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**Preliminary Bat and Breeding Bird Survey Report for**
**Barns at Moorgate Farm East,**
**Burnedge,**
**Rochdale,**
**OL16 4QQ.**

OS grid reference:
SD 9201 1044

*Commissioned-by:*
Barbara Taylor

**Survey Date: 5/2/21**
Previous survey dates: 4/7/16 (day), 27/7/16 (dusk)

**Report Date: 9/2/21**
Previous report dates: 18/7/16 (day), 21/9/16 (dusk - amended)

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## 1. Summary.

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

These traditional barns, one with a slate roof and the other with an asbestos roof, have single-storey stables blocks attached. They are in a rural location. They were previously surveyed in 2016, when no evidence of roosting inside the barns was found but a single bat, thought to be a common pipistrelle, emerged from the south-west-facing eaves of the slate-roofed-barn.

Swallows were nesting inside the same barn. It was thought stock dove may also be nesting.

The barns have changed little in the intervening period, though the south-west facing wall where the bat emerged now needs some stabilising remedial work that is likely to impact the roost directly.

There was no evidence to suggest roosting bat bats in the barns, and the slate-roofed barn is now occupied by multiple feral pigeons. Swallows' nests are still present. House sparrows were active in shrubbery and hedgerows. There are gaps at wall-heads where they could nest but no evidence of past nesting was seen.

Externally there are multiple potential roosting places for bats within walls and under roof slates. The likelihood of continued roosting is at least moderate, probably high.

At least two bat activity surveys should be undertaken, appropriately spaced over the bat activity survey season. The extent to which birds nest, besides pigeons, can be assessed simultaneously.

Further recommendations will be made based on the findings, but it is likely the site will need to be registered with Natural England under the Low Impact Licencing Scheme. To accord with the biodiversity objectives of the National Planning Policy Framework compensatory provision should be made for the inevitable loss of additional bat roosting potential in the course of pointing walls and re-roofing. Similarly provision should be retained/created for swallows and/or house sparrows if they nest here. Swallows are dependent on buildings they can enter in flight and that have appropriate ledges for nesting-on; making it hard for them to relocate when a nesting site is lost. Swallows already use an adjacent stables block which was not included in my formal remit. The house sparrow is a biodiversity priority species.

Care should be taken when planning any lighting on the site, to ensure any potential roosting features retained/provided are appropriately shielded.

## 2. Introduction

I was asked to update a previous assessment of the importance of these farm buildings to bats and breeding birds, undertaken in summer 2016. A single bat - thought to be a common pipistrelle (*Pipistrellus pipistrellus*) - emerged at a dusk emergence survey, subsequent to the day-time assessment. A second bat activity survey was recommended to accord with good practice.

The planning consent issued following the survey work, has since expired. I understand it is still proposed to sell the property with planning consent for conversion.

Incidentally I comment on any issues discovered with respect to other protected/priority/invasive species and species of conservation concern.

These are a pair of stone barns: one with a slate roof, the other with asbestos:



South-eastern and north-eastern and elevations

The slate-roofed barn has a two-storey extension:



North-western and south-western elevations

There are single-storey stables attached too:





I understand two adjacent stables blocks are not included in the development proposal:





The site is shown below:




Site outlined in red, buildings surveyed outlined in orange

The site is in a rural location about 500m from a stream with wooded banks, to the south-west:

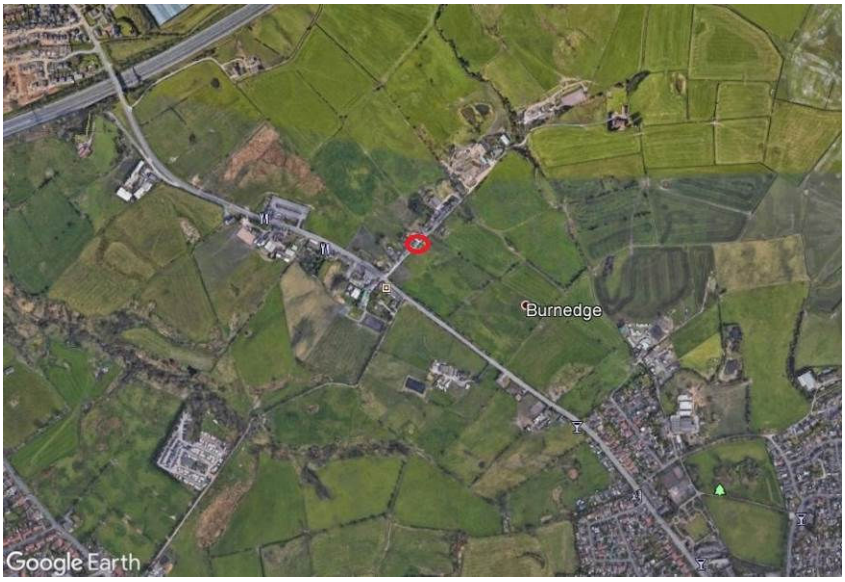


Fig. 1. Location of site indicated by red circle

The pipistrelle bat (2 species but especially *Pipistrellus pipistrellus*) is common and widespread in the area.

Roosts of this 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.

A data search from the National Biodiversity Network discovered only common pipistrelle bats recorded within 2kms.

Other species likely to occur within 2 kilometres include the whiskered (*Myotis mystacinus*)/Brandt's (*Myotis brandtii*), which are hard to separate without dna analysis and the brown long-eared (*Plecotus auritus*) - the species most likely to leave evidence of roosting within barns and lofts.

A search of DEFRA's Magic database discovered that a bat European Protected Species licence had been granted for a development about 2kms away, with the next nearest about 2.5kms away. .

*Breeding birds.*

Buildings generally can be used by birds of conservation concern (1), such as the house sparrow (*Passer domesticus*), house martin (*Delichon urbicum*), swift (*Apus apus*) and starling (*Sturnus vulgaris*). The house sparrow and starling are both listed in Section 41 of the Natural Environment and Rural Communities Act (NERC) as species "of principal importance for the purpose of conserving biodiversity".

Farm buildings in particular are often used by swallows (*Hirundo rustica*) for nesting and can be used by barn owls (*Tyto alba*). The barn owl has special protection as a "Schedule 1" species. These buildings can be used by other birds of conservation concern such as stock doves (*Columba oenas*) and kestrels (*Falco tinnunculus*) as well as more common species species such as the pied wagtail (*Motacilla alba*) jackdaw *(Corvus monedula)*, wren (*Troglodytes troglodytes*), blue tit (*Cyanistes caeruleus*), great it *(Parus major)*, robin (*Erithacus rubecula*) and blackbird (*Turdus merula*).

## 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.

*Breeding birds.*

The Wildlife and Countryside Act of 1981 gives protection to the nests of all wild birds whilst being built or in use, including by newly fledged birds that have not left the immediate vicinity of the nest. The bird nesting season is generally considered to be 1st March to 31st July for most species but can extend a number of weeks either side of this depending on the species concerned and weather conditions in that particular year. Natural England cite the nesting season as being 1st March to 31st August.

A consortium of organisations, via their report on “The population status of birds in the UK: Birds of Conservation Concern 4 (2015)” have listed species according to their conservation need based on red, amber, green basis, where red is of the highest conservation concern.

The barn owl (*Tyto alba*) is protected under Schedule 1 of the Wildlife and Countryside Act 1981. In the context of development, this gives protection to the birds, their nests and eggs and includes protection from disturbance whilst nesting. The birds are protected whilst at or near a nest, with “near” generally being interpreted as within or just outside the building (2, 3).

*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 (4) 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 **5/2/21** 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.

In this case it was already known that potential existed and a single bat had been roosting in 2016.

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 (5) 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.

With respect to bats 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.

I also looked for evidence of nesting by birds, including barn owls.

Incidentally I comment on any relevant issues discovered with respect to bat feeding habitat and commuting routes, possibly including likely roosting sites nearby, as

well as any relevant findings with respect to other protected/invasive species, biodiversity priority species and species of conservation concern.

## 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.

Stables were occupied by horses so not entered.

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 buildings.

There are additional limitations to undertaking a bat survey in winter, when bats are hibernating and largely inactive. Droppings from the summer may no longer be evident.

As bats often roost in crevices in winter, and are particularly hard to locate when hibernating, the report highlights the areas that could be used by bats in winter without their presence necessarily being obvious.

The survey was carried-out outside the accepted bird nesting season, but evidence of pat nesting can usually be found in the case of species such as the barn owl and swallow.

## 6. Findings

The barn with slate roof has a hay-loft and this was accessed. In 2016 nesting was observed by what, at the time was thought to be stock dove (*Columba oenas*) - a species on the amber list of conservation concern. However the barn is now home to multiple feral pigeons (*Columba livia*), making it likely that the species seen in 2016 was also feral pigeon.

Swallows were nesting in 2016 and nests are still present:




The client is of the opinion that swallows no longer nest because of the pigeons, but swallows are very faithful to traditional nesting sites. They nest also in the larger of the detached stables blocks not formally included in my remit.

There was no evidence to suggest bats have roosted in the hay-loft area, though this is a traditional barn with easy access available for bats in flight:




The hay-loft is no longer used for storing hay however. The roof is lined with bitumastic felt.

The barn with the asbestos roof does not have a hay-loft. There is a small mezzanine over some of the stables, used for storage. The roof is unlined and lacks a ridge beam:





Externally, in 2016 at bat emerged at the south-west-facing eaves:





Location of bat roost shown by red arrow (2016 photos).

The entrance to the bat roost is unaltered:



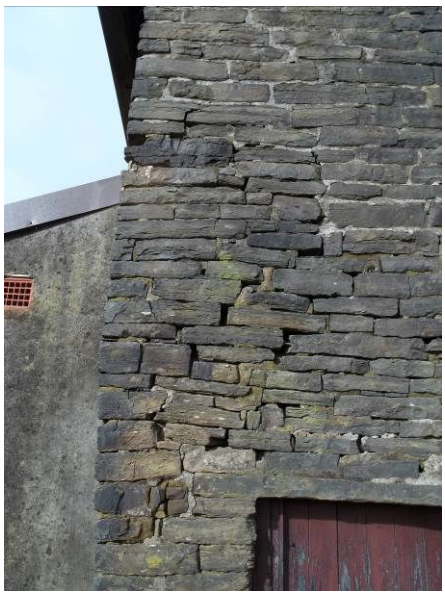
At the time it was thought it was possible to convert the barn without impacting the roost. Now however, the wall is bulging outwards and will need some remedial work.

There is larger gap at the wall-head on the other side of the adjacent downspout:



There are gaps into the southern and eastern elevations of this barn:





There are gaps under roof-slates:





There are a few gaps into the northern wall of the asbestos-roofed barn:





Bats can access the east-facing wall-head and there's likely to be similar access in other areas that couldn't be well-seen:



There is a gap where the two barns meet on the eastern side of the complex:



There is shrubbery in the western corner of the site and remnants of hedgerows in the lane adjacent. A lot of activity by the house sparrow was noted. This species nests in such places but also can nest on wall-heads. It appears suitable access exists but no evidence of nesting was seen in association with the buildings.

A pied wagtail was seen nearby. This is a species that sometimes nests in association with roofs.

I was informed that little owls (*Athene noctua*) are known to nest in association with a neighbour's property and are sometimes seen. These often make use of farm buildings for nesting.

## 7. Conclusions/Discussion

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

A bat emerged from the slate-roofed barn in 2016 and there was a degree of bat activity around the barn and in the lane. There is still a range of potential bat roosting places associated with the exterior of the buildings and it is likely roosting will still take place. Only one bat activity survey was undertaken previously, so it is unknown whether additional bat roosting places would have been found in the course of additional work.

These building have at least moderate risk of roosting activity. There should be a minimum of two bat activity surveys between the months of May and September inclusive to accord with good practice. See Appendix 3. Further recommendations will be made based on the findings.

As bats use buildings in different ways over the course of the season, often changing roost; if more than one survey is necessary it is my usual practice to undertake one in both the first and second half of the accepted bat survey period and to separate them by at least a month. This also reduces the chance of missing pipistrelle mating roosts, if present, in the later part of the summer. However in planning the surveys, enough time should be allowed that a third survey can be undertaken if necessary before the end of September. This would accord with good practice requirements for a building at high risk of use by bats. Whether or not it is needed will be assessed based on the finding of the other surveys. There should not be more than one survey in September and the latter two surveys would need to be separated by a minimum of 2 weeks.

Unless the barn is sold prior to the 2021 bat survey season (May to September inclusive), the extent of survey work in 2021 will ideally be sufficient to inform the purchaser of the barns what their current status is with respect to roosting bats.

If the barns are sold after the 2021 season and the development does not then take place until a subsequent summer, or beyond, some or all of the bat activity survey work is likely to need up-dating.

If continued roosting by small numbers of common species of bat is confirmed, unless the roost/s will be unaffected by the development, the site will need to be registered under Natural England's Low Impact Licencing Scheme. It will be expected to retain the roost in as close to like-for-like condition as possible. To accord with the biodiversity objectives of the National Planning Policy Framework the planning authority are likely to require additional provision to be retained or created to help maintain or enhance the roosting potential of the properties. Integrated bat boxes can be utilised if necessary. See Appendix 4.

Similarly the needs of nesting birds will need to be addressed, particularly swallows if still present; due to their dependence on the interior of buildings for nesting. Existing stables blocks are already used by swallows so an additional out-building of some sort is likely to be recommended, if the development isn't to have a negative impact on this species. Swallows will need to be able to access it in flight and have suitable nesting ledges available.

Whether or not swallows still nest can be assessed during the additional bat survey work, along with an assessment for other species such as the house sparrow and pied wagtail. Birds' nests are only protected whilst being built and in use, including while newly fledged young are still in the vicinity; but house sparrows are a biodiversity priority species so should be provided-for via appropriate nest boxes, if nesting sites will be lost.

Conversely, bat roosts are protected whether or not bats are there at the time.

The advice of a specialist company should be sought with respect to the feral pigeons, as they can nest outside the accepted main season.

Care should be taken when planning any lighting on the site, to ensure any potential roosting features retained/provided are appropriately shielded (6).

## 8. Recommendations

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

Have a bat activity survey undertaken in the first half of the main bat activity season (May to August inclusive). Have a second undertaken in the second half, at least a month after the first, and allowing time for a third if it becomes necessary based on the findings of the first two.

Whether or not birds other than feral pigeons use the building for nesting can be assessed at the same time.

There should be no work or changes to the buildings until the survey work has been completed.

Further recommendations will be made based on the findings.

## 9. References


1. Eaton, M. A. et al (2015). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds 108: 708-746.
2. The Barn Owl Trust. (2012) Barn Owl Conservation Handbook. Pelagic Publishing.
3. The Barn Owl Trust. (2002). Barn Owls on Site – a Guide for Developers and Planners. English Nature.
4. Department for Communities and Local Government (2012). National Planning Policy Framework.
5. Ed. by Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines - Third Edition. Bat Conservation Trust.
6. Bat Conservation Trust (2018). Guidance Note 8/18: Bats and Artificial Lighting in the UK.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## **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.<br>In the case of cellars and equivalent, inspection in winter is necessary.<br>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.)<br>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.<br>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.

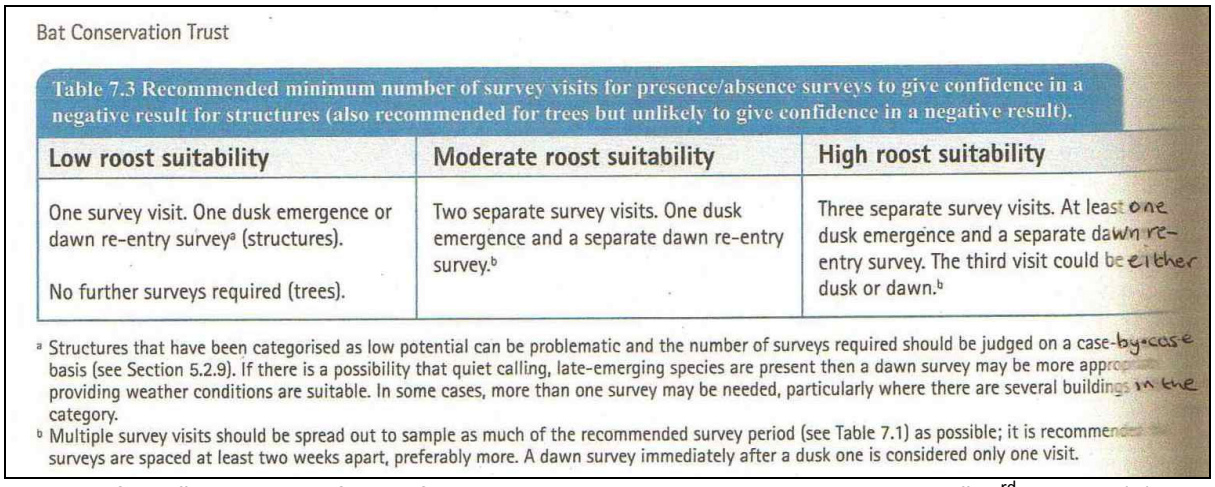

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**Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).**

| Low roost suitability | Moderate roost suitability | High roost suitability |
|---|---|---|
| One survey visit. One dusk emergence or dawn re-entry survey[a] (structures).<br><br>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 appropriate 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 recommended that 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)

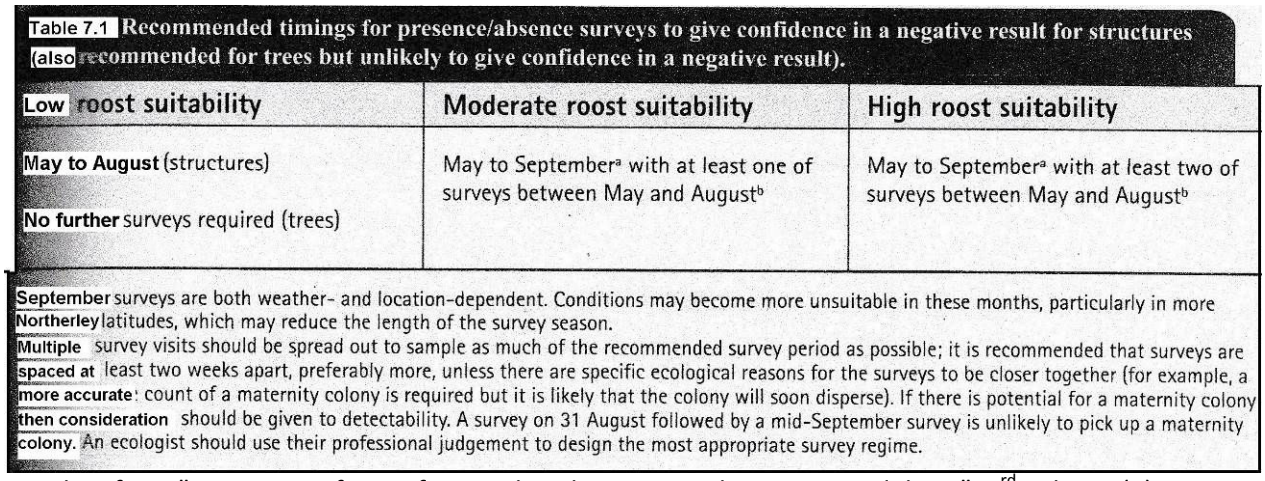


**Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).**

| Low roost suitability | Moderate roost suitability | High roost suitability |
|---|---|---|
| **May to August** (structures)<br><br>**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)

**Appendix 4** – examples of available integrated bat boxes

*N.b. Other boxes are available but the advice of the bat consultant should be sought before selecting one of these.*

An internet search for "integrated bat boxes" will readily bring up suppliers of these boxes

EcoSurv Habibat
http://www.habibat.co.uk/category/bat-boxes

"Designed to be built into an exterior wall and is available in a variety of faces to match the building. Standard facings of red or blue brick - ideal for new builds - are normally available from stock, or boxes can be made to your specific requirements with a face of brick, stone, timber, or plain (for rendering). Supplied unpointed."



Brick example of Ecosurv Habibat. Can also be faced with stone.

Green and Blue Bat Block/Brick
https://www.greenandblue.co.uk/products/bat-block-bat-brick



Green and Blue Bat Block/Brick in situ

## Forticrete

*Available from building supplies merchants*



Above and below - standard colours available. Others available to order





Example of Forticrete boxes in situ

## Ibstock Ecozone

http://www.ibstock.com/sustainability-ecozone.asp




**Enclosed Bat Box B**

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work




**Enclosed Bat Box C with engraved motif**

- Designed specifically for the pipistrelle bat
- Available in smooth blue, smooth gold & smooth red
- Attractive "bat" motif
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work

| | Sizes | Durability |
|---|---|---|
| Eco Habitats for Bats - Technical Data: A | 215mm x 65mm | F2 S2 - Fully Frost Resistant |
| Eco Habitats for Bats - Technical Data: B | 215mm x 215mm or 215mm x 290mm | F2 S2 - Fully Frost Resistant |
| Eco Habitats for Bats - Technical Data: C | 215mm x 215mm or 215mm x 290mm | F2 S2 - Fully Frost Resistant |

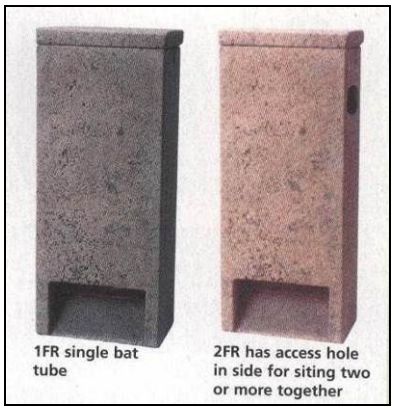




Above: typical unit in situ. Photo © Angela Graham

## Schwegler 1FR/2FR

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