

Bat Survey Report

Keelham Farm, Old Town, Hebden Bridge

HX7 8TG

Prepared for

William Vaughan

22nd September 2021

Version 01

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Project Details:

Report title	Bat Survey Report
Revision version	01
Site address	Keelham Farm, Old Town, Hebden Bridge, West Yorkshire, HX7 8TG
Grid reference	SE 009 283
Report composed by	Miranda Cowan Ecology Ltd.
Client	William Vaughan
Date	22 nd September 2021

This document has been issued and amended as follows:

Version	Date	Description	Created By	Reviewed By	Approved By
01	22 nd September 2021	Draft for client	Miranda Cowan (MCIEEM, Tech ArbA)	Sarah Taylor (ACIEEM)	

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Field surveys have been carried out and focused to a level of detail required to achieve the stated brief of the work. No part of this report may be copied or duplicated without express permission of Miranda Cowan Ecology Ltd. and the party for whom it was prepared.

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Note: all Figures and Tables integral with the report structure.

1. Introduction

1.1. Background

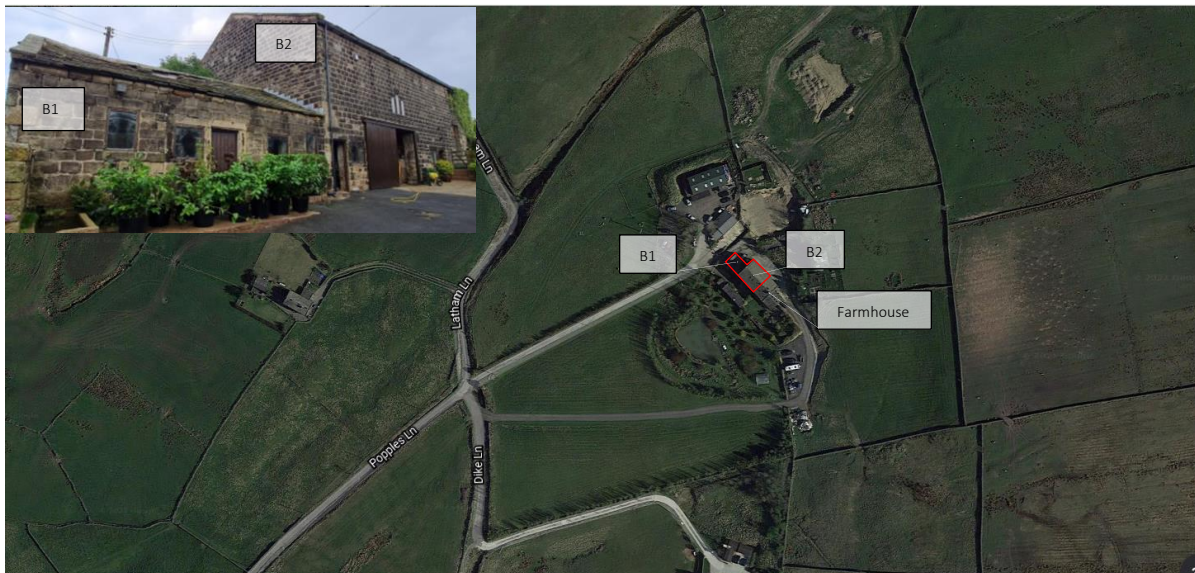
Miranda Cowan Ecology Ltd. was instructed by William Vaughan to undertake a Preliminary Roost Assessment (PRA) and follow up dusk emergence / dawn re-entry surveys of two outbuildings located at Keelham Farm, Old town, Hebden Bridge.

The findings presented in this report are intended to support a planning application to convert the two outbuildings (B1 and B2) into an extended living space. The outbuildings are currently used for storage and adjoin the farmhouse, see **Figure 1.1**.

The surveys were led by Miranda Cowan, BSc (Hons), PGCert FdSc, MCIEEM (Bat Class licence WML – CL17-2021-52426) and supported by bat volunteer Lucy Wilson (West Yorkshire Bat Group).

This report was reviewed by Sarah Taylor (Level 2 Class Licence (CL18) - 2015-15201-CLS-CL). Sarah has 15 years experience of undertaking bat surveys and has held a licence for 6 years.

Figure 1.1: Location of Proposal Site



1.2. Survey Aims

The aims of the surveys were to:

- Determine the potential of the buildings for roosting bats, by identifying and describing Potential Roost Features (PRF) and any access / egress points into the buildings.
- Grade any PRF as Low, Medium or High.
- Complete follow up dusk emergence / dawn re-entry surveys, according to the results of the PRA.
- Estimate the size and status of the roost, if bats were found to be present.
- Recommend further surveys, mitigation measures (including avoidance of ecological impact), compensation and biodiversity enhancement, if required.

1.3. Legislative Context

All bats are protected in the UK under the Conservation of Habitats and Species Regulations 2017 (as amended) and Schedule 5 of the Wildlife & Countryside Act 1981 (as amended).

In summary, in the UK, it is an offence to:

- Deliberately capture, injure or kill a bat
- Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young, hibernate or migrate or significantly affect the local distribution or abundance of the species
- Damage or destroy a roost (this is an absolute offence)
- Intentionally or recklessly disturb a bat at a roost
- Intentionally or recklessly obstruct access to a roost

The legislation also applies to sites that are not currently occupied, as bats can return to roosts year after year.

Some UK bats species are also included in the list of habitats and species, which are of Principle Importance for the conservation of biodiversity in England as required under Section 41 (S41) of the Natural Environmental and Rural Communities (NERC) Act. The S41 list is used to guide decision-makers, including local planning authorities, in implementing their duty under Section 40 of the Act, to have regards to the conservation of biodiversity in England, when carrying out their normal functions.

Natural England is the Government body responsible for nature conservation in England. Local planning authorities must consult them before granting planning permission for any work that would be likely to result in harm to bats or their habitat. Natural England consults with the BCT to provide advice.

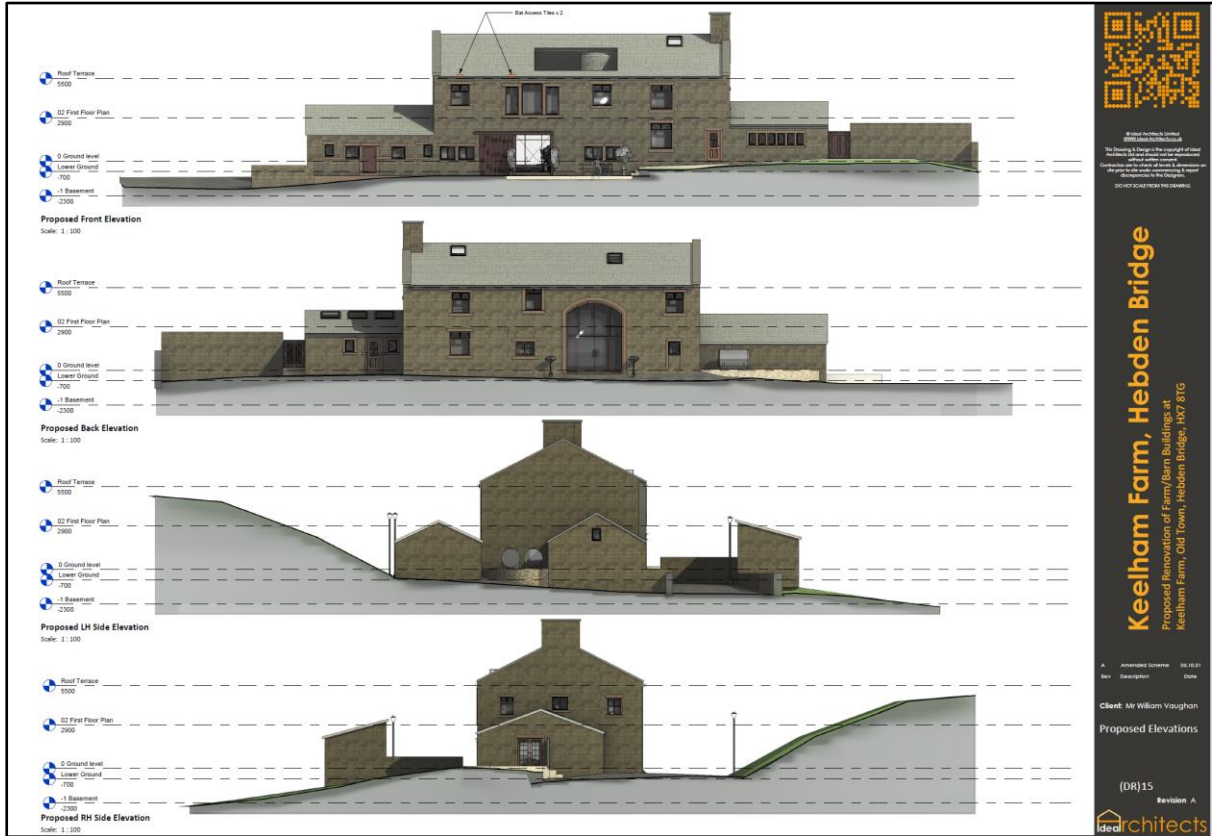
“Development” licences for European Protected Species (EPS) are issued by Natural England for any actions that may compromise the protection of bats, under the Conservation of Habitats and Species Regulations 2017 (as amended).

1.4. Proposals

Post construction visuals for the proposal are shown as Figure 1.2. The outbuildings will be internally and externally modified to link into the existing farmhouse dwelling. This shall involve removal and reconstruction of the roof structures, integrating new windows and constructing loft living space.

The proposal integrates built in bat mitigation as part of its design, including two lifted tiles at the building's front elevation. This proposed mitigation aligns with the bat survey result and will be developed further to ensure an adequate internal loft void for bats.

Figure 1.2: Post construction visuals for the proposal.



2. Methods

2.1. Bat Data Search

Bat roost records, for up to 2 km from the sites central grid reference: SE 009 283 were requested from West Yorkshire Bat Group (WYGB) in August 2021. Google Pro Aerial imagery was viewed to determine the presence of connectivity between the buildings and habitats that could be used for commuting and foraging.

Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) interactive map was used to identify any Special Areas of Conservation (SAC) or Special Sites of Scientific Interest (SSSI) within 10 km of the site, relevant to bats. MAGIC was also used to determine the presence of any bat EPS licencing within 2 km of the site.

2.2. Preliminary Bat Roost Assessment (PRA)

The PRA was completed on the 19th August 2021 and followed methodologies detailed in the Bat Conservation Trust guidelines (Collins, 2016). This involved an inspection of the external and internal structures of the buildings. External features were assessed using close-focusing binoculars and a high-powered torch to identify PRF, such as gaps under tiles, eaves, gaps above doors and between the brickwork. The internal inspection comprised of searching for any potential voids within the wall or ceiling features and recording the presence of any bat droppings.

Any potential entry / exit points were described. In addition, any direct evidence of bats, such as scratch marks, oil stains, droppings and feeding remains were also recorded.

The site was assigned a level of roost suitability in accordance with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), see Table 2.1.

Table 2.1: Bat roost suitability and descriptions (PRF Potential Roost Features)

Bat Roost Suitability	Description of Features
Confirmed presence	Bat presence confirmed as part of the Preliminary Bat Roost Assessment.
High	Buildings with many PRF and suitable for use by a larger number of bats including maternity colonies.
Moderate	Buildings with a smaller number PRF, but still supporting features that could be attractive to bats and potentially support maternity colonies.
Low	Buildings with limited PRF but which could be used on a sporadic or occasional basis by a low number of bats, but which are unsuitable for maternity roosts.
Negligible	Buildings which appear unsuitable for roosting bats due to a clear lack of roosting spaces such as voids and/or absence of suitable access points.

2.3. Bat Emergence Survey

Table 2.2 shows the dates and timings of a dusk emergence and dawn re-entry survey, which commenced 15 minutes before sunset / sunrise and continued until 90 minutes after sunset / sunrise. Surveyors recorded the time of any bat emergence, the point from which they emerged and the direction of flight (if seen). Species and call type (social, commuting, foraging) were also recorded. Echo Meter Touch 2 PRO devices were used by surveyors to listen to, record and identify bats in real-time.

Table 2.2: Dates, timings, and weather conditions of bat activity survey

Survey Type	Date	Start time	End time	Sunset /sunrise	Weather
Dusk	21/08/2021	20.00	22.20	20.23	16 ⁰ Dry and clear sky, Beaufont scale 1
Dawn	08/09/2021	5.30	7.15	06.20	13 ⁰ , Dry and clear sky, Beaufont scale 2

2.4. Nesting Bird Survey

An inspection of the building features was assessed for potential nesting birds, including observations of individuals carrying food, nest sightings, the presence of feathers, twigs and unhatched or broken eggs. Any bird species observed entering holes or crevasses were noted.

3. Results

3.1. Data Search

WYBG provided 17 records for bats (dated 1995 to 2012). The nearest record (1999) related to Hebden Bridge (HX7 8NU), located 1.9km south and not a significant record for the proposal site. Keelham Farm is located on the moorland fringe at an altitude of approximately 315m. There are trees and shrubs within the immediate vicinity to the farm, although the wider landscape has poor functionally linked habitat. The surrounding field boundaries are mainly defined by stone walls and an absence of trees, except where dwellings and farms occur.

There is a single European Protected Species Licence (2015-15089-EPS-MIT) located in Hebden Bridge, 1.9km south. The licence dated 2015 to 2020 related to common pipistrelle *Pipistrellus pipistrellus* and daubenton bat *Myotis daubentonii*. No information on Magic was provided for what activity the licence related to.

3.2. Preliminary Bat Roost Assessment

Outbuilding B1: a small traditional gritstone building with original stone tiles. The occupier of Keelham farm stated the roof collapsed in 2020, which has left an approximate gap of 3 x 3m and is open to precipitation and sun exposure. The roof tiles are part dislodged due to the part collapsed roof. PRF included the south facing aspect roof overhang and a small void on the west facing gable end, see Table 3.2.




Internally the building retains the traditional wooden joists and beams, behind which bats may seek shelter. However, the internal walls were well-sealed and there was no evidence of bat droppings or feeding remains.



Due to the age of the building and presence of original features and associated PRF behind joists and beams, B1 was assessed as being of moderate potential for roosting bats.

Outbuilding B2: is a rectangular shaped building, part comprised of the farmhouse dwelling, with a larger proportion of the building being an outbuilding used for storage. The building as a whole is built from traditional stone, with an apex roof and neatly positioned stone tiles. It is understood that the roof was replaced approximately 15 years ago with bitumen under felt, new joists and replacement of traditional stone tiles.

At the front of the building, there are slightly lifted tiles close to the overhang, which were identified as PRF, see Table 3.2. Internally there was evidence of a small number of common pipistrelle bat droppings. Taking into context the PRF and evidence of bat droppings B2 was graded as moderate potential.

Table 3.2: Assessment of Potential Roost Features (PRF)

PRF	Description of PRF	Photograph	Resulting Value
1	<p>South facing aspect of building B1, gaps under stone tiles and roof overhang. Part collapsed roof c. 3x3m and exposed to rain fall and increased light levels.</p>		Moderate
2	<p>External features of B1, PRF on gable end. Gap beneath cement and gritstone.</p>		Moderate
3	<p>Internal view of B1 revealing part collapsed roof and original joists and beams with the original stone tiles. PRF under joists and beams.</p> <p>Internal walls were well-sealed and there was no evidence of bat droppings or feeding.</p>		Moderate

PRF	Description of PRF	Photograph	Resulting Value
4	<p>PRF along the overhang of stone tiles on south facing aspect of building B2. The tiles are slightly lifted to provide access and egress for bats.</p> <p>Rear north facing aspect of barn has consistent well sealed tiles and brick work.</p> <p>The ridge tiles along the length of the B2 are well sealed with cement.</p>		Moderate
4	<p>Internal view of B2 with traditional beams, although joists have been replaced and there is an underlay between the roof joists and stone tiles.</p> <p>Common pipistrelle bat droppings were located on furniture within the building.</p>		Moderate

3.3. Nesting Birds

No evidence of nesting birds was observed during the building inspections or bat activity surveys. However, the collapsed roof of B1 will facilitate entry by birds for nesting between the months of March and August, inclusive.

3.4. Bat Emergence / re-entry Survey

During the dusk emergence survey a count of three common pipistrelles were observed regularly foraging in the courtyard by the south facing aspect of B2.

During the dawn survey, there were two common pipistrelle frequently foraging within the same location and a third pipistrelle was foraging intermittently. Two bats were observed swarming and entering beneath a stone tile on the south facing aspect of building B2, see PRF 4 of Figure 3.1.

Figure 3.1: Bat Survey Findings



4. Conclusion and Recommendations

The survey has confirmed the presence of a small number of roosting common pipistrelle, which in the absence of mitigation, there is a high risk of causing injury or death to individual bats. An EPSL will be required prior to the commencement of works. This can only be applied for once planning permission is in place. The EPSL will include a Method Statement to ensure no bats are harmed during the works. General principles to be included in the Method Statement include:

- Prior to the commencement of works, three bat boxes of type Schwegler 1FF should be erected on mature trees surrounding the farmhouse, to be guided by a bat ecologist.
- Boxes to be installed upon trees will be located in sheltered spots and placed at a height of at least 3 metres from the ground. Boxes can be arranged around the main farmhouse garden so that a number of different aspects are covered.
- Prior to the start of works contractors will be given a 'toolbox talk', to ensure they are aware of the signs of bats, and to ensure that they know how to respond if bats are encountered.
- Prior to the demolition / renovation works to the roof of B1 and B2, bat roost features will be inspected with an endoscope. Particular attention will be given to the confirmed bat roost.
- The ecologist will then supervise the demolition of the roost features. All roof tiles and ridge tiles should be removed by hand. To enable close supervision, scaffolding should be in place during the demolition works, or the roof should be accessed using a mobile elevated working platform (MEWP).
- If any bats are encountered during the demolition, they will be captured by the ecologist. They will either be stored in a ventilated box with a soft cloth and a shallow dish of water, and then released at dusk if weather conditions are suitable; or transferred to a bat box positioned on a tree.
- Should any injured bats be found they will be placed in a ventilated box with a soft cloth and a shallow dish of water, and transferred to the care of a Bat Conservation Trust registered bat carer.
- When the ecologist is satisfied that all potential roost features have been removed safely, then work may proceed. However, in the event that a bat is encountered during this period then all work should stop and the licenced ecologist should be contacted.

To mitigate the loss of a common pipistrelle roost two bat access tiles are incorporated into the development design, sighted in the same location for where bats were observed entering. In addition, the roof void of the buildings should be lined with bituminous roofing felt which does not contain polypropylene filaments. Under no circumstances should breathable roofing membrane be used. Breathable roofing membrane contains spun bond filaments which can entangle bats feet and wings, resulting in bats becoming immobilised and eventually dying, in addition to reducing the functionality of the roofing membrane.

To prevent impacts upon commuting and foraging bats, outdoor lighting as part of the proposed development should be kept to a minimum. If outdoor lighting is considered necessary, the following recommendations prescribed by the Bat Conservation Trust (2018) should be followed:

- The spread of light should be at, or near horizontal level.
- The times that lights are used should be limited to provide some dark periods.
- Light sources to be used should emit minimal ultra-violet light.
- Lights should peak higher than 660nm.

Where planning permission is granted before May 2022, then the EPSL can be based on the survey data from 2021. If planning permission is granted after May 2022, additional survey data will be required for the EPSL. Natural England are currently taking up to 49 working days to approve licences and they may apply a charge of £500.

4.1. Nesting Birds

Should the development commence during the breeding bird season (March to August, inclusive), a pre-works check will be required for any nesting activity. Where a bird is seen to be building or occupying a nest, the nest will need to be zoned off to a minimum distance of 5m and left alone until the fledglings have left the nest. It may be required to work on another part of the building.

5. References

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