

**Bat Survey Report for
Outbuilding, The Bell House,
Little Tew,
Chipping Norton, OX7 4JF**



NKM Associates

4th July 9th and 24th August 2022

QUALITY CONTROL

Date	Version	Name
4.7.22	Daytime inspection	Neil Musgrave – BEng (Hons)
9.8.22 24.8.22	Nocturnal survey	Neil Musgrave – BEng (Hons)
17.10.22	Report prepared	Neil Musgrave – BEng (Hons)
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18.10.22	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* (3rd edition, Collins, 2016). If there has been deviation from recognised practice, justification/explanation has been given.

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SUMMARY

At The Bell House in Little Tew, Chipping Norton planning permission is being sought to redevelop the house and outbuilding.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 4th July 2022, to assess the buildings for signs of bat occupation.

All the external and internal structures, especially those associated with the roof and walls of the buildings were examined.

No signs of bat activity or occupation were found, However, the suitability for roosting pipistrelles *Pipistrellus sp* was considered medium, as suitable crevices or gaps were observed both on the house and the outbuilding.

No access was possible into the roof void of the mono-pitched garage.

As the suitability was considered medium and no access was possible into the roof void of the garage two nocturnal surveys were undertaken, these on the evening of 9th and morning of 24th August 2022 to confirm absence or presence of bats using the buildings and if present what species and in what numbers and location.

The emergence survey recorded Common Pipistrelles *Pipistrellus pipistrellus* flying round the site and a Brown Long-eared bat *Plecotus auritus* was heard to the southeast then in the rear garden. No bats emerged from the house or outbuilding.

The dawn re-entry recorded Common and Soprano Pipistrelles *Pipistrellus pygmeus* and Noctules *Nyctalus noctula* flying round and over the site no bats went to roost in the house or the outbuilding.

At the time of the surveys both the house and the outbuilding were not considered bat roosts or hibernation sites and as such no further surveys or mitigation measures are required.

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No birds' nests were found either in or on The Bell House.

1. INTRODUCTION

In late June 2022, NKM Associates was instructed by Tyack Architects on behalf of Paul Hancock to undertake a bat survey of The Bell House in Little Tew, Chipping Norton. On 4th July 2022, a visit was made to the property to carry out a diurnal inspection of the buildings to check for signs of bat occupation.

As the suitability was considered medium and no access was possible into the roof void of the garage two nocturnal surveys were undertaken, these on the evening of 9th and morning of 24th August 2022 to confirm absence or presence of bats using the buildings and if present what species and in what numbers and location.

The results of the 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 (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 suitability of roosting is considered medium to 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, Myotis bats (Natterer's *Myotis nattereri* and Whiskered/Brandt's *M. mystacinus/M. brandtii*), and Lesser Horseshoe Bats *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.

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.

Nocturnal surveys must 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 survey is required, this can be either emergence or dawn re-entry and must be in the optimum period.

For medium suitability a minimum of two nocturnal surveys are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey. With high suitability, three surveys 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 4th July 2022 a thorough inspection of The Bells was made by Neil Musgrave (Natural England bat licence No. 2020-44602-CLS-CLS.), including the exterior and interior walls, roof coverings, roof voids, eaves, gables, window casements and door frames.

8x42 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 from a ladder.

On the evening of 9th and morning of 24th August 2022, nocturnal surveys were undertaken by Neil Musgrave and assistants, to confirm absence or presence of bats using the buildings and if present what species and in what numbers and location.

The emergence survey began quarter of an hour before and continued for one and half hours after sunset and the dawn re-entry survey started one and half hours before sunrise and finished when fully light.

The surveys were aided by electronic Echo Meter Touch bat detectors and iPads.

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 background data search was not carried out in this case.

However, within 2.0 km of The Bell the following European Protected Species licences for bats were issued by Natural England:

- 2017 0.10 km southwest for Brown Long-eared Bat

3.2 Location

Little Tew is a village located approximately 7.25 km east of Chipping Norton. The Bell lies to the north of the junction of Chipping Norton Lane and Water Lane. The Ordnance Survey Grid Reference of the site is SP 38377 28662 (Appendix 1).

3.3 Site Description

The survey sites comprised a large multiple pitched roofed house (Figs. 1 and 2



Figs. 1 & 2 Aspects of the house to the southeast and northeast

And a detached hipped roofed outbuilding (Fig. 3).



Fig. 3 Outbuilding

The property was surround by lawn and mature trees (Figs. 4 and 5).



Figs. 4 & 5 Views to the west (L) and north (R)

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 4th July 2022 commencing at 10:00. The weather conditions during the time of the survey were recorded and are presented in Table 1 below.

Parameter	Value
Temperature (°C)	15.0
Cloud cover (%)	50
Precipitation	None
Wind speed (Beaufort scale)	0

Table 1 Weather conditions during the diurnal survey

3.4.1 Bats

House

All the ridges were intact and sealed; whilst the roof tiles were mainly tightly overlapping, broken, dislodged and missing tiles were observed (Figs. 6 – 12).



Figs. 6 & 7 Ridges and roof tiles to the northeast



Figs. 8 & 9 Ridges and roof tiles to the south



Figs. 10 & 11 Ridges and roof tiles to the west



Fig. 12 Roof tiles of the mono-pitched garage

The chimneys were sealed with mortar (Fig. 13 and 14).



Figs. 13 & 14 Sealed chimney bases

The gables were finished with the roof ends cement sealed to the gable wall plates (Figs. 15 – 17).

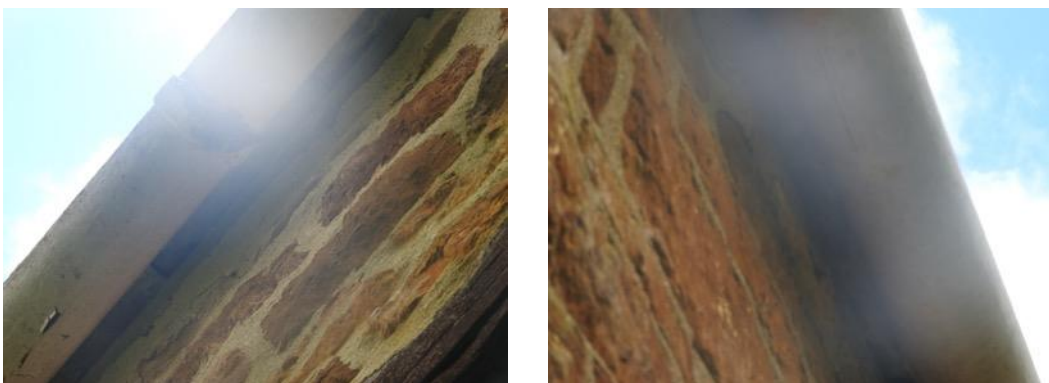


Figs. 15 & 16 Sealed gables



Fig. 17 Sealed gable to the north

The eaves were sealed with the roof verges tightly fitting against the wall plates all round (Figs. 18 and 19).



Figs. 18 & 19 Sealed eaves

The stone walls were sound throughout, whilst all the window casements and door frames were tightly fitting with no gaps or crevices.

No signs of bat activity were found around the outside of the house.

Internally the roof void against the north gable wall was cobwebbed on the ridge and gable ends (Figs. 20 – 22).



Fig. 20 Cobwebbed ridge



Figs. 21 & 22 Cobwebbed gable ends

No light penetrated the roof void, and no evidence of bat occupation was discovered inside.

The other roofs to be affected by the proposed works were vaulted and finished with dry board lining.

Outbuilding

All the ridges were intact with some gaps; whilst the roof tiles were overlapping with gaps were observed (Figs. 23 - 27).



Figs. 23 & 24 Ridges and roof tiles to the east



Figs. 25 & 26 Ridges and roof tiles to the

The north gable was finished with the roof ends cement sealed to the gable wall plates (Fig. 28).



Figs. 27 & 28 Ridges and roof tiles of the hipped roof (L) north gable (R)

The eaves were sealed with the roof verge tightly fitting against the fascia boards all round (Fig. 27).

The weather boarding was tightly fitting as the board was nailed top and bottom (Fig. 28).



Figs. 29 & 30 Sealed eaves (L) and tightly fitting weather boards (R)

The brick and stone walls were sound throughout, whilst all the door frames were tightly fitting with no gaps or crevices.

No sign of bat activity was found around the outside of the outbuilding.

Internally the outbuilding was divided into several rooms, all the roofs had a timber sarking lining and were cobwebbed along their ridges, the plumb cut and the gable ends in all rooms (Figs. 31 – 33).



Figs. 31 & 32 Cobwebbed ridge and gable end



Fig. 33 Cobwebbed plumb cut

Little light penetrated any of the rooms, and no evidence of bat occupation was discovered inside.

3.4.2 Emergence Survey

The emergence survey was carried out on 9th August 2022, commencing at 20:25 and finishing at 22:10. The weather conditions during the time of the survey were recorded and are presented in Table 2.

Parameter	Value
Temperature (°C)	23.0 start; 22.0 finish
Cloud cover (%)	25
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	20:42

Table 2 Weather conditions during the emergence survey

Common Pipistrelles flew round the site and a Brown Long-eared bat was heard in the rear garden. No bats emerged from the house or outbuilding.

The times of bat observations and detections are shown below.

Time	Observation
20:54	Common Pipistrelle foraging in the trees to the top of the lane to the north of the outbuilding.
20:55 – 21:03	Common Pipistrelle foraging in the rear garden
21:04	Three Common Pipistrelles foraging over the rear garden
21:10 – 21:15	Common Pipistrelle flying up and down the lane to the west of the outbuilding
21:27	Common Pipistrelle flying to the southwest of the house
21:30	Brown Long-eared Bat heard to the southeast of the house then in the rear garden
21:34 – 21:45	Common Pipistrelle heard flying up and down the lane
21:54	Common Pipistrelle heard in the lane to the west of the outbuilding


The bat flight paths at emergence are shown on Plan 1 overleaf.

Plan 1 Bat flight paths at emergence on 9th August 2022



Brown Long-eared Bat 

Common Pipistrelle Bats 

Positions of observers 

3.4.3 Dawn re-entry Survey

The dawn return survey was carried out on 24th August 2022, commencing at 04:30 and finishing when fully light. The weather conditions during the time of the survey were recorded and are presented in Table 3.

Parameter	Value
Temperature (°C)	18.0 start; 18.0 finish
Cloud cover (%)	100
Precipitation	None
Wind speed (Beaufort scale)	1 SW
Sunrise	06:04

Table 3 Weather conditions during the dawn re-entry survey

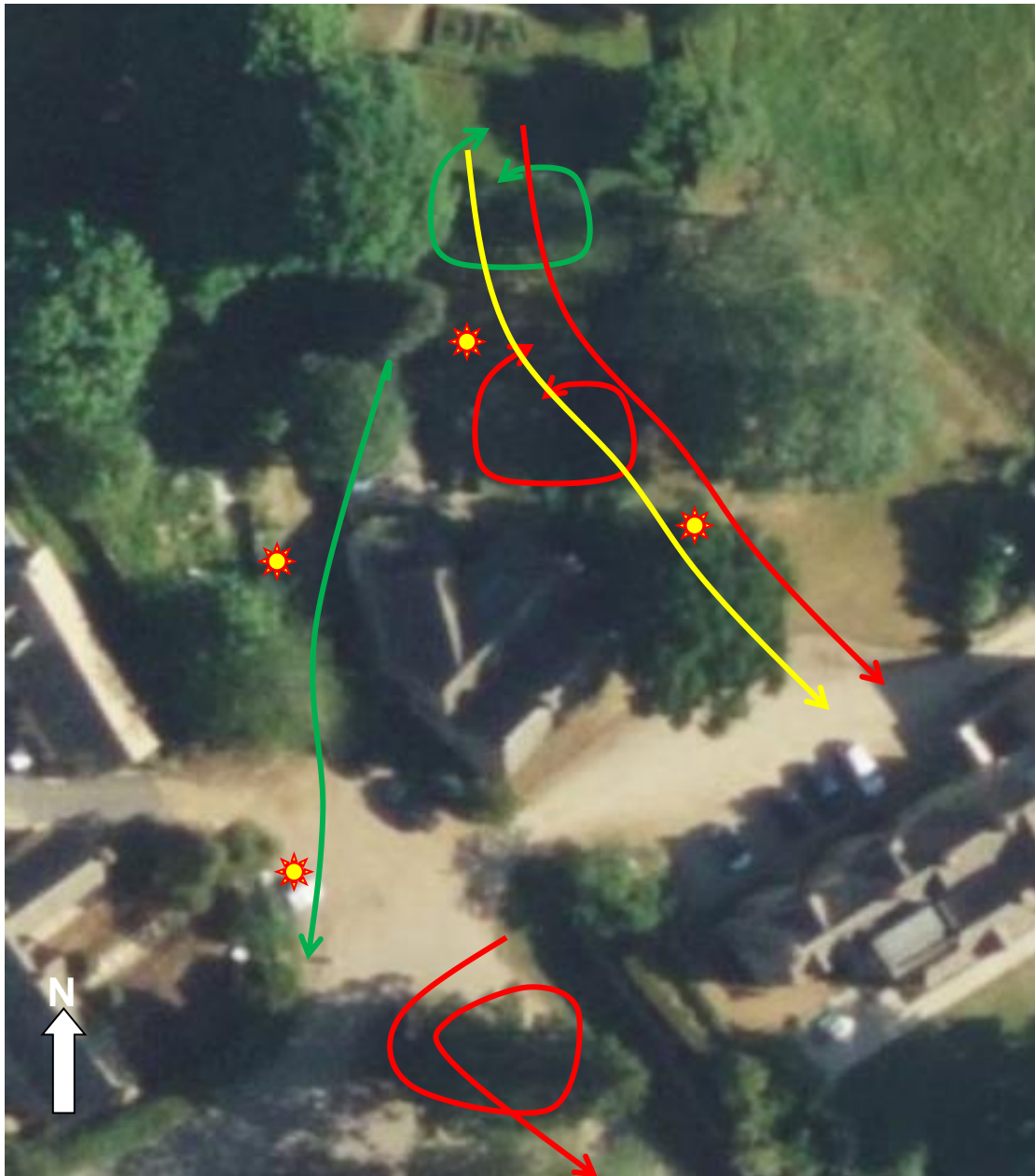
Common and Soprano Pipistrelles and Noctules flew round and over the site no bats went to roost using the house or the outbuilding.

The times of bat observations and detections are shown below.

Time	Observation
04:45 – 04:53	Common Pipistrelle flew round the rear of the garden
05:10	Soprano Pipistrelle flew over the rear garden then on to the southeast
05:22	Common Pipistrelle flew over the rear garden and on towards the southeast
05:26 – 05:28	Noctule flew over the rear garden
05:35	Noctule flew to the southwest
05:38	Soprano Pipistrelle flew over the rear garden towards the southeast
05:40	Common Pipistrelle flew over the rear garden towards the southeast
05:45	Common Pipistrelle flew over the rear garden towards the southeast
05:48 – 05:52	Common Pipistrelle flying round to the south then on to the southeast

The bats flight paths at dawn return are shown on Plan 2 overleaf.

Plan 2 Bat flight paths at dawn re-entry on 24th August 2022



- Common Pipistrelle Bats →
- Noctule Bat →
- Soprano Pipistrelle Bats →
- Positions of observers *

3.4.4 Other species

No birds' nests were found either inside or outside the house or outbuilding at The Bell House.

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 the suitability for roosting was also assessed. This was considered negligible, as there were no suitable external crevices or cavities.

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 signs of Brown Long-eared Bat activity were found, nor evidence of other bat species which commonly use the inside of buildings.

At the time of the survey, both the house and outbuilding were not identified as bat roosts or hibernation sites, and as such no further surveys or mitigation measures are required.

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No bird nests were found either in or on the buildings at The Bell House.

5. REFERENCES

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APPENDICES

Appendix 1: Location plan

Appendix 2: Site layout

Appendix 1: Location plan



The Bell in Little Tew, Chipping Norton

Appendix 2: Site layout



The Bell

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The Bell, Little Tew, Chipping Norton – Bat Survey Report

Report Number: 33322-01 NKM Assoc

Version: 01

Date: 18th October 2022