

Midland Ecology

Working with you

Brizlincote Hall Farm, Brizlincote Lane, DE15 0PR

Prepared for: Mick Simpkins

Bat Surveys - Presence/Likely-Absence

September 2021

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Executive Summary

Background

The survey follows Collins (2016) Good Practice Guidelines. It provides recommendations for mitigation/compensation, if considered necessary. If a deviation from the guidelines has been made, this will be detailed in the Method Section.

The following report (which has been prepared with due consideration for various best-practice guidance and methodologies, including those of the Chartered Institute of Ecology and Environmental Management (CIEEM 2016) and BS 42020, details the findings and recommendations for the site at Brizlincote Hall Farm, Brizlincote Lane, DE15 0PR.

The client commissioned Midland Ecology to undertake surveys to confirm bat presence/likely-absence¹, and roost characterisation if bats are present, as the proposals include for conversion building 1 into a residential dwelling and demolition of building 2.

Results and Findings

Conclusion and Discussion

On the first (dusk) survey, four bats emerged from under tiles on the southeast, southwest and northern façade of B1, section 1. Two of the bats were not echolocating, but flight pattern consistent with pipistrelle species, and the other two were confirmed as common pipistrelle by their calls. Two further common pipistrelle exited through large holes in the roof of B1. No bats emerged from B2.

On the second (dawn) survey, two common pipistrelle was observed returning to roost within B1 through a large hole in the roof. Use of different entry and exit points is not uncommon; nor is movement of common pipistrelles from one roosting place to another.

During the final (dusk) survey, a single bat was recorded emerging from the second-floor window of the southwest façade of section one of B1. The bat was not echolocating however, the flight pattern and timing of the emergence was consistent with pipistrelle species.

The findings suggest the presence of a summer roost for a low number of male and/or non-breeding female common pipistrelle bats.

Bat activity levels on site were found to be moderate, with heavier use of the courtyard to the southwest of building 1, it was noted that this area was sheltered from the wind from the adjacent fields.

¹ It is not currently scientifically possible to prove an absence, so an assessed absence is usually referred to as a "likely-absence".

Impact Assessment and Recommendations

As the proposal calls for conversion of the building 1, the common pipistrelle day roost present within it would be destroyed, with the potential for direct harm to any bats present during works. A European Protected Species Mitigation Licence (EPSML) from Natural England will be required in order to legally carry out the proposed works. This will require a detailed mitigation plan / method statement; the agreement and implementation of which should be made a condition of any planning consent granted.

No bat roosts were identified within building 2, as such no further surveys are required and a EPSML will not be required for the proposed works.

Bat activity levels on site were found to be moderate, with heavier use of the courtyard area to the southwest of building 1. Any increased lighting levels on this area have the potential to disrupt bat foraging and/or commuting routes. It is recommended that any lighting design follows the protocols outlined in the Institute for Lighting Professionals document "*Guidance Note 8: bats and artificial lighting*" published in 2018. Particular consideration should be focused on avoiding light spill within this area and the adjacent tree line.

1.0 Introduction

The client, Mick Simpkins, commissioned Midland Ecology to undertake Bat Presence/Likely-absence Surveys for the site at Brizlincote Hall Farm, Brizlincote Lane, DE15 0PR. Planning permission is being sought for the conversion of building 1 and demolition of building 2 within the site (See Appendix 1 for locations).

A previous Preliminary Roost Assessment, conducted by Midland Ecology on 21st July 2021 found evidence of bats in the form of droppings and numerous suitable roosting locations and access points within building 1 (B1), as a result the building was graded as a confirmed bat roost. A small number of suitable roosting locations and access points were identified within building 2 (B2), as a result this building was graded as low potential for roosting bats. Three nocturnal surveys were recommended for B1 and a single nocturnal survey for B2 to confirm the presence/likely-absence of roosting bats and associated entrance/egress points into the building, and to identify species and levels of use.

It was specified that the nocturnal surveys for B1 should consist of one dusk emergence survey and a separate dawn re-entry survey, undertaken within the peak activity period (May to August), to be spaced a minimum of two weeks apart; with a third survey (of either type) between May and September. The single nocturnal survey for B2 could be either a dusk or dawn survey to also be completed within the peak activity period.

The survey can be conducted between May and September with the optimal season for surveying maternity colonies limited to mid-May to August inclusive, however it can also be limited due to bad weather, when bats are less active.

The aims of the survey were:

- To find or record the emergence of bats from a building or built structure.
- To find roosts by tracking back bat flight paths or observing dawn flight activity at roosts.
- To determine presence/likely-absence of species i.e. the species present in a given area.
- To determine the intensity of bat activity both spatially and temporally i.e. to help estimate bat populations.
- To determine the type of activity, most usually foraging (e.g. by feeding buzzes), commuting (e.g. by high directional pass rates) and mating (e.g. by mating social calls).

If bats, evidence of their recent activity or the emergence of bats from a roost are found during our survey, this report will make recommendations for further survey work and/or design mitigation, where this is consistent with national guidelines, and assessed appropriate by the surveyor in the context of the

proposal. These recommendations will be based on an evaluation of which of the following roost categories may be present onsite (if any):

Table 1: Bat roost status definitions

Status	Description
Hibernation Site	Where bats may be found during the winter. (This is assessed within the context of this report).
Daytime Summer Roost	Used by males and/or non-breeding females (Seasonal limitations prevent robust analysis of this).
Night Roost	Where bats rest between feeding bouts during the night but are rarely present during the day.
Feeding Roost	Where bats temporarily utilize feeding perches and stations to eat an item of prey.
Transitional (or Swarming) Site	Where bats may be present during the spring or autumn (This cannot be assessed within the context of this report).

Summary of legislation and National Planning Policy that protects bats in England:

- Conservation of Habitats and Species Regulations 2017.
- Wildlife and Countryside Act 1981 as amended.
- Countrywide and Rights of Way Act 2000.
- Natural Environment and Rural Communities Act 2006.
- National Planning Policy Framework (“NPPF”).
- Circular 06/05.

This legislation makes it illegal to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport a bat or any part of a bat, unless acquired legally.
- Sell, barter or exchange bats, or any part of a bat.

A bat roost is well-defined by the legislation as the 'resting place' of a bat. However, the word roost is used to describe this resting place and is generally accepted as the word describing where a bat (or bats) rest, feed or sleep.

2.0 Method

The survey follows Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).

Surveyors are positioned around the building(s), tree or structure in order to cover all elevations. The survey then observes for emerging or re-entering bats from suitable features such as holes, cracks and crevices. Notes on commuting and foraging bats are also made in the surrounds.

If a deviation from the guidelines has been made the reason and justification will be explained below: -

No deviation from the standard guidelines has been made for this survey.

Table 2: Habitat value (likelihood) of bat presence assessed against Collins (2016) guidelines Source: Adapted from Collins (2016) pp 35, Table 4.1.

Likelihood of bat presence (Habitat Value)	Features that bats can and will use, regardless of evidence being present.
Confirmed Bat Presence	Bats are found to be present during the survey. Evidence of bats is found to be present during the survey.
Higher likelihood of bat presence.	Pre-20th century or early 20th century construction. Agricultural buildings of traditional brick, stone or timber construction. Large and complicated roof void with unobstructed flying spaces. Large (>20 cm) roof timbers with mortice joints, cracks and holes. Entrances for bats to fly through. Poorly maintained fabric providing ready access points for bats into roofs, walls, bridges, but at the same time not too draughty and cool. Roof warmed by the sun, in particular south facing roofs. Weatherboarding and/or hanging tiles with gaps. Low level of disturbance by humans. Bridge structures, follies, aqueducts and viaducts over water and/or wet ground.

Lower likelihood of bat presence.	Modern, well-maintained buildings or built structures that provide few opportunities for access by bats. Small, cluttered roof space. Buildings and built structures comprised primarily of prefabricated steel and sheet materials. Cool, shaded, light or draughty roof voids. Roof voids with a dense cover of cobwebs and no sections of clean ridge board. High level of regular disturbance. Highly urbanised location with few or no mature trees, parkland, woodland or wetland. High levels of external lighting.
Negligible likelihood of bat presence.	No features suitable for roosting, minor foraging or commuting.

Notes on using this table

1 The features listed here may not be indicative of use of the site by bats during winter or spring.

2 Pre-1914 buildings may present the greatest likelihood of providing roost space for bats due to their design, materials used and age. Pre-1990 buildings, especially when close to good foraging habitat, and with favoured features such as cavity walls and soffits, also have a high likelihood of providing roost sites for some bat species.

3 Post-1990 buildings are generally less likely than older buildings to house roosts; however, some modern designs provide access to suitable roosting spaces for bats. Pipistrelles in particular occupy modern buildings and built structures providing that there are suitable access gaps (> 8mm) and provided the structure has appropriate characteristics for roosting.

3.0 Results

The following section details the results of the desk study, inspection and survey. The desk-study includes information from the magic.defra.gov.uk database, other online information sources, and map/aerial photo information. The field surveys section details the building, structure or tree (numbered for reference), description of any evidence found and habitat value if no evidence has been located.

3.1 Desk Study

The desk study was centred on Grid Reference SK273220 and postcode DE15 0PR.

3.1.1 Designated sites

There were three statutory designated sites within 5km of the site:

- Scalpcliffe Hill LNR (approx. 1.3km west) – A nature reserve that covers 7.9 hectares of ancient woodland.
- Badgers Hollow, Coton Park LNR (approx. 3.7km south) – The site lies on an area of land formerly used as a coal stacking yard. It has now been restored to a mosaic of habitats including wetland.
- Kingfisher Trail LNR (approx. 3.9km northwest) – The footpath runs for 1.75 miles alongside the Trent and Mersey Canal in Burton upon Trent within the site are semi-natural habitats.

The site also falls within the Impact Risk Zones (IRZ) of Carver's Rocks SSSI located 5.4km east and Old River Dove, Marston on Dove SSSI located 7.3km northwest. All planning applications trigger both of these impact zones and as such further consultation with Natural England on the likely impacts will be required. Their location and extent are illustrated in Appendix 5.

The site does not share similar habitats or strong connectivity with any of these sites.

3.1.2 Landscape

A search of the Magic.defra.gov.uk database shows numerous areas of deciduous woodland present throughout the study area (the closest lying approx. 0.4km to the east of site), some of which are broadleaved woodland (closest of which is located approx. 0.4km to the east of the site) and young trees (the closest lying approx. 0.9km to the southeast of site). Four traditional orchards were also identified the closest lying immediately adjacent to the northeast of site. These habitats are likely to be classified as Priority habitats of principle importance, and of particular value to bats.

A review of aerial photographs (Figure 1) and OS maps shows the site may have some importance in the context of the surrounding landscape. The site is connected to a traditional orchard and is surrounded by a network of hedgerows which would suitable habitat corridors for bats.

Figure 1: Aerial photo of site, showing landscape structure © Google 2021



3.1.3 Historical records

A search of the Magic.defra.gov.uk database shows one European Protected Species Mitigation Licence (EPSML) that has been granted for bats within 2km of site. The licence was issued in 2012 for a project impacting a common pipistrelle *Pipistrellus pipistrellus* breeding and resting place. The licence was located approx. 1.9km to the southwest of site.

3.2 Field Surveys

The following section details the structures reference, bats located, evidence located and observed emergence/re-entry.

Table 3: Survey conditions

Date	Timings Start/end sunset/ sunrise	Structure reference/ location	Equipment Used	Weather: Start	Weather: Finish
11/08/2021	Start: 20:10 Sunset: 20:40 End: 22:40	B1 & B2	2 x Magenta 1 x EMT 2 x Peersonic RPA3	Temp: 19°C Cloudy: 90% Wind: f3 Rain: 0	Temp: 19°C Cloudy: 50% Wind: f1 Rain: 0
Comments (to include # of surveyors used for each visit): Two surveyors were positioned around B2 and three surveyors positioned around B1 (Appendix 2).					
26/08/2021	04:07 - 06:37 Sunrise: 06:07	B1	2 x Peersonic RPA3 1 x Echo Meter Touch 2 Pro	Temp: 15°C Cloud: 70% Wind: f1 Rain: None	Temp: 14°C Cloud: 60% Wind: f1 Rain: None
Comments (to include # of surveyors used for each visit): Three surveyors were positioned around B1 (Appendix 2).					
13/09/2021	Start: 18:56 Sunset: 19:26 End: 20:56	B1	2 x Magenta 1 x SSF Bats 2 x Peersonic RPA3	Temp: 19°C Cloudy: 70% Wind: f2 Rain: 0	Temp: 17°C Cloudy: 80% Wind: f2 Rain: 0
Comments (to include # of surveyors used for each visit): Three surveyors were positioned around B1 (Appendix 2).					

Table 4: Results and observations of the surveyors located around B1. Surveyor locations, bat activity and emergence/re-entry points are shown on maps in appendix 1 of this report.

Surveyor Location	Dates and Times	Bat Activity Observed
A	11/08/2021 20:10 - 22:40	21:00 – Noctule (N) <i>Nyctalus noctula</i> was heard foraging but not seen, continuous calls until 21:11 21:11 – a bat emerged from under a tile on the southwest aspect of B1, the bat was not echolocating, but the flight pattern indicated a pipistrelle species <i>Pipistrellus</i> sp. 21:11 – a second bat emerged from the southeast gable of B1, the bat was not echolocating, but the flight pattern indicated a pipistrelle species. 21:14 until 21:18 – continuous pipistrelle species foraging calls heard and seen foraging around the building 21:19 – N commuted S 21:20 until 21:32 – N foraging by two bats 21:27 – 2 x pipistrelle sp. seen commuting 21:47, 22:11 – N heard not seen, foraging calls
B	As above	20:54 – N heard not seen 21:02, 21:05 - Common pipistrelle (CP) <i>Pipistrellus pipistrellus</i> foraging within adjacent tree line 21:06, 21:11, 21:12, 21:16, 21:17, 21:18 – CP commuting and foraging 21:20 - CP heard not seen 21:21 – CP foraging over building 1 21:24 – unidentified bat species
C	As above	20:50, 20:54, 20:55 – Heard not seen, N 21:03 – Pipistrelle species, foraging over surveyor 21:05 – 2 x pipistrelle species foraging over surveyor 21:12, 21:16, 21:18 – Soprano pipistrelle (SP) <i>Pipistrellus pygmaeus</i> multiple foraging passes 21:20 – 1 x common pipistrelle emerged from northern façade of B1 21:21 – Pipistrelle sp. Commuting and foraging over surveyor 21:23 – 1 x common pipistrelle emerged from northern façade of B1

		21:25 – 1 x common pipistrelle exited through a large hole in the roof of B1 21:27 – Pipistrelle species foraging over surveyor 21:30 – 1 x common pipistrelle exited through a large hole in the roof of B1 21:36 – unidentified species commuting over surveyor 21:50 – heard not seen 21:55 – CP heard not seen 22:10, 22:26 – heard not seen
D	As above	21:00 – pipistrelle sp. flew SW over surveyor 21:02 – likely pipistrelle sp. commuting above surveyor 21:05 – pipistrelle sp. commuting SW 21:10 - likely pipistrelle sp. commuting above building 21:12 – N foraging calls until 21:17 21:20 – SP commute NW 21:25 – 2 x noctules foraging above building and surveyor 21:28 – pipistrelle sp. Flew from S into barn 21:30 – N foraging to the S of surveyor 21:32 – 2x Pipistrelle sp. Flew to the N of the building 21:34 – N commuting SE 21:37 – Pipistrelle sp. Heard not seen 21:40 – N commute SE 21:44 – N heard not seen, foraging calls 21:53 – N foraging calls and commuting passes until 22:25
E	As above	21:02 – N foraging calls, left the site to the S 21:16 – N foraging in field to the N of B2 21:18 – 2 x bats, N and CP foraging in NE and NW direction 21:20 – CP foraging towards NW 21:25 – Serotine (S) <i>Eptesicus serotinus</i> foraging call 21:26 – 2 x unidentified bats foraging S 21:33, 21:36, 21:53, 22:02, 22:16 – S foraging calls, heard not seen

		22:29 – unidentified bat, heard not seen			
Conclusion: Four bats emerged from under tiles on the southeast, southwest and northern façade of B1, section 1. Two of the bats were not echolocating, but flight pattern consistent with pipistrelle species, and the other two were confirmed as common pipistrelle by their calls. Two further common pipistrelle exited through large holes in the roof of B1.					
No bats emerged from B2.					
Species	Roost Type	Structure Ref	Roost Location	Access Points	Dimensions of existing roosts or explanation of where the roost is
Common pipistrelle	Summer	B1	Under tiles on southeast façade	Under tiles	N/A
Common pipistrelle	Summer	B1	Under tiles on southwest façade	Under tiles	N/A
A	26/08/2021 04:07 - 06:37	Noctule passes heard (not seen) at 04:37, 05:04 and 05:48. CP foraging activity heard (but not seen) occasionally between 05:09 and 05:12. CP foraging activity between 05:12 and 05:31; by a minimum of 2 bats, before both entered into the building through a large hole in the roof, within 2 minutes of each other.			
B	As above	Noctule passes heard (not seen) at 04:37 and 05:48. Near continuous CP foraging activity; by a minimum of 2 bats, between 05:07 and 05:30.			
C	As above	Noctule passes heard (not seen) at 05:04 and 05:48. Near continuous CP foraging activity; by a minimum of 2 bats, between 05:07 and 05:21.			
Conclusion: Common pipistrelle roost in B1					

Species	Roost Type	Structure Ref	Roost Location	Access Points	Dimensions of existing roosts or explanation of where the roost is
Common pipistrelle	Day	B1	Building interior	Large opening in roof	Building interior
A	13/09/2021 18:56 - 20:56	19:49 – Likely pipistrelle species emerged from upper floor window. Bat was not echolocating, but the flight pattern matched that of a pipistrelle sp. 19:59 – CP, 2 bats foraging within the courtyard area with frequent feeding buzz and social calls. 20:08 – SP, forage within courtyard, quick pass 20:08 – CP, third bat briefly joined and also foraged within courtyard. 20:10 – surveyor noted that activity stopped 20:15 – 1 x CP forage within courtyard area 20:23 – unidentified bat species, quick pass 20:27 – SP heard not seen, single quick pass, commute 20:31 – CP heard not seen, multiple calls including foraging, not loud – not within courtyard area 20:41, 20:53 – CP heard not seen, quick single passes indicative of commuting 20:53 – SP heard not seen, very faint call			
B	As above	19:50, 19:53, 19:57, 19:59, 20:01 – CP multiple commuting passes, occasionally 2 bats seen at the same time 20:03, 20:06, 20:09 – SP commuting passes 20:21 – Myotis sp. heard not seen 20:36 – CP heard not seen 20:37 – SP heard not seen 20:54 – CP heard not seen 20:54 – Myotis sp. Heard not seen			

C	As above	19:50 – SP commute N 19:54 – SP commute 19:56 – SP heard not seen 19:57 – SP commute along adjacent tree line 20:00, 20:03 – CP 2 x bats foraging overhead 20:05 – SP commute S 20:08 – CP heard not seen 20:09 – CP flew from N, circled and left site to the N 20:10 – CP commute N to S 20:12, 20:14 – CP foraging overhead and adjacent tree line 20:18 – CP commute N to S			
Conclusion: Single likely pipistrelle species emerged from the upper window of B1.					
Species	Roost Type	Structure Ref	Roost Location	Access Points	Dimensions of existing roosts or explanation of where the roost is
Pipistrelle	Summer	B1	Internal area of B1	Broken window on second storey	N/A

4.0 Conclusions, Discussion and Recommendations

The following section details the conclusions, discussion and recommendations in the context of the proposed works.

Conclusion and Discussion

On the first (dusk) survey, four bats emerged from under tiles on the southeast, southwest and northern façade of B1, section 1. Two of the bats were not echolocating, but flight pattern consistent with pipistrelle species, and the other two were confirmed as common pipistrelle by their calls. Two further common pipistrelle exited through large holes in the roof of B1. No bats emerged from B2.

On the second (dawn) survey, two common pipistrelle was observed returning to roost within B1 through a large hole in the roof. Use of different entry and exit points is not uncommon; nor is movement of common pipistrelles from one roosting place to another.

During the final (dusk) survey, a single bat was recorded emerging from the second-floor window of the southwest façade of section one of B1. The bat was not echolocating however, the flight pattern and timing of the emergence was consistent with pipistrelle species.

The findings suggest the presence of a summer roost for a low number of male common pipistrelle bats. This is further strengthened by the finding that the roost had disbanded by the final survey in September. Bat activity levels on site were found to be moderate, with heavier use of the courtyard and adjacent treeline to the northeast.

Potential Impact

The proposals include the conversion of B1 with works to the roof, as such the common pipistrelle day roost present within this building would be destroyed, with the potential for direct harm to any bats present during works.

No bat roosts were identified within B2, as such no roosts would be damaged or destroyed during the works.

Bat activity levels on site were found to be moderate, with heavier use of the courtyard and adjacent treeline. Any increased lighting levels on this area have the potential to disrupt bat foraging and/or commuting routes.

Recommendations

A European Protected Species Mitigation Licence (EPSML) from Natural England will be required in order to legally carry out the proposed works. This will require a comprehensive mitigation plan / method

statement; the agreement and implementation which should be made a condition of any planning consent granted.

It is recommended that any lighting design follows the protocols outlined in the Institute for Lighting Engineers document *"Guidance Note 08/18 "Bats and Artificial Lighting in the UK: Bats and the Built Environment Series" (2018)"* to minimise disturbance and sky-glow across the site; in particular the courtyard and adjacent tree line.

5.0 References

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<http://www.communities.gov.uk/publications/planningandbuilding/nppf>
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Appendix 1: Site location



Appendix 2: Activity Maps







