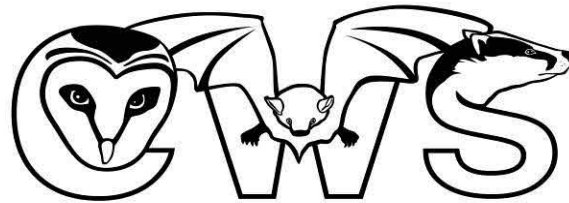


# Bat Survey Report for 64a Acre End, Eynsham, Oxford, OX29 4PD



Cotswold Wildlife Surveys

23<sup>rd</sup> June & 11<sup>th</sup> and 25<sup>th</sup> July 2023

## QUALITY CONTROL

Date	Version	Name
23.06.23	Daytime inspection	Mollie Paxford – BSc (Hons), MSc Associate
11.07.23 25.07.23	Nocturnal surveys	Mollie Paxford – BSc (Hons), MSc Associate + assistant
06.09.23	Report prepared	Mollie Paxford – BSc (Hons), MSc Associate
08.09.23	Checked	Caroline Warren – BSc (Hons) Director
00.09.23	Reviewed and issued	Andy Warren – BSc (Hons), MA (LM), Tech Cert (Arbor A), MCIEEM, TechArborA Director

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* (3<sup>rd</sup> edition, Collins, 2016). If there has been deviation from recognised practice, justification/explanation has been given.

## CONTENTS

Page No.

<b>SUMMARY .....</b>	<b>4</b>
<b>1. INTRODUCTION .....</b>	<b>5</b>
<b>2. METHODOLOGY .....</b>	<b>6</b>
<b>3. RESULTS .....</b>	<b>8</b>
3.1 Desk Study .....	8
3.2 Location .....	8
3.3 Site Description .....	8
3.4 Building Survey .....	9
3.4.1 Bats .....	9
3.4.2 Other species .....	12
3.5 Emergence Surveys .....	13
3.5.1 1 <sup>st</sup> Emergence Survey .....	13
3.5.2 2 <sup>nd</sup> Emergence Survey .....	15
<b>4. CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>17</b>
<b>5. REFERENCES .....</b>	<b>18</b>
<b>APPENDICES .....</b>	<b>18</b>
Appendix 1: Location plan .....	19
Appendix 2: Site layout .....	20

## SUMMARY

At 64a Acre End in Eynsham, Oxfordshire, planning permission is being sought for a small extension to the house and conversion works to the garage.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 23<sup>rd</sup> June 2023, to assess the buildings for signs of bat occupation.

All the internal and external structures, especially those associated with the roofs and walls of the garage and north end of the house were examined.

On the roof of the garage, on top of one of the roof tiles a single pipistrelle *Pipistrellus sp.* dropping was found. In addition to this, the suitability for roosting pipistrelles within the garage was considered to be moderate due to gaps under the roof tiles. No evidence of bats was found in or around the northern end of the house and it was not considered to be suitable for roosting pipistrelles.

Given the above, two nocturnal emergence surveys were carried out on the garage, these on the evenings of 11<sup>th</sup> and 25<sup>th</sup> July 2023. The surveys began 15 minutes before sunset and continued for up to one and three quarter hours after sunset.

No bats emerged from the garage, but several species of bats were recorded as they passed over the site, including one or two Common Pipistrelles *Pipistrellus pipistrellus*, and a Noctule Bat *Nyctalus noctula* flying overhead. In addition, several Soprano Pipistrelles *Pipistrellus pygmaeus* were recorded foraging throughout the duration of the surveys within the garden of 64a Acre End.

The inspection and nocturnal surveys confirmed the absence of roosting bats, and it was considered that the single dropping was likely deposited by one of the foraging animals. As such, a licence from Natural England will not be required.

However, in the interests of enhancing biodiversity, two bat boxes will be erected on the site. These will be suitable for several different species of bats.

\*

No old or in use birds' nests were recorded in or around the north end of the house or garage.

## 1. INTRODUCTION

In June 2023, Cotswold Wildlife Surveys was instructed by Vanessa Jones to undertake a bat survey of 64a Acre End in Eynsham, Oxfordshire. On 23<sup>rd</sup> June 2023, a visit was made to the property to carry out a diurnal inspection of the north end of the house and the garage, to check for signs of bat occupation.

On the roof of the garage, on top of one of the roof tiles a single pipistrelle dropping was found. In addition to this, the suitability for roosting pipistrelles within the garage was considered to be moderate due to gaps under the roof tiles. No evidence of bats was found in or around the northern end of the house and it was not considered to be suitable for roosting pipistrelles.

Given the above, two nocturnal emergence surveys were carried out on the garage, on the evenings of 11<sup>th</sup> and 25<sup>th</sup> July 2023.

The results of the inspection and 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

In order to fully assess bat occupation of a particular site, the Bat Conservation Trust (2016) 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 surveys.

The diurnal walkover provides an opportunity to check for signs of occupancy, such as droppings, scratch marks, feeding remains, carcasses, or even animals in residence, whilst nocturnal surveys (if required) allow numbers and species of bats to be confirmed. The latter 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 to be low, medium or high.

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 these 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.

Diurnal walkovers can be carried out at any time of the year, but nocturnal surveys should only be undertaken when bats are out of hibernation and in their summer roosts. The recommended period is from May to September inclusive, with May to August optimum and September sub-optimum. The season can be extended into October, although particularly cold weather will render this inadvisable. Indeed, the air temperature at the start of each survey must be at least 10°C or above.

Visits will be a minimum of two weeks apart, and the number of surveys is dependent on the evidence found or the suitability of the site to bats.

Where bats are found, or there is evidence of bat occupation or activity, i.e. that bat use is confirmed, the number and timing of visits will be decided by the ecologist, and will be appropriate for the type of roost. In general at least two nocturnal surveys will be carried out, both of which can be emergence surveys, or one emergence and one dawn re-entry.

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

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

For medium suitability a minimum of two visits are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey. With high suitability, three visits will be necessary, of which two must be in the optimum period. At least one of these must be a dawn re-entry survey, with the third visit either an emergence or a dawn re-entry.

For sites < 5 ha in size, and/or regularly shaped structures, at least two surveyors must be present, with more surveyors at larger sites and more complex buildings, e.g. those with multiple elevations and/or roof structures.

On 23<sup>rd</sup> June 2023, a thorough inspection of the north end of the house and garage was made by Mollie Paxford (Natural England bat licence No. 2020-47378-CLS-CLS), including the exterior and interior walls, roof coverings, roof spaces, roof void, eaves, gables, fascias, roof and ceiling timbers, window casements and door frames.

10x42 Nikon binoculars and a Fenix TK75 torch were used for the inaccessible/unreachable areas. On this occasion an endoscope was not used, as there were no crevices and cavities that could not be inspected with a torch or by use of binoculars.

On the evenings of 11<sup>th</sup> and 25<sup>th</sup> July 2023, nocturnal emergence surveys of the buildings were undertaken by Mollie Paxford and assistant, to determine the presence or absence of roosting bats.

The surveys began 15 minutes before sunset and continued for up to one and three quarter hours after sunset.

The surveys were aided by the use of electronic Echo Meter Touch and BatBox Duet bat detectors and i-pads. This facilitates the detection of bats, and computer analysis of recordings aids in the identification of individual species, in particular those which might be utilising different frequencies simultaneously.

The results of the inspection and nocturnal surveys are detailed in Section 3.

### 3. RESULTS

#### 3.1 Desk Study

In view of the small scale of the proposed works, the likely low impact on bats, and in line with current guidance on accessing and using biodiversity data (CIEEM, 2016), a detailed background data search was not carried out in this case.

However, within a 3.0 km radius of the site the following Natural England licences for bats have been issued:

- EPSM2010-1712 for Brown Long-eared and Common Pipistrelle, including a maternity roost, approximately 150 metres west;
- 2018-37654-EPS-MIT for Barbastelle *Barbastella barbastellus*, Whiskered, Brown Long-eared and Soprano Pipistrelle, 2.9 km southeast.

#### 3.2 Location

Eynsham is a small town located approximately 8.5 km northwest of Oxford city centre. Acre End runs through the southern end of the town, with 64a opposite Station Road, on the north side of the road. The Ordnance Survey Grid Reference is SP 43067 09332 and What3Words ///youngest.wires.redeeming (Appendix 1).

#### 3.3 Site Description

The survey site comprised the northern end of the house which consisted of a small extension and a separate garage (Figs. 1 and 2).



**Figs. 1 & 2 Northern end of the house (left) and garage (right)**

There was a modest courtyard garden which was laid to lawn.

The site was situated within a busy residential location and surrounded by similar properties (Figs. 3 and 4).





**Figs. 3 & 4 Surrounding area**

The layout of the site is shown in the aerial photograph in Appendix 2.

### 3.4 Building Survey

The daytime inspection was carried out on 23<sup>rd</sup> June 2023, commencing at 13:00. The weather conditions during the time of the survey were recorded and are presented in Table 1 below.

Parameter	Value
Temperature (°C)	17.5
Cloud cover (%)	20
Precipitation	None
Wind speed (Beaufort scale)	0

**Table 1 Weather conditions during the diurnal survey**

#### 3.4.1 Bats

##### North end of house

The north end of the house had a small, single storey extension with a pitched roof and clay roof tiles (Figs. 5 and 6). The ridge was intact and the roof tiles were tightly overlapping, with none raised, missing, broken or dislodged.



**Figs. 5 & 6 Ridge and roof tiles**

The eaves were closed all round, whilst the gables of the house and extension were finished with the roof ends cement sealed (Figs. 7 and 8)



**Figs. 7 & 8 Gable ends**

The timber walls of the extension were in good condition, with no warped or raised boards. The stonework was sound throughout with no cracks or gaps, whilst the window casements and doorframes were tightly fitting.

Internally there was a single roof void inside the extension which measured approximately 0.5 metres high and ran the full length and width of the extension (Figs. 9 and 10).



**Figs. 9 & 10 Roof void of extension**

The house had a vaulted ceiling and as such there was no roof void within the main part of the building.

No evidence of bat activity or occupation was found in or around the northern end of the house and it was considered to have negligible suitability for roosting bats.

### Garage

The garage was semi-detached with the neighbouring property and contained a closed room and an open car port. The ridge was intact, although there were missing, broken and dislodged roof tiles (Figs. 11, 12, 13 and 14). There were a number of gaps under the roof tiles.



**Figs. 11 & 12 Ridge and roof tiles**



**Figs. 13 & 14 Ridge and roof tiles**

Near the ridge a single pipistrelle type dropping was found on top of a roof tile.

The eaves were closed and the gable was finished with the roof ends cement sealed.

The stonework was sound throughout and all the window casements and doorframes were tightly fitting.

Internally the garage was open to the underside of the roof which was lined with tarred felt (Figs. 15, 16, 17 and 18). The open section was covered with a fine net to prevent nesting birds.



**Figs. 15 & 16 Roof space**



**Figs. 17 & 18 Roof spare of enclosed room**

No signs of bats were found inside the garage. However, it was considered to be of moderate suitability for roosting due to the gaps under the roof tiles.

### **3.4.2 Other species**

No old or in use birds' nests were noted in or around the buildings.

### 3.5 Emergence Surveys

#### 3.5.1 1<sup>st</sup> Emergence Survey

The first emergence survey was carried out on 11<sup>th</sup> July 2023, commencing at 21:00 and finishing at 23:00. The weather conditions during the time of the survey were recorded and are presented in Table 2.

Parameter	Value
Temperature (°C)	16.0 start, 15.5 finish
Cloud cover (%)	90
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	21:21

**Table 2 Weather conditions during the 1<sup>st</sup> emergence survey**

No bats emerged from the garage, but several species of bats were recorded as they passed over the site, including one or two Common Pipistrelles, a Noctule Bat flying overhead, with several Soprano Pipistrelles foraging throughout the duration of the survey within the garden of 64a Acre End.

The times of bat observations and detections are shown below.

Time	Observation
21:43	Noctule flew over the site
21:52	Soprano Pipistrelle (SP) foraging around the garden
21:53	Common Pipistrelle (CP) flew past
21:55	CP flew over the garden
22:05	SP foraging in the garden
22:19	SP still foraging in the garden
23:00	Intermittent SP foraging until survey ended

The bat flight paths at 1<sup>st</sup> emergence are shown on Plan 1 overleaf.

**Plan 1 Bat flight paths at emergence on 11<sup>th</sup> July 2023**



**Common Pipistrelle Bat/s** →

**Soprano Pipistrelle Bat/s** →

**Noctule Bat** →

**Positions of observers** ☀

### 3.5.2 2<sup>nd</sup> Emergence Survey

The second emergence survey was carried out on 25<sup>th</sup> July 2023, commencing at 21:10 and finishing at 22:40. The weather conditions during the time of the survey were recorded and are presented in Table 3.

Parameter	Value
Temperature (°C)	19.0 start, 17.5 finish
Cloud cover (%)	5
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	21:09

**Table 3 Weather conditions during the 2<sup>nd</sup> emergence survey**

No bats emerged from the garage, but several Soprano Pipistrelles were recorded foraging throughout the duration of the survey within the garden of 64a Acre End.

The times of bat observations and detections are shown below.

Time	Observation
21:23	Soprano Pipistrelle (SP) flew past
21:29	SP foraging in the garden
21:35	SP still foraging in the garden
21:48	SP still foraging in the garden
22:40	Intermittent SP foraging until survey ended

The bat flight paths at 2<sup>nd</sup> emergence are shown on Plan 2 overleaf.

**Plan 2 Bat flight paths at emergence on 25<sup>th</sup> July 2023**



**Soprano Pipistrelle Bat/s** →

**Positions of observers** \*



## 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.

As such they can be difficult to find, so suitability for roosting was also assessed.

On the roof of the garage, on top of one of the roof tiles a single pipistrelle dropping was found. In addition to this, the suitability for roosting pipistrelles within the garage was considered to be moderate due to gaps under the roof tiles. No evidence of bats was found in or around the northern end of the house and it was not considered to be suitable for roosting pipistrelles.

However, the absence of roosting pipistrelle was confirmed during the nocturnal surveys, when only foraging bats were recorded.

Another bat frequently encountered in buildings is the Brown Long-eared. 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.

The inspection and nocturnal surveys confirmed the absence of roosting bats, and it was considered that the single dropping was likely deposited by one of the foraging animals. As such, a licence from Natural England will not be required.

However, in the interests of enhancing biodiversity, two bat boxes will be erected on the site. These will be suitable for several different species of bats.

\*

No old or in use birds' nests were recorded in or around the north end of the house or garage.

## 5. REFERENCES

**Collins, J. (ed.) (2016).** *Bat Surveys for Professional Ecologists: Good Practice Guidelines. (3<sup>rd</sup> edn).* Bat Conservation Trust, London.

**English Nature, 2004.** *Bat mitigation guidelines.* English Nature, Peterborough.

**Mitchell-Jones A. J. & McLeish, 2004.** *Bat Workers' Manual.* Joint Nature Conservation Committee, Peterborough.

**Peterson Elektronik AB, 2003.** *BatSound. Real-time spectrogram sound analysis software (version 3.3).* Peterson Elektronik AB, Uppsala, Sweden.

**Russ, J., 1999.** *The Bats of Britain and Ireland. Echolocation Calls, Sound Analysis and Species Identification.* Alana Ecology Ltd., UK.

**Stebbing R.E., 1986.** *Which bat is it?* The Mammal Society and The Vincent Wildlife Trust, London.

**The Vincent Wildlife Trust, 2003.** *The Bats of Britain and Ireland.* The Vincent Wildlife Trust, Ledbury.

## APPENDICES

Appendix 1: Location plan

Appendix 2: Site layout

### Appendix 1: Location plan



**64a Acre End, Eynsham**

## Appendix 2: Site layout



**64a Acre End**

Cotswold Wildlife Surveys Limited  
Company Reg. No. 6864285 (England & Wales)

Andy Warren BSc (Hons), MA (LM), Tech Cert (Arbor A),  
MCI EEM, TechArborA  
Withy Way, Charingworth, Chipping Campden,  
Gloucestershire, GL55 6NU

Tel: 01386 593056/07879 848449

andy@cotswoldwildlifesurveys.co.uk

64a Acre End, Eynsham – Bat Survey Report

To: Vanessa Jones

Report Number: 4545-CWS-01

Version: 01

Date: 9<sup>th</sup> September 2023