



2024

**Park View Cottage,
Merthyr, CF48 4HU
Grid Ref: SO 06851 02934Bat
Activity Survey Report**



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1. INTRODUCTION

1.1 SCOPE OF REPORT

- 1.1.1 EcoVigour Ltd was commissioned by the client to undertake one dusk activity survey on Park View Cottage, Merthyr Road, Troedyrhiw, Merthyr, CF48 4HU. Grid Reference: SO 06851 02934, ahead of works on the building.
- 1.1.2 A Preliminary Roost Assessment (PRA) was undertaken on the 3rd August 2024. The building was deemed to be of 'low' potential for roosting bats, this was due to the cavity walls being exposed creating suitable roosting features for crevice dwelling species. It was recommended that due to the low potential features being identified, a single dusk activity survey is undertaken on the building. It was deemed acceptable that the survey was undertaken outside of the optimal season, due to the fact the building is currently structurally unsound and a potential health and safety hazard, and the features are not suitable to support any hibernation roosts or maternity roosts. This survey could only go ahead if the weather were within the recommended suitable conditions, it was also noted that if the survey picked up no bat activity or bats were seen emerging from the house additional surveys would need to be undertaken during optimal season (May-August) 2025.

1.2 SITE DESCRIPTION

- 1.2.1 The survey area consists of Park View Cottage, Merthyr Road, Troedyrhiw, Merthyr, CF48 4HU. Grid Reference: SO 06851 02934.

Figure 1 - Site location and survey area.





- 1.2.2 The aim of the bat activity survey undertaken by EcoVigour in September 2024 was to ascertain the following:
- Presence/absence of bat roosts within the wall including hibernation potential;
 - Status of roosts if present;
 - If required, identify opportunities for avoidance, mitigation, or compensation measures and/or further ecological surveys;
 - If a European Protected Species (EPS) Development Licence is required to ensure legal compliance.

1.3 PROPOSED DEVELOPMENT

1.3.1 The works involved with this building include:

- ◆ Removing and replacing the roof;
- ◆ Construction of a new garage;
- ◆ An extension of the current residential property;
- ◆ Complete internal renovation on the cottage.

2. METHODOLOGY

2.1 PRELIMINARY ROOST ASSESSMENT

- 2.1.1 An initial Preliminary Roost Assessment (PRA) was undertaken on the 3rd August 2024, by Isabella Stephens, a licensed bat ecologist for NRW and NE. The features identified were the newly exposed cavity walls, the building overall was subject to disturbance from the building works on site, light spill from the site compound to the south of site and being exposed to the elements.
- 2.1.2 EcoVigour was then commissioned to undertake one dusk activity survey to ascertain whether bats were roosting within the building. These surveys were undertaken in September 2024 and were undertaken in accordance with the BCT guidelines (Collins 2024).

2.2 BAT ACTIVITY SURVEYS

- 2.2.1 One bat activity survey (dusk emergence) was undertaken by EcoVigour in September 2024.
- 2.2.2 This utilised two surveyors, equipped with bat detectors as well as night vision aids. The night vision aids used were a combination of Canon XA11-60 IR cameras and a Pixfra ARC thermal camera.
- 2.2.3 The dusk activity survey commenced approximately 15 minutes before local sunset and lasted for approximately 1.5- 2hrs.
- 2.2.4 The surveyors were positioned at strategic locations to ensure good line of sight of the building and potential access points. Surveyors recorded the times of any foraging, commuting, emerging, or re-entering bats. Additional notes were made on location and direction of flight where bats were deemed to be commuting and utilising the linear habitats at the site. Bat passes were detected using Echometer Touch Pro bat detectors and a Bat Logger M2. Sound files were checked and analysed using a combination of Kaleidoscope and Bat Sound analysis software.



- 2.2.5 Canon XA11/60 IR cameras and a Pixfra ARC thermal camera were used to provide supplementary survey data at strategic locations.
- 2.2.6 The activity survey was orchestrated and led by Isabella Stephens an NRW and NE Licensed Bat Ecologist.

2.3 INFRA RED, NIGHT VISION AND THERMAL IMAGERY

- 2.3.1 Infra-red, night vision and thermal imagery were utilised at the building to further support the survey effort.
- 2.3.2 These night vision aids were deployed at strategic locations, to add additional visual aids on the structure during the survey. Video footage was downloaded and analysed to help identify bat activity / emergences at these locations.

3. RESULTS

3.1 ACTIVITY SURVEY

Table 1 - Surveyor information

Surveyor	Licences	Ecological experience
Isabella Stephens, Ecologist BSc (Hons), MSc	Level 2 Bat Licence holder for NE and NRW.	Holds a BSc in Wildlife Ecology and Conservation Science and an MSc in Advanced Wildlife Conservation in Practice. Experienced in undertaking a wide range of ecological surveys and assessments and has worked on a variety of projects that vary in scale. Experienced in undertaking bat surveys with 5 years' experience undertaking and leading bat surveys and has been a level 2 bat licenced worker in Wales and England for the past year. including Greater and Lesser Horseshoe bat activity surveys. Experienced in the use of GIS, bat sound analysis software amongst others.
Joshua Sorley		A keen environmentalist with three seasons of experience surveying as a subcontractor with EcoVigour. Volunteer with Avon Wildlife Rescue.

- 3.1.1 The main PRFs identified to survey were the exposed cavity walls and the survey focused on these as well as placing a surveyor to the rear of the building, with the 3x IR cameras and 1x thermal camera used to provide supplementary information. This is to ensure bat activity can be followed around all aspects of the site if an emergence/re-entry occurred. (See Figure 2)



Figure 2 – Survey Design.

Table 2 - Survey Information

Date / Time	Survey Type	Surveyors / Locations	Air temp °C	Sunset / Sunrise	Weather conditions		
					Wind Speed (Beaufort)	Rain	Cloud Cover (%)
24/09/2024 18:51-20:36	Dusk	Isabella Stephens / Joshua Sorley / 3x IR Camera / 1x Thermal Camera	Start: 13 End: 12	19:06	0	0	80%

3.1.2 The results of the bat activity surveys (dusk presence/absence) are summarised in Table 3.

Table 3 - Survey Results

Survey	Results	Observations
24/09/2024 - Dusk	No bats were seen to emerge or re-enter the building during the surveys.	3 species of bats were heard* and some seen foraging during the survey, these were <i>Pipistrellus pipistrellus</i> (common pipistrelle), <i>Plecotus auritus</i> (brown long-eared) and <i>Pipistrellus pygmaeus</i> (soprano pipistrelle) *Bat call sonograms can be found in the appendices of the document.



- 3.1.3 There were no emergences or re-entries recorded from the cottage. There was foraging activity recorded by common pipistrelles and soprano pipistrelles around the surrounding tree lines and a single brown long-eared call was heard. Figure 3 below shows the approximate flight lines used by the soprano pipistrelle and the common pipistrelle during the survey.



Figure 3 - Bat Flight lines during survey.

3.2 INFRA-RED AND THERMAL VIDEO RESULTS

- 3.2.1 The night vision aids deployed on the survey did not record any bats entering or exiting the building. The figures below show a screenshot from the three cameras at the darkest point of the survey, this demonstrates appropriate illumination and positioning.



Figure 4 - Camera 1 position and illumination.



Figure 5 - Camera 2 position and illumination.



Figure 6 - Thermal Camera position and illumination.

3.3 SUMMARY OF FINDINGS AND CONCLUSIVE COMMENTS

- 3.3.1 There were no emergencies or re-entries recorded during the survey. The weather conditions were suitable for bat species, due to the foraging bats seen and heard during the surveys. The findings of the survey concluded that common and soprano pipistrelles utilise the area for foraging and a single brown long-eared bat was recorded commuting across the survey area. An NRW EPS Licence is not required following the findings of the activity surveys.

4. DISCUSSION

4.1 BATS

- 4.1.1 All British bats and any place used for shelter or protection, or breeding site or resting place (their roosts) are fully protected by law under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).
- 4.1.2 Together these protect bats from:
- ◆ Selling, offering for sale, possessing or transporting for the purpose of the sale or publishing advertisements to buy or sell a protected species.
 - ◆ Deliberate, intentional or reckless killing, injury or taking of bats.
 - ◆ Damage to or destruction of or, obstruction of access to any place of shelter, breeding (roost) or rest.



- ◆ Disturbance of an animal occupying a structure or place.
- ◆ The deliberate disturbance of any bat species in such a way as to be significantly likely to affect;
 - their ability to survive, hibernate, migrate, breed, or rear or nurture their young; or
 - the local distribution or abundance of that species.

4.1.3 The species recorded have been known to utilise bat boxes so it may be beneficial to the local population to erect bat boxes on the proposed property, however this is a suggestion, not a requirement. There are several designs of bat boxes, such as the 1FE Schwegler Bat Access Panel or Schwegler 2FE bat boxes (or something similar), which can be integrated into the building during the erection process. It is recommended that any bat boxes are installed between 4-6m off the ground between south-west and southeast elevations of the house, where it will feel the benefits of the sun but not be in direct sunlight. These bat boxes should be erected away from any artificial lighting on the house, such as security lights to ensure no disturbance to any potential roosting bats who may take up residence.

4.1.4 It is recommended that all works on the site should be undertaken during the daytime, with no additional lighting to avoid any disturbance to foraging and commuting bats utilising the habitat at night. If any evidence of bats is found during the works, then all works must cease, and a licensed ecologist should be contacted as well as Natural England.

5. APPENDIX

5.1 CALL SONOGRAMS.

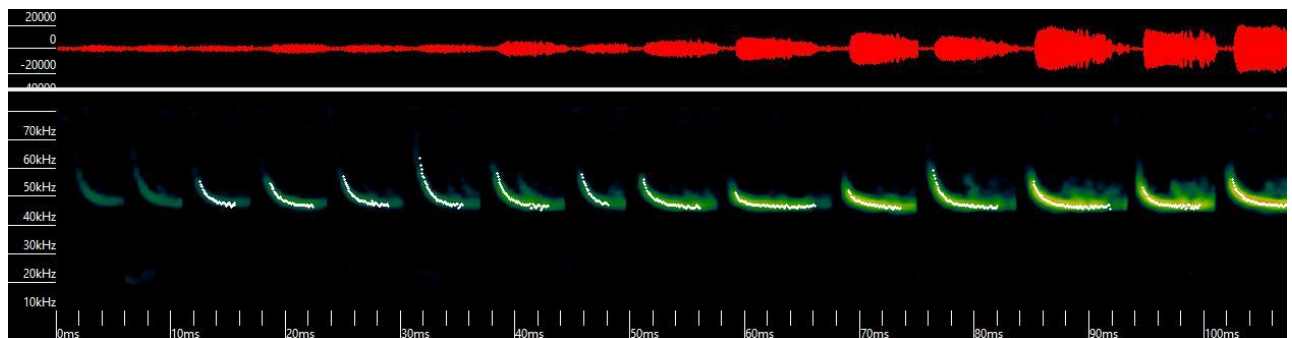


Figure 7 - Common pipistrelle Call Sonogram

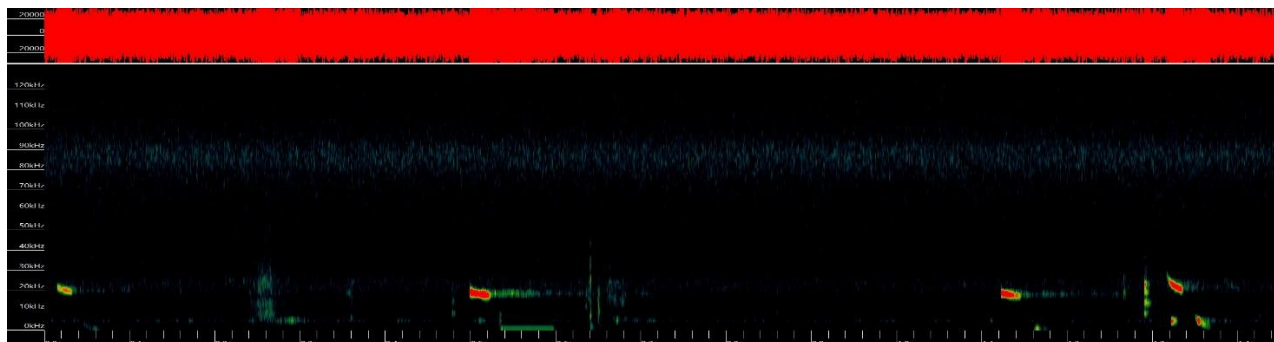


Figure 8 - Soprano Pipistrelle Call Sonogram

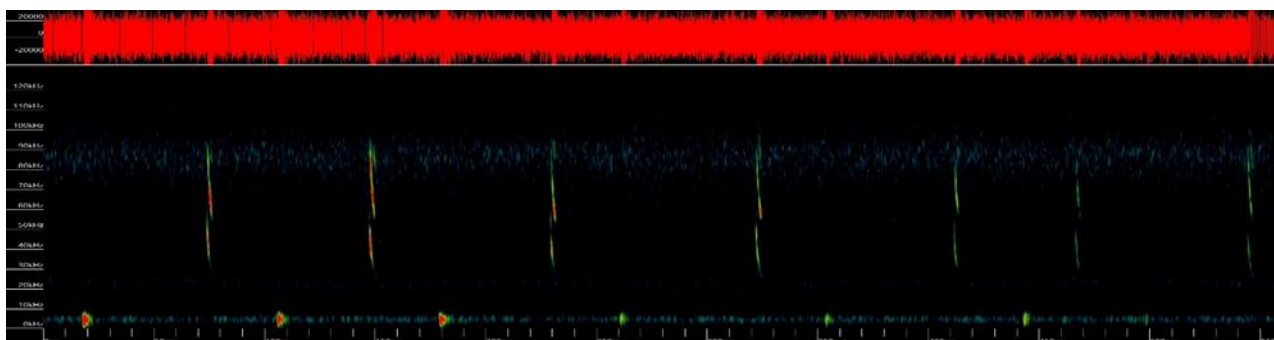


Figure 5 - Brown Long-eared Call Sonogram

6. REFERENCES

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