BAT SURVEYS AND MITIGATION PLAN

Eyton Court, Leominster,
Herefordshire HR6 0AG

Report
1st August 2024

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CIEEM
REGISTERED
PRACTICE 2024-2025

QUALITY ASSURANCE

SURVEY CONDUCTED BY	Nick Underhill-Day PhD MCIEEM Principal Ecologist/Director	**SURVEY DATE**	PRA: 13.02.2024 BAT SURVEYS: 23.05.2024 & 18.06.2024

DATE	VERSION	PREPARED BY	CHECKED AND APPROVED BY
23.04.24	V1	Nick Underhill-Day PhD MCIEEM Principal Ecologist/Director	Mike Sharp MCIEEM Principal Ecologist/Director
01.08.24	Final	Nick Underhill-Day PhD MCIEEM Principal Ecologist/Director	Anna Dudley MCIEEM Principal Ecologist

The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Every reasonable attempt has been made to comply with BS42020 (Biodiversity: Code of practice for planning and development); the CIEEM Guidelines for Ecological Report Writing (CIEEM, 2017); the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good practice guidelines 4th edition (Collins, 2023); and the UK Bat Mitigation Guidelines (Reason & Wray, 2023). If compliance has not been achieved, justification/explanation has been given.

VALIDITY OF REPORT

The results of the bat survey are valid for a year from the date the final survey was carried out (June 2024). Should the works to the buildings be delayed beyond this date, this survey should be updated to determine any changes in the status of the site.

Any licence application submitted to Natural England must be supported by bat survey data from the current or most recent active season (May to August/September inclusive). Therefore, updated bat surveys will be required if the licence application is delayed beyond April 2025.

CONTENTS

SUMMARY

- A Preliminary bat Roost Assessment was undertaken in February 2024 of two barns at Eyton Court, Leominster, Herefordshire HR6 0AG. This was followed by bat activity (presence/likely absence and roost characterisation) surveys undertaken in May and June 2024. The surveys and assessments were required in connection with proposals for converting the buildings into residential use.

- The purpose of this report is to identify and describe the potential impacts of the works on bats and to set out the mitigation, compensation and enhancement measures required to inform a licence application to Natural England and to ensure compliance with nature conservation legislation. The report also provides information on the legislative requirements relating to bats and nesting birds.

- Eyton Court is located roughly 2.5 km to the north-west of Leominster. It is surrounded by fields of pasture to the west, north and east and by neighbouring properties and their gardens to the south and south-east. Further afield the landscape is dominated by small fields of farmed pasture, meadow and arable, with scattered woodlands and the riparian corridor of the River Lugg, 800 m to the south-west. These habitats are of 'high' suitability for commuting and foraging bats.

- The Preliminary bat Roost Assessment and bat activity surveys confirmed the presence of day roosts for individual common and soprano pipistrelles; night roosts for brown long-eared bat and lesser horseshoe bat; and a transitional/occasional roost for serotine. DNA analysis of bat droppings collected from the two buildings confirmed the presence of common pipistrelle, brown long-eared bat, lesser horseshoe bat and serotine. The bat activity surveys confirmed roosting by common pipistrelle, soprano pipistrelle, brown long-eared bat and lesser horseshoe bat in the north barn; and by common and soprano pipistrelles in the south barn. Serotine was not detected during the summer surveys, and thus roosting by this species is considered to be transition/occasional.

- The overall conservation significance of the bat roosts present is 'Low' for common pipistrelle, soprano pipistrelle, brown long-eared bat and serotine (of site significance); and 'Moderate' for lesser horseshoe bat (of Local/District significance). No maternity roosts have been identified and the barns have poor suitability for hibernating bats.

- As the proposed works will cause significant impacts upon bats and/or their roosts, a bat mitigation plan for the proposed conversion works to the two barns has been provided (in Appendix 6). **A protected species licence from Natural England will be obtained to enable the proposed works to the barns to be lawfully carried out.**

- Bats may move and change roosts, and numbers of individuals or species in any one roosting location may increase or decrease at any time. Consequently, if the proposed works do not take place before April 2025, further bat activity surveys should be carried out to provide up-to-date information on the status of the bat roost present to inform licensing requirements.

- The buildings also support nesting birds, including barn swallow, and thus mitigation is recommended to avoid potential impacts on birds.

1 INTRODUCTION

1.1 Background

A Preliminary bat Roost Assessment (PRA) was carried out of two barns at Eyton Court, Leominster, Herefordshire HR6 0AG on 13th February 2024. This was followed by two dusk emergence bat activity (presence/likely absence and roost characterisation) surveys undertaken of the buildings on the 23rd May and 18th June 2024. The site is located at an approximate central OS grid reference of SO47456143.

The surveys and assessments were required to inform proposals for the conversion of the buildings to residential accommodation. Because of the nature of the works, which involve impacts upon structures that could potentially be used by roosting bats, there is a risk that offences could occur if bats or bat roosts are present.

The client has confirmed that they have not commissioned any previous ecological surveys of the site.

1.2 Personnel

The surveys, assessment and reporting were undertaken by Dr Nick Underhill-Day MCIEEM of Swift Ecology Ltd. Nick is employed as Principal Ecologist and Director with Swift Ecology Ltd and is a holder of a class 2 survey licence for bats (Class Licence reference WML-CL18 2015-15526-CLS-CLS). He has been actively involved with bat work for the last fourteen years and has undertaken numerous bat surveys, including Preliminary Roost Assessments, bat activity surveys, static detector surveys and endoscopic inspections of trees, buildings, bridges and other structures. He also has considerable experience in the associated ecological appraisal of bat roosts and associated habitat use, and in methods required for appropriate mitigation. Nick is the named ecologist or accredited agent on over 35 protected species licence applications (bats) and is qualified in tree climbing and aerial rescue techniques.

1.3 Site Context

Eyton Court lies approximately 2.5 km to the north-west of Leominster in north central Herefordshire. The property comprises a traditional farmhouse, gardens and courtyard, with two large barns perpendicular to each other, linked by a small open-sided canopy.

Surrounding the site to the west, north and east are fields of pasture, while to the south/south-east, on the other side of the minor public highway passing the property, is a neighbouring dwelling and associated gardens.

The surrounding landscape comprises fields of grassland, pasture and meadow, and arable farmland, with hedgerows and hedgerow trees, as well as small, scattered woodlands. The tree-lined riparian corridor of the River Lugg Site of Special Scientific Interest (SSSI) lies approximately 800 m to the south-west at its closet point; stands of woodland and field boundary hedgerows provide connectivity between the SSSI and the site.

Habitats in the surrounding landscape provide good opportunities for foraging and commuting bats.

The site location and surrounding landscape are illustrated in Figures 1 and 2.

Figure 1: Landscape context and location of Eyton Court (red star).

Figure 2: Aerial photo of Eyton Court, with the two barns outlined in red.

1.4 Purpose of Report

The purpose of this report is to identify and describe all potentially significant ecological effects upon bats or bat roosts in the two barns, and to set out indicative mitigation, enhancement and compensation measures and licensing requirements required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects. In addition, impacts on other protected species are considered.

The legal protection and planning policies relevant to the species mentioned in this report are detailed in Appendix 1.

2 METHODS

2.1 Background Data Search

A background data search was undertaken in February 2024 for bat records within 2 km of the site from the Herefordshire Biological Records Centre (HBRC).

Reference was also made to Natural England's MAGIC website[1] for records of granted Natural England bat licences within a 2 km radius.

2.2 Bat Roost Assessment

The Preliminary bat Roost Assessment was undertaken on 13th February 2024 by Nick Underhill-Day of Swift Ecology Ltd.

Weather conditions at the time of the survey are shown in Table 1. The survey covered the two barns and interlinking canopy as shown in Figure 2, Section 1. Adjacent habitats were briefly assessed for their value for bats, as shown in Figures 1 and 2, Section 1.

Table 1: Survey conditions

Date	Approximate Start/end times	Weather conditions
13.02.24	1000-1200	8°C, overcast, rain, light breeze (Beaufort Scale 1-2)

2.2.1 Assessment of Bat Roost Potential

The buildings were assessed for their potential to support bat roosts. This involves a consideration of various factors including:

- Light levels
- Temperature regime and protection from weather
- Access to the interior of the buildings or to other suitable roost sites
- Potential roost sites
- Building construction
- Habitat context

Based on these factors, an assessment was made of whether the buildings might support bats, and the type and number of roosts that might be present. The buildings were assigned a roost potential category (Collins, 2023) according to the criteria outlined in Table 2 below, based on the results of the assessment.

[1] https://magic.defra.gov.uk/MagicMap.aspx

Table 2: Guidelines for assessing the potential suitability of buildings/structures for roosting bats (based on Collins, 2023).

Potential Suitability	Description – Roosting habitats in structures
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only such as maternity and hibernation – the categorisation in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.

Independently of the assessment of the potential of the structures to support roosting bats, structures were also identified as 'Confirmed roosts' where the presence of bats was identified (e.g. based on presence of bats, or evidence of use such as droppings, carcasses, etc.).

2.2.2 Assessment of Hibernation Roost Potential

The buildings were also specifically assessed for their potential to support hibernating bats which involves a consideration of various factors including:

- the suitability of features to support roosting bats or to allow access for roosting bats;
- the temperature and humidity conditions likely to be present within the structure during the winter period, and the suitability in this respect for it to be used by hibernating bats;
- the surrounding habitat in terms of its potential for use by bats outside of the hibernation period for commuting and/or foraging purposes (i.e. is it reasonable that bats are familiar with the area and therefore may be aware of suitable roosting locations within the site); and
- the presence of known roosts within the structure or adjacent structures or surrounding area during the active season.

Based on these factors, an assessment was made of whether the building might support hibernating bats following guidance provided in Collins, 2023. Winter roosting potential was assigned as either:

- 'Classic hibernation site';

- 'Non-classic hibernation site';
- 'Very limited'; or
- 'None'.

2.2.3 Survey for Signs of Bats

A detailed inspection was made of the exterior and interior of the buildings for any evidence of bat use, such as live or dead bats, droppings, scratch marks, staining and prey remains (e.g. moth or butterfly wings), and in some cases the absence of cobwebs. Large quantities of cobwebs in roof voids or at access points tend to be suggestive of no bat use, although this evidence is not conclusive.

Features identified as possible bat access points or potential roosting locations were thoroughly searched where possible, using powerful torches and binoculars to facilitate the process. Ladders were available to enable more detailed inspection of cracks and crevices as far as safe access allowed.

2.3 DNA analysis of bat droppings

Samples of bat droppings from both buildings were collected during the Preliminary Roost Assessment for DNA testing by Ecotype Genetics to enable a determination of the species present.

2.4 Bat Activity Surveys

2.4.1 Inspection Surveys

Prior to the start of each dusk emergence survey, the two barns were inspected to look for the presence of roosting bats and any fresh evidence of bats. Torches, a thermal imaging monocular and an endoscope were used to examine the buildings.

2.4.2 Bat Roost Activity Surveys

Two bat activity (presence/likely absence and roost characterisation) surveys were undertaken on 23rd May and 18th June 2024. Static detectors were deployed inside each of the barns between the surveys, for a period of 26 days.

All surveyors are experienced in the use of bat detectors and familiar with undertaking such surveys. Anabat Walkabout and Wildlife Acoustics static bat detectors were used during the surveys.

During the activity surveys, the surveyors were positioned around the buildings to watch for evidence of bats entering or emerging from their roosts. Night vision aids (Guide TK612 and Guide TrackIR Pro 19 thermal monoculars, and 3No. infrared Nightfox Whisker cameras with infra-red arrays) were used to facilitate external observations, to record bat activity and to help identify precise roost locations and access points (see Appendix 4 for NVA field of views).

Static bat detectors (Wildlife Acoustics SM Mini Bat) and infra-red cameras (Nightfox Whisker) were deployed internally during the surveys to assist in identifying potentially important roost areas and bat access points.

Bat echolocations calls recorded during the surveys were analysed using Kaleidoscope Pro software. The bat activity survey approach was based upon Collins, 2023. Details of timings and weather conditions are given in Table 3 and survey locations and equipment deployed are illustrated in Figures 3 and 4.

Table 3: Dusk Emergence Bat Activity Survey Details at Eyton Court.

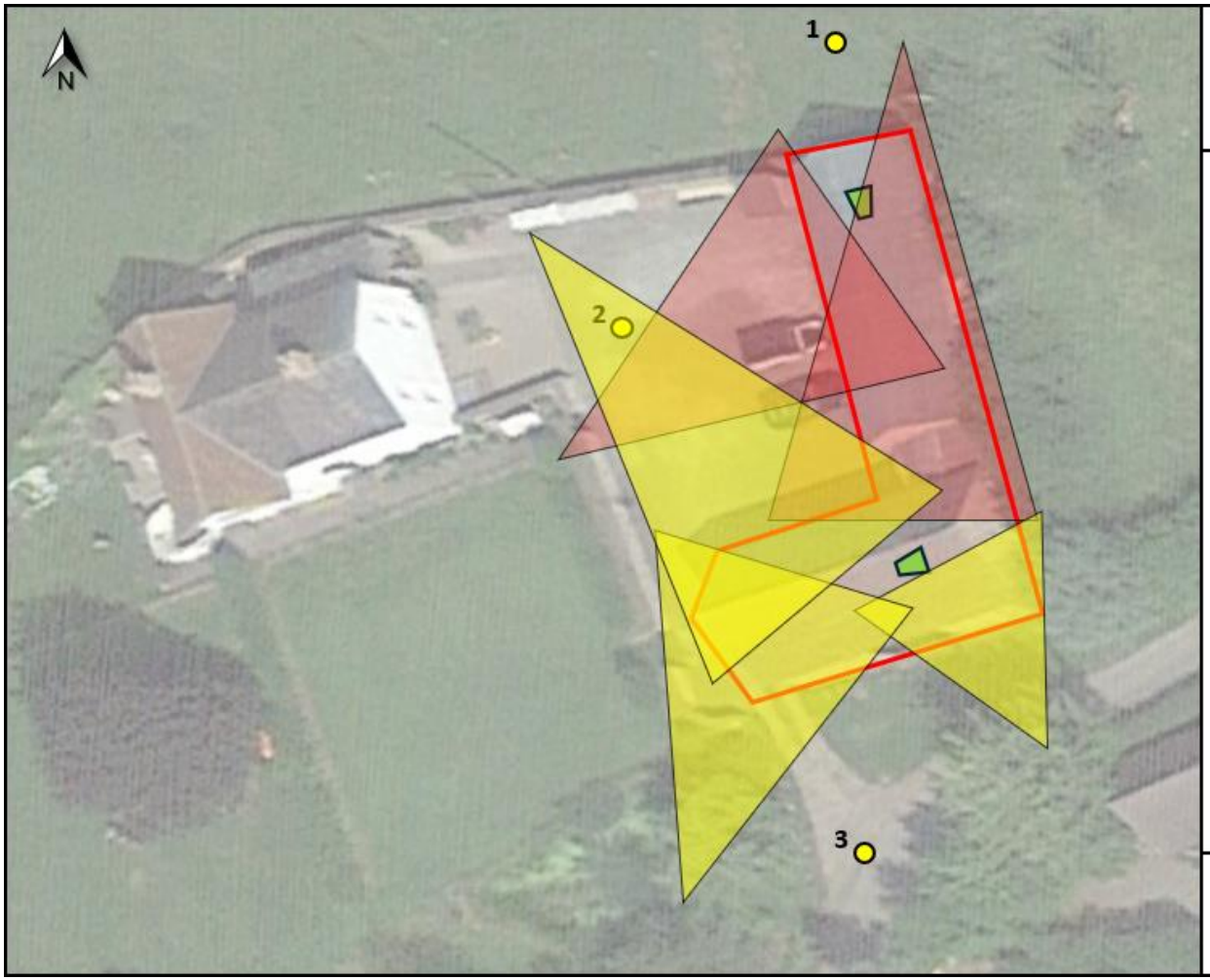
Survey Details		
Date	23.05.2024	18.06.2024
Weather conditions	Cool, dry evening with slight breeze. No rain. No cloud cover.	Cool, dry evening with light breeze. No rain. < 5% cloud cover
Start temp(°C)	11	13
End temp(°C)	10	12
Wind (Beaufort)	2	2
Precipitation	Nil	Nil
Sunset	2112	2136
Start time	2055	2120
End time	2240	2310
Surveyors	Nick Underhill-Day, Camilla Winder, Johnny Birks	Nick Underhill-Day, Camilla Winder, Dave Smith
Bat detectors used	**External** 2 No. Anabat Walkabout, Pettersson D240x, Anabat Scout **Internal statics** 2 No. Wildlife Acoustics SM Mini Bat	**External** 2 No. Anabat Walkabout, EM3, Batbox Duet **Internal statics** 2 No. Wildlife Acoustics SM Mini Bat
Night vision equipment used	**External:** 1 No. Guide TrackIR TK612 wide angled thermal monocular, 1 No. Guide TrackIR Pro 19 thermal monocular. 3 No. Nightfox Whisker	**External:** 1 No. Guide TrackIR TK612 wide angled thermal monocular, 1 No. Guide TrackIR Pro 19 thermal monocular. **Internal:** 3 No. Nightfox Whisker

2.5 Limitations

There were no significant constraints to the PRA survey and assessment. All parts of the buildings were accessible for detailed inspection. No recent sweeping or other cleaning had been undertaken.

An initial assessment and bat inspection surveys cannot rule out bat presence from inaccessible areas, as bats may roost in areas that are not accessible other than by a destructive search, such as within wall cavities, under ridge tiles or between roof tiles and timbers.

The eastern elevations of the barns lie adjacent to a tall unmanaged hedgerow, and thus visibility along this side of the barns was limited. However, NVAs were strategically deployed to cover these areas and thus this is not considered a significant constraint to the assessment. There were no other constraints to the bat activity surveys.



C4147-1 Eyton Court, Leominster

Figure 3: Dusk Emergence Survey – 23rd May 2024

KEY

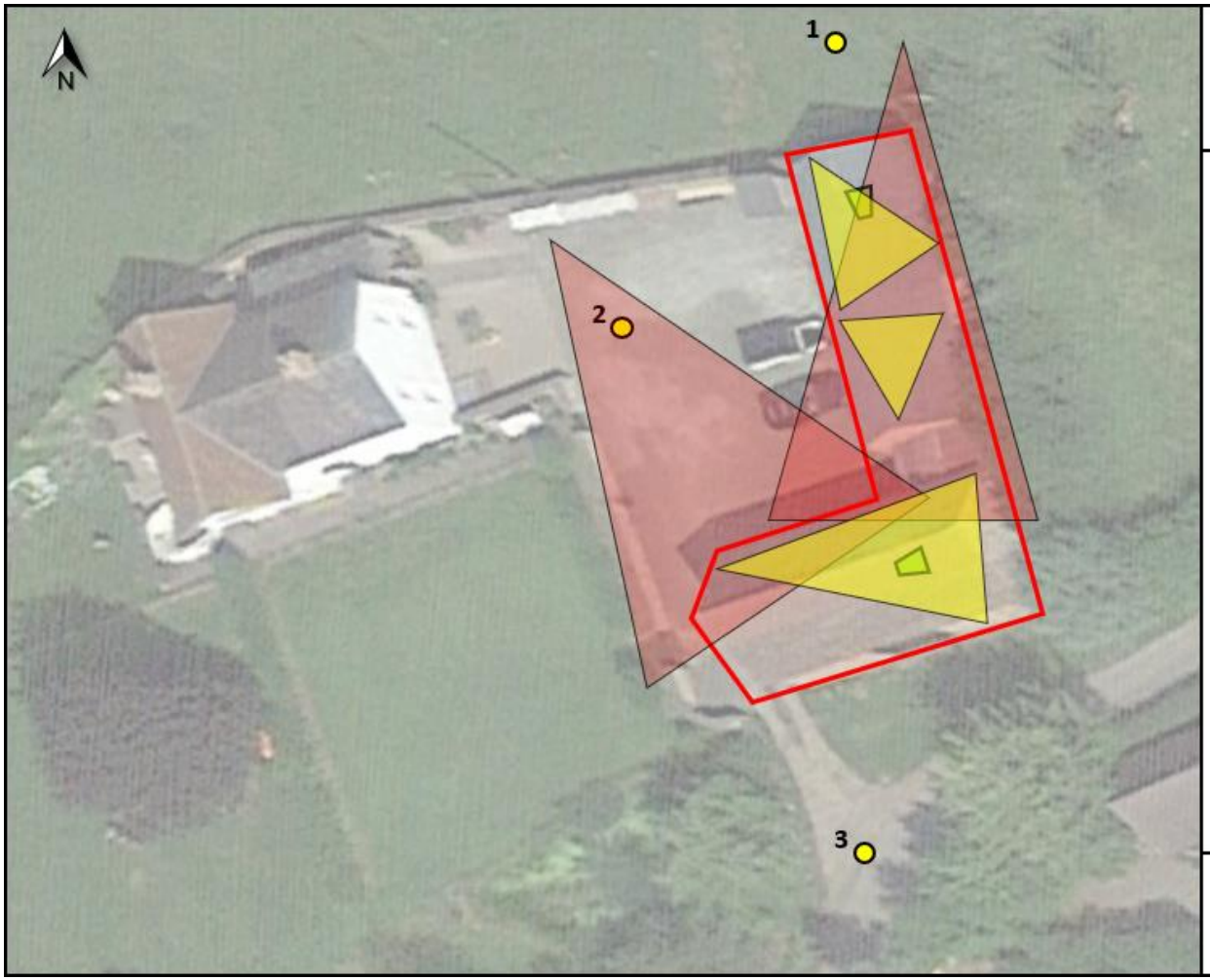
1 Surveyor location (numbered)

Thermal night vision aid field of view

Infrared night vision aid field of view

Static detector location

Swift Ecology



C4147-1 Eyton Court, Leominster

Figure 4: Dusk Emergence Survey – 18th June 2024

KEY

1 Surveyor location (numbered)

Thermal night vision aid field of view

Infrared night vision aid field of view

Static detector location

Swift Ecology

3 RESULTS

3.1 Background Data Search

HBRC returned 56 records of at least eight species of bat between 2005 and 2018, with species including common pipistrelle *Pipistrellus pipistrellus,* soprano pipistrelle *P. pygmaeus,* Nathusius' pipistrelle *P. nathusii,* noctule *Nyctalus noctula,* Natterer's bat *Myotis nattereri,* Brandt's bat *M. brandtii,* long-eared bat *Plecotus* sp. and lesser horseshoe bat *Rhinolophus hipposideros*, as well as indeterminate species.

Over half of the records relate to individuals or low numbers of bats in flight, foraging or 'present'. 25 records are of roosting bats, mostly as individuals or roosts of single figures. Four of the roost records, from 2014, are of a soprano pipistrelle roost (30-40 bats) and lesser horseshoe bat roost (1 bat) at a location 430 m to the north-east. There are also nearby records, from 2011, of roosting common pipistrelle, long-eared bat and Natterer's bat from a location *c*. 600 m to the west.

Reference to Natural England's Magic website, which holds records of granted bat mitigation licences issued by Natural England since 2009, identified one bat licence within 2 km of the site, as follows:

- Licence EPSM2010-2513 from 2010 for the destruction of a breeding site and resting places of common pipistrelle, soprano pipistrelle, brown long-eared bat, whiskered bat, Brandt's bat and Natterer's bat at a location approximately 1.1 km to the east.

An absence of records does not mean that a particular species is not present, merely that it has not been recorded. Many species records are not obtainable from the sources utilised, and therefore there may be further undetected records for such species on the study site or in the local area.

Protected species records are shown in Appendix 2.

3.2 Assessment of Habitats

The habitats around Eyton Court comprise large gardens with mature trees and shrubs to the south and south-east, and fields of pasture with boundary hedgerows and hedgerow trees to the west, north and north-east.

Potential flight lines and foraging habitat in the immediate vicinity of the two barns comprise mature trees, shrubs, lawns and a pond within the grounds of Eyton Court. Tall hedgerows and lines of trees provide good connectivity to the wider landscape, especially to the south.

Habitats within the surrounding landscape (within 2 km) are of 'high' suitability for foraging and commuting bats, with scattered woodlands, small fields with boundary hedgerows and trees and riparian habitats of the River Lugg to the south and south-west.

3.3 Building Descriptions

3.3.1 South barn (Plates 1 to 11)

The south barn, orientated east-west, is a large former hayloft/granary with double-skin brick walling, a timber-framed roof and floor to eaves timber doors for vehicular access (Plates 1-4). The south roof pitch has clay tiling while the north pitch comprises corrugated metal panels.

The building has numerous slitted, unglazed barn vents on all elevations (Plates 1-4); there are wooden timber lintels above the inner brick walling surrounding the slitted barn vents (Plate 11). The timber roof purlins extend from the gable ends, where there are also timber barge boards along the tile verges (Plate 3). The eaves are open, and the timber doors are poorly fitted, with various gaps (Plate 7).

Internally the barn comprises one large room, with an open roof space, roughly 6.5-7 m from floor to ceiling in the central area, and raised platforms at approximately a third height (Plates 5 and 6) on either side. The north roof pitch is unlined (Plate 9) while the south roof pitch contains a combination of traditional roofing felt and breathable membrane (Plate 10).

The timber doors and roof membrane are in relatively poor condition.

3.3.2 Canopy (Plates 12 and 13)

A small canopy links the south and north barns (Plates 12 and 13). This comprises timbers spanning the gap between the two barns and supporting corrugated metal roof panels; the roof is unlined. At the back (east side) of the canopy is a low stone wall to half-height, with unglazed window openings and timber cladding above. The west side is open to the courtyard.

Plate 1. North elevation of the south barn, with the north barn partially visible on the left.

Plate 2. South (roadside) elevation of the south barn.

Plate 3. West gable of the south barn.

Plate 4. East Gable of the south barn.

Plate 5: South barn interior, eastern end.

Plate 6: South barn interior, western end.

Plate 7: South barn north doorway.

Plate 8: South barn, slitted brick vents.

Plate 9: South barn, north roof pitch, unlined.

Plate 10: South barn, south roof pitch, with felt and breathable membrane lining.

Plate 11: South barn, timber lintel within inner brick wall.

Plate 12. Open-sided canopy between the two barns.

Plate 13: Canopy interior space.

3.3.3 North barn (Plates 14 - 25)

The north barn is brick-built in its southern half while the northern half is of single skin horizontal timber cladding (Plates 14-17). The barn has a pitched roof of corrugated metal panels.

The southern brick-built section has some areas of stone plinth (to approx. 0.5 m) and upper areas of timber cladding (<1 m) (Plate 16). This half of the building contains one large room, open from the floor to the unlined metal roof (Plate 18). The brickwork is mostly old, with

large gaps in places, but with the upper gables comprising more recent brickwork (Plate 20); the height of the building may have been increased when the metal roof was put on. The roof is supported by large timber purlins and a timber frame of King-post style construction (Plate 19). There are four timber doors on the west elevation of this section of the building, comprising three on the ground floor, with brick lintels, and one on the first floor (Plate 14). The east elevation has open ventilation gaps in the upper brickwork (Plate 16), and there are square holes in the north brickwork gable, probably where first-floor joists were once present.

The south section contains electrical strip lighting and is used as a workshop and for storage (Plate 18). The upper internal north gable wall has an unglazed window opening directly into the roof space of the northern part of the barn (Plate 20).

The northern half of the barn comprises sections of stone plinth (as above), some areas of brick walling, supporting timber framing and overlapping horizontal cladding, below a pitched corrugated metal roof (Plates 14-17).

The timber cladding is in poor condition, with many sections of missing or broken cladding (Plates 15 and 17). The west elevation has a set of double doors and several unglazed window openings in the upper walling (Plate 14).

Internally the barn ground floor is compartmentalised into several livestock pens (now unused), covered in hay, below a timber ceiling/first floor (Plates 21-23); there are various gaps in the ceiling into the roof space above. The ground floor rooms have no electrical lighting and are relatively dark.

The roof space is relatively open and draughty from numerous gaps in the cladding (Plates 24 and 25). The roof is supported by timber purlins and a Kingpost (as in the southern half), while the floor is covered in hay. The internal south gable wall has various gaps in the brickwork where previous timbers may have once inserted (Plate 25).

Plate 14: West elevation of north barn.

Plate 15: North elevation of north barn.

Plate 16: East elevation of north barn.

Plate 17: East elevation of north barn.

Plate 18: North barn, south room.

Plate 19: North barn, south room.

Plate 20: North barn, open window in internal gable wall.

Plate 21: North barn, north livestock room.

Plate 22: North barn, north livestock room.

Plate 23: North barn, north livestock room.

Plate 24: North barn, north roof space.

Plate 25: North barn, open window into south room (as seen in Plate 20).

3.4 Assessment of Bat Roost Potential and Survey for Signs of Bats

3.4.1 Bat Roost Potential

South barn

The large south barn offers numerous access opportunities for bats to enter the interior of the building, through the slitted barn vents (on all elevations), open eaves and poorly fitted doors.

The elevation stone and brickwork is in reasonable condition, but there are several visible gaps around the extending timber purlins on the gable ends, and gaps/crevices within the eaves and gable wall tops, which could offer crevice-roosting opportunities for bats.

The north roof pitch is unlined and comprises corrugated metal panels; there are few opportunities to access the building between the roof panels (from above) and the unlined nature of this roof pitch makes it less likely to be used by bats. Conversely, the south roof pitch contains clay tiles; the more recently tiled upper half of the roof looks well-sealed while the older, lower half has various missing, slipped or broken tiles which may offer opportunities for bats to access spaces below the tiles; the south pitch is lined with a mixture of bitumastic felt and modern breathable membranes, and thus there are enclosed spaces between the tiles and lining which may be suitable for crevice-roosting bats.

The interior of the barn provides one large open space, which is relatively uncluttered and suitable as a pre-emergence flight space for void-roosting species, such as brown long-eared bat. The ample height of the barn and easy flight access also make it suitable as a night roost for various bat species.

The roof timbers have few joint gaps (e.g. mortice-tenon joint gaps) but some of the larger timber purlins and central ridge beam may have semi-enclosed spaces behind suitable for roosting bats.

The internal brick walls have few openings, cracks or crevices within the mortar suitable for roosting bats. However, the majority of the slitted barn vents contain timber lintels on the inner course of bricks; most of the lintels have gaps behind leading to deep cracks and crevices between the inner and outer course of bricks providing suitable opportunities for roosting bats.

In summary, suitable places for roosting bats within the south barn include the following:

- Spaces between the clay tiles and lining on the south roof pitch
- Gaps in the walling where the timber purlins are inserted
- Enclosed spaces at the wall tops
- Enclosed spaces above the larger timber purlins and ridge beam
- Cracks and crevices between the vent timber lintels/inner course of brick and outer course of bricks
- Large space suitable as a pre-emergence flight space or for night roosting/feeding perches

Canopy

The small open-sided canopy has an unlined, corrugated metal roof and few features suitable for roosting bats. Considering the two large barns offer much better opportunities for bats, it is relatively unlikely this structure would be used by bats.

North barn

The north barn also offers many opportunities for bats to access the interior spaces, through the ventilation gaps, unglazed windows and through various holes within the cladding.

Like the south barn, the elevation brickwork of the north barn is in reasonable condition but there are some gaps and areas where the mortar is missing, particularly on the eastern elevation, which may offer crevice roosting opportunities. The timber cladding is poorly fitted and does not overlap enough to offer suitably enclosed spaces for roosting bats.

The roof of the north barn is unlined and comprises corrugated metal panels; therefore, there are no enclosed spaces for bats to roost in, while the metal panels are likely to undergo extremes of temperature, making them less suitable for roosting bats.

There may be some suboptimal roosting spaces behind the larger timber purlins, but otherwise the roof timbers supported few features for crevice-roosting species.

The large internal flight space of the north roof void and southern room may be suitable as a pre-emergence flight space for void-roosting species and as a night roost for various bat species, if the internal electrical lighting within the south room is switched off.

There are gaps and deep crevices within the central gable wall, on both sides, which may offer opportunities for roosting bats. The central gable wall top may also offer roosting opportunities.

The lower livestock rooms are relatively dark but there do not appear to be many crevice-roosting opportunities for bats, although the ceiling timbers may provide opportunities for roosting by individual horseshoe bats.

In summary, the north barn offers features suitable for roosting bats including the following:

- Gaps and cracks in the external brick walling
- Gaps in the central internal gable wall
- The wall top of the central internal gable wall
- Spaces behind large roof timbers
- Large space suitable as a pre-emergence flight space or for night roosting/feeding perches

Overall, the two barns at Eyton Court are considered to be of 'Moderate' suitability for roosting bats as they provide "*A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type[2] only such as maternity and hibernation*". The barns are considered less likely to offer suitable features for roosts of high conservation status roosts (e.g. maternity roosts).

In addition, whilst the presence of individual bats roosting during the winter cannot be ruled out, the building does provide the 'classic' conditions suitable for hibernating bats of cool, stable temperatures with high humidity. The relatively open and draughty nature of the buildings, in conjunction with their metal roofs, are likely to result in variable conditions during the winter months; this will limit their capacity to support any hibernation roosts of significance, but the presence of individual or low numbers of bats cannot be ruled out. The buildings are therefore considered to have 'very limited' winter roost potential.

3.4.2 Evidence of bats

Evidence of bats found during the survey is illustrated in Figure 5. DNA results are provided in Appendix 3.

South barn

No evidence of bats was found from external inspection from ground-level of the building.

Scattered bat droppings (c. 20-30), of various size, were present on materials within the western part of the building (Figure 5); a sample of bat droppings sent for DNA analysis confirmed they were from common pipistrelle and brown long-eared bat.

Inspection of the gaps and crevices behind the vent lintels found no evidence of bats.

Canopy

No evidence of bats was found from external or internal inspection of the canopy between the two barns.

[2] For a definition of roost types, see Appendix 5.

North barn

No evidence of bats was found from external inspection from ground-level of the building.

A localised collection of bat droppings (*c*. 40-50), of various size, was present stuck to the central gable wall and on materials below the unglazed window opening, on the south side (Figure 5, Plates 20, 26 and 27); a sample of bat droppings sent for DNA analysis confirmed they were from brown long-eared bat, lesser horseshoe bat and serotine *Eptesicus serotinus*. The localised nature and location of the droppings may indicate use of the window by bats flying between the two parts of the barn, and potentially of roosting within the hayloft or south room (e.g. night roosting).

Plate 26: Area of localized bat droppings below wall opining

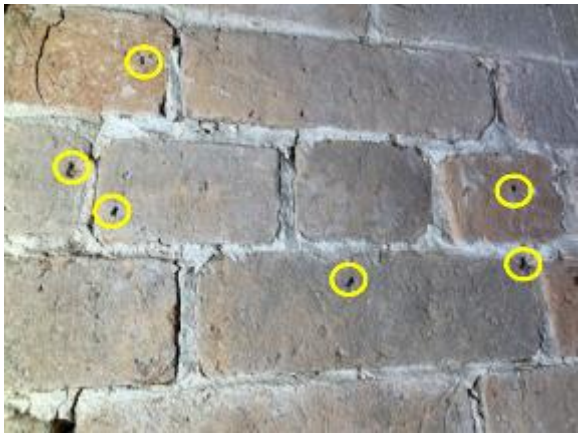


Plate 27: Close up of section of wall below the wall opening, with bat droppings circled.

3.5 Nesting Birds

An old barn swallow *Hirundo rustica* nest was found within the north barn hayloft during the PRA survey, and thus the presence of this breeding bird species during the summer nesting period is likely.

C4147-1 Eyton Court, Leominster

Figure 5: Preliminary Bat Roost Assessment (13th February 2024)

KEY

Survey area

Accumulations of bat droppings:
1. Scattered below the roof
2. Localised on the wall and on materials stored below the internal gable/window

Samples of bat droppings analysed to confirm species:
1. Common pipistrelle, brown long-eared bat
2. Lesser horseshoe bat, brown long-eared bat and serotine

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3.6 Bat Activity Survey Results

3.6.1 Dusk Emergence Survey 23rd May 2024

A pre-survey inspection of the two barns did not identify any roosting bats. Low numbers of scattered bat droppings were present in the south section of the north barn.

General bat activity levels during the dusk emergence survey were moderate and comprised frequent foraging passes by individual common and soprano pipistrelles, and a single pass by a noctule.

The first bat recorded during the survey, four minutes after sunset, was a pass of a soprano pipistrelle, thought to have emerged from a building to the south-east.

At 2119 a common pipistrelle emerged from below the barge board on the west elevation of the south barn, just above the middle purlin. At 2125 a soprano pipistrelle emerged from a crack in the tile verge on the west elevation of the south barn, at the bottom of the roof. At 2131 a second soprano pipistrelle emerged from a gap between the middle timber purlin and surrounding brickwork on the west elevation of the south barn.

At 2137 a soprano pipistrelle emerged from the north gable, west tile verge of the north barn, while at 2144 a common pipistrelle emerged from the open hayloft window on the west elevation of the north barn.

Frequent foraging passes by individuals of both pipistrelle species were recorded within the courtyard and around the buildings for the duration of the survey.

Although not detected by the surveyor, a lesser horseshoe bat was recorded on the thermal imaging camera entering the east elevation of the north barn at 2215; this bat was also recorded by a static detector deployed at the south-east corner of the barns at the same time, and thus it is believed the bat flew from the south, along the eastern elevations of the south and north barns, respectively, before entering the north barn hayloft.

Results of the survey are provided in Table A4.1, Appendix 4, with key events summarised in Figure 6.

3.6.2 Dusk Emergence Survey 18th June 2024

A pre-survey inspection of the two barns did not identify any roosting bats.

General bat activity levels during the dusk emergence survey were similar to those described above, with commuting and foraging passes by pipistrelle bats, overhead passes by noctules, and individual passes by *Myotis* sp. and lesser horseshoe bats.

The first bats recorded were at 2144 and 2145 and comprised soprano pipistrelles; the passes were faint and believed to be bats foraging to the south.

At 2151 a soprano pipistrelle emerged from a gap between the middle timber purlin and surrounding brickwork on the west elevation of the south barn. A second soprano pipistrelle emerged from this location at 2152. At 2152 a third soprano pipistrelle emerged

from a crack in the tile verge on the west elevation of the south barn, at the bottom of the roof.

At 2159 a soprano pipistrelle emerged from the north gable, west tile verge of the north barn.

Both common and soprano pipistrelle bats were subsequently recorded foraging in the courtyard and around the barns for the remainder of the survey.

At 2210 a brown long-eared bat was observed roosting within the south room of the north barn; the bat was still there at 2222. Review of video footage of the infrared camera deployed within the north hayloft of the north barn confirmed the brown long-eared bat was in the hayloft and flew through the open window between the hayloft and south room at 2152; this suggested a night roost for this species.

At 2223 a lesser horseshoe bat was observed flying within the hayloft of the north barn; this bat had most likely entered the barn unobserved as it was not present at the start of the survey.

Results of the survey are provided in Table A4.2, Appendix 4, with key events summarised in Figure 7.

3.6.3 Static Bat Detector Results (26 nights)

North Barn

The static bat detector deployed for 26 nights, between 23rd May and 18th June 2024, within the hayloft of the north barn recorded numerous calls of common pipistrelle (n=897), soprano pipistrelle (n=3494) and with recordings spread across all 26 nights, with extensive social calling, especially by soprano pipistrelle.

Five recordings of brown long-eared bat were recorded, over four nights; the timings of recordings indicate probable night roosting, as confirmed during the survey on 18th June 2024.

The detector recorded 2 files of a *Myotis* sp. bat, over two nights; eight recordings of barbastelle *Barbastella barbastellus*, over six nights; and eight recordings of noctule, over four nights. None of these species are considered likely to be roosting within the barn (including night roosting). Because of the numerous openings and unlined nature of the roof, many of the calls, particularly those of the 'louder' bat species (i.e. pipistrelle bats, noctule) are likely to be of bats flying outside the building. Brown long-eared and *Myotis* bats tend to have 'quieter' calls which attenuate over a relatively short distance (i.e. a few metres), and thus recordings of these species may be of bats flying within the barn.

South Barn

The static bat detector deployed for 26 nights, between 23rd May and 18th June 2024, within the south barn recorded numerous calls of common pipistrelle (n=4825) and soprano pipistrelle (n=3929), spread across all 26 nights. As above, both species performed extensive social calling, especially soprano pipistrelle.

The detector recorded six recordings of brown long-eared bat, over six nights, with recordings between 0050 and 0359. Comparison with brown long-eared bat recordings from the north barn suggest this is likely to be the same bat as confirmed night roosting within the north barn (i.e. brown long-eared bat was never recorded simultaneously within both buildings, which would indicate more than one individual).

The detector recorded 17 recordings of a *Myotis* sp. bat, over 7 nights; four recordings of barbastelle, over three nights; and seven recordings of noctule, over four nights. As for the north barn, none of these species are considered likely to be roosting within the barn (including night roosting).

As above, many of the 'louder' calls, (i.e. pipistrelle bats, noctule) are likely to be of bats flying outside the barn, with brown long-eared bat, and possibly *Myotis* sp. bat, recorded inside the barn.

Serotine was not detected by either static detector over the 26 nights of recording. It is possible this species may have opportunistically entered the barn on one or more occasions, possibly at other times of the year, and thus was detected via DNA analysis of bat droppings.

Lesser horseshoe bat was only detected once by a static detector over the 26 days period of monitoring, even though this species was observed flying within the hayloft of the north barn during the May and June 2024 dusk surveys. This species has a relatively quiet, highly directional call and thus is likely to be under recorded.

Results from the static bat detectors are provided in Table A4.3, Appendix 4.

3.6.4 Summary of Bat Roosts

To summarise, a total of five bat species, comprising nine roosts and a likely maximum of nine bats, were confirmed roosting within the two barns at Eyton Court.

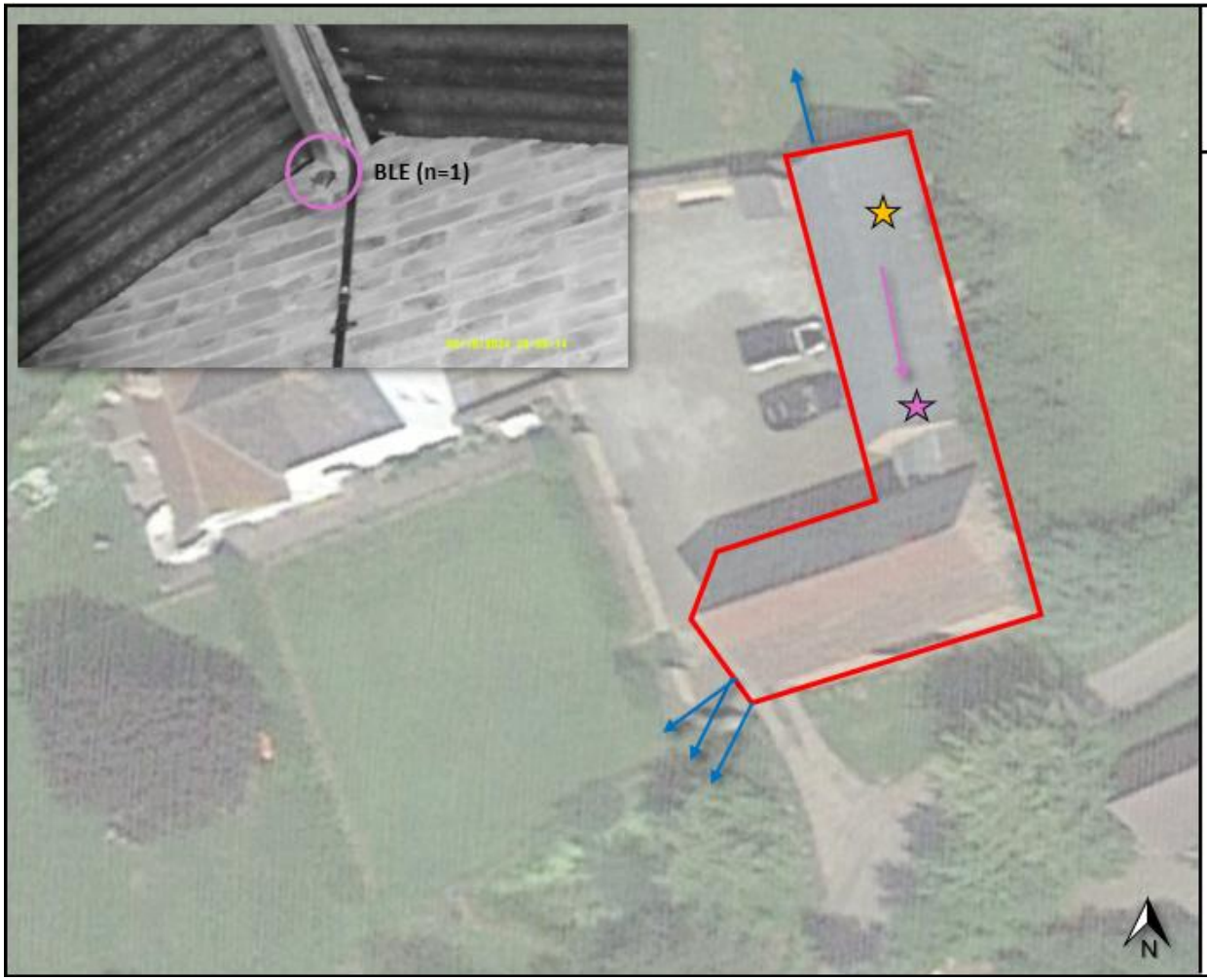
The barns support the following roosts:

- common pipistrelle, day roosts, max. 2No. bats
- soprano pipistrelle, day roosts, max. 4No. bats
- brown long-eared bat, night roost, max. 1No. bat
- lesser horseshoe bat, night roost, max. 1No. bat
- serotine, transitional/occasional roost, 1No. bat

All of the roosts are considered to be non-breeding roosts.

The locations of confirmed bat roosts across the two barns are illustrated in Figure 8.


N
C4147-1 Eyton Court, Leominster
Figure 6: Dusk Emergence Survey – 23rd May 2024
KEY
Common pipistrelle emergence (n=2)
Soprano pipistrelle emergence (n=3)
Lesser horseshoe bat entry (night roost) (n=1)



C4147-1 Eyton Court, Leominster

Figure 7: Dusk Emergence Survey – 18th June 2024

KEY

- Soprano pipistrelle emergences (n=4)
- Brown long-eared bat (night roost) (n=1)
- Lesser horseshoe bat (night roost) (n=1)

C4147-1 Eyton Court, Leominster

Figure 8: Summary of bat roosts 2024

KEY

001	PIPPYG	Day roost, 1No. bat
002	PIPPYG	Day roost, 1No. bat
003	PIPPYG	Day roost, 1No bat
004	PIPPYG	Day roost, 1No. bat
005	PIPPIP	Day roost, 1No. bat
006	PIPPIP	Day roost, 1No. bat
007	PLEAUR	Night Roost, 1No. bat
008	RHIHIP	Night roost, 1No. bat
009	EPTSER	Transitional/occasional, 1 No. bat

TOTAL:

- 9 roosts
- 5 species
- Max 9 bats
- Day, night and transitional/occasional roosts (non-breeding)

Natural England BER Level 2, Annexes C and H1

Swift Ecology

4 EVALUATION AND IMPACT ASSESSMENT

4.1 Bats

4.1.1 Proposed works

The proposals include the renovation and conversion of the two barns at Eyton Court – the final details of the proposed works

In summary this will result in:

- Re-roofing of some roof pitches;
- Insulation of the corrugated metal roof (south room) of the north barn and clay-tiles roof of the south barn;
- Installation of 3No. skylights on the north pitch of the south barn;
- Installation of metal rainwater goods;
- Conversion of the interior spaces of the barns (south barn and south room of north barn) to living accommodation;
- Repair works and reinstatement of missing timbers;
- Repointing external and internal brick and stone walling;
- Installation of new external weatherboarding; and
- Installation of new external lighting.

The north barn ground floor rooms and hayloft will be retained, with the hayloft roof space providing a dedicated bat loft.

The exact detail may change depending upon contractor recommendations and methods of working.

4.1.2 Habitats

The habitats within the surrounding landscape offer high quality foraging opportunities for bats and also provide features along which bats may commute to other habitats in the wider area. The proposals will not result in the loss of any foraging or commuting habitat or loss of flight lines.

Currently, there are motion-activated security lighting at Eyton Court, but mostly the farm and areas around the barns and courtyard are unlit during the hours of darkness.

4.1.3 Roosts

The bat surveys conducted by Swift Ecology Ltd. in May and June 2024 have confirmed the presence of the following roosts (see Section 3.6.4 and Figure 8) at Eyton Court:

001 PIPPYG soprano pipistrelle day roost in tile verge of north barn, north gable.
002 PIPPYG soprano pipistrelle day roost in gap between purlin and stonework in south barn, west gable.
003 PIPPYG soprano pipistrelle day roost gap between purlin and stonework in south barn, west gable.
004 PIPPYG soprano pipistrelle day roost within tile verge mortar in south barn, west gable.
005 PIPPIP common pipistrelle day roost in hayloft of north barn.

006 PIPPIP common pipistrelle day roost at wall top of tile verge of south barn, west gable.
007 PLEAUR brown long-eared bat night roost within south room of north barn.
008 RHIHIP lesser horseshoe bat night roost within hayloft of north barn.
009 EPTSER serotine transitional/occasional/opportunistic roost within south room of north barn.

4.1.4 Species and Roost Status

Common pipistrelle is a common and widespread species in Herefordshire and the UK with a British population estimate of 3,040,000 (with plausible Intervals of 991,000–7,510,000 and a reliability score of 2) (Mathews *et al*., 2018). According to the Bat Mitigation Guidelines (Reason and Wray, 2023), the conservation significance of common pipistrelle day roosts for individual or low numbers of bats is low (of Site importance).

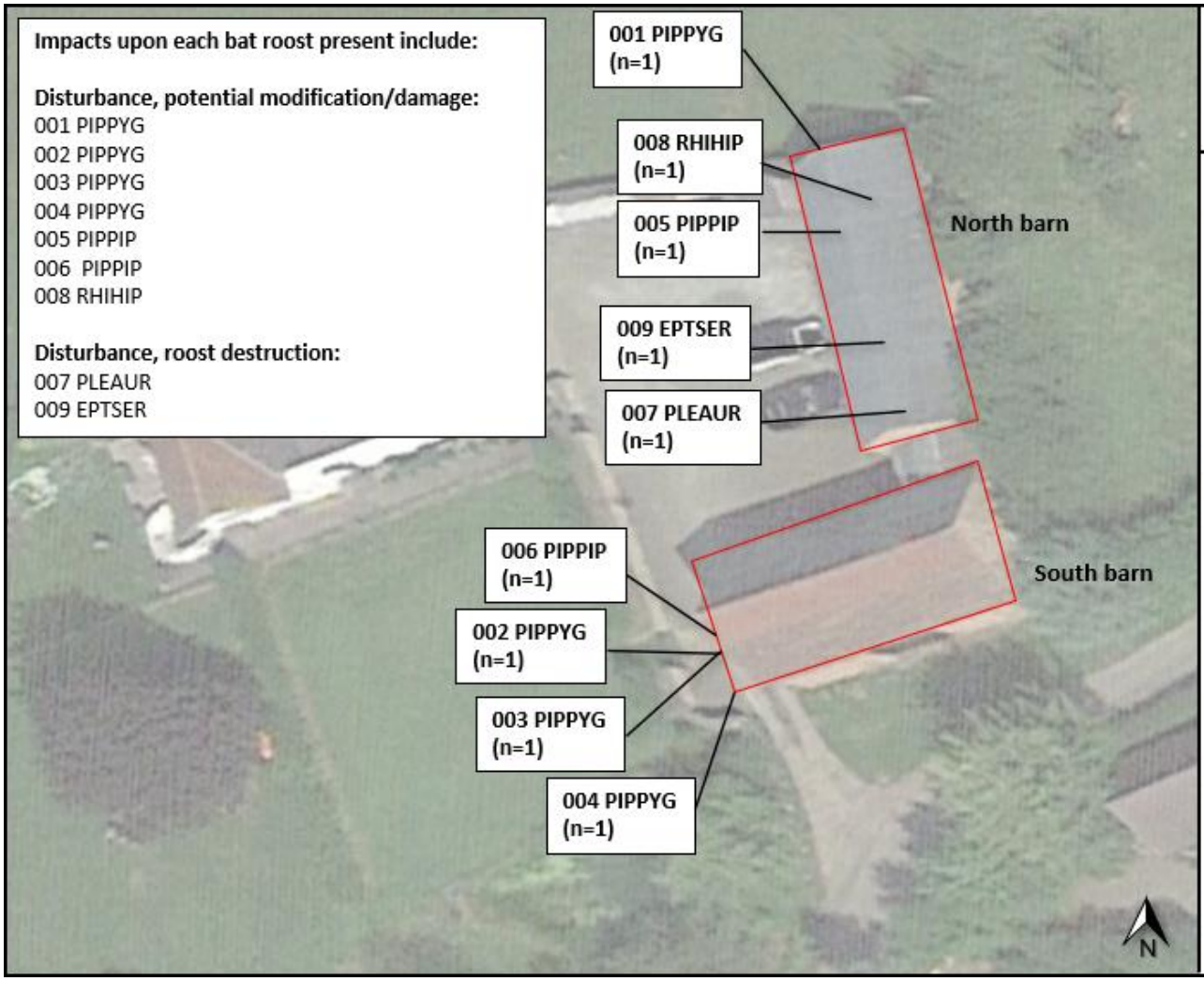
Soprano pipistrelle is a common and widespread species in Herefordshire and the UK with a British population estimate of 4,670,000 (with plausible Intervals of 1,970,000–8,400,000 and a reliability score of 2) (Mathews *et al*., 2018). According to the Bat Mitigation Guidelines (Reason and Wray, 2023), the conservation significance of soprano pipistrelle day roosts for individual or low numbers of bats is low (of Site importance).

Brown long-eared bat is a common and widespread species in Herefordshire and the UK, with a British population estimate of 934,000 (with plausible Intervals of 52,000-2,200,000 and a reliability score of 2) (Mathews *et al*., 2018). According to the Bat Mitigation Guidelines (Reason and Wray, 2023), the conservation significance of brown long-eared bat day roosts for individual or low numbers of bats is low (of Site importance).

Lesser horseshoe bat is a rare Annex II species restricted to the south-west of the UK (Wales and south-west England) but is widely distributed across Herefordshire. It has a British population estimate of 50,400 (with plausible Intervals of 36,000-72,000 and a reliability score of 3) (Mathews *et al*., 2018). According to the Bat Mitigation Guidelines (Reason and Wray, 2023), the conservation significance of lesser horseshoe bat night roosts for individual or low numbers of bats is moderate (of Local or District importance).

Serotine is a rarer species with a restricted distribution (south of England and Wales only). It has a British population estimate of 136,000 (with plausible Intervals of 7,300-413,000 and a reliability score of 3) (Mathews *et al*., 2018). According to the Bat Mitigation Guidelines (Reason and Wray, 2023), the conservation significance of a transitional, occasional, or opportunistic roost for an individual of this species is low (of site importance).

Impacts upon each of the identified roosts (001-009) are shown in Figure 9.



C4147-1 Eyton Court, Leominster

Figure 9: Impacts map

KEY

The proposed renovation work to the two buildings comprises the following:

- Re-roofing of some roof pitches;
- Insulation of the corrugated metal roof (south room) of the north barn and clay-tiles roof of the south barn;
- Installation of 3No. skylights on the north pitch of the south barn;
- Installation of metal rainwater goods;
- Potentially stabilisation and consolidation of section of walling;
- Conversion of the interior spaces of the barns (south barn and south room of north barn) to living accommodation;
- Repair works and reinstatement of missing timbers;
- Repointing external and internal brick and stone walling;
- Installation of new external weatherboarding; and
- Installation of new external lighting.

Both buildings will be subject to disturbance from installation of scaffolding and works. The northern end of the north barn will be minimally impacted (likely disturbance only).

4.2 Impact assessment

4.2.1 Proposed works

The proposed conversion works to the two barns will impact on bats. In the absence of mitigation, the proposed works would result in the following adverse impacts upon bats:

- Disturbance to bats while works are going on, including increased noise, dust and vibration, and changes to the lighting and temperature regime in and around roosts;
- Interference with, obstruction of (e.g. scaffolding) and loss of access points;
- Possible harm to bats that may be roosting within the barns at the time of works;
- Temporary or permanent modification of existing voids or structures so that they are no longer suitable for use by roosting bats, for example through repointing of walls and re-roofing; and
- Destruction of bat roosts.

In order to avoid offences a Protected Species licence will be required from Natural England before works to can commence, so that those works can proceed without offences being committed under the Conservation of Habitats and Species Regulations 2017 (as amended).

A suitable bat mitigation plan is provided in Appendix 6, which provides detailed measures for proportionate and appropriate compensation for the loss of the bat roosts present.

4.3 Nesting Birds

The barns also support nesting birds, including barn swallow *Hirundo rustica*. Nesting opportunities are expected to be largely retained within the retained hayloft of the north barn but in the absence of mitigation, the works could result in adverse impacts upon nesting birds, as follows:

- Disturbance to nesting birds while works are going on, including increased noise, dust and vibration;
- Loss of nest sites; and
- Possible harm to birds.

All species of bird are protected under legislation whilst nesting.

Compensatory roosting/nesting habitat is recommended to ensure continued nesting habitat for barn swallow; swallow nest cups could be installed in the retained hayloft of the barn to ensure long-term opportunities for this species.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Protected Species Mitigation Licence

Because bat roosts have been confirmed as present, a protected species mitigation licence will be needed prior to conversion works commencing to the barns at Eyton Court.

Bat Earned Recognition Licence

The application for a protected species mitigation licence under the Bat Earned Recognition (BER) Licence (WML-CL47) involves completion of an online site registration form. Given the presence of day roosts of two species of bat (two 'Group 1' species); the presence of night roosts of two species (one 'Group 1' and one 'Group 4' species); the presence of a transitional roost of one species (one 'Group 2' species); and a total of 9 No. roost sites, the site would be registered under Annexes C and H1 of the BER. This requires the named ecologist on the licence to be registered at Accreditation Level 2 (or higher). For AL2 registrations, the following documents must be submitted as part of the site registration request:

1. Declaration form (to be signed by the applicant);
2. Survey maps;
3. Impact map;
4. Compensation map; and
5. Lighting Plan (for light adverse species).

Works conducted under the licence will be guided by the Bat Mitigation Plan (provided in Appendix 6), which provides details of measures to avoid disturbance or harm to bats during works, measures to retain roosts, and measures to compensate for lost roosting features. As no confirmed maternity and hibernation roosts are present, there are no significant timing constraints to the proposed works but it is recommended that commencement of works avoids the sensitive hibernation period for bats of November to mid-March inclusive, so far as possible.

Given that a night roost of lesser horseshoe bat is present, an inspection of the mitigation will be undertaken immediately post-development, to ensure the features are suitable for use by the affected species, and again in June/July of year 2 following completion of the works (2026 or 2027).

Protected Species licences are issued by Natural England. Following their acknowledgement of receipt, NE staff require 10-15 working days to consider a BER licence registration request.

5.2 Mitigation

To ensure that bats are not harmed during works, to ensure retention of the bat roosts present and to ensure that there are no negative effects on bat populations, detailed mitigation measures for bats have been designed into the works programme and incorporated into a bat mitigation plan (Appendix 6).

5.3 Lighting

To avoid impacts during renovation and re-roofing works, the following additional mitigation measure is required:

- There will be no nocturnal illumination of the site during the conversion works.

For any new lighting proposed, a lighting designer should be consulted to detail the final lighting design and layout, implementing the following principles (please refer to '*Guidance Note GN08/23: Bats and artificial lighting in the UK*' (Miles *et al*., 2023) and '*Guidance Note 9/19 Domestic exterior lighting: getting it right!'* (Institute of Lighting Professionals, 2019) for further information):

- Any new lighting (internal and external) must be sensitively designed and sited so minimise any increase in the illumination of the site (especially those areas most sensitive for bats such as roost access points).
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700 Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550 nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Any external security lighting should be set on motion-sensors and short (<1min) timers.
- Luminaires with negligible or zero Upward Light Ratio must be used. As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.
- The planting of trees, bushes and hedges could potentially be used to mitigate for impacts of artificial lighting through the creation of dark buffers, although the lack of space at this site may restrict such options.

5.4 Nesting Birds

To ensure that nesting birds are not harmed during works, commencement of works should be timed to avoid the nesting period of March to August (where possible). If works must proceed during this period, then works will be preceded by a check by an ecologist and any active nests (e.g. barn swallow) will be retained with an appropriate buffer until the chicks have fledged and left the nest.

5.5 Validity of Report

Bats may move and change roosts, and numbers of individuals or species in any one roosting location may increase or decrease at any time. Consequently, if the proposed development does not take place before April 2025, at least one further bat activity survey should be carried out to provide up-to-date information on the status of the bat roosts present to inform licensing requirements.

6 RELEVANT LITERATURE

British Standard (2013). *BS 42020:2013: Biodiversity. Code of practice for planning and development.*

Chartered Institute of Ecology and Environmental Management (2017). *Guidelines for Ecological Report Writing*. CIEEM, Winchester.

Collins, J. (ed). (2023). *Bat Surveys for Professional Ecologists– Good Practice Guidelines, 4th edition*. Bat Conservation Trust, London.

Institute of Lighting Professionals and Bat Conservation Trust (2023). *Guidance Note GN08/23 Bats and artificial lighting in the UK.* Bats and the Built Environment Series. Available from: https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/

Institute of Lighting Professionals (2019). *Guidance Note 9/19 Domestic exterior lighting: getting it right!* Available from: https://theilp.org.uk/publication/guidance-note-9-domestic-exterior-lighting-getting-it-right/

Mathews, F., Kubasiewicz, L.M., Gurnell, J., Harrower, C.A., McDonald, R.A., Shore, R.F. (2018). *A Review of the Population and Conservation Status of British Mammals: Technical Summary. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage.* Natural England, Peterborough.

Ministry of Housing, Communities and Local Government (2023). *National Planning Policy Framework.* Available at: https://assets.publishing.service.gov.uk/media/65829e99fc07f3000d8d4529/NPPF_December_2023.pdf

Mitchell-Jones, A.J. and McLeish, A.P. (2004). *The Bat Workers Manual*. 3rd Ed. JNCC, Peterborough.

Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management, Ampfield.

APPENDIX 1: LEGISLATION AND PLANNING POLICY

A1.1 Introduction

This section briefly lists legal protection/planning policy applying to designated sites, species or habitats mentioned in this report. It does not comprehensively reflect the text of the legislation/policy and it should not be relied upon in place of it. The following documents are relevant:

- The Local Government Act 1985;
- The Wildlife and Countryside Act 1981 (as amended);
- The Environmental Protection Act 1990;
- The Countryside and Rights of Way (CRoW) Act 2000 (in England and Wales);
- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Conservation of Habitats and Species Regulations 2017, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- EU Regulation 1143/2014 on Invasive Alien Species, as amended by The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019;
- The Natural Environment White Paper (England) (DEFRA, 2011);
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (DEFRA, 2011), which underpins the UK Post-2010 Biodiversity Framework (JNCC & DEFRA, 2012);
- National Planning Policy Framework (MHCLG, 2023); and
- Herefordshire Local Plan: Adopted Core Strategy 2011 - 2031

A1.2 Protected Species

A1.2.1 All species of British bat

All species of British bat (*Vespertilionidae* and *Rhinolophidae*) are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and receive some limited protection under Section 9. These species are also all listed as protected species in Schedule 2 of The Conservation of Habitats and Species Regulations 2017, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which gives them full protection under Regulation 43.

It is also an offence to set and use articles capable of catching, injuring or killing such species (for example a trap or poison), or knowingly cause or permit such an action.

Where it is necessary to carry out an action that could result in an offence relating to a species protected under The Conservation of Habitats and Species Regulations 2017 (as amended), it is possible to apply for a licence from Natural England. Licences are only issued where Natural England is satisfied that the relevant legal tests have been met including that works are unavoidable and that reasonable steps have been taken to ensure that adverse effects on protected species are minimised.

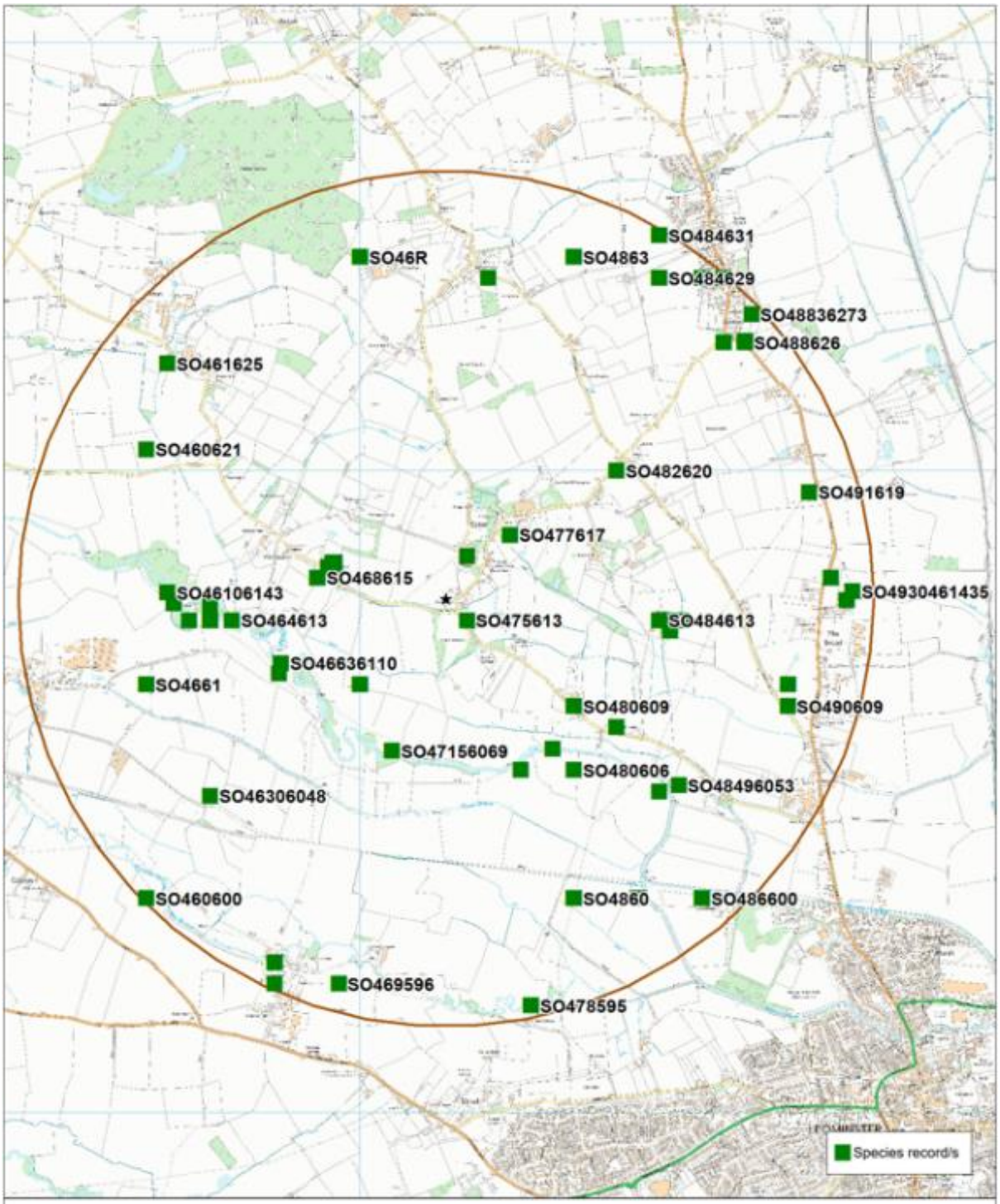
Seven species of British bat are listed as species of principal importance for the purpose of conserving biodiversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A1.2.2 Birds

All species of bird are protected under Section 1 (1) of the Wildlife and Countryside Act 1981 (as amended). Certain species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and receive protection under Section 1(5). There are special penalties where offences are committed for any Schedule 1 species.

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 includes 49 bird species which are of principal importance for the purpose of conserving biodiversity in England.

APPENDIX 2: PROTECTED SPECIES RECORDS WITHIN 2 KM



Map showing distribution of records for legally protected and priority species within 2km of SO474614
Eyton Court, Leominster, HR6 0AG

NORTH

SCALE 1:23,500

Herefordshire Biological Records Centre

Herefordshire Archive and Records Centre
Fir Tree Lane
Rotherwas
Hereford
HR2 6LA

Telephone: (01432) 261538
Email: hbrc@herefordshire.gov.uk

APPENDIX 3: DNA ANALYSIS RESULTS

Order Number: 2565

Swift Ecology

nick.underhill-day@swiftecology.co.uk

Samples submitted

Sample Code	Multi-species?	Sample Type	Date Sample Found	Species Group	Site postcode/ post town /grid ref	Site description / comments (Optional)	Suspected identity of species
SEL-2565-1	Yes	Faecal	14/02/2024	C. Bats	SO47456143	Large barn - scattered droppings	Pipistrelle, BLE
SEL-2565-2	Yes	Faecal	14/02/2024	C. Bats	SO47456143	Smaller barn - droppings below gable roof apex	BLE

Analysis Results

Sample Code	DNA Extraction Code	Species Identified	ID Method	Ct value
SEL-2565-1	EG-2024-0254	Pipistrellus pipistrellus (Common pipistrelle bat) and Plecotus auritus (Brown long-eared bat)	qPCR	22/19
SEL-2565-2	EG-2024-0255	Rhinolophus hipposideros (Lesser horseshoe bat), Plecotus auritus (Brown long-eared bat) and Eptesicus serotinus (Serotine bat)	qPCR	18/23/28

APPENDIX 4: BAT ACTIVITY SURVEY RESULTS

Table A4.1: Eyton Court, Leominster. Dusk bat activity survey results 23rd May 2024. HNS – Heard Not Seen. Key events in bold.

Time	Species	Notes
Surveyor 1: JB - north gable and east elevation of north barn		
2137	**Soprano pipistrelle**	**Emergence from north gable west tile verge (north barn)**
2140-2145	Soprano pipistrelle	Foraging along hedgerow to north and outside north gable
2145-2205	Soprano pipistrelle	Near constant foraging by 1-2 bats along hedgerow
2240	Soprano pipistrelle	Single pass, possibly commuting
Surveyor 2: NUD - west elevation of north barn, north elevation of south barn		
2140	Soprano pipistrelle	Foraging pass to east
2142	Soprano pipistrelle	Foraging pass. HNS.
2143	Common pipistrelle	Pass HNS.
2144	**Common pipistrelle**	**Emerged from upper open hayloft window on east elevation of north barn**
2145-2149	Common pipistrelle, Soprano pipistrelle	Frequent foraging passes.
2153-2154	Common pipistrelle, Soprano pipistrelle	Frequent foraging passes.
2156	Soprano pipistrelle	Foraging pass, plus social calling
2159-2201	Common pipistrelle, Soprano pipistrelle	Frequent foraging passes.
2203	Soprano pipistrelle	Foraging to west.
2207	Common pipistrelle	Foraging pass. HNS.
2209-2212	Common pipistrelle, Soprano pipistrelle	Frequent foraging passes.
2219	Common pipistrelle	Foraging pass, plus social calling
Surveyor 3: CW - south elevation of south barn		
2116	Soprano pipistrelle	Flew from direction of cottage to SE. Possible emergence from that building.
2119	**Common pipistrelle**	**Emergence from below barge board on south side of west gable, just above middle purlin.**
2125	**Soprano pipistrelle**	**Emergence from crack within south tile verge of west gable, at the lowest point of the roof.**
2131	**Soprano pipistrelle**	**Emergence from gap between middle purlin (south side) and surrounding brickwork of west gable.**
2135	Common pipistrelle	Flying to west from half-way up north elevation of brick barn.
2138	Soprano pipistrelle, Common pipistrelle	Flew at eaves level across south elevation (east to west). Flew across west gable to south.
2139	Soprano pipistrelle	Foraging.
2140	Common pipistrelle	HNS foraging pass.
2143	Common pipistrelle	Distant.
2144	Common pipistrelle	Pass - flying to west from north elevation of brick barn.
2145-146	Common pipistrelle x 2	Foraging around south elevation.
2147	Common pipistrelle x 2	Pass – flew from south to north across west elevation.
2148	Common pipistrelle	Foraging.
2152-2154	Soprano pipistrelle	Foraging around south elevation, social calls.

Time	Species	Notes
2155	Common pipistrelle	Foraging pass, east to west.
2155	Soprano pipistrelle	Social calls.
2200	Soprano pipistrelle	Pass.
2202-2203	Soprano pipistrelle	Foraging pass.
2206	Common pipistrelle	Foraging pass.
2208	Noctule	High overhead.
2209	Common pipistrelle	Pass, east to west.
2211	Soprano pipistrelle	Pass, east to west.
2214-2216	Soprano pipistrelle	Pass, social calls.
2220-2221	Soprano pipistrelle	Foraging pass, distant.
2228	Common pipistrelle	Pass.
2228-2229	Common pipistrelle, Soprano pipistrelle	Foraging, (distant), social calls.
2231	Common pipistrelle	Pass.
2231	Soprano pipistrelle	Pass.
2233-2234	Soprano pipistrelle	Pass.
2233-2235	Common pipistrelle	Foraging, social calls.
2237	Common pipistrelle	Pass, social calls.
2236-2238	Soprano pipistrelle	Foraging (distant).

Table A4.2: Eyton Court, Leominster. Dusk bat activity survey results 18th June 2024. HNS – Heard Not Seen. Key events in bold.

Time	Species	Activity
Surveyor 1: CW - north gable and east elevation of north barn		
2144, 2149	Soprano pipistrelle	Faint pass. HNS.
2150-2154	Noctule	Frequent overhead calls.
2159	**Soprano pipistrelle**	**Emergence from north gable, west tile verge, flew off to north-east.**
2212	Soprano pipistrelle	Pass along hedgerow/east elevation of barn to north.
2217	Soprano pipistrelle	HNS. Flying to north along hedgerow.
2218-2219	Noctule	Brief passes overhead.
2219	Soprano pipistrelle	Foraging in front of north elevation of barn, then flew south along hedgerow/east elevation of barn.
2220	2 x Soprano pipistrelle	Foraging along hedgerow/eastern elevation of barn.
2231	*Myotis* sp.	Flying overhead, and across north elevation to west.
2232	Indeterminate bat sp.	Seen flying along east elevation to south.
2239	Soprano pipistrelle	Flying over barn from west to east.
2244	Indeterminate bat sp.	Flying east to west across north gable of barn (non-echolocating).
Surveyor 2: NUD - west elevation of north barn, north elevation of south barn		
2146	Indeterminate bat sp.	Flew along north roof pitch of south barn (non-echolocating).
2150	Noctule	High overhead pass from west to north-east
2151	Noctule	High overhead pass from west to north-east to west
2151	**Soprano pipistrelle**	**Emerged from around middle purlin (south pitch) on west gable of south barn.**
2152	**Soprano pipistrelle**	**Emerged from same location as above.**

Time	Species	Activity
2152	**Soprano pipistrelle**	**Emerged from crack in south pitch tile verge on west gable of south barn.**
2158	Common pipistrelle	Faint pass
2159	Common pipistrelle	Commuting pass.
2210	**Brown long-eared bat**	**Roosting in south room of north barn**
2220	Soprano pipistrelle	Pass.
2222	**Brown long-eared bat**	**Roosting in south room of north barn**
2223	**Lesser horseshoe bat**	**Roosting inside north hayloft of north barn**
Surveyor 3: DS - south elevation of south barn		
2145	Soprano pipistrelle	Flew north to south past barn
2146	Soprano pipistrelle	Flew over barn north-to south
2147	Indeterminate bat sp.	Flew from behind east gable (non-echolocating).
2150	Noctule	Overhead pass
2152	Soprano pipistrelle	Pass. HNS
2153	Soprano pipistrelle	Pass.
2156	Soprano pipistrelle	Flew around south side of barn.
2206	Common pipistrelle	Flew north to south past barn.
2240	Lesser horseshoe bat	Pass. HNS.

Table A4.3: Eyton Court, static bat detector results 26 nights, between 23rd May and 18th June 2024.

North Barn : Static detector deployed in first-floor hayloft, pointing to opening into south room
• Common pipistrelle – 897 recordings over all 26 nights. Recordings between 2119-0439. • Soprano pipistrelle – 3494 recordings over all 26 nights. Recordings between 2115-0442. Extensive social calling. • Brown long-eared bat – 5 recordings over 4 nights, between 29 May and 5 June. Recordings between 2356-0123. • *Myotis* sp. - 2 recordings over 2 nights, on 4 and 13 June. Recordings at 2358 and 0142. • Noctule – 8 recordings over 4 nights, between 3-18 June. Considered to be bats flying overhead. • Barbastelle – 8 recordings over 6 nights, between 25 May – 16 June. Recordings between 2203 and 0235. • Lesser horseshoe bat – 1 recording at 2215 on 23rd May.
South Barn: Static detector deployed roughly central within the barn
• Common pipistrelle – 4825 recordings over all 26 nights. Recordings between 2114-0427. • Soprano pipistrelle – 3929 recordings over all 26 nights. Recordings between 2109-0442. Extensive social calling. • Brown long-eared bat – 6 recordings over 6 nights, between 28 May - 15 June. Recordings between 0050-0359. • *Myotis* sp. - 17 recordings over 7 nights, between 23 May -9 June. Recordings between 2214-0155. • Noctule – 7 recordings over 4 nights, between 23 May -18 June. Considered to be bats flying overhead. • Barbastelle – 4 recordings over 3 nights, between 25 May – 9 June. Recordings between 2246 and 0255.

Plates A4.1 – A4.5: Dusk emergence survey 23rd May 2024. Night Vision Aid field of view.

Plate A4.1: Infrared camera and light array on north elevation and west gable of south barn.

Plate A4.2: Infrared camera and light array on south elevation and west gable of south barn.

Plate A4.3: Infrared camera and light array on east gable of south barn.

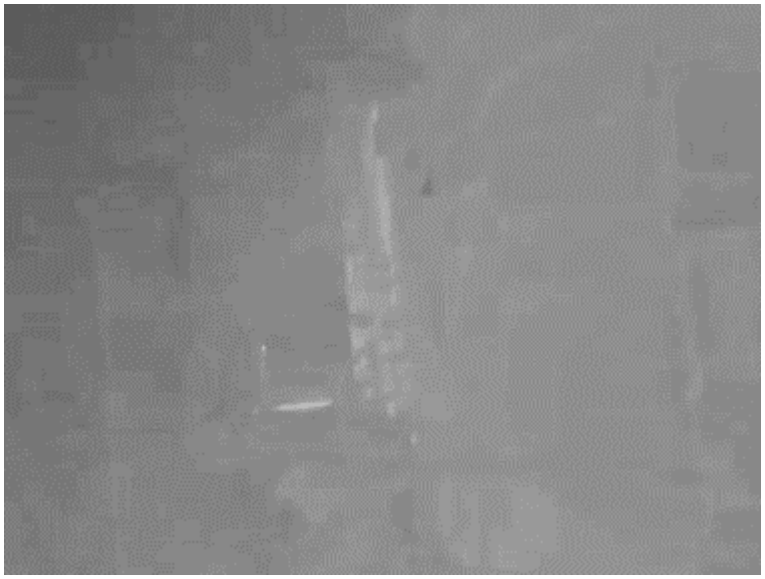


Plate A4.4: Thermal imaging monocular on east elevation of north and south barns (i.e. looking along public footpath alongside east elevation)

Plate A4.5: Thermal imaging monocular on west elevation of north barn.

Plates A4.6 – A4.10: Dusk emergence survey 18th June 2024. Night Vision Aid field of view.

Plate A4.6: Thermal imaging monocular on north gable of north barn and east elevations of north and south barns.

Plate A4.7: Thermal imaging monocular on north elevation and west gable of south barn.

Plate A4.8: Infrared camera and light array within hayloft of north barn.

Plate A4.9: Infrared camera and light array within south room of north barn.

Plate A4.10: Infrared camera and light array within south barn.

APPENDIX 5: BAT ROOST STATUS

Table A5.1. Details of bat roost types as per Collins (2023) and Natural England licence application documents

Roost type	Description
Day Roost	A place where individual bats, or small groups of males rest or shelter in the day but are rarely found by night in the summer.
Night Roost	A place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.
Feeding Roost	A place where individual bats or a few individuals rest or feed during the night but are rarely present by day.
Transitional/Occasional Roost	Used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Swarming Site	Where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites.
Maternity Roost	Where female bats give birth and raise their young to independence.
Hibernation Roost	Where bats may be found individually or together during winter they have a constant cool temperature and high humidity.
Satellite Roost	An alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

APPENDIX 6: BAT MITIGATION PLAN – EYTON COURT

A6.1 Introduction

Bat roosts are present in the two stone barns at Eyton Court, in the hayloft and south room of the north barn, within gable tile verges and at wall cavities/tops. **No works to the barns can be undertaken until a protected species mitigation licence has been obtained from Natural England**.

The site will need to be registered under the Bat Earned Recognition Licence (WML-CL47) at Accreditation Level 2 (AL2). An AL2 application (Annex C and H1) is required due to the presence of three 'Group 1' species of bat (common pipistrelle, soprano pipistrelle and brown long-eared bat); one 'Group 2' species of bat (serotine); and one 'Group 4' species of bat (lesser horseshoe bat), and an overall count of nine roosts. No maternity or hibernation roosts are present.

Bat Earned Recognition Licence
The application for a protected species mitigation licence is via an online site registration platform and the following documents must accompany the submission (for AL2 applications):

1. Declaration form (signed by the applicant);
2. Survey maps;
3. Impact map;
4. Compensation map; and
5. Lighting Plan (for light adverse species).

Protected Species licences are issued by Natural England. Following their acknowledgement of receipt, NE staff require 15 working days to confirm site registration.

The Bat Earned Recognition (BER) Licence is a licensing process introduced by Natural England with the aim of improving the speed of licensing decisions. Staff at Swift Ecology Ltd are accredited at Level 3 under the BER which covers the majority of roost types and species in the UK.

In order to ensure that bats are not harmed during the proposed works, and that there are no adverse effects on bat roosts or on wider bat populations, the mitigation strategy contains the following elements:

- Toolbox talk to contractor/site workers (mandatory);
- Provision of temporary bat boxes whilst works are going on;
- Provision of permanent compensatory roost features;
- Timing – commencement of works to avoid the hibernation period (November to March, inclusive) where possible;
- Pre-works checks by a licensed bat ecologist;
- Working methods (under supervision from an ecologist) to ensure minimal disturbance to bats and nesting birds, and avoidance of killing or injury to bats;
- Methods to be followed in the event of a bat being discovered during works in the absence of an ecologist;
- Requirements in relation to lighting and retention of flight lines; and

- Compliance checks to ensure adherence to the licensed mitigation strategy and licence conditions.

Mitigation must be proportionate to the impacts. Under the Bat Earned Recognition Licence the 'Minimum Expectations for Bat Mitigation, Compensation, Monitoring and Management' document provides guidance on Natural England's expectations for mitigating impacts on different bat species and roost types.

In relation to the species and roost types present, the following are relevant:

- For day and/or night roosts of common pipistrelle, soprano pipistrelle and brown long-eared bat, the guidance states "*where more than 3 species AND/OR more than 3 roosts will be impacted, OR where more than small numbers of bats will be impacted: the provision of at least one feature, suitable for the species concerned (e.g. a bat box/tile/brick/crevice) per roost and species to be impacted is considered appropriate. The feature must be made available to bats within 12 months of the roost being impacted…."*

- For a night roost of lesser horseshoe bat, the guidance states *"Provision of one roost void feature suitable for the species concerned. Access to the roost must be provided for maintenance, monitoring or management."*

- For a transitional roost of serotine, the guidance states *"Like for like roost provision preferred however failing that, new building or tree roost provision of same qualitative value (i.e. it can be a different size as long as it provides the same quality in terms of access, temperature, humidity, etc)."*

For the day roosts of common and soprano pipistrelles present within the two barns, it is anticipated that these roosts will be retained as a result of the works; however, there is some uncertainty as to the exact nature of the works to tile verges and wall tops, and thus roosts may be potentially damaged so they are no longer suitable for roosting bats. Therefore, in case of damage, modification and/or loss of roosts, suitable compensatory features will be included as part of the mitigation.

As long as the hayloft and flight access into the north barn are retained, the lesser horseshoe bat night roost and one common pipistrelle day roost within this part of the barn will be retained. As above, there is some uncertainty as to the scope and nature of any renovation works to this part of the building, and thus compensatory features will be included as part of the mitigation in case of roost modification.

One night roost for an individual brown long-eared bat and one transitional/occasional/opportunistic roost for an individual serotine bat will be lost as a result of conversion of the south room of the north barn. Suitable compensatory features/roost provision will be provided for loss of these roosts.

A6.2 General

This document will be available on site throughout the works and will be made available to all contractors to ensure that the requirements and mitigation measures are communicated effectively. All site workers will be briefed by a suitably qualified ecologist (hereafter referred to as 'the ecologist') prior to the start of works. It is the responsibility of the site owner "the joint licensee" and project manager to ensure that this method statement is complied with during works.

All contractors will be given a "toolbox talk" by the ecologist named on the licence, or an accredited agent, at the commencement of works so that they are aware of the particular issues relating to this site and their responsibilities in the event of a bat being found in the absence of the ecologist (see below). If separate contractors are responsible for different elements of the proposed works (or if there are significant changes to works personnel), the toolbox talk will be repeated as necessary.

The toolbox talk will cover the following topics:

- that bat roosts are present;
- the legislation relating to bats;
- the measures that will be used to protect them;
- good working practices;
- licensable activities; and
- what to do should bats be found in the absence of an ecologist.

This information will be provided before any works commence on site and a written record that this has been undertaken will be kept.

A6.3 Provision of bat boxes

Prior to works commencing, 4 No. bat boxes will be installed on suitable walls or on nearby trees on the site, in an undisturbed location. The bat boxes will provide alternative bat roosting habitat for the duration of the works period and to act as a safe place to put any bats found during the works conducted under licence. The specification of the bat boxes will be advised by the licensed ecologist, but will include models appropriate to the species and numbers and roost types of bats present. The exact locations, heights and orientations will be agreed with the licensed ecologist during works.

Suitable boxes include the following:

- Schwegler 1FF crevice roosting box (pipistrelle sp. bats, serotine)
- Schwegler 2FN cavity-roosting box (brown long-eared bat, pipistrelle sp. bats)

A6.4 Compensatory roost and bat access provision

A6.4.1 Compensatory Roost Provision

The hayloft of the north barn is included within the proposal as a dedicated bat loft. This void measures approximately 8.5 m long by 7 m wide and is roughly 2.5 m from the floor joists to the roof apex. The void is relatively uncluttered and provides a suitable post-emergence flight space for void roosting species, as well as suitable height (approx. 2.5 m) for night roosting species (brown long-eared bat and lesser horseshoe bat) and serotine (transitional/occasional roosting).

The hayloft has easy flight access for lesser horseshoe bat; this will be maintained.

Because the void is unlined and relatively draughty, incorporation of suitable crevice and void-roosting features will improve the void for a variety of species. Installation of baffles at the roof apex will also create a wider variety of environmental conditions for bats to roost in.

The roost provision to be provided within the barns at Eyton Court will include installation of 7No. roost features within the retained hayloft of the north barn. Roost features to be used will cater for all five species present, and will comprise the following:

North barn hayloft:

- 2No. Schwegler 1FF (pipistrelle sp. bats, serotine)
- 2No. Schwegler 2FN (pipistrelle sp. bats, brown long-eared bat)
- 2No. truss bat boxes (pipistrelle sp. bats, brown long-eared bat, serotine)
- 1No. bat rack hanging roost (lesser horseshoe bat)
- 3No. internal baffles of approx. 1 m height at roof apex, with rough-sawn timbers (lesser horseshoe bat, serotine)

The locations of the bat roost features will be chosen to ensure that:

- suitable conditions for day, night and transitional roosting are provided (i.e. within retained hayloft roof void that receives sufficient solar gain to generate warm conditions in summer, and cool conditions during the transitional period);
- existing access points are retained where possible to do so; and
- the hayloft roof void provides suitable internal volume for pre-emergence flight behaviours.

A6.4.2 Compensatory Bat Access Provision

To ensure that lesser horseshoe bats are able to access the retained hayloft within the north barn, flight access will be maintained via an unobstructed gap of at least 300 mm long by 200 mm high.

The above measures will ensure lesser horseshoe bats are able to access their night roost site within the retained hayloft.

A6.5 Timing

Works that will affect bat roosts will be timed to commence during the period when bats are least likely to be present. No maternity or hibernation roosts are present and so there are minimal constraints to timing of works. If possible, commencement of should be timed to avoid the bat hibernation period of November to March inclusive.

Removal of key roof structures, including barge boards, fascia, weatherboarding, timbers and any other roofing materials, such as panels, will take place under supervision from the ecologist, if required, to ensure that bats are not harmed during the works (see Part A6.6 below).

Any works during the breeding bird season will be preceded by a check for the presence of nesting birds. If nesting birds are present and works cannot proceed without disturbing them, then works must be halted until all chicks have fledged and left the nest.

A6.6 Working methods

Immediately prior to the commencement of works the ecologist will check the buildings to look for any roosting bats, so far as it is safe to do so. Should any roosting bats be found they will be identified, and their numbers determined to ensure that there is no conflict with the stipulations in the licence.

All roofing materials will be removed carefully by hand, with site workers briefly inspecting any potential roosting spaces so revealed for the presence of bats. The ecologist will be present during this process in order to recover any bats that are revealed. Any roosting bats revealed during this process will be transferred to a pre-installed bat box.

Crevices/cavities within the stone walls will be inspected by the ecologist using an endoscope and torch. If bats are present and cannot be safely captured, or the absence of bats cannot be confirmed, then exclusion methods will be applied, to allow bats to escape but not return to the roost areas. Exclusion devices will need to remain in place for sufficient time and in suitable weather conditions to give confidence that bats have dispersed, in line with published guidance (Mitchell-Jones and McLeish, 2004; Reason & Wray, 2023). This will be advised by the ecologist (depending on the conditions at the time of exclusion), but is likely to comprise a minimum period for each device of at least seven consecutive nights throughout a spell of suitable weather conditions.

No works will be undertaken at night and the site will remain unlit during the construction period.

At other times, the named ecologist on the bat mitigation licence or an accredited agent will be available at short notice should bats be found.

A6.7 Procedures in the event of discovering a bat

All site workers will be made aware of the possibilities of finding bats and the procedure to follow should they be found when the ecologist is not on site. If at any point a bat is discovered, works will stop immediately and an ecological professional qualified to deal with bats will be contacted for advice on how to proceed. Telephone numbers of such will be held on site (Swift Ecology numbers: 01684 302055 or 07719 329170).

Should any bats fall out of structures or be injured, they will be gently placed in a secure ventilated box (*e.g.* a cardboard box) by the site worker and left in a cool dark place, until appropriate advice can be sought. Bats must not be handled without gloves.

A6.8 Retention of flight lines and control of lighting

There will be no loss of habitat connectivity. No night-time lighting will be used during the construction period.

If any new external lighting is to be installed on the barns, this must be designed so as not to illuminate retained roosts, the retained hayloft roof or any other roof structures and associated bat access points. Adjacent flight lines and vegetation, such as hedgerows and trees, must not be artificially illuminated.

New lighting must be specified within the planning application to ensure it does not impact upon bats and bat roosts (see Section 5.3).

A6.9 Timber treatment

Any treatment of roof timbers required as part of the conversion works of the barns will not result in the damage or destruction of the bat roosts present, but could (in the absence of mitigation) result in the accidental death or injury of bats.

Once sprayed on the timbers, bats can ingest the chemicals while they groom themselves. Older chemicals such as Lindane leave a poisonous residue for some time so the bats may be killed even if they are not present during the treatment work. Modern chemicals, such as permethrin or borax-based treatments, are mostly (but not all) less toxic to bats.

Current Government guidance[3] is that:

- **You cannot use chemical products in or near a known bat roost <u>if there are bats present</u>**;
- When treating timber, **check the list of timber treatments[4] to see which products are suitable for use in or near bat roosts** and only use products listed for professional use if you have the information, instruction and training to do so (Timber treatments are summarised in Appendix 8);
- Use the listed product as directed on the packaging; and
- If your product is not listed, check if its list of active ingredients include any of the following:
    - 3-iodo-2-propynyl n-butylcarbamate
    - Benzalkonium chloride
    - Boric acid
    - Copper carbonate hydroxide
    - Dichlofluanid
    - Disodium octaborate
    - Disodium octaborate tetrahydrate
    - Flufenoxuron
    - Permethrin
    - Propiconazole
    - Tebuconazole
    - **If the product contains <u>only one</u> of these active ingredients**, you can use it around bat roosts but must use it as directed on the packaging;
    - **If the product contains <u>two or more</u> of these active ingredients**, you should contact the manufacturer before using it (see contact details on product label).
- If there is a possibility of bats being present, **the pesticide should be applied carefully** to minimise their chances of coming into contact with it. **Applying by brush rather than spray controls the chemicals more efficiently.** Apply sparingly to areas known to be used by bats for roosting.
- **Insecticidal smoke 'bombs' and fogging systems are imprecise and indiscriminate**. These should rarely be used as there is a good chance that the smoke will reach and harm bats tucked away in deep crevices. Such systems have limited random effect on insects and would also kill the natural predators of insects.

[3] https://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products-and-timber-treatments-in-or-near-them

[4] https://www.gov.uk/government/publications/bat-roosts-insecticides-and-timber-treatments/timber-treatment-products-suitable-for-use-in-or-near-bat-roosts

Some methods of insecticidal treatment only affect insects as they emerge from timber and will only be effective at that particular time in the insect's life cycle. This usually means timing timber treatment for early summer; this may be problematic if maternity roosts are present at this time and so alternative methods may need to be considered.

The timber treatment professional must be made aware of the above information and should discuss their preferred method and products for treatment with the bat ecologist prior to commencing works.

Timing of Timber Treatment
It is recommended that the timber treatment should not be conducted during the hibernation period, when a) it is hard to determine whether bats are present or absent from roosts and b) they are particularly vulnerable to disturbance.

The optimal times for timber treatment, in most instances, are therefore usually in spring or autumn when bat numbers in roosts tend to be lower. However this must be assessed on a case-by-case basis as significant numbers of bats may be present in autumn in some roost sites (e.g. mating roosts).

Guidance (Batworkers Manual, Mitchell-Jones and McLeish, 2004) suggests that if significant numbers of bats are present (suggested > 5), then works must be abandoned until such time as bats are absent or only present in very low numbers. This does not apply in this case as the barns only support individuals or low numbers of bats.

A6.10 Compliance checks and Post-development monitoring

The ecologist will visit the site at key stages of the works to check that the bat mitigation measures have been complied with and that all mitigation and compensation measures for bats have been implemented correctly.

In line with Natural England guidance under the Earned Recognition licensing (Minimum Expectations for Monitoring and Maintenance), for a night roost of a group 4 species, post-development monitoring will include inspection of the barns and all mitigation features at least two active seasons (est. 2026 or 2027) after completion of the works. The inspection will include a check of all retained and installed roost features to check for bats/fresh evidence of bats. Monitoring will include DNA analysis of any fresh bat droppings to determine which species are present.

A summary of mitigation and compensation measures is provided in Figures 10 and 11.

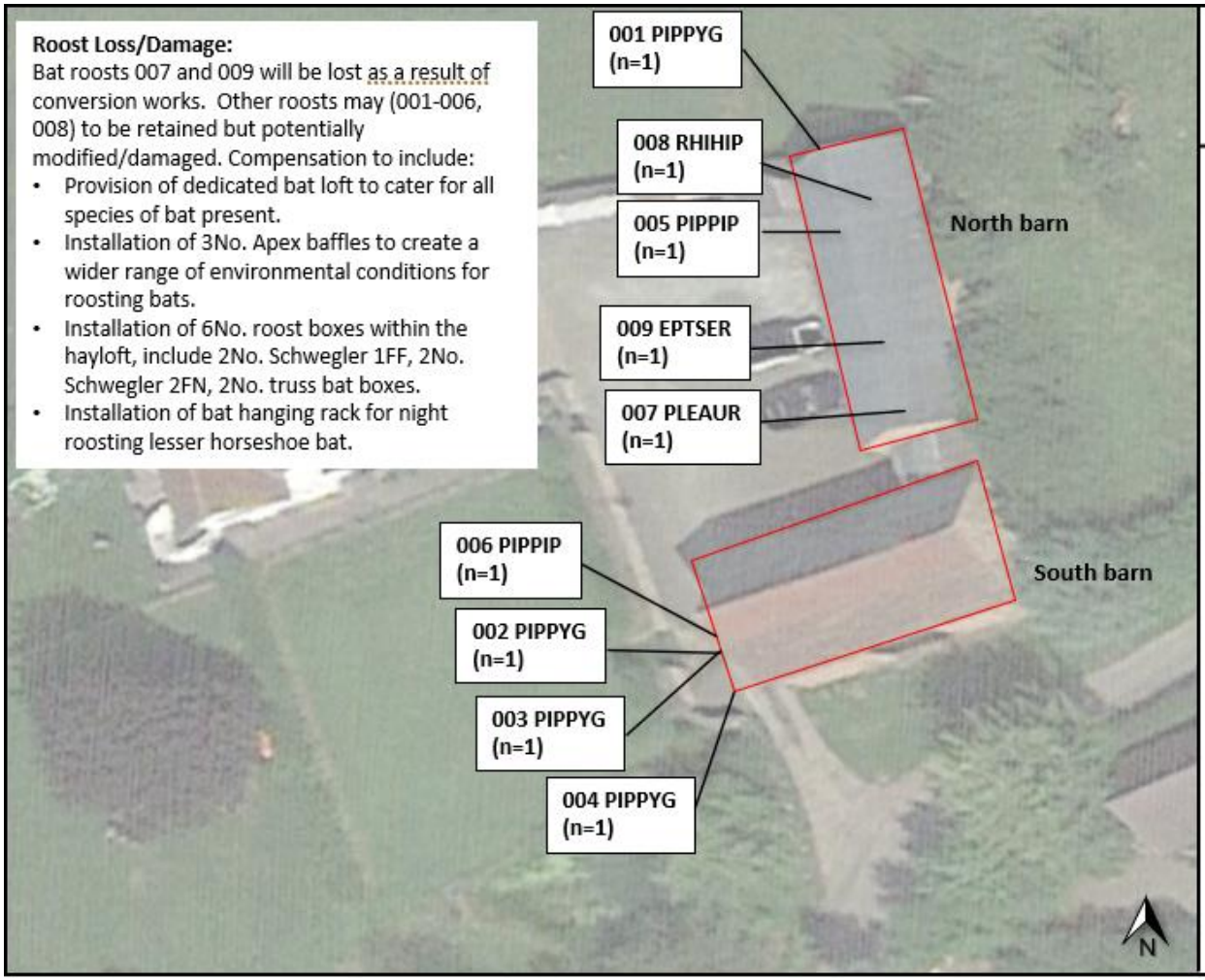


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Figure 10: Mitigation and compensation

KEY

Roost Disturbance: All roosts (001 to 009) may be disturbed during the duration of works, from installation of scaffolding, noise, vibration, dust, etc. Mitigation to include:

- Timing to avoid the hibernation period (November to March, inclusive).
- No night-time working/light to avoid night-time disturbance/roosting.
- 4No. temporary bat boxes suitable for the species present to be installed on a suitable wall/tree for the duration of works.

Roost retention/modification: Bat roosts 001 to 006, and 008, will be retained but potentially modified/damaged. Modification will be limited to potential changes in environmental conditions and/or modification of access resulting from repair of weatherboarding/barge boards/tile verges/purlins. Mitigation to include:

- Full retention of roost and associated access where possible.
- Incorporation of crevice-roosting features in bat loft as compensation in case of permanent damage.

Roost Loss: Bat roosts 007 and 009 will be lost. Compensation for loss of roosts will include:

- Provision of dedicated bat loft (retained hayloft) into the development.
- Installation of new roosting features as compensation for lost roosts within the bat loft (bat boxes, truss boxes, baffles, bat hanging rack).

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Figure 11: Mitigation and compensation

KEY

General mitigation measures:

- Toolbox talk to contractors.
- Pre-works checks by licensed ecologist.
- Pre-works exclusion measures where necessary.
- Working methods and supervision of some works to avoid killing/injury of bats.
- Timber treatments (if any) to include 'bat-safe' products only.
- Methods to be followed if bat found in absence of ecologist.
- Requirements in relation to lighting and retention of flight lines.
- Compliance checks to ensure adherence to the licensed mitigation strategy.

Post-development monitoring:

- Inspection over the summer (June/July) at least 2 active seasons post-development; to include inspection of all boxes/features and check for fresh evidence of night-roosting.
- DNA analysis of bat dropping, if required.