



Dusk Emergence Bat Surveys

The Rise, Glyncastle, Resolven, SA11 4NW

Surveys conducted May - July 2025



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Natural Resources Wales Bat Licence no: S092911/1

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EXECUTIVE SUMMARY

Background
● Grounded Trees & Ecology conducted a Preliminary Roost Assessment (PRA) bat survey of the barn at The Rise, Glyncastle, Resolven, SA11 4NW (Grid reference SN 83717 02680) on the 13th of February 2025 (see Grounded Trees and Ecology PRA February 2025) ● Approximately 6 bat droppings were found on the ground floor, which DNA analysis confirmed belong to lesser horseshoe bats (<i>Rhinolophus hipposideros</i>). ● Three emergence surveys were recommended following the results of the PRA.
Dusk Emergence Survey Results
● One lesser horseshoe bat was recorded entering the building from a window on the front of the building and flying in a circular pattern in the ground floor of the barn before exiting from a separate window during the first and second survey. ● The lesser horseshoe bat was not seen or heard on the third emergence survey. ● During the third survey, four pipistrelle bats (<i>Pipistrellus sp.</i>) were recorded emerging from the building from three separate access points. ● A pipistrelle bat was also recorded entering the building late in the evening of the third survey via a fourth access point.
Commuting and Foraging
● Common and soprano pipistrelles were recorded commuting past and foraging at the rear of the building. ● Lesser horseshoe passes were recorded at the front and rear of the building. ● <i>Myotis sp.</i> calls were recorded during the first survey.
Impact Assessment
● The lesser horseshoe night roost and pipistrelle day/occasional use roost will be destroyed by the development.
Recommendations
● A bat mitigation plan has been created including timing restrictions, ridge tile gaps, and a separate stone building on site that the owner has agreed to enhance to mitigate for the loss of the lesser horseshoe roost.
EPS Licence
● The building is a confirmed bat roost. ● It will therefore be necessary to apply for a European Protected Species (EPS) licence with Natural Resources Wales (NRW).

1. INTRODUCTION

1.1 Background

Grounded Trees & Ecology conducted a Preliminary Roost Assessment (PRA) bat survey and nesting bird survey of The Rise, Glyncastle, Resolven, SA11 4NW (Grid reference SN 83717 02680) on the 13th of February 2025 to inform a planning application with Neath Port Talbot Council LPA. For details on what was found during the PRA, please consult the previous report by Grounded Trees & Ecology: The Rise PRA Report.

1.2 Summary of PRA findings

Approximately 6 bat droppings were found on the ground floor, which DNA analysis confirmed belong to lesser horseshoe bats (*Rhinolophus hipposideros*).

Evidence of Bats

Order Number: 3355			admin@groundedtrees.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-3355-1	Yes	Faecal	13/02/2025	C. Bats	SA11 4NW	Barn at The Rise, Resolven	
Analysis Results							
Sample Code	DNA Extraction Code	Species Identified	ID Method	Ct value	% match		
SEL-3355-1	EG-2025-0341	Rhinolophus hipposideros (Lesser horseshoe bat) Note: All UK bat species tested for - only a single species detected in this sample.	qPCR	29			
DNA analysis results of the droppings							



Droppings found on the storage container

There is free flight access through windows with missing glass. Other potential access points include missing roof slates and gaps under damaged bargeboards. Potential roosting areas were identified in gaps in stonework, the cavity wall space, and under roof slates.

Examples of Potential Access Points.



Windows with missing glass on front aspect



As such, a minimum of three dusk emergence surveys were recommended to be carried out of the property.

1.3 Aims of the Survey

Three dusk emergence surveys were conducted at the property to determine whether bats were roosting within the building and to identify any bat species commuting and foraging in the surrounding area (activity surveys). Where roosting was confirmed, the surveys aimed to establish the species present, estimate the number of individuals using the structure, and characterise the type of roost (roost characterisation surveys).

1.4 Legislation Informing Planning Policy

All bat species and their roosts are strictly protected under UK law, including:

- **Wildlife and Countryside Act 1981 (as amended)** – Protects bats from harm and makes it an offence to damage or disturb their roosts.

- **Conservation of Habitats and Species Regulations 2017 (as amended by the 2019 EU Exit Regulations) ['CHSAEU']** – Strengthens legal protection by requiring mitigation measures for development projects affecting bats.
- **Planning Policy (National and Local)** – Local Planning Authorities must consider the presence of protected species, such as bats, when assessing planning applications.

Additionally, all wild birds and their nests are protected under the **Wildlife and Countryside Act 1981 (as amended)**, making it an offence to disturb active nests during the breeding season.

Developers must ensure compliance with these laws, and where bat roosts are identified, a **European Protected Species (EPS) Licence** from **Natural Resources Wales (NRW)** will be required before any work begins.

For further guidance, refer to:

- **Bat Conservation Trust – Bat Surveys for Professional Ecologists (Collins, 2023)**
- **Natural Resources Wales Guidance on EPS Licensing**

2. METHODOLOGY

The surveys were carried out in accordance with the methods described in the Bat Conservation Trust (BCT) Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

2.1 Dusk Emergence Surveys Methodology

Three emergence surveys of the building were conducted, both two hours long, by one surveyor - Lee Gwyther - on the 1st of May, the same surveyor - Lee Gwyther - on the 23rd of May and the 2nd of July.

All surveys started half an hour before the official sunset and were completed 1½ hour after sunset. The roof areas and other potential access points were observed, with bat passes recorded with Anabat Scout bat detectors. A combination of patrolling and stationary surveying was used to be able to view the roof areas from different angles and to get as close as possible to all potential access points around the building. Observations of the building and roof areas were made from different angles with the surveyors moving closer to the walls as it got darker. Brown long-eared bat calls can only be recorded from approximately 3-5 metres away.

Table 1: Weather Conditions

Date	Sunset	Cloud Cover	Precipitation	Wind Speed	Start Temp	End Temp
01-05-25	20:38	100%	5%	2 mph	15 °C	14 °C
23-05-25	21:12	100%	20%	2 mph	15 °C	13 °C
02-07-25	21:36	0%	0%	1 mph	16 °C	14 °C

2.5 Infrared Video Camera Equipment

Night vision aids were used in adherence with interim professional guidance. The guidance justifies the use of dusk surveys only (no dawn re-entry surveys needed), providing that sufficient information has been gained from the surveys.

Night Vision Aids used on surveys for continuous recording throughout the evenings	
Guide TK612 Thermal Cameras	Thermal Master DV2 Thermal Cameras
Canon XA10 IR Cameras	Nightfox Whisker IR Cameras
Infrared lights used during surveys	
Nightfox XB5's	Nightfox XB10's
Nightfox XB5 Pro	Nightfox Arc IR Lamps
Infrared Illuminators	Univivi Array Illuminators

Surveyor and Camera Positions



Surveyor and camera position 1 st May	Example of camera field of view 1 st May
	
Surveyor and camera position 23 rd May	Example of camera field of view 23 rd May
	
Surveyor and camera position 2 nd July	Example of camera field of view 2 nd July

2.6 Sound Analysis

The bat sound recordings made during the surveys were analysed using Anabat Insight software v2.3. All bat call recordings were compared to published reference material such as British Bat Calls Jon Russ (2012) and to a private reference library of previous recordings made from known bat species.

2.7 Night Vision Video Recordings

The infrared video footage was reviewed on a PC screen at a later stage using VLC Media Player. All of the footage was checked for the whole recording with close review for any late emerging species during the darker part of the surveys.

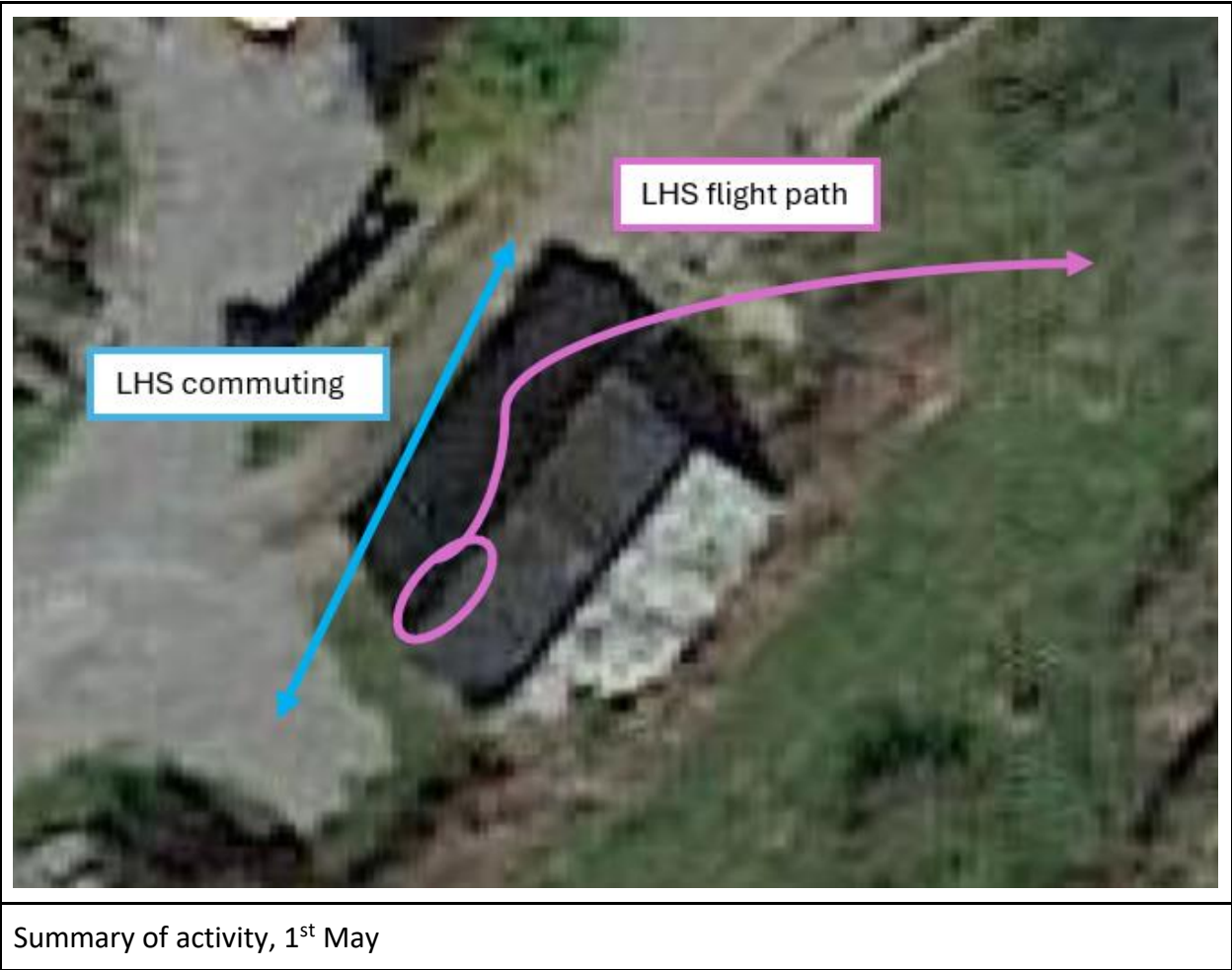
3. RESULTS

3.1 Dusk Emergence Surveys Results

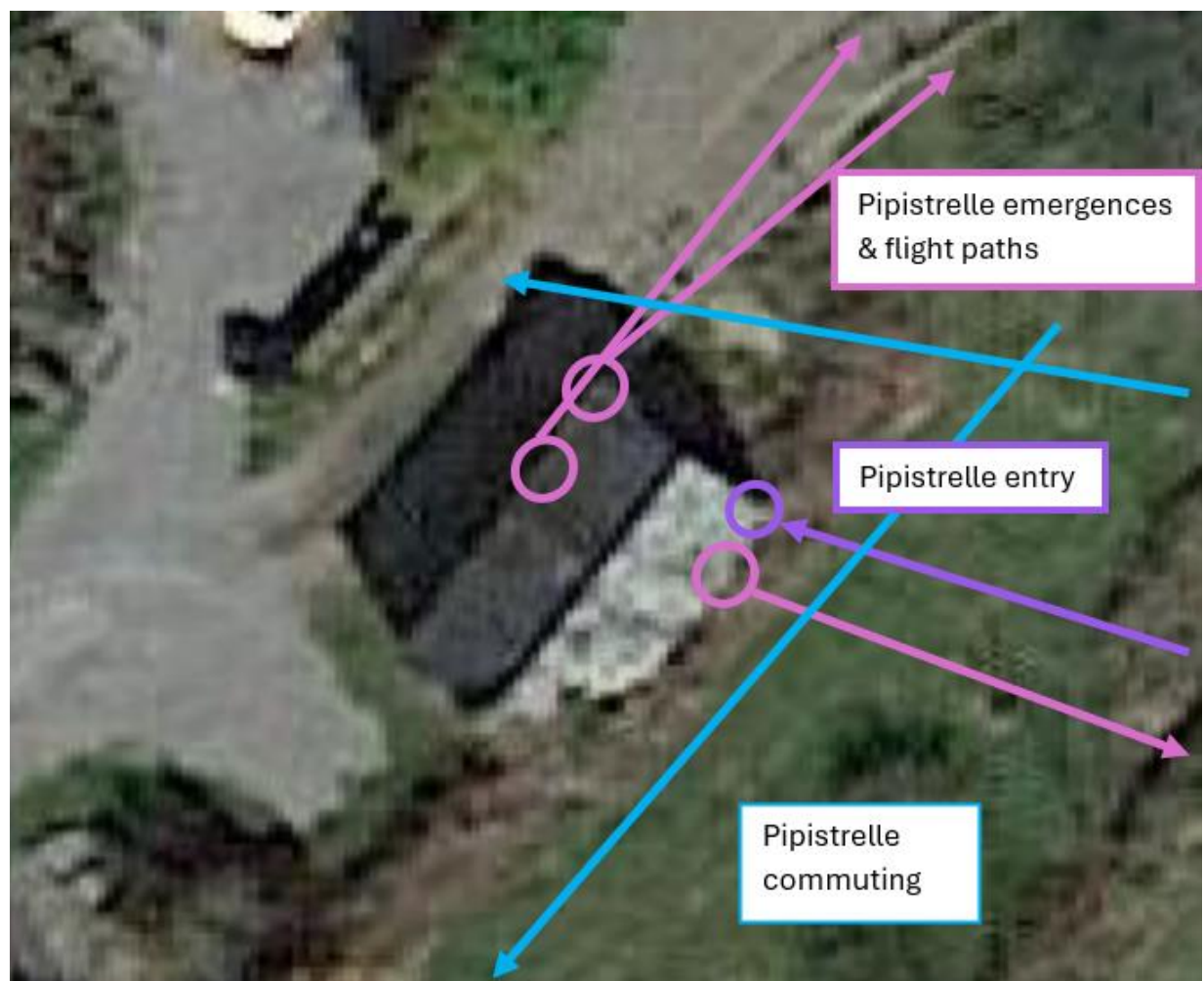
Table 2: Summary of Dusk Emergence Survey Results

	Survey 1: 01-05-2025	Survey 2: 23-05-2025	Survey 3: 02-07-2025
Emergences	A lesser horseshoe bat that was not seen to be in the building at the beginning of the evening was recorded flying in circles around the ground floor of the barn and was noted to exit from one of the windows on the front aspect of the building before heading southeast and flying toward the treeline to the rear of the property.	A lesser horseshoe bat was recorded entering the building via one of the windows on the front aspect of the building and was recorded flying around in circles on the ground floor of the property. The bat was then recorded exiting the building from a different window on the front aspect of the property.	Four bats, all pipistrelle species, were recorded emerging from the building from three points: two from under the bargeboard on the southeast gable end, one from under the fascia board on the front aspect, and one from a gap in the stonework on the rear of the property. A pipistrelle was also recorded entering the property late in the evening using a gap in the stonework on the rear of the property.
Commuting/Foraging Routes	Soprano (<i>Pipistrellus pygmaeus</i>) pipistrelles were recorded passing by the property but were not seen. Three lesser horseshoe passes were recorded but the bats were not seen. Two <i>Myotis</i> sp. (suspected Natterer's, <i>Myotis nattereri</i>) passes were recorded but not seen.	Common (<i>P. pipistrellus</i>) and soprano pipistrelles were recorded briefly foraging around the rear of the property. A lesser horseshoe pass was recorded at the rear of the property.	Common and soprano pipistrelles were noted to commute northwest from the southeast past the rear of the property, and commuting from the rear to the front of the property.
Bat Activity	Overall, moderate	Overall, moderate	Overall, low levels of

	levels of bat activity were noted throughout the survey.	levels of bat activity were noted throughout the survey.	bat activity were noted throughout the survey.
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Summary of activity, 2nd July



Lesser horseshoe emergence, 1st May



Pipistrelle emergence, 2nd July



Pipistrelle emergence, 2nd July



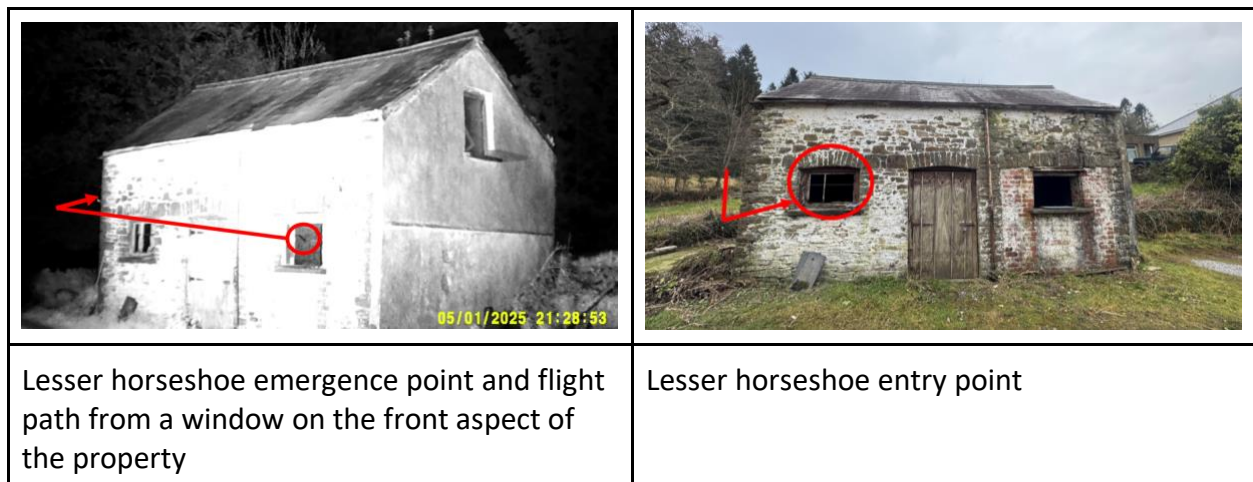
Pipistrelle emergence, 2nd July



3.2 Bat Access Points

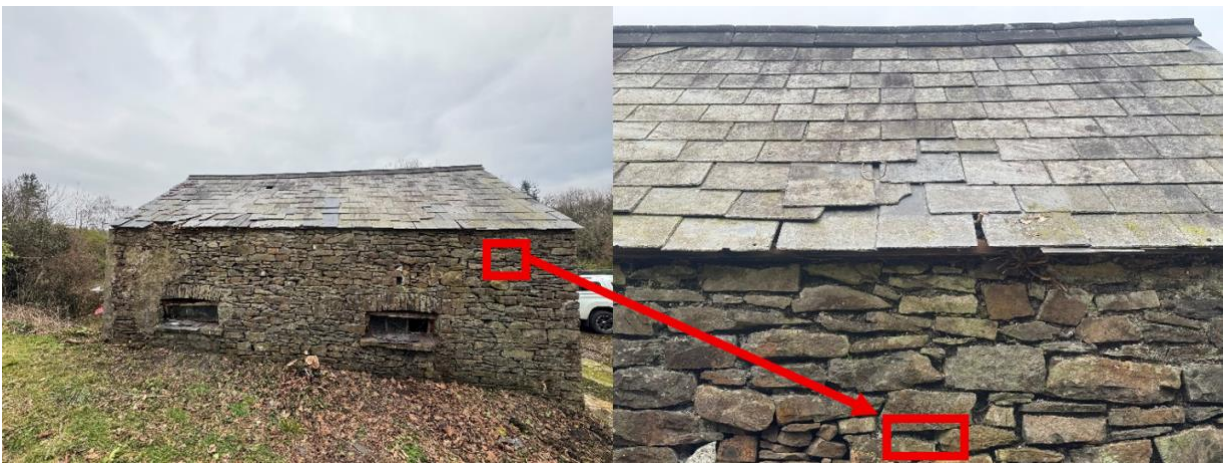
Lesser horseshoes are confirmed to be accessing the building through the left window on the front aspect of the building, and are exiting through the right window on the front aspect of the building.

Pipistrelles were also noted to emerge from the property from three separate access points: under the bargeboard on the southeast gable end, under the fascia board on the front northeast facing aspect of the building, and from gaps in the stonework on the rear southwest facing aspect of the building. A pipistrelle was also recorded entering the property using a different gap in the stonework on the rear southwest facing aspect of the building.





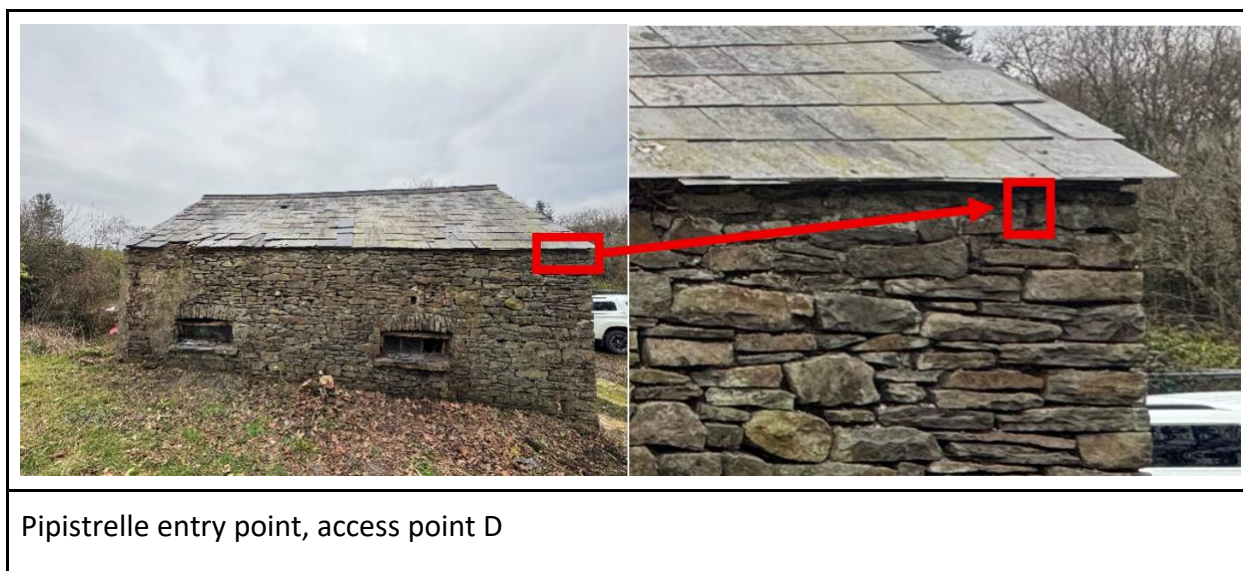
Pipistrelle access point A



Pipistrelle access point B



Pipistrelle access point C



Pipistrelle entry point, access point D

3.3 Updated Evidence of Nesting Birds

The bird nests inside the ground floor of the barn are being actively used by swallows.

4. EVALUATION

4.1 Discussion of Results

A single lesser horseshoe bat was seen flying around the inside of the ground floor of the barn over the first two surveys. The bat was not seen to be inside the building prior to the beginning of the survey. During the second survey, the lesser horseshoe was seen entering the building before flying around inside. As such, the property is a confirmed night roost for a single lesser horseshoe roost.

During the third survey, four pipistrelles were recorded emerging from the building from three separate access points. One pipistrelle was also recorded entering the building using a fourth access point later in the evening. As such, the building is also deemed to be a roost for low numbers of pipistrelles.

4.2 Roost Characterisation

The property is deemed to be a night roost for a single lesser horseshoe bat, and a day/occasional use roost for low numbers (approximately four) pipistrelle bats.

4.3 Impact Assessment

The building is a confirmed bat roost, this will affect the proposed works. Work should ideally be conducted between the months of October-November or March-April to minimise the effects on bats during the active summer months, in accordance with good practice guidelines (Collins, 2023).

4.5.1 Short-term Impacts

Noise, Dust and Vibration During Construction Phase: If the proposed work is undertaken during the bat active season between May and September, there is a greater potential for bats to be impacted. This could result in the physical disturbance or injury of bats, or the disturbance through noise and vibrations.

4.5.2 Long-term Impacts

Roost Loss and Modification: In the absence of mitigation, the works would lead to the permanent loss of the confirmed bat roosts due to the complete renovation of the building.

Increased Levels of Lighting and Noise: Indirect disturbance impacts are likely to involve increased light levels and increased noise disturbance as the building is renovated and used as a residential dwelling

5. RECOMMENDATIONS

The property is confirmed to contain two separate bat roosts - a night roost for lesser horseshoe bats and a day roost for pipistrelles bats.

The proposed works are deemed to have a negative impact on the bats and the roosts. A bat mitigation plan has been put into place to replace the loss of the roosts currently present.

5.1 Survey Effort

The property was deemed to have high bat roosting potential in an area of high bat foraging and commuting suitability. As such, three additional bat dusk emergence surveys were carried out, in accordance with the BCT Bat Survey Guidelines 2023.

The three dusk emergence surveys were spaced apart by approximately three weeks during optimal weather conditions to illustrate the use of the building as a bat roost over a period of time. The surveys were conducted during the active bat season of May-September.

5.2 Longevity Period of Report

This report is valid for 18 months. A licence or planning application should ideally be submitted within this time and always using the most up to date survey data. Following Good Practice Guidelines (Collins, 2023), an updated survey may be required if there is evidence and or conditions have changed since the last survey was completed.

5.3 Requirement for a European Protected Species licence

As this is a confirmed bat roost, a European Protected Species (EPS) licence will be required from Natural Resources Wales (NRW) prior to any further works conducted on the property.

6. BAT MITIGATION PLAN

6.1 Prior to Start of Work

Timing Restrictions for Works: Construction works will ideally be restricted to the months of Mar-Apr or Oct-Nov to minimise disturbance during the active summer months May-Sep and the core hibernation season Dec-Feb when bats may hibernate inside wall cavities.

Suggested start of works: October-November 2025 or March- April 2026, depending on licence issuing and client preference.

Works to be carried out	Aug - Oct 2025	Oct 2025 - March 2026	Mar-Apr 2026
Application for EPS Licence with NRW			
Positioning of a bat boxes on the trees under advice of a licenced bat ecologist			
Toolbox talk to contractors - by			

licenced bat ecologist			
Start of works - by builders			
Mitigation check - by licenced bat ecologist			

An EPS application with Natural Resources Wales (NRW) can take 45 working days.

Temporary Mitigation - Bat Box: Two bat boxes should be installed in suitable locations on site prior to the work starting and will remain for the duration of the works until the permanent mitigation is in place. There is a treeline to the rear of the property that is contained within the ownership and an oak tree that would serve as suitable placements. As an example, Wildcare and NHBS provide a range of bat boxes that are suitable for crevice dwelling species such as *Pipistrellus* spp. An example is a 2F Schegler bat box, as seen below.



6.2 Precautions During Works

On-site Supervision During Works: A licensed bat ecologist will hold a “toolbox talk” to the building contractors prior to works commencing. The licensed bat ecologist will be on-site during the removal of roof areas and other external features with bat roosting potential in case any bats

Precautions if Bats are Found During Works: Actions taken to protect bats that may be found during works will depend on stage of works and weather conditions. A health check will be conducted prior to release. Bats will be captured by hand (wearing gloves, face mask and using hand spirit sanitiser) and temporarily transferred to a pet container. The bat will then be transferred into a bat box before works commence. The access point of the bat box will be blocked with a cloth until the working day has been completed. This will allow the bat to settle in a safe place for the remainder of the day, and to emerge safely in the evening. The bat will then be able to move to a safe nearby roosting area of its own choice. Bats are known to move around between several roosting areas to avoid predators and build-up of parasites.

Ridge tile gaps: Two ridge tile gaps measuring approximately 20mm x 100mm will be created in the ridge tiles on either end of the new roof. This will allow access for the bats to roost under the cavity of the ridge. A 'wet ridge system' will ideally be used instead of a 'dry ridge system.' The gaps can then be created in the wet mortar. Alternatively, gaps may be cut in the lower part of the ridge tiles themselves.

One bat access tile to be fitted to the roof on the rear of the building.

The architectural drawings illustrate the proposed rear roof structure and the placement of ridge tile gaps. The perspective view shows a rear wall with a stone finish, a window, and a door. The roof is shown with a gabled structure. The cross-section drawing shows the ridge tiles and the underlying structure, including the ridge board and the roof tiles. The detail drawing shows the ridge tile gap and the placement of the ridge tiles.

Legend:

- Ridge tile gap (Blue)
- Access slate (Green)
- Integrated bat box (Yellow)

Options for Ridge Tile Gap:

- OPTION A -** ROOF RIDGE SET ON TOP OF GENERAL RIDGE TILES TO FORM BAT ACCESS GAP.
- OPTION B -** MAINTAIN 20MM MORTAR GAP & LEAVE A SECTION OUT.

Additional building on site: There is an additional stone building contained within the ownership that the homeowner has agreed to enhance for the purposes of mitigating against the loss of the lesser horseshoe roost. Enhancement would include the clearance of enough of the vegetation around the building to allow easy access which would allow the door to be opened permanently, allowing free-flight access into the space. The building already has gaps in the stone works for crevice dwelling bats to potentially use.



Position of additional stone building on site

6.4 Biodiversity Enhancements

Bird boxes and swallow cups are recommended as birds were confirmed to be nesting at the property. Two swallow nest cups are recommended to be placed on the other stone building on site, the placement of which will be approved by the ecologist.

6.5 Post Project Monitoring

Bat Mitigation Check: The mitigation will be inspected by a licenced bat ecologist on completion, or during works if deemed easier. This will be carried out before the end of the month of April to allow for the bats to return to their roosting areas before the next active bat season of May-September.

Post Project Monitoring Surveys: Due to the low numbers of bats, no post project monitoring is recommended.

7. REFERENCES

BCT (2022). *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys*. Bat Conservation Trust, London.

CIEEM (2020). *Guidelines for Accessing, Using and Sharing Biodiversity data in the UK*. <https://cieem.net/wp-content/uploads/2016/03/Guidelines-for-Accessing-and-Using-Biodiversity-Data-March-2020.pdf>

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

Mitchell-Jones, A.J, and McLeish, A.P. (2004). *Bat Workers' Manual (3rd Edition)*. Joint Nature Conservation Committee, Peterborough.

Natural England and Countryside Council for Wales, (2007). *Disturbance and protected species: understanding and applying the law in England and Wales. - A view from Natural England and the Countryside Council for Wales*. United Kingdom.

Natural Resources Wales (2022). *SSSi Search*. <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en>

Institute of Lighting Professionals (2021) *ILP Guidance Note GN01/21: Guidance for The Reduction of Obtrusive Light*. Warwickshire, UK.

Weinstein, Ben G. (2015). *MotionMeerkat: integrating motion video detection and ecological monitoring*. *Methods in Ecology and Evolution* 6.3:

8. Surveyor Experience

Lee Gwyther - Lee holds Class 2 bat licences in both Wales (NRW Ref: S092911/1) and England (NE Ref: 2020-46267-CLC-CLS). He is the managing director of Grounded Trees & Ecology, an arboriculture and ecology company specialising in bats and trees. For the past five years he has been taking part in a monitoring scheme looking at bat roosts within trees, including maternity roosts. He has experience of undertaking tree climbing surveys for bats, preliminary roost assessment (PRA) building inspections, on-site supervision of building works, dusk emergence and dawn re-entry bat surveys. For the past 5 seasons Lee has also been a bat carer for BCT covering South and West Wales.

Bethan Lygo - Beth is a graduate ecologist, holding a first class with honours Bachelor's degree in zoology from Swansea University. Throughout their degree, they have conducted bat dusk emergence surveys in South Wales and have volunteered with local bat monitoring schemes. They have been working for Grounded Trees & Ecology, frequently conducting PRA building inspections and dusk emergence surveys for the past year, and are working towards earning a bat licence.

End Of Report

