



The Ecology Co-op

ENVIRONMENTAL CONSULTANTS

Unit 4, Langham Stables, Langham Lane, Lodsworth, Petworth, West Sussex, GU28 9BU.

Tel: 01798 861 800 - E-Mail: info@ecologyco-op.co.uk - Web: www.ecologyco-op.co.uk

Bat Emergence Survey Report

Site Name

Soles Coppice

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Client

David Young

Author

Emily Davies

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The Ecology Co-operation Ltd

Registered Office: Unit 4, Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU

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About the Author

This report has been prepared by Emily Davies, a Consultant Ecologist at The Ecology Co-op. She has a BSc (Hons) in Zoology with Herpetology and previously worked in a veterinary practice. She started at The Ecology Co-op in 2025 and has been involved with and been the lead surveyor for various protected species surveys for a wide range of both homeowner and developer project proposals. As a Qualifying member of the Chartered Institute for Ecology and Environmental Management (CIEEM), she is bound by their code of professional conduct.

About the Reviewer

This report has been reviewed by Paul Whitby, who is a Principal ecologist with 20 years experience. He has a Level 2 bat survey licence and has prepared several European Protected Species licences for bats. As an Associate member of the Chartered Institute for Ecology and Environmental Management (CIEEM), he is bound by their code of professional conduct.



Report Summary

Purpose	The Ecology Co-op was commissioned by David Young to undertake an updated Bat Emergence survey at Soles Coppice further to a proposal to construct a single-storey extension to the eastern elevation and complete replacement of the existing roof.
Context	The site currently comprises of a detached bungalow dwelling surrounded by modified grassland lawns used as domestic garden space. A previous bat scoping assessment completed by The Ecology Co-op identified a confirmed roost and bat potential associated with two loose fitting tiles and lifted lead flashing near the chimney. Three bat emergence surveys were then carried out in line with the Bat Conservation Trust Guidelines, between June and August 2023 to determine the presence of roosting bats and evaluate the conservation importance of the site for bats. The three surveys concluded that common pipistrelles, with a maximum count of four, routinely use the building, utilising the lifted flashing identified in the scoping. A top-up survey has been completed by The Ecology Co-op in July 2026 to inform a licence application for the proposed extension to the building.
Key findings	Two common pipistrelle day roosts supporting a total of four bats is present under both the lifted lead flashing on the western elevation and hanging tiles on the southern elevation. During the loft inspection, droppings found around the chimney were morphologically similar to those of pipistrelle species which would indicate that the flashing around the chimney has been used routinely by this species and may indicate that it has been used over a short period as a day roost or a transitory roost. The findings of this updated survey are consistent with the results of the previous surveys completed in 2023.
Interpretation	The extension and roof replacement will see the destruction of the roost within the lead flashing surrounding the chimney and the day roost within the hanging tiles of the southern elevation. As the surveys demonstrate that the roost features identified support a small roost of common bat species, this impact is not considered to be significant beyond local level.
Recommendations	As the proposed development involves the construction of a new extension on the eastern elevation of the building and roof replacement, the destruction of the roost features used by bats cannot be avoided and, in the absence of mitigation, this could potentially result in harm to individual bats. Therefore, a licence will be required for the development to legally proceed. Based on the results of the survey, this development will be eligible for adding to the 'bat mitigation class licence' issued by Natural England and held by certain qualified bat ecologists.



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1 INTRODUCTION

1.1 Background

The owners of Soles Coppice intend to submit a planning application for a proposed development that involves the construction of a single storey extension from the house on the eastern elevation and a roof replacement.

The full address for the site is Soles Coppice, Brantridge Lane, Balcombe, Haywards Heath, West Sussex, RH17 6JR. The central National Grid Reference for this site is TQ 2863.

The site currently comprises of a detached bungalow dwelling surrounded by modified grassland lawns used as domestic garden space. A previous bat scoping assessment completed by The Ecology Co-op identified a confirmed roost and bat potential associated with two loose fitting tiles and lifted lead flashing near the chimney.

Three bat emergence surveys were then carried out in line with the Bat Conservation Trust Guidelines, between June and August 2023 to determine the presence of roosting bats and evaluate the conservation importance of the site for bats. The three surveys concluded that common pipistrelles, with a maximum count of four, routinely use the building, utilising the lifted flashing identified in the scoping.

1.2 Purpose of the Report

In accordance with recommendations, an updated bat emergence survey was carried out by The Ecology Co-op on 21st July 2026 led by Emily Davies, a qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and licensed bat surveyor, following from a re-inspection completed by Paul Whitby, bat license class holder and associate member of CIEEM.

The purpose of this survey work was to determine presence of roosting bats and where necessary prescribe further surveys where necessary and/or appropriate mitigation advice to inform the planning application for the proposed development at the site.

This survey and report was carried out at the request of David Young.

2 LEGAL PROTECTION

Details of legislation and legal protection afforded to all species of British bats are given in Appendix 1.

The results of this survey will be used to determine the need for an appropriate mitigation strategy to ensure compliance with UK and EU wildlife legislation.

3 METHODOLOGY

One emergence survey was undertaken on the 21st July 2026, using the methodology set out in the best practice guidelines prepared by the Bat Conservation Trust. The surveys focused upon the hanging tiles and lead flashing



near the chimney covering the western elevation of the property, using one surveyor positioned according to Figure 1. From these positions, the surveyor could see all features potentially suitable for roosting bats that were identified during the initial bat scoping survey.

The survey focused on the hanging tiles and lead flashing on the western and southern aspect of the main house where the extension will begin.

The surveyor recorded any bat activity on or around the potential roosting entry/exit features identified during the scoping survey, using full spectrum handheld bat detectors to identify species through call frequencies. The bat calls were logged and recorded as sonograms for later confirmation of species where necessary.

The following equipment was used to support this survey:

- 1 x Echometer Touch 2 Pro detectors with Apple recording device.
- 1 x Pixfra thermal vision camera paired with a surveyor.



Figure 1. An aerial image of the site, showing the positions of surveyors (red dots) and night-vision cameras (orange dots) on 21st July 2026. Images produced courtesy of Google maps (map data ©2026 Google).

3.1 Limitations to Emergence Surveys

In accordance with best practice guidelines, the survey visit was undertaken during the peak period in bat activity and during good weather conditions. The results presented here are therefore considered to be an accurate representation of the general use of the property by roosting bats.

Nevertheless, bats can use roosting features intermittently throughout the year and may be present in larger or smaller numbers depending on their breeding cycle, weather conditions, and in response to disturbance. These surveys record the emergence of bats at the time of the survey visits and therefore only provide a snapshot of bat roosting activity at the site at that time. Bats may be present at other times and the results should therefore be viewed with caution.



4 RESULTS

4.1 Re-inspection

4.1.1 Survey Results

A re-inspection was completed prior to the emergence survey taking place. The loft re-inspection showed a small amount of dropping, present within the western section of the void, with droppings found on the insulation and on the chimney that are morphologically similar to pipistrelle species (*Pipistrellus*).

4.2 Bat Emergence Surveys

4.2.1 Survey Conditions

The dates, times, weather conditions, temperatures and personnel for each survey visit are presented in Table 1 below:

Table 1. Details of surveys undertaken, timings weather conditions and personnel.

Date	Survey start time/end time	Temp. degrees centigrade, weather conditions throughout survey	Surveyors
21 st July 2026	Start time: 20:43 Sunset: 21:03 End time: 23:03	Start: 20C, 10%cc, 0% pcp, BF0. Finish: 16C, 0%cc, 0% pcp. BF0.	Emily Davies

4.2.2 Bat Emergence Results

The following descriptions summarise bat activity and emergence from the building for each survey visit.

- **21st July 2026.**

General bat activity was fairly low, however, a total of four emergence were recorded at this survey. At 21:01, a common pipistrelle emerged from under the lead flashing, and a second common pipistrelle from the same location at 21:04. At 21:21, a common pipistrelle emerged from the southern elevation from a hanging tile. At 21:28, a fourth and final common pipistrelle emerged from the chimney flashing. Emergences and direction of flight can be seen below in Figure 2 below.



Figure 2. Emergences from Soles Coppice and flight path direction on 21st July 2026, Common pipistrelles are labelled as 'CP'.



Figure 3. Darkest Point from Soles Coppice Bat Emergence Survey 21st July 2026.

5 IMPACT ASSESSMENT AND MITIGATION RECOMMENDATIONS

5.1 Interpretation of Findings

Two common pipistrelle day roosts supporting a total of four bats is present under both the lifted lead flashing on the western elevation and hanging tiles on the southern elevation as shown in Figure 2. During the loft inspection, droppings found around the chimney were morphologically similar to those of pipistrelle species which would indicate that the flashing around the chimney has been used routinely by this species and may indicate that it has been used over a short period as a day roost or a transitory roost. The findings of this updated survey are consistent with the results of the previous surveys completed in 2023 in the low use of the building by bats, though a new roost location was identified.

5.2 Potential Impacts

As the proposed development involves the construction of a new extension on the eastern elevation of the building and a full roof replacement, the destruction of the roost features used by bats cannot be avoided and, in the absence of mitigation, this could potentially result in harm to individual bats.

The roof replacement will see the destruction of the roost within the lead flashing surrounding the chimney and



the hanging tiles.

As the surveys demonstrate that the roost features identified support a small roost of common bat species, this impact is not considered to be significant beyond local level.

5.3 Outline Mitigation Measures

Based on the results of the survey and predicted scale of impact, this development will be eligible for adding to the 'bat mitigation class licence' issued by Natural England and held by certain qualified bat ecologists.

As part of the licence application, a mitigation method statement will need to be prepared to demonstrate that the favourable conservation status of bats will be maintained through the life of the project. The possible measures that would be required to safeguard bats and achieve this are outlined below:

- **Preparatory works – 'soft strip'**
Hanging/roof tiles should be carefully hand stripped one by one from the walls under the direct supervision of a licenced bat ecologist. Any bats found shall be gently captured and placed into bat boxes that have been secured to trees surrounding the site in advance.
- **Timing**
The hand stripping of hanging tiles should be undertaken in the period between mid-March and the end of October to avoid disturbing bats that could be in hibernation. As no maternity roosts have been identified during the surveys of this property, avoiding the breeding period (May–August inclusive) is not considered necessary.
- **Replacement roost site**
Purpose-built structures are commercially available, some recommended examples of which are shown in Appendix 2. As the proposed design does not allow for incorporated bespoke features, crevices bat boxes are likely to be used in replacement.
- **Artificial lighting**
The use of artificial lighting inappropriately can result in significant disturbance to bats. The detailed design should include a lighting scheme that minimises these impacts by following the Bat Conservation Trust's guidance on lighting, reproduced in Appendix 3 of this report.

5.4 Conclusions

The proposed development will impact on small numbers of common and widespread bat species and in the absence of mitigation is not considered significant to bat conservation beyond local level. The proposed mitigation measures outlined above will ensure that individual bats will not be harmed during the construction, and that alternative roosting opportunities are provided after completion. The applicants are confident that the three tests under Regulation 53 (2) (e) can be satisfied and an bat mitigation class licence can be obtained. As such, the planning authority can be satisfied that securing this mitigation and licence under reserved matters will ensure that its duty to comply with the Conservation of Habitats and Species Regulations (2017) as amended, will have been fully met.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



APPENDIX 1 – LEGISLATION AND POLICY

All species of British bat are fully protected under the Wildlife and Countryside Act 1981 as amended through inclusion in Schedule V. All bat species in the UK are also included in Schedule II of the Habitats Regulations 2017 which transpose Annex IV of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("EC Habitats Directive") which defines European protected species of animals.

Bat species are afforded further protection by the Natural Environment and Rural Communities Act 2006.

Under the above legislation it is an offence to:

- kill, injure or take an individual;
- possess any part of an individual either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by these species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- deliberate disturbance in such a way as to be likely to impair their ability to:
 - survive, to breed or reproduce, or to rear or nurture their young; or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
 - to affect significantly the local distribution or abundance of the species to which they belong;
- keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

It is also an offence to set and use articles capable of catching, injuring or killing bats (for example a trap or poison), or knowingly cause or permit such an action. In the case all species of British bat there is also protection under Schedule 6 of The Wildlife and Countryside Act 1981 (as amended) relating specifically to trapping and direct pursuit of these species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for specific reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. In England, Natural England is the licensing Authority and, in order to grant a licence, ensures that three statutory conditions (sometimes referred to as the 'three derogation tests') are met:

- a licence can be granted for the purposes of "preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment" (Regulation 53 (2) (e));
- a licence can only be granted if "there are no satisfactory alternatives" to the proposed action;
- a licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

A bat roost is defined as "any structure or place, which any wild bat uses for shelter or protection." Bats tend to re-use the same roosts; therefore, legal opinion is guided by recent case law precedents, that a roost is protected whether or not the bats are present at the time. This can include all summer roosts, used for breeding, resting or sheltering and all winter roosts used for hibernating.



APPENDIX 2 – EXAMPLES OF REPLACEMENT BAT ROOSTING FEATURES



Figure 1. Left to right, the 2F, 2FN and the 1FS bat boxes produced by Schwegler. These and other brands are available at many on-line wildlife stores. These are constructed of ‘woodcrete’ (a mixture of cement and woodchip) and are designed to be durable and replicate the stable thermal properties of trees and buildings. They may be attached to trees or buildings.



Figure 2. Examples of integral bespoke bat roosting features that may be incorporated into buildings during construction/renovation. From left to right: an example of bat access tile into loft space; the 2FR bat tube; and an example of 2FR bat tubes installed into a house wall in a series of three. Other brands and designs are available.



APPENDIX 3 – REDUCING IMPACTS OF ARTIFICIAL LIGHT

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust¹ should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

Avoid lighting key habitats and features altogether

There is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation; however, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species.

Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results:

- dark buffers, illuminance limits and zonation;
- sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill;
- consideration of the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consideration should be given to the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cat's eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times;

¹ Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



- screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding;
- glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features;
- creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development;
- dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

Demonstrate compliance with illuminance limits and buffers

- *Design and pre-planning phase*; it may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- *Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- *Post-construction/operational phase compliance-checking*; as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

Lighting Fixture Specifications

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- Lighting spectra: peak wavelength >550nm
- Colour temperature: <2700K (warm)
- Reduction in light intensity
- Minimal UV emitted
- Upward light ratio of 0% and good optical control

Further reading:

Buglife (2011) A review of the impact of artificial light on invertebrates.

Royal Commission on Environmental Pollution (2009) Artificial light in the environment. HMSO, London. Available at: <https://www.gov.uk/government/publications/artificial-light-in-the-environment>

Rich, C., Longcore, T., Eds. (2005) Ecological Consequences of Artificial Night Lighting. Island Press. ISBN 9781559631297.



CPRE (2014) Shedding Light: A survey of local authority approaches to lighting in England. Available at: <http://www.cpre.org.uk/resources/countryside/dark-skies/item/3608-shedding-light>

Planning Practice Guidance guidance (2014) When is light pollution relevant to planning? Available at: <https://www.gov.uk/guidance/light-pollution>

Institution of Lighting Professionals (2021) Guidance Notes for the Reduction of Obtrusive Light GN01:2011. Available at: <https://www.theilp.org.uk/resources/free-resources/>

Voigt, C.C., Azam, C., Dekker, J., Ferguson, J., Fritze, M., Gazaryan, S., Hölker, F., Jones, G., Leader, N., Lewanzik, D. and Limpens, H., 2018. *Guidelines for consideration of bats in lighting projects*. Unep/Eurobats. Available at: https://cdn.bats.org.uk/uploads/pdf/Resources/EUROBATSGuidelines8_lightpollution.pdf?v=1542109376