Barns at Jowett House Farm, Cawthorne

Bat Survey Report

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1. Summary

- 1.1.1 The bat survey was commissioned by Shaun Hyde of Planning Design on behalf of the client Marie-Catherine Fraser on 13th February 2025.
- 1.1.2 The survey was undertaken to inform proposals for the demolition of existing site buildings in order to make way for the construction of a single dwelling.
- 1.1.3 An internal and external visual inspection of the buildings was undertaken on 18th February 2024.
- 1.1.4 No bats were found roosting in the buildings during the preliminary daytime assessment and there were no signs of bat occupation. The surveyed buildings are considered to display a negligible level of bat roosting potential. No bird's nests were found in either of the buildings.
- 1.1.5 No further bat survey is considered necessary, providing that works commence within 24 months of the bat survey works. If works are to commence after this date, then Middleton Bell Ecology should be contacted to determine the requirement for update survey.
- 1.1.6 Works should proceed with caution and vigilance for unexpected bat presence, as single bats can roost almost anywhere. If bats are subsequently discovered, work should cease, and further advice sought without delay.
- 1.1.7 Building demolition works should either commence outside the bird nesting period (March to September inclusive), or be preceded by a nesting bird check.
- 1.1.8 In order to enhance the site for roosting bats, it is recommended that one integrated bat box is installed in the new dwelling. it is also advised that an integrated swift box is also fitted in the dwelling.



2. Introduction

- 2.1.1 The bat survey was commissioned by Shaun Hyde of Planning Design on behalf of the client Marie-– Catherine Fraser on 13th February 2025.
- 2.1.2 Two modern agricultural buildings are proposed for demolition to make way for a new dwelling. Middleton Bell Ecology were therefore contracted to conduct a baseline assessment to determine the likely presence or absence of roosting bats and to identify roost locations, access points, species present, level of use and the importance of nearby landscape features.
- 2.1.3 The buildings are situated in a rural location at Jowett House Farm, Cawthorne near Barnsley.

3. Habitat Assessment

3.1.1 Surrounding habitats comprise arable and pasture, with some large woodlands and extensive grassland a little further afield. The immediate area is likely to support an above average assemblage and abundance of bats. Table 1 summarises the habitats present, adjacent to and further afield of the surveyed buildings.

Name and address: Barns at Jowett House Farm, Cawthorne, Barnsley S75 4AS						
OS Grid Ref: SE 26620 07918		Altitude: 120	m			
Local Planning Authority: Barnsley Metropolitan Borough Council						
Features on site and adjacent to site						
Feature	On site	Adjacent	Comments			
Buildings	▶	~	Farm house and associated buildings.			
River bordered by			Jowett House Beck 120m			
trees			northeast. Daking Brook 325m southeast.			
Standing water			550m southeast			
Bridges tunnels and culverts			Associated with the Beck and Brook.			
Trees	~	~	Field boundaries and nearby hedgerows.			
Woodland			The nearest is 275m south southeast.			
Grassland	✓	✓	20m south			





Figure 1. Site location, as indicated by red circle

3.2 Aims

- 3.2.1 The survey was conducted to help determine the following:
 - The presence/likely absence of roosting bats.
 - Suitable bat roosting areas and access/egress points into the buildings.
 - The level of bat roost potential associated with the buildings.
 - The number and species of bat roosting within the buildings.
 - Identify further bat survey work or mitigation requirements.
 - Record evidence of bird nesting from site buildings.

4. Methodology

4.1 Data Consultation

- 4.1.1 The decision was made not to request bat records from either the Biological Records Centre or South Yorkshire Bat Group given the lack of bat roost potential displayed by the surveyed buildings.
- 4.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was undertaken to identify historic European Protected Species (EPS) licences obtained for locations within 2km of the site.

4.2 Field Survey

- 4.2.1 The following personnel conducted the survey on 18th February 2025:
 - Peter Middleton (MCIEEM; Class license WML-A34-Level 4, 2017-27977-CLS-CLS)



- 4.2.2 The following activities were carried out during the surveys in compliance with relevant Bat Survey Guidelines (Collins 2023):
 - A brief inspection and assessment of the site and habitats present to within 300m.
 - An extensive examination of all parts of the buildings both inside and out to record structural features and condition and to record features that may be suitable for roosting bats. Particular attention was paid to any crevices or gaps in walls, lintels, gaps between beams and joists and to the possibility of finding droppings stuck to walls, floors or other surfaces, or insect remains below beams, among a number of other factors. All signs indicative of a bat roost presence including live or dead bats, droppings, feeding remains, scratch marks and staining were recorded.
 - An assessment of the buildings' bat roost potential (negligible, low, moderate, high or confirmed roost).
- 4.2.3 In addition:
 - Recording of any signs of nesting bird usage of the buildings.
- 4.2.4 The following equipment was used or at hand during the survey:
 - Clulight
 - Binoculars
 - Endoscope
 - Ladders
 - Camera

4.3 Survey Limitations

4.3.1 No significant limitations to the survey were encountered.

5. Results

5.1 Data Consultation

5.1.1 Two historical bat EPS mitigation licences have been issued for locations within 2km of the surveyed buildings. The nearest licence was issued in 2018 for a location 750m northeast of the site. This licence permitted damage to breeding and/or resting sites used by brown long-eared bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and whiskered bat *Myotis mystacinus*.

5.2 Field Survey

5.2.1 No evidence of bat roosting was recorded on site. The buildings lack any significant bat roosting potential and were assessed as having negligible bat roost suitability. The buildings are described in detail below.



Description

5.2.2 For ease of description the buildings have been numbered and are shown in Figure 2 below.

Figure 2. Building layout



Description and external inspection

5.2.3 Building B1 was a modern steel framed agricultural building beneath a pitched corrugated fibre-cement roof, supported by wood purlins on steel trusses. A two metre high solid concrete block wall was on two sides (rear and northwest elevation) with a similar height precast concrete panel wall on the southeast elevation. The outside rear walls were clad with profiled metal sheets. Fibre-cement verge capping was present on both gables. The barn was open fronted (Plates 1, 2 & 5).

Plate 1. B1







5.2.4 Building B2 was a steal framed agricultural building beneath a pitched profiled sheet metal roof, supported by steel trusses and timber purlins. The barn was open on three sides whilst the rear was clad with profiled sheet metal (Plates 3, 4 & 6). No potential roost features were identified on the exterior of either building.

Plate 3. Rear of B2









Internal inspection and description

- 5.2.5 Both buildings were open to the underside of the roof covering and the only potential bat roost feature internally comprised the gaps between the corrugations of the fibre cement sheets and the purlins in B1. In this case the corrugations are large and therefore unlikely to be attractive to crevice dwelling bats. No potential bat roost features were identified on the inside of B2, given the presence of sheet metal roof covering which has no thermal mass and highly fluctuating temperatures. Three 1 m high precast concrete panels divided the floor space into three compartments in B2 (Plate 6).
- 5.2.6 No signs of bats were found in either of the buildings.



Plate 5. Inside B1

Plate 6. Precast concrete dividing panels inside B2





6. Assessment

6.1 Summary and Evaluation of Findings

6.1.1 No bats were found roosting in the buildings during the preliminary daytime assessment and there were no signs of bat occupation. Whilst one buildings exhibited a possible internal roost feature, this feature was considered to be at no greater than a negligible level for current use by roosting bats.

6.2 Further Survey, Recommendations and Enhancements

Bats

- 6.2.1 No further bat survey is considered necessary, providing that works commence within 24 months of the bat survey works. If works are to commence after this date, then Middleton Bell Ecology should be contacted to determine the requirement for update survey.
- 6.2.2 No bats were recorded roosting on site during the survey works, however, in order to enhance the ecological value of the site and in accordance with the aims of the National Planning Policy Framework (2024), it is recommended that a bat roosting feature is incorporated close to wall top height in a south or west facing wall of the new dwelling. Suitable designs of box would comprise either the Build-in Woodstone Bat Box or Ibstock Enclosed Bat Box C (see Plates 7, 8 & 9). For further information on appropriate bat roosting features please contact Middleton Bell Ecology.

Plates 7, 8 & 9. Built-in bat roost products



6.2.3 Over time bats will often get into new buildings. Bats have been shown to regularly become entangled and die in the component filaments of standard modern woven roofing membranes (Appendix 2). There are however now a number of modern roofing membranes which have been shown to be relatively safe for bats. As a result, the roof of the new dwelling must be lined with a 'bat safe' membrane.

<u>Birds</u>

- 6.2.4 Building demolition works should commence either outside the bird nesting period (March to September inclusive), or the works will need to be preceded by a nesting bird check.
- 6.2.5 In order to compensate for the loss of bird nesting habitat associated with Building 1, it is recommended that one integrated swift *Apus apus* boxes (i.e. Manthorpe Swift



Brick) be installed within the new dwelling (Plates 10 & 11). This box should be fitted at wall top height and may be installed across any elevation. Studies have shown that swift boxes are used by other bird species that utilise buildings and consequently this measure will provide potential nesting space for sparrows *Passer domesticus* and starlings *Sturnus vulgaris*, in addition to potentially providing future nest space for swift.



Plates 10 & 11. Manthorpe Swift Brick

6.3 Conclusions

- 6.3.1 There were no visible signs of bat occupation on either the inside or outside of the surveyed buildings and both buildings were considered to display negligible potential for current use by roosting bats.
- 6.3.2 The thorough daytime visual inspection is in this case considered sufficiently robust to be confident that bats are not roosting in the surveyed buildings. No further survey effort is necessary providing works commence within 24 months of the survey date. If works are to commence after this date, then Middleton Bell Ecology should be contacted to determine the requirement for update survey.
- 6.3.3 Works should proceed with caution and vigilance for unexpected bat presence, as single bats can roost almost anywhere. If bats are subsequently discovered, work should cease, and further advice sought without delay.
- 6.3.4 Recommendations to enhance the future dwelling's potential to support roosting bats and nesting birds are included in this report.

7. References

Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust.



Appendix 1. Legislation and Policy Guidance

Bats receive protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- Deliberately capture (or take), injure or kill a bat.
- Intentionally or recklessly disturb bats whilst they are occupying a structure or place used for shelter or protection or obstruct access to any such place.
- Damage or destroy the breeding or resting place (roost) of a bat.
- Possess a bat (live or dead), or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.
- Sell (or offer for sale) or exchange bats (dead or alive), or parts of parts.

The Convention on Biological Diversity, signed in Rio de Janeiro, Brazil in 1992, requires member states to develop national strategies and to undertake a range of actions aimed at maintaining or restoring biodiversity. The UK Biodiversity Strategy was produced in response to the Convention.

In England & Wales, the Natural Environment and Rural Communities (NERC) Act, 2006 imposes a duty on all public bodies, including local authorities and statutory bodies, in exercising their functions, "to have due regard, as far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". It notes that "conserving biodiversity includes restoring or enhancing a population or habitat". Barbastelle Barbastella barbastellus, Bechstein's Myotis bechsteinii, brown long-eared Plecotus auritus, greater horseshoe Rhinolophus ferrumequinum, lesser horseshoe Rhinolophus hipposideros, noctule Nyctalus noctula and soprano pipistrelle Pipistrellus pygmaeus bats are included as priority species within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. At a more local level there are Local Biodiversity Action Plans for smaller geographical areas which may cover a greater or lesser range of bat species.

Where it is proposed to carry out works which will have an adverse impact on roosting bats, the site must either be registered on the Bat Low Impact Class Licence (BLICL), or a European Protected Species (EPS) license must first be obtained from Natural England. This requirement applies even if no bats are expected to be present when the work is carried out. The National Planning Policy Framework for England was revised in 2021. This document states that plans should 'promote the conservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity'.

Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:

- Intentionally kill, injure or take any wild bird.
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.



Appendix 2. Bats and Roofing Membranes

Standard roof membranes can cause the death of significant numbers of bats. Traditional bitumen coated roofing felt is recommended where roosting bats are expected to be present.

The problem

Standard non-bitumen coated membranes (including almost all breathable membranes) used below roof slates and tiles present a significant problem for bats. Over time, strands are pulled away from the surface of these materials as bats crawl over them. These fuzzy strands are very strong and can tangle and trap bats, sometimes causing the death of bats over multiple years¹.

One example we have encountered comprised a pipistrelle roost which formed in a building extension constructed in 2009. Over the course of just 13 years the roofing felt degraded to the extent that it trapped and killed more than 10 bats. Fortunately, the problem in this roost was identified and remedial work was undertaken to replace the roofing membrane in 2022.



Plate A2.1. Four dead pipistrelles tangled in breathable roofing membrane

Although a new roof might be considered to lack potential bat access points, that is often not the case. Roofs covered with stone slates almost always have gaps large enough to be accessed by bats, this is often also the case where imitation stone slates are used. On older buildings the uneven roof timbers and/or building design also often results in gaps on wall tops and between slates. Even on new builds it is often possible for bats to access potential roosts via features such as dry verge capping. Some bats can access a space no wider than a biro pen, therefore it is not surprising that they can find their way into most buildings.

Safe roofing membranes (and membranes behind cladding)

From a bat perspective, the best membrane option for areas where roosts are expected comprises traditional hessian-backed Type 1F bituminous felt. This product has been widely and safely used as a secondary weather barrier since approximately the 1950s/1960s. Wooden sarking has also been used for many decades and if appropriately treated, is safe for

¹ Wearing S. Essah E., Gunnel K. & Bonser R. (2013) Double jeopardy: the potential for problems when bats interact with breathable roofing membranes in the United Kingdom. Architecture and Environment



use in bat roosts. Wooden sarking also has the benefit of providing adding additional insulation and it is usually breathable.

At the time of writing (and to our knowledge) two products have passed the 'snagging propensity' test; consequently these products are approved by Natural England for use in bat roosts. This test attempts to replicate the wear and tear which results from bats crawling over the membrane. The approved products are: TLX BatSafe^{2,3} and SIGA Majcoat 350. Although they have passed this test, it is unclear how these membranes will degrade in the mediumlong term, particularly in larger bat roosts. Therefore we do not recommend that they are used for roosts with multiple bats, and particularly for large (maternity roosts). A third product, SIGA Majcoat 200 SOB Diffusion, passed the test for its upper surface only. This product should not be used in known bat roosts or locations where bat mitigation is to be installed. Although none of these products are considered to be as safe as traditional Type 1F bituminous felt, they may provide an option for roofs where future bat use cannot be ruled out, and a breathable solution is required.

Additional considerations

In recent years a fairly substantial proportion of the lofts we have surveyed which had existing breathable felt, were found to have been damaged by wasps (Plate A3.2). The wasps appear to have chewed holes in the felt and formed nests. This doesn't appear to be a problem associated with traditional bitumen coated roofing felt. Any holes within roofing felt are likely to significantly reduce its functionality as a secondary weather barrier. Where bats or birds come into contact with breathable roofing membranes, they can also damage it causing it to leak, they can also significantly reduce the breathability of the felt in that location.

Plate A2.2. Damage to a breathable roofing membrane adjacent to a wasp nest



Traditional bituminous Type 1F roofing felt is a non-breathable product and therefore ventilation is required. Sufficient ventilation can be usually be achieved, even in buildings with vaulted ceilings, however, some consideration during the design stage is required. Products to increase the ventilation within roofs where bituminous Type 1F felt has already been installed are also available.

² <u>https://www.gov.uk/government/publications/bats-apply-for-a-mitigation-licence#full-publication-update-history:~:text=Use%20of%20safe%20roofing%20membranes</u>

³ TLX BatSafe requires all joints and cut edges to be taped in order to prevent the fraying of bare edges.