Bat Survey: Barn, Coc Y North Lane, Rhiwderin, Newport, NP10 8RR

Instructed by: David Williams Homes Ltd

Reported by: Ecological Services Ltd
10 Mount Pleasant, Llanelly Hill, Abergavenny, Monmouthshire, NP7 0NT

Author	Checked By	Date	Version
Hannah Evans	Ash Harris	August 2023	V1.0

T: 07866461726 E: ash@ecologicalservices.wales W: www.ecologicalservices.wales

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1.0 Background and Purpose

1.1 The building being surveyed is a detached barn which is situated in a rural environment along Coc Y North Lane to the south of the small village of Rhiwderin. The building is derelict and planning permission is sought to covert the existing barn into a residential dwelling. This report will investigate if there is potential to disturb bats and will be used to assist in the planning process.

1.2 To support the planning application a bat report has been commissioned to investigate if bats use the current property in any capacity during the maternity season, and for any evidence suggesting that bats use the property at other times of the year.

1.3 The report is prepared and undertaken by Hannah Evans, an experienced bat ecologist with 5 years experience, and Aislinn Harris, a Natural Resources Wales licensed bat ecologist, license number S092780-1.

1.4 A data search was undertaken with SEWBReC (0234-191) to provide information on local bat and bird species in the area. The data search did not identify any historic records of bats being present in the property. The nearest recorded roost is approximately 160m from the property which is an historic record for an unidentified bat species summer roost from 1985.

1.5 There are various non roosting records for bats, the nearest being approximately 340m from the property which is a record for foraging/commuting Common Pipistrelles; 615m from the property which is a record for a Daubenton's Bat care call from 2016 and 705m from the property which is a record for a foraging/commuting Common Pipistrelle.

1.6 Only two records for nesting birds were returned as part of the data search within 500m of the proposed development site. Species records include Blue Tit and Great Tit.

1.7 The property is not within 10km of a designated SAC but is within 10km of 1 SSSI for bats (Ruperra Castle & Woodlands), however, due to the localised nature of the proposed works, this protected site will not be adversely affected.

2.0 Site Description

2.1 The building being surveyed is a detached, rectangular shaped barn which is stone built and currently single storey with no internal floors. The roof was previously pitched slate, however, at the time of the scoping survey there was no roof on the building. A partial timber frame of the roof is still intact to the southern elevation of the building. There are no fasciae or soffits present and there is no cavity wall in the building.

2.2 The building dates back to in excess of 100 years and is situated in a rural environment. There is unlikely to be ambient lighting within the vicinity of the building.

2.3 The nearest significant watercourses are Ebbw River, approximately 970m to the north east of the property and Rhymney River, approximately 1.6km to the south west of the property at their nearest points.

2.4 The property is situated in a rural environment along Coc Y North Lane to the south of the small village of Rhiwderin. The building is immediately surrounded by substantial amounts of open agricultural fields and there are a

number of small tree-lines in the immediate areas around the building. There are riparian corridors along both of the significant watercourses in the area and there is optimal ecological connectivity for bats to the wider environment.

2.5 The National Grid Reference of the site is: **ST 2596 8696**

3.0 Report Constraints

3.1 Bats use different roosts throughout the year. Bats hibernate in torpor for weeks at a time throughout the cold months, mainly underground in caves and in deep rot holes at the centre of large mature trees. Bats are habitual and can live upwards of twenty years. During the summer months they will normally return annually to the same roost, usually in attics of buildings to form maternity colonies. Outside the maternity season, a scoping survey can be limited as the majority of any bats using the structure as a summer roost may not be present. External evidence such as droppings and staining which can identify bat use may have been removed by the rain. Therefore this survey will evaluate potential for bat use, in addition to searching for evidence of bats.

3.2 The report is solely concerned with bats in relation to this building. Trees and other buildings not mentioned directly have not been included in this report.

3.3 Even though bats are habitual creatures they can still move to new roosts if more suitable. Therefore this report cannot predict the status of the structure in regard to bat occupancy in the future. This report should be acted upon as soon as practical and will be valid for eighteen months from the date of issue. If planning or building works are delayed, it is the responsibility of the client to discuss and gain approval from the *author* before work commences. Natural Resources Wales will only consider reports up to eighteen months old.

4.0 Legal Constraints

4.1 Bats, and any place a bat uses for breeding or shelter, either currently occupied or unoccupied are protected by European and British law, predominantly by **The Conservation of Habitats and Species Regulations 2017**, which are the principal means by which the Habitats Directive is transposed from European directive into law in England and Wales.

4.2 In summary this law states that it is an offence to:

- **Deliberately capture or kill a bat**
- **Deliberately disturb a bat**
- **Damage or destroy a breeding site or resting place of a bat**
- **Keep; transport; sell; exchange or offer for sale or exchange a living or dead bat or any part of a bat**

4.3 'Deliberately' may also be interpreted, as not intending to injure or kill a bat but having done so due to being insufficiently informed and unaware of the consequences of the action.

4.4 For a more comprehensive description and exact wording of the legislation please refer to:
http://www.legislation.gov.uk/uksi/2010/490/contents/made

4.5 Where there is a risk that a bat roost may be present, it is incumbent upon the owner to commission a specialist bat survey to identify bat roosts before any work commences. Maximum penalties for offences relating to disturbance to

bats or their roosts can amount to imprisonment for a term not exceeding six months or fines of up to Level 5 on the standard scale under the Criminal Justice Act 1982/1991 (i.e. £5000 in April 2001) per roost or bat disturbed or killed, or to both.

4.6 If a bat roost is discovered, no work that could affect the roost can be undertaken until Natural Resources Wales grants a licence endorsing the work. A thorough method statement and adequate mitigation proposal will need to be submitted to support any licence application.

4.7 The Environment (Wales) Act 2016 puts an onus onto responsible bodies such as Local Planning Authorities to not only preserve, but also to enhance biodiversity meaning that planning applications must offer an element of ecological gain as well as preserving any aspects of ecological importance.

5.0 General Information

5.1 Bats are unable to build roosts themselves but instead rely on both man made and naturally occurring features to provide suitable accommodation. Bats generally prefer older buildings built with traditional materials, as traditional building methods provide more opportunities for gaps and entrances to buildings. Traditional cut roofs are preferred to a roof with trusses. Bats also prefer to roost where the external roost area has access to sunlight during the day such as south facing roof elevations.

5.2 Bats can utilise the following features on a building; end tiles, barge boards, soffit, gable ends, porches, lead flashing, hanging tiles**,** ridge tiles**,** broken tiles**,** eaves**,** sash window frames**,** wood cladding**,** fascia boards**,** window sills and internal roof spaces and timbers. Although this list demonstrates the most popular roosting sites it is by no means definitive. Bats can use apertures as small as 10mm in diameter to gain access.

5.3 The U.K bat population is divided into two distinct families, Rhinolophidae and Vespertilionidae. In general, Rhinolophidae (Horseshoe) bats differ in their roosting requirements to Vespertilionidae (the remainder of UK bat species). Horseshoe bats prefer to roost in large areas such as internal attic spaces and hang in the open from the roof of the roost. They tend to roost in visible clusters to maintain the high temperatures that a maternity colony needs. Horseshoe bats also prefer free flight access and egress into the roosting area. Horseshoe bats tend to be more light averting to other UK bat species, and routinely fly around the internal roosting area to warm up before exiting. It is noted that Plecotus (Long Eared) bats share some of these preferences. Vesper bats are, on the whole, crevice dwelling bats who squeeze into small apertures to access the roost. These, like Horseshoe bats, will cluster in maternity colonies, but are normally hidden from view. Vesper bats, with the exception of Long Eared bats, do not require a large internal roost to fly around before exit. Long Eared bats, although part of the vesper family, are very light averting and will, on occasions share the roosting patterns of both Horseshoe and crevice dwelling species.

6.0 External Scoping Survey

6.1 The external scoping survey was undertaken on the **4th July 2023** in conditions of good natural light. All external aspects of the building were comprehensively evaluated for roost potential. Evidence was also sought for any staining or droppings which could suggest bat occupation.

6.2 The building was inspected for overt evidence of bat presence and occupation such as:

- Staining around the entry of roosting point caused by oils secreted by the bat into its fur

- Scratching on surfaces caused by the bat in the acts of take off and landing
- Bat droppings on walls; floors; roof voids; window sills or panes and barge boards
- Urine stains below a possible entrance site, within the entrance to a cavity or on timbers used for roosting
- Bats can produce chatter on warm evenings prior to leaving the roost. A heterodyne bat detector is used to help determine this
- Flies around the entrance or on the floor of possible roosts, which may be attracted to bat guano

6.3 Due to the poor structural condition of the building, there were a small number of opportunities present for bats to access and use for roosting purposes. Opportunities that were available were deemed as having low potential for roosting bats as they are exposed to the weather. There were a number of gaps and cracks in the stone walls and apertures around the timber work within the building. There was no roof on the building at the time of the scoping survey and therefore the building is now open and exposed.

6.4 No droppings or evidence of bats were discovered on any external features.

6.5 No evidence of nesting bird use of the building was observed during the scoping survey.

6.6 Examples of apertures allowing access to cavities in the building:

7.0 Internal Scoping Survey

7.1 The internal scoping survey was undertaken on the **4th July 2023.**

7.2 There was no roof on the building at the time of the scoping survey and there were no internal floors present. The building is now open and exposed. A partial timber frame of the roof was still intact to the southern elevation of the building.

7.3 No droppings or evidence of bats were discovered on any internal features. All areas of the building are open and exposed to the weather.

8.0 Emergence Survey

8.1 The emergence survey was carried out during the maternity season and adhered to current best practice guidelines. This survey was conducted from half an hour before sunset until two hours post sunset. The surveyors used are experienced bat counters who have undergone sufficient training in basic bat ecology and bat activity. All sound analysis was undertaken by Richard Watkins.

8.2 The emergence survey gave extra consideration to the features identified during the external scoping survey which could be utilised by bats. The building was assessed as having low bat roosting potential during the external scoping survey. Given the limited bat roosting potential, one activity survey was recommended on the building during the core bat activity season, in line with guidance given within the BCT Survey Guidelines (2016).

8.3 Emergence Survey on **24th July 2023**

- Sunset: 21:13
- Weather: Dry and calm with approximately 70% cloud cover
- Temperature: 14 degrees celsius
- Surveyors: Jonathan Daniels; Adam Hughes; Lloyd James; Kieran Meek and Kieran Turner

No bats were observed emerging from the building.

8.4 The weather conditions were dry and calm with little wind and no rain and therefore conducive for bat activity. The temperature was above 10 degrees celsius during the emergence survey.

8.5 The best viewing conditions were obtained.

8.6 Echo-meter Touch 2 Pro bat detectors were present to acoustically record any bat calls.

8.7 Analysis of sound recording on bat detectors:

Species of Bats Recorded in the Area:	
Common Pipistrelle	*Pipistrellus pipistrellus*
Noctule	*Nyctalus noctula*

8.8 During the emergence survey, a very low number of bat calls were recorded. No bats were observed emerging from the building. A Noctule was observed commuting past the building in a north to south direction and a small number of Common Pipistrelles were observed foraging around the building.


Survey Results

9.0 Concluding Remarks and Recommendations

9.1 During the emergence survey, no bats were observed emerging from the building.

9.2 Throughout the survey, a small number of foraging Common Pipistrelles (*Pipistrellus pipistrellus)* and a commuting Noctule *(Nyctalus noctula)* were observed and no bats were observed using the building. Therefore it is suggested that the proposed building works will have a negligible impact on the local bat population.

9.3 The building does offer low hibernation potential for bats. There were a number of apertures and cracks within the stone walls which allow access into the wall structure. However, there was no roof on the building at the time of the scoping survey so the building does not currently provide a thermally stable environment which hibernating bats prefer due to its exposure to the elements.

9.4 No evidence of nesting bird use of the building was observed during the emergence survey.

9.5 The building was classed as having low potential for roosting bats and there were a small number of opportunities present for bats to access and use the building. The gaps and cracks noted in the walls of the building were exposed to the weather making them less desirable to bats.

9.6 A single bat activity survey was completed on the building using five surveyors to cover all aspects of the building. The survey was completed in July and in the optimal season for bat activity surveys. As no bats were observed emerging from the building during the survey it is considered unlikely that the building is currently used as a roosting location by bats. No further surveys are recommended.

9.7 The property is located in an area with optimal ecological connectivity for bats to the wider environment. There was no ambient lighting within the vicinity of the property.

9.8 Following commencement of works and in the unlikely event that the contractor encounters any bats during any works, then work must immediately stop and the bat worker summoned. If for any reason they cannot be contacted, advice must be sought from Natural Resources Wales, (Telephone Number 0300 065 3000). No works would recommence until a licence is issued by NRW sanctioning works going forward. The guidance note on finding bats found in the appendices must be followed.

9.9 There is potential to offer ecological gain for bats if the project proceeds. This would help satisfy the local planning authorities legal responsibility to preserve and enhance biodiversity under the Environment (Wales) Act 2016. The creation of a bat roost for crevice dwelling bats can be incorporated into the new build element at very little expense and with no impact to the owners of the building. It is recommended that new roosts be created for crevice dwelling species of bats in the new build scheme and this should be added to the plans prior to submission for planning approval. Any new mitigation must not be directly illuminated and a dark corridor must be established allowing undisturbed access for any bat away from the site. If planning is granted then any ecological compensation/mitigation will be designed to maternity standards to ensure that there is no net biodiversity loss.

9.10 A suitable external lighting plan must be implemented to reduce any disturbance to the bats feeding and commuting around the property.

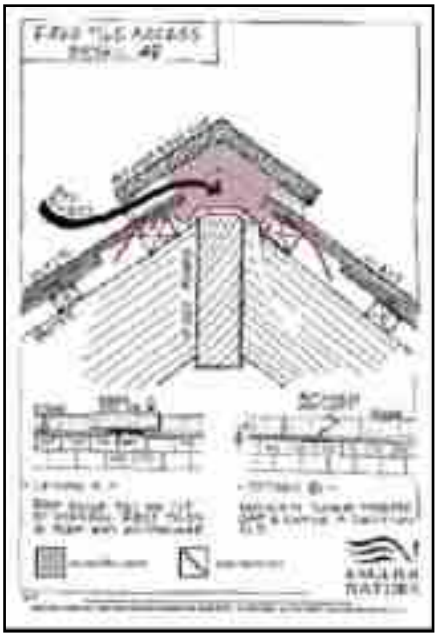
10.0 Proposed Enhancements

10.1 To comply with the Environment (Wales) Act 2016, ecological gain will be included into the scope of works. **All proposed enhancements will need to be added to architectural drawings.** This will consist of:

3 Raised Ridge Tiles and a self contained ridge roosting area for bats along the entire ridge line of the new property.

10.2 Permanent enhancements will comprise 3 raised ridge tiles and a self-contained roost area under the entire ridge line.

10.3 The raised ridge tiles will have two access apertures measuring 100mm long by 25mm high; one on the front elevation and one on the rear.



10.4 The roosting area will benefit from uninterrupted access to the sun on its southern aspect. This along with the heat generated from the living space will create a favourable temperature range for bats. The roosting area will be sufficient in size for a maternity colony to establish.

10.5 Bats will be restricted to the void in the underside of the ridge tile by using a continuous piece of 1F bitumen felt as a base liner. This will be fixed in location over the top rafters as per adjacent image.

10.6 Breathable membrane is dangerous for bats, therefore it is essential that the detail contained in the adjacent drawing is followed exactly and is to be fitted under direct ecological supervision by a suitably qualified ecologist.

10.7 Native species should be used within the soft landscaping works on the site. Suitable long term management of soft landscaping also helps ensure spaces are useful to wildlife.

10.8 All fencing across the site will be hedgehog friendly in design. A friendly design is considered to allow passage of small animals across the site. Close board or mesh fencing must provide either a continuous gap between the bottom of the fence and ground of approximately 13cm or 13cm by 13cm gaps cut every 3m along fencing.

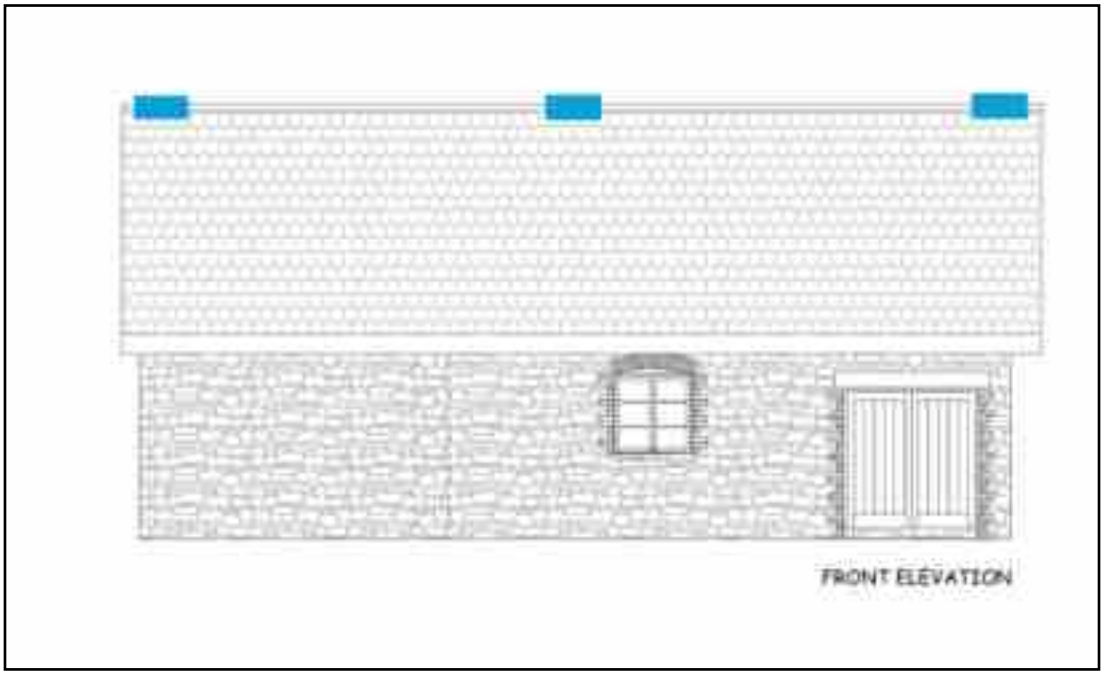
10.9 Direct and prolonged illumination of the building, especially near any roost entry points must be avoided as this will cause disturbance.

10.10 Where practical, all bat features should be located far enough from any windows to avoid any direct light spill, at least a minimum of 2 metres away.

10.11 On occasions the suggested enhancements can be in short supply. Please order the enhancements as soon as practical to avoid supply issues during the building phase. If supply is depleted please seek advice from a suitably qualified ecologist on a suitable replacement prior to the purchase.

10.12 Recommended Location of Bat Enhancements:

Location of the Raised Ridge Tiles



11.0 Appendix

Aerial Site Photographs

Surveyor Positions

OS Map

Site Photographs

Guidance Note

Appendix 1 Aerial Site Photographs

The site in its immediate environment.

The site in its wider environment offering optimal ecological connectivity to the surrounding habitat.

Appendix 2 Surveyor Positions

Appendix 3 OS Map National Grid Reference ST 2596 8696

Appendix 4 Site Photographs

Southern Elevation

Northern Elevation

Eastern Elevation

Eastern Elevation

Western Elevation

Appendix 5 Guidance Note

Guidance Note (Important information in the unlikely event that bats are discovered)

Where any building or demolition work is to commence, all contractors should remain vigilant at all times during the course of the works, looking for signs that bats are present or that bats have formerly occupied the building. Whilst this survey has been undertaken and no visible evidence of bats found within the building, the possibility of a bat or bats being present cannot be absolutely ruled out. In the extremely unlikely event that bats are discovered during the works, then work must **stop** as soon as it is safe to do so, The bat worker must be contacted immediately and Natural Resources Wales informed in order for a licence to be granted to complete the works. No works will be permitted until such time a license is approved.

If in the unlikely event a roost is accidentally opened up, any loose bats should be returned to the roost and apertures closed to prevent their escape until they can be examined for injury by a bat worker. Dead bats should be retained. Bats are very fragile and should be handled by a professional, and unless absolutely necessary should not to be approached and disturbed. However, where a bat is clearly injured and distressed, the contractor should carefully collect them and place in a light proof box. Gloves must be worn when handling bats*

In the Event of a Bats being discovered the bat worker must be contacted immediately that it is safe to do so on 07866461726

If the bat worker is not available, Natural Resources Wales must be contacted on 0300 065 3000

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*Bats can potentially carry European Bat Lyssa Virus (EBLV) which is a strain of rabies virus that is found in some bat species although extremely uncommon, a potential risk occurs; therefore, all bats must be handled with thick gloves.