Farmyard Barn at Crane Wood Farm, Cow Ark

BAT SURVEY REPORT
(DUSK EMERGENCE SURVEYS)

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1 INTRODUCTION

1.1 Instruction and Report Aims

Knight Sky Ecology Ltd was commissioned to undertake dusk emergence bat surveys of the Farmyard Barn at Crane Wood Farm, Whitewell Rd, Cow Ark, Clitheroe BB7 3DG.

The surveys were undertaken in relation to the restoration of the barn via the Forest of Bowland National Landscape Farming in Protected Landscapes (FiPL) programme. The works are likely to include wall repairs, repointing, roof timber repairs/replacements and a new roof. The barn falls within the curtilage of a listed farmhouse and listed building consent is also required.

The dusk emergence bat surveys follow on from a preliminary bat roost and barn owl assessment undertaken in June 2025 (referenced in Section 2). It is advised to read the preliminary assessment report in conjunction with this report for background and context.

The primary aim of the survey was to determine the presence or absence of bat roosts at the property. This report presents the survey results, providing the necessary data, assessment, and guidance to meet relevant planning and conservation policy obligations and legislative requirements. Details of the legislation afforded to bats is provided in Appendix A for further context.

1.2 Site Description

The farmyard barn is situated adjacent to the farmhouse and several agricultural sheds at grid reference SD 66934 45190. The surrounding area is predominately pasture land including areas of rough grazing and agriculturally improved grassland. The fields are bound by a network of treelines and hedgerows. There are also several notable woodlands in the wider area. An aerial image of the property, along with photographs, is provided below for additional context.

Figure 1.1. Property location (imagery dated 05/06/2023)

Photos 1.1 to 1.3. Overview of farmyard barn.

Photo 1.1. South-east aspect.	
Photo 1.2. Main entrance to barn (south-west aspect).	
Photo 1.3. North-west aspect (with lean-to).	

2 METHODS

2.1 Survey Personnel

The bat surveys were led by Ryan Knight MCIEEM who holds a Level 2 Natural England Class Licence (ref. 2015-12611-CLS-CLS) and has held this licence for over 13 years. Ryan has also acted as the named ecologist on numerous European Protected Species (EPS) mitigation licences issued by Natural England which covered several bat species and roost types including day roosts, hibernation roosts and maternity roosts.

2.2 Overarching Guidance

The bat surveys were primarily based on the methods described in '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). Bat Conservation Trust, London.' (Collins, J., (ed.) (2023).* Any deviation from standard practice is justified where required.

2.3 Previous Data

The following bat survey report has been issued previously to support the development proposals:

- *Bowland Ecology Ltd (03/07/2025). Cranewood Farm. Preliminary Bat Roost and Barn Owl Assessment Report.*

It is advised to read the above report which provides details of an evaluation of the barn in terms of its bat roost suitability. The barn was classified as moderate suitability. Bat droppings were identified within the attached lean-to but could not be directly attributed to a roost.

The level of survey effort required to determine the likely absence of a bat roost in a building is defined by the bat roost suitability category (i.e., low, moderate, high). Two dusk emergence surveys were completed with respect to the moderate classification.

2.4 Dusk Emergence Surveys

Dusk emergence bat surveys of the property were undertaken on 22nd July and 21st August 2025 to gather further information on the presence / absence of a bat roost.

With respect to the size and aspects of the structure, two survey positions were required to gain clear sightlines of all potential roost features identified during the preliminary roost assessment and to record the species and numbers of bats emerging from the property if present. All other non-emergence bat activity was also recorded including flight direction, type of activity, time of activity and species. The survey commenced at least 15mins before sunset and continued for at least 1hr and 30mins after sunset.

The survey positions during the dusk emergence survey comprised a surveyor with a full spectrum bat detector supplemented by an infra-red (IR) camera with a sufficient level of IR lighting (this system is referred to as a Night Vision Aid (NVA).

In addition to the external survey positions, a bat detector (Elekon Batlogger M2) was placed inside the barn during both dusk emergence surveys to record any bat activity including any activity that could potentially be associated with a bat roost.

All footage from the NVAs was fully reviewed via a desktop media player following the completion of the surveys. In addition, all bat calls were downloaded and checked with use of the relevant software

(e.g., BatExplorer) in the event that any notable bat activity was missed during the site survey. Table 2.1 details the survey times, weather conditions, equipment used and survey positions.

Table 2.1. Survey data and conditions

Date	22nd July 2025	21st August 2025
Sunset	21:25	20:25
Survey duration	21:10 to 23:00	20:10 to 22:00
Weather conditions	• Dry throughout • 18°C at survey start • 16°C at survey end • 100% cloud cover • Wind 0-1 (Beaufort scale) • No significant weather changes were encountered throughout the survey	• Dry throughout • 16°C at survey start • 13°C at survey end • 75% cloud cover • No wind • No significant weather changes were encountered throughout the survey
Personnel & equipment	• Ryan Knight (RK) - Elekon Batlogger M2 Bat Detector (full spectrum) and 1no. Canon XA15 IR camera with 2no. Nightfox XC5 torches. • Catherine Wood (CW) (Level 2 Licence. 2016-24176-CLS-CLS) – Peersonic RPA3 (full spectrum) and 1no. Nightfox whisker with x1 Nightfox XC5 torch	• Ryan Knight (RK) - Elekon Batlogger M2 Bat Detector (full spectrum) and 1no. Canon XA15 IR camera with 2no. Nightfox XC5 torches. • Catherine Wood (CW) (Level 2 Licence. 2016-24176-CLS-CLS) – Peersonic RPA3 (full spectrum) and 2no. Nightfox whisker with x1 Nightfox XC5 torch on each unit.
Survey positions **(circles denote positions during first survey & squares denote positions for second survey)**		

2.5 Assessment Comments

Dusk Emergence Survey

The surveys were undertaken within the main bat activity period during weather conditions deemed suitable to conduct bat surveys in accordance with the guidance (Collins, 2023). Overall, no significant constraints to the surveys were encountered.

The survey positions were altered between the first survey and second survey to gain better sightlines of the barn as the lower north-west corner was not entirely visible during the first survey.

General

This report will remain valid for a period of 18 months from the date of issue. An ecologist should be contacted for advice on the revalidation requirements of the report if planning permission is not obtained (if required) or works do not commence within this time period.

3 RESULTS

3.1 Preliminary Bat Roost Assessment (Update)

The first dusk emergence survey was preceded by a brief inspection to reconfirm previous findings and to search for evidence of bats. No changes to the building had occurred since the preliminary roost assessment was undertaken and no direct evidence of a bat roost was encountered.

3.2 Dusk Emergence Survey

22nd July 2025

The results of the dusk emergence survey are summarised in Table 3.1. No emergence from a roost was recorded; however, at 22:16 (51 mins after sunset), a common pipistrelle entered a roost within an external wall on the south corner of the barn (Plate 1.1). This bat was seen within the crevice and it did not re-emerge.

The survey position on the south elevations recorded occasional foraging activity of soprano pipistrelle (single bats) and common pipistrelle. In addition, several passes attributable to Myotis species were detected. Based on the call parameters from the recordings - these were consistent with whiskered bat.

The survey position on the north elevations recorded low activity levels of common pipistrelle, soprano pipistrelle, one Myotis bat and one brown long-eared bat.

Table 3.1. Summary of bat activity

22 July 2025 - RK: south-east elevations (sunset 21:25)			
Time	**Species**	**No. of bats**	**Activity notes**
21:43	Soprano pipistrelle	1	First bat recorded. Pass over survey position.
21:45 to 22:00	Soprano pipistrelle & common pipistrelle	1 to 2	Several passes of soprano pipistrelle and one common pipistrelle pass.
21:59 to 22:30	Whiskered bat	1	5no. passes.
22:16	**Common pipistrelle**	**1**	**Re-entered roost on south corner of the barn (re-entered in one single movement only).**
22:41 to 22:42	Myotis species.	1	Several calls. Not identified to species level.
22:42 to survey end	Soprano pipistrelle	1	Occasional passes.
22 July 2025 – CW: north-west elevations			
Time	**Species**	**No. of bats**	**Activity notes**
21:41	Soprano pipistrelle	1	First bat recorded. Pass.
22:00	Soprano pipistrelle	1	Occasional foraging.
22:07	Myotis species	1	Pass (quiet call).

22:15 to survey end	Mix of common pipistrelle, soprano pipistrelle and whiskered bat. One brown long eared pass.	1	Very limited foraging activity.

21st August 2025

The results of the dusk emergence survey are summarised in Table 3.2. The following evidence of bat roosts were recorded:

- Between 20:51 and 21:04 a total of 4 whiskered bats emerged from underneath the roof verge capping on the lean-to attached to the north-west gable end of the barn (Plate 1.2).
- Between 21:00 and 21:06 a common pipistrelle was constantly touching down on the stonework below the ridge on the north-west gable end before entering a gap in the stonework (Plate 1.3).

The survey position on the south-west aspect recorded foraging and commuting of common pipistrelle, soprano pipistrelle, noctule, and whiskered bats.

The survey position on the north-east aspect recorded a combination of foraging and commuting of common pipistrelle and soprano pipistrelle with a one pass of a noctule. Pipistrelle species were seen flying within the attached barn to the north.

Table 3.2. Summary of bat activity

21 August 2025 - RK: south-west elevations (sunset 20:25)			
Time	**Species**	**No. of bats**	**Activity notes**
20:24	Common pipistrelle	1	Flew over ridge of roof (no emergence from building).
20:25 to 20:35	Common pipistrelle	1	Foraging not seen.
20:41	Soprano pipistrelle	1	Foraging not seen
20:51	**Whiskered bat**	**1 + 1**	**Emergence of single bat from lean-to followed by another a few seconds after.**
20:51	Noctule	1	Not seen.
20:56	**Whiskered bat**	**1**	**Emergence from lean-to.**
21:00 to 21:06	**Common pipistrelle**	**1**	**Constant flight loops and flights to and from gable end. Bat touched down on the wall repeatedly before entering a cavity within the wall.**
21:04	**Whiskered bat**	**1**	**Emergence from lean-to.**
21:05 to survey end	Mix of common pipistrelle, soprano pipistrelle and whiskered bat	1	Occasional foraging activity
21 August 2025 - CW: north-east elevations (sunset 20:25)			
Time	**Species**	**No. of bats**	**Activity notes**
20:28	Common pipistrelle	1	Pass over roof and foraging.
20:29 to 20:46	Common pipistrelle	1	Frequent foraging around buildings and yard.

20:51	Soprano pipistrelle	1	Pass.
20:51	Noctule bat	N/A	Heard not seen.
20:55 to 21:10	Common pipistrelle	1	Foraging around barn and social calling.
21:15 to survey end	Common pipistrelle 1	1	Limited activity.

Plates 1.1 to 1.3. Illustrations of roost re-entry and emergence points.

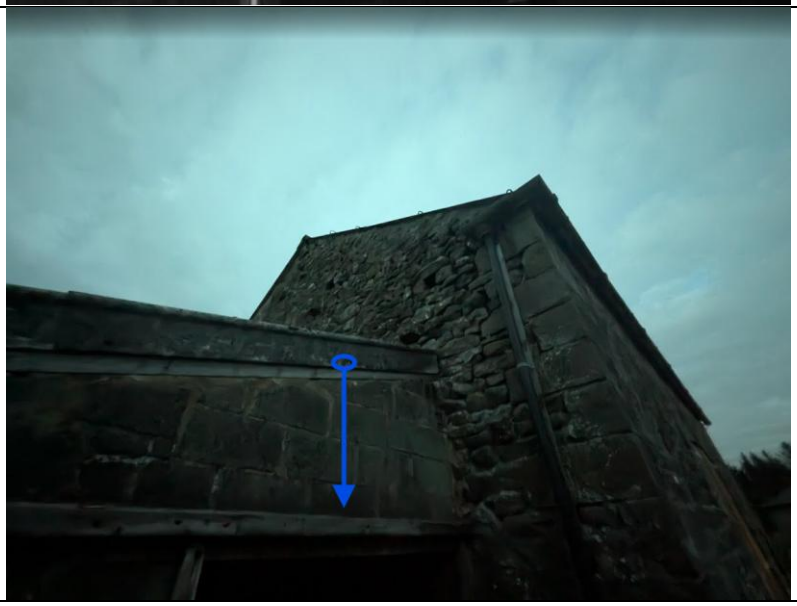
Plate 1. Re-entry location of one common pipistrelle bat on 22 July 2025	
Plate 2. Emergence location of 4no. whiskered bats on 21 August 2025.	

Plate 3. Re-entry location of one common pipistrelle bat on 21 August 2025.	

3.3 Static Detector Recordings

The recordings made on the detector placed inside the barn are summarised below. No activity was attributed to a roost within the barn. All calls were most likely foraging bats. The barn is open-sided on the north-east aspect and connected to an open agricultural building.

22 July 2025 (sunset 21:25)

- 17 recordings of soprano pipistrelle (between 21:39 and 22:10 with many weak / short calls)
- 1 recording of common pipistrelle (21:47 – weak call)

21 August 2025 (sunset 20:25)

- 12 recordings of soprano pipistrelle (between 20:51 and the survey end)
- 3 recordings of soprano pipistrelle (between 21:11 and the survey end)
- 1 recording of whiskered bat (21:45)

3.4 Nesting Birds

No evidence of nesting birds was identified during the site visit; however, the barn does contain suitable features for nesting (see preliminary assessment report (Bowland Ecology, 2025)).

4 EVALUATION

4.1 Roost Characterisation

A total of 3 bat roosts were recorded during the dusk emergence surveys. Table 4.1 provides an evaluation of each roost type. No evidence of a maternity roost was recorded.

The re-entry activity of common pipistrelle recorded during both surveys is not typical for such species. It can be associated with a night roost (a place where individual or small numbers of bats rest during the night but are rarely present by day). However, as a precaution, it is assumed that these roosts will also be used as day roosts (non-breeding roosts used regularly by solitary or low numbers of bats throughout the summer). The whiskered bat roost is classified as a day roost.

Table 4.1. Bat roost data

Building Ref.	Species	Roost Count	Roost Location	Roost Type & Conservation Status
Farmyard barn	Common pipistrelle	1	Within cavity of south corner of stonework approximately 2.1m high.	Night roost but also likely occasional day roost (low conservation status)
Farmyard barn	Common pipistrelle	1	Within wall cavity of north-west gable below ridge line.	Night roost but also likely occasional day roost (low conservation status)
Lean-to	Whiskered bat	4	Crevice under roof edge capping. Approximately 2.3m high.	Day roost (low conservation status)

4.2 Impact Assessment

All bat species and their roosts are legally protected through The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) as a European Protected Species (EPS). They also receive protection through inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Appendix A provides details of this legislation.

The works to the barn are expected to include the re-pointing of the external stonework of the barn. In the absence of mitigation, this may result in the destruction of the bat roosts and the potential killing of bats.

The whiskered bat roost is within the attached single storey lean-to on the north-west gable. Any work such as the demolition of the lean-to or re-roofing work will result in the loss of the roost and the potential killing and injury of bats.

However, the proposed works are not thought to include any renovation of this section of the building. It is not considered that works will result in disturbance which may cause the abandonment of this roost (i.e., the work would not be licensable – see Section 5). However, precaution is advised and the roost must not be obstructed in any way during the works programme.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

Details of the exact scope of works were not fully finalised at the time of writing. However, the works are to include the repointing of the stonework and the removal and replacement of the roof. It is considered that the common pipistrelle roost locations can be retained without the requirement of a Natural England mitigation licence provided that the works strictly follow the precautionary working measures outlined below.

5.2 Non-licensed Mitigation

Common pipistrelle roosts (x2)

Licensed Bat Ecologist (Ecological Clerk of Works)
A licensed ecologist is required to oversee all the precautionary working measures detailed in this document.

Roost retention
It is considered that both roosts can be retained. Any repointing or other works near to the known roost sites will need to be very closely supervised. A full endoscopic inspection of each cavity will be carried out prior to any such works. Any proposed scaffolding must not block existing roost access and a height of at least 2.5m must be retained between the roost locations and the scaffolding boards.

Timing
To be confirmed. However, the barn was found to have low potential for use as a hibernation roost during the preliminary assessment (Bowland Ecology, 2025). Nonetheless it is advised to avoid the hibernation season (November to end March). If works are to proceed in the winter period, this timing must be factored into the mitigation procedures to be followed. For example, it is considered that repointing works should only be undertaken on gaps which can be fully inspected with a torch and / or endoscope prior to the work. Any deep cavities which cannot be fully inspected must be left un-pointed.

Toolbox talk
Before works commence, the works contractor is to liaise directly with the licensed ecologist to discuss the development schedule for proposals and the mitigation procedures that are required for bats. The ecologist will provide a toolbox talk to the contractors in order to explain the presence of bats, their legal protection, roles and responsibilities, the proposed method of working, basic identification of bats and procedures should bats or evidence of bats be found.

Pre-works check
The licensed ecologist is to undertake a pre-works check to search for evidence of bats.

Work procedures

- The licensed ecologist is to be on call throughout the duration of the work.
- In the unexpected event that a bat is discovered during the works, the contractors will be advised to stop immediately and contact the licensed ecologist whom will travel to site to provide assessment and advice. Contractors will be specifically forbidden to handle bats. Contractors will be advised that if it is necessary to remove a bat to avoid it being harmed, gloves MUST be worn. It should be carefully placed in a cardboard box and kept in the dark in a quiet place until the licensed ecologist arrives on site.

If a bat has been found and the licensed ecologist assesses that the continuing works are, on balance, likely to result in contravention of the legislation afforded to bats (see Appendix A), the works would stop and a Natural England mitigation licence will be sought. Such a licence would require further detailed assessments.

Whiskered bat roost

The relevant procedures outlined above must be followed. The licensed ecologist is to make all contractors aware of the roost location. The scaffolding must not obstruct the roost access point.

APPENDIX A. LEGISLATION FOR BATS

The Wildlife and Countryside Act 1981

All bat species in England are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Section 9 of the Act make it an offence to intentionally or recklessly kill, injure or take any wild animal included in Schedule 5. In addition, it is an offence to (intentionally or recklessly):

- Damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection;
- Disturb any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- Obstruct access to any structure or place which any such animal uses for shelter or protection.

In addition, under this legislation there are offences relating to sale, possession and control of bats.

The Conservation of Habitats and Species Regulations 2017

Bats are listed within Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) as European Protected Species of animals. Part 3 (Protection of animals); Regulation 43 (1) of the Habitats Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of a European protected species;
- Deliberately disturb wild animals of any such species;
- Deliberately take or destroys the eggs of such an animal; or
- Damages or destroy a breeding site or resting place of such an animal.

For the purposes of the legislation, the disturbance of wild animals includes any disturbance which is likely to impair their ability to survive, to breed or to reproduce, or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

In addition, under this legislation there are offences relating to possession, control sale and exchange of European Protected Species.

Natural Environment and Rural Communities (NERC) Act 2006

Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. There are 56 habitats and 943 species of principal importance, often referred to as priority habitats and priority species respectively, which were initially identified as requiring conservation action under the UK Biodiversity Action Plan and which continue to be regarded as priorities under the UK Post-2010 Biodiversity Framework. The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 “to have regard” to the conservation of biodiversity in England when carrying out their normal functions. Bat species listed under Section 41 and known to be present within the north of England comprise soprano pipistrelle, brown long-eared bat and noctule bat.

An amendment to the Natural Environment and Rural Communities Act 2006 (NERC Act) section 40 duty, provided for in the **Environment Act 2021**, extends the biodiversity duty on public authorities to include the enhancement of biodiversity alongside conservation by way of creating “the general biodiversity objective”.

APPENDIX B. NVA SCREENSHOTS

Screenshot 1. South elevation (22nd July 2025)	
Screenshot 2. South-west elevation (21st August 2025).	

Screenshot 3. North-west elevations (22nd July 2025)	
Screenshots 4a & 4b North-east elevations (21st August 2025)