



Bryn-Rhedyn Farm

Bedlinog

Bat and Nesting Bird Survey Report

October 2020

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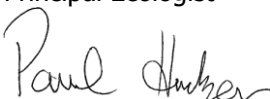
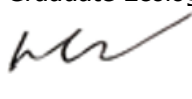
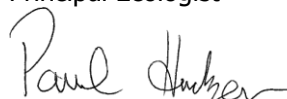
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DOCUMENT CONTROL

Bryn-Rhedyn Farm, Bedlinog Preliminary Bat Roost and Nesting Bird Assessment				
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Summary

Brief and Site Location	This report presents the findings of a bat and nesting bird survey of a barn located at Bryn-Rhedyn Farm, Bedlinog, CF46 6UF (Ordnance Survey Grid Reference: SO0903 0085).
Proposed Works	The building is proposed for conversion into residential use.
Survey Methodology	The survey comprised the following: • A preliminary bat roost assessment which included a survey for nesting birds; • One dusk emergence survey of the barn; and • One dawn re-entry survey of the barn.
Survey Results	No signs of bats were found during the internal and external inspection of the building. No bats were recorded roosting within the building during the dusk emergence or dawn re-entry survey.
Evidence of Nesting Birds	No evidence of past or current nesting by birds was noted during the surveys either within or on the exterior of the building.
Requirements for Additional Survey	None required.
Predicted Impacts of Development on Bats and Nesting Birds	Based on the conclusion that bats are unlikely to be using the building as a roost site, no negative impacts on bats are anticipated. Based on the conclusion that birds are not currently nesting in the building, no negative impacts on birds are anticipated.
Licensing Requirements for Bats	None required.
Required Actions	Detailed recommendations are given in Section 6 of this report. These include precautionary methods and guidance for action to take if bats are found during the works.

1. Introduction

1.1. Brief

This report presents the findings of a bat and nesting bird survey of a barn located at Bryn-Rhedyn Farm, Bedlinog, CF46 6UF (Ordnance Survey Grid Reference: SO0903 0085)¹. The barn is situated within the boundary of Merthyr Tydfil Council.

1.2. Site Description

The barn is situated at the northern boundary of Bryn-Rhedyn Farm, which lies approximately 0.45km to the south of Cwmfelin village, the nearest settlement. Surrounding the barn in all directions are open fields and pasture, and several areas of woodland.

The location of the barn is shown on Plan 1: Location Plan.

1.3. Proposed Works

Plans comprise the conversion of the barn into residential use.

1.4. Legislation and Planning Policy

1.4.1. Bats

All UK species of bat are designated as 'European Protected Species'. Their breeding sites or resting places² (roosts) are fully protected under the Wildlife and Countryside Act 1981³ (as amended) and the Conservation of Habitats and Species and Planning (various amendments) (England and Wales) Regulations 2018⁴, until and unless superseded by The Conservation of Habitats and Species (Amendment) (EU Exit) ['CHSAEU'] Regulations 2019⁵.

Works affecting bats are subject to licensing procedures by Natural Resources Wales (NRW). The legal protection and licensing procedures are summarised in Appendix 1.

¹ Latitude and Longitude: 51.699053, -3.317454

² Resting places are defined as 'areas that are essential to sustain an animal or group of animals when they are not active' (Anon 2007).

³ <https://www.legislation.gov.uk/ukpga/1981/69>

⁴ <http://www.legislation.gov.uk/uksi/2018/1307/contents/made>

⁵ EU Exit – The European Union (Withdrawal) Act 2018 (the EUWA) will end the supremacy of EU law in UK law, will convert directly applicable EU legislation (in particular, EU Regulations and Decisions) as it stands at the moment of exit into domestic law, and will preserve legislation previously made in the UK to implement EU obligations. The legislation will generally have the same effect that it had before the UK left the EU, unless or until it is changed by Parliament. In some cases, there may be changes in referencing and guidance as a result of secondary legislative amendments.

1.4.2. Nesting Birds

All wild British birds (whilst building nests, nesting and sitting on eggs) and their nests and eggs (with certain limited exceptions⁶) are protected by law under Section 1 of the Wildlife and Countryside Act 1981⁷ (as amended) and the Countryside and Rights of Way Act 2000⁸. Some species, such as barn owls (*Tyto alba*), are listed in Schedule 1 and have extra levels of protection including protection from disturbance whilst nest building and disturbance of dependant young.

1.5. Survey Scope

The survey comprised the following:

- A preliminary bat roost assessment which included a survey for nesting birds;
- One dusk emergence survey of the barn; and
- One dawn re-entry survey of the barn.

1.6. Reporting

This report aims to:

- Outline the survey methodology used;
- Present the results of the survey;
- Provide an interpretation of the survey results;
- Determine the need for further targeted surveys on site; and
- Provide suitable recommendations in line with planning policy and wildlife law including potential licencing requirements, mitigation, compensation and enhancement measures.

⁶ Details of the exceptions are available at <https://bit.ly/2KiQTFH>

⁷ <https://www.legislation.gov.uk/ukpga/1981/69>

⁸ <https://www.legislation.gov.uk/ukpga/2000/37>

2. Methods

2.1. Desk Study

An assessment of the site and surrounding area was carried out, including existing habitats, from maps and aerial photographs. A Geographic Information System (GIS) dataset, obtained from NRW as used to search for statutory and non-statutory conservation designated sites for bats within 10km. A 2km search was undertaken for all other statutory and non-statutory conservation designated sites.

A search of the local planning portal was undertaken to look for other sites within the same postcode area which have had bat surveys submitted as a part of their planning application.

2.2. Field Study

2.2.1. Daytime Internal and External Inspection

A systematic search was made of the exterior and interior of the barn looking for features that bats could use for entering/exiting and roosting⁹. In addition, a search was made for the presence of bats or evidence of bat use, such as droppings, feeding remains, urine staining, scratch marks and the remains of dead bats. The survey was undertaken on 19th June 2020 by Paul Hudson¹⁰ MCIEEM (NRW Licence Number: S086520/1).

A high-powered torch (Clulite), an endoscope (Ridgid Micro CA-300) binoculars and a ladder were available for use, as appropriate during the survey.

2.2.2. Dusk Emergence and Dawn Re-entry Surveys

The evening dusk emergence survey commenced minutes prior to sunset, and continued until 90 minutes after sunset. Paul Hudson inspected the internal reaches of the barn for bat activity before the survey and at the end of the survey.

The dawn re-entry survey commenced 2 hours before sunrise and continued for 15 minutes after sunrise. Paul Hudson inspected the internal reaches of the barn for bat activity before the survey and at the end of the survey.

Surveyors were positioned at viewpoints where they had good sight of all elevations of the barn, so that all potential roosting features could be observed to detect any bat emerging from, or re-entering, the barn. Bat activity near the barn was recorded to help ascertain flight lines.

⁹ Bats may utilise gaps as small as 8mm by 20mm (Bat Conservation Trust, Cluster flies leaflet).

¹⁰ Paul graduated with a degree in Environmental Biology from Reading University and a Postgraduate Diploma in Conservation Management from the University of East Anglia. He has worked within ecological consultancy since 2000 and has been involved in bat work since 2001. He holds licences to disturb bats in both Wales (S086520/1 valid until June 2020) and England (2018-36707-CLS-CLS valid until 2028). Further details of his qualifications and experience can be found at <http://linkd.in/19aGTf4>.

2.2.3. Assessment of Bat Roost Suitability

The value of the site for bats (and any potential roost sites therein) was assessed, in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2016) (see Appendix 2). The assessment was based on the relative abundance and quality of potential roost sites; and the habitat features within both the site and the surrounding landscape, suitable for roosting, foraging and commuting bats.

2.2.4. Dusk Emergence and Dawn Re-entry Surveys

Two surveyors undertook both the dusk emergence and dawn re-entry survey. Both surveys were undertaken by Paul Hudson and Megan Fowler¹¹. Both surveyors were both equipped with Elekon Batlogger M bat detectors.

2.2.5. Survey for Nesting Birds

A visual search was undertaken for active bird nests, as well as any signs which might indicate either past or current nesting, such as guano, singing birds, birds carrying nesting material, food items, faecal sacs and calling chicks.

2.2.6. Constraints

General Temporal Constraints

An ecological survey can only identify what was present on site at the time it was conducted. However, habitat usage by species can change over time.

Data Search

A Local Records Centre (LRC) data search was not undertaken at the time of the survey.

¹¹ Megan graduated with an Undergraduate Masters in Zoology with Climate Change from Bangor University in 2019. She is currently undertaking training within Acer Ecology, focusing on dusk emergence and dawn re-entry surveys. Megan has also undertaken bat field work in Mexico undertaking 40 hours of mist-netting and transect surveys.

3. Results

3.1. Desk Study

3.1.1. Bat Roosts Reported in Planning Applications Within the Same Postcode

The search on the planning portal returned no records of bat roosts within the same postcode area as the proposed development.

3.1.2. Protected Sites

The location of protected sites is shown in Plan 2: Protected Sites.

Statutory Sites Notified for Bats (Special Areas of Conservation (SACs)) or Sites of Special Scientific Interest (SSSIs) Within 10km

No SACs that have been specially designated for bats lie within 10km of the barn.

Other Protected Sites Within 2km

There are no statutory designated sites such as SACs, SSSIs, National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) either within the proposed development site or within 2km of the barn.

Non-statutory Protected Sites

Sites of Importance for Nature Conservation (SINCs)

There are 13 SINCs within 2km of the barn, the nearest of which is Cwm Fedw SINC, which lies immediately adjacent to the barn. These sites are rich in wildlife and are considered important for their local biodiversity value.

Ancient Woodland Sites

There are 39 areas of Ancient Semi-Natural Woodland (ASNW)¹², seven Restored Ancient Woodland Sites (RAWS)¹³, five Plantations on Ancient Woodland Sites (PAWS)¹⁴, and two Ancient Woodland Sites of Unknown Category¹⁵, located within 2km of the site. The nearest area of ancient woodland is an unnamed area of ASNW located immediately to the north-east of the barn.

Protected Sites Summary

¹² Ancient Semi-Natural Woodland (ASNW) – broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years.

¹³ Restored Ancient Woodland Sites (RAWS) – woodlands which are predominately broadleaves now and are believed to have been continually wooded for over 400 years. These woodlands will have gone through a phase when canopy cover was more than 50% non-native conifer tree species and now have a canopy cover of more than 50 percent broadleaf.

¹⁴ Plantation on Ancient Woodland Sites (PAWS) – sites which are believed to have been continuously wooded for over 400 years and currently have a canopy cover of more than 50 percent non-native conifer tree species.

¹⁵ Ancient Woodland Site of Unknown Category (AWSU) – woodlands which may be ASNW, RAWS or PAWS. These areas are predominantly in transition and existing tree cover is described as 'shrubs', 'young trees', 'felled' or 'ground prepared for planting'.

Given the small scale of the proposed development, the localised nature of the proposed works, and the limited scope for impacts outside of the footprint of the proposed works, no adverse impacts to the protected sites are likely to occur. These sites are not mentioned any further in this report.

3.2. Field Study

3.2.1. Ecological Context of Site

Lighting

The site is assessed as being within Zone E2L Rural lighting zone (Institute of Lighting Professionals, 2012) as there the building is in an isolated location. There is external lighting on the adjacent farmhouse and on the barn itself¹⁶.

Site and Surrounding Habitats

The areas surrounding the barn mainly comprise open fields and areas of woodland. To the barn's north is an area of woodland, designated as Cwm Fedw SINC, which is likely to provide plentiful foraging opportunities for bats. This SINC also lies to the south of the barns, indicating that bats could forage in all directions of the barn. The fields are bordered by treelines and hedgerows which may act as ecological corridors between the barn and wider landscape, for example to areas of woodland such as the one further north of the barn, for commuting bats. The wider rural landscape is likely to be dark at night and quiet due to the barn's isolated location, which adds to the high-quality foraging and commuting habitat around the barn.

3.2.2. Building Description from the Perspective of Bat Habitat

The following table summarises the key features of the building.

Table 1: Key Features of Building

Building Type	The building is a single-storey stone farmhouse which has fallen into disuse (Photos 1-4).
Roof	The roof is pitched along an east-west axis. Its southern slope consists of slate tiles, most of which are in relatively good condition, however there are several slipped tiles towards the western gable end of the building (Photo 5). The northern slope consists of corrugated metal (Photo 2) which has rusted slightly towards the eastern gable end, but is generally in good condition. There is a metal ridge running the length of the pitch, which has some gaps underneath it where it has come away from the tiles (Photo 6).
Soffits, Fascias and Bargeboards	The uPVC fascia and bargeboards are largely in good condition, however there are gaps under the fascia on the northern elevation (Photo 7). There is also a gap beneath the ridge at the eastern gable end (Photo 8).
External Walls	The eastern, northern and southern elevations' walls have several small crevices and gaps between the stonework in places (Photo 9), but are in good condition relative to the western gable end, which has numerous large crevices around the open window (Photo 3). The western gable end also has exposed beams where

¹⁶ Lighting can impact on bats' roosting sites, commuting routes and foraging areas.

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	the dilapidated wall no longer meets the roof. There are bird boxes on the eastern gable wall (Photo 1).
Windows and Doors	On the building's northern elevation there is doorway blocked up by stonework with a sizeable gap at the top, and next to this is a boarded up window with another sizeable gap at the top and another sizeable gap at the top (Photo 10). There is a second door on the northern elevation with numerous gaps in the stonework around the lintel (Photo 11), and a third and fourth door on the southern elevation, both with several gaps in the stonework around them (Photo 12).
Interior	The roof void supported by King's post timber trusses which is unlined throughout. There is a large amount of light ingress into the void from the gaps under the ridge, and from the gaps above and around the windows and doors (Photo 14). The western elevation's window provides a large access point into the void (Photo 15).
Security Lighting	There is a security light above the door on the northern elevation (Photo 11).

Photos Showing the Building and its Features

Photo 1: Eastern elevation



Photo 2: Northern elevation



Photo 3: Western elevation



Photo 4: Southern elevation



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Photo 5: Slipped tiles on the southern elevation's roof



Photo 6: Gaps between metal ridge and tiles



Photo 7: Gaps under fascia on northern elevation



Photo 8: Gap under ridge at eastern gable end



Photo 9: Example of crevices in external stonework



Photo 10: Blocked up doorway and window



Photo 11: Gaps in stonework around door on northern elevation



Photo 12: Doors on the southern elevation



Photo 13: A-frame design with lining on southern slope only



Photo 14: Light ingress into roof from gaps in ridge and from windows

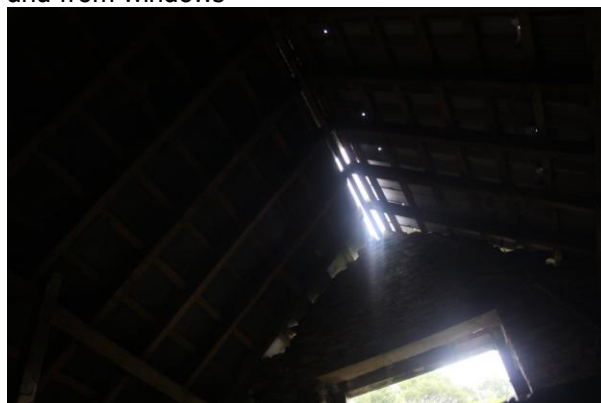


Photo 15: Access into void through western window



Photo 16: Example of the floor's condition



3.2.3. Potential Bat Access Points and Bat Roosting Locations

There are numerous potential access points for bats to gain entry into the interior through the gaps above the blocked up windows and doors (Photo 10), and through the gaps where the ridge has come away from the tiles on the southern elevation (Photo 6). There is also potential access at the western gable end, either through the open window or via the gaps where the stonework has eroded (Photo 3).

Potential Roosting Sites for Bats

The following potential roost sites were recorded:

- R1 – Within the gaps between the ridge and tiles (Photo 6);
- R2 – Within the gaps in the stonework on the western elevation (Photo 3);
- R3 – Within the gaps in the stonework around the doors on the northern elevation (Photo 10-11);
- R4 – Underneath the fascia on the northern elevation (Photo 7); and
- R5 – Within the crevices in the external stonework (Photo 10).

3.2.4. Dusk Emergence and Dawn Re-entry Surveys

The results of the dusk emergence and dawn re-entry surveys are summarised below.

Table 2: Summary of Conditions During Dusk Emergence and Dawn Re-entry Surveys

	Survey 1	Survey 2
Date	26 th June 2020	11 th July 2020
Sunset/Sunrise Time	21:35	03:00
Start Time	21:05	05:09
Finish Time	23:20	05:24
Start Temperature		13°C
Sunset Temperature	17°C	
Rain	None	None
Wind¹⁷	1	1
Cloud Cover	2/8 oktas	3/8 oktas

Table 3: Summary of Dusk Emergence and Dawn Re-entry Surveys Results

	Survey 1: Dusk Emergence	Survey 2: Dawn Re-entry
Emergences/ Re-entries	No bats emerged from the building or interacted closely with the building.	No bats returned to roost within the building or interacted closely with the building.
Important Commuting/ Foraging Routes	No noteworthy commuting routes were identified close to the building. The mature treeline 55m to the west of the building is an important foraging area for noctule (<i>Nyctalus noctula</i>) bats with up to four individuals recorded over a half hour period.	No noteworthy commuting routes were identified.
Bat Activity¹⁸	Apart from the noctule bats above only low levels of bat activity was recorded with only occasional intermittent passes by common pipistrelle (<i>Pipistrellus pipistrellus</i>) and soprano pipistrelle (<i>Pipistrellus pygmaeus</i>).	Low levels of bat activity were recorded of just two species: common and soprano pipistrelle.

3.2.5. Nesting Bird Survey

No signs of birds having recently nested were found during the survey within or on the exterior of the building.

¹⁷ Estimated on site using the Beaufort scale.

¹⁸ Activity thresholds have been quantified using personal judgement according to past experience of surveying similar sites.

4. Evaluation

4.1. Summary of Fieldwork

The preliminary roost assessment, dusk emergence survey and dawn re-entry surveys found no evidence of bats roosting within the building.

4.2. Suitability for Summer Roosts

The barn was assessed as having moderate bat roosting potential. There are numerous access points and roosting features which could feasibly be used by roosting bats, but due to their size, shelter, protection, conditions and surrounding habitat, were assessed as being unlikely to support a roost of high conservation status (see Appendix 2A).

4.3. Potential Winter Roosts

As no bats were recorded roosting in the barn, it is considered highly unlikely that bats would utilise the barn during the winter months as the building is: quite bright with considerable light ingress and has few potential hibernation features.

4.4. Important Bat Commuting Routes and Foraging Areas

No important bat commuting routes or foraging areas close to the barn were recorded during the survey.

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5. Impacts

5.1. Potential Impacts of the Development on Bats

Due to the lack of evidence of bats roosting within the barn during the preliminary roost assessment, dusk emergence and dawn re-entry surveys, no direct or indirect impacts on bats due to the development are considered likely.

5.2. Potential Impacts of the Development on Birds

There are anticipated to be no potential direct impacts due to the absence of evidence of nesting birds in the building.

6. Required Actions

6.1. Licensing Requirements for Bats

No further survey work is considered necessary. A European Protected Species (EPS) Licence is not required as there is no evidence of the barn being used as a roost by bats.

6.2. Precautionary Measures

No evidence of any use by roosting bats was recorded on site and it is therefore highly unlikely that bats or their roosts will be affected by the works. No precautionary timing conditions on works are required. However, it is not possible to rule out bat use entirely, and there is also a risk of an offence being committed if active birds' nests are present. The following recommendations are made to minimise risks to bats and birds:

- It will be clearly understood, and contractors made aware that in the event of any bats being found, the contractor must halt works (if bats are encountered, the bat will be carefully covered over again). Appropriate advice will be obtained from a suitably qualified bat consultant or Natural Resources Wales and, if necessary, a bat development licence obtained before work can resume;
- If any active bird nests are found these will be protected, along with an appropriate buffer zone of 5-10m, until the nesting is complete, and the young have fledged¹⁹;
- Contractors will check for the possible presence of bats on the undersides of roofing tiles, fascias, soffits and bargeboards etc. as they are lifted off. This is especially important at the outset of the works, since once the works have started, the disturbance is likely to drive any bats which are present away voluntarily; and
- The services of an appropriately qualified and licensed ecological consultant will be available on an 'on-call' basis at all stages of the works to deal with any unexpected encounters with bats or nesting birds. Contact details of such will be held on site. Acer Ecology Ltd. could be retained to provide this support.

6.3. Ecological Enhancement for Bats

The Environment (Wales) Act 2016, Planning Policy Wales (Edition 10, January 2018), TAN 5 *Nature Conservation and Planning* (2009) and Merthyr Tydfil Supplementary Planning Guidance Note 5: Nature and Development (2015)²⁰ stipulate that development projects minimise ecological damage and contain elements of ecological enhancement. Ecological enhancements measures could be provided within the proposal and could include the retention of any unused areas of roof void for use by roosting bats with suitable access points. Alternatively, fascias, soffits and gutter-plates etc. could be left with small gaps beneath to allow access by

¹⁹ Some bird species, especially raptors and owls remain dependent upon the nesting site after fledging and so depending upon the species the nest site may need to be protected for a period of time after fledging.

²⁰ <https://www.merthyr.gov.uk/media/1594/spg-5-nature-and-development.pdf>

crevice-dwelling bats behind them²¹, and/or purpose-built bat roosting boxes could be installed, either on the exterior of the building or incorporated directly into the structure of the walls.

In addition, consideration²² will be given to using landscaping and garden design to provide habitat suitable for bats by encouraging night-flying invertebrates. Plant species that provide a rich source of nectar should be used. Suitable species include flowering herbs such as lavender (*Lavendula* spp.), violets (*Viola* spp.); or shrubs such as flowering currant (*Ribes sanguineum*), privet (*Ligustrum vulgare*), forsythia (*Forsythia* spp.), dogwood (*Cornus sanguinea*), berberis (*Berberis* spp.), pyracantha (*Pyracantha* spp.) and ceanothus (*Ceanothus* spp.).

6.4. Longevity of Report

Bat Surveys for Professional Ecologists (Collins, 2016) states that the survey data should ideally be from the last survey season before a planning or licence application is submitted, although the length that survey data remains valid should be decided on a case-by-case basis and is dependent upon several factors²³. It is considered that if development works do not begin within eighteen months (CIEEM, 2019) to two years of the date of this report, an update survey may be required in accordance with guidance in BS 42020:2013²⁴ and CIEEM (2019), to determine if conditions and evidence of bat use has changed since described in the current report.

²¹ This approach will only be acceptable if breathable membrane will not be installed within the building or the fascia, soffits etc. or the fascias, soffits etc. will be installed in a way where there is no potential for bats to gain access to the breathable membrane.

²² Landscaping provision is considered an enhancement that would be desirable but the mitigation scheme will still be acceptable if this is not implemented. As a result, it is not considered appropriate to use enforceable language stating that this will definitely be implemented.

²³ The factors identified are as follows: Were the original surveys carried out according to good practice guidelines?; Were the original surveys constrained in any way?; Do the results of the original surveys support the original conclusions and are these still relevant?; Has the nature of the site or the surrounding area changed since the original surveys were undertaken; and are additional surveys likely to provide information that is material to a decision, the design of mitigation measures, or specific advice relating to a proposed activity.

²⁴ As set out in Section 6.2.1, Point 7 which states that ecological information should not normally be more than two/three years old, or as stipulated in good practice guidance).

7. References

Anonymous (2007) *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC*. Final version, February 2007.

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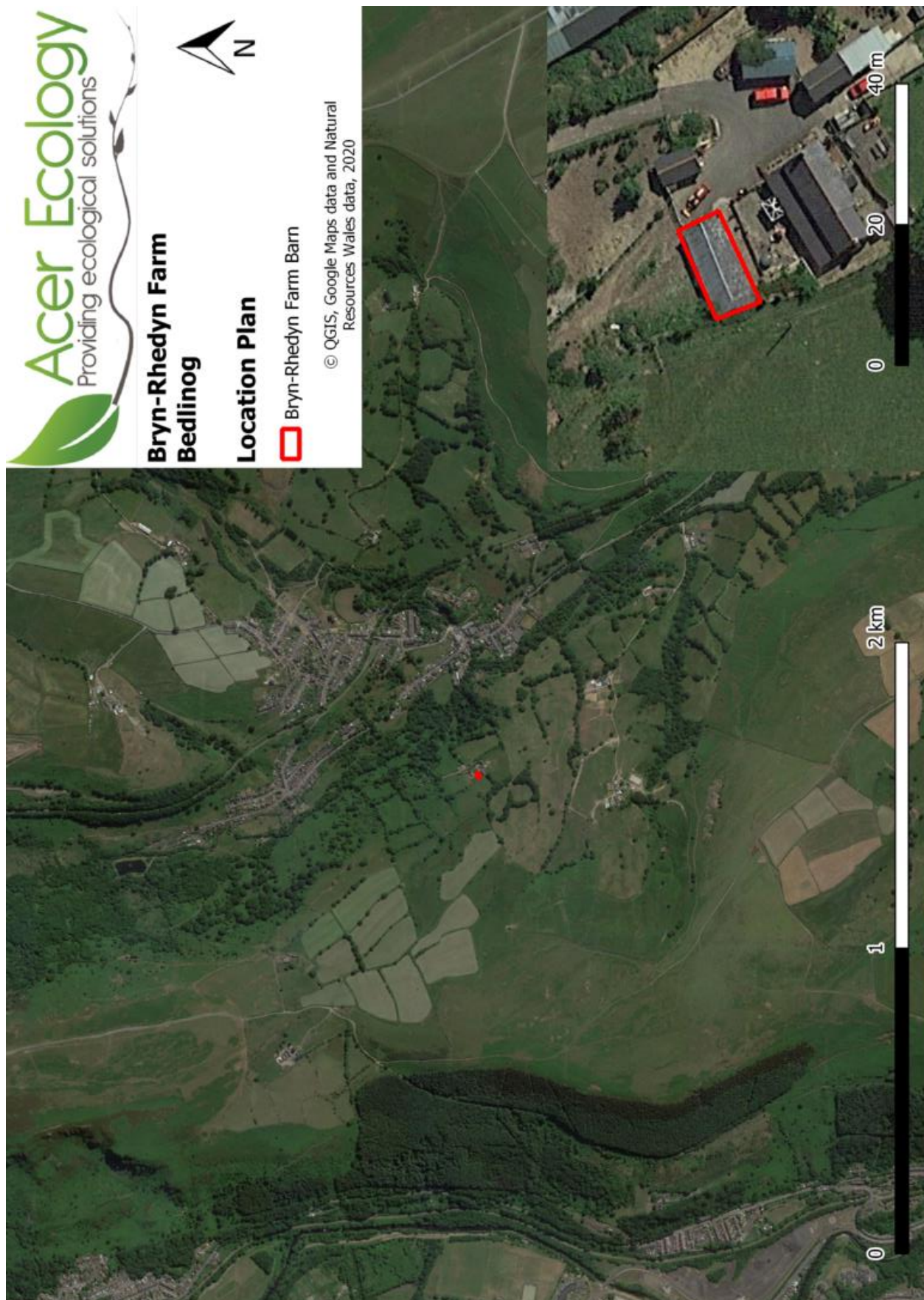
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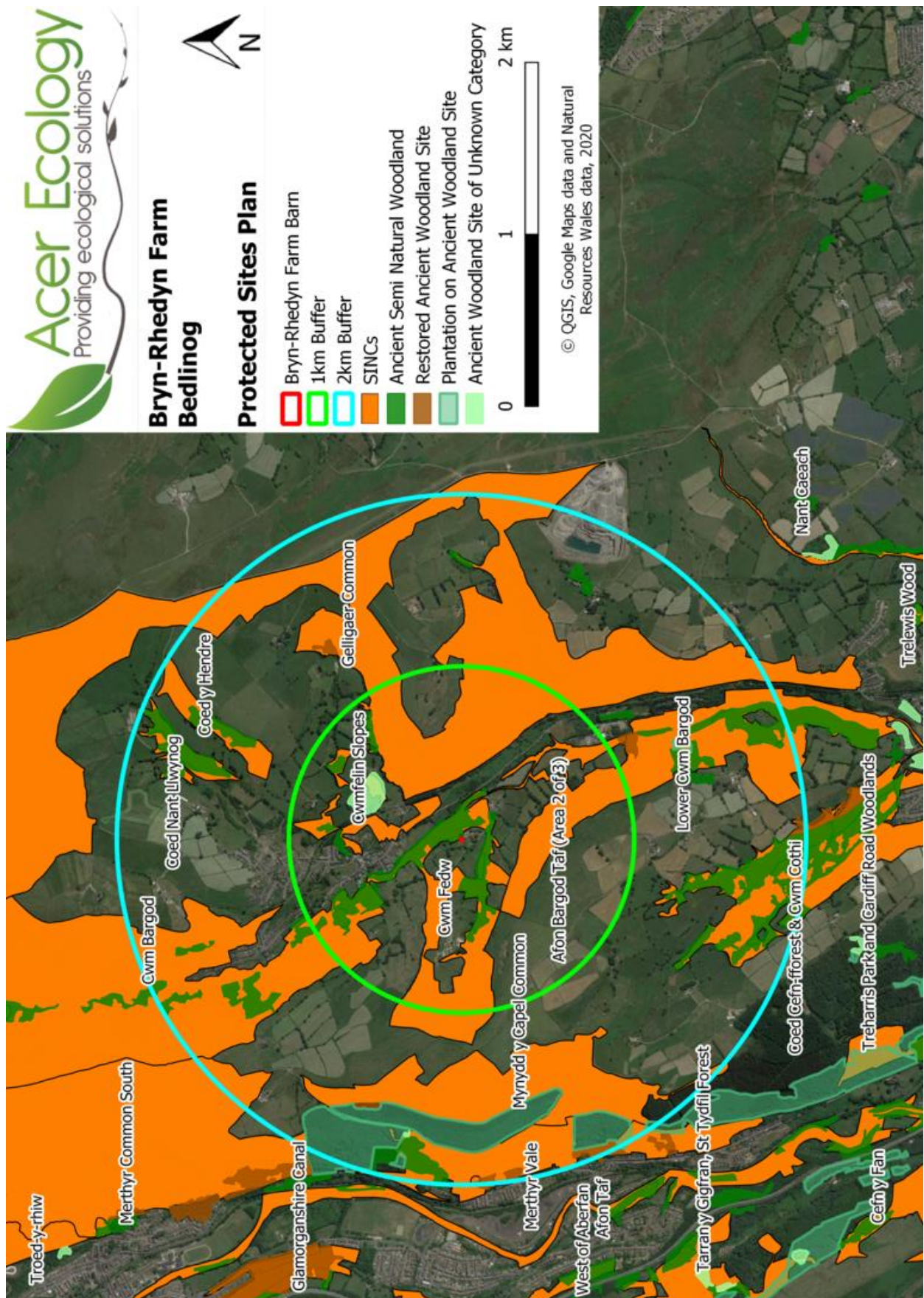
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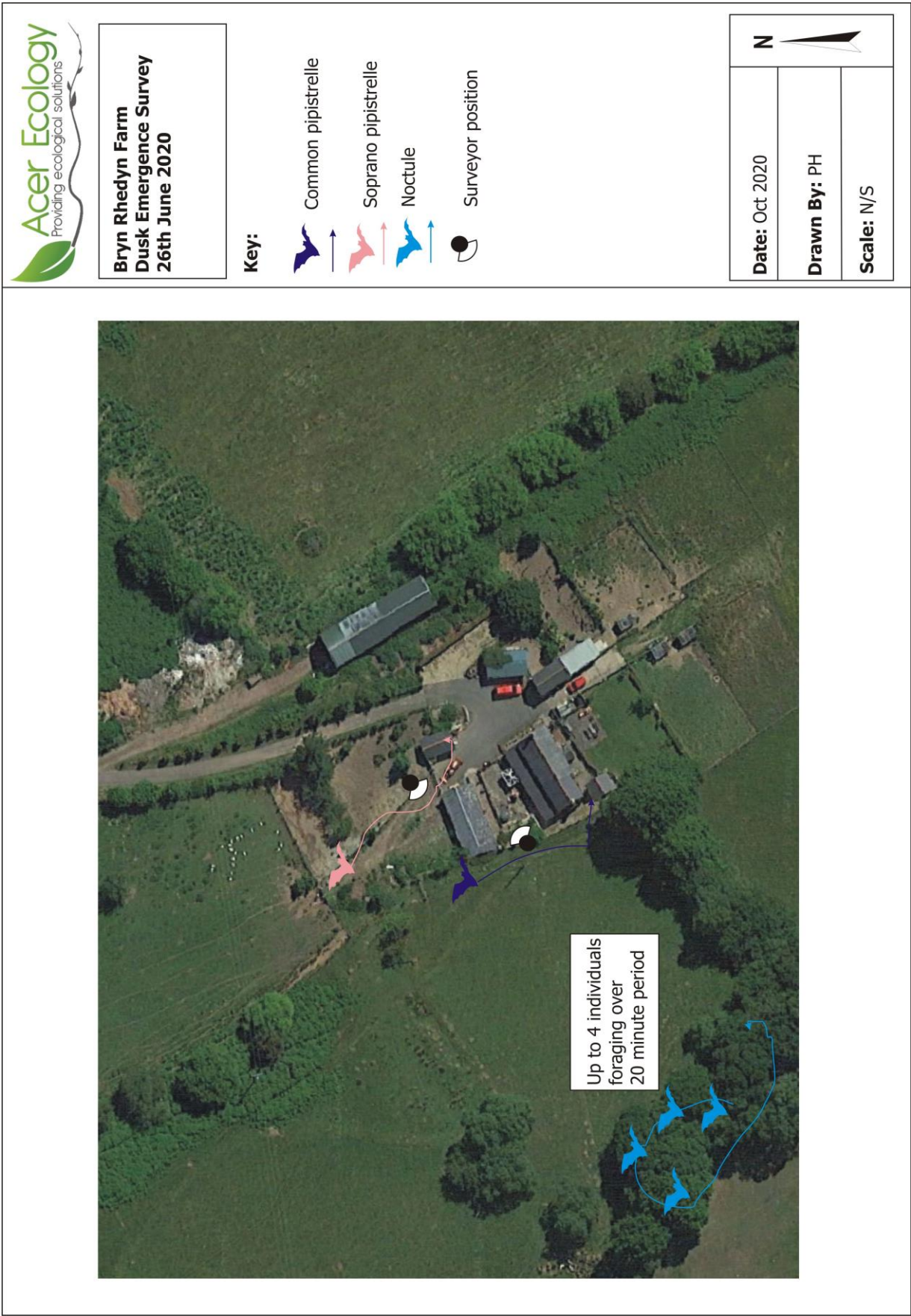
Plan 1: Location Plan



Plan 2: Protected Sites Within 2km



Plan 3: Dusk Emergence Survey



Plan 4: Dawn Re-entry Survey



Appendix 1: Bat Ecology and Legislation Protecting Bats and Their Roosts

Bat Ecology

There are 17 known breeding species of bat found in the UK, with additional species recorded as migrants or vagrants. All of them are small, nocturnal, flying, insectivorous mammals that are under conservation threat and many having undergone massive population declines over the last century. Some species, such as common and soprano pipistrelle (*Pipistrellus pygmaeus*) are relatively common and widespread in the UK, while others, such as greater horseshoe (*Rhinolophus ferrumequinum*) bats, have an extremely restricted distribution.

Most bats will use a variety of roosts of different types throughout the year. The winter hibernation sites typically have cool, humid conditions with a stable microclimate and low levels of disturbance. Most British bats hibernate in caves or artificial structures that fulfil these requirements such as mines, tunnels and cellars. Bats emerge from hibernation around late March or early April and move into transition or intermediary roosts. Around early May, female bats gather in colonies to form summer or maternity roosts, and it is here where they will give birth between late May and early July. A colony may consist of many individuals (sometimes hundreds of bats) of mixed age and sex. Roosts may be in a variety of habitat types including tree-holes, caves, buildings and other secure crevices or internal spaces with appropriate stable temperatures and humidity. Bats may change roost locations many times during a year and colonies may split up and reform during this period. Males occupy solitary roosts in autumn, to which they attract females for mating.

Legislation

All British bat species and any place used for shelter or protection, or a breeding site or resting place (their roosts) are fully protected under the amended Wildlife and Countryside Act 1981 through inclusion in Schedule 5. The roosts are protected irrespective of whether bats are present at the time. All bats are 'European Protected Species' and fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species and Planning (various amendments) (England and Wales) Regulations 2018, until and unless superseded by The Conservation of Habitats and Species (Amendment) (EU Exit) [CHSAEU] Regulations 2019. These pieces of legislation make it illegal to deliberately or recklessly:

- kill, injure or capture bats;
- disturb bats;
- damage, destroy, or obstruct access to bat roosts (including sites that are currently unoccupied);
- possess or transport a bat or any part of a bat unless acquired legally; or
- sell, barter or exchange bats or parts of bats.

Disturbance is defined as that which is likely to impair bats ability:

- to survive, to breed or reproduce, or to rear or nurture their young;
- to hibernate or migrate; or
- to affect significantly the local distribution or abundance of the species to which they belong.

Habitats Regulations Licensing

If a European Protected Species will be affected by a development, Natural Resources Wales (NRW) can issue licences under the Habitats Regulations to permit otherwise prohibited acts. Licences for certain activities can be granted providing “3 tests” are satisfied, that is:

1. the purposes of “preserving public health or safety, or for reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment”;
2. there must be “no satisfactory alternative”; and,
3. the derogation is “not detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

Licences are issued by NRW, with NRW assessing Test 3, and the Local Planning Authority assessing tests 1 & 2 (where proposals are not subject to planning, then NRW alone will assess all three tests). Where Planning regulations apply, NRW will only issue a licence after determination of the planning application.

The licence application will require the production of a detailed method statement, which sets out the activities to be carried out under the licence to minimise the risk of bats being harmed during construction works, and to ensure that bats will be conserved during the development of the site. This will need to detail the mitigation proposed (such as the replacement or compensation roost), the timescale and schedule of works, the number, size and locations of bat access points to be provided, the type of materials to be used (roofing material, roof lining, fascias, soffits and bargeboards etc.), lighting proposals, action to be taken in the event bats are found during works and a post-development monitoring programme. The method statement will need to be accompanied by scaled plans and maps detailing the bat mitigation features. A cross-section of the access points and roost space is often required. The method statement must ensure that provision is made for new or continued roosting opportunities after the completion of development works. In some instances, a method statement is requested by the Local Planning Authority or Natural Resources Wales before the planning application is determined.

Environment (Wales) Act 2016

The Environment (Wales) Act 2016²⁵ dictates that Local authorities have a duty to have regard to the conservation of biodiversity in exercising their functions. The duty affects all public authorities and aims to raise the profile and visibility of biodiversity, to clarify existing commitments relating to biodiversity, and to make it a natural and integral part of policy and decision making. Part 1 Section 7 of the Act provides a list of the ‘*living organisms of principal importance for maintaining and enhancing biodiversity in relation to Wales*’. This includes seven bat species (soprano pipistrelle, barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteini*), noctule (*Nyctalus noctule*), brown long-eared (*Plecotus auritus*), lesser horseshoe and greater horseshoe bats).

²⁵ <http://www.legislation.gov.uk/anaw/2016/3/contents>

Appendix 2: Guidelines for Assessing Potential Bat Roosting Suitability and Determining Required Number of Dusk/Dawn Surveys

Suitability	Description of Roosting Habitat	Minimum Number of Dusk/Dawn Surveys Required ²⁶
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection appropriate conditions ²⁷ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity) or hibernation ²⁸ .	One survey visit. One dusk emergence or dawn re-entry survey (Survey period from May to August) (Collins 2016).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status ²⁹ (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey ³⁰ . Surveys should be undertaken from May to September with at least one of the survey between May and August (Collins 2016).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. Surveys should be undertaken from May to September with at least two of the surveys from May to August (Collins 2016).

²⁶ Adapted from Tables 7.1 and 7.3 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

²⁷ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

²⁸ Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for large numbers of this species to be present during the autumn and winter in large buildings in highly urbanized environments.

²⁹ 'High roost status' is not defined within Collins, 2016. Acer Ecology Ltd. interpret maternity, hibernation, swarming sites, mating sites, and satellite roosts as being of 'high roost status' and exclude day roosts, night roosts, feeding roosts, transitional/occasional roosts from this definition. Pre-maternity/collecting roosts are not included within Collins, 2016 and will be assessed on an individual basis.

³⁰ Multiple surveys should be spread out to sample as much of the survey period as possible. It is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk survey is considered only one visit.

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Appendix 3: Guidelines for Assessing Bat Habitat Suitability

Suitability	Commuting and Foraging Habitat
Negligible	Negligible habitat features on-site likely to be used by commuting and foraging bats.
Low	<u>Commuting Habitat</u> Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. <u>Foraging Habitat</u> Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	<u>Commuting Habitat</u> Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. <u>Foraging Habitat</u> Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	<u>Commuting Habitat</u> Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. <u>Foraging Habitat</u> High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. <u>Proximity to Known Bat Roosts</u> Site is close to and connected to known roosts.