

Bat Survey Report

Site: The Lodge, Over Norton Park, Over Norton, OX7 5PX

Client: Nick Kettlewell



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QUALITY CONTROL

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13.06.23	Report updated, reviewed and re- issued	Mollie Paxford – BSc (Hons), MSc 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* (3rd edition, Collins, 2016). If there has been deviation from recognised practice, justification/explanation has been given.

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SUMMARY

At The Lodge in Over Norton Park, Over Norton, Oxfordshire, planning permission is being sought for the renovation of the house.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 27th August 2021, to assess the building for signs of bat occupation. An updated survey was carried out on 7th April 2023 to check the building for any changes.

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

The suitability for roosting pipistrelles *Pipistrellus sp.* was considered to be moderate, as there were a number of gaps under the roof tiles. No evidence of bat activity or occupation was found.

Given the above, two nocturnal emergence surveys were carried out; the first on the evening of 27th August 2021 and the second on the evening of 10th September 2021. These were then updated on the evening of 22nd May 2023 and the morning of 10th June 2023.

The emergence surveys began 15 minutes before sunset and continued for up to one and three quarters hours after. The dawn return commenced in the dark about an hour and a half before sunrise and continued for ten minutes after sun-up.

During the initial surveys in August and September 2021, low levels of Common Pipistrelle *Pipistrellus pipistrellus*, Whiskered/Brandt's *Myotis mystacinus/M. brandtii*, and Brown Long-eared *Plecotus auritus* activity was recorded, with passes from Noctule *Nyctalus noctula*. No bats were seen to emerge from or fly into the building.

During the updated surveys on 22nd May 2023 and 10th June 2023, similar results were recorded, with low level activity from Common Pipistrelles, Soprano Pipistrelles *P. pygmaeus*, Whiskered/Brandt's, Brown Long-eared, Daubenton's *M. daubentonii* and Noctule *Nyctalus noctula*. A Lesser Horseshoe Bat *Rhinolophus hipposideros* was also recorded on 10th June. No bats were seen to emerge from or fly into the building.

From the inspections and nocturnal surveys, The Lodge was not considered to be a bat roost and as such, no further surveys or mitigation measures are considered necessary.

1. INTRODUCTION

In August 2021, Paxford Ecology Ltd was instructed by Nick Kettlewell, to undertake a bat survey of The Lodge in Over Norton Park, Over Norton, Oxfordshire. On 27th August 2021, a visit was made to the property to carry out a diurnal inspection of the outbuilding to check for signs of bat occupation.

The suitability for roosting pipistrelles was considered to be moderate, as there were a number of gaps under the roof tiles. No evidence of bat activity or occupation was found.

Given the above, two nocturnal emergence surveys were carried out; the first on the evening of 27th August 2021 and the second on the evening of 10th September 2021.

An updated survey was carried out on 7th April 2023 to check the building for any changes, with the nocturnal surveys then updated on 22nd May 2023 and 10th June 2023.

The results of the inspections 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), which adds 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 1994, (or Northern Ireland 1995) (the Habitats Regulations), which defines 'European protected species of animals'.

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, Myotis bats (Natterer's and Whiskered/Brandt's), 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 27th August 2021, a thorough inspection of The Lodge was made by Mollie Paxford (Natural England bat licence No. 2020-47378-CLS-CLS), including the exterior and interior walls, roof covering, roof void, eaves, gables, fascias, roof and ceiling timbers, window casements and door frames.

10x42 Nikon binoculars and a Clulight CB2 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 27th August and 10th September 2021, nocturnal surveys of the outbuilding were undertaken by Mollie Paxford and an assistant.

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

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.

An updated daytime inspection was later carried out by Mollie Paxford on 7th April 2023, with updated nocturnal surveys on the evening of 22nd May 2023 and the morning of 10th June 2023.

The dawn return commenced in the dark about an hour and a half before sunrise and continued for ten minutes after sun-up.

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

3. RESULTS

3.1 Desk Study

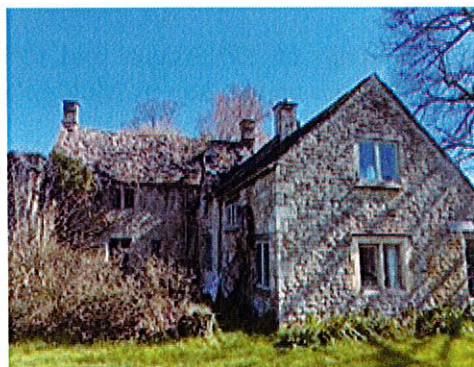
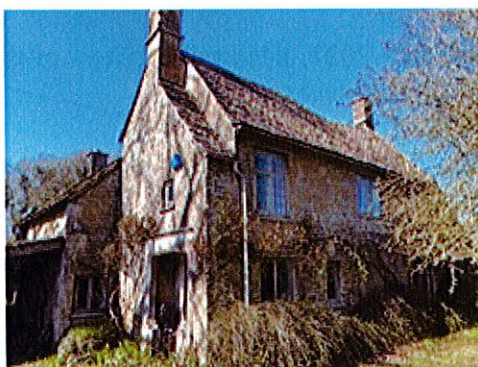
In view of the small scale of the proposed works, the likely low impact on bats, and in line with current guidance on accessing and using biodiversity data (CIEEM, 2016), a background data search was not carried out in this case.

3.2 Location

Over Norton is a small village located approximately 1.0 km north of Chipping Norton in Oxfordshire. Over Norton Park is situated to the northeast of the village, with The Lodge at Ordnance Survey Grid Reference SP 31713 28711, or What3Words: reporters.mixture.warthog (Appendix 1).

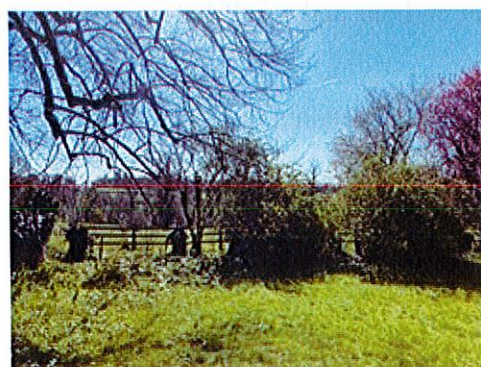
3.3 Site Description

The site comprised a detached stone built house, with a pitched tiled roof (Figs. 1 and 2). The house was unoccupied for the duration of the survey work.



Figs. 1 & 2 The Lodge

The site was set in a rural location on the edge of a village, with similar properties. There was a large garden, with pastoral farmland beyond (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

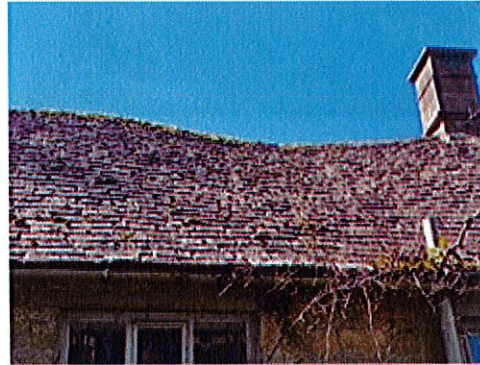
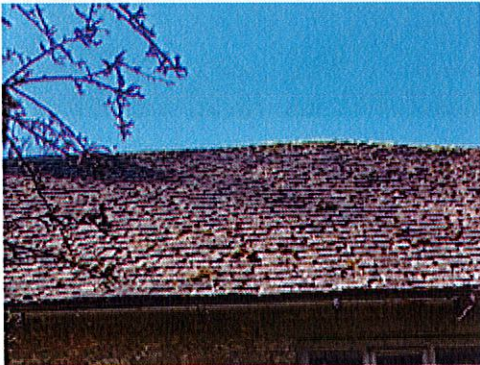
The daytime inspections were carried out on 27th August 2021 and 7th April 2023. The weather conditions during the time of the surveys were recorded and are presented in Table 1 below.

Parameter	Value on 27/08/23	Value on 07/04/23
Temperature (°C)	17.0	15.0
Cloud cover (%)	50	5
Precipitation	None	None
Wind speed (Beaufort scale)	0	0

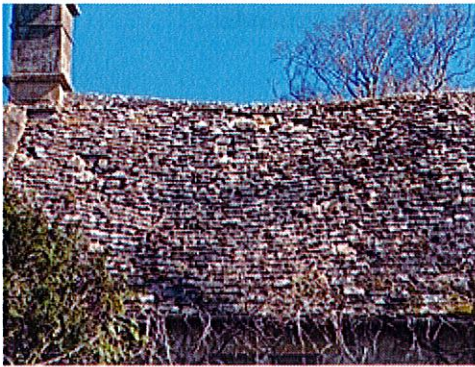
Table 1 Weather conditions during the diurnal surveys

3.4.1 Bats

The ridge was generally intact, although the tiles appeared to be loose, whilst the roof was in poor condition, with multiple raised, missing, broken and dislodged tiles (Figs. 5, 6, 7 and 8).



Figs. 5 & 6 Ridge and roof tiles



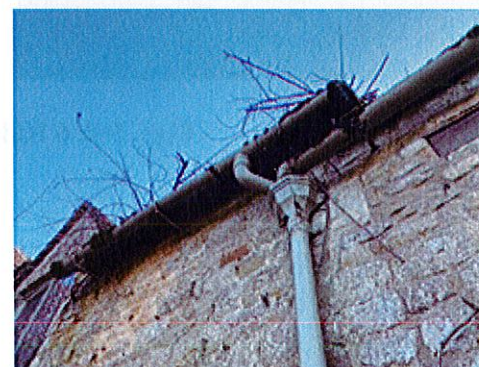
Figs. 7 & 8 Ridge and roof tiles

The gables were finished with the roof ends cement sealed to the gable wall plates (Figs. 9 and 10). Gaps were noted along sections of the gable ends.



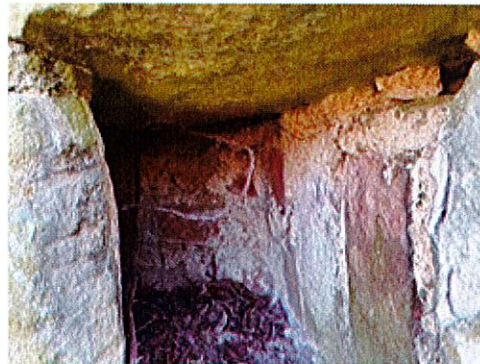
Figs. 9 & 10 Gable ends

The eaves were clipped and closed all round (Figs. 11 and 12).



Figs. 11 & 12 Eaves

The stonework was generally sound throughout, although there were sections with missing mortar which had made gaps, whilst there were also several stone features in the walls (Figs. 13 and 14). These were carefully inspected with a torch and no signs of bat activity were found.

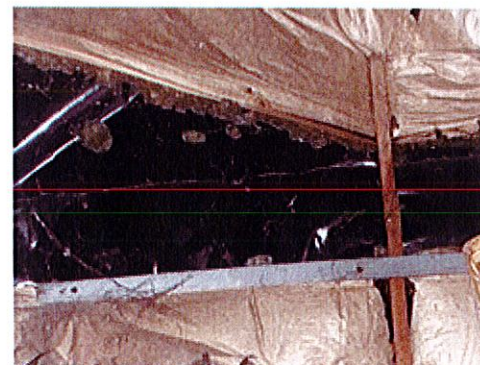


Figs. 13 & 14 Stone feature holes

Internally there were two small roof voids, both only measuring approximately 1.0 metre high. These were thickly cobwebbed from ridge to rafters (Figs. 15, 16, 17 and 18). The roof was lined with plastic and paper sheeting.



Figs. 15 & 16 Roof void



Figs. 17 & 18 Roof void

One of the upper floor windows was missing and as such this allowed access to the interior of the building. However, no signs of bat activity or occupation were found in or around the building, including within to lean-to structures (Figs. 19 and 20).



Figs. 19 & 20 Lean-to structures

3.4.2 Other species

No other important or protected species were noted, although it is worth noting that several old birds' nests were found around the outside of the building.

3.5 Nocturnal Surveys

3.5.1 1st Emergence Survey

The 1st emergence survey was carried out on 27th August 2021, commencing at 19.45 and finishing at 21:30. The weather conditions during the time of the survey were recorded and are presented in Table 2.

Parameter	Value
Temperature (°C)	17.0 start, 15.0 finish
Cloud cover (%)	50
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	20.02

Table 2 Weather conditions during the 1st emergence survey

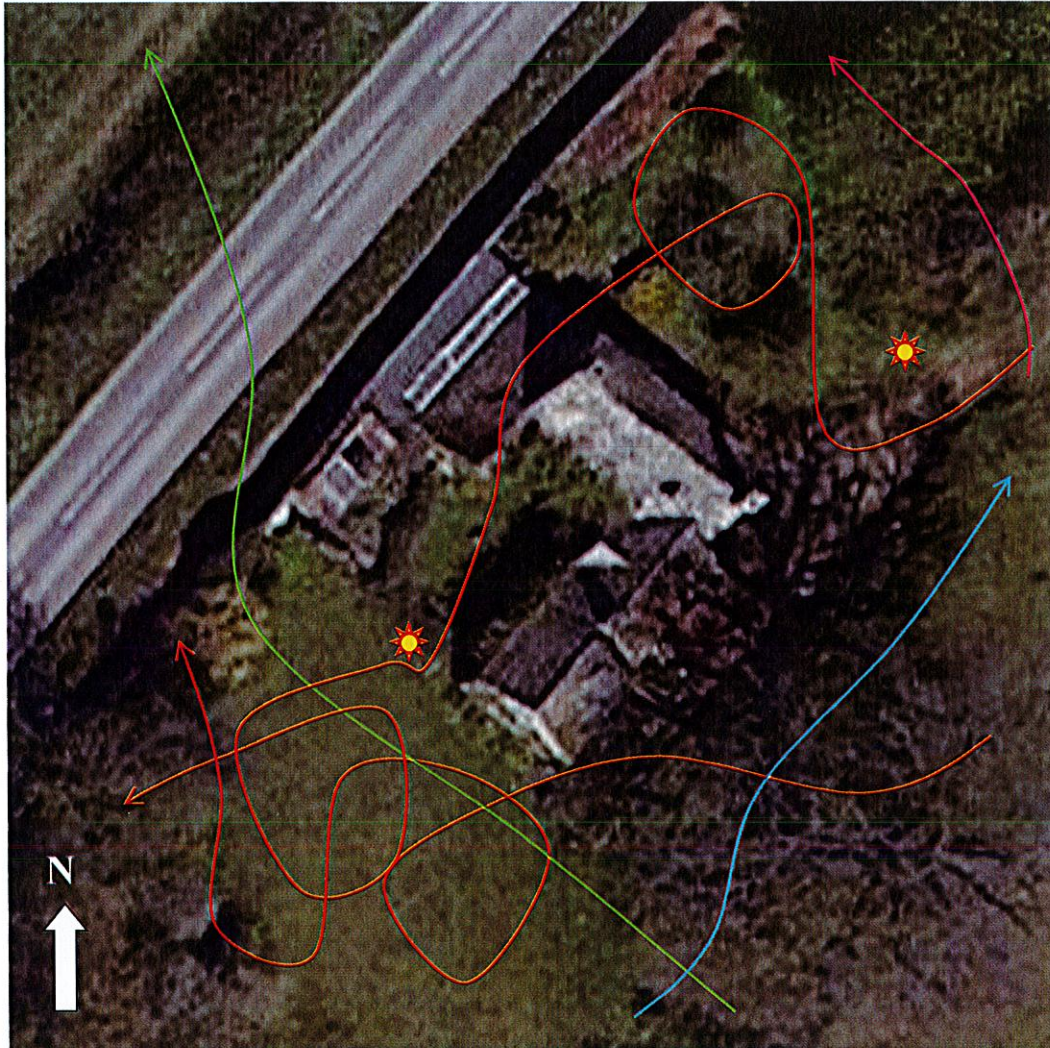
During the first nocturnal survey low levels of Common Pipistrelle, Whiskered/Brandt's, and Brown Long-eared activity was recorded, with passes from a Noctule. No bats were seen to emerge from or fly into the building.

The times of bat observations and detections are shown below.

Time	Observation
20.12	Common Pipistrelle (CP) flew through the garden and over the house having emerged from elsewhere
20:15	Noctule passed over the site
20:23	CP flew through the garden
20:28	Whiskered/Brandt's heard to the south
20.32	Common Pipistrelle foraging in the garden
20.48	Common Pipistrelle returned to forage in the garden
20.51	Noctule heard passing over the site
21:03	Brown Long-eared seen and heard flying along the driveway
21:30	No further detections were made and survey ended

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

Plan 1 Bat flight paths at 1st emergence on 27th August 2021



Common Pipistrelle Bat/s →

Noctule Bat →

Whiskered/Brandt's Bat →

Brown Long-eared Bat →

Positions of observers ✨

3.5.2 2nd Emergence Survey

The 2nd emergence survey was carried out on 10th September 2021, commencing at 19:15 and finishing at 21:00. The weather conditions during the time of the survey were recorded and are presented in Table 3.

Parameter	Value
Temperature (°C)	16.0 start, 15.0 finish
Cloud cover (%)	0
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	19:30

Table 3 Weather conditions during the 2nd emergence survey

The second nocturnal survey revealed activity from Common Pipistrelles, Soprano Pipistrelles, Whiskered/Brandt's, Brown Long-eared and Noctule. No bats were seen to emerge from or fly into the building.







The times of bat observations and detections are shown below.

Time	Observation
19.46	Common Pipistrelle (CP) flew into the garden from elsewhere and began foraging
19.48	Noctule passed over the site
19.52	Soprano Pipistrelle flew through the garden
19:59	Common Pipistrelle still foraging in the garden
20.07	Whiskered/Brandt's heard to the south
20.12	Noctule passed over the site
20:23	Brown Long-eared heard to the east
21:00	No further detections were made and survey ended

The bat flight paths at 2nd emergence are shown on Plan 2 overleaf.

Plan 2 Bat flight paths during 2nd emergence survey on 10th September 2021



- Common Pipistrelle Bat** 
- Soprano Pipistrelle Bat** 
- Noctule Bat** 
- Whiskered/Brandt's Bat** 
- Brown Long-eared Bat** 
- Positions of observers** 

3.5.3 2023 Emergence Survey

The updated emergence survey was carried out on 22nd May 2023, commencing at 20:45 and finishing at 22:30. The weather conditions during the time of the survey were recorded and are presented in Table 4.

Parameter	Value
Temperature (°C)	16.0 start, 15.0 finish
Cloud cover (%)	40
Precipitation	None
Wind speed (Beaufort scale)	1SW
Sunset	21:01

Table 4 Weather conditions during the 2023 emergence survey

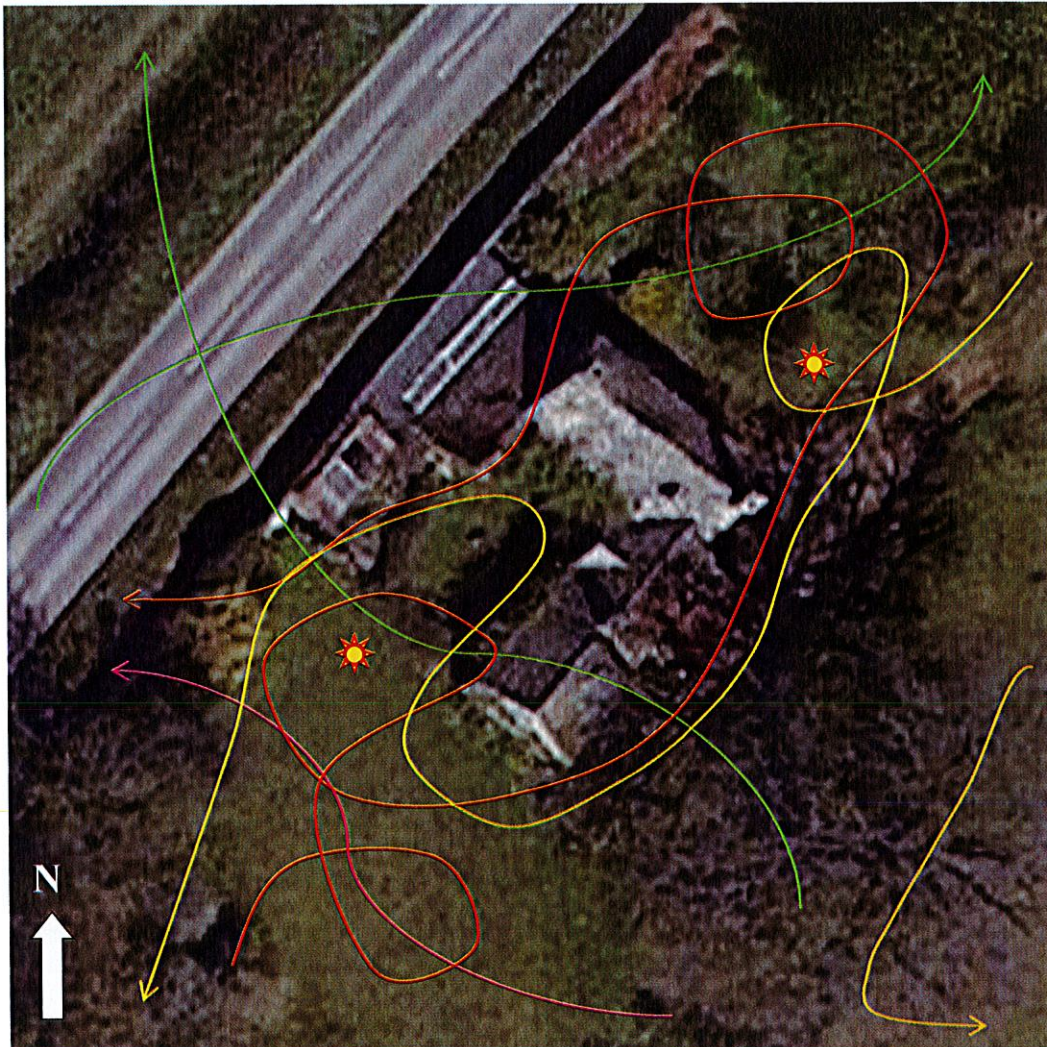
The updated nocturnal survey revealed activity from Common Pipistrelles, Soprano Pipistrelles, Brown Long-eared, Daubenton's and Noctule. No bats were seen to emerge from or fly into the building.

The times of bat observations and detections are shown below.

Time	Observation
21:17	Common Pipistrelle flew into the garden and began foraging, and was later joined by a Soprano Pipistrelle
21:18	Noctule passed over the site
21:23	Soprano Pipistrelle has left, with just one Common Pipistrelle foraging in the area
21:32	Common Pipistrelle no longer present
21:40	Noctule passed over the site
21:51	Daubenton's heard to the south
22:04	Brown Long-eared heard in the garden briefly
22:30	No further detections were made and survey ended

The bat flight paths at updated emergence are shown on Plan 3 overleaf.

Plan 3 Bat flight paths during updated emergence survey on 22nd May 2023



Common Pipistrelle Bat →

Soprano Pipistrelle Bat →

Noctule Bat →

Brown Long-eared Bat →

Daubenton's Bat →

Positions of observers ✨

3.5.3 2023 Dawn Re-entry Survey

The updated dawn re-entry survey was carried out on 10th June 2023, commencing at 03:15 and finishing at 05:00. The weather conditions during the time of the survey were recorded and are presented in Table 5.

Parameter	Value
Temperature (°C)	12.5
Cloud cover (%)	40
Precipitation	None
Wind speed (Beaufort scale)	0
Sunrise	04:49

Table 5 Weather conditions during the updated dawn re-entry survey

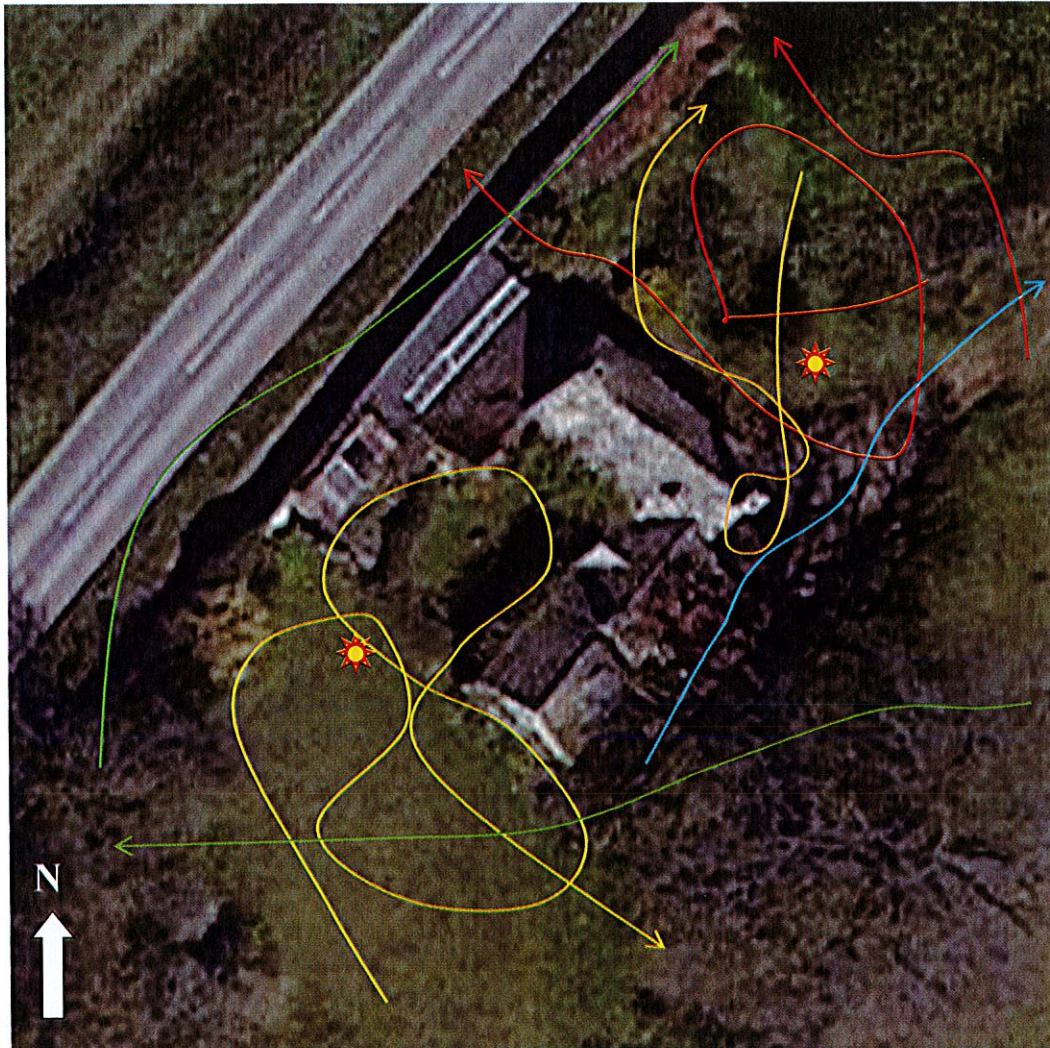
The survey revealed activity from Common Pipistrelles, Soprano Pipistrelles, Whiskered/Brandt's, Noctule and Lesser Horseshoe. No bats were seen to emerge from or fly into the building.







The times of bat observations and detections are shown below.

Time	Observation
03:23	Common Pipistrelle foraging in the front garden
03:31	Soprano Pipistrelle foraging in the rear garden
03:40	Noctule passed over
03:48	Whiskered/Brandt's flew along the drive
03:53	Common Pipistrelle flew along the lane
04:12	Noctule passed over
04:14	Lesser Horseshoe flew from the rear garden and off down the lane
05:00	No further detections were made and survey ended

The bat flight paths at dawn re-entry are shown on Plan 4 overleaf.

Plan 4 Bat flight paths during dawn survey on 10th June 2023



- Common Pipistrelle Bat** 
- Soprano Pipistrelle Bat** 
- Noctule Bat** 
- Whiskered/Brandt's Bat** 
- Lesser Horseshoe Bat** 
- 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. This was considered to be moderate, as there were a number of gaps under the roof tiles. No evidence of bat activity or occupation was found.

However, the absence of roosting pipistrelles was confirmed by the nocturnal surveys, when no bats were seen to emerge from or return to the building. However, low levels of foraging was recorded from Common and Soprano Pipistrelles, Whiskered/Brandt's and Daubenton's Bats.

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.

Brown Long-eared Bats were recorded during the nocturnal surveys, but none emerged from or re-entered the cottage.

From the inspections and nocturnal surveys, The Lodge was not considered to be a bat roost and as such, no further surveys or mitigation measures are considered necessary.

5. REFERENCES

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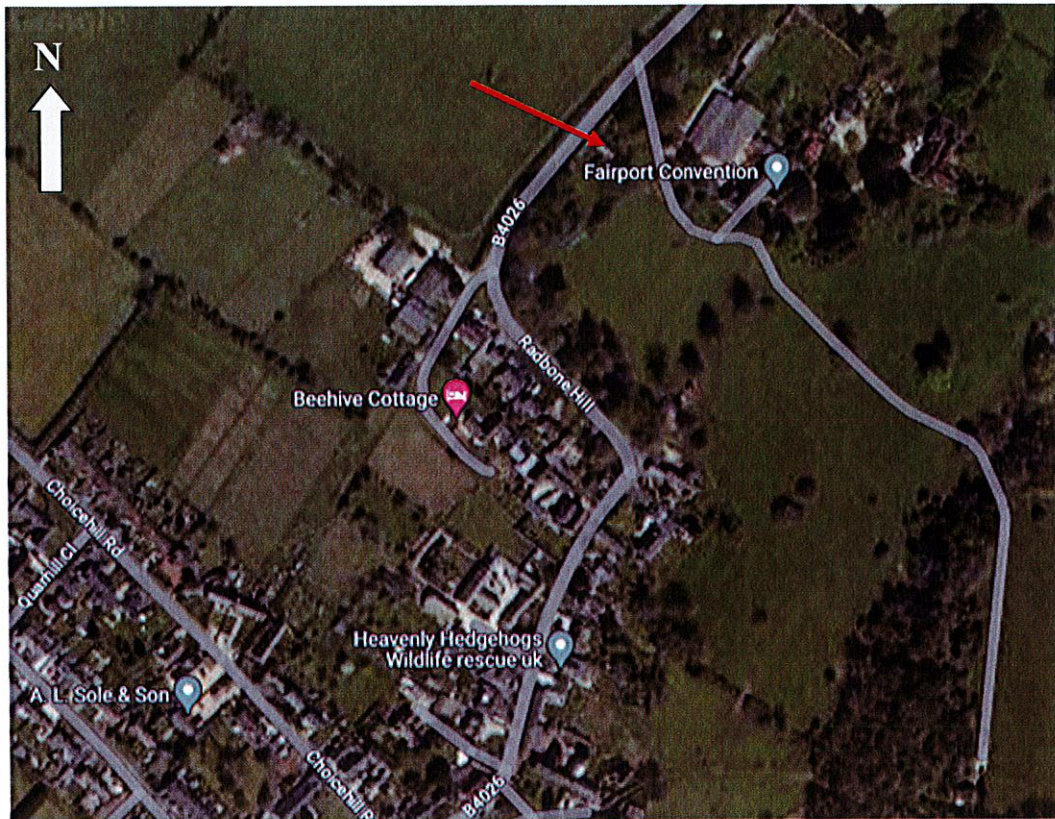
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APPENDICES

Appendix 1: Location plan

Appendix 2: Site layout

Appendix 1: Location plan



The Lodge, Over Norton Park, Over Norton

Appendix 2: Site layout



The Lodge