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Background and Supporting Information

Sheepfold Farm, Balderstone, Lancashire

BACKGROUND AND SUPPORTING INFORMATION

Instructions

Investigate the presence or absence of bat species as part of a planning application for the conversion of a barn and demolition and reconstruction of a farmhouse at Sheepfold Farm, Balderstone, Lancashire.

Professional responsibility

This report has been commissioned and the actions of the surveyor have been made in accordance with the Code of Professional Conduct for the Institute of Ecology and Environmental Management. (www.ieem.org.uk) and the Royal Institution of Chartered Surveyors (www.rics.org.uk)

Accuracy of report

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, bats are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and or in their interaction with bat species. If bats are found during a work programme and continuing the work programme could result in their disturbance, injury or death either directly or indirectly an offence may be committed.

Bats may only be disturbed, injured or killed under license. This report does not convey the authority to undertake work which may disturb, injure or kill bats of any species.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech have been awarded the Gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

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A Executive Summary

A survey was undertaken for the presence or absence of bat species as part of a planning application for the conversion of a barn and the demolition and replacement of a farmhouse at Sheepfold Farm, Balderstone, Lancashire.

A bat survey was requested following guidance under Regulation 39 of the Conservation (Natural Habitats, &c.) Regulations 2010, the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and the National Planning Policy Framework (NPPF).

A survey was undertaken by an experienced, licensed surveyor and field assistant(s) following a methodology which would be likely to identify past or current use of the site by bat species.

The site surveys on the 14th June and 1st August 2012 found what are believed to be two small roosts, one of Common Pipistrelle (*Pipistrellus pipistrellus*) in the barn and one for *Pipistrelle* or *Myotis* sp. bats in the farmhouse.

As bats were identified as roosting at the site and one roost will be altered and another will be destroyed by the proposal, a Natural England license will be required to cover work on the buildings.

This report details the survey methods and impact evaluations.

B Introduction

B1 Background to activity/ developments

A planning application is to be submitted for the conversion of a barn into a residential dwelling and the demolition of a farmhouse, which will be replaced by a new residential dwelling. A second open barn will also be demolished.

B2 Full details of proposed works on site

The barn at the centre of the site will be renovated and converted into a residential dwelling, whilst the farmhouse will be demolished to make way for a newly constructed dwelling. A further open barn will be demolished.

An EPS license is to cover the demolition of the farmhouse and conversion of the barn as both were identified in 2012 as being used by a small number of bats.

C Survey and Site Assessment

C1 Pre- existing information of species at survey site

There are no previous records of bats at the site.

C2 Status of species in the local/ regional area

There is a single record of a Common Pipistrelle (*Pipistrellus pipistrellus*) within 1km of the site. There are numerous further records in the wider area for this species as well as records of Soprano

Pipistrelle (*P. pygmaeus*).

Having visited the area we are of the opinion that the records on the Envirotech and NBN datasets are likely to be under representative of the species of bats in the local area.

From the pre-existing records, a review of aerial photography, a field assessment of the area adjacent to the site and the experience of the surveyor, bat species which may occur adjacent to the site are:

- Common Pipistrelle (*Pipistrellus pipistrellus*)
- Soprano Pipistrelle (*Pipistrellus pygmaeus*)
- Whiskered (*Myotis mystacinus*)
- Brandt's (*Myotis brandtii*)
- Alcaholic (*Myotis alcaholic*)
- Daubenton's (*Myotis daubentonii*)
- Noctule (*Nyctalus noctula*)
- Brown Long-Eared (*Plecotus auritus*)
- Natterer's (*Myotis nattereri*)

C3 Objective(s) of survey

To ensure that the proposed development does not affect any bat species which is listed under the Conservation (Natural Habitats, &c) Regulations 2010 which implements the EC Directive 92/43/EEC in the United Kingdom the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000 as it is an offence, with certain exceptions, to:

1. Deliberately capture or kill any wild animal of a European protected species;
2. Deliberately disturb any such animal;
3. In respect of bat species, damage or destroy a breeding site or resting place of such a wild animal;

The survey will identify the likely past and or current use of the site by bat species.

Assess the likely impact of the proposed development on these species.

Provide a basis upon which to propose mitigation (if required) for bat species affected by the development.

C4 Survey area

The site is situated approximately 8km to the North-east of Preston city centre, lying off Balderstone Hall Lane, Balderstone. The habitat adjacent to the site is primarily open improved pasture,

hedgerows and mature deciduous woodland, with the River Ribble flowing to the North.

The Southern section of the barn is of natural stone construction under an unlined slate tile roof, whilst the Northern section is of red brick construction under a slate tile roof.

The farmhouse is constructed from red brick, which is rendered on the Eastern elevation. It is under a lined slate tile roof.

A portal frame agricultural building lies to the South-west.

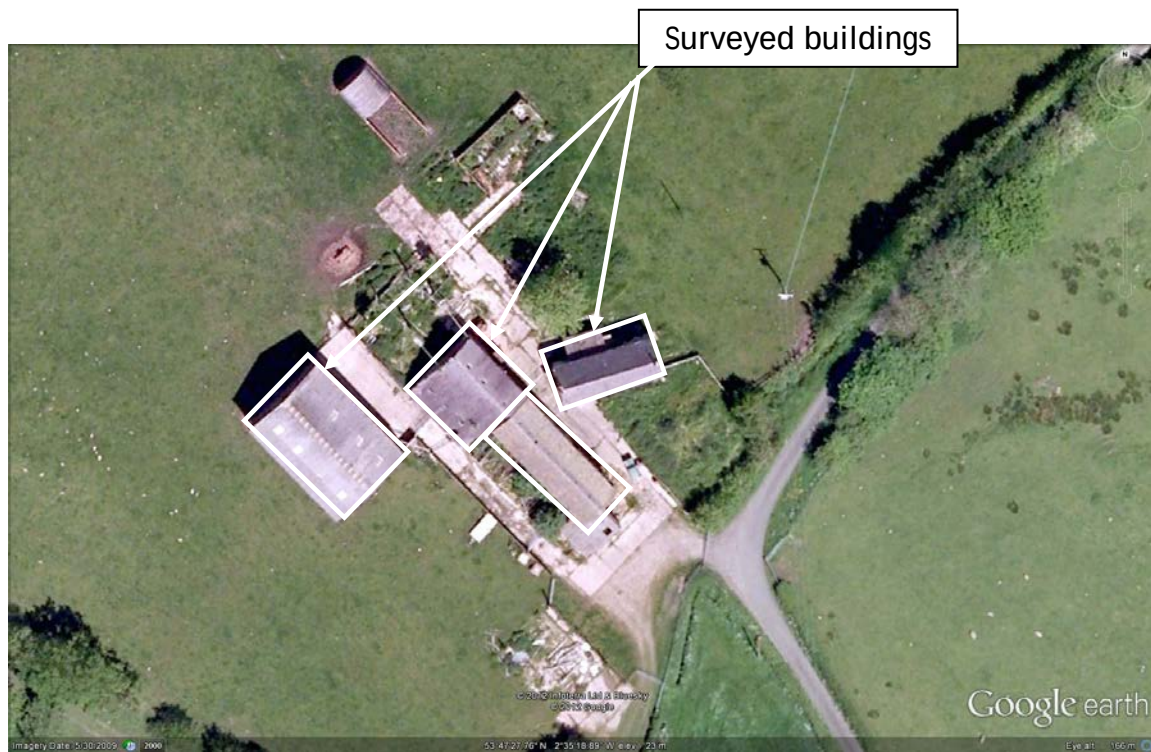


Figure 1. Site location

Well-sealed slate roof



Open window access
into building

Plate 1. South elevation of farmhouse



Collapsed corner of
barn

Plate 2. Southern elevation of barn



Plate 3. Eastern elevation of barn



Plate 4. Open barn to West of site

C5 Habitat description, including roost and surrounding area

The site lies ~8km to the North East of Preston, Lancashire, in Balderstone. The surveyed buildings lie within the grounds of Sheepfold Farm. The site is bordered to the South by mature hedgerows, with open improved pasture to the North, East, West and South. The River Ribble flows to the North of the site, being approximately 200m away at its nearest point. Areas of mature deciduous woodland are located in the local landscape, with substantial areas to the North (~700m), East (~170m) and South West (~800m) of the site as well as scattered mature trees to the South.

It is judged that bats are likely to commute into and out of the site using the hedgerows which border Balderstone Hall Lane and those within the improved pasture which are judged to be of **moderate quality**. The fields in the local area may support foraging bats but they are not structurally diverse and are considered to offer only marginal foraging potential.

Bat activity in this area is likely to be concentrated within the woodland and along woodland edges and hedgerows, with some limited activity over the open pasture.

An annotated satellite image of the surrounding habitat is shown at figure 2.

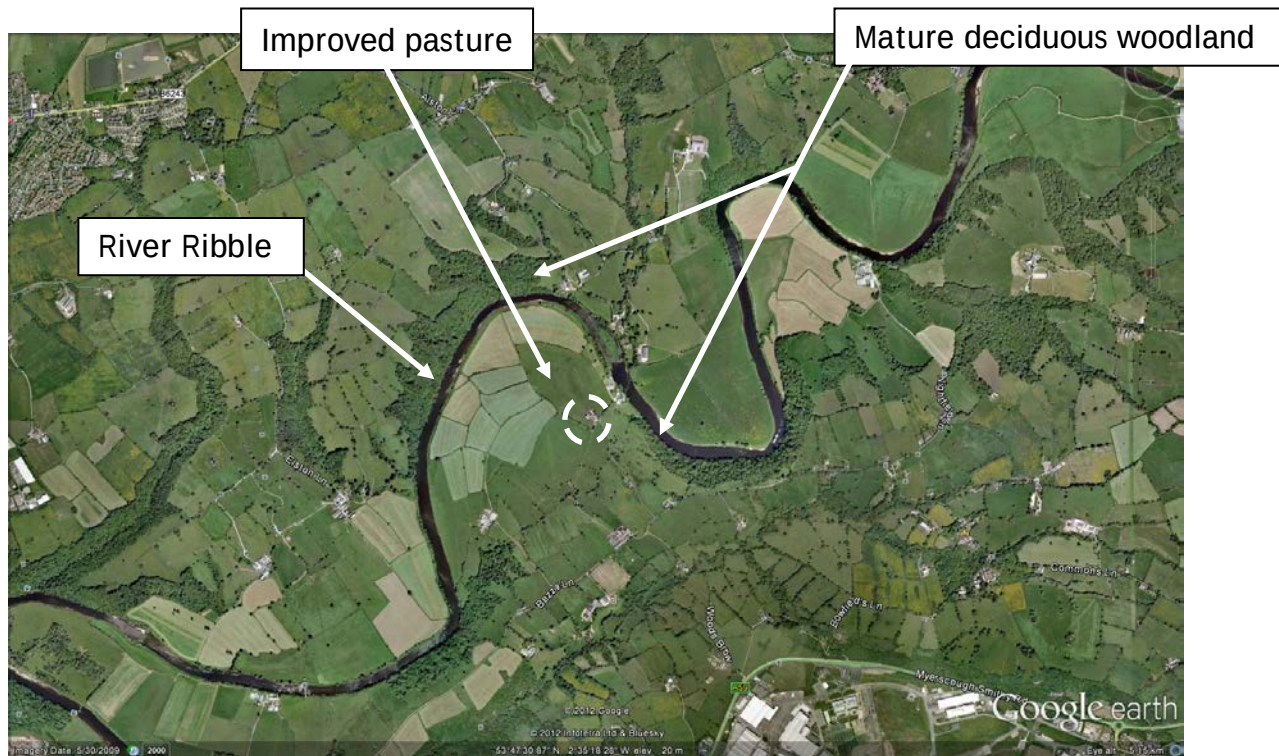


Figure 2. Site and surrounding habitat

C6 Field survey

C6.1 Methods

⇒ Field assessment of adjacent bat feeding and roosting sites made following a review of aerial photography. This allows us to cross check our interpretation of aerial photography with actual habitat on the ground. Satellite and aerial photography does not always reveal landform and or changes in land cropping and buildings.

⇒ Inspection of the walls and eaves using a torch, binoculars and ladders to locate potential bat roosts.

⇒ Inspection of the roof using a torch and binoculars to locate potential bat roosts. Evidence of bats utilising roof structures is often evident in the form of droppings, staining, grease or scratch marks. If the angle of inspection is correct, a torch and binoculars can be used to illuminate and inspect gaps under roof coverings. Uneven lichen or moss growth over a roof due

to differential nutrient inputs from bat droppings and urine are also sometimes indicators of the presence of bats.

⇒ Search of walls, sills, doors and items stored on and in the building for the presence of bat droppings deposited as bats fly inside the internal spaces or as they exit and enter their roosts to forage.

⇒ Search for detritus associated with bat feeding perches and roosts:- These roosts are usually associated with Brown Long-eared (*Plecotus auritus*) bats in roof voids and under eaves.

⇒ Dusk surveys using hand-held bat detectors. The dusk surveys commenced at a time, based on local cloud and light conditions, that emergence of the species of bats likely to be found in the local area would commence. Sufficient time was spent on site during the dusk survey that, in the experience of the surveyor, any bats at the site would have emerged and have been detected.

⇒ The position of the surveyors was optimised to cover all areas of the site which will be affected by the proposed works.

C6.2 Personnel

The surveys were carried out by:

Mr Andrew Gardner BSc (Hons), MSc, MIEEM, MRICS, CEnv, Dip NDEA
Natural England Bat License: All species, all counties
Natural England Barn Owl License: All counties

Mr Jack Sykes BSc (Hons), MIEEM
Natural England Bat License: All species, all counties

Miss Kate Statham BSc (Hons)
Field Surveyor

C7 Results

From the pre-existing records, a review of aerial photography, a field assessment of the area adjacent to the site and the experience of the surveyor, bat species which may occur adjacent to the site are:

- Common Pipistrelle (*Pipistrellus pipistrellus*)
- Soprano Pipistrelle (*Pipistrellus pygmaeus*)
- Whiskered (*Myotis mystacinus*)
- Brandt's (*Myotis brandtii*)
- Alcaethoe (*Myotis alcaethoe*)
- Daubenton's (*Myotis daubentonii*)

- Noctule (*Nyctalus noctula*)
- Brown Long-Eared (*Plecotus auritus*)
- Natterer's (*Myotis nattereri*)

This assessment has been made on the following basis:

Landscapes can be divided into four categories for use by bats; open, closed, edge and water. Each type of landscape category is suitable for use by a different combination of bat species. We would classify the landscape immediately adjacent to the site as “open” and “edge”, within 1km of the site the landscape could be described as “edge”, “water”, “open” and “closed”

Hedgerows down either side of Balderstone Hall Lane and those acting as field boundaries were judged to be the primary commuting routes for bats next to the site. These areas were also judged to be **moderate quality** foraging areas for bats.

The River Ribble, approximately 200m away from site, would be favourable for bats which feed in “water” landscapes such as Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Daubenton's (*Myotis daubentonii*). These species are not always confined to landscapes including water bodies, although they have a strong preference for them. In addition, Alcathoe bats have a preference for foraging in canopies over or near water bodies, so the River Ribble with its adjacent mature woodland would be judged as suitable for this species.

Both Natterer's (*Myotis nattereri*) and Brown Long-eared (*Plecotus auritus*) bats prefer to roost or fly inside enclosed spaces before emerging. There are darkened roof voids in the surveyed buildings and we also judge they would be likely to utilise the adjacent environs as they are sufficiently “closed” for these species.

Noctule (*Nyctalus noctula*) are rarely found roosting in buildings but have been known to do so. These species of bat disperse widely from their roosts, which tend to be in trees, to feed. We would judge it unlikely they would roost in buildings such as those surveyed but are likely to be found in the wider area.

Whiskered (*Myotis mystacinus*), Brandt's (*Myotis brandtii*) and Common Pipistrelle (*Pipistrellus pipistrellus*) are likely to make use of the fields, gardens and hedgerows in the local area to forage, as well as the woodland edge to the North and South of the site.

Site survey inspection – 26th June 2012

Buildings

The exterior walls of the buildings were inspected for gaps, cracks, areas of rotten wood and or signs of bats such as grease marks, bat droppings and feeding detritus. Where appropriate, ladders, binoculars and an endoscope were used to inspect areas above head height.

Barn – The barn is split into 2 distinct halves. The more Southerly half is of stone construction with an unlined slate roof. Intact walls are well-sealed externally, though the South Eastern corner of the barn is collapsed making the internal space very draughty. All areas of the walls could be inspected with a ladder, torch and/or endoscope.

There are wall top gaps though these are also draughty and not considered suitable for use by bats. Internally, the walls are well pointed, with timber joints well-sealed. Some gaps exist around the boarded up windows. Several bat flight droppings were located in the upper floor of the barn.

The Northern section of the barn is of red brick construction, with an unlined slate roof. Access into the roof void of the barn was limited, though no droppings or pellets could be seen from the window space on the Northern elevation.

Farmhouse – The farmhouse is constructed from red brick, which is rendered on the Eastern elevation. Externally, the brick work and rendering appear well sealed, with no cracks or gaps thought to be suitable for roosting bats. There are some small gaps on the roof verge on the Western gable end of the farmhouse which may be suitable for crevice dwelling bats e.g. Pipistrelle species, along with a crack on the wall on this elevation. All areas of the walls could be inspected with a ladder, torch and or endoscope.

A single storey lean to extension was present on the Northern elevation of the farmhouse, this was of brick construction with a dilapidated corrugated metal roof. No signs of previous use by bats could be found such as droppings on ledges, in the crevices, urine staining, lichen build up from the increased nutrients, etc.

The slate tile roof appears to be in good condition with only a few lifted slates which may be suitable for crevice dwelling species. Internally, the roof is lined, though the loft space is not insulated. The apex of the roof was partially cobwebbed and no droppings were located in the void. The loft hatch was open as was the master bedroom window allowing bats and birds free access into both the house and the loft void.

Portal frame barn – A second barn is located to the South-west of the other buildings on site. It is of metal construction with open front and sides. Its metal construction would make it less favourable for bats due to its wide ranging temperature fluctuations – i.e. being very hot when in the sun and very cold in shady or cool conditions, thus it would not create the stable conditions that bats prefer.

Dusk survey- 14th June 2012

Start Time: 21:30

Start Temperature: 12°C

Cloud Cover: 90%

Wind: 2-10mph recorded

Finish Time: 22:30

Finish Temperature: 10°C

21:48 - A single Common Pipistrelle bat was heard to the South of the site

This was the only bat recorded during the survey. However, a number of bats were seen foraging between the hedgerows (which are 2-3m in height) on Balderstone Hall Lane when the surveyors left site. This area would have provided a much more sheltered location for foraging given the gusty weather and exposed location of the development site.

1st August 2012

Start Time: 20:55

Start Temperature: 18°C

Cloud Cover: 85%

Wind: 0 mph

Finish Time: 22:05

Finish Temperature: 16°C

21:28 – Noctule commuting South to North over site

21:29 – 2 x Common Pipistrelle commuting onto site from the West

21:34 – Common Pipistrelle seen foraging between farmhouse and barn as well as flying inside Southern section of barn.

21:35 – Bat emerged from roof verge of Western gable end of farmhouse, *Myotis* Sp. (Suspected Whiskered or Brandts from partial echolocation calls picked up)

21:35 – Noctule commuting South to North over site

21:36 – 2 x Common Pipistrelle observed emerging from ridgeline of barn

21:43 – Noctule commuting South to North over site

21:44 – Bat emerged from roof verge of Western gable end of farmhouse (Suspected Whiskered or Brandts from partial echolocation calls picked up)

21:45 – Noctule commuting South to North over site

21:52 – Noctule commuting South to North over site

21:55 - *Myotis* species (Whiskered or Brandts) bat foraging between barn and farmhouse

21:56 – *Myotis* species (Whiskered or Brandts) bat foraging between barn and farmhouse

The bats observed emerging from the farmhouse were not picked up clearly on the bat detectors. Due to the fact that no evidence of roosting activity was observed in the roof void of the farmhouse coupled with the immediate adjacent habitat, we would judge these bats to be crevice dwelling *Myotis* species (Whiskered/Brandts) or Pipistrelle species bats which sometimes emerge from roosts without using echolocation. The presence of Whiskered/ Brandts foraging around the barn and farmhouse would however be indicative of it being these species which emerged.

There appears to be a distinct commuting route for Noctule bats over the site.

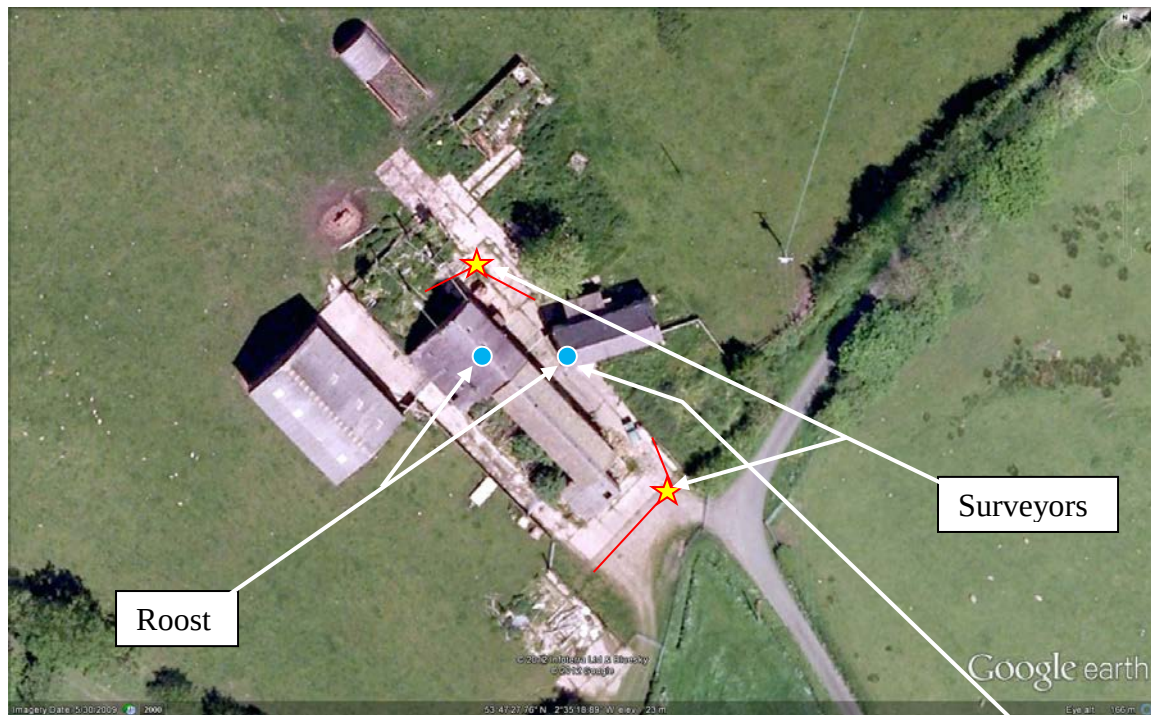
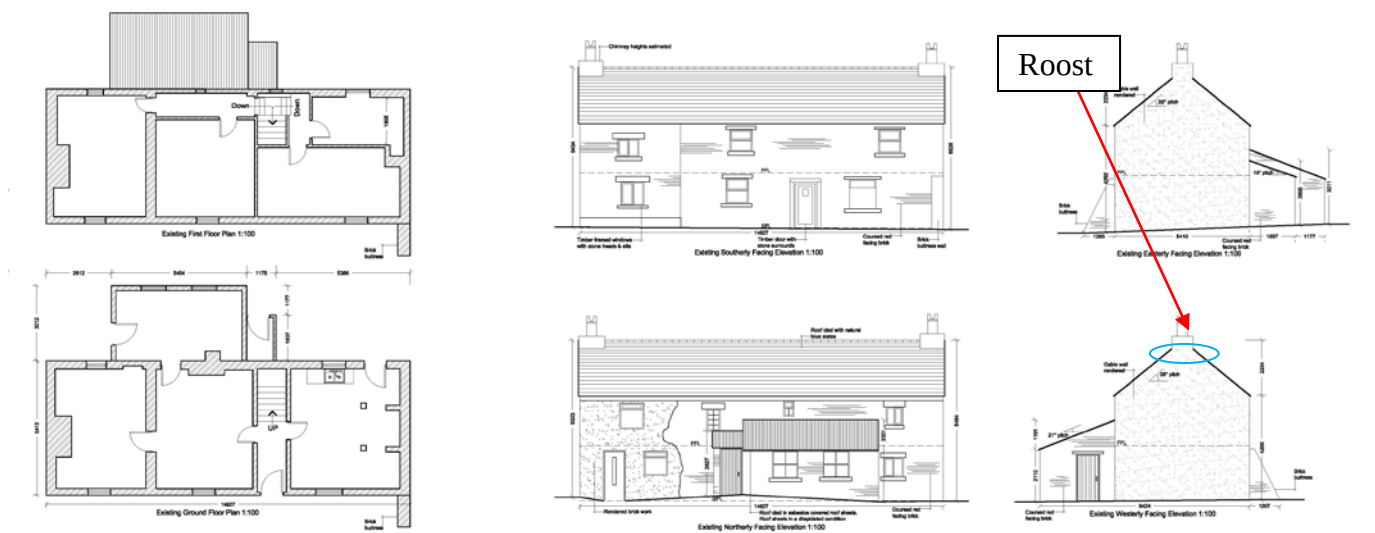


Figure 3. Bat roost and surveyors locations



C8 Interpretation and evaluation

C8.1 Presence/ absence

There is evidence to suggest that the site supports two small bat roosts, one in the Western gable end of the farmhouse and one in the ridgeline of the stone/brick barn.

Mitigation is proposed on a worst case scenario that the site has been used as a roost for low numbers of Common Pipistrelle and crevice dwelling Myotis Sp. bats.

C8.2 Population size class assessment

From a review of adjacent habitat, the maximum number of bats that are likely to use the surrounding area is of the magnitude 10-100 (Medium)

The maximum number of bats likely to use the site is of the magnitude 1-10 (Small)

C8.3 Site status assessment

We are of the opinion that the farmhouse and barn are currently used by a small number of bats and will have a low significance for the species in the area. The availability of other nearby farm and residential buildings as well as mature trees would indicate that there are more suitable sites for maternity roosts and breeding colonies in the local area.

Using Natural England guidelines, Mitchell-Jones (2004) we would regard the disturbance and or loss of the roost to individual crevice dwelling bats at the site to be low in respect of the national and regional significance and distribution of these species. See figure 4.

Conservation significance	Roost status	Mitigation/compensation requirement (depending on impact)
Low ↓ High	Feeding perches of common/rarer species Individual bats of common species Small numbers of common species. Not a maternity site	Flexibility over provision of bat-boxes, access to new buildings etc. No conditions about timing or monitoring
	Feeding perches of Annex II species	Provision of new roost facilities where possible. Need not be exactly like-for-like, but should be suitable, based on species' requirements. Minimal timing constraints or monitoring requirements
	Small numbers of rarer species. Not a maternity site	
	Hibernation sites for small numbers of common/rarer species	Timing constraints. More or less like-for-like replacement. Bats not to be left without a roost and must be given time to find the replacement. Monitoring for 2 years preferred.
	Maternity sites of common species	
	Maternity sites of rarer species	Timing constraints. Like-for-like replacement as a minimum. No destruction of former roost until replacement completed and usage demonstrated. Monitoring for at least 2 years.
	Significant hibernation sites for rarer/rarest species or all species assemblages	
	Sites meeting SSSI guidelines	Oppose interference with existing roosts or seek improved roost provision. Timing constraints. No destruction of former roost until replacement completed and significant usage demonstrated. Monitoring for as long as possible.
	Maternity sites of rarest species	

Figure 4. Guidelines for proportionate mitigation. The definition of common, rare and rarest species requires regional interpretation.

C8.4 Constraints

An adequate level of survey effort could be used to determine the likely level of use and species at the site. Surveyors were able to view the areas of the buildings which from the daytime inspection were considered to offer roosting potential. We do not consider there is a requirement to re-survey the site.

Full co-operation was received from the site owner.

D Impact Assessment without Mitigation

D1 Short term Impacts: Disturbance

We will consider a worst case scenario in addressing potential impacts at the site without mitigation.

No signs of past maternity or gathering roosts were found at the site during the survey. The potential for a maternity or gathering roost in the buildings is judged to be low. Though the presence of a roof void provides the potential for use of the site by void dwelling bats, no evidence of such was found. The primary roosting potential is therefore between the roofing tiles and roof verge on the gable walls. The surveys were undertaken at a time of year when a larger amount of bat activity would be expected in and around the building, should there be a maternity roost on site, than was found. There is unlikely to be a significant impact on a maternity roost which would be a significant in the local area.

As the small roost in the farmhouse will be destroyed by the proposed work, and the barn is being altered, there is the potential for a disturbance to bats in these roosts during the summer when they are most likely to be used. If work were to be undertaken in winter a disturbance to bats would be negligible. Even in summer however, a disturbance to low numbers of common bat species is unlikely to be significant.

Demolition of the farmhouse and alteration of the roost in the barn whilst bats are present may result in their injury or death.

In summary, if work were undertaken over the summer, when the roosts could be used by a small number of common bat species, we consider there would be a risk of injury or killing bats but a low risk of a significant disturbance.

If work were undertaken over the winter, when the roosts are likely to be empty, we consider there would be no risk of injury or killing bats and no significant short term disturbance impacts.

D2 Long term Impacts: Roost Modification

It is likely that all roost will be lost at the site by development without mitigation.

D3 Long term Impacts: Roost Loss

A maternity or gathering roost was not found at the site during the survey. The small numbers of bats found are likely to be bachelor male or non-breeding female. The potential for a disruption to the local bat population through loss of a maternity roost is usually high. This will not occur at this site.

There will be the loss of a bachelor or non-breeding female roost site on the Western gable roof verge of the farmhouse and potential loss of access to a bachelor male or non-breeding female roost under a ridge tiles of the barn. Potential for retention of external access is zero for the farmhouse, due to the

building being demolished, but retention of external access to the ridgeline roost in the barn is possible.

There is a very low possibility of loss of hibernation sites.

The overall impact of loss of the farmhouse and barn roost is considered to be low based on the high number of alternative roost sites likely to be found in the local area and species of bat recorded at the site.

D4 Long Term Impacts: Fragmentation and isolation

There is unlikely to be a disruption to commuting routes or foraging areas at the site. The primary foraging and commuting route next to the site were judged to be the hedgerows surrounding the site. These will not be affected by the development.

The Noctules commuting route over the site are not likely to be impacted due to the height at which this species commutes. The new construction will not be situated in a location that is likely to obstruct commuting routes. It is highly unlikely there would be habitat fragmentation/ isolation from the proposed work.

D5 Post activity interference impacts

Whilst there will be a slight increase in lighting at the site, light spill onto the surrounding areas should be minimal. There is already artificial illumination from other properties in the area. Bats utilising the local area to forage are likely to be accustomed to such disturbance.

Feeding activity is likely to be concentrated over the woodland, fields and hedgerows adjacent to the site.

D6 Predicted Scale of impacts

There will not be loss of a gathering and or maternity roost at the site.

There will be the loss of access to a bachelor or non-breeding female roost site on the Western gable roof verge of the farmhouse and potential loss of access to a ridge tile bachelor/ non-breeding female roost in the barn.

There is unlikely to be a disruption to commuting routes or feeding areas at the site.

Using Natural England guidelines, Mitchell-Jones (2004) we would regard the disturbance and or loss of access to the ridgetile and farmhouse roost for Common Pipistrelle and Whiskered/ Brandts bats at the site to be low in respect of the national and regional significance and distribution of these species.

Overall at the local level we would regard the proposed development as being low impact.

E Land Ownership

E1 Mitigation site ownership

The site will be entirely within the management control and ownership of the client.

F References

Information from the following sources has been used in preparing the survey report.

Altringham J, (2003). *British bats*. London: HarperCollins

Altringham J, (1996). *Bats and Behaviour*. Oxford University Press

English Nature (2004). *Supplementary guidance note: surveying for bats following the publication of English Nature's national bat mitigation guidelines (January 2004)*. English Nature, Northumbria Team

Entwistle, A. C. *et al.* (2001). *Habitat Management for Bats*. JNCC

Greenaway, F. and A.M. Hutson (1990) *A Field Guide to British Bats*. London: Bruce Coleman Books.

Loller, A and Schmiot-French, B (2002). *Captive care and medical reference for rehabilitation of insectivorous bats*. Bat World

Mitchell-Jones, A (2004) *Bat mitigation guidelines*. English Nature

Mitchell-Jones, A. J. & McLeish, A. P. (1999). *The Bat Workers' Manual*. JNCC

Neuweiller, G (2000). *The Biology of Bats*. Oxford University Press

R. E. Stebbings (1998). *The conservation of European Bats*. Christopher Helm

Russ, J. (1999). *The Bats of Britain and Ireland, Echolocation, Sound Analysis and Species Identification*. Alana Books

Swift, S. (1998). *Long-eared bats*. Cambridge University Press