost in the roof voids of buildings, and can often be found hanging singly or in small groups from ridge boards or roof timbers, especially where they butt up against gable walls or chimney breasts. They especially favour older structures with timber frames. Here they squeeze into tight crevices making them difficult to observe.

Where bats are found, or there is evidence of bat occupation or activity, i.e., that bat use is confirmed, a roost characterisation survey is undertaken. The results are used to inform the impact assessment and design of mitigation measures. Roost characterisation includes nocturnal emergence surveys unless sufficient information has already been collected using robust survey methods with no significant constraints.

Nocturnal emergence surveys allow numbers and species of bats to be confirmed and should only be undertaken when bats are out of hibernation and in their summer roosts.

The bat active period is generally considered to be between April and October, although particularly cold weather will affect the level and extent of bat activity. Indeed, the air temperature at the start of each survey should be at least 10°C or above, with no strong wind or heavy rain. The nocturnal survey starts 15 minutes before sunset and continues for one and a half to two hours after sunset.

Nocturnal surveys visits will be a minimum of three weeks apart, and the number of surveys and timing is dependent on the evidence found or the suitability of the site to bats. This will be determined by the ecologist. In general, at least two emergence nocturnal surveys will be carried out, but a third visit may be necessary if the results are inconclusive or further information is required.

Nocturnal emergence surveys are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent but the suitability for bat roosting is considered low, moderate or high.

For a site with no evidence but low suitability, just one nocturnal emergence survey is required, this to be in the period May to August.

For moderate suitability, a minimum of two visits are needed between May and September, of which one must be in the period May to August.

With high suitability, three visits will be necessary between May and September, of which two must be in the period May to August.

Where there is no evidence of bat presence, and no suitability for roosting, no nocturnal surveys will be needed.

The number of surveyors and/or the use of night vision aids (NVAs) is determined by the ecologist and is dependent on the complexity of the structure. For simple structures just one surveyor using an appropriate number of NVAs will be sufficient, but for larger sites and/or more complex or irregularly shaped structures, e.g., those with multiple elevations and/or roof slopes, more surveyors will be required.

On the evenings of 29th August 15th September 2023 and 25th May 2024 nocturnal surveys were undertaken by Neil Musgrave (Natural England bat licence No. 2020-44602-CLS-CLS) and assistant to confirm the type of roost and in what numbers of bats were using it and if any other species used the building as a roost.

The emergence surveys began quarter of an hour before and continued for one- and three-quarter hours after sunset.

The surveyors were aided by electronic Echo Meter Touch bat detectors, iPads for the surveys in 2023 and Echo Meter Touch bat detectors, iPads and NVA Nightfox Whisker for the 2024 survey.

The results of the surveys are detailed in [Section 3](#).

3. RESULTS

3.1 First emergence Survey

The emergence survey was carried out on 29th August 2023, commencing at 19:45 and finishing at 21:45. The weather conditions during the time of the survey were recorded and are presented in Table 1.

Parameter	Value
Temperature (°C)	15.5 start; 15.0 finish
Cloud cover (%)	100
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	19:58

Table 1 Weather conditions during the first emergence survey

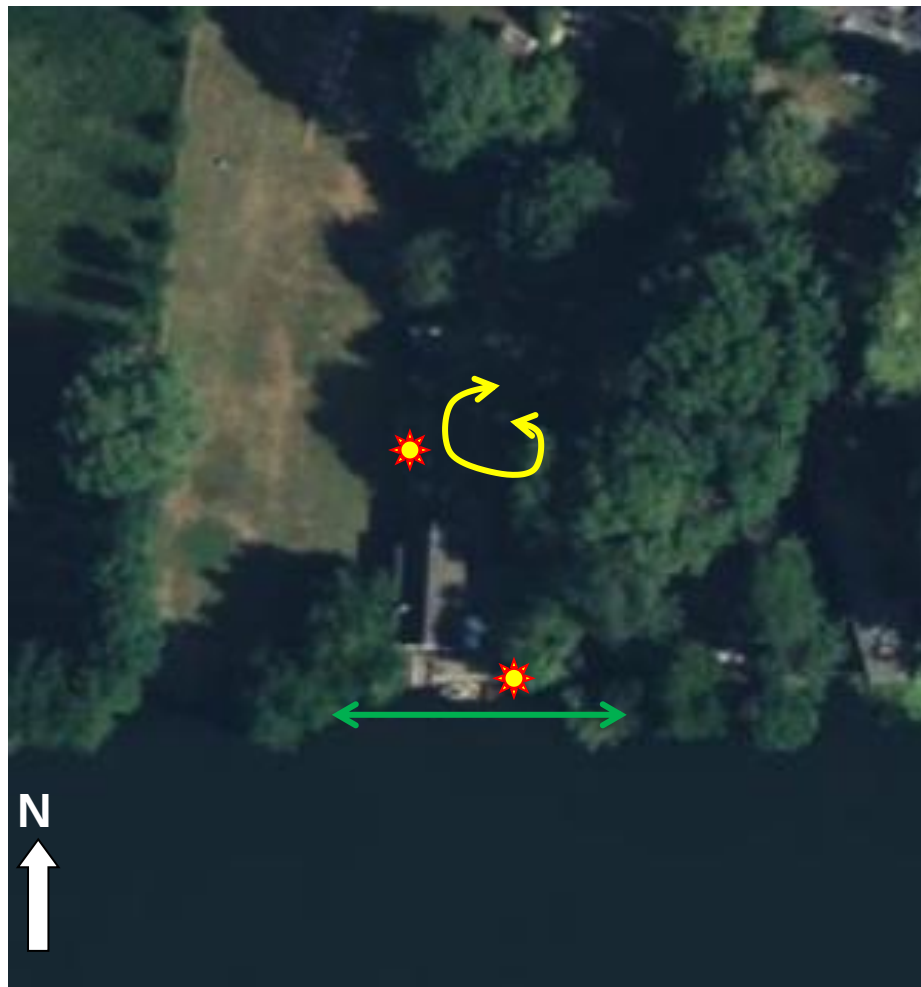
Common / Soprano Pipistrelles and Noctules flew round and over the site. No bats emerged from the house.

Details of the bat observations and detections are listed below.

Time	Observation
20:11 – 20:26	Soprano Pipistrelle foraged over the lawn to the north of the house
20:23 – 20:25	Noctule flew east – west – east - west on the river side of the building
20:31	Soprano Pipistrelle heard by the river – not seen
20:35	Common Pipistrelle flew round the lawn heard but not seen
20:38	Noctule heard but not seen
20:45	Soprano Pipistrelle foraged over the edge of the river – not seen
20:56	Noctule heard but not seen
21:06	Soprano Pipistrelle heard by the river but not seen
21:10	Soprano Pipistrelle heard by the river but not seen
21:13	Noctule heard but not seen
21:30	Noctule heard but not seen

The bat flight paths at first emergence on 29th August 2023 are shown on Plan 1 overleaf.

Plan 1 Bat flight paths at first emergence on 29th August 2023



Noctule Bats →

Soprano Pipistrelle Bats →

Positions of surveyors ★

3.2 Second Emergence Survey

The second emergence survey was conducted on 15th September 2023 commencing at 19:05 and finishing at 21:05. The weather conditions during the time of the survey were recorded and are presented in Table 2 below.

Parameter	Value
Date	15 th September 2023
Temperature (°C)	18.0 start; 17.0 finish
Cloud cover (%)	>5
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	19:19

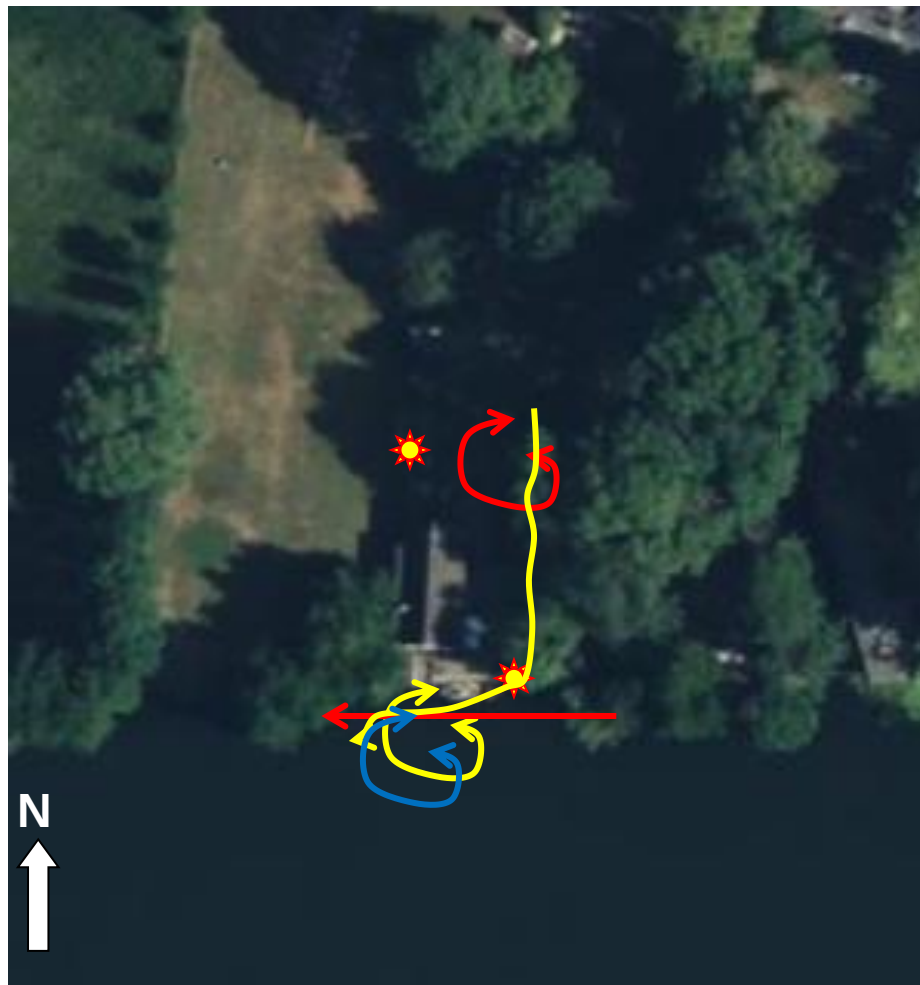
Table 2 Weather conditions during the second emergence survey

Common and Soprano Pipistrelles, Brown Long-eared bats, Daubenton's bats and Noctule bats flew round and over the site, no bats emerged from the house.

Details of the bat observations and detections are listed below.

Time	Observation
19:35	Common Pipistrelle appeared river side from the east and flew west
19:38	Noctule heard but not seen
19:38 – 19:40	Common Pipistrelle flew round the lawn
19:41	Soprano Pipistrelle appeared over the lawn area then flew down the east side of the building and then to the west
19:42 – 20:10	At least three Soprano Pipistrelles foraged over the river
19:46	Common Pipistrelle heard over the lawn
19:49 – 20:00	Daubenton's heard over the river
20:10	Brown Long-eared bat heard over the lawn – not seen
20:15	Common Pipistrelle heard over the lawn – not seen
20:22	Noctule heard but not seen
20:26	Daubenton's heard over the river – not seen
20:37 – 20:45	Soprano Pipistrelle heard by the river – not seen

The bat flight paths at second emergence on 15th September 2023 are shown on Plan 2 overleaf.

Plan 2 Positions of surveyors at second emergence on 15th September 2023

Common Pipistrelle Bats →

Daubenton's Bat →

Soprano Pipistrelle Bats →

Positions of surveyors *

3.3 Third Emergence Survey

The third emergence survey was conducted on 25th May 2024 commencing at 20:45 and finishing at 22:45. The weather conditions during the time of the survey were recorded and are presented in Table 3 below.

Parameter	Value
Date	25 th May 2024
Temperature (°C)	16.0 start; 16.0 finish
Cloud cover (%)	90
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	21:04

Table 3 Weather conditions during the third emergence survey

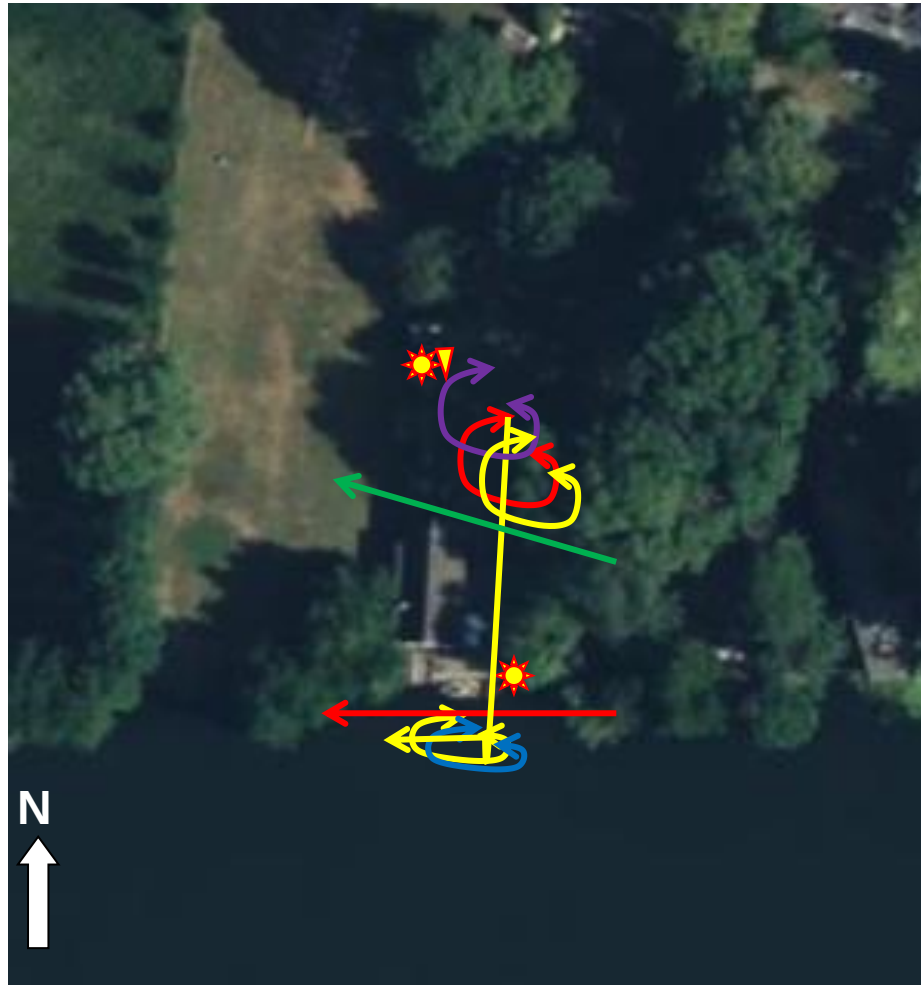
Common and Soprano Pipistrelles, Brown Long-eared bat, Daubenton's bats and Noctule bats flew round and over the site, no bats emerged from the house.

Details of the bat observations and detections are listed below.

Time	Observation
21:15	Common Pipistrelle appeared and flew around the lawn
21:18 – 21:45	Soprano Pipistrelle flew over the lawn down the side of the house and over the river
21:40	Noctule flew overhead
21:41	Brown Long-eared bat heard over the lawn
21:50	Soprano Pipistrelle appeared over the lawn area then flew down the east side of the building and then to the west
21:51: – 21:55	At least three Soprano Pipistrelles foraged over the river
22:00 – 22:15	Daubenton's heard over the river
22:20	Soprano Pipistrelle heard over the lawn

The bat flight paths at third emergence on 25th May 2024 are shown on Plan 3 overleaf.

Plan 3 Positions of surveyors at third emergence on 25th May 2024



Common Pipistrelle Bats →

Brown Long-eared Bat →

Daubenton's Bat →

Noctule Bat →

Soprano Pipistrelle Bats →

Position of NVA ▲

Positions of surveyors ☀

4. CONCLUSIONS AND RECOMMENDATIONS

Bats tend to be seasonal visitors to properties and are not usually in occupation all year round. The females normally form maternity colonies during May or June and then leave for adjacent trees and/or woodland during July or August once the young bats are able to fly and become independent. Here they will spend the winter months in hibernation before returning to the house or barn the following spring.

Male bats generally live alone and have a number of favoured roosts. During the summer they visit each of these for a few days at a time, before moving to their chosen hibernation site in mid-late October. Different species have different habits, but this seasonal movement is common to all.

Bats choose their roosts carefully. During the summer they look for sites which are warmed by the sun, and as a result are most often found on the south and western side of buildings.

Pipistrelles, our smallest and commonest bats, prefer to roost in very confined spaces around the outside of buildings, typical places being behind hanging tiles, weather boarding, soffit, barge and eave boarding, between roof felt and roof tiles or in cavity walls.

The Preliminary Roost Assessment observed approximately 15-20 Soprano Pipistrelle droppings (confirmed by DNA analysis) directly below the northern gable end of the loft space of the house.

Nocturnal surveys were undertaken on the evenings of 29th August and 15th September 2023.

And at the request of the District Ecology Officer for a third nocturnal survey the survey was undertaken on 25th May 2024.

During all three emergence surveys no bats emerged from the building.

Another bat frequently encountered in buildings is the Brown Long-eared Bat. This is also a common species, but unlike pipistrelles, they prefer the dry, warm space of the loft or roof void, and can often be found hanging from roof timbers, especially rafters and the ridge board next to chimney breasts. **No evidence of Brown Long-eared bat was found.**

Taking all the visits into account, the status of bats at the site is considered thus:

- Soprano Pipistrelle – house, day roost used occasionally

Since the roost will be lost with the demolishing of the building, suitable mitigation will be required.

As such a Schwegler 1FD or similar bat box will be installed on a retained tree.

Since no roosting bat was recorded during the daytime inspection or nocturnal surveys undertaken, the site is not eligible for registration under the Bat Mitigation Class Licence (BMCL) scheme, as the BMCL scheme is not to be used where mitigation works would be undertaken on a precautionary basis only, as in this case. Instead, Natural England have advised that Reasonable Avoidance Measures should be carried out, with appropriate mitigation or compensation where necessary.

The bat box will be installed prior to the commencement of any works

Other measures will include a 'toolbox talk' to contractors about bats and what to do if one is unexpectedly encountered, a pre-works inspection of the roof void, supervision of any destructive roof works, the latter undertaken by hand.

If a bat is discovered all work will stop and a suitable licence from Natural England will be applied for and once granted work can recommence.

It should be noted that there will be no timing constraints, and an ecologist will be present at all key stages to ensure the replacement roosting provision is correctly installed.

5. REFERENCES

Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. (4th edn). Bat Conservation Trust, London.

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APPENDICES

Appendix 1: Location plan

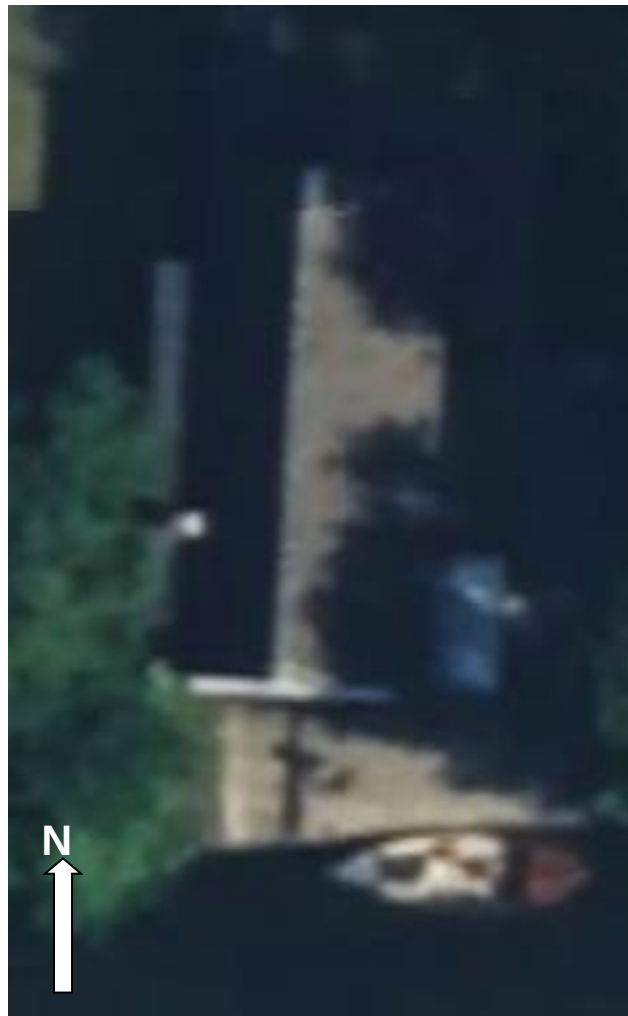
Appendix 2: Site layout

Appendix 1: Location plan



Warren Creek, The Warren, Reading

Appendix 2: Site layout



Warren Creek

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Warren Creek, The Warren, Reading – Updated (2024) Nocturnal Bat Survey Report

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