Ben Jones Ecology
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03 July 2025

Plant & Robinson Construction Ltd

2025 BAT SURVEY RESULTS AT LOWER FARM BARNS, BOWLING BANK, WREXHAM, LL13 9RY.

Background

The barns at Lower Farm were assessed in 2022 by Greenscape Environmental Ltd and found to support three species of roosting bats, all with day roosts on site.

These surveys were considered out of date and were therefore updated in Bat activity surveys were therefore conducted in May and June 2025 by Ben Jones Ecology Ltd.

Methodology

Automatic ID bat detectors were used on these surveys, and these have limitations as reported in Reason, Newson & Jones (2016). All calls are run through BatClassify on Anabat Insight to a 70% certainty threshold. 10% of non-identified calls are typically manually verified to confirm they were only noise. Where low numbers of calls are recorded, all sonograms are manually verified.

Phase 2 bat activity surveys were conducted to reinforce the findings using frequency division bat detectors (Anabat Scout, Wildlife Acoustics Echo Meter Touch 2 Pro), and Canon XA60 and Sony AX53 night-vision cameras with Nightfox Arc IR floodlights. Additional IR lighting was provided by Nightfox XC5 and Nightfox XB5 Pro IR torches where required. All survey footage was analysed by an experienced bat ecologist in real time to identify any roosts recorded.

Surveys were conducted when the weather conditions were suitable for bat activity, i.e. when the ambient temperature exceeded 10°C at sunset and when there was little or no rain. Dusk surveys were begun approximately 15mins prior to sunset and continued for 90-120mins following sunset depending on visibility and site conditions. Weather conditions are recorded at the start and end of each survey, noting temperature in °C, cloud cover as a percentage, windspeed in Beaufort (BFT), and precipitation.

Wind Force	Description	Speed mph (kph)	Specifications
0	**Calm**	<1 (<1.6)	Smoke rises vertically
1	**Light Air**	1-3 (1-5)	Direction shown by smoke drift but not by wind vanes
2	**Light Breeze**	4-7 (6.5-11)	Wind felt on face; leaves rustle; wind vane moved by wind
3	**Gentle Breeze**	8-12 (12-19)	Leaves and small twigs in constant motion; light flags extended

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Survey Results

Table 1. Survey dates and weather conditions

Date	Time Start – End (Sunset Time)	Equipment Used	Weather (Start/End)	
28/05/2025	21:05-23:15 (21:23)	Anabat Scout, Wildlife Acoustics Echometer Touch 2 Pro, Night sight cameras each with Nightfox Arc IR floodlights, reinforced with either Nightfox XC5 or Nightfox XB5 Pro torches, red LED torch. DJI Mini 4 pro drone.	Temp(°C): Cloud(%): Wind(BFT): Peak gust (BFT): Rain:	15/13 100 0/1 2.4 0/0
Comments	Five survey positions used. Constraints: None			
25/06/2025	21:20-23:40 (21:42)	Anabat Scout, Wildlife Acoustics Echometer Touch 2 Pro, Night sight cameras each with Nightfox Arc IR floodlights, reinforced with either Nightfox XC5 or Nightfox XB5 Pro torches, red LED torch.	Temp(°C): Cloud(%): Wind(BFT): Peak gust (BFT): Rain:	21/16 0/10 1/0 2.3 0/0
Comments	Five survey positions used. Constraints: None			

Table 2. Survey results table

Date	Time Start – End	Species and Numbers	Roost Type	Structure	Roost Location	Access Points
28/05/2025	21:05-23:15	C-Pip – 1	Day	Barn	Northern wing, possibly northwestern corner	Open windows and doorways on all sides
		BLE – 1	Day	Barn	Unknown on interior	Open windows and doorways on all sides
		Whiskered - 1	Day	Barn	Unknown on interior	Open windows and doorways on all sides
Notes:	The first bat recorded was a common pipistrelle at 21:16, approximately 7 minutes before sunset. This was recorded flying inside the upper floor of the barn, seen via the open doorway near the northwestern corner. At 22:12 an interior walkover revealed common pipistrelles, Natterer's bat and brown long-eared bats foraging in the upper floors. As the entire barn complex is interconnected and flight is possible between rooms and between floors, these bats are all classed as roosting within the barn. Due to the unsafe nature of much of the floors a thorough internal inspection was not possible and so specific roost locations were not determined. Bats were routinely seen throughout the survey flying in and out of numerous open windows and doorways, with none obviously preferred over others. The majority of activity was recorded in the northern end of the site, with the southern survey position recording very few bats, even foraging.					
25/06/2024	21:20-23:40	C-Pip – 4	Day	Barn	Northern wing, possibly northwestern corner	Open windows and doorways on all sides
		BLE – 2	Day	Barn	Northwestern room on upper floor	Open windows and doorways on all sides
		Whiskered - 2	Day	Barn	Northwestern room on upper floor	Open windows and doorways on all sides
Notes:	The first bat seen was a common pipistrelle at 22:09, approximately 27 minutes after sunset. This was seen emerging from the ground floor barn opening at the northwestern corner and continued to forage on the ground floor for the rest of the survey, entering and leaving several available openings on all sides of the building. At 22:15 a peak of two common pipistrelles were observed conducting this behaviour, and at 22:39 a peak of four common pipistrelles were observed at one time, confirmed by radio communication between surveyors and observation of time-synced video footage. This peak is therefore used as the population size for this site. Back-to-back cameras were placed on the upper floor of the barns to determine whether internally roosting species were utilising the northern or southern ends of the barns. The north-facing camera					

	recorded two brown long-eared bats and two whiskered bats at any one time, so these counts have been used for the population size. This camera also first recorded both species of bats first flying west to east in the northern wing, so the roost location is determined as the northwestern room. Droppings have been found in this room previously so this location is unsurprising. The south-facing camera recorded foraging activity but none that was not previously recorded entering the room from the north, or seen to enter the barn from open windows, particularly on the western face. All bats recorded utilised several openings and gaps for emergence and re-entry into the building during their foraging activity, so one specific access point was not identified, nor determined as a valuable piece of information.

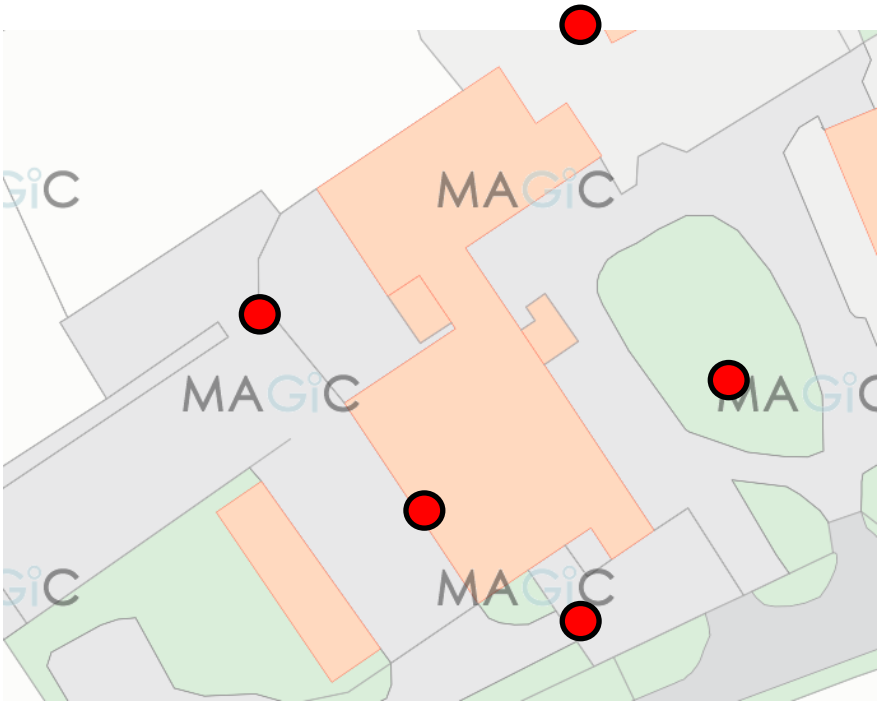


Figure 1. Survey locations used on first survey



Figure 2. Survey locations used on second survey

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Figure 3. Darkest point view of camera to southwest



Figure 4. Darkest point view of camera to east - mid



Figure 5. Darkest point view of camera to east - south

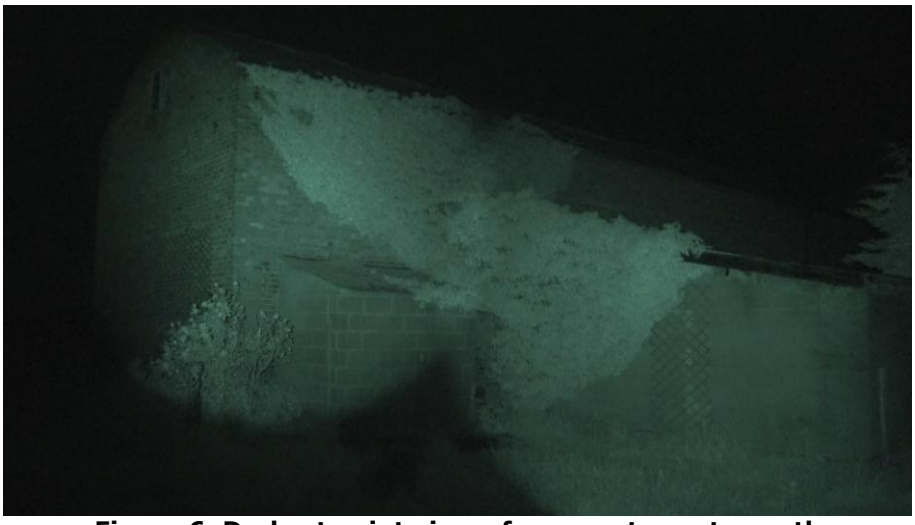


Figure 6. Darkest point view of camera to east - north



Figure 7. Internal camera view on second survey - south facing

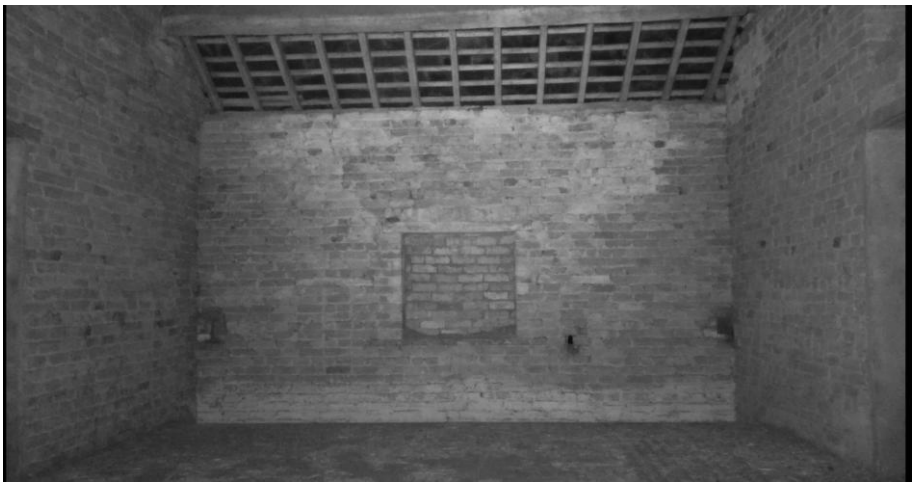


Figure 8. Internal camera view on second survey - north facing

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Summary and Recommendations

The peak count of bats roosting in the barns on these surveys was as follows:

- Common pipistrelle – 4
- Brown long-eared bat – 2
- Whiskered bat – 2

The works to renovate and seal these barns will destroy the roosts of all three of these species, and therefore work can only begin on the barns after a licence from Natural Resources Wales has been granted. A method statement will be followed, an example of which is included below.

Appropriate mitigation will be included within and around the barns as part of the development. Whilst BLE and whiskered often utilise open spaces, there is no sign that a maternity colony is present, and appropriate mitigation for low numbers of the species can be a bat box. Three bat boxes will be erected around site, one for each species. These will be placed prior to work taking place to act as a translocation site for any bats found during the work.

EPSL Working Method Statement

1. Construction will need to follow a rigid method statement. It will need to be conducted under a European Protected Species Licence (EPSL)
2. A suitably licensed ecologist will be employed as an Ecological Clerk of Works (ECoW) to oversee works in areas sensitive to bats and provide expert advice.
3. The licence can only be applied for when full planning permission has been granted.
4. A toolbox talk will be provided by the ECoW. The developer and the contractors will be made aware that there is a possibility that bats may be found during works, and will be advised to work in a way to ensure bats are not harmed during work in areas sensitive to bats; particularly around the parts of the barn of typical roost value for bats, such as the ridge, verges, hips and edges. They will be provided with a simple emergency procedure to follow if bats are found at any stage of the work on site. It will be ensured that the method statement is retained on site at all times.
5. A pre-commencement check will be conducted by the ECoW using a strong torch and borescope where appropriate and safe to do so.
6. The work around the bat roost areas will ideally occur when bats are least likely to be present, from October to March. As this site only supports day roosts, timing can be more lenient if required.
7. Bats will always be allowed access to an undisturbed area during works.
    a. Boxes will be installed on adjacent buildings or areas where work is not proposed in order to provide translocation points, ongoing and undisturbed roosting potential.
8. The ECoW will be present on site when work is being conducted in the area of the bat roost, particularly around the ridges, gables, hips, valleys and edges.
9. If a bat is found when the ECoW is not present, work will stop immediately and the ECoW contacted for advice.

10. The bat can only be handled by the ECoW or authorised person unless it is in immediate danger. The bat must be carefully placed in a well-ventilated lidded box with a small container (i.e. a plastic bottle lid) with water in it. The container must be kept in a quiet and safe place.
11. Care should be taken to avoid rousing the bat whilst transferring to a suitable location, such as a suitable roost box or alternative roost space that provides a safe, quiet environment with a stable cool temperature and relatively high humidity.
12. If the bat is underweight or injured it will be cared for by an experienced bat carer until such time that it is strong enough to be released into a suitable alternative replacement roost on site.
13. The bat compensation will be created following the instructions in the EPS method statement and the client will agree that any bat box erected must stay in place for a minimum of five years post-development.
14. The removal of the roof will not take place if the temperature has been below 6°C for four consecutive days and nights.
15. Once the building has been reroofed, bat access will be limited by sealing all doors and windows, thus reducing the potential for bats to re-enter where they are not expected and bats will naturally seek alternative roosts, ideally finding the boxes erected prior to work commencement.

Roosting Enhancements

It is recommended that permanent provision be made for roosting opportunities for bats with the inclusion of at least one integrated bat box in the newly renovated barns.

Enclosed Bat Box (B and C)

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work



Bat Box B



Bat Box C

Eco Habitats for Bats	Sizes (mm)	Durability
Bat Box Type A	215 x 65	F2 S2 – Fully Frost Resistant
Bat Box Type B	215 x 215 or 215 x 290	F2 S2 – Fully Frost Resistant

Figure 9. Example integrated bat box

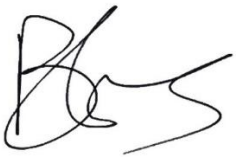
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As integrated boxes cannot be erected prior to commencement, and therefore cannot be used as translocation points, it is recommended that three woodcrete bat boxes are erected prior to work commencement for this purpose. These will be erected at a height of 3-4 m and in a southerly, westerly or easterly facing direction.



Figure 10. Example woodcrete bat box: Schwegler 1FF & Beaumaris Bat Box Midi

Yours sincerely,



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