Bat Activity Survey Report

Sir Robert's Farm, Goose Green Lane, Pulborough

July 2023

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Bat Activity Survey Report

Sir Robert's Farm, Goose Green Lane, Pulborough

28/07/2023

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Contents

Non-technical Summary

Phlorum was commissioned by Peter Isherwood to carry out a single bat activity (emergence) survey at the buildings known as the Chicken Shed and the Cottage, Sir Robert's Farm, Goose Green Lane, Pulborough, West Sussex, RH20 2LW on the 1st June 2023, prior to development. The bat survey follows on from a Preliminary Ecological Appraisal (PEA) and concurrent preliminary roost assessment for bats and this report should be read in conjunction with the PEA report (Phlorum 2022).

Current proposals are for the demolition and conversion of the buildings known as the Chicken Shed and Cottage. The survey area covered by the PEA extended over approximately 1.1 hectares (ha), however the bat surveys focused on only two of the five buildings at the site.

This revision of the report was produced following an amendment to the redline boundary.

The main findings of the survey are as follows:

- The Chicken Shed and Cottage were the focal point of the activity survey. These buildings are situated within the southwest extent of the land ownership boundary, the Chicken Shed is positioned at the northern central part of this area, and the Cottage is positioned adjacent the southeast of the building known as Sussex Barn.
- During the activity survey, no bats were seen to emerge from either of the buildings. The main type of activity recorded at the site was foraging and commuting, likely due to the extensive areas of woodland and mature trees positioned just outside the curtilage of the site.
- Overall, there was a low level of bat activity at the site. The species assemblage was moderately diverse and comprised mostly common species with the exception of barbastelle. A total of 6 bat species were recorded foraging and commuting at the site which included common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius' pipistrelle *(Pipistrellus nathusii),* barbastelle *(Barbastella barbastellus)*, and noctule (*Nyctalus noctula*).
- A soprano pipistrelle roost is likely to be located in the immediate vicinity of the surveyed buildings.
- A precautionary approach to the start of works in regards to the Chicken Shed and Cottage is recommended to minimise disturbance should any bats utilise the potential roosting feature in the interim before developments start.

- Providing a precautionary approach is followed, and no bats are found, then a European Protected Species Mitigation **will not be required**. A suitably experienced ecologist should oversee the start of the works and discuss the stages of the proposed works with the on-site contractors. The ecologist may then return to the site to oversee certain stages of the works as considered necessary
- Should works occur that interfere with any confirmed pipistrelle roost in the immediate vicinity, a bat mitigation license **will be required**.

Further information regarding mitigation and site enhancement is provided in the recommendations section of the report.

1. Introduction

Background

1.1 Phlorum Limited was commissioned by Peter Isherwood to carry out a bat activity (emergence) survey in relation to the buildings known as the Chicken Shed and the Cottage at Sir Robert's Farm, Goose Green Lane, Pulborough, West Sussex, RH20 2LW (hereafter referred to as "the site") prior to development.

1.2 The bat survey follows on from a Preliminary Ecological Appraisal (PEA) and concurrent preliminary roost assessment for bats and this report should be read in conjunction with the previous PEA report (Phlorum 2022).

1.3 It is understood that current proposals are demolition and conversion of the buildings known as the Chicken Shed and Cottage. The survey area during the PEA extended over approximately 1.1 hectares (ha), however the bat surveys focused on only two of the five buildings at the site.

1.4 During the initial preliminary roost assessment of the Chicken Shed, the only potential roosting features for bats were two chimney spouts and gaps between the corrugated roof panels. The Chicken Shed was classified as having **low** potential for roosting bats. The cottage was inspected externally and had several potential roosting opportunities which included loose tiles and raised ridge tiles, which provide opportunities for crevice dwelling bats. The Cottage was classified as having **low** potential for roosting bats. It was therefore recommended that a single activity survey be undertaken to assess whether or not bats are using the structures.

1.5 This report provides an assessment of the status of bats within the site, providing information on their presence/likely absence and distribution. Potential impacts of the proposed development are identified and measures to mitigate the effects of the proposed development on bats are discussed in outline.

Site Description

1.6 The site is located at Sir Robert's Farm, Goose Green Lane, Pulborough, West Sussex, RH20 2LW. The site is made up of five individual dwellings, however the proposed works are solely focused on the Chicken Shed and Cottage. The wider site comprised of buildings, hardstanding, amenity grassland, neutral grassland, continuous scrub, ruderal vegetation, and trees. The immediate surroundings to the west, north, and south comprise woodland and mature trees. The wider surrounds are largely agricultural settings with scattered woodland. Laybrook Ponds and the water bodies associated with Pulborough Angling Society are also located within close range of the site.

1.7 The site is located to the east of Pulborough, approximately 7.6km east of Pulborough train station and 2.7km north-west from the A24.

1.8 The full site comprised of buildings, hardstanding, amenity grassland, neutral grassland, continuous scrub, ruderal vegetation, and trees.

1.9 The National Grid Reference for the centre of the site is TQ 11922 18417.The survey area extended over approximately 1.1 hectares (ha).

2. Methodology

Data Search

2.1 Records for bats within a 2km radius of the site were obtained from the Sussex Biodiversity Records Centre (SxBRC, 2022) as part of the Preliminary Ecological Appraisal.

Review of Bat Building Inspection (Preliminary Roost Assessment)

2.2 A bat building inspection (Preliminary Roost Assessment) was carried out as part of the Preliminary Ecological Appraisal (Phlorum 2022). A review of this document was carried out to guide the activity surveys and ensure appropriate coverage.

Personnel

2.3 The survey was led by Harry Webster, an ecological consultant with over 3 years' survey experience. Harry has experience in leading and assisting protected species surveys, including bats. Harry also holds a Bat Level 1 Survey Class License CL17 (2022-10982-CL17-BAT).

Dusk Emergence Survey

2.4 An activity survey was carried out on 1st June 2023. Four surveyors were used to assess the site for roosting, foraging and commuting activity. Bat Box Duet heterodyne detectors and Echo Meter Touch pro 2 detectors were used for the survey.

2.5 During the survey the lead surveyor was positioned at the rear of the Chicken Shed, with a view of the north and west aspects. Surveyor 2 was positioned in front of the Cottage with a view of the west aspect. Surveyor 3 was positioned in front of the Chicken Shed with a view of the south and east aspects of the building. Surveyor 4 was positioned at the rear of the Cottage, with a view of the south and east aspects.

2.6 The evening surveys commenced at least 15 minutes before sunset and lasted for at least two hours after sunset. Prior to sunset, bat detectors were tuned to below 30 kHz to listen for any potential pre-emergence social calls and noctules, which occasionally leave their roosts before sunset, tuning the detectors up to 45 kHz to pick up on general pipistrelle activity.

2.7 All surveys followed standard protocols and accepted standards (Mitchell-Jones and McLeish, 2004; Collins, 2016).

Roost Characterisation

2.8 Where a potential bat roosting feature or confirmed roost was identified, the surveyor assessed how these could be used by bats throughout the year, in accordance with Natural England (2015):

- day roost - where individual bats, or small groups of males, rest or shelter in the day, but rarely on summer nights;
- night roost - where bats rest or shelter at night, but rarely during the day;
- feeding roost - where bats rest at night between feeding sessions, but rarely during the day;
- hibernation roost - where bats are found during winter;
- transitional or occasional roost - where bats gather at a temporary site before and after hibernation;
- mating site - where males and females gather from late summer to early winter;
- maternity roost - where babies are born and raised until they're independent;
- satellite roost - where breeding females roost close to the main nursery colony in the breeding season; and
- swarming site - where bats gather in large numbers from late summer to autumn.

Constraints

Data Search Constraints

2.9 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Bat Survey Constraints

2.10 Bats are mobile animals which can move roost sites both within and between years. It is possible that surveys carried out in June may miss roosts occupied earlier, and or later in the year.

3. Results

Data Search

3.1 The data search returned records of several bat species within 2km of the site, occurring within the last 10 years. Species include common pipistrelle, soprano pipistrelle, brown long-eared, alcathoe (M*yotis alcathoe),* whiskered *(Myotis mystacinus),* serotine *(Eptesicus serotinus),* and noctule *(Nyctalus noctula).* The closest roosts are located at the Church of Holy Sepulchre, Warminghurst, located 1.5km to the southwest, and at Hooklands Lane, located 1.5km to the northeast.

Review of Bat Building Inspection (Preliminary Roost Assessment)

3.2 A bat building inspection (Preliminary Roost Assessment) was carried out as part of the Preliminary Ecological Appraisal (Phlorum 2022). This discovered the following potential roost features:

3.3 The Chicken Shed was inspected internally and externally. The Chicken Shed had two chimney spouts that provided open access to the building. There were also gaps between the panels of the corrugated roof. No physical evidence of bat was discovered inside the Chicken Shed.

3.4 The Cottage was only inspected externally due to access requirements. Features noted included loose tiles and raised ridge tiles at the eastern aspect.

Survey Overview

3.5 Following the identification of buildings within the site boundary with low potential to support roosting bats, a dusk emergence survey was undertaken at each building to ascertain the presence or absence of bat roosts. All surveys were carried out in accordance with BCT guidelines.

3.6 The bat survey was undertaken in the peak activity period for bat activity (May to September). Weather conditions were warm, with dense cloud coverage and a light breeze.

3.7 No bats were seen to emerge from either of the buildings during the survey. The main activity type recorded was foraging and commuting.

3.8 Overall, there was a low level of bat activity recorded at the site. The species assemblage was moderately diverse and comprised mostly common species with the exception of barbastelle. A total of 6 bat species were recorded foraging and commuting at the site which included common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius' pipistrelle *(Pipistrellus nathusii),* barbastelle *(Barbastella barbastellus)*, and noctule (*Nyctalus noctula*).

3.9 The area surveyed is illustrated in the Map in Appendix A.

Dusk Emergence Survey

1st June 2023

3.10 Sunset was at 21:07hrs and the temperature at the start of the survey was 15°C, falling to 13°C at the end of the survey. The weather conditions were warm with dense clous coverage and a gentle breeze.

3.11 In total 6 bat species were recorded during the survey. These were common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, barbastelle, brown long-eared, and noctule.

3.12 No bats were seen to emerge from any features of the buildings for the duration of the survey.

3.13 The first bat pass was recorded at 21:16hrs which was a pipistrelle (sp.) commuting at the west side of the Cottage. Based on the time of the first passes, it can be assumed that roosts are close by for pipistrelles. Foraging was recorded occasionally throughout the survey. The block of woodland and mature trees to the north, east, and south proved to be a common re-occurring visual siting spot. The highest level of activity was recorded from 21:16 – 22:00. The last pass was recorded at 23:05hrs which was a pipistrelle (sp.) and was heard but not seen.

3.14 The full survey data can be found in Appendix C.

4. Discussion and Recommendations

Discussion

4.1 Overall, there was a **low** level of bat activity recorded at the site. A total of 6 bat species were recorded foraging, socialising and commuting at the site. No emergences were recorded. However, based on the time of the first pass, it can be assumed that a pipistrelle roost is close by.

4.2 Based on the findings of this survey a European Protected Species Mitigation (EPSM) licence **will not be required**. However, a pipistrelle roost is likely to be in the immediate vicinity. Therefore, works can occur at the site without a bat mitigation license, provided that there is no impact to bat roosts in the immediate vicinity.

4.3 A precautionary approach to the removal of potential bat roost features at the Chicken Shed and Cottage is recommended. A suitably experienced ecologist should oversee the start of the works and discuss the stages of the proposed works with the on-site contractors. The ecologist may then return to the site to oversee certain stages of the works as considered necessary. If during the precautionary works a bat is found, then the ecologist needs to be informed and all work stopped until it has been assessed. If a roost is confirmed, then a bat EPSM licence may be required before the work commences.

Recommendations

Construction Phase

4.4 A precautionary approach to works should be adopted in order to safeguard the due to the removal of potential roost features at the Chicken Shed and Cottage.

4.5 It is recommended that any works to demolish/renovate the onsite buildings commence outside of the hibernation period, when bats are considered least vulnerable. The hibernation period is taken to run between mid to late November and mid-March, weather dependant.

4.6 A suitably experienced ecologist should oversee the start of the building works. On arrival to the site the ecologist will re-inspect Chicken Shed and Cottage to look for evidence of roosting bats. An on-site assessment can then be made by the ecologist regarding the status of any roosts present.

4.7 The ecologist will then discuss the different stages of the proposed works with the on-site contractors. The ecologist may need to return to the site to oversee certain stages of the works.

4.8 If considered necessary following consultation with the on-site contractors, the ecologist will guide the start of the works.

4.9 The ecologist should be kept informed throughout the construction phase and an ecological watching brief may be required to oversee certain phases of the re-development for example, the ecologist may need to oversee any ground excavation works to ensure noise levels will not impact the off-site roost etc.

4.10 If bats are subsequently found to be present during the remainder of the work, activities should cease immediately and advice sought from a suitably experienced ecologist.

Habitat Enhancement/Retention

4.11 Boundary trees and Sir Roberts Copse adjacent the north, west, and south of the site should be retained. These habitats provides connectivity to the wider landscape.

4.12 Additional roosting opportunities could be incorporated into the final design to enhance the site for roosting bats post works. This could include the installation of at least two bat boxes such as the Schwegler 1FF bat box located on surrounding mature trees within the site. These should be orientated with a south east or south west aspect and located at least 3m from ground level.

Bats and Lighting

4.13 Different species of bat have been found to react differently to night-time lighting however research has found that generally, all species of bats are sensitive to artificial lighting and that excessive lighting can delay bats from emerging, thus shortening the time available for foraging, as well as causing individuals to move away from suitable foraging grounds or roost sites, to alternative dark areas (Jones, 2000). Bats can also become isolated from their foraging grounds if the linear features they use for commuting are suddenly illuminated, creating a light barrier (Fure, 2006).

4.14 The current site is not well lit at night and therefore the development should serve to maintain the site's value for foraging bats and to minimise indirect impacts from lighting associated with the new building. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management 2006, Institute of Lighting Professionals 2018, Bat Conservation Trust, 2014):

- The level of any artificial lighting including flood lighting should be kept to a minimum, particularly around the site boundaries;
- LED lights are a preferred option to low pressure sodium lights or high pressure sodium or mercury lamps. LED lights do not emit UV radiation, towards which some insects are attracted, drawing them away from bat foraging areas in the surrounding landscape;
- all lights should be directed at a low angle with minimal light spillage wherever possible;
- ideally the site boundaries should be kept dark, preferably at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g. 1.5 hours after sunset and 1.5 hours before sunrise);

- Artificial lighting should not directly illuminate any potential bat commuting areas such as boundary features. Similarly, any newly planted linear features or buffer areas around the site boundary should not be directly lit; and
- If security lights are required, then they will be set on a Passive Infrared (PIR) sensor and timer so that the light is only emitted for the short time period required.

5. Conclusions

Conclusions

5.1 The site is located at Sir Robert's Farm, Goose Green Lane, Pulborough, West Sussex, RH20 2LW. The immediate surroundings to the west, north, and south comprise woodland and mature trees which provides potential foraging and commuting opportunities for bats in the wider landscape.

5.2 Current proposals are for the demolition and conversion of the buildings known as the Chicken Shed and Cottage.

5.3 During the initial preliminary roost assessment of the Chicken Shed, the only potential roosting features for bats were two chimney spouts and gaps between the corrugated roof panels. The Chicken Shed was classified as having **low** potential for roosting bats. The Cottage was inspected externally and had several potential roosting opportunities which included loose tiles and raised ridge tiles, which provide opportunities for crevice dwelling bats. The cottage was classified as having **low** potential for roosting bats. It was therefore recommended that a single activity survey be undertaken to assess whether or not bats are using the structures.

5.4 Overall, there was a low level of bat activity at the site. The species assemblage was moderately diverse and comprised mostly common species with the exception of barbastelle. A total of 6 bat species were recorded foraging and commuting at the site which included common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius' pipistrelle *(Pipistrellus nathusii),* barbastelle *(Barbastella barbastellus)*, and noctule (*Nyctalus noctula)*.

5.5 A soprano pipistrelle roost is understood to be located in the immediate vicinity which must be factored in to construction and operational impacts following the recommendation mentioned in the previous section of the report.

5.6 A precautionary approach to the start of works in regards to the Chicken shed and Cottage is recommended to minimise disturbance should any bats utilise the potential roosting feature in the interim before developments start.

5.7 Works can occur at the site **without a bat mitigation license**, provided that the recommendations in this report are followed.

6. References

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Appendix A
Bat Survey Map

Figure 1: Sir Robert's Farm Bat Survey Map

Drawn by: HW
On the: 06.07.2023
Not to Scale
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Appendix B
Legislation

Legislation

This section contains information pertaining to the legislation and planning policy applicable in Britain. This information is not applicable to Northern Ireland, the Republic of Ireland the Isle of Man or the Channel Islands. Information contained in the following appendix is provided for guidance only.

Species

The objective of the EC Habitats Directive1 is to conserve plants and animals which are considered to be rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and also implements the obligations set out for species protection from the Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Various amendments have been made since the Wildlife & Countryside Act came into force in 1981. Further details pertaining to alterations of the Act can be found on the following website: www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

There are a number of other legislative Acts affording protection to species and habitats. These include:

- Countryside and Rights of Way (CRoW) Act 2000;
- Deer Act 1991;
- Natural Environment & Rural Communities (NERC) Act 2006;
- Protection of Badgers Act 1992; and
- Wild Mammals (Protection) Act 1996.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and

[1] Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

- selling, offering or exposing for sale, possession or transporting for purpose of sale

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing of Schedule 2 species (all bats);
- deliberate disturbance of bat species as to impair their ability:

  (i) to survive, breed, or reproduce, or to rear or nurture young; and

  (ii) to hibernate or migrate.
- deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Appendix C
Bat Survey Data

Bat Survey Data

Dusk Emergence Survey on 1st June 2023

Number of Surveyors	Site and Job no:	Start Time	Sunset Time	Finish Time	Temperature (°C) at start	Temperature (°C) at end	Cloud Cover (Oktas 1-8)	Windspeed (Beauforts 1-12)	Rain
4	Sir Robert's Farm, Pulborough (9961)	20:52	21:07	23:07	15	13	8	4	no

Surveyor 1: RS				Bat Detector Used: Echo Metre
Time	Location	Activity observed	Number of passes	Comments/Notes
21:42	North / west chicken shed	n/a	2	Heard not seen. Noctule
21:42	North / west chicken shed	n/a	1	Heard not seen. Soprano pipistrelle

21:43	North / west chicken shed	n/a	2	Heard not seen. Noctule
21:48	North / west chicken shed	n/a	1	Heard not seen. Nathusius pipistrelle
22:14	North / west chicken shed	n/a	1	Heard not seen. Barbastelle
21:32	North / west chicken shed	n/a	1	Heard not seen. Common pipistrelle
22:40	North / west chicken shed	n/a	1	Heard not seen. Common pipistrelle
22:45	North / west chicken shed	n/a	1	Heard not seen. Brown long-eared

Surveyor 2: AH				Bat Detector Used: BD1
Time	**Location**	**Activity observed**	**Number of passes**	**Comments/Notes**
21:16	North / west cottage	Commuting	1	Seen heard. Pipistrelle (sp.)
21:24	North / west cottage	Commuting	1	Seen heard. Pipistrelle (sp.)
21:30	North / west cottage	n/a	1	Heard not seen.
21:33	North / west cottage	n/a	1	Heard not seen.
21:42	North / west cottage	n/a	1	Heard not seen.
21:50	North / west cottage	Foraging	2	Seen heard
22:01	North / west cottage	Commuting	1	Seen heard
22:08	North / west cottage	Commuting	1	Seen

22:14	North / west cottage	n/a	1	Heard not seen
22:15	North / west cottage	Foraging	1	Seen heard. Pipistrelle (sp.)
22:31	North / west cottage	n/a	1	Heard not seen.
22:40	North / west cottage	n/a	1	Heard not seen.
22:44	North / west cottage	n/a	1	Heard not seen.
23:05	North / west cottage	n/a	1	Heard not seen.

Surveyor 3: AM				Bat Detector Used: BD2
Time	**Location**	**Activity observed**	**Number of passes**	**Comments/Notes**
21:44	South / east chicken shed	n/a	1	Heard not seen. Pipistrelle (sp.)

Surveyor 4: PL				Bat Detector Used: BD3
Time	**Location**	**Activity observed**	**Number of passes**	**Comments/Notes**
21:22	South / east cottage	Commuting	1	Seen heard. Pipistrelle (sp.)
21:24	South / east cottage	Commuting	1	Seen heard. Pipistrelle (sp.)
21:30	n South / east cottage a	n/a	1	Heard not seen.
21:33	South / east cottage	n/a	1	Heard not seen.

21:42	South / east cottage	n/a	1	Heard not seen.
21:45	South / east cottage	Foraging	2	Seen heard
22:01	South / east cottage	Commuting	1	Seen heard
22:08	South / east cottage	Commuting	1	Seen
22:14	South / east cottage	n/a	1	Heard not seen
22:32	South / east cottage	Foraging	1	Seen heard. Pipistrelle (sp.)
22:45	South / east cottage	n/a	1	Heard not seen.

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