



# ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



## PRELIMINARY BAT ROOST ASSESSMENT

### CAE MADOG

**Project name:** Cae Madog, School Road, Gwynfryn, LL11 5TR

**Grid Reference:** SJ26035224

**Date:** 22/06/2021

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**Requested by:** Forge Planning Consultants

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# 1 INTRODUCTION

## 1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the conversion of a barn and outbuilding at Cae Madog, Gwynfryn.

## 1.2 SCOPE OF SURVEY

Arbor Vitae were commissioned by Forge Planning Consultants to undertake a Preliminary Bat Roost Assessment (PBRA) to establish the potential of the buildings to be used 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 buildings. All wild nesting birds, their nests and eggs are legally protected under The Wildlife and Countryside Act 1981.

There is a single pond mapped within 250m of the site. Upon inspection, this pond does not exist on the ground. The proposed works are confined to the existing footprint of the buildings and hardstanding with no impact upon terrestrial habitats of use to great crested newt. Therefore no further survey work with regard to GCN was carried out.

## 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 is located off School Road and forms part of a former farmstead (Figure 1). There are other buildings present on site including a farmhouse which has been renovated. The land surrounding the site is made up of residential holdings and grassland fields (Figure 2). Land to the west and south is currently occupied by unimproved grassland which accommodates common spotted orchid.

The landscape surrounding the site has been heavily mined over the years and there are numerous air shafts, kilns and disused mining works throughout.

The proposals will include the conversion of an 'L' shaped barn and a single storey outbuilding adjacent to the barn.

### **2.2 BUILDING DESCRIPTION**

**Barn:** a traditional stone barn with two storeys. The first floor is open to the rafters where a new timber roof frame sits with corrugated tin and fibre cement roofing sheets. The roof is capped with a tin ridge section and there are timber lengths at the top of the wall plate.

Some parts of the external walls have been rebuilt with blockwork and brick in places and overall, the walls are cemented and have been repointed in recent years. The floor within is bare earth and there are no enclosed cavities or voids. There are numerous door and window apertures which are open along the elevations.

There is a small section of barn at the south facing gable which has collapsed and is now represented by ground floor walls.

**Outbuilding:** this is a single storey building constructed from bricks. The roof frame is metal with box profile cladding sheets as a cover. There are several windows which are single pane and a large sliding door at one end.

The buildings are arranged around a central concrete courtyard.

### **3 SURVEY METHODOLOGY**

#### **3.1 DESKTOP STUDY**

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were MagicMap, Lle Geoportal and NBN Atlas.

#### **3.2 PRELIMINARY BAT ROOST ASSESSMENT**

One visit was made to survey the property on 17/06/2021.

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.

The surrounding landscape and links to other nearby habitats were also taken into consideration during the assessment.

#### **3.3 BREEDING BIRDS**

The buildings were assessed for their potential to provide birds with nest sites, and to record any existing evidence of previous nesting.

#### **3.4 PERSONNEL**

One surveyor was used: Phillipa Stirling MSc ACIEEM, Ecologist. Natural Resources Wales bat licence no.: S089403-1.

#### **3.5 CONSTRAINTS**

There were no constraints to the survey being carried out successfully.

## 4 SURVEY RESULTS

### 4.1 DESKTOP STUDY

| Name                                                        | Designation | Distance                       |
|-------------------------------------------------------------|-------------|--------------------------------|
| Clwydian Range and Dee Valley                               | AONB        | The site sits within the AONB. |
| Berwyn and South Clwyd Mountains                            | SAC         | 0.1km                          |
| Ruabon/Llantyslio Mountains and Minera                      | SSSI        | 0.1km                          |
| Search included: SSSI, SAC, SPA, Ramsar, AONB, LNR and NNR. |             |                                |

| Species            | Protection                                                                         | Distance |
|--------------------|------------------------------------------------------------------------------------|----------|
| Common pipistrelle | The Conservation of Habitats and Species 2017<br>Wildlife and Countryside Act 1981 | 0.5-1km  |
| Daubenton's        |                                                                                    |          |
| Whiskered/Brandt's |                                                                                    |          |
| Natterer's         |                                                                                    |          |
| Brown long-eared   |                                                                                    |          |
| Lesser horseshoe   |                                                                                    |          |

### 4.2 PRELIMINARY BAT ROOST ASSESSMENT

Barn: The roof structure of the barn does not provide any suitable roosting features for bat species and there are no enclosed loft spaces or voids present. The stone walls are cemented and there are no potential cavities or roosting features present in these structures.

There is no evidence within the barn to suggest that bats are using it. Overall, the structure on site provides 'negligible' potential as a bat roost.

Six bat species have been recorded within 1km of the site but there are no records for the site itself. Given the presence of large mine shafts and caves within 1km of the site, the majority of the records can be attributed to these features.

Outbuilding: The roof of the outbuilding does not provide any potential roosting features and there are no loft spaces or other voids present. There are no gaps in the brickwork which could accommodate bat species and there is no evidence within to suggest that bats have used the building. Overall, the outbuilding provides 'negligible' potential as a bat roost.

#### **4.3 BREEDING BIRDS**

There are two active swallow nests within the barn. No nests were recorded within the outbuilding.

## **5 EVALUATION OF RESULTS AND IMPACT**

### **5.1 BATS**

The structures on site provide 'negligible' potential as a bat roost and there is no evidence to suggest that bats are using them.

The proposed conversion works will have no impact upon bat species or their roosting sites nor any indirect impacts.

The proposals will have no impact on nearby habitat features nor will it result in any inadvertent consequences for bats in the landscape. There are no mature trees or hedgerows within 30m of the site and therefore additional lighting on site is unlikely to have any impact on individual bats in the landscape.

The proposals will have no impact on this group of protected species, no further survey work is needed and therefore a European Protected Species Mitigation Licence will **not** be needed for works to proceed.

### **5.2 BREEDING BIRDS**

There are two active swallow nests within the barn to be converted. The works will ultimately result in the loss of a nesting site for this species. Mitigation and replacement nesting will be required.

## **6 MITIGATION AND ENHANCEMENT**

### **6.1 BATS**

The proposed development will have no impact on bat species and mitigation will not be required.

### **6.2 BREEDING BIRDS**

The proposed development will have to be carefully timed so as to avoid disturbing nesting swallows. The building will be sealed entirely once all young have fledged the nests within the barn.

The nesting season can sometimes fluctuate and therefore the building will be sealed once it has been confirmed that swallows or other nesting birds have left/are not present.

Replacement nesting sites will be constructed/installed before the return of any swallows. Nesting sites will be in place before March of any given year when the building has previously been sealed.

There are limited opportunities for replacement nesting on site but the owners have outbuildings 130m to the north east which are already in use by nesting swallows. Two Woodcrete swallow cups will be placed within the outbuilding to encourage nesting.

### **6.3 ENHANCEMENT**

In order to provide opportunities for protected species on site, the following is recommended:

- Two general purpose Woodcrete bat boxes will be installed into a nearby mature tree or similar. These should be positioned at least 3m from the ground and face south west.

## 7 SUMMARY

Planning permission will be sought for the conversion of a barn and outbuilding at Cae Madog, Gwynfryn.

Arbor Vitae were commissioned by Forge Planning Consultants to undertake a Preliminary Bat Roost Assessment (PBRA) to establish the potential of the buildings to be used by roosting bats. The survey was also designed to assess the presence of any breeding birds using the buildings.

There is a single pond mapped within 250m of the site. Upon inspection, this pond does not exist on the ground and therefore no further survey work with regard to great crested newt was carried out.

The structures on site provide 'negligible' potential as a bat roost and there is no evidence to suggest that bats are using them. The proposed conversion works will have no impact upon bat species or their roosting sites nor any indirect impacts. No further survey work is needed and therefore a European Protected Species Mitigation Licence will not be needed for works to proceed.

The proposed development will have to be carefully timed so as to avoid disturbing nesting swallows. The building will be sealed entirely once all young have fledged the nests within the barn. Replacement nesting sites will be constructed/installed before the return of any swallows.

In order to provide opportunities for protected species on site, the following is recommended: Two general purpose Woodcrete bat boxes will be installed into a nearby mature tree or similar.

## 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 (3<sup>rd</sup> edn). The Bat Conservation Trust, London.

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

Mitchell-Jones, T., 2004. Bat mitigation guidelines. External Relations Team, English Nature.

FIGURE 1 LOCATION. 1:50,000



FIGURE 2 AERIAL PHOTOGRAPH



## APPENDIX 1 PHOTOGRAPHS



L shaped barn to be converted.



As above.



Outbuilding to be converted.



Interior of barn.



As above.



Interior of outbuilding.