TYDDYN DEDWYDD

FRON-DEG, WREXHAM

PROPOSED BARN CONVERSION

Mr Mark Baker

BAT INSPECTION REPORT

ETIVE ECOLOGY Ltd

09 SEPTEMBER 2025

1 INTRODUCTION

1.1 This report has been produced following a request from Mr Mark Baker to Etive Ecology Ltd, to undertake an updated bat roost appraisal and inspection of a disused barn in the farmyard at Tyddyn Dedwydd, Fron-deg, Wrexham. The proposed scheme is to convert the barn into residential accommodation.

1.2 The site is located within open pastoral farmland on the lower slopes of Esclusham Mountain, approximately 2km to the south of Coedpoeth. The site is centred upon national grid reference SJ 2772 4901 and is surrounded by a storage yard and areas of bare ground.

1.3 The bat survey effort comprised an internal and external appraisal of the disused barn on 5th September 2025 (a previous site survey was carried out on 3rd December 2020) by an experienced and bat-licensed ecological consultant. The initial inspection also considered the use of the building by nesting birds.

1.4 This report details the findings of a desk study, the survey results and any subsequent recommendations.

2 METHODOLOGY

2.1 Desk Study

2.1.1 A desk study was undertaken to identify any designated nature conservation sites (statutory or non-statutory) located within 1km of the site. The Multi Agency Geographical Information for the Countryside (MAGIC) website (http://www.magic.gov.uk/magicmap.aspx) and the Natural Resources Wales website (https://naturalresources.wales) were used to undertake this task.

2.1.2 The surveyor's local knowledge and personal records have also been used to provide an indication of protected species records within the location of the site.

2.2 Internal and External Inspection

2.2.1 The appraisal of the building follows the methodology and procedure outlined by the Bat Conservation Trust guidelines (2023). This includes a walkover to identify the potential value of the site for bats, to map and record any features or habitats of particular value and to consider what kind of bat activity might be associated with these features, e.g. roosting, commuting, foraging.

2.2.2 An external appraisal of the building was undertaken to identify any structural features which may provide bats with suitable roost sites or with access into the fabric of the building, where suitable roosting features may be present. The following external features are commonly associated with bat roosts:

- Pre-20th century or early 20th century construction
- Agricultural buildings of traditional brick, stone or timber construction.
- Large and complicated roof void with unobstructed flying spaces.
- Large (>20 cm) roof timbers with mortice joints, cracks and holes.
- Entrances for bats to fly through.

- Poorly maintained fabric providing ready access points for bats into roofs and/or walls, but at the same time not too draughty or cool.
- Roof warmed by the sun, in particular south facing roofs.
- Weatherboarding and/or hanging tiles with gaps.
- Low level of disturbance by humans.
- Nearby foraging habitat such as mature trees, woodland or wetlands, particularly in rural settings.

2.2.3 An internal inspection of the building was undertaken to identify internal features that provide potential roosting sites. Such features include:

- Gable end walls
- Ridge beams, hip beams and all other roof beams
- Mortice joints
- Roof timber joints, particularly ridge and hip beam joints
- Behind purlins
- Between tiles and roof lining

2.2.4 A systematic search for evidence of bat usage was then undertaken, starting with the floor, particularly below any potential access points, and working up walls and along beams. Evidence indicating bat usage includes;

- Droppings
- Urine staining
- Corpses
- Bat-fly pupal cases
- Scratch marks
- Staining from fur oils
- Feeding remains
- Squeaking and chattering from bats in occupation at the time of survey

2.2.5 The survey was carried out by Russell Grey (BSc, CEnv, MCIEEM). Russell is an experienced field ecologist and consultant with 21 years of survey experience including countless bat surveys and inspections following industry standard guidelines and methodologies. Russell is a licensed bat surveyor in Wales (S093146/1) and has also prepared and implemented numerous bat development licences for common pipistrelle, brown long-eared and *Myotid* bats.

2.3 Survey Constraints

2.3.1 There were no significant constraints posed to the undertaking of either the internal inspection or the external appraisal of the building. The barn was in a poor condition but was fully accessible at the time of survey.

2.3.2 At the time of survey, bats are expected to be active at summer and transitional roost sites. During this period the likelihood of finding external evidence of bat activity such as droppings or feeding remains is high. Evidence such as staining or scratching around potential access points would also be apparent.

3 RESULTS

3.1 Desk Study

3.1.1 There are two statutory sites for nature conservation located within 1km of the site:

- Ruabon / Llantysilio Mountains and Minera Site of Special Scientific Interest (SSSI); located 700m to the west of the site and designated due to its heather moorland, limestone and neutral grassland habitats and for its species interest including upland breeding birds, rare and uncommon plants and the use of mines and caves by hibernating lesser horseshoe bats.
- Berwyn a Mynyddoedd De Clwyd / Berwyn and South Clwyd Mountains Special Area of Conservation (SAC); located 700m to the west of the site and designated on the basis of the Annex I habitats that it supports, including blanket bog, dry heath and transitional mires.

3.1.2 The surveyor is aware of a small number of bat records within the vicinity of the site. These include common pipistrelle, brown long eared and lesser horseshoe bats, but none specifically relate to the site.

3.1.3 The location of the site is within an area of good habitat for bats, in terms of roosting, foraging and commuting. The site is within open farmland with an established and extensive network of hedgerows and nearby wooded riparian corridors. The moorland to the west is of potential foraging value and clearly the nearby limestone caves are of high value to roosting bats.

3.1.4 Breeding birds associated with agricultural buildings such as little owl, jackdaw, barn swallow, and house sparrow have all been recorded within 1km of the site. Of these species, the house sparrow is included on the Welsh Species of Principal Importance list.

3.2 External Appraisal

3.2.1 The barn at Tyddyn Dedwydd is an unused agricultural building, originally built in the 1970s as a chicken shed. However, for the last 20 years the barn has been used entirely for storage of agricultural materials, tools and supplies. The site is accessed off a narrow country lane off the B5426 and is a relatively isolated site, located at an altitude of ~250m. The barn is located on the western edge of a large residential and agricultural plot, with numerous residential buildings, agricultural barns and farmyard areas (Photograph 1).

3.2.2 The barn covers a rectangular footprint approximately 5 x 15m and is comprised of blockwork elevations to a height of 1-1.5m on all four sides. Above the blockwork is a timber framed structure, with horizontal overlapping timber panels nailed to form the external skin of the building on the north, west and south elevations. There are numerous windows opening, all of which have either been boarded over or have had the glazed panels removed. The eastern elevation comprises corrugated metal panels bolted to the timber frame (Photograph 2).



Photograph 1; rear gable showing surrounding farmyard



Photograph 2; eastern elevation with corrugated metal panels

3.2.3 The roof of the barn is comprised or corrugated metal panels, bolted to the timber frame structure. There is also a metal roof ridge and at each gable end there are metal barge boards running from the apex to the eaves (Photograph 3). Guttering is in place but is in poor condition and there is most growth across parts of the roof.



Photograph 3; northern gable showing metal barge boards – heavily rusted

3.2.4 The barn was found to be in a poor condition at the time of survey. The timber cladding on the north, west and south elevations of the property comprises numerous missing sections, broken panels and offer limited protection from wind or rain. The timber also shows signs of dampness (moss and algae growth) which is indicative of the poor weather protection provided to the internal area of the barn. The roof panels, however, are intact and are well secured to the roof structure.

3.2.5 In summary, the external appraisal of the barn identified numerous potential access points for bats to enter the structure as a result of the poor condition of the building. Subsequently, the suitability of the building to offer the level of protection and shelter required by roosting bats is compromised by this lack of weatherproofing. The roof structure was intact and in a moderate condition but was comprised of metal panels that are entirely unsuitable with regards to creating a suitable roosting environment. Overall, the **Bat Roost Potential (BRP[1]) of the barn was assessed to be Low**.

3.3 Internal Inspection

3.3.1 Internally, the barn was found to be in a relatively poor condition. The eastern elevation was unclad and comprised the metal panels as described previously, with no internal layer. The northern and southern gables were found to comprise timber stud walls, with the internal skin comprising patches of timber boards, most of which were damp and rotting (Photograph 4).

Low = structures with one or more potential roost sites that could be used by individual bats opportunistically, but are not suitable to be used on a regular basis by larger numbers of bats. **Negligible** = negligible features likely to be used by roosting bats (Collins, J., 2016).



Photograph 4; patched and rotting boards on northern gable

3.3.2 The western elevation comprised a patchwork of timber boards and panels, nailed to the inside of the timber structure of the building (Photograph 5). The timber work covered up former window openings and extended from the top of the blockwork walls to the timber sarking boards beneath the roof structure. A single layer of timber boards have also been nailed to each of the two bracing beams that run across the barn, attached from principal rafters to tie beams (Photograph 5).

3.3.3 The roof is lined with timber sarking boards, which were found to be in surprisingly good condition (Photograph 6). The boards extended the length of the barn from gable to gable and appeared to be fixed securely to the timber frame of the building. The overall feel of the internal area was of a relatively well-lit space due to the numerous hole sin the external walls, and a cool, damp and draughty environment.

3.3.4 Very few potential roosting features (PRFs) were found during the internal inspection. The gap between internal and external timber skins was accessible in a number of locations but in all instances the space itself was exposed to the weather and was draughty and damp. There is the potential for bats to access the space between the sarking roof boards and the external roof panels, but this space is not considered to be suitable for roosting bats due to the metallic composition of the roof panels, creating conditions that are too warm for bats in the summer but too cold and variable in the winter. There were also gaps in the two tie beams at 2m height, all of which were inspected at the time of survey and no evidence of bat usage was found.



Photograph 5; patchwork of timber boards on the western elevation



Photograph 6; timber sarking boards in good condition

3.3.5 Following a thorough search of the internal space, there was no evidence of any bat activity found. No droppings were found plastered on walls or beneath PRFs or access points, and no staining or scratch marks were noted around gaps or potential access points into the fabric of the barn.

3.3.6 In summary, the external appraisal of the building found the building to be of Low BRP due to the abundance of potential access points, but the poor level of weatherproofing offered by the condition of the of the building. The internal inspection found no suitable PRFs and an internal environment that is largely unsuitable for roosting bats owing primarily to the poor condition of the structure. No bats, or any evidence of bat activity, were found during a thorough internal inspection. It is therefore concluded that the barn is of **Negligible BRP** and that it does not currently support roosting bats.

3.3.7 During the survey of the barn, no active/inactive bird nests were found within the building or the immediately surrounding area. In general, the barn is in such poor condition that no potentially suitable features for nesting birds were identified given the high level of exposure to the elements. The nearby buildings and surrounding semi-natural habitats do offer good foraging habitat and offer potential nesting opportunities.

4 DISCUSSION

4.1 Proposed Scheme

4.1.1 The proposed scheme is to convert the existing barn into modern residential accommodation. The scheme would also include the modification of the immediately surrounding land to create suitable access for residential use and to create suitable landscaped areas.

4.1.2 A full set of drawings is provided as part of the planning application package.

4.2 Potential Impacts

4.2.1 No roosting bats have been found to be present within the proposed working area of the existing building. Likewise, no evidence of any previous bat usage could be found during the inspection, which included a thorough search of and for any PRFs. Therefore, no direct impacts are anticipated on roosting bats as a result of the proposed scheme.

4.2.2 No evidence of or suitability for nesting birds has been found within the footprint oof the extension building. Therefore, no direct impacts are anticipated on nesting birds as a result of the proposed scheme.

4.2.3 The proposed extension will result in the long-term enhancement of the area immediately surrounding the barn; changing from a disused yard area to a suitably landscaped area. There would be no loss of any semi-natural habitat as a result of the scheme as there is currently no such habitat within the development footprint. The site is considered to be of likely low foraging/commuting value compared to its wider setting, but there will be no significant change in its value or usage as a result of the proposed scheme. Therefore, no potential impact on the usage of the site and immediately surrounding area by foraging/commuting bats is anticipated.

4.3 Recommendations

4.3.1 No specific recommendations are made with regards to mitigating the impacts on roosting bats or nesting birds as neither of these species' groups will be directly impacted by the proposed extension.

4.3.2 To ensure the continued use of the site as a whole by foraging/commuting bats/birds, it is recommended that any additional artificial lighting proposed as part of the conversion takes into account the likely use of the site by bats. Lighting should be positioned so that it does not splash onto any adjacent semi-natural habitats or vegetation, and ideally should comprise only very focused and low lux lighting that is directed below the horizontal plan, to minimise impacts on bat foraging and commuting.

4.3.3 The findings of this survey are valid for 12 months. Although there is no evidence to indicate current or previous bat or bird usage of the building, these species are highly mobile and roost/nest sites can be established very quickly. Therefore, if the extension works have not commenced within 12 months following the date of issue of this report, it is recommended that further bat/bird survey/inspection is undertaken prior to the commencement of works, to confirm the presence/absence of roosting bats and nesting birds.

5 CONCLUSION

5.1 Etive Ecology Ltd has undertaken a bat roost appraisal of the existing unused agricultural barn at Tyddyn Dedwydd, Fron-deg, Wrexham. The proposed scheme is to convert the barn into residential accommodation.

5.2 The survey effort included a desk study, an external appraisal and an internal inspection of the existing building within the application boundary.

5.3 The site is located within pastoral farmland, approximately 2km to the south of Coedpoeth. The barn is located in the western part of the wider Tyddyn Dedwydd farmstead, which comprises a number of traditional and converted farm buildings, areas of farmyard and storage sheds.

5.4 The desk study identified two statutory nature conservation sites within 1km, a SSSI and an SAC located 700m to the west and upslope from the site. These designated sites are primarily for upland habitats, although the SSSI also includes a number of caves used by hibernating bats. The surveyor is aware of records of numerous bat species within the local area, including common pipistrelle and lesser horseshoe bats. Numerous bird species have also been recorded locally.

5.5 The existing barn was found to be of **Low Bat Roost Potential (BRP)** following the external appraisal, with numerous potential access points identified but with a high level of exposure to the prevailing weather. The internal inspection found no high value potential roosting features and concluded that the internal environment was poor for roosting bats given the cold, draughty and damp conditions, as well as the high level of natural light. No evidence of bats could be found following a thorough inspection and the barn was concluded to be of **Negligible BRP**, with roosting bats currently confirmed as absent. No nesting bird activity was found at the time of survey and there was no evidence of previous nesting activity within the barn. The barn is considered to be of very low value to any nesting birds given its poor condition.

5.6 In conclusion, roosting bats are considered to be absent from the existing building and the potential for future bat usage is very low. Nesting birds, and evidence of previous nesting activity, were found to be absent from the building and are likely to be absent during subsequent breeding seasons. It is therefore recommended that works on the proposed conversion can commence unrestricted. It is also recommended that any artificial lighting installed as part of the development is carefully sited to minimise impacts on foraging and commuting bats across the site. If extension works do not commence within 12 months of the date of this report, then a repeat of the bat survey/inspection is recommended to confirm the status of roosting bats and nesting birds on site.

5.7 The proposed conversion poses no residual adverse impacts on roosting bats or nesting birds, provided the recommendations given herein are followed and implemented in full.

6 REFERENCES

Collins, J., (2023), *Bat Surveys for Professional Ecologists; Good Practice Guidelines, 4th edition*. Bat Conservation Trust, London.

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