

Bat Survey Report

Site: Trinity Barns, Donnington, Moreton-in-Marsh,
Gloucestershire, GL56 0XZ

Client: Kate and Jane Molloy



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QUALITY CONTROL

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16.01.23	Daytime inspection	Mollie Paxford – BSc (Hons), MSc Director
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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 Trinity Barns in Donnington, near Moreton-in-Marsh, Gloucestershire, planning permission is being sought to convert the cart shed.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 16th January 2023, to assess the building for signs of bat occupation.

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.

Furthermore, the cart shed allowed access into a small roof void over the adjoining barn. Within this, several hundred bat droppings were found beneath the plumb cut. The droppings ranged in age, with some appearing to be from within the last year. The shape, size and location of the droppings were typical of a Lesser Horseshoe Bat *Rhinolophus hipposideros*. The droppings have been sent for DNA analysis to confirm the species. No bats were present at the time of the survey and it was not a hibernation site.

To confirm the species and level of bat use within the cart shed a minimum of two nocturnal surveys should be undertaken between May and September 2023.

Since the proposed works will cause the loss of the bat roost, a licence from Natural England will be required. If the suspected low status of the roost is confirmed by the nocturnal surveys, then the site will be eligible for registration under Natural England's Bat Mitigation Class Licence (BMCL) scheme.

Mitigation measures will include a 'toolbox talk' by a Registered Consultant (RC) to contractors about bats and what to do if one is unexpectedly encountered, a pre-works inspection of the roof void by the RC, supervision of the destructive roof works by the RC, the latter undertaken by hand, and the provision of a suitable bat box on a retained tree in the garden in which to relocate a bat if one is discovered during works.

Although not part of the licence, it is also proposed to retain the bat roost in-situ by closing off the small gap into the roof void and creating a purpose-built bat entrance through the roof.

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

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There were several Swallows' *Hirundo rustica* nests within the cart shed. These will be lost when the building is converted and as such an alternative nesting site will need be provided. This could be in the form of an overhang or log store.

1. INTRODUCTION

In January 2023, Paxford Ecology Ltd was instructed by Eastabrook Architects, to undertake a bat survey of the cart shed at Trinity Barns in Donnington, Moreton-in-Marsh, Gloucestershire. On 16th January 2023, a visit was made to the property to carry out a diurnal inspection of the building to check for signs of bat occupation.

The result of the inspection is 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 16th January 2023, a thorough inspection of the cart shed was made by Mollie Paxford (Natural England bat licence No. 2020-47378-CLS-CLS), including the exterior and interior walls, roof coverings, roof void, roof space, eaves, fascias, roof and ceiling timbers 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 gaps which couldn't be adequately inspected with a torch and a ladder.

The result of the inspection is 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.

Within 2.0 km of the survey site the following Natural England Bat licences had been issued;

- EPSM2013-5451 – 1.4 km southeast for Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *P. pygmaeus*, Brown Long-eared *Plecotus auritus* and Natterer's *Myotis nattereri*;
- EPSM2012-4716 – 2.0 km northwest for Lesser Horseshoe;
- 2020-46751-EPS-MIT – 2.0 km east for Barbastelle *Barbastella barbastellus*, Brown Long-eared and Common Pipistrelle.

3.2 Location

Donnington is a small village located approximately 4.0 km south of Moreton-in-Marsh in Gloucestershire. Trinity Barns is situated at the eastern end of the village. The Ordnance Survey Grid Reference is SP 19389 28172 (Appendix 1).

3.3 Site Description

The survey site comprised a stone cart shed with a hipped tiled roof (Figs. 1 and 2).



Figs. 1 & 2 Cart shed

The site was situated on the edge of a small rural village, with pastoral farmland beyond.

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 16th January 2023, commencing at 11:45
The weather conditions during the time of the survey were recorded and are presented in Table 1 below.

Parameter	Value
Temperature (°C)	5.0
Cloud cover (%)	80
Precipitation	None
Wind speed (Beaufort scale)	0

Table 1 Weather conditions during the diurnal survey

3.4.1 Bats

The ridge and hipped ridge tiles were intact throughout and all tightly sealed with cement. The roof tiles were generally in good condition, with none missing, broken or dislodged, although the stone nature created gaps (Figs. 3, 4, 5 and 6).



Figs. 3 & 4 Ridge and roof tiles



Figs. 5 & 6 Ridge and roof tiles

The eaves were clipped and closed apart from along the north elevation which was open fronted. The stonework was sound throughout, with no gaps or crevices.

Internally the cart shed was open to the underside of the roof which was lined with tarred felt (Figs. 7 and 8). The interior was brightly illuminated through the open front and no evidence of bat activity or occupation was found. However, the end wall at the western end of the building was not quite full height and there was a small gap which allowed access into a roof void over the adjoining barn (Ref. Figs. 7 and 8).



Figs. 7 & 8 Interior of barn and gap into roof void

The small roof void was also lined with tarred felt. Beneath the plumb cut were several hundred bat droppings which ranged in age but it appeared some had been deposited within the last year (Figs. 9 and 10). The shape, size and location of the droppings were consistent with those deposited by a Lesser Horseshoe Bat. A sample of droppings has been sent for DNA analysis.



Figs. 9 & 10 Bat droppings

The location of the droppings is shown in appendix 3.

3.4.2 Other species

Several old birds' nests were found inside the barn, these from Swallows, Blackbirds *Turdus merula* and pigeons.

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.

The suitability for roosting pipistrelles was considered to be moderate, as there were a number of gaps under the roof tiles.

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.

Furthermore, the cart shed allowed access into a small roof void over the adjoining barn. Within this, several hundred bat droppings were found beneath the plumb cut. The droppings ranged in age, with some appearing to be from within the last year. The shape, size and location of the droppings were typical of a Lesser Horseshoe Bat. The droppings have been sent for DNA analysis to confirm the species. No bats were present at the time of the survey and it was not a hibernation site.

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5. REFERENCES

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APPENDICES

Appendix 1: Location plan

Appendix 2: Site layout

Appendix 3: Location of bat droppings

Appendix 1: Location plan



Trinity Barns, Donnington

Appendix 2: Site layout



Trinity Barns

Appendix 3: Location of bat droppings



Lesser Horseshoe Bat droppings 