

Bat Advice Note: 6 Downham Road, Chatburn

Introduction

The site visit was undertaken in response to a request from Ruth Murray, an occupier of said address. The building planned for development is an outbuilding situated immediately to the north of the main house. There are currently three internal rooms and a flat roof used as a roof terrace, that is accessed via the second storey of the main house. Works are being conducted in the form of a detached annex creation (by modifying the existing outbuilding to provide extra living space), replacement roof garden and interior modifications. The works are anticipated to require the removal of the existing timber fencing on the perimeter, render modification of walls and a new blockwork structure installed. The roof terrace and link bridge are also expected to be heavily modified.

Survey Methodology

A data search was undertaken with Dave Fisher of South Lancashire Bat Group who holds records of bat roosts and bat activity within the Chatburn area.

Ordnance Survey (OS) maps and aerial photographs (<http://maps.google.co.uk/maps>) were reviewed to help identify any continuous habitat and any other notable habitats for bats within the surrounding area.

The outbuilding at 6 Downham Road, Chatburn was surveyed on the 17th of January 2019 by Katy Smart MSc, BSc (Hons) and Jack Driver BSc (Hons). The building was subject to an internal and external survey. Weather during the survey was dry, cloudy and cold (approximately 1°C) which provided no constraint to the survey. All areas of the building, both externally and internally were accessible for survey.

The assessment followed and is in line with the Bat Conservation Trust 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (3rd edn) (Collins, 2016). The survey involved checking for bats and the field signs of bats such as bat droppings, urine stains, bat feeding remains (moth wings, insect cases), distinctive smell of bats, bat staining, smoothing of surfaces and scratch marks which would indicate a roost site. An assessment of the potential of the building was also made during the survey i.e. searching for suitable roosting crevices/features and access points. The inspection involved torch searches for droppings on exterior walls, interior of the soffit box, at ground level, on windows and on wooden beams and below/ near any potential gaps in the building.

Natural England's Bat Mitigation Guidelines (A.J. Mitchell-Jones, 2004) state that a significant bat roost can normally be determined on a single visit at any time of the year, provided that the entire structure is accessible and that signs of bats have not been removed by others.

Survey Results

Results from previous bat emergence surveys of buildings within the neighbourhood recorded no significant roost sites in the immediate vicinity. However, there are a number of records of bats within 0.25 km of the site. Droppings of an unknown pipistrelle

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species (*Pipistrellus* sp.) were observed in a roof void 0.13 km to the south in 2014. Four pipistrelle bats were found during re-roofing works to a building 0.16 km to the south west. A further record from 0.18 km to the north west comprises a maternity roost of over a hundred Pipistrelle bats (in 2011). An additional three records of bat activity/ roosting sites exist within 1 km of site; one being a whiskered bat (*Myotis mystacinus*) maternity roost. This species is classified as scarce in England and Wales. Another record comprises a torpid Nathusius' pipistrelle (*Pipistrellus nathusii*) bat found during movement of construction materials. The last record is of a pipistrelle bat casualty.

No bat droppings or other evidence as described in the survey methodology were found during the exterior or interior building inspection.

Annotated photographs of the building are provided as Appendix A. The building is a single storey annex (formerly a cattery) with a flat roof (which has been converted into a terrace), which is situated immediately to the north of the main house. There are three rooms in the structure which are divided by partition walls. Each room is accessible from the back yard/ courtyard by panel doors. There is also no loft space present in this outbuilding. A 'link bridge' joins the roof terrace of the outbuilding with the second storey of the main house, allowing access to and from the property.

Internally, the building is in slight disrepair. The plasterboard ceiling in all three rooms is partially collapsed; allowing visibility of the plywood panelling which is suspended by six wooden beams (photos 1, 2 and 3). Behind the partly exposed outer layer wall are breeze blocks which extend throughout the whole building (photos 1 and 2). There is also a plastic membrane which lies between the brickwork and plastered walls. No natural light appears through the brickwork and there are no gaps around the interior of the whole building. Access for bats into room 1 is possible through a broken window in the door frame. Room 2 and 3 have the same internal material composition as room 1, however they are in a better state of repair, and less of the ceiling/ walls are exposed (photo 4).

Internally a number of gaps and crevices in the walls were found during the inspection (photos 3 and 6). However, no evidence could be found that these crevices are accessible from the exterior of the building. No natural lighting was observed in any of the three rooms through gaps or crevices in the walls. The only access for bats to the interior was via the broken window in room 1, and two gaps were found in that said room; one in the north east corner of the ceiling and the other on the eastern wall by a beam. Rooms were generally well sealed and the only possibility of roosting areas which were found internally are between the wooden beams and brickwork structure at ceiling height of the side walls to the north (photo 3), though after further inspection these were later categorised as negligible features, due to the lack of access opportunities and width of gaps. This area in each room was extensively checked for signs of bats; and no droppings, urine stains or feeding remains were visible, while the gaps were concluded to be too open and vulnerable to fluctuating conditions for bat inhabitation. An abundance of old cobwebs present in most of the gaps also suggest they have not been utilised by bats.

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Externally, on ground level, the building comprises a concrete breeze block structure with a layer of plaster and white paint (heavy flaking) (photo 7). A timber soffit and soffit box are present, which runs along the perimeter of the side wall (photos 8 and 9). Attached to the soffit is a gutter and subsequent downpipe on both sides of the building (photo 10). Immediately above the soffit is a traditional bitumastic roof lining with lead flashing underneath. Gaps were present between the soffit and soffit box (photo 9). These were more prevalent at the two ends of the soffit (west and eastern sides of the building), the diameter of these openings was sufficient enough for bat access into the soffit box, however due to an absence of droppings it was concluded that bats have not used the soffit box recently. One small rodent dropping was found inside the gap on the eastern side. Therefore, the soffit box was categorised as a low potential roosting feature.

The wall on the western end of the building is partially covered in ivy (*Hedera helix*) cladding (photos 11 and 12) (70% cover) which extends onto the other side of the wall reaching ground level. This ivy cladding provides a low potential roosting feature because of the density of the vegetation and latticing. Furthermore, the stem diameter of the ivy reaches 50mm or more in places; and is partially detached. BCT (Bat Conservation Trust) guidelines list this habitat as a potential roosting feature (PRF). However, the ivy is close to ground level and is vulnerable to predation by animals such as domestic cats who can easily move between the outbuilding roof and neighbouring property, therefore reducing its suitability for roosting bats. In addition to the ivy, there is an under-layer of perimeter stone wall where gaps are present within the pointing. This could potentially provide safe harbour for roosting bats..

There are limited spaces and crevices within and between stonework of the building, none of which are large enough to provide roosting habitat for bats. The eastern elevation is a bare traditional stone wall which has not been altered by plastering or overcoating, and any gaps, if present would have been clearly visible to the surveyors. A stone slab staircase is present at the south east corner of the outbuilding which allows main house occupants access to the eastern elevation from ground level of the yard. Gaps were present within this staircase, however because of the density of cobwebs (and their age) and the proximity to ground level (where bats would be vulnerable to predation) this feature was ruled out as a PRF.

A summary of PRF's which were found at the property are presented below:

- Low PRF- The ivy cladding (photos 11 and 12) located on the western elevation of the outbuilding, which stretches over the neighbouring shed to the west and timber fencing on the roof terrace to the east. The ivy was indicated to be of some potential because of its maturity (where some stem diameters reached 50mm), and dense covering of stonework. The progressive narrowing of the outbuilding wall to the adjoining boundary wall (photo 11) provides some cover from harsh weather conditions, and is not intruded harshly by artificial light. The feature could not be fully explored due to the ivy being too dense to observe any

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roosting bats, combined with the narrowing of the adjoining wall creating a difficult area to reach by hand. This feature was identified to be of low potential.

- Low PRF- The soffit box located on the southern elevation of the property provides a large enough access space for bats and protection from weather conditions. The feature only extends a maximum of 10cm on each end of the box (which is a larger diameter on the eastern side).

The habitats surrounding the property include other residential properties in all directions apart from the north east, resulting in a lack of foraging and commuting habitat. The property is located near to Chatburn village centre and subsequently the intersection between Downham Road and the main road. These are relatively busy roads and are both lined with street lighting further reducing the suitability of the area for bats. To the north east of the proposed development is a railway line running south to north, which is lined with semi-mature broadleaved trees, providing potential foraging and commuting habitat.

Conclusions and recommendations

The building summarised in this report is highly unlikely to comprise a roost of any significance because of only two PRF's being identified, and both of those features being of low potential. Further emergence or re-entry survey surveys of the building are therefore not considered necessary in this instance.

There are no features on site that provide potential for hibernating bats. It is very unlikely that the dense ivy cover is being used as a hibernation roost location because of exposure to the weather conditions and height from ground level, both of which would not provide safe refuge for bats over several winter months. Furthermore, the soffit box also does not provide the level of protection and stable conditions required for hibernation.

No roosting bats or evidence of roosting bats was observed during the inspection. However, due to the presence of two low PRF's, the use of these by individual opportunistic bats during the active bat season (May to October) cannot be entirely ruled out. Therefore, works should follow the methods outlined below to entirely remove the risk of impacts to roosting bats.

Method of Working

All contractors should still be made aware of possible disturbances or interactions to bats during proposed works. Because of the close proximity of the main house, which could also inhabit bats; due care needs to be attributed when installing artificial lighting or working during the night/ or after sunset. Artificial lighting (especially white light) should not be directed at any architectural features that might be deemed to be a roosting feature, such as eaves, ridge tiles or the apex.

Works will ideally commence by the beginning of March; however, if this is not possible then works should be divided into priority sections. This means that the initial building modifications should be prioritised to take place at the western elevation firstly, before the rest of the building. This is in order to prevent bats from roosting within the feature while works are still taking place. This will confirm that no loss of roosting habitat or accidental bat injury/ death will take place. Works conducted over the winter months are unlikely to affect foraging or commuting bats due to their current state of torpor. Bats

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usually start emerging from hibernation as early as March, but can sometimes leave roosts earlier (in warmer temperatures) in order to satisfy thirst or hunger.

Although a low PRF, the ivy cladding should still be inspected by the contractor prior to removal for possible bat presence (see Appendix C for information on identifying bats); it will then be removed carefully by hand, using loppers or a pruning saw; still remaining vigilant in the case of bats which were missed by the initial inspection. If works do not require the removal or modification of the ivy cladding feature then careful attention should still be adhered to impacting potential roosting bats.

Should any bats be present in or on the exterior of the building, despite the appropriate timing of works, further measures to avoid an offence will comprise the following RAMS (reasonable avoidance measures):

- At no point should contractors intentionally or recklessly¹ obstruct access to any structure or place used for shelter or protection or disturb a bat in the building;
- Carefully and methodically remove the relevant materials which are in close proximity to the low potential feature;
- Work will cease immediately if bats are encountered at any stage and works can only resume once advice from a suitably qualified ecologist has been sought;
- Should any bats be encountered during the works, these will be relocated to a safe location, using gloved hands. A bat box will be installed on the main house which will provide a safe alternative roost location; and
- A written record of any bats found will be kept and made available to Natural England or any police officer on request.

Use of Materials

Any loss of low potential roosting habitat is recommended to be replaced in the form of an architectural feature for enhancing bat roost potential. Different bat species prefer varying habitats within buildings, however spaces occupied by the common pipistrelle (*Pipistrellus pipistrellus*) (which is likely to be found in the area of the development) include;

- crevices hidden from view; and
- Bat access bricks (most bats only need a 15-20mm gap to access roosting spaces) which are hidden away from view and provide some warmth/ protection from wind and other weather conditions.

Summary

No license is required to conduct works due to no roosting bats being identified on site (The Bat Mitigation Guidelines [2004] state that no licence is required if the proposed activity is unlikely to result in an offence; if the proposed activity can be timed, organised and carried out so as to avoid committing offences then no licence is required).

Therefore, if the works are undertaken in accordance with the above recommendations, no licence is considered to be required on the following basis:

- No roosts will be damaged or destroyed.

¹ Wildlife and Countryside Act 1981 (as amended) S.9

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- Works are timed when bats are least likely to be present (bats are not present during winter. There is no hibernation roost on the exterior or interior of the building).
- Measures are proposed to reduce disturbance to any bats in the low potential roosting feature.
- Measures are in place to prevent killing and injury to bats.
- One or more of the recommended materials mentioned above will be used in the final building design.

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Date: 01.02.2019

References:

A.J. Mitchell-Jones. 2004. *Bat Mitigation Guidelines*. Natural England.

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

Fisher, D. Personal communication, January, 2019.

Natural England EPS Licensing Mitigation, Latest Developments, February 2015 (Breathable Roofing Membranes)

www.bct.org.uk

Appendix A - Annotated Photographs

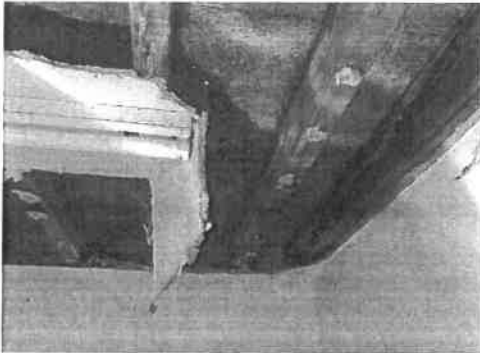


Photo 1: Damaged ceiling with wooden beams, plywood and breeze blocks exposed

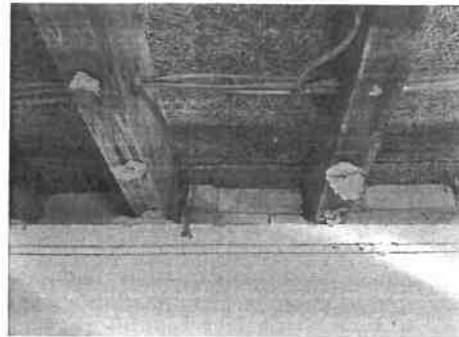


Photo 2: Wooden beams with concrete breeze blocks, plywood and electrical wiring exposed

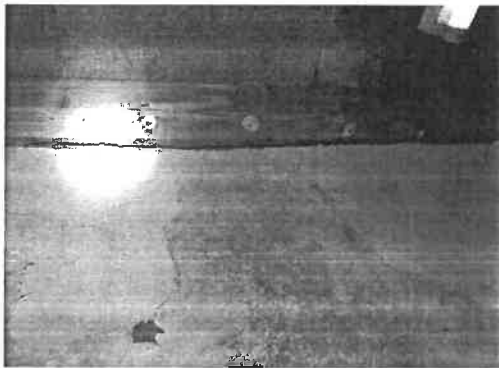


Photo 3: Plywood ceiling and wooden beam with outer layer of interior wall

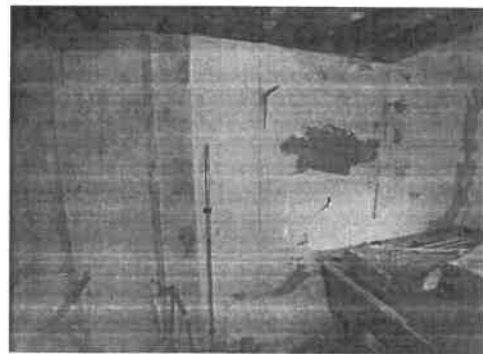


Photo 4: Room 3 interior wall

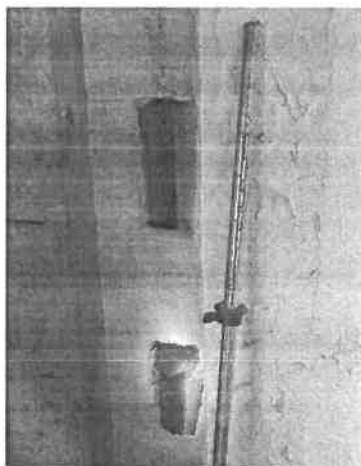


Photo 5: Cavities in concrete brickwork structure (not visible from exterior of building)

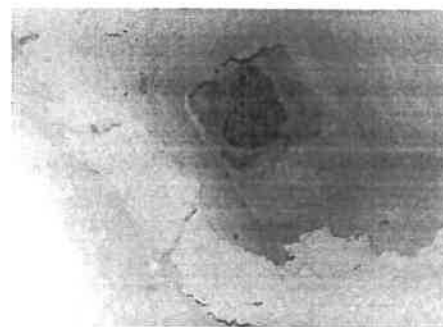


Photo 6: Interior of cavity

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Photo 7: Ground level view of building exterior

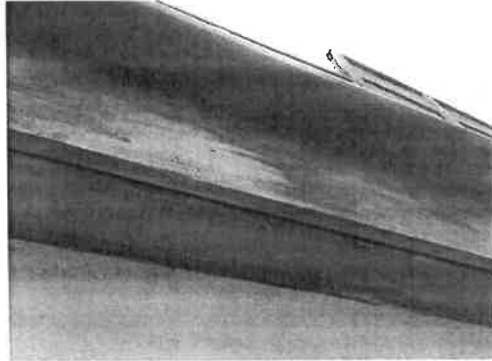


Photo 8: Soffit and soffit box which extends along the front (south) of the outbuilding



Photo 9: 'V' shaped gap between the soffit and soffit box



Photo 10: Layers of roofing materials, beam and gutter.



Photo 11: Overhanging ivy cladding on the western side of the building which densely covers the neighbouring shed. The outbuilding wall narrows against the neighbouring wall.



Photo 12: Dense ivy cladding on the western boundary of roof terrace.

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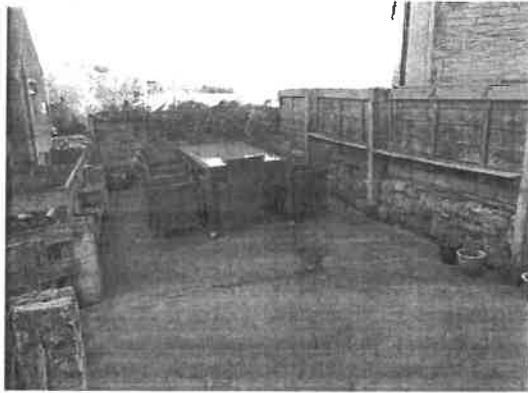


Photo 13: Overview of the roof terrace with bridge-house link to the left-hand side.



Photo 14: Timber fencing and stone wall boundary (height extended on the northern boundary)

Appendix B - Bat Roost Potential Criteria (Collins, 2016)

Suitability	Description of Roosting Habitat	Commuting & Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A 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 habitats to be used on a regular basis or by a larger number of bats (i.e. unlikely to be suitable maternity or hibernation).</p> <p>A tree of sufficient size and age to contain potential roosting features but with none seen from the ground, or feature seen with only very limited roosting potential.</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>
Moderate	A structure or tree 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.	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting, such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging, such as trees, scrub, grassland or water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis, and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	<p>Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close and connected to know roosts.</p>

Appendix C - Bats and the construction industry

BATS

Information, legal responsibilities and best practice for the construction industry

Legal Protection

All UK Bat species are protected by European and UK law, in practical terms this means it is an offence to:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb bats;
- Damage or destroy a breeding site or resting place (even if bats are not occupying the roost at the time);
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place;
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat.

Penalties on conviction: the maximum fine is £5,000 per incident or per bat (some roosts contain several hundred bats), up to six months in prison, and forfeiture of items used to commit the offence, e.g. vehicles, plant, machinery.

Defences include:

- Tending/caring for a bat solely for the purpose of restoring it to health and subsequent release.
- Mercy killing where there is no reasonable hope of recovery (provided that person did not cause the injury in the first place – in which case the illegal act has already taken place).

Found a bat during unsupervised works?

Is the bat in immediate danger of injury?

NO → Stop work immediately and inform Site Manager. Contact scheme ecologist - Bowland Ecology: 01220 448 777. Do not annoy bat or cause it to fly away.

YES → Using gloves or other protection place bat carefully in a rigid container with cloth and a small shallow container of water. Call scheme ecologist. Bowland Ecology: 01220 448 777. Keep bat in a safe, quiet location until scheme ecologist arrives.

The scheme ecologist will assess the situation and advise what needs to happen next. Workers may need to stop until a permit has been obtained. A written record should be kept and made available to the police or any police officer on request.

Field signs of bat presence:

- Live or dead bats: the smallest UK bat species, the pipistrelle is only 3.5-4.5cm long.
- Droppings: bat droppings look like mouse droppings but will crumble between your fingers (they are dry and made entirely of insects)
- Feeding remains: piles of butterfly/moth wings are often left below bat feeding perches.

Why wear gloves?

There is a small risk that some bats carry a rabies virus – European Bat Lyssavirus. The purpose of wearing gloves is to reduce the chance of being bitten, as the virus is transmitted via bat saliva. Thick leather gloves are appropriate for removing a bat from imminent danger but these should be clean.

In the event that you are bitten, wash the wound, gently but thoroughly, with soap and water. Speak to a health professional immediately, advising them that you have been bitten by a bat.

Bats can roost in the following places:

- The top of gable end or dividing wall;
- The top of chimney breasts;
- Ridge and hip beams and other roof beams;
- Mortise and tension joints;
- All beams/ceilings/pipework (free hanging bats);
- The junction of roof timbers, especially where ridge and hip beams meet;
- Behind eaves;
- Between tiles and the roof lining;
- Under flat felt roofs;
- Under barge boards;
- In cavity walls;
- In cracks in stone or concrete;
- Behind peeling paint/wall coverings;
- Gaps behind window and door frames;
- Between window panes and timber boarding;
- In trees (cracks/holes/ivy cladding).

Pieces that bats may use in buildings

Schematic from www.bats.org.uk

References:
 Bat Conservation Trust, August 2015. Why wear gloves when handling bats?
 BCT Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition, 2016

