

Yeorton Hall Farm, Egremont

Preliminary Bat Roost Assessment and Dusk Emergence Surveys for Bats

Client: John Hewitson

July 2024







DOCUMENT CONTROL

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EXECUTIVE SUMMARY

This report relates to a Preliminary Roost Assessment and Dusk Emergence (Presence / Likely Absence) Surveys for bats carried out on two derelict barns proposed for demolition at Yeorton Hall Farm, Egremont.

No obvious evidence of previous bat activity was noted within the surveyed buildings during the Preliminary Roost Assessment. Both buildings were assessed to provide moderate suitability for roosting bats.

No bats were observed emerging from the surveyed buildings during the Dusk Emergence Surveys. Therefore, no further surveys, mitigation, or licensing are required for roosting bats. The risk of causing an offence under relevant wildlife legislations during the conversion works on site is highly unlikely.

In the unlikely event of discovering roosting bats or bat evidence during the works, all activities should cease, and advice should be sought from a licensed bat ecologist.

The demolition works should avoid commencing during the peak bat hibernation season (November – February).

A sensitive lighting strategy is recommended to be implemented on-site as part of the proposal. The site can be improved for roosting bats through the provision of bat boxes.

Evidence of current nesting bird activity was found on-site, and any works taking place during the bird breeding season (March-September) must consider that all British birds are protected by law when nesting.

No field signs indicating the use of the surveyed building by barn owls were found during the site survey. The buildings were considered to offer limited nesting suitability for this species.





1.0 INTRODUCTION

1.1 Background

Lakeland Ecology was commissioned to undertake a Preliminary Roost Assessment (PRA) and Dusk Emergence Surveys for bats at Yeorton Hall Farm, Egremont. This report was prepared by Patryk Gruba BSc (Hons) MCIEEM.

1.2 Site Location

The site is situated at Yeorton Hall Farm, Oaklands, Egremont, Cumbria, CA22 2NX – see Figure 1. The site is situated within a working farm and comprises a farmhouse, two stone barns as well as modern agricultural buildings. The buildings considered within this assessment include a derelict stone barn (B1) and adjacent two storey stone barn (B2) on site, located at OSGB Reference NY02650779 – see Figure 2.

The site is situated 1km southwest of the village of Haile. The small town of Egremont is located 2.5km to the northwest. The Energy Coast Business Park is located 0.5km to the north and the Sellafield multi-functional nuclear site grounds are 3km to the south.

The surrounding landscape predominantly consists of small blocks of woodland and agricultural fields bordered by hedgerows, lines of trees, as well as residential properties with associated gardens and agricultural buildings.

Kirk Beck (River Ehen SSSI / SAC Tributary) and associated riparian woodland habitat is adjacent east of the site, while the Solway Coast is situated 3km to the southwest.

1.3 Proposal

It is proposed to demolish two derelict barns on site and replace them with new agricultural buildings. No detailed plans for the works have been provided to inform this report.

1.4 Survey Objectives

The main objective of the survey was to provide results of an ecological appraisal for bats on site as part of the planning application to demolish the buildings on site as specified in Figure 2. The secondary objective was to highlight any evidence and/or potential for nesting birds and barn owl *Tyto alba* within the surveyed buildings.





This report aims to:

- Outline the legislative protection afforded to bats;
- Summarise the findings of the preliminary roost assessments survey i.e. bat evidence and roosting potential within the surveyed building;
- Summarise the findings of the presence / likely absence (dusk emergence) surveys for bats;
- Highlight any evidence and/or potential for nesting birds and barn owl;
- Provide an assessment of the potential ecological constraints to proposed conversion works; and
- Outline avoidance measures and / or mitigation strategy for the scheme where appropriate.

A summary of the relevant legislation is provided in Appendix I.

2.0 METHODOLOGY

2.1 Desk Study

A search for relevant information was made on MAGIC (www.magic.gov.uk) - DEFRA's interactive, web-based database. This search identified information on any European Protected Species Mitigation Licence (EPSML) applications relating to bats that have been granted within a 2km radius from site.

The desk study also included a review of any previous ecological reports or other information available for the site.

A species data search was not commissioned and was considered not necessary to inform the report evaluation, as the current survey is considered to be sufficient to provide an assessment based on the field evidence.

2.2 Bat Roost Assessment

The Preliminary Bat Roost Assessment survey was completed by Patryk Gruba MCIEEM -Natural England (NE) Class 2 bat licence (ref: 2015-11080) on the 4th March 2024. The survey methodology followed the Bat Conservation Trust's (BCT) Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).





The exteriors of the buildings were systematically inspected during daylight and any features suitable for bats were noted, such as weatherboarding, hanging tiles, soffit boxes, gaps in stonework, cracks, crevices, slipped or broken tiles and gaps around ridge tiles and lead flashing. Roof coverings were viewed from the ground using close-focussing binoculars (Viking ED 8x42). Any potential bat access points were identified and inspected (where accessible and safe to do so) for signs of bats using a high-powered torch (Ledlenser P17) and endoscope (Teslong NTS 300). Signs of bats include droppings, feeding remains (in association with droppings), wear marks on potential egress points, oily staining on stone / brick / timber, the smell of bats, audible signs of bats or presence of live bats or bat corpses.

The interiors to the buildings were accessed (wherever it was safe to do so) and any internal lofts (if present) and spaces were inspected. Beams, joists, surfaces, floors, stored contents and internal walls and wall tops were inspected where accessible.

The exterior walls, windows, doors, floors, lintels and other flat surfaces were examined for droppings that may have adhered to them.

The grounds surrounding the buildings were examined for droppings that may have collected beneath roost sites. Areas that were inaccessible, but which had potential for bats were noted.

During the Preliminary Roost Assessment, the surveyed buildings were also categorised for its bat roosting potential. The following categories based on the BCT Guidelines have been used:

- <u>Negligible suitability</u> a building or structure providing negligible features for roosting bats;
- Low suitability a building or structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation);
- <u>Moderate suitability</u> a building or structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status;





• <u>High suitability</u> - A building or structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis & potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.3 Bat Dusk Emergence Surveys

The survey methodology followed the Bat Conservation Trust's (BCT) Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

Two dusk emergence surveys were completed on site in May and June 2024 in order to cover all elevations / aspects of the surveyed buildings. The dusk emergence surveys commenced 15 minutes before sunset and continued for 1.5 hours after sunset.

The dusk emergence surveys were undertaken by Patryk Gruba (PG) MCIEEM - Natural England (NE) Class 2 bat licence (ref: 2015-11080), Cathy Gruba (CG) - Natural England (NE) Class 2 bat licence (ref: 2018-34229), Lesley Grey (LG) and Jude Hartley (JH).

The date, survey times, weather conditions and personnel involved in each of the surveys are provided in Table 1 below.

The surveyors were equipped with Echo Meter Touch 2 (full spectrum) bat detectors. The sound analysis software used to analyse bat calls included AnalookW 4.6e, Kaleidoscope Lite 5.5.0 and Anabat Insight 2.0.7.

In addition, night vision aids (NVAs) in the form of infra-red cameras were used to complement the field surveyors during each dusk emergence survey. The NVAs included: 3 No. Canon XA20 Camcorders, 2 No. Panasonic HC-VX980 4K Camcorders and 3 No. Nightfox Whisker HD night vision binoculars paired with Nightfox XC5 850NM infrared floodlights. Chorus static bat detectors were paired with NVAs where applicable.

The footage from the infra-red cameras was analysed afterwards, where applicable. Still shots from the infra-red cameras, taken at the darkest point of the survey, are shown in Appendix II.

Location of the surveyors and NVAs are shown in Figure 3.





Survey	Date	Sunset	Start	Finish	Start Temp (°C)	End Temp (°C)	Rain	Wind (Beaufort scale)	Cloud (% cover)	Surveyors
1	14.05.24	21:12	20:57	22:42	13	13	None	1 to 2	10%	PG, CG and LG
2	19.06.24	21:53	21:38	23:23	14	12	None	1	10%	PG, CG and JH

 Table 1: Dates, times, weather conditions and personnel for the surveys



2.4 Limitations

It is considered that the absence of bat evidence at suitable roosting locations does not equate to evidence of absence. Evidence of roosting is often inconspicuous (particularly in the case of day or transient roosts used by a low number of bats) and use can differ throughout the season. In cases where crevice dwelling bat species might be present, evidence may be located within the stonework cavities or between roof tiles and bitumen felt roof lining. It is often the case that it is not possible to fully inspected such features without significant damage or destruction of a potential roost location.

A species data search was not commissioned, and it was considered not necessary to inform the report evaluation. The current survey effort is deemed sufficient to provide a comprehensive assessment on the presence or likely absence of roosting bats, based on the field evidence and results of the multiple survey visits conducted on site. Therefore, the lack of a species data search is not considered a limitation for this assessment.

In line with CIEEM Guidance (CIEEM, 2019) the details of this report will remain valid for a period of 12 months from the date of the survey after which the validity of this document should be reviewed to establish if any updates are required.

2.5 Nesting Birds

The surveyed building was visually inspected for any current or past evidence of nesting bird and barn owl activity.

3.0 RESULTS

3.1 Desk Study

A search on Natural England MAGIC portal showed no Statutory Designated Sites with bats as qualifying interest and no Granted EPSM Licences for bats within 2km radius from the site.

3.2 Preliminary Bat Roost Assessment

During the Preliminary Bat Roost Assessment, no obvious bat evidence was identified within the surveyed buildings.

Results of the Preliminary Bat Roost Assessment including barn description and potential roosting features have been provided in the Table 2 below.





Building	Description	Potential Roosting Features	Bat Roost Suitability
В1	<text></text>	<image/> <image/> <image/>	Moderate
		7	

Table 2 – Buildings' description and potential roosting features







Building	Description	Potential Roosting Features	Bat Roost Suitability
В1	Adjoining southeast of the barn, there was a single-story, block-built extension with a flat roof.		Moderate







Building	Description	Potential Roosting Features	Bat Roost Suitability
B2	The building was a two-story former agricultural sandstone barn, adjacent to the derelict barn B1 along the northern section of its eastern elevation. The barn B2 was generally in a state of disrepair with some of the external stonework missing along the eastern elevation. The barn was patched up with brickwork and stonework internally in places.	<image/>	Moderate



Building Description	Potential Roosting Features	Suitability
<image/> <image/> <image/>	<text></text>	Moderate



Building	Description	Potential Roosting Features	Bat Roost Suitability
Β2	<text></text>	<image/> <text></text>	Moderate
		10	



Building	Description	Potential Roosting Features	Bat Roost Suitability
B2	<text></text>	<text></text>	Suitability



Building	Description	Potential Roosting Features	Bat Roost Suitability
В2		Gaps within and around stone and timber lintels.	





3.3 Dusk Emergence Surveys

3.3.1 First Dusk Emergence Survey – 14th May 2024

During the first dusk emergence survey, no bats were recorded emerging from the surveyed buildings.

High levels of common pipistrelle *Pipistrellus pipistrellus*, commuting and foraging activity were observed on site during the survey with the first bat recorded south of the surveyed buildings at 21:26. The majority of the foraging activity was concentrated around the farm buildings south and the farmhouse garden to the east of the site; the observed foraging / commuting activity included between one and three bats.

Moderate levels of soprano pipistrelle *Pipistrellus pygmaeus* activity were also recorded during the survey, with the majority of the foraging activity concentrated around the trees and beck to the northeast of the site.

Several noctule *Nyctalus noctula* commuting passes were also recorded throughout the survey. Induvial passes of myotis species of bat *Myotis sp.* were recorded to the east of the surveyed buildings at 22:08 and 22:31.

3.3.2 <u>Second Dusk Emergence Survey – 19th June 2024</u>

During the second dusk emergence survey, no bats were recorded emerging from the surveyed buildings.

Moderate levels of common and soprano pipistrelle commuting and foraging activity were observed on-site during the survey, with the majority of the activity concentrated to the east and south of the surveyed building. The first common pipistrelle bat pass was registered by the bat detector south of the site at 21:45. The first soprano pipistrelle was observed commuting south from the woodland area at the northeast at 21:52.

Similar to the first dusk emergence survey, several noctule commuting passes were also recorded throughout the survey. Individual passes of Myotis species of bat were recorded to the east of the surveyed buildings at 23:17 and 23:18.



3.4 Nesting Birds

Previous signs of bird nesting activity were observed throughout the buildings, including old swallow *Hirundo rustica* nests within the southern room to barn B2 (See Plate 1). Old nesting material was also observed in several gaps / cavities within both barns.

During the dusk emergence surveys, active swallow, jackdaw *Corvus Monedula* and blackbird *Turdus merula* nests were identified within the surveyed buildings.

No signs of barn owl were observed within the surveyed barns. Both buildings provided very limited opportunities for nesting barn owls.



Plate 1 –Swallow nests within the southern room to barn B2

4.0 EVALUATION & RECOMMENDATIONS

4.1 Bats

Bats and their roosts are protected under the Habitat Regulations and the Wildlife & Countryside Act 1981 (see Appendix I for detailed legislation).

No obvious bat roosting evidence was identified within the surveyed buildings during the Preliminary Bat Roost Assessment survey.





The surveyed buildings on site were assessed as offering moderate suitability for roosting bats during the bat active season, primarily due to the presence of potential roosting features within the external stonework. However, these features were deemed more suitable for a small number of crevice dwelling bats or day roosting, with limited suitability for breeding bats.

The roosting features identified within the buildings (such as crevices within the stonework) might also be used by individual bats during the hibernation period. However, these features are not considered suitable for prolonged use during the longer cold spells and would not be able to accommodate more than one or two bats individually, as they would not typically provide the necessary protection from weather or the favorable temperature and humidity conditions required during the winter period. Therefore, these features could provide suitability for 'non-standard' winter roosts, typically opportunistically used by individual or small groups of bats during milder winter periods, but the building is considered unlikely to be suitable as a classic cool / stable hibernation site. Hibernating bats are particularly vulnerable to disturbance.

The surveyed buildings were assessed as offering moderate suitability for roosting bats. In line with the BCT Survey Guidelines (Collins, 2023), two dusk emergence (presence / likely absence) surveys were undertaken during bats' active season.

During the dusk emergence surveys, no bats were observed emerging from the surveyed buildings. Therefore, no additional surveys, mitigation, or licensing are required for roosting bats, and the risk of causing an offense under relevant wildlife legislations during the demolition works to the derelict stone barns on site is highly unlikely.

4.2 Recommendations & Enhancement Measures for Bats

As the walls of the buildings have the potential for opportunistic use by bats during the winter, any demolition works should avoid commencing in the peak bat hibernation season (November – February).

The demolition works to the buildings should commence no later than July 2025; if this is not possible, further bat assessment may be required.

In the highly unlikely event of roosting bats or evidence of bats being discovered during demolition works, all works to the buildings should stop, and advice should be sought from a licensed bat ecologist.





The potential roosting provisions for bats on site can be enhanced by placing bat boxes on other buildings or mature trees on site. These could be in the form of external bat boxes such as Vivara Pro WoodStone Bat Box, Low Profile WoodStone Bat Box or 2F Schwegler Bat Box.

A sensitive lighting strategy is recommended to be implemented on site as part of the proposed scheme; this should be in line with the *Bats and artificial lighting in the UK Guidance Note* (BCT, 2023). The lighting design should consider:

- Consideration of the available lighting technology to minimise impacts on bats, i.e. use of LED lights (as opposed to high pressure sodium, mercury, and white SON). These have been shown to have the least impact on bats (as well as invertebrates). LED lighting also emits little UV light (which attracts invertebrates), and these lamps can be programmed to switch off, or dim at certain times;
- The lights being directional with light spillage avoided. Hoods / cowls can be used to direct light below the horizontal plane (ideally at an angle less than 70 degree);
- Lights designed to be as low to the ground as possible; and;
- Avoidance of direct lighting on the existing bat roosting features / potential roosting features on site.

4.3 Nesting Birds

All breeding wild birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (see Appendix II for detailed legislation).

Evidence of bird nesting activity was identified within the surveyed buildings. As such best practice would be for the works to avoid the nesting bird season (typically considered to be between March and September inclusive) or to undertake nesting bird checks between 24 to 48 hours before the works to the buildings are scheduled.



5.0 **REFERENCES**

Barn Owl Trust (2012) Barn Owl Conservation Handbook, Pelagic Publishing, Exeter.

CIEEM. (2019). Advice Note on the Lifespan of Ecological Reports & Surveys. Available from: <u>https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf</u>

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

ILP (2023) Bats and artificial lighting at Night, Guidance Note 08/23.



FIGURES

- Figure 1 Site Location
- Figure 2 Site Plan with Evidence
- Figure 3 Dusk Emergence Surveys Results





· Yeorton Hall Farm, Egremont			
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APPENDIX I – RELEVANT LEGISLATION

All British bat species are given special protection within England by their inclusion on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

- As a result, it is an offence to:
- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat's roosting place (even if bats are not occupying a roost at the time);
- Possess or advertise, sell or exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

With specific reference to the offence of disturbance, Regulation 41(1) of the Conservation of Habitats and Species Regulations 2017 (as amended) states that a person commits an offence if they:

"...deliberately disturb wild animals of any such species [i.e. a European Protected Species] in such a way as to be likely significantly to affect:

(i) the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young; or

(ii) the local distribution or abundance of that species".

Where development will result in damage to, or obstruct access to, any bat roost (whether occupied or not) or risks harming or significantly disturbing bats, a European Protected Species Mitigation Licence (EPSML) is required from Natural England to allow the development to proceed.

Bats are also afforded more general protection in England (and Wales) within the Natural Environment and Rural Communities Act (NERC) 2006. This imposes a duty on all public bodies, including local authorities and statutory bodies, in exercising their functions, "...to have due regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity" [Section 40 (1)]. It notes that "conserving biodiversity includes restoring or enhancing a population or habitat" [Section 40 (3)].





All nesting birds, their nests (whilst being built or in use), eggs and dependent young, are protected from disturbance by the Wildlife and Countryside Act 1981. Barn owls are also listed under Schedule 1 of the Wildlife and Countryside Act, which awards additional protection from disturbance during the breeding season.



APPENDIX II – STILL SHOTS FROM THE INFRA-RED CAMERAS







14/05/24 – VP3	
14/05/24 – VP4	











14/05/24 – VP7	
19/06/24 – VP1	





19/06/24 - VP2	
19/06/24 – VP3	











19/06/24 – VP6	
19/06/24 – VP7	





