



ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



PHASE 2 BAT ACTIVITY SURVEY

TREWERN ISAF

Lower Betton Farm, Cross Houses, Shrewsbury, Shropshire, SY5 6JD

Project name: Trewern Isaf, Nant, SY10 0DD

Grid Reference: SJ 12244 27987

Date: 18/08/2023

Prepared by: Matthew Bailey BSc

Reviewed by: Phillipa Stirling MSc ACIEEM

Requested by: Sarah Lewis



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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning consent will be sought for the conversion of a redundant agricultural building to residential accommodation.

Preliminary examination of the building indicated that it has 'Low' potential as a bat roost. Although the structure is very open with numerous entry points, the construction materials and design of the building do not offer particularly suitable conditions for bats.

1.2 SCOPE OF SURVEY

Arbor Vitae were commissioned to undertake one bat activity survey to determine if the building is in use by roosting bats.

- Bats and their roosting sites are legally protected under The Conservation of Habitats and Species Regulations 2017 and The Wildlife and Countryside Act 1981.

The survey was also designed to assess the presence of any breeding birds using the building.

- All wild nesting birds, their nests and eggs are legally protected under The Wildlife and Countryside Act 1981.

1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

The site at Trewern Isaf is located approximately 1.8km from the town of Llanrhaeadr-ym-Mochnant.

The surrounding landscape is hilly and predominantly composed of pasture land. Well-established hedgerows separate the fields and areas of broadleaved deciduous woodland are present 0.25km to the north of the site. A wooded tributary of the Afon Iwrch River runs along the western border of the site.

The building in question is a disused agricultural building. The proposed plans aim to convert the building into a residential property in line with current living standards.

2.2 BUILDING DESCRIPTION

The main section, previously used for housing livestock, is a single-storey stone and brick barn under a pitched tin and timber roof. Tin capping is present along the ridge line and the internal flooring is all concrete.

Notably, the north facing gable is built into the adjacent bank. Open apertures are present all around the building allowing entry points to the internal space.

A single-storey timber frame shelter is present adjoined to the eastern elevation of the main building. Additionally, the lean-to roof is constructed from tin and the shelter is open at the north and east elevations.

A small adjoined red brick section is present at the western elevation. The roof made from fiber-cement but is in very bad condition with a large opening.

Finally, a stone constructed section is adjoined at the south facing gable-end of the main building. The roof is a lean-to design, the frame is timber and the roof paneling is tin.

Habitats adjacent to the site:



- **Water course:** A fast flowing tributary of the Afon Iwrch River runs along the western border of the site. The water course is lined with mature trees, species include: Oak, ash, Scots pine, rowan and hazel.
- **Acid grassland:** The embankment present to the immediate north of the disused agricultural building contains species consistent with acidic grassland, these include: Heath bedstraw, sheep sorrel, tormentil. However, as the area was heavily grazed, the ability to accurately identify grass species was severely compromised.
- **Plantation woodland:** a small group of *Leylandii* are present to the immediate east of the site.

3 SURVEY METHODOLOGY

3.1 VISUAL INSPECTION

One visit was made on the 15/07/2023 to carry out a preliminary visual assessment of the property prior to the first dusk activity survey on the 03/08/2023.

The objective of the survey was to find and record any signs of use by bats, for example:

- Droppings, sometimes in concentrations below roost sites,
- Feeding signs such as butterfly and moth wings,
- Staining of timber, brickwork around access points.

The general structure of the building was assessed for its potential to provide bats with roosting opportunities.

3.2 ACTIVITY SURVEYS

DATE	SURVEY TIME	SUNSET SUNRISE	WEATHER	OBSERVERS	STATIC RECORDERS
03/08/2023	20:45-22:30	21:03	Cloud: 100% Rain: No Wind: 1 (BFT) Temp: 15°C	Phillipa Stirling Matthew Bailey	Anabat Express internally x2

Bat activity was registered and recorded externally using Echometer 2 Pro microphone with iPad Air and Whisker Nightfox infrared HD binoculars.

3.3 BREEDING BIRDS

The building was assessed for its potential to provide birds with nest sites, and to record any existing evidence of previous nesting.

3.4 PERSONNEL

The survey was carried out by ecologist Phillipa Stirling MSc ACIEEM, Natural Resources Wales bat licence number: S091037-1 and assistant ecologist Matthew Bailey BSc.

3.5 CONSTRAINTS

There were no constraints to the survey according to the Bat Conservation Trust good practice guidance.

4 SURVEY RESULTS

4.1 VISUAL INSPECTION

The internal space and undercrofts were closely searched for evidence of bats. No droppings were found and there was no evidence of feeding signs. Overall, the structure was assessed as providing 'low' suitability as a bat roost due to open access into the space and a small number of crevice roost features.

4.2 ACTIVITY SURVEYS

Dusk emergence survey 3rd August 2023

During the survey a total of five species of bats were observed or recorded: common and soprano pipistrelle, noctule, Daubenton's and Natterer's bats.

Common pipistrelle was recorded with external detectors from 21:10 onwards, in brief segments. The first visual record of the survey was a common pipistrelle at 21:23, the individual was observed flying from the *Leylandii* copse behind the surveyed building, towards the stream present to the west of the site. This was the only confirmed observation of the survey.

Later, at 21:40 a noctule bat was recorded briefly by both surveyors. Between, 21:43 and 21:54 brief common and soprano pipistrelle calls were recorded by both surveyors; however, no visual confirmations were made.

Finally, a momentary Daubenton's call was recorded at 21:54 and a Natter's call at 22:03 marking the last record of the survey.

The internal static detectors were placed in both the main building and the lean-to shelter present at the eastern elevation. The detector in the open-sided shelter recorded a brief common pipistrelle echolocation call at 21:10. However, as no emergences were recorded from the building in question, it is likely that the individual is roosting locally and its calls were recorded as it flew past the building.

4.3 BREEDING BIRDS

No evidence of breeding birds using the disused agricultural building for nesting purposes.

5 EVALUATION OF RESULTS AND IMPACT

5.1 BATS

Five species of bats were recorded or observed, noctule, common and soprano pipistrelle, Daubentons and Natterer's bats. No bats were seen to emerge from or re-enter the building during the survey. Brief echolocation calls picked up by the static detector in the open shelter were almost certainly a result of bats flying past the open-sides.

The majority of the recorded activity stemmed from the wooded stream located to the west of the site, this area will be unaffected by the proposed plans. However, due to the fact that the riparian corridor is located so closely to the site, a Wildlife Sensitive Lighting Plan will need to be adhered to.

The survey concludes that the disused agricultural building is not the roosting site for any species of bats.

The conversion of the building will have no impact upon any bat species or their roosting sites. Therefore, a European Protected Species Development Licence will **not** be required for the conversion work to proceed.

5.2 BREEDING BIRDS

The survey demonstrated that no breeding birds were using the outbuilding as a nesting site. Therefore, no disturbance to any species of breeding birds will occur during the conversion of the outbuilding.

6 MITIGATION & ENHANCEMENT

6.1 BATS

The agricultural building is not in use as a roosting site for bat species. No further survey work is required. However, as the riparian corridor is located at such a close proximity to the site, the following lighting will need to be adhered to:

- **Lighting plan:** the following advice will be incorporated into a lighting plan scheme for the site:
 - The riparian corridor to the east of the site is a prime habitat for bats, key features including mature hedgerows and trees will not be illuminated in order to retain dark movement corridors for nocturnal wildlife.
 - Any exterior security or decorative lights to be installed on the development site will be less than 3 m from the ground and fitted with hoods to direct the light below the horizontal plane, at an angle of less than seventy degrees from vertical, and shall not be fixed to, or directed at, bat boxes or gables or eaves.
 - Security lighting will be set on motion sensors with short timers (<1 minute) and will be LED with a passive infrared trigger.
 - External lights will be hooded and directed toward the ground to reduce upward light spill.
 - A warm white spectrum will be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
 - Internal luminaires will be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires will be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.

- Luminaires will always be mounted horizontally with an upward light ratio of 0%.

6.2 BREEDING BIRDS

The outbuilding is not in use as a nesting site for breeding birds. Therefore, no further survey or mitigation work is required.

6.3 ENHANCEMENT

It is evident from the survey that several species of bats are present within the area. The majority of the recorded activity stemmed from the wooded stream located to the west of the site, this area will be unaffected by the proposed plans. In order to add to roosting opportunities, the following is recommended:

- One woodcrete bat box to be installed on the gable end of the converted property once construction has concluded.

In order to enhance the habitat for birds, it is recommended that the following bird nest boxes are erected:

- One Woodcrete open-fronted bird box to be installed into a nearby mature tree.

7 SUMMARY

Planning consent will be sought for the conversion of a redundant agricultural building to residential accommodation. Preliminary examination of the building indicated that it has 'Low' potential as a bat roost. Although the structure is very open with numerous entry points, the construction materials and design of the building do not offer particularly suitable conditions for bats.

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Five species of bats were recorded or observed, noctule, common and soprano pipistrelle, Daubenton's and Natterer's bats. No bats were seen to emerge from or re-enter the building during the survey.

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The conversion of the building will have no impact upon any bat species or their roosting sites. Therefore, a European Protected Species Development Licence will not be required for the conversion work to proceed.

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In order to add to roosting opportunities, the following is recommended:

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In order to enhance the habitat for birds, it is recommended that the following bird nest boxes are erected:

- One Woodcrete open-fronted bird box.

8 REFERENCES

Bat Conservation Trust (2018) Bats and artificial lighting in the UK. *Bats and the Built Environment series*, Guidance Note 08/18. Institution of Lighting Professionals.

Collins, J (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust.

Mitchell-Jones, A.J. (2004) Bat mitigation guidelines. English Nature.

FIGURE 1 LOCATION. 1:50,000



FIGURE 2 AERIAL PHOTOGRAPH AND SURVEYOR LOCATION



APPENDIX 1 PHOTOGRAPHS



Internal of main agricultural building.



Window present on the northern gable of the main building.



Lean-to shelter adjoined to the east of the main building.



Western elevation of the main building.



Southern elevation with view of lean-to garage section.



South-facing gable end of building.