Barn at Fifield, Enford, Wiltshire, SN9 6DQ

Dusk Emergence Surveys for Bats



August 2023

All Ecology Ltd

Tel: 01453 393001
Email: info@allecology.co.uk
Web: www.allecology.co.uk

© ALL ECOLOGY 2023

Document Control

Site: Barn at Fifield, Enford, Wiltshire, SN9 6DQ

Title: Dusk Emergence Survey for Bats

For: Fowler Architecture

Project Number: 2394

Document Version: 1.0

Survey Date(s): 3rd & 24th August 2023

Document Date: 29th August 2023

Version	Date	Version Details	Prepared by	Reviewed by	Approved by
1.0	29/08/23	-	DR	VP	JG

England and Wales Office

All Ecology Ltd,
Haw Street,
Coaley,
Dursley,
Gloucestershire,
GL11 5AY.

Scotland Office

All Ecology Ltd,
Bowfield Road,
Howwood,
Renfrewshire,
PA9 1BZ.

Tel: 01453 393001
Email: info@allecology.co.uk
Web: www.allecology.co.uk

All Ecology is the trading name of All Ecology Ltd. Registered in England and Wales, Company Number 8306310

Notice to Readers:

The results of the survey and assessment work undertaken by All Ecology are representative at the time of surveying.

Every endeavour has been made to identify the presence of protected species on site, where this falls within the agreed scope of works.

The flora and fauna detailed within this report are those noted during the field survey and from anecdotal evidence. It should not be viewed as a complete list of flora and fauna species that may frequent or exist on site at other times of the year.

Up to date standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on-site.

All Ecology cannot take responsibility where Government, national bodies or industry subsequently modify standards.

All Ecology cannot accept responsibility for data collected from third parties.

Reference to sections or particular paragraphs of this document taken out of context may lead to misrepresentation.

Contents

Contents 1

1.0 Introduction 3

Background 3

Objectives and Aim 3

Site Location 4

2.0 Legislation and Status 5

Bats 5

3.0 Methodology 7

Personnel 7

Dusk Emergence Surveys 7

Equipment 7

Assessment 7

Limitations 9

4.0 Results 10

Dusk Emergence Surveys 10

5.0 Evaluation 11

Dusk Emergence Surveys 11

Site Status Assessment 11

6.0 Impacts and Recommendations 12

Impacts 12

Further Surveys 12

Legal Compliance 12

Mitigation 12

7.0 References 14

8.0 Plans **15**

Plan 1 – Survey Results 15

1.0 Introduction

Background

1.1 All Ecology was commissioned to undertake Dusk Emergence Surveys for Bats of a small barn at Fifield, Enford, Wiltshire, SN9 6DQ. The building is located in a rural setting with good bat foraging habitats in the nearby area in the form of a mosaic of grassland, hedgerows, mature trees and woodland with the river Avon a short distance east.

1.2 The building is the subject of a planning application for its conversion including replacement of the existing roof materials and corrugated metal wall sheets and alterations to window and door openings including new conservation roof lights.

1.3 A previous inspection survey of the building in July 2023 found no evidence of roosting bats; however, the building has multiple potential crevice roosts within the roof structure and also an enclosed roof space that could not be fully inspected. The building was classified to be of moderate potential for roosting bats. In accordance with the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd ed (Collins, 2016) and "Bat Conservation Trust Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys" (BCT, 2022), where a building is deemed to have moderate potential for roosting bats, the building should be subject to two dusk emergence surveys between May – August inclusive to give confidence in a negative result.

Objectives and Aim

1.4 The main objectives and aim of the survey were to establish the following:

- Presence/absence of bat roosts.
- Status of roosts if present.
- Whether a European Protected Species (EPS) licence is required to ensure legal compliance.
- Which type of mitigation measures would need to be employed.

Site Location



Figure 1: Site location plan.

2.0 Legislation and Status

Bats

2.1 All species of bat are listed on Schedule 5 of The Wildlife and Countryside Act (1981) and as such receive protection under Section 9 of this Act. This has been amended several times, most recently by the Countryside and Rights of Way Act 2000, which added 'or recklessly' to Section 9(4) (a) and (b). In summary, it is a criminal offence to:

- Intentionally kill, injure or take a wild bat.
- Be in possession of, or control, any live or dead wild bat or part of, or anything derived from a wild bat.
- Intentionally or recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection.
- Intentionally or recklessly disturb any wild bat whilst it is occupying a structure or place that it uses for shelter or protection.
- Transport for sale or exchange, or offer for sale or exchange, a live or dead bat or any part of a bat.

2.2 The Conservation of Habitats and Species Regulations 2010, consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994, in respect of England and Wales. It is an offence to possess, sell or offer or transport for sale any European species of bat or any part derived from such a species. These Regulations also remove the 'incidental result defence'. In other words, it is no longer a defence to show that the killing, capture or disturbance of a species covered by the Regulations or the destruction or damage of their breeding sites or resting places was the incidental and unavoidable result of a lawful activity. Natural England can grant European Protected Species (EPS) licenses in respect of development to permit activities that would otherwise be unlawful.

2.3 Under Section 40 of the Natural Environment and Rural Communities Act (2006) public bodies, including Local and Regional Planning Authorities have a duty to 'have regard' to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. In compliance with Section 41 of the Act, the Secretary of State has published a list of species considered to be of principal importance for conserving biodiversity in England. This is known as The England Biodiversity List, all of which make up the UK BAP Priority Species. This list forms the basis of the UK Biodiversity Framework, and in England, Biodiversity 2020: A strategy for England's wildlife and ecosystem services (Defra, 2011). Regional Planning Bodies and Local Planning Authorities will use it to identify the species that should be afforded priority when applying the requirements of the National Planning Policy Framework (NPPF) to maintain, restore and enhance species and habitats.

2.4 Seven bat species are NERC Priority Species (JNCC, 2007). These are:

- Barbastelle *Barbastella barbastellus*
- Bechstein's *Myotis bechsteinii*
- Noctule *Nyctalus noctula*

- Soprano Pipistrelle *Pipistrellus pygmaeus*
- Brown Long-eared *Plecotus auritus*
- Greater Horseshoe *Rhinolophus ferrumequinum*
- Lesser Horseshoe *Rhinolophus hipposideros*

2.5 Greater Horseshoe, Lesser Horseshoe, Barbastelle and Bechstein's, are afforded greater protection under European legislation, being listed under Annex II of the EC Habitats Directive which lists species whose conservation requires the designation of Special Areas of Conservation (SACs).

3.0 Methodology

Personnel

3.1 The survey was carried out by Laura Cuming BSc Hons MCIEEM, an ecologist with over six years' experience working as a consultant who holds a Class 2 Bat Licence (all species, all counties, Class Licence Registration No. 2017-32855-CLS-CLS) and an experienced bat surveyor. The work was overseen by James Godbeer BSc Hons MCIEEM, an ecologist with over 16 years' experience working as a consultant, and an experienced bat surveyor. James has extensive experience of managing environmental contracts, and particular experience in surveying, assessment and mitigation for rare and protected species. He has considerable knowledge of the development and planning process including Ecological Impact Assessments, sustainable ecological design and he has completed ecology chapters of Environmental Statements. James holds a number of protected species licences including bats (all species, all counties, Class Licence Registration No. 2015-12313-CLS-CLS), and Great Crested Newts (Class Licence Registration No. 2019-44282-CLS-CLS). He has successfully obtained European Protected Species mitigation licences for a number of bat species including Lesser Horseshoe, Greater Horseshoe, Serotine, Brown Long-eared, Common Pipistrelle and Natterer's bats, for a number of roost types including maternity and hibernation sites.

Dusk Emergence Surveys

3.2 The building was subject to dusk emergence surveys on the 3rd and 24th August 2023. In order to adequately cover the building two surveyor positions was used.

3.3 In accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd Ed (Collins, 2016), dusk surveys should begin 15 minutes before sunrise and continue for 1.5 – 2 hours after sunset with the survey start time adjusted on subsequent surveys or a repeat of the survey should bats already be in flight at 15 minutes before sunset. The dusk survey therefore began 30 minutes before sunset to avoid the risk of having to repeat the survey as species such as pipistrelles will often emerge well before sunset.

Equipment

3.4 Surveyors were equipped with Echo Meter Touch 2 Pro bat detectors. Registrations are recorded on the devices and notes made on species recorded, behaviour, time of registration, location and direction of flight where possible, including incidental observations from surrounding habitats. Canon XA40 video cameras were used in infrared mode with additional infrared illuminators to assist with the survey.

Assessment

3.5 The surveyed building has been evaluated to assess which of the following categories it falls into, if any (Mitchell-Jones, 2004 & Collins, 2016):

- **Transitional roost** (April-September/October) - On waking from hibernation or in the period prior to hibernation, bats search for roosts in which they stay for only a few days or on some occasions several weeks. These transitional roosts can be occupied by a few individuals or occasionally small groups. The transitional roosts used prior to hibernation

are generally cool and thus may allow bats to reduce their energy requirements before going into hibernation.

- Maternity roost (May-August) - Breeding females gather together around the beginning of May to form nursery colonies. During this period gestation begins with births typically occurring between June and July. The females and their young remain within the maternity roost until the young are weaned and independent (late July-August). These roosts tend to break up between August and September. Adult males are rarely found within these colonies. However, the adult males of long-eared bats, Daubenton's, Natterer's, and horseshoe bats can be found roosting within maternity colonies with their numbers increasing throughout the active season.
- Satellite roost (May-August) - Breeding females may have alternative roost sites in close proximity to the main nursery colony. These are referred to as 'satellite roosts'. The numbers of bats using these roosts can vary greatly, from a few individuals, to small groups.
- Mating roost (September-November) - All British bats are polygynous i.e. males mate with several females. Mating generally takes place from late summer and can continue through the winter. A number of different mating strategies are used by bats, though males of some species establish mating roosts, whereby they defend territory and display/call to females to mate.
- Hibernation roost (October-March) - Depending on the weather and food availability, bats tend to move to hibernation sites from October. Hibernation roosts can vary greatly in terms of the number of individuals and the diversity of species that occupy them. However, they tend to have a constant cool temperature and high humidity, which allows the bats to use less energy regulating their temperature. Bats will wake occasionally during hibernation to drink and feed.
- Night roost (March-November) - Bats may use roosts other than traditional day roosting sites to rest in during the night. These roosts vary in their conservation significance. Night roosts may be used by a single individual on occasion or they could be used regularly by the whole colony. Studies have shown that night roosts may be of particular importance to some species i.e. the Lesser Horseshoe, providing key resting places within core foraging areas.
- Day roost (March-November) - These roosts are used during the day to rest in. Males of most British species spend the summer roosting alone or in small groups with other males in such roosts. Bats may regularly use a number of day roosts, switching between them on a daily basis, though conversely, they may occupy the same roosting site for several weeks.
- Feeding roost (May-November) - These roosts can be occupied by a single animal or a few individuals throughout the active season. They vary in their significance as they may be used by the whole colony or just a few individuals to feed, to shelter from the weather or to rest temporarily. Feeding roosts are often used by long-eared and horseshoe species.
- Other considerations, Swarming sites - Swarming takes place between August and November, whereby large numbers of bats from several species gather, generally around caves and mines. They are often dominated by the *Myotis* species and appear to be

important mating sites with some bats travelling several kilometres to reach these areas. A proportion of the bats that travel to these sites will remain to hibernate.

Limitations

3.6 There were no limitations to carrying out the dusk emergence survey in accordance with the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd Ed (Collins, 2016).

3.7 The surveys only provide a 'snapshot' of the bat activity associated with the building and immediate surroundings and although the absence of a maternity roost can be determined with a high level of confidence as well as other roost types at the time of the surveys, it is possible that bats could roost at other times of the year.

4.0 Results

Dusk Emergence Surveys

4.1 No bats were recorded emerging from the building during the surveys.

4.2 During the dusk surveys, bat activity recorded was dominated by Common Pipistrelles and Soprano Pipistrelles with multiple foraging passes recorded along the line of mature trees adjacent to the lane and over the adjacent field with rare foraging passes of Myotis and Serotine.

Table 1. Weather conditions and sunset times.

Date	Temperature (⁰C)	Sunset Times	Wind	Cloud Cover (%)
03/08/23	14	20:52	None	70
24/08/23	18	20:13	None	20

5.0 Evaluation

Dusk Emergence Surveys

5.1 No bats were recorded emerging from the building and it is therefore concluded that roosting bats were absent from the building at the time of the surveys. The presence of a maternity roost can be ruled out with a high level of confidence and although individual bats could roost at any time, the present surveys indicate general absence.

5.2 Over the course of the surveys various bat species were recorded most prominently pipistrelle species; however, a total of five Serotine passes were recorded and two brief recordings were made of a Myotis sp. but these bats were not observed. Pipistrelle bats are the most common species of bat in the UK with widespread distributions and roosting in a wide range of habitats and building types (BCT, 2010). In general, level of bat activity was not deemed significant being dominated by Common and Soprano Pipistrelles making foraging passes along the tree lined lane immediately north and over the grass field adjacent to the south. Serotines that were recorded were noted to forage along the adjacent mature tree line and over gardens to the north of the lane.

5.3 Early activity observed during the dusk surveys was dominated by Common Pipistrelle and Soprano Pipistrelles with the earliest recording being a Soprano Pipistrelle which was recorded 12 minutes after sunset during the initial survey, which suggests that pipistrelles are roosting in close proximity to the site.

5.4 Recordings of Common Serotine and Myotis bat species were noted slightly later in each survey with the earliest recording of Serotine being at 21 minutes after sunset and Myotis sp. at 33 minutes after sunset. This suggests that these species are also roosting nearby.

5.5 No other bat species or activity was recorded.

Site Status Assessment

5.6 No roosts have been identified on site. It is not possible to determine the value of the site for foraging and commuting bats based on two dusk emergence surveys alone. However, given the small size of the site, it is unlikely that the site itself is important for any particular species of bat.

6.0 Impacts and Recommendations

Impacts

6.1 The building is the subject of a planning application for its conversion including replacement of the existing roof materials and corrugated metal wall sheets and alterations to window and door openings including new conservation roof lights.

6.2 In the absence of mitigation, the following impacts and potential impacts with regard to bats have been identified:

- Loss of features suitable for roosting bats; no roosts have been identified during the surveys. No impact.
- Potential for disturbing bats that could roost at other times of the year or those that could begin roosting at any time. Likely negligible impact.
- Temporary/permanent disruption of areas of bat foraging habitat on site and the immediate surroundings through potential increase/changes in external lighting and light spill through increased levels of glazing and more frequent use of the building but mitigation possible.

Further Surveys

6.3 No further surveys are required at this time. Sufficient surveys have been carried out to satisfy the recommended survey effort and repeat surveys would not be required unless the proposals are delayed by one year or more.

Legal Compliance

6.4 The Wildlife and Countryside Act 1981 as amended by The CRoW Act 2000 and The Conservation of Habitats and Species Regulations 2010 makes it illegal to recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection, whether the bat is occupying the shelter at the time or not.

6.5 European Protected Species (EPS) Licences to permit the above for the purposes of development must be obtained from Natural England. To gain a licence the scheme must have been issued with detailed planning permission and must not result in a loss of conservation status of the species concerned. Based on the survey evidence presented in this report it has been concluded that roosting bats are likely to be absent and an **EPS Licence will not be required** to permit the works.

Mitigation

Timing of Works

6.6 There are no restrictions on the timing of works with respect to bats.

Care and Vigilance During Works

6.7 It should be noted although there was nothing to indicate the presence of roosts on site, it is possible that crevice-dwelling bats e.g. Common Pipistrelle, could be present at other times or could begin roosting in crevices at any time, although any potential is low. As a precaution, the contractor(s) should therefore be advised to carry out all work with care and vigilance for bats.

6.8 During the works the contractor should be advised to adhere to the following procedures in the unlikely event bats are found during works:

- If the roost is still in the structure and bats are not injured, stop work and contact a licensed ecologist. If help is not available, allow bats to fly out of harm's way.
- If material containing a roost has been removed, the roost is not exposed and the bats are not injured, temporarily seal and isolate the roost, stop work and seek advice from a licensed ecologist. If advice is not readily available, re-open it and allow bats to relocate of their own accord.
- If the roost has been exposed, and especially if bats have been injured, stop work, collect bats in a secure box or bag (using a glove) and contact a licensed ecologist

Habitat Creation

6.9 No roosting bats were recorded during the survey but Common and Soprano Pipistrelle activity was recorded near to the building with Serotines and Myotis sp. noted foraging in the surrounding area. Consideration could be given to installing a bat roosting feature such as a Schwegler Bat Access Panel 1FE (or equivalent) on the converted building or alternatively bat boxes could be installed on trees. New bat roosting features should be installed in locations away from light sources.

Lighting

6.10 It has been concluded that the site is unlikely to be important for bats but surroundings are utilised by mostly pipistrelles for foraging and commuting. Pipistrelles are very tolerant of increased light levels but other less light tolerant species may forage near to the building at other times. A suitable lighting design strategy should be designed to ensure impacts to foraging and commuting bats are minimised. In general, measures should include the use of lighting only where absolutely necessary utilising highly directional warm white LED lighting, an example being down spots at 2.5 m high using warm white (2700 K) 8W LED lamps, 550 lumens, 35 degree beam angle. These could be individually activated by PIR sensors on a 5 minute cut off to further reduce their impacts. These will assist in lighting only the areas where lighting is required and minimising light spill either directly or through reflected light.

7.0 References

Bat Conservation Trust (2010). *Common Pipistrelle: Species information leaflet*. Bat Conservation Trust. [Online]. Available at: https://www.bats.org.uk/about-bats/what-are-bats/uk-bats [accessed on 29th August 2023].

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

The Conservation of Habitats and Species Regulations 2010, SI 2010/490

The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007, SI 2007/1843, London: HMSO.

Countryside and Rights of Way Act 2000, (c.37), London: HMSO.

Defra (2011) *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*. Defra.

JNCC (2007). *UK BAP Priority Species*. [Online]. Available at: http://jncc.defra.gov.uk/page-5717 [accessed on the 29th August 2023].

Mitchell-Jones, A.J. (2004). *The Bat Mitigation Guidelines*. English Nature: Peterborough.

Wildlife and Countryside Act 1981 (and amendments), (c.69), London: HMSO.

8.0 Plans

Plan 1 – Survey Results

