rec'd 31/10/19

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Bat Survey Report (preliminary day-time survey): 12 Ribchester Road, Wilpshire, BB1 9JH

OS grid reference:
SD 6863 3251

Commissioned-by:
Asif Chaudhary

Survey Date: 15/8/19

Report Date: 19/8/19

Previous survey date (adjacent garage and exterior of part of house): 18/10/18
Previous report date: 26/10/18

Table of Contents

1. Summary.

(This summary should be read in conjunction with the conclusions and recommendations.)

This is a large, detached house in a sub-urban location.

The part of the exterior closest to the adjacent, detached garage was inspected incidentally in October 2018 when a preliminary bat survey was being undertaken of the garage. Bat droppings were seen on the north-west-facing gable wall of the house and there was an obviously well-used access gap at the gable apex.

The current proposal is to extend at the north-eastern end of the property. This has a separate loft-space, though all loft-spaces are interconnected. A relatively small number of droppings were found in this loft, but they were apparently quite fresh and concentrated in particular below a defect in the felt-lining to the roof-slates. This was quite close to the gable end, slightly to the north of the ridge. There was no obvious bat access available via the north-east-facing gable. Bats are likely to be entering via a gap between the slates. Unfortunately there was no vantage point available to view this pitch of the roof. Appropriate gaps exist elsewhere however.

The proposed extension does not involve the whole of the gable end and will be tied-in to the existing roof only at the more northerly end. This is quite close however to the location of the bat droppings and it is unknown how much of the space between the slates and felt is currently used by bats.

With respect to the development, consideration should be given to whether the proposal can be amended slightly to avoid the need to tie-in the new roof to the existing. However, in addition I understand the whole property needs re-roofing. That will impact on the roost in any case. The re-roofing will need to be phased and covered by a licence from Natural England, as will tying-in of the extension to the roof, if done separately.

A sample of droppings was obtained to allow them to be sent for dna analysis. It seems likely the species present is the brown long-eared bat, but the droppings have been sent for analysis to substantiate this assumption.

Further discussions are needed with respect to minimising the impact of both the development, and the re-roofing, on bats. A programme of bat activity survey work (dusk emergence and dawn return-to-roost) will be needed prior to the re-roofing and at least one survey is needed prior to the development.

Further to a conversation had with a Ribble Valley Planning Officer recently, I strongly recommend all necessary bat survey work is done, and a Method Statement written, before the planning application is submitted.

2. Introduction

I was asked to assess the importance of this property to bats as part of the planning process, prior to proposed extension works at the north-eastern gable end. Incidentally I comment on any issues discovered with respect to other protected/invasive species and species of conservation concern.

This is a large, detached house

West/south and east/north elevations

It is in a sub-urban location in close proximity to mature trees. It is about 100m from wooded railway embankments to the east, which link well with a golf-course and fields with hedge boundaries:

Location of property indicated by red circle

The nearest water body is about 1200m away to the south-east.

The pipistrelle bat (2 species: *Pipistrellus pipistrellus* - the common pipistrelle, and *Pipistrellus pygmaeus* - the soprano pipistrelle) is common and widespread in the area.

Roosts of these species can occur in any building that provides suitable roosting crevices, with the risk of bat presence increased by close proximity to good bat feeding habitat and commuting routes; for example tree-lines, hedges, woodland, scrub and water courses and bodies. The bats use different roosts at different times of year, sometimes singly and sometimes in large groups of females with dependent young. They can move frequently and unpredictably between the roost sites known to them. The majority of house-holders with a roost of this species are unaware of it.

In summer females gather together each with their single off-spring in, sometimes large, maternity colony groups. Disturbance can cause the abandonment of babies (pups). In autumn when the young are independent, females visit males to mate. In winter the bats hibernate and rousing from hibernation - a slow process - can result in a depletion of fat reserves that may compromise the bats' ability to survive the winter. Females become pregnant in spring when their food (insects) becomes available again.

Other species that will inevitably occur within 2 kilometres are the brown long-eared (*Plecotus auritus*) - the species most likely to leave evidence of roosting within lofts and whiskered (*Myotis mystacinus*)/Brandt's (*Myotis brandtii*), which are hard to separate without dna analysis. Other species likely to occur include the Daubenton's (*Myotis daubentonii*), noctule (*Nyctalus noctula*) and Natterer's (*Myotis nattereri*) possible.

3. Bats and the Law

All British bats and their roosts are legally protected under the Wildlife and Countryside Act of 1981 (as amended) and the EC Habitats Directive of 1994 as implemented by the Conservation of Habitats and Species Regulations 2017.

Where a development will destroy a bat roost, a Low Impact Class Licence or a European Protected Species Licence (Mitigation Licence) is required before the roost can be interfered with in any way. The former applies in cases where only small numbers of common species of bat are using the building within certain parameters. It usually takes approximately 2 weeks for these licences to be issued, whereas the turn-around time for a full European Protected Species Licence is approximately 7 weeks once the application has been submitted. Any licence issued is a legally binding document.

Licences can only be issued providing planning permission has been granted, where applicable.

When a roost is found, both the bat consultant and the planners have to apply the "three tests" required by Natural England before issuing planning consent. Essentially these are:

- That the development is necessary for the purpose of "preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequence of primary importance for the environment";
- That there is "no satisfactory alternative";

- That the action authorised "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range".

N.b. The way in which the necessity is assessed includes whether the client has an alternative that it would be reasonable to expect them to adopt.

Necessary mitigation and compensation measures to ensure the favourable conservation status of bats will be maintained, would include appropriate timing and methodology for the work, including details of how the bats will be provided-for in the long term.

Planners are required by the Government to satisfy themselves before granting planning consent that it would be possible for a licence to be obtained if necessary. Accordingly they are obliged to apply the three tests before issuing consent. For this reason enough survey work has to have been undertaken that the planning authority can evaluate whether or not the three tests can be satisfied and what degree of compensation/enhancement is necessary. To avoid delays in obtaining consent it is in the client's best interest to find out sooner rather than later whether any bat roosting issues need to be addressed.

Natural England, the Government body responsible for administering the law relating to bats, have issued guidelines to planners on how to proceed with respect to bats

Outside the planning system, the onus is on developers/members of the public, to have sufficient investigations undertaken to satisfy themselves (and the authorities in the event of a subsequent investigation), that their actions are unlikely to be in contravention of bat legislation.

N.b. **It should always be remembered that bats often roost in places not anticipated by a lay person, such as modern buildings, trees with cavities, and bridges. Some leave no signs in lofts, as they roost underneath external features such as roof slates, ridges, weather-boarding and cladding.**

In the case of a building, tree or other feature not already known to be a bat roost, if bats are found during the course of work, contractors are legally obliged to stop work and seek advice. This should be from an appropriately experienced and licenced bat ecologist.

Additional Relevant Legislation and Policy.

Between 1995 and 2010 certain more vulnerable habitats and species were the subject of National or Local Biodiversity Action Plans. This strategy for the protection of biodiversity has been superseded by UK post-2010 Biodiveristy Framework, which is largely now implemented at county level. Internationally The Convention on Biodiversity produced a Strategic Plan for Biodiversity 2011-2020. Further to this the EU Biodiversity Strategy was launched in 2011.

Section 41 of the Natural Environment and Rural Communities Act 2006 lists species "of principal importance for the purpose of conserving biodiversity". The list was up-dated in 2014 and includes the brown long-eared bat (*Plecotus auritus*), noctule (*Nyctalus noctula*) soprano pipistrelle (*Pipistrellus pygmaeus*) and 4 other bat species.

The National Planning Policy Framework of 2012 states that "the planning system should contribute to and enhance the natural and local environment" by a number of means, including "minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks... ."

4. Survey

I made a daytime visit on **15/8/19** to undertake a preliminary survey of the building, assess its likely importance to bats and advise whether or not a precautionary approach or further survey work is needed.

Having been involved with bat survey work for over 30 years and consultancy work for over 20 years, it is always my objective to carry-out my work in a manner consistent with accepted Good Practice Guidelines (1) and consistent with the code of practice of the CIEEM. I hold Natural England Class Licences CL21 (Annex B), 18 and 16. Amongst other things these cover me to apply for Low Impact Licences for clients and undertake bat survey work. I have a supplementary licence to photograph bats in roosts and a CL29 Barn Owl Class Licence. My credentials are expanded-upon in Appendix 1.

As far as possible, I surveyed the building inside and out with the aid of surveyor's ladders, 2 million candle-power torch, camera with 6x optical zoom and binoculars (8x42). Head-torch, 10x 50 binoculars, fibrescope (6 and 13mm heads, extendable to 2m), camera with 18x zoom and mirrors were also available if needed.

I was looking for access to potential roosting places and evidence of their use, such as droppings and staining.

I also take into consideration the surrounding habitat and the range of bat species it appears likely to support, along with the quality of the habitat linkages with the wider area.

The survey was conducted with the needs of different species of bat over the seasons in mind.

5. Limitations of the survey

This was a preliminary survey to investigate as far as possible the extent of the roost previously discovered incidentally, and to assess whether further survey work is needed at dusk or dawn, possibly at a more appropriate time of year. The potential for other roosts to exist was also considered.

It should be noted that droppings are the sign most frequently found, but they are often deposited in areas that cannot be easily visualised, if at all, and they can turn to powder quite quickly. They are usually soon washed and blown away from exposed external surfaces so evidence of use often doesn't last long and pipistrelle bats in particular can change roosts frequently. However, an assessment has been made of potential bat roosting places associated with the exterior of the building.

The survey was carried-out in a period of rainy, breezy weather increasing the likelihood of droppings having been washed or blown from external surfaces.

6. Findings

There are essentially 5 distinct areas to the loft:

Fig. 2. Main roof outlined in orange, with subdivisions roughly illustrated in yellow. There are crawl-openings between zones 1 and 4, 1 and 2 and 3/4 and 5.
Largest collection of droppings illustrated by red cross. Smaller collections beneath defects in felt shown by orange crosses. The small-scale distribution of droppings is much wider however, especially under the ridge beam of 1. Zones 3 and 4 contain few droppings.
Location of droppings on external gable wall illustrated by yellow cross.
The proposed extension is at the north-east-facing gable (zone 5)

Table 1. Summary of findings with respect to occupation-of and access-to lofts

Date	Survey type	Area – see Plan 1	Signs of bats	Comments
15/8/19 interior	day	1	yes	droppings at eastern gable end, a few under ridge line and some below gap in felt
		2	yes	droppings below gaps in felt
		3	minimal	
		4	minimal	
		5	yes	droppings below gap in felt
15/8/19 exterior	day	north-west gable	yes	obvious access gap to zone 2. See Plates 1 and 2.
		north-east gable	no	
		south-west gable	no	
roofs			no	not all visible but gaps exist between slates

Survey type key: day = building inspection

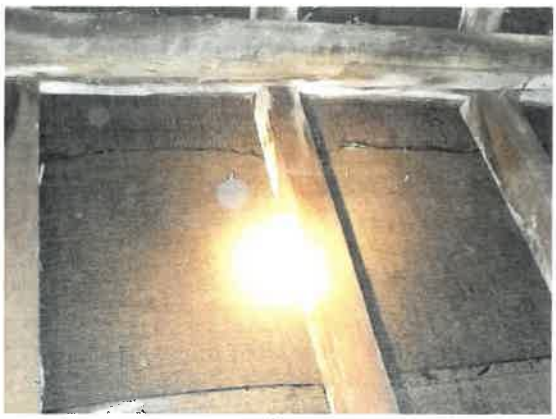
Plates 1 and 2. Bat access at western gable (zone 2)

Plates 3 to 9 show collections of droppings and associated gaps in felt above them:

Plate 3. Bat droppings at eastern gable end (zone 1)

Plates 4 and 5. Bat droppings and tear in felt above, plus droppings on beam and rafter (zone 1)

Plates 6 and 7. Example of bat droppings and over-lap in felt above (zone 2)

Plates 8 and 9. Bat droppings and over-lap in felt above (zone 5)

A sample of bat droppings was collected to allow them to be sent for dna analysis to allow the species concerned to be confirmed.

Not all roof-pitches could be visualised, including the north-west-facing pitch of the zone 5 roof, where it has been assumed bats are accessing via a raised slate. Other slate defects associated with visible roof-pitches are shown below however:


Plate 10. Eastern pitch of zone 5 roof. Plate 11. Northern pitch of zone 1 roof

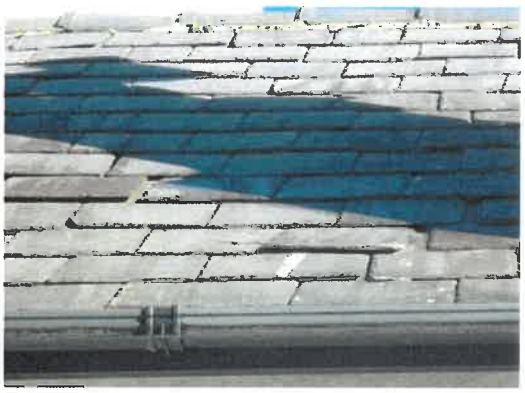



Plate 12. southern pitch of zone 2 roof. Plate 13. southern pitch of zone 1 roof

7. Conclusions/Discussion

Appendix 2 gives an outline of the criteria used in assessing the level of risk of use by bats.

The house is being used by a maternity colony of bats. The species is most likely to be brown long-eared, but as whiskered/Brandt's is also a possibility the sample of bat droppings collected should be sent to dna analysis.

In respect of the evidence of roosting in zone 5, bats are likely to be entering via a gap or gaps between the slates. Unfortunately there was no vantage point available to view the relevant pitch of the roof. Appropriate gaps exist elsewhere however.

The proposed extension does not involve the whole of the gable end and will be tied-in to the existing roof only at the more northerly end. This is quite close however to the location of the bat droppings and it is unknown how much of the space between the slates and felt is currently used by bats.

With respect to the development, consideration should be given to whether the proposal can be amended slightly to avoid the need to tie-in the new roof to the existing. However, in addition I understand the whole property needs re-roofing. That will impact on the roost in any case. The re-roofing will need to be phased and covered by a licence from Natural England, as will tying-in of the extension to the roof, if done separately.

A programme of bat activity survey work (dusk emergence and dawn return-to-roost) will be needed prior to the re-roofing and at least one survey is needed prior to the development.

8. Recommendations

These recommendations should be read in conjunction with the conclusions above.

Further discussions are needed with respect to minimising the impact of both the development, and the re-roofing, on bats.

A programme of bat activity survey work (dusk emergence and dawn return-to-roost) will be needed prior to the re-roofing and at least one survey is needed prior to the development.

A licence from Natural England will be needed to cover the re-roofing; and the tying-in of the roof if done separately to the re-roofing.

Further to a conversation had with a Ribble Valley Planning Officer recently, I strongly recommend all necessary bat survey work is done, and a Method Statement written, before the planning application is submitted.

9. References

1. Ed. by Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines - Third Edition. Bat Conservation Trust.

Appendix 1 - Angela Graham's Experience.

- I hold Natural England Class Licences CL21 (Annex B) - Registered Consultant 163 - CL18 and CL16. CL21 covers me to apply for Low Impact Class Licences for clients - a more stream-lined system for quickly obtaining a licence from Natural England when a roost of a small number of common bat species will be impacted-upon by the development. CL18 covers me for survey/consultancy/scientific work. CL16 allows me to do voluntary work with house-holders at domestic properties in certain circumstances, on behalf of Natural England, and to. train new volunteers. I have a supplementary licence to use flash photography in bat roosts (2014/SC1/0160), possess up to 10 live/dead bat specimens (20123429). I have a CL29 licence to disturb barn owls.
- I'm a member of The Chartered Institute of Ecology and Environmental Management.
- I undertake my work in accordance with the principles outlined in the Bat Conservation Trust's "Good Practice Guidelines".
- I have been involved in bat conservation for 30 years, initially as a member of the South Lancashire Bat Group from its inception in 1987 and as a volunteer with the Nature Conservancy Council (NCC) - first licenced in 1989. Later, and for many years, I was Co-ordinator/Chair and Trainer for the South Lancashire Bat Group. I trained the people who currently run the group, one of whom is a Trustee for the Bat Conservation Trust. I was a founder member of the Greater Manchester Bat Group in 2002 and ran the group for 4 years.
- Over the last 23 years I have done increasing numbers of bat surveys on a consultancy basis, firstly part-time, then full time from December 2003.
- My experience at applying-for European Protected Species Licences with respect to bats spans approximately 20 years.
- From 2003 to 2008 I represented the bat groups of the north-west region at national bat worker meetings, hosted by the Bat Conservation Trust.
- I regularly communicate with the Ecologists who advise local authority planners, especially the Greater Manchester Ecology Unit and West Yorkshire Ecology raising concerns about practice and protocols.

Other experience includes:

- Attending bat-worker conferences every year since 1988 (mainly England, some in Wales) plus additional symposia on specific topics such as mitigation and woodland bats.
- Helping with winter surveys of underground hibernation sites in Clwyd and north Lancashire..
- Participating in "Bat Detector Workshops" during the 1990s in different areas of the country, concerned with locating bat roosts and feeding sites/commuting routes.
- Sitting on local council "Wildlife Advisory Groups" (WAGs) in the Greater Manchester area from the early 1990s until around 2005.
- Helping local authorities and the Greater Manchester Ecology Unit formulate their Biodiversity Action Plans for bats.
- Administering the bat casework for English Nature (now Natural England) in the South Lancashire and Greater Manchester areas over 1998-2000.
- Assisting with research involving mist netting, harp trapping and radio-tracking.

- Continuing to attend courses run by recognised experts to ensure I stay up-to date both with respect to bat survey-work and conservation, and issues such as health and safety.
- Re-passing the Construction Site (CITB) Operatives test in June 2017 and last updating my confined spaces training in 2006.
- Contributing to the Bat Conservation Trust's survey standards guidelines.

Other ecological experience includes:

- Bird watching for fun since 1982 with a general interest in wildlife, ecology and conservation for a similar period.
- Attending short courses and field training with respect to grasses, flowering plants, British mammals including water voles, reptiles and amphibians, non-native invasive plant species, Extended Phase 1 Habitat Surveying, National Vegetation Classification, Environmental Impact Assessment and use of GIS.
- Taking part in British Trust for Ornithology breeding bird and associated butterfly surveys annually.
- A year-long sandwich placement assisting with badger research, including radio-tracking.
- Short periods of voluntary work with the Lancashire Wildlife Trust and Royal Society for Protection of Birds.

Appendix 2 - Personally-devised criteria used in assessing risk of roosting (in the absence of obvious evidence at the preliminary survey).

Risk of roosting	Definition	Suggested Action
Nil	Whole of structure/tree can be seen well enough to be sure there are no roosting opportunities.	No need to consider bats further unless development is delayed and potential roosting places might develop in time.
Minimal/ negligible	All or most of structure/tree can be seen well enough to suggest there are few, if any, places suitable for roosting and the location does not provide easy access to potential feeding grounds.	Although roosting is thought to be unlikely and therefore the development is unlikely to impact on the favourable conservation status of bats, a precautionary approach should be taken in relevant areas at the time of the work. Further survey work needed only if development delayed.
Low	Whole of structure/tree can be seen well enough to know there are no more than a few openings that could be used by an individual bat or two and/or these provide access to the sorts of features that are likely to be suboptimal due to materials and/or conditions within (eg unstable temperature); and/or the location provides limited access to potential feeding grounds.	Although regular roosting is thought to be relatively unlikely and the development is unlikely to impact on the favourable conservation status of bats, a single survey at dusk or dawn in favourable weather conditions would be appropriate to accord with good practice. This would reduce the extent to which the judgement is based on speculation. If the findings were ambiguous e.g. possible bat emergence and/or considerable bat activity around the building, the survey would need repeating.
Moderate/ medium	A small number of openings are present in an area of reasonable habitat, and at least some seem likely to provide access to good conditions for roosting bats, and/or a loft/hay-loft is present that appears to have good qualities for roosting but there were limitations to access or no evidence of bats was found at the time. Cellars may be assessed as potentially being suitable for hibernation in winter,	Further work is needed to better assess the abundance of bat activity in the vicinity and whether or not bats seem to make use of the roosting potential available. To accord with good practice a dusk emergence survey and a dawn return-to-roost survey will be necessary. A second inspection of the interior may also be necessary - if the survey was undertaken in winter for example. As the absence of bats on two occasions wouldn't guarantee absence at other

	but the conditions and/or location aren't optimal.	times, possibly including winter, some precautions would be needed at the time of the work and some roosting potential should be retained/re-created. In the case of cellars and equivalent, inspection in winter is necessary. Some work, for example pointing old stone walls, should be avoided in winter.
High	There is at least one feature that is typical of those favoured by bats for regular roosting and it/they provide access to abundant insect food on-site and/or via good links with the wider natural environment. The feature/s could be suitable for use by a maternity colony, either as a main or satellite roost, or by a territorial male in autumn in the case of pipistrelles, or by individuals or small numbers of bats at any time of year, including winter when hibernating.	The extent to which bats of different species make use of the potential available needs to be investigated by carrying-out at least 3 surveys at dusk and/or dawn spaced over the months of May to September inclusive, possibly extending into April or October if weather conditions are favourable. (Air temperature above 8°C and not more than light rain and/or gentle breeze. I generally plan to do surveys only when the forecast is for 10°C or above.) Maternity colonies have largely disbanded by September, but territorial male pipistrelles may be missed without a survey in September and a lot of smaller roosts are discovered at this time of year. As bats could hibernate unseen in winter and/or roost at other times not covered by the survey work, appropriate precautions would be needed at the time of the work along with maintenance of appropriate potential roosting places.
High - hibernation only	Cave-like places with stable conditions and high humidity, such as cellars can be used for hibernation in winter.	High-risk potential hibernation sites need at least 3 inspections spaced over the winter months as bats will move between sites depending on the weather conditions.

Appendix 3 - Recommendations for further survey work when the findings of the preliminary survey were negative.

Bat Conservation Trust

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey[a] (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.[b]	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.[b]

[a] Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appr... providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildin... in the category.

[b] Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recomme... surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Taken from "Bat Surveys for Professional Ecologists: Good Practice Guidelines", 3rd Edition (2)

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September[a] with at least one of surveys between May and August[b]	May to September[a] with at least two of surveys between May and August[b]

[a] September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more Northerley latitudes, which may reduce the length of the survey season.

[b] Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

Taken from "Bat Surveys for Professional Ecologists: Good Practice Guidelines", 3rd Edition (2)

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Angela Graham Bat Consultancy Service

3201906 47P

Bat Survey Report (preliminary day-time survey):

Garage at 12 Ribchester Road,
Wilpshire,
BB1 9JH

OS grid reference:
SD 6863 3251

Commissioned-by:
Asif Chaudhary

Survey Date: 18/10/18

Report Date: 26/10/18

Table of Contents

1. Summary.

(This summary should be read in conjunction with the conclusions and recommendations.)

This detached garage was surveyed prior to conversion to a granny flat.

It is in an area where the pipistrelle bat is common. There is good feeding habitat immediately available and linking well with feeding habitat further afield. A range of other bat species is likely to occur within 1km.

The garage has minimal roosting potential, but there was clear evidence of a roost at the gable eaves of the nearest part of the closely-adjacent house.

There appears to be access available to a traditional, open roof-void, raising the possibility of use by a typical loft-dwelling species of bat such as the brown long-eared.

The roof-void should be inspected to attempt to establish the species involved, possibly via dna analysis of droppings if appropriate, and whether or not use seems likely to be by a maternity colony with dependent young in summer.

In the meantime it should be assumed that noise and vibration in the course of the development may need to be avoided, as a precaution, during the main maternity colony period of May and August inclusive. Ideally, at least the early part of September would be avoided also.

Otherwise all that is required is a precautionary approach by contractors working on the garage, who should stop work and seek advice in the unlikely event they encounter a bat. The slightly rotted fascia should be removed by hand with care.

Important note to client:

No future remedial work should be done to the part of the house containing the roost, including within the loft, without the input of a bat specialist. Any work likely to impact bats or their roost/s directly or indirectly, would need to be approved by Natural England in order to be certain of not committing an offence. This includes re-roofing, roof-repairs, repairs to/replacement-of facsias/soffits, re-pointing of verges and gaps into walls, and works generating noise and/or vibration in the vicinity of the roost.

2. Introduction

I was asked to assess the importance of this building to bats as part of the planning process, prior to its conversion to a granny flat.

This is a detached, modern garage:

Side (south-western) and front elevations

It is in a sub-urban location in close proximity to mature trees. It is about 100m from wooded railway embankments to the east, which link well with a golf-course and fields with hedge boundaries:

Location of property indicated by red circle

The nearest water body is about 1200m away to the south-east.

The pipistrelle bat (2 species: *Pipistrellus pipistrellus* - the common pipistrelle, and *Pipistrellus pygmaeus* - the soprano pipistrelle) is common and widespread in the area.

Roosts of these species can occur in any building that provides suitable roosting crevices, with the risk of bat presence increased by close proximity to good bat feeding habitat and commuting routes; for example tree-lines, hedges, woodland, scrub and water courses and bodies. The bats use different roosts at different times of year, sometimes singly and sometimes in large groups of females with dependent young. They can move frequently and unpredictably between the roost sites known to them. The majority of house-holders with a roost of this species are unaware of it.

In summer females gather together each with their single off-spring in, sometimes large, maternity colony groups. Disturbance can cause the abandonment of babies (pups). In autumn when the young are independent, females visit males to mate. In winter the bats hibernate and rousing from hibernation - a slow process - can result in a depletion of fat reserves that may compromise the bats' ability to survive the winter. Females become pregnant in spring when their food (insects) becomes available again.

Other species that will inevitably occur within 2 kilometres are the brown long-eared (*Plecotus auritus*) - the species most likely to leave evidence of roosting within lofts and whiskered (*Myotis mystacinus*)/Brandt's (*Myotis brandtii*), which are hard to separate without dna analysis. Other species likely to occur include the Daubenton's (*Myotis daubentonii*), noctule (*Nyctalus noctula*) and Natterer's (*Myotis nattereri*) possible.

3. Bats and the Law

All British bats and their roosts are legally protected under the Wildlife and Countryside Act of 1981 (as amended) and the EC Habitats Directive of 1994 as implemented by the Conservation of Habitats and Species Regulations 2017.

Where a development will destroy a bat roost, a Low Impact Class Licence or a European Protected Species Licence (Mitigation Licence) is required before the roost can be interfered with in any way. The former applies in cases where only small numbers of common species of bat are using the building within certain parameters. It usually takes approximately 2 weeks for these licences to be issued, whereas the turn-around time for a full European Protected Species Licence is approximately 7 weeks once the application has been submitted. Any licence issued is a legally binding document.

Licences can only be issued providing planning permission has been granted, where applicable.

When a roost is found, both the bat consultant and the planners have to apply the "three tests" required by Natural England before issuing planning consent. Essentially these are:

- That the development is necessary for the purpose of "preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequence of primary importance for the environment";
- That there is "no satisfactory alternative";
- That the action authorised "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range".

N.b. The way in which the necessity is assessed includes whether the client has an alternative that it would be reasonable to expect them to adopt.

Necessary mitigation and compensation measures to ensure the favourable conservation status of bats will be maintained, would include appropriate timing and methodology for the work, including details of how the bats will be provided-for in the long term.

Planners are required by the Government to satisfy themselves before granting planning consent that it would be possible for a licence to be obtained if necessary. Accordingly they are obliged to apply the three tests before issuing consent. For this reason enough survey work has to have been undertaken that the planning authority can evaluate whether or not the three tests can be satisfied and what degree of compensation/enhancement is necessary. To avoid delays in obtaining consent it is in the client's best interest to find out sooner rather than later whether any bat roosting issues need to be addressed.

Natural England, the Government body responsible for administering the law relating to bats, have issued guidelines to planners on how to proceed with respect to bats

Outside the planning system, the onus is on developers/members of the public, to have sufficient investigations undertaken to satisfy themselves (and the authorities in the event of a subsequent investigation), that their actions are unlikely to be in contravention of bat legislation.

N.b. **It should always be remembered that bats often roost in places not anticipated by a lay person, such as modern buildings, trees with cavities, and bridges. Some leave no signs in lofts, as they roost underneath external features such as roof slates, ridges, weather-boarding and cladding.**

In the case of a building, tree or other feature not already known to be a bat roost, if bats are found during the course of work, contractors are legally obliged to stop work and seek advice. This should be from an appropriately experienced and licenced bat ecologist.

Additional Relevant Legislation and Policy.

Between 1995 and 2010 certain more vulnerable habitats and species were the subject of National or Local Biodiversity Action Plans. This strategy for the protection of biodiversity has been superseded by UK post-2010 Biodiveristy Framework, which is largely now implemented at county level. Internationally The Convention on Biodiversity produced a Strategic Plan for Biodiversity 2011-2020. Further to this the EU Biodiversity Strategy was launched in 2011.

Section 41 of the Natural Environment and Rural Communities Act 2006 lists species "of principal importance for the purpose of conserving biodiversity". The list was up-dated in 2014 and includes the brown long-eared bat (*Plecotus auritus*), noctule (*Nyctalus noctula*) soprano pipistrelle (*Pipistrellus pygmaeus*) and 4 other bat species.

The National Planning Policy Framework of 2012 states that "the planning system should contribute to and enhance the natural and local environment" by a number of means, including "minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks... ."

4. Survey

I made a daytime visit on **18/10/18** to undertake a preliminary survey of the building, assess its likely importance to bats and advise whether or not a precautionary approach or further survey work is needed. As it was in close proximity to the main house, I also assessed those parts of the house adjacent to the garage, from the outside, for bat roosting potential.

Having been involved with bat survey work for 30 years and consultancy work for 20years, it is always my objective to carry-out my work in a manner consistent with accepted Good Practice Guidelines (1) and consistent with the code of practice of the CIEEM. I hold Natural England Class Licences CL21 (Annex B), 18 and 16. Amongst other things these cover me to apply for Low Impact Licences for clients and undertake bat survey work. I have a supplementary licence to photograph bats in roosts and a CL29 Barn Owl Class Licence. My credentials are expanded-upon in Appendix 1.

As far as possible, I surveyed the building inside and out with the aid of surveyor's ladders, 2 million candle-power torch, camera with 6x optical zoom and binoculars (8x42). Head-torch, 10x 50 binoculars, fibrescope (6 and 13mm heads, extendable to 2m), camera with 18x zoom and mirrors were also available if needed.

I was looking for access to potential roosting places and evidence of their use such as droppings, urine spots, staining and scratch marks around entrances, feeding remains and bats - alive or dead.

I also take into consideration the surrounding habitat and the range of bat species it appears likely to support, along with the quality of the habitat linkages with the wider area.

The survey was conducted with the needs of different species of bat over the seasons in mind.

5. Limitations of the survey

This was a preliminary survey to discover whether there are obvious signs of use by bats and to assess potential for use. If potential exists, usually follow-up work is required at dusk or dawn, possibly at a more appropriate time of year. See Appendix 3.

No lofts inside the house were inspected at this visit.

It should be noted that droppings are the sign most frequently found, but they are often deposited in areas that cannot be easily visualised, if at all, and they can turn to powder quite quickly. They are usually soon washed and blown away from exposed external surfaces so evidence of use often doesn't last long; and pipistrelle bats in particular can change roosts frequently. However an assessment has been made of potential bat roosting places associated with the exterior of the building.

6. Findings

The garage has a vaulted ceiling supported by typical, modern trusses. The roof is lined with bitumastic felt and there were gaps at the inner breeze-block wall-heads:

Externally the garage was in good condition, except at the western corner, where the fascia was in deteriorating condition:

In this location there was a gap that would potentially allow bats access to the boxed eaves, though it lacked a place where bats could easily land below to gain entry to the void.

Incidentally it was noted that there was an old wasps' nest at the north-east-facing gable apex:

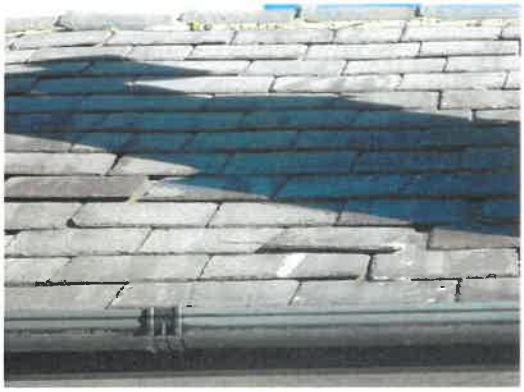
Bat droppings were seen attached to the north-west-facing gable wall of the main house, in close proximity to the garage:

Fig. 2. Garage outlined in red. Approximate location of bat droppings on house wall indicated by red star.

Close proximity of roost (illustrated in red) to garage
as seen from south-west and south-east

Droppings were clearly visible through binoculars, and the photo below also illustrates staining around the entrance from the oils in bats' fur:

There were gaps under roof-slates to this roof also:



7. Conclusions/Discussion

Appendix 2 gives an outline of the criteria used in assessing the level of risk of use by bats.

The garage is largely in good condition. The only potential bat access identified was where the fascia is rotting at the western corner. The access gap available is not the sort of access typically used by bats, though some opportunistic use, especially by the pipistrelle, is not impossible.

I've assessed the risk of roosting a minimal however, requiring a precautionary approach only. Appendix 3 gives the amount of additional survey work needed to accord with good practice, for buildings at greater-than-minimal risk of roosting. The rotting fascia should be removed by hand with care. In the unlikely event a bat is found, work must stop until the advice of the bat consultant has been obtained. This applies even if the bat has flown-off. Any bats found must not be handled unless in imminent danger or clearly injured, in which case they should be picked-up in a gloved hand or soft cloth and transferred to a box with a secure lid and air-holes, until further advice has been sought.

There is an obvious bat roost at the nearest gable apex of the house. Although it is nearing the end of the period when bats are active, before the winter hibernation period, bat droppings could be seen on the wall below the roost entrance. The degree of staining at the entrance suggests use by multiple individuals, possibly over a prolonged period. It is likely the roost is used by a maternity colony gathering of females with dependent young, in summer. As there appears to bat access to a traditional open roof-void, there is a possibility of use by a typical loft-dwelling species of bat such as the brown long-eared. This species is relatively common but much less-so than the pipistrelle.

There are mature trees close to the building and linking well with bat feeding habitat potentially suitable for this, essentially woodland, species.

It would be good practice to check the loft to try to establish the species concerned and whether or not this is a maternity colony roost. A sample of droppings, if accessible, could be sent for dna analysis if necessary to confirm the species definitively.

This roof also provides raised slates of the sort often used by individual bats, including pipistrelles. Such use would probably leave no evidence in the loft, as bats tuck between the slates and/or slates and lining material.

It may be possible to undertake the conversion of the garage without generating sufficient noise and vibration to indirectly impact bats in the known roost, but some care with timing would be appropriate.

In the absence of further investigations with respect to the house roost, no work generating noise and/or vibration should be done between the months of May and August, inclusive. Disturbance to roosting bats during this time could lead to the abandonment of dependent young.

It is important that no remedial work be done to the house in the future, without an assessment first of whether or not it will impact directly or indirectly on bats or their roosts, thus requiring the timing and methodology to be agreed by Natural England, in order to ensure an offence is not committed.

The next loft adjacent, and any other lofts within the house, could also be inspected to establish whether there is any evidence of roosting present.

8. Recommendations

These recommendations should be read in conjunction with the conclusions above.

Have the relevant house-loft checked by a bat specialist, to try to confirm the species using the roost and the status of the roost.

However, it is likely to be necessary to avoid the generation of noise and vibration in the course of converting the garage, during the main bat maternity colony period of May to August - preferably September - inclusive.

Do no future remedial work to the house without the input of a bat specialist. Any work likely to impact bats or their roosts directly or indirectly, would need to be approved by Natural England. This includes re-roofing, roof-repairs, repairs to/replacement-of facsias/soffits, re-pointing of verges and gaps into walls, and works within or adjacent to the loft.

9. References

1. Ed. by Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines - Third Edition. Bat Conservation Trust.

Appendix 1 - Angela Graham's Experience.

- I hold Natural England Class Licences CL21 (Annex B) - Registered Consultant 163 - CL18 and CL16. CL21 covers me to apply for Low Impact Class Licences for clients - a more stream-lined system for quickly obtaining a licence from Natural England when a roost of a small number of common bat species will be impacted-upon by the development. CL18 covers me for survey/consultancy/scientific work. CL16 allows me to do voluntary work with house-holders at domestic properties in certain circumstances, on behalf of Natural England, and to. train new volunteers. I have a supplementary licence to use flash photography in bat roosts (2014/SC1/0160), possess up to 10 live/dead bat specimens (20123429). I have a CL29 licence to disturb barn owls.
- I'm a member of The Chartered Institute of Ecology and Environmental Management.
- I undertake my work in accordance with the principles outlined in the Bat Conservation Trust's "Good Practice Guidelines".
- I have been involved in bat conservation for 30 years, initially as a member of the South Lancashire Bat Group from its inception in 1987 and as a volunteer with the Nature Conservancy Council (NCC) - first licenced in 1989. Later, and for many years, I was Co-ordinator/Chair and Trainer for the South Lancashire Bat Group. I trained the people who currently run the group, one of whom is a Trustee for the Bat Conservation Trust. I was a founder member of the Greater Manchester Bat Group in 2002 and ran the group for 4 years.
- Over the last 23 years I have done increasing numbers of bat surveys on a consultancy basis, firstly part-time, then full time from December 2003.
- My experience at applying-for European Protected Species Licences with respect to bats spans approximately 20 years.
- From 2003 to 2008 I represented the bat groups of the north-west region at national bat worker meetings, hosted by the Bat Conservation Trust.
- I regularly communicate with the Ecologists who advise local authority planners, especially the Greater Manchester Ecology Unit and West Yorkshire Ecology raising concerns about practice and protocols.

Other experience includes:

- Attending bat-worker conferences every year since 1988 (mainly England, some in Wales) plus additional symposia on specific topics such as mitigation and woodland bats.
- Helping with winter surveys of underground hibernation sites in Clwyd and north Lancashire..
- Participating in "Bat Detector Workshops" during the 1990s in different areas of the country, concerned with locating bat roosts and feeding sites/commuting routes.
- Sitting on local council "Wildlife Advisory Groups" (WAGs) in the Greater Manchester area from the early 1990s until around 2005.
- Helping local authorities and the Greater Manchester Ecology Unit formulate their Biodiversity Action Plans for bats.
- Administering the bat casework for English Nature (now Natural England) in the South Lancashire and Greater Manchester areas over 1998-2000.
- Assisting with research involving mist netting, harp trapping and radio-tracking.

- Continuing to attend courses run by recognised experts to ensure I stay up-to date both with respect to bat survey-work and conservation, and issues such as health and safety.
- Re-passing the Construction Site (CITB) Operatives test in June 2017 and last updating my confined spaces training in 2006.
- Contributing to the Bat Conservation Trust's survey standards guidelines.

Other ecological experience includes:

- Bird watching for fun since 1982 with a general interest in wildlife, ecology and conservation for a similar period.
- Attending short courses and field training with respect to grasses, flowering plants, British mammals including water voles, reptiles and amphibians, non-native invasive plant species, Extended Phase 1 Habitat Surveying, National Vegetation Classification, Environmental Impact Assessment and use of GIS.
- Taking part in British Trust for Ornithology breeding bird and associated butterfly surveys annually.
- A year-long sandwich placement assisting with badger research, including radio-tracking.
- Short periods of voluntary work with the Lancashire Wildlife Trust and Royal Society for Protection of Birds.

Appendix 2 - Personally-devised criteria used in assessing risk of roosting (in the absence of obvious evidence at the preliminary survey).

Risk of roosting	Definition	Suggested Action
Nil	Whole of structure/tree can be seen well enough to be sure there are no roosting opportunities.	No need to consider bats further unless development is delayed and potential roosting places might develop in time.
Minimal/ negligible	All or most of structure/tree can be seen well enough to suggest there are few, if any, places suitable for roosting and the location does not provide easy access to potential feeding grounds.	Although roosting is thought to be unlikely and therefore the development is unlikely to impact on the favourable conservation status of bats, a precautionary approach should be taken in relevant areas at the time of the work. Further survey work needed only if development delayed.
Low	Whole of structure/tree can be seen well enough to know there are no more than a few openings that could be used by an individual bat or two and/or these provide access to the sorts of features that are likely to be suboptimal due to materials and/or conditions within (eg unstable temperature); and/or the location provides limited access to potential feeding grounds.	Although regular roosting is thought to be relatively unlikely and the development is unlikely to impact on the favourable conservation status of bats, a single survey at dusk or dawn in favourable weather conditions would be appropriate to accord with good practice. This would reduce the extent to which the judgement is based on speculation. If the findings were ambiguous e.g. possible bat emergence and/or considerable bat activity around the building, the survey would need repeating.
Moderate/ medium	A small number of openings are present in an area of reasonable habitat, and at least some seem likely to provide access to good conditions for roosting bats, and/or a loft/hay-loft is present that appears to have good qualities for roosting but there were limitations to access or no evidence of bats was found at the time. Cellars may be assessed as potentially being suitable for hibernation in winter,	Further work is needed to better assess the abundance of bat activity in the vicinity and whether or not bats seem to make use of the roosting potential available. To accord with good practice a dusk emergence survey and a dawn return-to-roost survey will be necessary. A second inspection of the interior may also be necessary - if the survey was undertaken in winter for example. As the absence of bats on two occasions wouldn't guarantee absence at other

	but the conditions and/or location aren't optimal.	times, possibly including winter, some precautions would be needed at the time of the work and some roosting potential should be retained/re-created. In the case of cellars and equivalent, inspection in winter is necessary. Some work, for example pointing old stone walls, should be avoided in winter.
High	There is at least one feature that is typical of those favoured by bats for regular roosting and it/they provide access to abundant insect food on-site and/or via good links with the wider natural environment. The feature/s could be suitable for use by a maternity colony, either as a main or satellite roost, or by a territorial male in autumn in the case of pipistrelles, or by individuals or small numbers of bats at any time of year, including winter when hibernating.	The extent to which bats of different species make use of the potential available needs to be investigated by carrying-out at least 3 surveys at dusk and/or dawn spaced over the months of May to September inclusive, possibly extending into April or October if weather conditions are favourable. (Air temperature above 8°C and not more than light rain and/or gentle breeze. I generally plan to do surveys only when the forecast is for 10°C or above.) Maternity colonies have largely disbanded by September, but territorial male pipistrelles may be missed without a survey in September and a lot of smaller roosts are discovered at this time of year. As bats could hibernate unseen in winter and/or roost at other times not covered by the survey work, appropriate precautions would be needed at the time of the work along with maintenance of appropriate potential roosting places.
High - hibernation only	Cave-like places with stable conditions and high humidity, such as cellars can be used for hibernation in winter.	High-risk potential hibernation sites need at least 3 inspections spaced over the winter months as bats will move between sites depending on the weather conditions.

Appendix 3 - Recommendations for further survey work when the findings of the preliminary survey were negative.

Bat Conservation Trust

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey[a] (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.[b]	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.[b]

[a] Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appro providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in the category.

[b] Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recomme surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Taken from "Bat Surveys for Professional Ecologists: Good Practice Guidelines", 3rd Edition (2)

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September[a] with at least one of surveys between May and August[b]	May to September[a] with at least two of surveys between May and August[b]

September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more Northerley latitudes, which may reduce the length of the survey season.
Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

Taken from "Bat Surveys for Professional Ecologists: Good Practice Guidelines", 3rd Edition (2)