Bat

Presence / absence

Survey

Whitefield Farm Barn

Littleborough

OL15 9NP

For

Nigel Bishop



Gritstone ecology

www.gritstone.org | info@gritstone.org | 07958314 857

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Non-technical summary

Gritstone ecology completed a building inspection, and bat presence / absence surveys at Whitefield Farm Barn, Littleborough, in June & July 2017. The surveys were undertaken to assess the potential, or actual presence of bats in the buildings, and were required to inform a planning application, for the renovation of the barn, and its conversion for residential use.

The barn is situated on a hillside, in rural habitat, and includes hedgerows, trees, rough grassland, and grazed pastures. The barn has a moderate, potential for use. Dusk and dawn surveys of the barn were completed.

No evidence of previous use by bats was recorded during the building inspections, and no bats were recorded roosting, during the dusk and dawn surveys.

As no bats were recorded roosting, in the buildings, during the surveys, direct impacts on bats, and their roosting habitat, from the work is unlikely.

The proposed works are unlikely to significantly increase levels of disturbance for bats, either during construction, or as a result of the ongoing use of the barn, once completed.

No further survey, or licensing work, is required with regard to bats.



1 Introduction

1.1 Purpose of the report

The report is written by Stewart Bradshaw, for Nigel Bishop. Stewart completed a building survey and bat presence / absence surveys of the barn at Whitefield Farm, on the 22nd June, and 12th July, prior to which no ecological surveys had been undertaken.

1.2 Survey aims

The aim of the survey was to determine the presence or absence of bats at the time of the survey, and the need for further survey and / or mitigation.

1.3 Surveyor details

Stewart is licenced to disturb, take and handle all species of bats in all counties of England under licence number 2015-15615-CLS-CLS. He has 10 years of experience in ecological consultancy including the planning and preparation of bat surveys and mitigation licences.

An experienced assistant surveyor was used on the surveys to cover all angles of the buildings.

1.4 Proposed development

The development proposals are for the renovation, and conversion, of the building, for residential use.

1.5 Site context

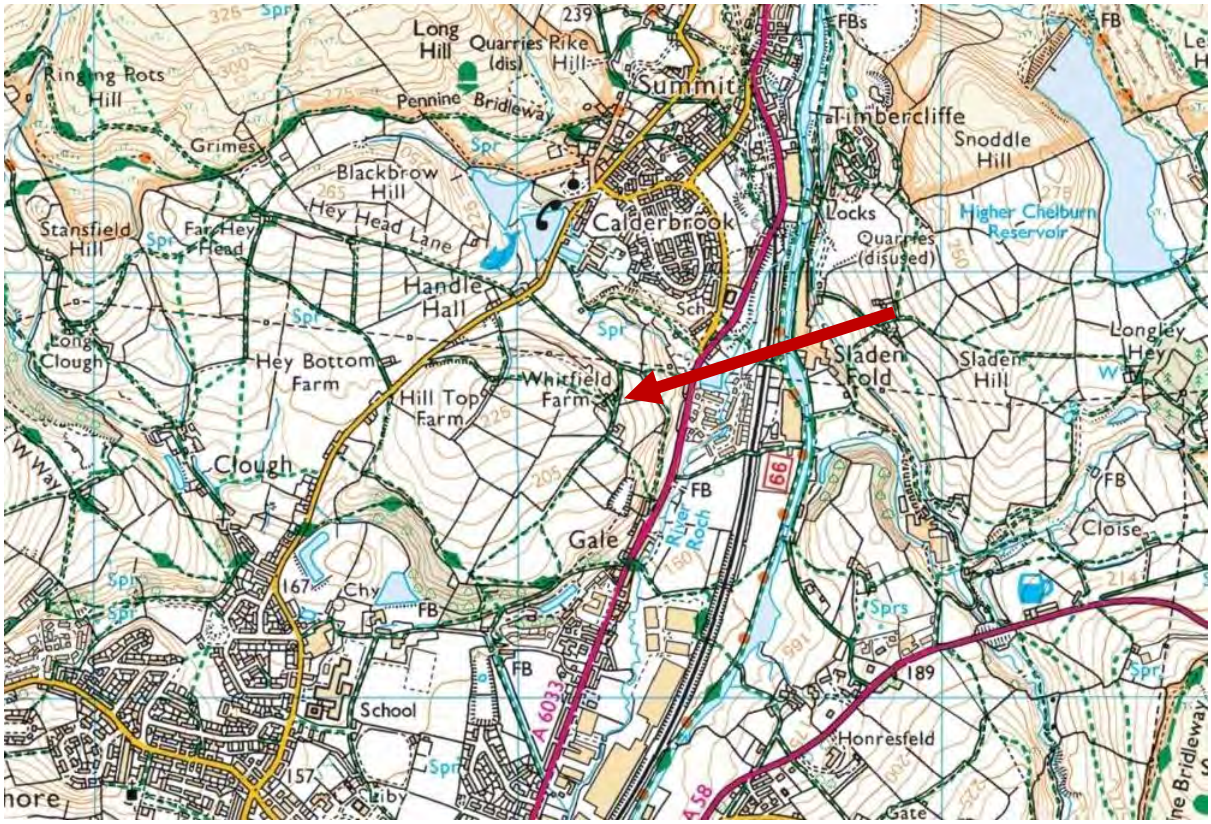
The barn is located off Calderbrook Road, in Littleborough, OL15 9NP, GR SD 972 176, 1km south of Calderbrook.

The site includes a detached barn, hard landscaping and pastures, with countryside hedgerows, and trees. Habitat within 50m, and 500m, of the barn has similar features and includes ponds, streams, and small blocks of woodland.

The site and surrounding area moderate quality foraging, commuting and roosting opportunities for bats.



1.6 Site location



1.6a – Whitefield Farm Barn – site location.



1.6b – Whitefield Farm Barn - aerial photograph.

2 Methods

2.1 Survey timings

The surveys were completed on 22nd June and 12th July 2017.

2.2 Desk study

No desk study of the site was undertaken, prior to the presence absence surveys. The surveyor has a good working knowledge of the species in the local area, the development has a small footprint, and impacts beyond the site boundary are unlikely. A site-specific investigation was considered more suitable.

2.3 Habitat assessment

The habitat on site and in the surrounding area was assessed using Ordnance Survey mapping, and aerial photography. Habitat features on site, and those in the surrounding area were assessed for their suitability for use by bats during the site visit.

2.4 Building inspection

A systematic search of the exterior of the building was made to identify potential or actual bat access points and roosting places, and to locate any evidence of bats such as live or dead specimens, bat droppings, urine splashes, fur-oil staining and or squeaking noises. Bat specimens and droppings are the most reliable type of evidence; the other types are not always the result of bat activity. Sometimes bats leave no visible sign of their presence on the outside of a building (even when they do wet weather can wash evidence away.)

The search included (where present) the ground beneath potential access points, windowsills, window panes, walls, behind peeling paintwork and lifted rendering, hanging tiles, weatherboarding, eaves, soffit boxes, fascias, lead flashing, gaps under felt, under tiles / slates and in existing bats boxes. Gaps in brickwork and stonework were searched (where present). All evidence of use by bats, or features with the potential to be used by bats was recorded and photographed.

A systematic search of the inside of the building was undertaken to identify potential or actual bat access points and roosting places, and to locate evidence of bats. Bat specimens (live or dead) and droppings are the most reliable type of evidence. Other evidence can include urine splashes, fur-oil staining, feeding remains, squeaking noises, bat fly (Nycteribiid) pupal cases (Hutson 1984) or odour.

Areas inspected include;

Within rooms

- floors and surfaces
- behind wooden panelling
- in lintels above doors and windows
- behind window shutters and curtains
- behind pictures, posters, furniture, peeling paintwork, peeling wallpaper, lifted plaster and boarded up windows
- inside cupboards and in chimneys accessible from fireplaces.

Within roof spaces

- the tops of gable end and dividing walls



- the top of chimney breasts
- ridge and hip beams and other structural timbers
- mortise and tenon joints
- all beams
- the junction of roof timbers, especially where ridge and hip beams meet
- behind purlins
- between tiles and the roof lining (where accessible)
- under flat felt roofs.

The areas listed above were inspected (where present), additional areas with potential for use were also inspected.

2.5 Presence / absence survey method

Ecologists visited the site at dusk and dawn, to listen to, and record bats, and look for bats emerging from, or returning to roosts, and compile information on species, numbers, access points, and locations. The surveys were informed by a building inspection, which identified potential roosting and access points. These points were covered by an observer during the surveys.

2.6 Equipment

The equipment listed below was available for use during the surveys and was used where required.

Clulite CB2 1,000,000 candlepower torch. Rigid Seesnake CA-300 digital endoscope with 0.9m cable reach with 17mm and 6mm imaging heads. Digital camera with 50x zoom. 8x25 close focussing binoculars, 4m ladders, bat handling gloves, DNA sampling tubes.

Elekon Batlogger M – full spectrum bat detector. The Elekon Batlogger M - records bat echolocation calls in high quality, along with temperature and GPS location data. The information is stored on an SD card, and later analysed in detail using Elekon Bat explorer software.

Elekon Batlogger A+ - passive full spectrum bat detector. The Elekon Batlogger A+ records bat echolocation calls in high quality, along with temperature data. The information is stored on an SD card, and later analysed in detail using Elekon Bat explorer software.

Batbox duet – Heterodyne and frequency division bat detector.

Motorola two- way radios, were used to relay information between surveyors.

2.7 Survey limitations

None.



3 Results – Building inspection

3.1 External inspection



3.1a – The south side of the barn.

The building is a two-storey height detached barn, set on a hillside. The roof is equally pitched, and covered with stone roof and ridge tiles. Gable ends face east and west; roof pitches face north, and south. There is a single storey lean-to extension to the east gable end, which has a single pitched roof, covered with asbestos cement panels. The eaves are open, and there are no fascia boards or boxed soffits present.

The end tiles at the verges are sealed in place with moulded concrete. There is a vent in the ridge, toward the east end of the roof. Glass roof–light tiles are fitted, on the north and south pitches.

The walls of the barn are solid brick, with a stone base; the lean-to has stone walls. Lintels are a mixture of stone and timber; window glass has been replaced with plastic or fibreglass. There are, full height, wooden barn doors on the southern wall.

There are features externally which could be used by roosting bats including;

Gaps between stone roof tiles, beneath ridge tiles, at the verges, faults in the brickwork, access gaps for swallows.

The features present externally could give access to the inside of the building, and to smaller crevices within the structure, such as cavities in brickwork and stonework.

3.2 Internal inspection



The building is used for storage and accessed frequently. There are no enclosed roof voids, and the main part of the barn is open from the floor to the ridge board. There are small storage rooms at the east end of the barn.

The roof has a traditional rafter and purlin structure, with wooden supporting trusses. There is no internal lining and the underside of the stone tiles is exposed. The room is well lit by natural light. There are gaps at the eaves, in the walls, and in roof tiles, which could give, crawled, access to bats; gaps cut into the doors could give access to bats in flight.

The lean-to extension is open to the elements, has no internal roof void, and a wooden roof structure. There are no windows or doors fitted.

3.3 Evidence of use

No evidence of use by bats, such as droppings, feeding remains, or grease staining was found internally or externally.

3.4 potential for use

The barn is assessed as having, moderate, potential for use by roosting bats, based on the features present, in the building, the exposed nature of the site, and the quality of its surrounding habitat.

4 Emergence surveys

4.1 Survey 1



4.1a – Surveyor locations and bat activity.

Date	22/06/17	**Survey type**	Dusk emergence		
Sunrise / Sunset	21:41	**Survey start**	21:20	**Survey end**	23:45
Surveyors					
Surveyor name		**Position**		**Equipment**	
Stewart Bradshaw		A – northeast of barn		Batlogger M	
Annabel Walker-Evans		B – southwest of barn		Batbox duet	
Weather					
Temperature	**Wind**	**Rain**	**Cloud**	**Other**	
16°C	Light breeze	Dry	70%	Rain earlier	
Description Warm, dry, cloudy, evening, following a warm day with heavy rain showers. Lots of midges, and insect prey.					

Summary of activity

No bats emerged from the building during the survey.

The first bat, a common pipistrelle, was recorded at 22:10, 19 minutes after sunset, before dark, suggesting there is a roost locally. The maximum number of bats, seen together in flight at any one time was two.

Most of the activity recorded, was foraging by single common pipistrelle bats. Occasionally two bats were seen together in flight. Bats were seen foraging over the hedgerow, to the north of the barn, around trees to the west, and around the garden. A low number of passes on the south side of the barn were also recorded.

Common pipistrelles - *Pipistrellus pipistrellus*, were the only bat species recorded during the survey.

Bat activity, by single, or low numbers of bats, was constant during the survey, until 22:55, after which no further bats were recorded.

Limitations – None.

4.2 Survey 2



4.2a – Surveyor locations and bat activity.

Date	12/07/17	**Survey type**	Dawn		
Sunrise / Sunset	04:57	**Survey start**	03:00	**Survey end**	05:15
Surveyors					
Surveyor name		**Position**		**Equipment**	
Stewart Bradshaw		A – northeast of barn		Batlogger M	
Annabel Walker-Evans		B – southwest of barn		Batbox duet	
Weather					
Temperature	**Wind**	**Rain**	**Cloud**	**Other**	
14°C	strong breeze	Dry	50%	N/A	

Description
Warm, breezy morning, dry with 50% cloud cover, and a ¾ moon.

Summary of activity

No bats returned to roost in the barn during the survey.

The first bats recorded were, two common pipistrelles, which were recorded at 04:06, 51 minutes before sunrise. Commuting west above the hedgerow, to the north of the barn.

No further bat activity was recorded during the survey.

Limitations – The strong breeze on the hillside, may have reduced the levels of bat activity on the site, however the wind is a constant feature of the site, and the level of bat activity recorded is likely to be typical.



5 Evaluation

The building is set in an area which provides moderate quality habitat for foraging, commuting and roosting bats, and has features, externally which are suitable for use by roosting bats, in particular, gaps beneath roof tiles.

Gaps in brickwork are superficial, and do not lead into deeper cavities, which could be used by roosting bats. Gaps in stonework are open to the elements, and predators.

The features of the building are more likely to be used by bats in the summer months, than during the hibernation period, as there are no areas which will provide the constant cool temperatures required for hibernation.

Bat activity was recorded during each of the activity surveys, with bats foraging around hedgerows, and grassland to the south and west of the building.

The level of activity recorded is was moderate, during the first survey, with foraging activity by a maximum of two bats recorded at any one time. And low during the second survey, with a single pass by two common pipistrelles recorded.

The only species recorded was common pipistrelle, Pipistrellus pipistrellus.

Bats are likely to be roosting locally, possibly in houses adjacent to the barn, which are In better condition, and may offer more suitable roosting features.

It is unlikely that a large roost is present locally, because of the low number of individual bats recorded.

No droppings or other evidence of use by bats was found, internally, or externally. The lack of droppings is not evidence of absence; however, it makes the presence of a large, or historic roost, unlikely.

No bats were recorded emerging from, or returning to roost, in the buildings, during the surveys.

There were no significant limitations to the surveys. Bat activity recorded, is considered an accurate reflection of the way in which bats use the site.

5.1 Legal and planning context

All species of bats in the UK and their roosts are legally protected by UK and European legislation. The UK the legal protection is summarised as follows:

You will be committing a criminal offence if you:

1. Deliberately* capture, injure or kill a bat
2. Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats
3. Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time)
4. Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat5. Intentionally or recklessly obstruct access to a bat roost even if bats are not present at the time

*In a court, ‘deliberately’ will probably be interpreted as someone who, although not intending to capture/injure or kill a bat, performed the relevant action, being sufficiently informed and aware of the consequence his/her action would most likely have).

If bats or bat roosts were present in the buildings, the proposed renovation works would likely result in an offence being committed.



6 Impact assessment

As no bats were recorded roosting, in the building, during the surveys, direct impacts on bats, and their roosting habitat, resulting from the works, are unlikely.

Without mitigation, the works are unlikely to negatively impact bats, or their habitat.

7 Required actions

A building inspection, and dusk and dawn surveys of the barn, have been completed, in line with the level of survey recommended in the survey guidelines. No evidence of use by bats was recorded in the barn, and no bats were recorded roosting in the building, during the surveys.

No further survey or licensing work is required with regard to bats.

If the works are carried out during the spring or summer months, an ecological clerk of works should be appointed, to brief contractors, and inspect any features with the potential to be used by roosting bats, prior to work starting. This is because bats are highly mobile, and are active at these times of year.

The barn, is used by nesting swallows. Nesting birds are protected under UK legislation and must be left undisturbed to ensure their protection. If works are planned during the nesting bird season (1st March to 31st August) then either a breeding bird survey should be undertaken or an ecological clerk of works should be appointed to oversee the works.

Impacts on breeding bird habitat resulting from the works can be reduced, by the provision of bird boxes, or other suitable nesting habitat.



8 References

Department for Communities and Local Government (2012). National Planning Policy Framework.

Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines. (3rd ed.) The Bat Conservation Trust, London.

Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature.

Mitchell-Jones, A.J. & McLeish, A.P. (2004). The Bat Workers Manual. (3rd ed.) JNCC



9 Appendix 1 – Photographs



1 – The south facing, front, of Whitefield Farm barn.



2 – Looking south toward the north wall of the barn.



3 – Looking towards the west facing, gable end, of the barn.



4 – The east facing gable, and corrugated roofed, lean-to extension.



5 – Gaps in brickwork, where mortar has washed out are superficial, with no deeper cavities found.



6 – gaps in the stonework of the lean-to, are open to the elements, and offer little shelter.



7 – The majority of the barn is open from floor to ridge, there are no enclosed roof voids.

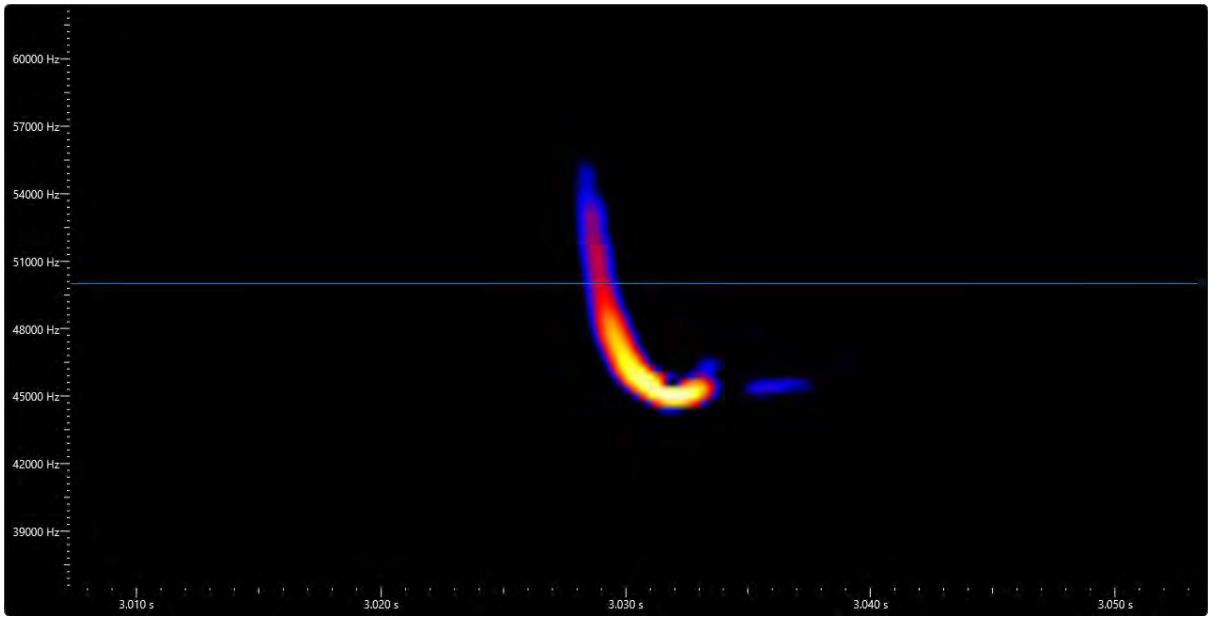


8 – The stone roof is not lined; no droppings or other evidence of use was found.



9 – Habitat surrounding the barn is good, but reduced in quality, by the prevailing wind.

10 Appendix 2 – Sonograms



Common pipistrelle.