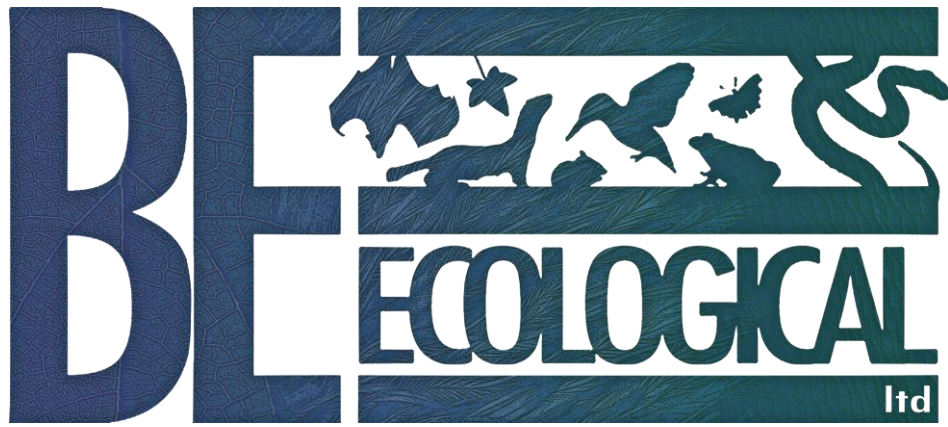




TYLA-GLAS FARM, BEDLINOG, MERTHYR TYDFIL

BAT SURVEY

ISSUE 1, VERSION A

OCTOBER 2022

TYLA-GLAS FARM, BEDLINOG, MERTHYR TYDFIL**Bat Survey Report**

Document control

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EXECUTIVE SUMMARY

It is proposed to extend a barn at Tyla-Glas Farm, Treharris, Bedlinog, Merthyr Tydfil.

An initial bat inspection survey was undertaken in April 2022 in order to inform a planning application to convert the barn. The results indicated that the building is of high potential for roosting bats and as such further surveys were recommended.

Subsequent emergence surveys revealed that the building is a roost for up to four common pipistrelle bats and a single brown long-eared bat.

A European Protected Species Licence will be required along with mitigation and compensation prior to any works commencing on the building.

No evidence of breeding birds was found on the exterior of the building, however, there are swallows nesting within the barn.

This report will need updating with full mitigation measures and drawings prior to planning permission being granted.

1 INTRODUCTION

1.1 Background

BE ECOLOGICAL LTD was commissioned by the client to undertake an initial bat inspection survey and subsequent activity survey of a barn at Tyla-Glas Farm in support of a planning application to convert the barn to a domestic dwelling.

This report includes the findings of the aforementioned bat activity surveys undertaken in the appropriate season.

The surveys were undertaken in line with the current guidance on standards for bat surveys (Bat Conservation Trust, 2016¹).

1.2 Site description

The property subject of this survey is located at Tyla-Glas Farm, Bedlinog, Merthyr Tydfil (Figure 1).

The property is a stone barn beneath a clay tile roof. The barn is attached to Tyla-Glas Farmhouse. The ridge of the property runs from south west to north east. There is a large extended sloping roof to the north west. Access to the barn is via a door on the south east elevation. There are windows present on this elevation also. The south west elevation has an open fronted access to one of the stores within.

Barge boards and fascias are of timber and in a state of disrepair. The roof of the barn is currently too heavy for the structure, resulting in a number of cracks in the stone work.

There are a number of mature trees surrounding the barn that lead to the wider landscape that comprises of fields, delineated by mature hedgerows leading to patches of broad-leaved woodland and common land.

¹ *Bat Surveys for Professional Ecologists - Good Practice Guidelines* (Collins, J (Ed). BCT, 2016)



Figure 1: Approximate location of site



Figure 2: Detailed view of property (Image courtesy of Google 2022)

1.3 Proposed development

It is proposed to convert the barn

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South Perspective View



West Perspective View

Responsibility is not accepted for errors made by others in scaling from this drawing. All construction information should be taken from figured dimensions only.

A3
Original Sheet
2022

NOTES:
Read in conjunction with Vale Consultancy
Structural Survey & BeEcology Ecological Report

FINISHES KEY:

A : BROWN CONCRETE ROOF & RIDGE TILES
B : GREEN PAINTED TIMBER WINDOW & DOOR
UNITS
C : TIMBER FASCIA WITH UPVC RAINWATER
GOODS
D : STONEWORK EXTERNAL WALL
E : WHITE PAINTED STONEWORK EXTERNAL
WALL
F : WHITE SMOOTH FACED RENDERED
EXTERNAL WALL
G : SMOOTH FACED RENDERED EXTERNAL
WALL
H : SLATE GREY ROOF & RIDGE TILES

Planning Issue

30/09/22 A PL MM Finalisation to build
Date: 30/09/22
dlp ARCHITECTURE
Architectural & Engineering Services: Planning, Building Control, Construction, Trade, Technical Design
By Design House: 85 Head Office, Cardiff, CF14 2AT
T: 0300015867 M: 0778862007 W: info@designline.co.uk

SUBJECT
Proposed barn conversion to form a
residential dwelling

Tyla-Glas Farm, Bedlinog, Treharis, CF46
6SN

DRAWING TITLE
Perspective Views as Proposed

SCALE	DATE	DRAWN BY	CHECKED BY
1 : 100	29/09/22	PL	MM
DRAWING NUMBER	REVISION		
P724 L_220	A		

2 LEGISLATION & POLICIES

2.1 Conservation of Habitats & Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) provides safeguards for European Protected Species (those listed under Annex IV Habitats Directive). With regards to bats, this makes it an offence to:

- Deliberately (or recklessly in Scotland) capture, injure or kill a bat
- Deliberately (or recklessly in Scotland) disturb a bat in a way that would (significantly in Scotland) affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
- Damage or destroy a roost (this is an 'absolute' offence)
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat

2.2 Wildlife & Countryside Act 1981

The Wildlife & Countryside Act 1981 (as amended) is the legislation for England and Wales for nature conservation, making it an offence to:

- Intentionally or recklessly disturb a bat at a roost
- Intentionally or recklessly obstruct access to a roost

2.3 The Environment (Wales) Act 2016

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to "maintain and enhance biodiversity" where it is within the proper exercise of their functions. In doing so, public authorities must also seek to "promote the resilience of ecosystems". This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act. In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.". Other elements of NERC 2006 may still apply.

3 METHODOLOGY

3.1 Data Search

The South East Wales Biodiversity Records Centre (SEWBRc) were formerly requested to supply a Bat and Roof-nesting Birds (BARB) survey for the site 0223-502). The survey to provide; bat records within a 2km buffer, roof nesting birds within 150m buffer plus a list of all Special Areas of Conservation (SAC) and sites of Special of Special Scientific Interest (SSSI) designated for bat species within a 10km site buffer.

3.2 Survey Objectives

- To carry out an initial bat inspection survey along with the recommended activity surveys
- To present the above details and if necessary recommendations for mitigation, future research and compensation within this report.
- To carry out a scoping survey for breeding birds

3.3 Survey Summary

The bat survey comprised of five parts:

- Part 1- Initial bat inspection survey
- Part 2- A data search
- Part 3- A single activity survey
- Part 4- A second activity survey
- Part 5- A third activity survey

3.4 Surveyor Information

The survey was run by Beth Evans. Beth is the owner of BE ECOLOGICAL LTD and has a postgraduate degree in Environmental Biology: Conservation & Resource Management, specialising in British bats. Beth has six years' experience of ecological surveys, both in a small scale and large multi-disciplinary context. Beth also holds Natural Resources Wales and Natural England bat licences to disturb and handle bats.

Beth Evans was assisted during the activity surveys by Gavin Vella, Carys Hughs and Michael Rogers.

3.5 Internal & External Inspection

An initial inspection survey was carried out in April 2022 to search all buildings, both externally to identify potential bat roosting areas and signs of bat use including; live bats, dead bats, droppings, urine staining, grease marks and discarded prey items. The buildings and all areas/items of interest were recorded and photographed. Extension ladders/steps were used to safely access roof areas and fascia boards etc; where no safe access was available the survey was conducted using, close focus binoculars and/or a high powered lamp.

3.6 Activity Surveys (emergence/re-entry surveys)

Building 'emergence' and 're-entry' surveys were carried out on the following dates, times and weather conditions. Climatic conditions including rain, wind, temperature and cloud cover were recorded for each survey using a hand held Kestrel 4500 weather station.

3.6.1 Survey 1- 25th May 2022

A dusk survey was carried out on 25th May 2022 using surveyors, positioned in such a way that as much of the building was visible to surveyors as possible. Surveyors were equipped with Batlogger M detectors.



Figure 3: Approximate surveyor locations

3.6.2 Survey 2- 15th June 2022

A dusk survey was carried out on 15th June 2022 using surveyors, positioned in such a way that as much of the building was visible to surveyors as possible. Surveyors and cameras were equipped with Batlogger M detectors.

3.6.3 Survey 3- 5th July 2022

A dusk survey was carried out on 5th July 2022 using surveyors, an infra red camera and a thermal imaging camera ,positioned in such a way that as much of the building was visible to surveyors as possible. Surveyors were equipped with Batlogger M detectors.

3.7 Survey limitations

Any survey for bat species can only be a series of snapshots in time. Bats are highly mobile, long lived creatures (capable of living up to 30 years, sometimes longer) with complex social structures and utilising multiple roost sites within a year. The implications of this are that surveys and surveyors have to make informed assumptions based on observations, recorded data, local information and a detailed knowledge of the species.

4 RESULTS

4.1 Data Search

There site is not within 10km of either a SSSI or SAC that has been designated for bat species within Wales.

A total of 59 records were returned within the data search. The closest bat record appears to be of pipistrelle and noctule foraging on the common approximately 110m away. The closest roosting record appears to be of a single unknown bat species 1283m from the site.

A total of 14 records of birds were returned within the search, the closest of which are 315m from the site. Closest species to the site refer to kestrel, lesser blackbacked gull, starling, herring gull, great tit and red start.

4.2 Inspection survey

4.2.1 External survey results

The survey carried out by BE Ecological Ltd revealed no droppings or evidence of bats on the exterior of the building. A number of access points were noted:

- Small number of potentially slipped tiles
- Gaps at the ridge
- Gaps above ill fitting windows and doors
- Gaps above wall plates of gables
- Gaps beneath fascias
- Gaps in cracked stonework

A small number of droppings were found scattered throughout the barn on items that the client is currently storing in there. These droppings were commensurate with a pipistrelle species. The only aggregation of droppings was a small aggregation in the south western corner of the barn. These were commensurate with a brown long-eared species.

Please see appended plates for photographs of the property exterior.

As such, the property was categorised as being of high potential for roosting bats and further emergence/re-entry surveys were recommended.

No birds were noted during the survey.

4.2.2 Internal survey results

Internally, the barn is open from floor to ridge excluding a small timber floor and a number of beams that has been created for additional storage. The roof appears to be lined with a plastic membrane.

A scattering of droppings commensurate with a pipistrelle species was found throughout the barn (individual droppings on storage items). A single aggregation of droppings possibly commensurate with a brown long-eared species was found in the south western end of the barn below the ridge beam.

The rear of the barn (north western elevation) has been split into two stores. These areas are lined with bitumen felt and no evidence of bats were found in this location.

4.3 Static bat detector results

A static bat detector (Anabat Express) was placed within the barn from the 15th May 2022-31st May 2022. The results were as follows:

Date	Species and number of call sequences
18/05/22	BLE 3
19/05/22	BLE 0
20/05/22	BLE 113
21/05/22	BLE 4
22/05/22	BLE 57
23/05/22	BLE 37
24/05/22	BLE 22
25/05/22	BLE 0
26/05/22	BLE 37
27/05/22	BLE 68
28/05/22	BLE 36
29/05/22	BLE 68
30/05/22	BLE 40
31/05/22	N/A 0

4.4 Activity surveys

The surveys were undertaken as per the table below:

4.5 Survey Schedule and Weather Conditions

Table 1: Schedule and weather conditions

Visit	Date (sunrise) (sunset)	Start End	Time	Temp C	Wind	Cloud Cover	Notes
Survey 1 25/05/2022	21:14	Start	21:00	14	Low	30%	Dry evening, insects flying
		End	23:00	14	Low	15%	
Survey 2 12/06/2022	21:32	Start	21:10	16	Low	100%	Dry evening, insects flying
		End	23:15	15	Low/moderate	100%	
Survey 3 05/07/2022	21:32	Start	21:15	16	Low	40%	Dry evening, insects flying
		End	23:15	16	Low	50%	

4.6 Activity Survey Results

4.6.1 Survey 1- 3rd May 2022

On arrival the barn was inspected for the presence of bats, along with a check of the static detector that had been deployed on the 18th May. A single brown long-eared bat was noted hanging from the plastic membrane above the small aggregation of droppings to the south western end of the barn.

The first bat call heard was a common pipistrelle bat, heard at 21:40, the bat was seen emerging from the barge board of the attached farm house before commuting east (figure 4, arrowed red). This was shortly followed by a further one common pipistrelle bat, all of which commuted north and east.

Immediately after this, two common pipistrelle bats were seen emerging from a gap in the stone work above the right hand wall plate of the south west gable of the barn (figure 4, arrowed yellow).



Figure 4: Common pipistrelle emergence points

Common and soprano pipistrelle activity was intermittent throughout the site for the duration of the survey with bats mainly foraging and commuting along the vegetation.

No further bats emerged from the barn on this date. A check of the barn was carried out prior to surveyors leaving which revealed the brown long-eared bat still roosting on the membrane of the roof. The bat was neither awake nor echolocating.

4.6.1 Survey 2- 15th June 2022

The brown long-eared bat was not present within the barn at the start of the survey.

The first bat heard was a common pipistrelle approximately 10 minutes post sunrise, the bat was seen emerging from the same location it had done on the previous survey (figure 4, arrowed red) before commuting over the top of the farmhouse to the north. This was shortly followed by a further 34 common pipistrelles emerging from the gable of the farmhouse. The majority of the bats again emerged from tiles adjacent to the north eastern face of the chimney of the farmhouse with some emerging from beneath the barge boards.

Four common pipistrelles emerged from the barn under survey before commuting east (figure 5, arrowed red).

Again soprano and common pipistrelle activity was intermittent throughout the course of the survey but no other bats emerged from the barn on this date.



Figure 5: common pipistrelle access points (arrowed red)

4.6.2 Survey 3- 5th July 2022

Again, the brown long-eared bat was not present within the barn at the start of the survey.

Despite ideal survey conditions, there was very little bat activity at the site. A small number of common pipistrelles were seen commuting overhead from north to south.

At approximately 20 minutes post sunrise, two common pipistrelles emerged from the barn in the same location they had done on the previous survey before commuting north/east.

No other bats emerged from the barn on this date.

4.6.3 Identified flight paths (arrowed red)



Figure 6: Identified flight paths

4.7 Identified Roosts



Figure 7: location of roosts common pipistrelle arrowed red; brown long eared arrowed yellow (location in barn only; bat never seen emerging only roosting on underside of roof)

4.7.1 Survey 1

The farmhouse was identified as a roost for up to two common pipistrelle bats. The barn was identified as a roost for two common pipistrelle bats and a single brown long-eared bat.

4.7.2 Survey 2

The farm house was identified as a maternity roost for up to 35 common pipistrelle bats.

4.7.3 Survey 3

The barn was identified as a roost for two common pipistrelle bats.

Conclusion

Generally bat activity at the site is low with only two species heard throughout the survey, common and soprano pipistrelle. Whilst brown long-eared bats were not heard at the site during surveys, a brown long-eared bat was identified roosting within the barn and on the static bat detector.

It is considered that the barn is a roost for up to four common pipistrelle bats and a single brown long-eared bat.

Whilst not directly part of the survey, the south eastern and the north western elevations of the farmhouse could be seen during the surveys. There is a maternity roost of 35 common pipistrelles present on the south western gable of the farm house. Small numbers of bats were seen leaving from beneath the barge boards and others from tiles against the north eastern face of the chimney. This roost will also need to be protected from any impacts of the development given its close proximity to the works.

A licence from Natural Resources Wales will be required prior to any works being undertaken on the building.

Breeding Birds

There are swallows nesting in the barn.

5 INTERPRETATION & IMPACT ASSESSMENT

5.1 Active Season Usage

It is considered that the barn is a roost for up to four common pipistrelle bats and a single brown long-eared bat. The adjoining farm house is a roost for up to 23 common pipistrelle bats.

5.2 Hibernation Season Usage

It is possible that bats will use the property over winter given the crevices present in stone work.

5.3 Breeding Birds

There are swallows nesting in the barn.

5.4 Ecological Impacts of development

The impacts of the development have been assessed using the current information of the proposed works. Should any changes be made to the proposed works, the assessment will need to be reviewed and amended as necessary.

It is considered that the barn is a roost for up to four common pipistrelles and one brown long-eared bat. The roosts will be lost as a result of the proposed development. Should the bats be present at the time of works, it is possible that they will be disturbed and/or injured/killed as a result of the proposed works.

There may be indirect impacts on the maternity roost of common pipistrelles in the adjacent house as a result of noise causing disturbance or lighting. In addition to this, it is possible that access points will be blocked/modified as a result of scaffolding.

6 MITIGATION/COMPENATION /ENHANCEMENT

6.1 Bats

The loss of a roost for up to four common pipistrelles and one brown long-eared bat will need to be mitigated for.

The pipistrelle roosts will be mitigated for by creating four crevices within the stone work of the building on the south western gable. In addition to this a 10mm gap will be left between the stone wall and the barge board on the south western gable.

Due to the height of the building, the conversion would not be feasible if a 1.8m-2.4m roof void was left for the bats (requirement by NRW for brown long-eared species). Whilst this is a preferred size roosting area for brown long-eared species, they are known to make use of smaller spaces also. As the property has only been identified as a roost for a single bat, it is proposed that a small roof void is left within the barn. The void would measure no less than 1m from joist to ridge and span the entire width of the barn. Access to this void would be via a hole on the apex of the south western gable and via two modified ridge tiles. The modified ridge tile openings will be on the south eastern elevation only.

In addition to the above, it is proposed that as an enhancement for bats, two modified ridge tiles are installed on the north western wing of the main farm house. This would enhance access for brown long-eared bats into the roof void of the farmhouse, so that brown long-eared bats could use this should they wish.

Two Schwegler 1FF bat boxes will be attached to retained vegetation in the boundary of the site. Should the 1FF prove difficult to source, an eco bat box (crevice box) <https://www.nhbs.com/title?slug=eco-bat-box> will be installed in its place. One of these bat boxes will be used as temporary mitigation and the other as an enhancement. Both will be retained in situ. The bat boxes will be positioned at a height of no less than 3.5m from the ground and will face either south or east.

6.2 Birds

A Schwegler 1SP Sparrow Terrace or the following <https://www.nhbs.com/sparrow-terrace-nest-box> will be attached to the eastern elevation of the property.

7 RECOMMENDATIONS

7.1.1 Timing

It is considered that the building is a roost for single bats only. It is possible that bats will use the barn in the winter. As such, the winter period should be avoided.

As the farmhouse has been identified as a maternity roost for common pipistrelle and it is possible that this species will hibernate in the farm house over winter, the modified ridge tiles should be installed in the spring or autumn to avoid any impacts on roosting bats.

7.1.2 Timber/roofing materials

The roof of the building will be lined with BS747 Type 1F bitumen roofing felt ONLY throughout. No breathable membrane will be used.

Where treatment of existing timbers is required in-situ, only products suitable for use around bats will be used, as specified by Natural England and DEFRA at <https://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products-and-timber-treatments-in-or-near-them>. A copy of the approved list will be issued to all contractors. New timbers will be pre-treated prior to installation.

7.1.3 Lighting

Newly created access points and bat boxes will not be directly illuminated. All external lighting will face downwards and be set on timers to ensure that bats can use the area should they wish. – In addition to this, any onsite lighting will conform to the following guidelines:

<https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

Flight paths to the bat boxes and the newly created bat mitigation will be kept dark at all times.

Currently the proposals show a number of roof lights. Given the locations of bat roosting and the flight lines identified, it is considered unlikely that those on the north west elevation will result in any impacts on roosting bats. However, without mitigation, the roof lights on the south eastern elevation may cause indirect impacts on the roosts present as a result of upwards light spill (maternity roost in farm house and newly created mitigation to barn).

Either the roof lights will need to be relocated or measures such as electric blinds that close at dusk will need to be fitted to the roof lights so there is no upwards light spill on existing and newly created roosts.

7.1.4 Bat Licensing

A European Protected Species Licence obtained from Natural Resources Wales will be required before any works commence.

7.1.5 Supervision

Supervision for the removal of the roof will be required.

8 METHOD STATEMENT (ONCE A LICENCE HAS BEEN OBTAINED)

1. A suitably licenced and experienced ecologist will be on site/call for the duration of the works.
2. Before any work begins on site, a briefing for contractors and other site-staff 'toolbox talk' will be given by an ecologist. The briefing will cover the issues in respect of protected species they may encounter on site, where they might find them, methods of working, and what they need to know to avoid committing an offence. Every briefing attendee will be provided with a copy of a Method Statement and the contact details of an ecologist and Natural Resources Wales.
3. Prior to works commencing, the bat boxes will be erected within the retained trees of the site under the supervision of the licensed ecologist.
4. Scaffolding will need to be erected under the direct supervision of the ecologist to ensure there are no impacts (blocked access points etc) of the maternity roost in the main farm house
5. All suitable bat roosting features will need to be removed by hand (slates) and inspected by the onsite bat ecologist.
6. The tiles will also need to be removed manually, one at a time, with the bed and underside inspected for bats/sign of bats by the onsite ecologist before moving onto the next.
7. Any cavities opened up will be left open for a period of at least 24 hours before closing to ensure a means of escape for bats
8. Any crevices requiring repointing will be checked with an endoscope prior to their infilling. Should bats be identified, the crevices will not be blocked until the bats are no longer present.
9. If at any point bats are encountered, all works will cease until such a time the supervising ecologist has captured the bat and moved it out of harms way and into the previously erected bat boxes. Works will not recommence until such a time that the supervising ecologist has given permission to do so.
10. If at any point more bats than stated in the licence are discovered or bats of any other species not named in the licence are encountered, all works will cease and NRW will be consulted. Works will not recommence until such a time NRW have given the permission to do so. This may involve further survey effort or an amendment to the licence.
11. Only when the onsite bat ecologist is happy that there is no further potential for bats, may he/she leave and the works continue with no supervision. A licensed bat ecologist will be on call for the remainder of the works. In the unlikely event that bats are found during a period that the licensed bat ecologist is not present on site, all works must cease and the licensed bat ecologist engaged.

9 REFERENCES

Bat Conservation Trust. (2016) *Bat Surveys - Good Practice Guidelines*. Bat Conservation Trust, London.

Mitchell-Jones, A.J. & McLeish, A.P. (2004) *The bat workers' manual (3rd Edition)*. Joint Nature Conservation Committee.

Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. Natural England

The Conservation of Habitats and Species Regulations 2017 (as amended) (HMSO).

The Natural Environment and Rural Communities Act (2006) (as amended) (HMSO).

The Wildlife and Countryside Act 1981 (as amended) (HMSO).

APPENDIX A- SITE PHOTOGRAPHS











