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Lower Rackery Farm Barns,

Dark Lane, Rossett

Further Bat Dusk Survey

10th June 2025

INTRODUCTION

Following an initial bat scoping survey completed on the 15th January 2024, a further two sets of bat dusk emergence surveys have been completed at Lower Rackery Farm, Dark Lane, Rossett, Wrexham, LL12 0AG (National Grid Reference SJ 3270 5754). The development site comprises of three disused barns; with proposals to convert the buildings to provide new dwellings.

The additional dusk emergence surveys were undertaken on the 7th and 28th May 2025.

Surveys were led by Richard Roe (BSc, MSc, MIEEM, CEnv). Richard has extensive experience of undertaking bat surveys as a professional ecological consultant with over twenty years' experience. Richard is also a licensed bat worker.

PREVIOUS SURVEY SUMMARY

The study site comprises of a range of three brick, traditional, farm outbuildings located at Lower Rackery Farm, Dark Lane, Rossett. The 2024 surveys recorded the buildings as follows.

Each building is two-storey and is likely to be of 19th /early 20th century origin. The buildings are all disused and have had their roofs and upper floors removed along with most hayloft windows and doors.

The building locations are shown on Figure 1 in the Appendix along with identified potential bat roosting features.

Building 1

This is a derelict, traditional brick outbuilding. The structure is two-storey. The roof and roof trusses have been removed with only two Purlins remaining. This building is divided into three rooms which measure approximately 7 m, 5 m and 5 m in length respectively. Each room is approximately 6 m in width.

The upper floor of the barns have been removed. The structure has open doorways and open windows at its west face and open windows at its east and south face.

Consequently, the building interior is very bright and exposed. There is some light ivy growth at the North facing gable which could offer suitable bird nesting habitat.

The external masonry is largely well pointed and intact. However, there are some intermittent areas where mortar has decayed providing shallow crevices between external brickwork. There are also occasional gaps in brickwork within post holes where the floor joists have been removed. There are also crevices around latticed ventilation holes at the building's west and south faces. These features all offer suitable crevice roosting habitat.

Building assessed as offering a **moderate** bat roosting potential.

Building 2

This is also a derelict, traditional brick outbuilding. The structure is two-storey. This section of the building is divided into three rooms which measure approximately 9 m, 4.5 m and 4.5 m in length respectively. Each room is approximately 6 m in width. Some repair/refurbishment works have been commenced at the western end of this building with sections of wall constructed of cinderblock.

This building also lacks a roof and supports no roofing trusses. The building has open windows at its each of its four faces. The building has crumbling ventilation panels at its north and south faces providing suitable roosting crevices. There is also a crevice above a door lintel where there is a 2.5 cm wide gap between the inner and outer skins of brickwork of the barn structure (see Roost Feature 1 on Figure 1). The crevice extends back at least 20 cm into the structure of the barn. The 2025 bat emergence surveys recorded common pipistrelle bats roosting in this location. There are also post holes internally where floor joists have been removed and occasional gaps in internal brickwork. These features all offer suitable crevice roosting habitat.

Building assessed as offering a **moderate** bats roosting potential.

Building 3

This is a further two storey, brick outbuilding. The roof has been removed, however, plastic sheeting has been fitted over the roof trusses and has been fixed in place with roofing battens. The roof sheeting is opaque so the interior of the building is bright. There are missing doors and windows and so the interior of the building is draughty.

Externally there are intermittent crevices where mortar has decayed between brickwork. There is some light ivy growth at the North facing gable which could offer suitable bird nesting habitat.

Internally roofing trusses are largely present however the upper floor has mostly been removed. There are some sheets of ply board still present near the northern end building. This location offers some limited suitable habitat for nesting swallows.

Internally the walls have mostly been whitewashed, however the southern half of the building comprises of exposed brick with intermittent post holes and crevices in brickwork offering suitable roosting habitat.

Building assessed as offering a **moderate** bats roosting potential.

2025 BAT EMERGENCE SURVEYS

Methods

In accordance with the recommendation within the initial scoping survey, two sets of additional bat dusk emergence survey were undertaken on the on the 7th and 28th May 2025.

Given the locations of the potential roosting features, it was considered appropriate to assess the building from five survey locations as shown on Figure 1. This comprised of a combination of manned and unmanned survey positions; with a manned survey station located at the north, south-east corner and south-west corners of the barn complex. Surveyor locations are shown on Figure 1 in the Appendix.

Each survey position comprised of either a thermal imaging or infrared night vision cameras (2 x Canon XA infrared camera supported with 3 x Nightfox XB infrared illuminators plus 3 x Pixfra Arc A613 Thermal Imaging Cameras) combined with static bat detectors (Anabat Express and Anabat Chrous) fixed on suitable bat roosting features. The survey also used 3 experienced bat surveyors (Richard Roe, Kath Smykie and Sofia Fabiano). Surveyors were equipped with heterodyne and time expansion bat detectors (Anabat Walkabout, Echometer Touch 2 Pro and Elekon Bat Scanner).

These survey arrangements allowed all suitable bat roosting features to be fully assessed and general levels of bat activity at the site to be recorded.

The dusk surveys commenced 15 minutes before sunset and continued up to 90 minutes after sunset.

Night Vision camera footage was fully reviewed following survey. All bat species and bat behaviour was recorded.

Results

The first dusk emergence survey was undertaken under suitable conditions on the 7th May 2025 with weather recorded as 30 % cloud, dry; and calm. Temperature at the time of the survey was 12°C. Sunset was recorded at 20.51.

Lower Rackery Farm
2025 Bat Dusk Surveys

Addendum

In summary, **a single common pipistrelle bat was observed emerging from the crevice located about the door lintel of Building 2 at 21.45 (Roost Feature 1 on Figure1)**. No other roosting bats were recorded at the site. As previously described, there is a 2.5 cm wide gap between the inner and outer skins of brickwork of the barn structure immediately above the door lintel (see Roost Feature 1 on Figure 1 and the Photographs in the appendix).

Moderate levels of bat activity were recorded during survey with frequent common pipistrelle passes and occasional soprano pipistrelle bat activity around the barn structures and also recorded on Dark Lane. Noctule were intermittently recorded passing over the site. A single *Myotis* bat species was recorded passing along the northern and eastern sides of the barn complex.

No other bat species or other significant bat activity was recorded.

The second dusk emergence survey was undertaken under suitable conditions on the 28th May 2025 with weather recorded as overcast, dry; and with a light breeze. Temperature at the time of the survey was 15°C. Sunset was recorded at 21.24.

In summary, **2 x common pipistrelle bats were observed emerging from the crevice located about the door lintel of Building 2 at 21.53 and 22.17 respectively (Roost Feature 1 on Figure1)**. No other roosting bats were recorded.

Moderate levels of bat activity were again recorded during survey with occasional common pipistrelle passes and infrequent soprano pipistrelle bat activity around the barn structures. Noctule were again intermittently recorded passing over the site. A single *Myotis* bat registration was recorded passing the south-west corner of the barn complex.

No other bat species or other significant bat activity was recorded.

Summary and Recommendations

The surveys have confirmed the presence of small numbers of common pipistrelle bats (maximum count of two bats) roosting within a crevice located about the door lintel of Building 2 (Roost Feature 1 on Figure1). Bats were recorded emerging from this feature during both emergence surveys.

The roosting feature comprises of a 2.5 cm wide gap between the inner and outer skins of brickwork of the barn structure immediately above the door lintel (see Roost Feature 1 on Figure 1 and the Photographs in the appendix). The feature is considered to only offer suitable roosting habitat for individual/small numbers of non-breeding bats. No other roosting bats were recorded at the site.

The roost is considered to represent a day roost used by low numbers of non-breeding bats of a common species. Such roosts are considered to be of 'low' conservation value.

It is considered very unlikely that the site supports a significant roost such as a maternity colony.

Development works would result in the loss of the identified bat roost. Bats and their roosts are fully protected under UK and European wildlife legislation. The confirmation of the site as supporting roosting common pipistrelle bats means that the proposed development would need to be undertaken under a Natural Resources Wales, European Protected Species License (EPSL) and with an appropriate method statement to avoid harming bats during any development works.

Bat License and Mitigation

An outline mitigation strategy has been designed to limit the negative impacts of the development on bats in the locality. The mitigation strategy would provide alternative high-quality bat roosting habitat and would also aim to limit the risk of harm to individual animals during the development process. It is considered that this strategy will ensure that the favourable conservation status of common pipistrelle bat is maintained both locally and nationally.

Works should follow a strict method statement whereby sensitive stages of the development, would be undertaken by the licensed ecologist. This would include the installation of a bat excluder over the identified roosting crevice.

Prior to the start of works a mitigation area should be prepared which would act as a receptor for bats encountered during works.

The receptor area should comprise of 1 x Schwegler 2F bat box (or similar) which would be fitted to the retained mature oak located on the northern boundary of the site (see photograph in Appendix).

The exact location of the bat box would be determined by the named ecologist on the license prior to the start of exclusion works.

Prior to the start of works on site, a ‘toolbox talk’ should be given to the site contractors by the licensed bat worker; identifying the locations where bats have been encountered, other locations where bats might be located, their responsibilities under UK Legislation and the EPSL method statement; plus what they should do if any bats are encountered during works.

Prior to any works to the exterior of Building 2, it is proposed that bats are excluded from the roosting feature by the licensed bat worker. The exclusion procedure would require the bat worker to install a bat valve over the crevice feature and to leave this in position for at least seven nights. The bat worker will then remove the bat valve, undertake an endoscope inspection of the roosting feature; and finally, if they are confident that bats are no longer present within the feature, the roosting crevice can be sealed.

In addition, a visual inspection of all other potential bat roosting features will be undertaken prior to these being filled in. These largely comprise shallow crevices in the external and internal masonry which can be easily investigated using a torch.

If any bats are encountered or suspected at any other time during works, works should immediately stop and the named ecologist on the EPSL should be contacted to attend site and provide further advice.

New Bat Roosting Features

In addition to the tree-mounted bat box, it is also proposed that at least 9 x Bat Boxes are installed within the external faces of the converted barns to compensate for any potential roosting crevices lost to the development. Several of the outer walls of the barns will be reconstructed, therefore it will be possible to install the bat boxes into the outer walls during construction works. It is recommended that the bat boxes comprise of Vivara Pro Build-In Woodstone Bat Boxes (or similar). The bat boxes should be installed at a minimum height of 4m from the ground. It is recommended that the bat boxes are installed on the northwest face of Barn 3, the south west face of Barn 2 and the southeast face of Barn 1. These locations will face towards areas of open countryside and will offer a variety of climactic conditions.

The bat boxes will be built into the structure of the new barn conversions and so would need to be considered during construction and can not be installed retrospectively.

Lighting proposals for the site will need to ensure that the bat box locations are not illuminated by any artificial lighting.

Photographs

Photograph 1- Roost Location 1 above door lintel



Photograph 2- Roost Location 1 above door lintel



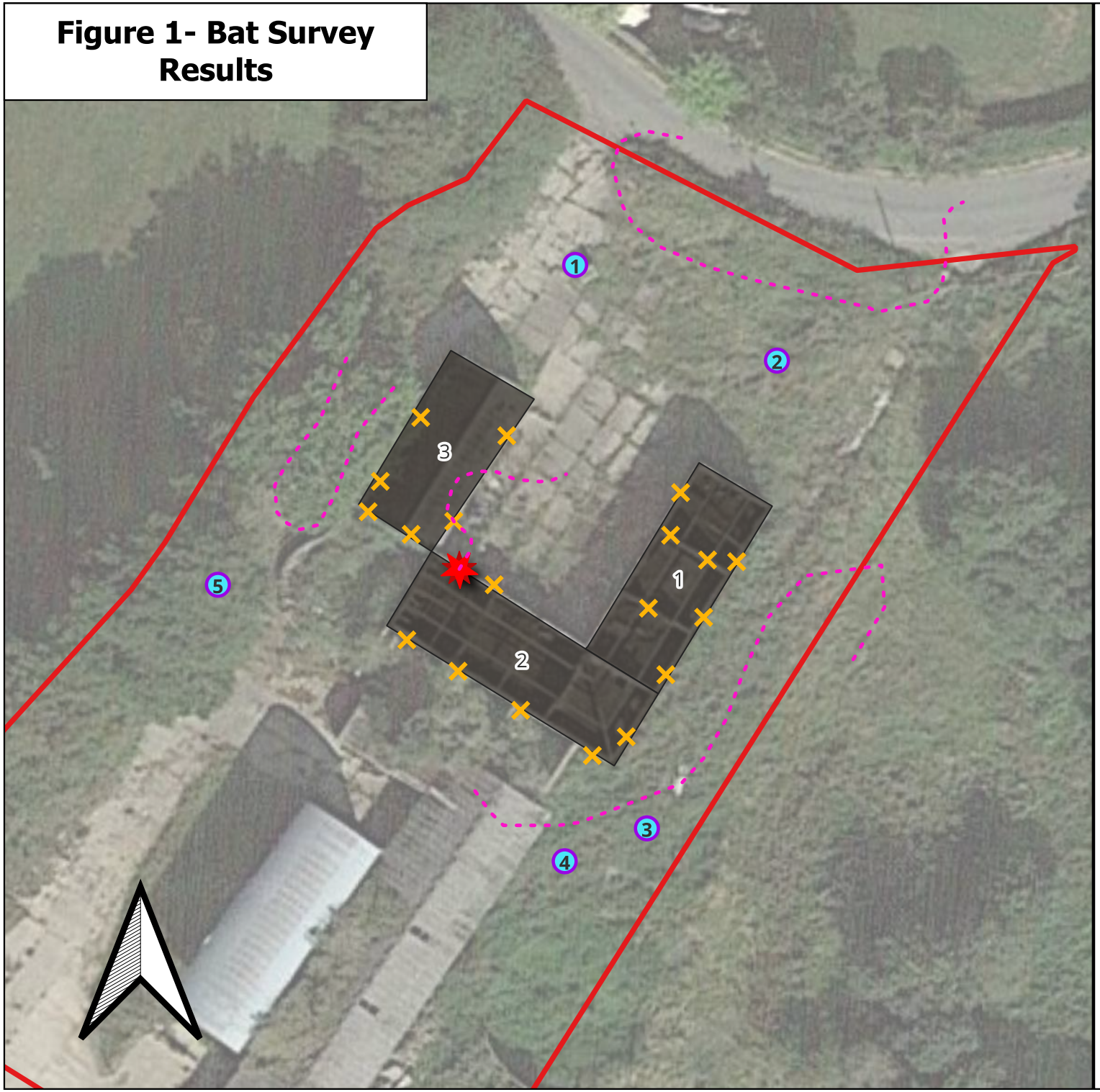
Photograph 3- Tree for Proposed Bat Box



Photograph 4- Site Layout January 2024



Figure 1- Bat Survey Results



KEY

- Red Line
- Bat Surveyor Location
- Bat Flight Line
- Potential Bat Roosting Feature
- Bat Roost Location
- Building

0 5 10 15 20 25 m

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