BAT SCOPING SURVEY & ACTIVITY SURVEYS OF THE OLD BARN, COED DERWEN, ERBISTOCK, WREXHAM 2024



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1.0 INTRODUCTION

1.1 Andy Harmer Limited was commissioned in 2024 by Mr Michael Evans to undertake a bat scoping survey and subsequent bat activity surveys of buildings at The Old Barn, Coed Derwen, Erbistock, hereafter referred to as the 'site'.

1.2 The site is located off the A528, 6km east of Wrexham (O.S grid reference SJ357417 – see Figure 1). The site currently comprises a number of dilapidated agricultural structures, gardens and disused land. It sits within a pastoral landscape, close to the River Dee. The site is surrounded by habitats such as ponds, woodland and pasture, with hedgerows and tree belts. Many of the stream and river corridors in the vicinity are flanked with deciduous woodland.

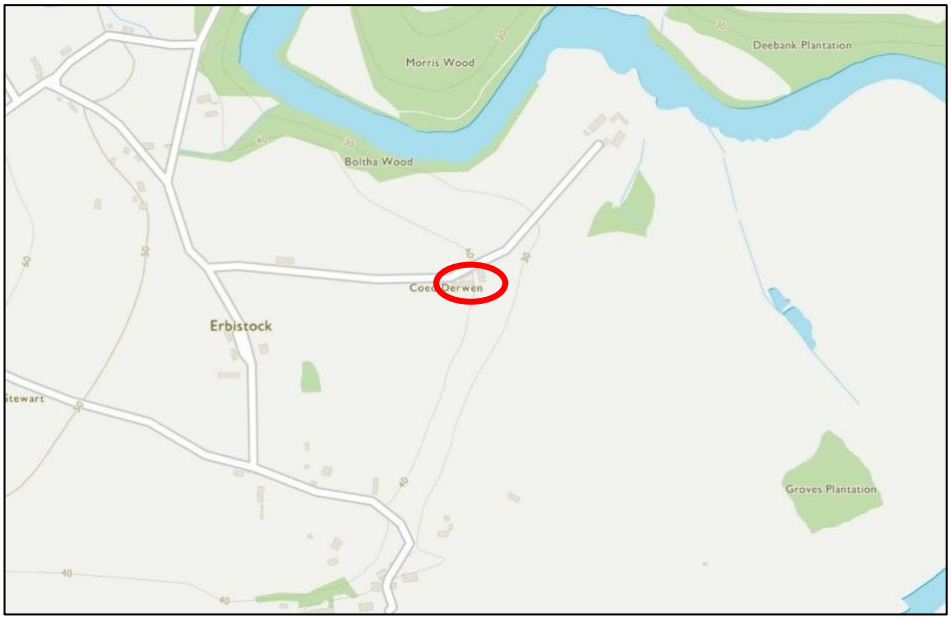


Figure 1 showing the location of the site

1.3 A bat scoping survey was undertaken on 3rd May 2024 and evidence of bat activity (scattered droppings) was found within Building 1. It was concluded that Building 1 offers moderate bat roost suitability. It was considered that Buildings 2, 3, 4, and 5 offer negligible bat roost suitability. Therefore, recommendations were made to undertake bat activity surveys (dusk emergence surveys) at Building 1, to determine species and numbers of bats using the buildings and the roost type.

1.4 All bat species are European Protected Species under the Conservation of Habitats and Species Regulations 2019 (Amendment) (EU Exit). They are also fully protected under the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Natural Environment and Rural Communities Act 2006. It is illegal to disturb or damage a bat roost whether there are bats present or not.

2.0 METHODOLOGY

2.1 A bat scoping survey of all buildings, and two bat activity surveys (dusk emergence) at Building 1, were conducted at The Old Barn, Coed Derwen, Erbistock, Wrexham.

Scoping Survey

2.2 A daytime scoping survey was undertaken to search for, and to assess the potential for, a bat roost to be present within the buildings. The buildings were searched internally for evidence of a bat roost, which included looking for the following signs:

- live or dead bats
- bat droppings
- potential bat entry/exit points
- bat urine staining and/or claw marks
- grease marks on timbers or masonry
- feeding remains such as insect wings
- areas clear of dust and cobwebs where bats may be entering and leaving the property.

2.3 An external survey was also carried out, which included, for example, looking for gaps in the brickwork, discolouration of wood or brickwork around potential entry points, gaps between window frames and the walls and looking for bat droppings on the walls and window ledges and on the ground.

2.4 A heterodyne bat detector was used throughout the survey to help detect chatter should any bats be disturbed; a high-powered narrow beamed torch, endoscope, binoculars, thermal imaging device and ladders were used to survey both internally and externally.

Activity Surveys

2.5 Two dusk emergence surveys were undertaken. Four surveyors and three cameras (two infra-red and one thermal) were used to monitor the building, to ensure adequate coverage of the building to observe any emerging bats.

2.6 The dusk emergence surveys began at least 10 minutes before dusk and continued for at least 60 minutes after dusk. The surveyors used three Anabat bat detectors (a Chorus (which was used inside the building as a static detector), an Express and a Walkabout), and two Echometer bat detectors, to record the echolocations of any emerging bats. The cameras used for infra-red monitoring were Sony Handycams; these have an infra-red facility where it can see in complete darkness. A bank of four, and a single large illuminator, were used to survey a section of the building. A

Thermal Imaging Camera (Helion pulsar 2) was also used if light conditions required it.

Timing and Personnel

2.7 The two dusk emergence surveys were undertaken on 19th May 2024, and 10th June 2024. May and June are optimum months within which to carry out bat activity surveys. Two surveys were considered enough to robustly determine the roost type.

2.8 Andy Harmer (Principal Ecologist) and assistants carried out the activity surveys. Andy has over twenty years of experience of protected species surveys, including bat surveys and assessments. Andy Harmer is an accredited agent of Joel Hacking, licensed by Nature Resources Wales (NRW) under licence no.: S091063/1. Andy has also held a Class 2 Natural England bat survey licence for over six years (reference: 2017-28547-CLS-CLS).

2.9 All buildings were accessible and there were no impediments to the activity surveys, therefore there were no constraints to the surveys.

3.0 RESULTS

Bat Scoping Survey

3.1 Figure 2 shows the locations of the buildings on site.

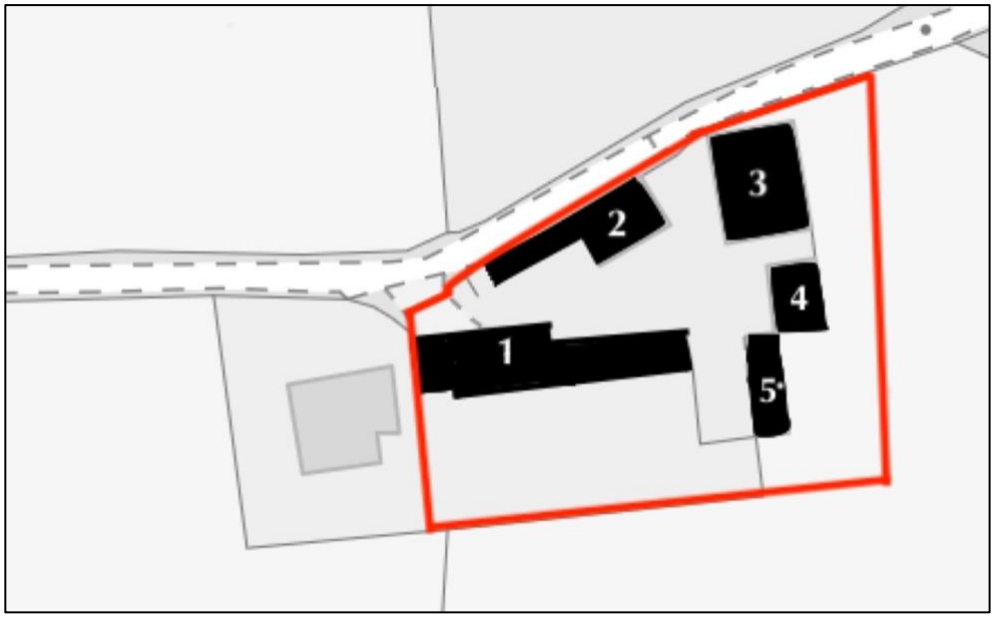


Figure 2 showing the building locations

Building 1

3.2 Building 1 is an amalgam of structures with multiple compartments. The walls are a mix of brick, natural stone, wood and concrete. The roof is a wooden framework supporting corrugated tin and slates. The structures are dilapidated, with gaps in the exterior throughout (see Photographs 1 - 3).



Photograph 1: showing Building 1



Photograph 2: showing first storey interior of Building 1



Photograph 3: showing ground floor interior of Building 1

3.3 Prey remains (Lepidoptera wings) and low numbers of scattered bat droppings, including both desiccated and fresh droppings, were located in Building 1 (see Photographs 4 and 5).





Photographs 4 and 5: showing bat dropping and prey remains on the floor of Building 1

Buildings 2, 3, 4, and 5

3.4 Buildings 2, 3, 4, and 5 are of similar construction and are grouped together (see Photographs 6 - 8). These were inspected and found to have negligible potential with no evidence of bats whatsoever. These structures were single skin walls, asbestos corrugated roofs, over concrete floors. The simple structures offered little cover.



Photograph 6: showing Building 2



Photograph 7: showing Building 3



Photograph 8: showing Building 5

Bat Activity (Emergence & Re-entry) Surveys

3.6 Figure 3 shows the location of the buildings surveyed and the positions of the surveyors and cameras throughout the activity surveys.

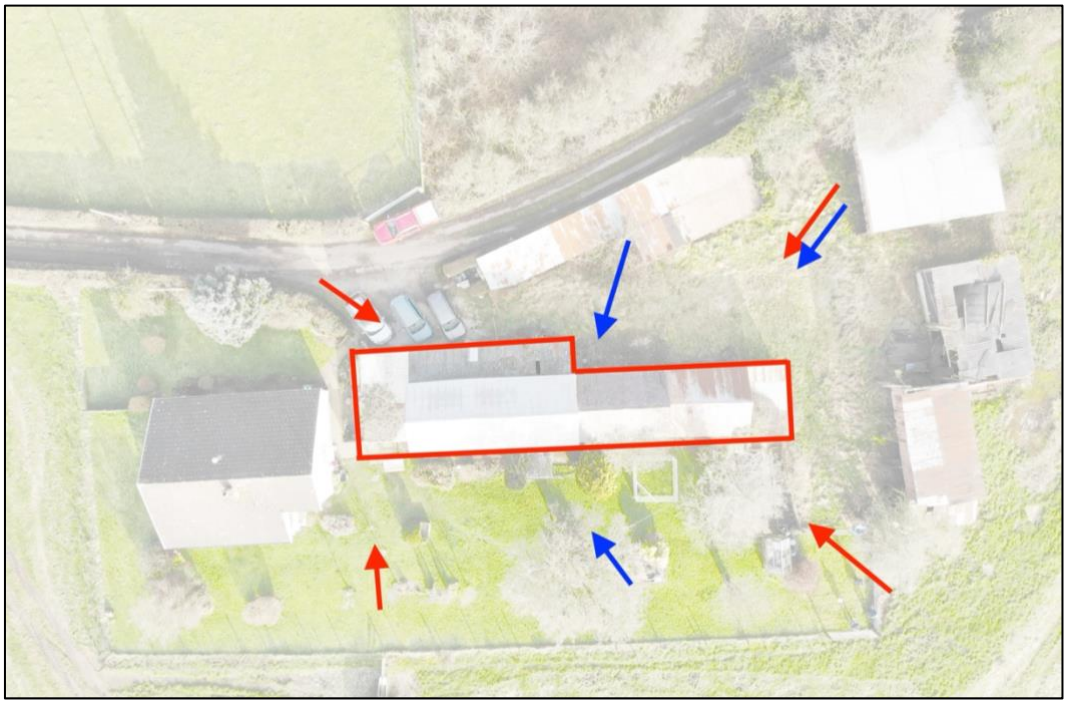


Figure 3 showing the target building within a red line boundary and positions that bat workers stood (red arrows) and cameras positioned (blue arrows).

3.7 A maximum of one Brown Long-eared Bat *Plecotus auritus* and one Soprano Pipistrelle *Pipistrellus pygmaeus* emerged from Building 1 during the dusk emergence surveys.

3.8 A small amount of foraging and commuting bat activity was recorded throughout the surveys. Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus,* Noctule Bat *Nyctalus noctula* and a single Natterer's Bat *Myotis nattereri* was recorded. These were all recorded, and sometimes observed, foraging and commuting over the site and adjacent road and farmland.

3.9 Tables 1-4 below detail the results from each survey, along with weather conditions.

<u>19th May 2024 – Dusk Survey</u>

3.10 Table 1 details the bat activity observed at the site.

	Table 1. Bat activity and timings during the survey on 19/05/24
1.	Brown Long-eared Bat calls recorded from static detector inside of Building 1 at 21:25 for a period of ten minutes
2.	Common Pipistrelle Bats foraging regularly over the site and farmland between 21:13 and 22:00.
3.	Several Soprano Pipistrelle Bats foraged over the site and adjacent hedgerows infrequently between 21:15 and 22:03.
4.	Noctule Bat recorded commuting overhead at 21:04

3.11 Table 2 gives the weather conditions during the survey.

Table 2. Weather conditions during the survey 19/05/2024	
Sunset:	21:12 (21:00 – 22:20)
Temperature (low):	15°C
Beaufort Scale:	2
Weather:	Partly cloudy

10th June 2024 – Dusk Survey

3.12 Table 3 details the bat activity observed at the site.

	Table 3. Bat activity and timings during the survey on 10/06/24
1.	1 x Brown Long-eared Bat emerged from a gap roughly halfway along building 1 where the roof sits on the wall hole. Emergence was at 22:04
2.	Common Pipistrelle Bats foraged over the site and adjacent road and farmland regularly between 2155 and the end of the survey
3.	A single Soprano Pipistrelle Bat emerged at 2149 from above a wooden door under the eaves of building 1.
4.	1 x Natterer's Bat recorded over site at 22:16

3.13 Table 4 gives the weather conditions during the survey.

Table 4. Weather conditions during the survey 10/06/24	
Sunset:	21:39 (21:25 – 22:50)
Temperature (low):	12°C
Beaufort Scale:	3
Weather:	Mostly cloudy

3.14 The bats emerged and re-entered Building 1 at the apex of the eastern gable end (see Photograph 9).



Photograph 9 showing the bat emergence points for the Brown Long-eared Bat (red arrow) and the Soprano Pipistrelle (blue arrow).

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Evidence of bat activity was found within Building 1 during the daytime bat scoping survey. Small numbers of bat droppings, some fresh, and prey remains such as moth wings were located on both the ground floor and the first storey.

4.2 During the bat activity surveys (two dusk emergence surveys), a maximum of **one** Brown Long-eared bat and a maximum of **one** Soprano Pipistrelle bat were observed emerging from Building 1. It can be considered that Building 1 supports a **day roost** for these two bat species.

4.3 A Natural Resources Wales (NRW) European Protected Species (EPS) licence for bats will be required prior to any development commencing on Building 1. The licence can only be applied for following full planning permission. The licence will include a method statement for the protection of bats during works, including soft stripping, ecological supervision and toolbox talks. There are no timing restrictions on the works due to the roost being a day roost, not a maternity roost. Mitigation and compensatory habitat will be required and this is detailed in Section 5.0.

5.0 MITIGATION AND COMPENSATION

5.1 Following planning permission being received, and all planning conditions being discharged, a derogation licence from NRW will be applied for. This must be obtained prior to work commencing for Building 1.

5.2 Prior to work commencing on Building 1, and upon receipt of the derogation licence, two Schwegler 2F bat boxes will be attached to a retained mature tree or the wall of a retained building, and these must remain in-situ during works to Building 1. These will act as a temporary repository for bats located during works.

5.3 A toolbox talk will be given prior to work commencing to all site personnel by a suitably licensed and experienced ecologist. This will outline bat legislation, the conditions of the licence and what to do if a bat is found.

5.4 The appointed ecologist will supervise the demolition works of the bat roost areas, with all parts being sensitively dismantled by hand. Any bats found will be carefully moved by the licensed ecologist and placed into one of the 2F Bat boxes.

5.5 If a bat is found during any ensuing works, the work will stop at that location and the licensed ecologist will be contacted to safely move the bat. No construction personnel will move bats.

5.6 For compensation of the loss of the Brown Long-eared bat and Soprano Pipistrelle day roosts, two bat boxes will be integrated within the gable walls of the dwellings. These boxes will be either Habibat Integrated Boxes or Greenwoods Large Cavity Eco Bat Boxes. Both are inconspicuous and offer suitable internal features for Brown Long-eared bats and other cavity-dwelling bat species. The boxes must be positioned at least 3 metres in height and facing south, south-west or west.

5.7 Following completion of the development, the appointed ecologist will inspect the permanent bat roosting provision, ensuring it is installed correctly. They will also inspect the temporary bat boxes (Schwegler 2F) and if not in use by bats, will take them away from site. If bats are using the box(es), they will remain in place.

5.8 A licence return will then be submitted to NRW.

6.0 REFERENCES

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