



**Red Barn,  
Marshfield, Cardiff**

**Preliminary Roost Assessment**

**June 2024**

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### DOCUMENT CONTROL

Red Barn, Marshfield, Cardiff Preliminary Bat Roost and Nesting Bird Assessment				
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## Summary

Brief and Site Location	This report presents the findings of a preliminary bat roost assessment and nesting bird survey of a barn at Red Barn, Marshfield, Cardiff, CF3 2UB (Ordnance Survey Grid Reference: ST 2608 8180).
Proposed Works	The barn is proposed to be demolished. The barn forms part of a development site where three dwellings are proposed.
Survey Methodology	The preliminary bat roost assessment comprised a daytime internal and external inspection of the barn searching for signs of bats and nesting birds. The inspection provides a preliminary assessment of the potential of the site to support roosting bats.
Results of Preliminary Bat Roost Inspection	No signs of bats were found during the internal and external inspection of the barn. The barn is within a moderate-quality area for foraging and commuting bats.
Suitability of the Barn to Support Roosting Bats	The barn has moderate suitability to support roosting bats. Details of the features that led to this assessment are set out in Section 3.2 of this report and are shown in the corresponding photographs. Justification for this assessment is provided within Section 4.2.
Evidence of Nesting Birds	Three defunct swallow nests were observed in the lean-to extension.
Requirements for Additional Survey	Further surveys are required to determine if any bats are roosting within the building. As the barn has moderate suitability, current best practise guidelines (Collins, 2023) suggest that it should be subject to two additional dusk emergence surveys, undertaken between May and September. Four surveyors will be required for both surveys (see Plan 4: Proposed Surveyor Positions).
Predicted Impacts of Development on Bats and Nesting Birds	Full impacts on bats and birds will be considered after further surveys have been undertaken.
Mitigation and Compensation of Proposed Impacts	Mitigation and compensation measures for bats and birds will be determined after the further surveys have been undertaken.
Licensing Requirements for Bats	It has not been possible to determine if a bat development licence will be required from Natural Resources Wales. This will be established after the dusk emergence surveys have been completed.
Required Actions	Further surveys are required.

## 1. Introduction

### 1.1. Brief and Site Location

This report presents the findings of a preliminary bat roost assessment and nesting bird survey of a barn at Red Barn, Marshfield, Cardiff, CF3 2UB (Ordnance Survey Grid Reference: ST 2608 8180)<sup>1</sup>.

The barn is within the boundary of Newport City Council.

### 1.2. Site Description

The barn is situated in Marshfield village, approximately 9.63km north-east from Cardiff city centre and 7.71km south-west from Newport city centre. Wellfield Road borders the north boundary of the barn, while a driveway is located to the western boundary. Trees and residential properties directly surround the north and eastern boundaries of the barn. The wider landscape surrounding Marshfield include the M4 2.34km to the north of the barn, agricultural fields 0.12km to the south, a railway track 0.37km to the south, and Marshfield Playing Fields 0.13km to the west.

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

### 1.3. Proposed Works

The barn is proposed for demolition. The barn forms part of a development site where three dwellings are proposed.

At the time of writing, a planning application has not yet been submitted.

The proposed development plan can be found in Drawing 1: Proposed Development.

### 1.4. Legislation and Planning Policy

#### 1.4.1. Bats

All UK bats are protected species. Their breeding sites or resting places<sup>2</sup> (roosts) are fully protected under the Wildlife and Countryside Act 1981<sup>3</sup> (as amended) and the Conservation of Habitats and Species Regulations 2017<sup>4</sup> which continues to apply in UK law through the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019<sup>5</sup>. Works affecting bats are subject to licensing procedures by Natural Resources Wales (NRW). The legal protection and licensing procedures are summarised in Appendix 1.

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<sup>1</sup> Latitude and Longitude: 51.53033646, -3.06690368/ what3words: honey.seatbelt.outer

<sup>2</sup> Resting places are defined as ‘*areas that are essential to sustain an animal or group of animals when they are not active*’ (European Commission, Directorate-General for Environment, 2022). Resting places that are used regularly, either within or between years, must be protected even when not occupied.

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

<sup>4</sup> <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

<sup>5</sup> <https://www.legislation.gov.uk/ukdsi/2019/9780111179512>

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## 1.4.2. Nesting Birds

All wild British birds (when building nests, nesting and sitting on eggs) and their nests and eggs, (with certain limited exceptions<sup>6</sup>) are protected by law under Section 1 of the Wildlife and Countryside Act 1981<sup>7</sup> (as amended) and the Countryside and Rights of Way Act 2000<sup>8</sup>. Some species, such as barn owls (*Tyto alba*), are listed in Schedule 1 and have additional protection from disturbance during the breeding season, as do their nests, eggs and dependent young.

## 1.5. Survey Scope

The preliminary roost assessment (PRA) is a detailed inspection of the exterior and interior of a structure that looks for features that bats could use for entry/exit and roosting, and includes a search for signs of bats. A search for past and current evidence of nesting birds is also undertaken.

## 1.6. Reporting

This report aims to:

- Outline the survey methodology used;
- Present the results of the survey including determining the actual or potential presence of bats and nesting birds;
- Determine the need for further targeted surveys; and
- Provide suitable recommendations in line with planning policy and wildlife law, including potential licencing requirements, mitigation, compensation and enhancement measures.

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<sup>6</sup> Details of the exceptions are available at <https://naturalresources.wales/permits-and-permissions/species-licensing/list-of-protected-species/bird-licensing/bird-licences/?lang=en>

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

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

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## 2. Methods

### 2.1. Desk Study

Maps and aerial photographs of the site and surrounding area, including existing habitats, were assessed. A search for statutory and non-statutory conservation designated sites for bats within a 10km radius was undertaken using NRW Geographic Information System (GIS) data. A 2km search was undertaken for all other statutory and non-statutory conservation designated sites.

A local planning portal search was undertaken. This involved looking for other sites, within the same postcode area, which have previously had bat surveys submitted as a part of their planning applications.

### 2.2. Field Study

#### 2.2.1. Daytime Internal and External Inspection

A systematic search of the exterior and interior of the barn and the lean-to extension was undertaken following the methodology detailed in Section 5.2 of the Bat Survey Guidelines (Collins, 2023). The survey looked for features that bats could use as access points and roosts<sup>9</sup>. 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, live or the remains of dead bats and/or squeaking noises. A high-powered torch (Clulite), binoculars and ladder were available for use, as appropriate during the survey.

The survey was undertaken on 28<sup>th</sup> of May 2024 by Rebecca Corley<sup>10</sup>, with the assistance of Evan Smith<sup>11/12</sup>.

#### 2.2.2. Assessment of Bat Roosting 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, 2023) (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.

Assessment of 'classic' and 'non-classic' winter hibernation potential was undertaken with consideration of Section 4.3.7 and Figure 1 of the Bat Surveys for Professional Ecologists (Collins, 2023).

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<sup>9</sup> Bats can utilise gaps approximately 8mmx17mm in size (The Bat Conservation Trust, Cluster-flies leaflet mentions 8mm by 20mm whilst the Bats and Buildings leaflet states 9mm by 17mm).

<sup>10</sup> Rebecca graduated with a degree in Biological Science from the University of Birmingham and an MSc in Global Ecology and Conservation from Cardiff University. Rebecca is currently in her third season of bat surveying, working as an Assistant Ecologist and receiving training from Acer Ecology. She is listed as an accredited agent on Paul Hudson's bat licence (S091671-1). Further details of her qualifications and experience can be found at: <https://www.linkedin.com/in/rebecca-corley-b33b61138/>.

<sup>11</sup> Evan graduated with a degree in Conservation Biology and Ecology from the University of Exeter. Evan is currently working as an Assistant Ecologist and receiving training from Acer Ecology. Further details of his qualifications and experience can be found at <https://www.linkedin.com/in/evan-smith-9b73a719a>

<sup>12</sup> Evan followed the guidance given in Section 1.22 of the Bat Surveys for Professional Ecologists (Collins, 2023) and Section 1.4 of the Bat Workers' Manual" (3rd ed.) (2004) which state that an unlicensed surveyor is obliged to withdraw from a building when evidence of a roost is identified to avoid unlicensed disturbance.

## **2.2.3. Nesting Bird Survey**

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.

## **2.2.4. Constraints**

### Temporal Constraints

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

### Restricted Access to External Parts of the Barn

Not all of the external parts of the barn could be inspected during the preliminary roost assessment. Dense vegetation and wooden fencing prevents access to the western elevation of the barn and so a close-up inspection was not possible. However, this is not considered a significant constraint as dusk emergence surveys have been recommended later in this report.

### Floor Condition

The floor of the barn and the lean-to extension was covered in equipment, detritus and dust that made it difficult to detect bat droppings. However, the survey is only slightly constrained as we were able to assess majority of the floor. Therefore, this is not considered to have significantly affected the accuracy of the assessment.

### Local Records Centre Data Search

A Local Records Centre (LRC) data search was not undertaken due to the low impact and small-scale nature of the development. Current proposals suggest no land will be lost or linear features severed. The overall impact on biodiversity is likely to be localised and of low significance. It is very unlikely that the development will have any impact outside the footprint of the works. The data search results are considered unlikely to impact the decision-making process, and there is limited potential for key information to have been missed.

This approach is consistent with CIEEM's Guidelines for Accessing and Using Biodiversity Data (2020), which states that in low impact/small-scale scenarios, such as demolition of a residential property, an LRC search may not be required.

## 3. Baseline Ecological Conditions

### 3.1. Desk Study

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

The local planning portal search<sup>13</sup> detailed one planning application which have submitted ecology survey reports. The following roosts were recorded:

Table 1: Bat Roosts Reported in Planning Applications within CF3 2UB

Planning Reference Number	Approx. Distance from Site	Species Affected	Roost type
16/0481 <sup>14</sup>	0.1km south-east	Brown long-eared bat ( <i>Plecotus auritus</i> )	Day roost

#### 3.1.2. Protected Sites

The location of protected sites is shown in Plans 2 and 3: Protected Sites Within 2km and 10km respectively.

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

The Ruperra Castle and Woodlands SSSI<sup>15/16</sup> is the only SSSI designated for bats located within 10km of the site. At the nearest point this site lies 5.9km north-west of the barn. The site is of special interest as the only known nursery roost for the greater horseshoe bat (*Rhinolophus ferrumequinum*) in the Mid and South Glamorgan area and only one of only five known nursery roosts of this species in Wales. The SSSI supports a colony of greater horseshoe bats of national and international importance.

Other Protected Sites Within 2km

There are two additional SSSIs within 2km of the barn:

Table 2: Statutory Sites Within 2km

Site Name	Description	Distance and Direction from Development Site
Gwent Levels – Rumney and Peterstone SSSI <sup>17</sup>	The Gwent Levels reens are rich in plant species and communities, many of which are rare or absent in other Levels systems. This is due to the variety of reen types and their management regimes and the timing of the management which results in a staggered programme across the Levels. The regular maintenance of some reens provides conditions for submerged plant species such as hairlike pondweed ( <i>Potamogeton trichoides</i> ) and openwater emergents such as arrowhead ( <i>Sagittaria</i> )	0.1km to the south to the barn.

<sup>13</sup> <https://publicaccess.newport.gov.uk/online-applications/simpleSearchResults.do?action=firstPage>

<sup>14</sup> <https://publicaccess.newport.gov.uk/online-applications/applicationDetails.do?keyVal=ZZZYELCPM690&activeTab=summary>

<sup>15</sup> [https://naturalresources.wales/media/669047/SSSI\\_2987\\_Citation\\_EN001bc78.pdf](https://naturalresources.wales/media/669047/SSSI_2987_Citation_EN001bc78.pdf)

<sup>16</sup> [https://naturalresources.wales/media/669052/SSSI\\_2987\\_Map001f803.pdf](https://naturalresources.wales/media/669052/SSSI_2987_Map001f803.pdf)

<sup>17</sup> [https://naturalresources.wales/media/659902/SSSI\\_1122\\_Citation\\_EN001c0a1.pdf](https://naturalresources.wales/media/659902/SSSI_1122_Citation_EN001c0a1.pdf)

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	<i>sagittifolia</i> ) an opportunity to flourish. Others are less intensively managed and some have become completely overgrown by weeds and hedges.	
Gwent Levels – St.Brides SSSI <sup>18</sup>	Same as the description above.	0.4km to the north-east of the barn.
Severn Estuary SAC <sup>19</sup>	The Severn Estuary lies on the south west coast of Britain at the mouth of four major rivers (the Severn, Wye, Usk, and Avon). The immense tidal range (the second highest in the world) and classic funnel shape make the Severn Estuary unique in Britain and very rare worldwide. This tidal range creates strong tidal streams and high turbidity, producing communities characteristic of the extreme physical conditions of liquid mud and tide-swept sand and rocks.	1.98km south-east of the barn.

There is no mention of bats in any of the SSSI or SAC citations, however, the SSSI sites are likely to be used by several bat species for foraging and commuting. The Gwent Levels - St.Brides and the The Gwent Levels – Rumney and Peterstone citation notes that a large number of hedgerows, main ree banks and green lane habitats are present in these areas.

## Ancient Woodland Sites

The following table shows the ancient woodland sites within 2km of the site:

Table 3: Ancient Woodland Sites Within 2km

Ancient Woodland Site	Number within 2km of Site
Ancient Semi-Natural Woodland (ASNW) <sup>20</sup>	Six
Restored Ancient Woodland Sites (RAWS) <sup>21</sup>	One
Nearest Area of Ancient Woodland	An unnamed area of ASNW located 1km to the north-west of the site.

## Protected Sites Summary

Given the small scale and localised nature of the proposed development, along with the distance between the proposed development and the designated site, as well as 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 further in this report.

<sup>18</sup> [https://naturalresources.wales/media/640899/SSSI\\_0341\\_Citation\\_EN0014d9a.pdf](https://naturalresources.wales/media/640899/SSSI_0341_Citation_EN0014d9a.pdf)

<sup>19</sup> <https://publications.naturalengland.org.uk/publication/6081105098702848>

<sup>20</sup> 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.

<sup>21</sup> Restored Ancient Woodland Sites (RAWS) – woodlands which are predominately broadleaved 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.

## 3.2. Field Study

### 3.2.1. Lighting and Ecological Context

#### Lighting

The site is within an E2: Rural lighting zone, with low district brightness (Institute of Lighting Professionals, 2012).

The barn is situated near the edge of the village, Marshfield, close to a large rural area comprising agricultural fields where limited artificial lighting is present. However, there are some streetlights present on Wellfield Road, where the barn is located. Consequently, the barn is subject to some levels of artificial lighting from both the streetlighting and nearby properties which decreases the quality of foraging and commuting bat habitat<sup>22</sup>.

#### Ecological Context

The immediate surroundings of the building are characterised by a variety of habitats. Trees and agricultural fields lie directly to the west, south and southeast, whilst residential housing with their associated gardens lie directly to the east. Broadway Reen is located 0.3km south-east of the barn, Blackwater Reen is 0.4km south-east and Drenwydd Reen is 0.4km north-east of the barn. The wider landscape surrounding the barn includes agricultural fields, with patches of woodland to the north and residential housing to the east and north. Though these habitats are not completely continuous, they act as an ecological corridor between the building and the surrounding landscape. On balance, the combination of habitats means that overall, the site is of moderate quality for foraging and commuting bats.

### 3.2.2. Building Description from the Perspective of Bat Habitat

The table below summarises the key features of the barn.

Table 4: Key Features of the Barn

Building Type	The barn is a two-storey structure constructed of corrugated metal and concrete, with a single-storey extension which adjoins the southern rear (Photos 1 and 2). Both the barn and the lean-to extension are used for storage.
Roof	The roof is dual-pitched and constructed from both corrugated asbestos cement and plastic roof sheeting. The plastic sheeting allows light ingress into the building. There are gaps where the roofing sheets overlap which could be potential roosting features (Photo 3). The plastic sheeting is not covered by polystyrene, exposing gaps which could be used by bats for access into the interior (Photo 4). The metal trim on the gable ends of the northern front and the southern rear are raised (Photo 5). The gaps provide roosting opportunities for bats.
External Walls	The external walls of the barn are constructed of corrugated metal (Photos 1 & 3). The corrugated metal sheeting is well aligned and in good condition.
Doors and Windows	The door to the barn is found on the northern front and is constructed of metal. There are gaps between the doorframe and the external wall which could allow access for bats to roost underneath (Photo 6). The external sheeting is lifted above

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<sup>22</sup> Lighting can impact on bats' roosting sites, commuting routes and foraging areas.

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	the doorframe and a gap is present, which is another access point for bats to roost underneath (Photo 7).
Roof Lining	The roof is lined with polystyrene (Photo 8).
Roof Construction	The roof is constructed of wooden rafters and steel beams (Photo 8).
Floor	The ground floor is made of concrete and the mezzanine floor is made of plyboard (Photo 8).
Lean-to Extension	<p>The roof of the lean-to extension is mono-pitched and made of corrugated asbestos cement sheeting (Photo 9). There are gaps where the roof sheets overlap which could be utilised by roosting bats (Photo 10). The lead flashing which joins the lean-to to the barn is raised, creating gaps which could be utilised by roosting bats (Photo 11). The fascia on the southern front has a gap above and below it which can be used for access into the interior by bats (Photo 9). The walls are constructed of breezeblock and brick which are in good condition. However, sections of the western side and southern front are densely covered in ivy which bats could use for roosting (Photo 12).</p> <p>The door on the southern front is made of timber and has a missing window pane, allowing direct access into the interior by roosting bats (Photo 12). There are also gaps around the door. The floor is made of concrete.</p>
Security Lighting	There is one security light on the northern front of the barn. It was not on at the time of the survey.

## Photos Showing the Barn and its Features

Photo 1: Northern Front of The Barn



Photo 2: Interior of The Barn



Photo 3: Roof of The Barn (Gaps in The Roof Circled)



Photo 4: Gaps Underneath The Plastic Sheeting



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Photo 5: Rasied Metal Trim on The Southern Gable End



Photo 6: Gaps Between The Door and External Wall (Circled)



Photo 7: Gap Above The Door



Photo 9: Roof of the Lean-to Extension

Photo 8: Polystyrene-lined Roof with Wooden Beams

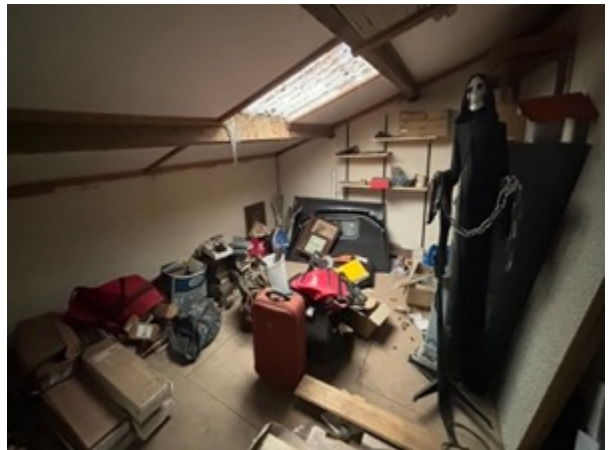


Photo 10: Gaps under the Roof of Lean-to Extension



Photo 11: Raised Lead Flashing



Photo 12: Interior of Lean-to Extension, showing Access Points at the Eaves



### 3.2.3. Potential Bat Access Points and Bat Roosting Locations

#### Potential Access Points for Bats in the Barn

There are numerous potential access points for bats to gain entry into the interior into the barn and the lean-to extension. Bats could gain entry under the UPVC plastic sheeting on the eaves of the eastern elevation of the barn (Photo 4), the gaps above and below the fascia on the lean-to extension (Photo 9) and through the open windowpane on the door of the lean-to extension (Photo 12).

#### Potential Roosting Features for Bats

The following potential roost features were recorded:

- PRF 1 – Gaps in the lead flashing between the lean-to extension and the barn (Photo 11);
- PRF 2 – Gaps between the door and the external wall of the barn (Photo 6);
- PRF 3 – Gaps in the raised metal trim on the gable ends of the barn (Photo 5);
- PRF 4 – Gaps in the roof of the barn where the roof sheeting overlaps (Photo 3);
- PRF 5 – The dense ivy on the southern wall of the lean-to extension (Photo 12); and
- PRF 6 – Inside the lean-to extension where sheeting is raised above the door (Photo 12).

### 3.2.4. Nesting Bird Survey

Three defunct bird's nests were recorded in the lean to-extension. They were unoccupied at the time of the survey. The species that built the nests were swallows (*Hirundo rustica*).

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## Photos Showing Bird Nests

Photo 13: Two Defunct Swallows Nests (Circled)



Photo 14: One Defunct Swallows Nest (Circled)



## 4. Evaluation

### 4.1. Summary of Preliminary Roost Assessment

The preliminary roost assessment found no evidence of bats roosting within or on the external parts of the barn.

### 4.2. Suitability of Summer Roosts

The barn is assessed as having:

- Moderate suitability for use by crevice-dwelling bats (*Pipistrellus* species and smaller *Myotis* species such as Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*). The barn has multiple possible access points and features which could feasibly be used by crevice-dwelling bats, including gaps between the roofing sheets, raised metal trim, raised corrugated sheeting on the external wall and beneath the lead flashing. However, due to their size, shelter, protection, conditions and surrounding habitat, these features are unlikely to support a roost of high conservation concern;
- Low suitability for use by roof-void-dwelling bats<sup>23</sup> (long-eared species (*Plecotus* species) and large *Myotis* bats, such as Natterer's bat (*Myotis nattereri*) and serotine bats (*Eptesicus serotinus*). The barn has limited potential access points allowing access for bats into the barn, including underneath the uPVC plastic sheeting on the roof of the barn. However, evidence of roof-dwelling bats is usually readily apparent and no such evidence was found during the survey. The light ingress in the barn is also unsuitable for roof-void dwelling bats; and
- Negligible suitability for use by direct-access species requiring a large access point<sup>24</sup> and large roost space (lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe bats), as there are no large access points leading into the barn.

The lean-to extension is assessed as having:

- Moderate suitability for use by crevice-dwelling bats (*Pipistrellus* species and smaller *Myotis* species such as Brandt's and whiskered bats). The lean-to extension has multiple possible access points and features which could feasibly be used by crevice-dwelling bats, including gaps in the roof and around the fascia board. However, due to their size, shelter, protection, conditions and surrounding habitat, these features are unlikely to support a roost of high conservation concern;
- Low suitability for use by roof-void-dwelling bats (long-eared species (*Plecotus* species) and large *Myotis* bats, such as Natterer's bat and serotine bats). The lean-to extension has multiple potential

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<sup>23</sup> Roof-void dwelling bats may be visible on roof timbers but need flight space in certain types of roost. In non-maternity roosts, long-eared bats can make use of crevice features without gaining access into a roof void.

<sup>24</sup> Lesser horseshoes are able to fly into spaces with much smaller accesses (e.g. they have been filmed pushing through mist net holes of <2cm square), though typically larger accesses are favoured, with mitigation guidelines requiring 30cm x20cm as appropriate access.

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access points allowing access for bats into the interior, including the gaps around the door and the gaps around the fascia board; and

- Moderate suitability for use as a night roost by direct-access species requiring a large access point and large roost space (lesser horseshoe and greater horseshoe bats), as there is a large access point in the windowpane of the door. The building has low suitability for use as a day or maternity roost due to the amount of light ingress present.

The barn and the lean-to extension have an overall moderate bat roosting suitability due to the reasons stated above. This assessment will be used to determine the level of further survey effort required (see Appendix 2).

## **4.3. Potential Winter Roosts**

### 'Classic' Hibernation Potential

The site does not contain any classic hibernation features such as underground areas (cellars, basements, etc.).

### 'Non-classic' Hibernation Potential

The 'non-classic' hibernation potential of the barn will be determined once the dusk emergence surveys have been undertaken.

## **4.4. Birds – Interpretation of Nesting Bird Survey**

Three defunct swallow nests were observed inside the lean-to extension. According to the RSPB, swallows have a green conservation status (Stanbury et al., 2021). Birds on this list are the least critical group.

## **5. Required Actions**

### **5.1. Licensing Requirements for Bats**

It has not been possible to determine whether a NRW bat development licence will be required. This will be determined after the emergence surveys have been completed.

### **5.2. Further Work**

Works should not commence until further surveys have been carried out. This will enable the likely impacts of the proposals on bats to be assessed, determine if an NRW bat development licence will be required, inform the avoidance measures (timing of works), and determine the requirement for mitigation (retention of roosts and access points) and/or compensation measures (creation of new replacement/additional bat roosts).

Current best practice guidelines (Collins, 2023) state that two separate dusk emergence surveys should be undertaken on a barn with moderate roost suitability. The surveys should be undertaken from May to September, with at least one of the surveys taking place between May and August. The surveys will be supplemented by use of night vision aids.

To ensure that all potential bat access/roosting features are covered, both surveys will require four surveyors or night vision aids to be present (i.e. surveyors positioned facing each elevation; see Plan 5: Proposed Surveyor Positions).

### **5.3. Avoidance, Mitigation, Compensation and Enhancement Measures for Bats**

These measures will be formulated after the completion of dusk emergence surveys.

### **5.4. Avoidance, Mitigation, Compensation and Enhancement Measures for Birds**

These measures will be formulated after the completion of dusk emergence surveys.

### **5.5. Longevity of Report**

If development works do not begin within twelve to eighteen months of the date of this report, an updated survey may be required to determine if conditions and bat usage has changed since described in the current report.

## 6. References

**Bat Conservation Trust (2022)** *Interim Guidance Note: Use of Night Vision Aids for Bat Emergence Surveys and Further Comment on Dawn Surveys*. Available online at <https://cdn.bats.org.uk/uploads/pdf/Interim-guidance-note-on-NVAs-May-2022-FINAL.pdf?v=1653399882>

**BSI (2013)** *BS 42020:2013 Biodiversity – Code of practice for planning and development*. British Standards Institution, London.

**CIEEM (2019)** *Advice Note on the Lifespan of Ecological Reports and Surveys* Available online at <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

**CIEEM (2020)** *Guidelines for Accessing, Using and Sharing Biodiversity data in the UK*. <https://cieem.net/wp-content/uploads/2016/03/Guidelines-for-Accessing-and-Using-Biodiversity-Data-March-2020.pdf>

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**Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I. (2021)** *Birds of Conservation Concern 5: the population status of birds in the UK, Channel Islands and Isle of Man*. *British Birds* 114. December 2021. 723–747 Available online at <https://britishbirds.co.uk/content/status-our-bird-populations>.

**European Commission, Directorate-General for Environment (2011)** *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC: final version*, February 2007. European Commission.

**Institution of Lighting Professionals & Bat Conservation Trust (2023)** *Bats and Artificial Lighting in the UK*. Guidance Note (GN08/23). Available online at <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>.

## Drawing 1: Proposed Development



Plan 1: Location Plan



Plan 2: Protected Sites Within 2km



Plan 3: Protected Sites Within 10km



## Plan 4: Proposed Surveyor Positions for Dusk Emergence Surveys



# Acer Ecology

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## 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. They are all small, nocturnal, flying, insectivorous mammals that are under conservation threat with many having undergone massive population declines over the last century. Some species, such as common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) are relatively common and widespread in the UK, while others, such as greater horseshoe 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 occur 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 as a breeding site or resting place (their roosts) are fully protected under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019. The roosts are protected irrespective of whether bats are present at the time. The aforementioned 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 significantly affect 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 “three 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 action is “not detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

Where planning regulations apply, NRW will only issue a licence after planning consent has been granted. 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 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.

## Planning Policy Wales

Section 6.4 Paragraph 6.4.5 of Planning Policy Wales Edition 12 (2024) that focuses on Biodiversity and Ecological Networks, Section 6 of The Environment (Wales) Act 2016<sup>25</sup> that details the requirement for enhanced biodiversity and resilience of ecosystems, and TAN 5 all encourage developments in Wales to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally.

Part 1, Section 7 of the Environment (Wales) Act 2016 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 noctula*), brown long-eared, lesser horseshoe and greater horseshoe bats).

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

# Acer Ecology

## Appendix 2: Guidelines for Assessing Potential Bat Roosting Suitability<sup>26</sup>

Protentional Suitability	Roosting Habitats in Structures
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels)
Negligible <sup>27</sup>	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions <sup>28</sup> 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 and not a classic cool/stable hibernation site, but could be used by individual hibernating bats <sup>29</sup> ).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions (see footnote from low suitability) and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
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 (see footnote from low suitability) and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.
Confirmed Roost	Evidence of bats or use of bats found.

<sup>26</sup> Taken from Table 4.1 of the Bat Survey Guidelines (2023) 4th edition.

<sup>27</sup> Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

<sup>28</sup> For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

<sup>29</sup> 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.*, 2016 and Jansen *et al.*, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

# Acer Ecology

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## Appendix 3: Guidelines for Determining Required Number of Dusk Surveys

Roost Suitability	Minimum Number of Dusk Surveys Required <sup>30</sup>
Negligible	None.
None	None.
Low	One survey visit comprising of a dusk emergence survey <sup>31</sup> between May and August for structures.
Moderate	Two separate dusk emergence survey visits <sup>32</sup> . Surveys must occur between May and September <sup>33</sup> , with at least one survey between May and August <sup>34</sup> .
High	Three separate dusk emergence survey visits. Surveys must occur between May to September, with at least two surveys between May and August.

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<sup>30</sup> Adapted from Tables 7.1 and 7.2 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

<sup>31</sup> Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see para 5.2.44). In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

<sup>32</sup> Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least three weeks apart, preferably more.

<sup>33</sup> September surveys are both weather- and location-dependant. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. September surveys are likely to miss maternity roosts due to dispersal before this time, but may still pick up mating roosts.

<sup>34</sup> Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least three weeks apart, preferably more. Survey timings should consider the prevailing conditions in the year of survey, which will vary geographically. In years with a cold spring, the surveys should not be started in early May or all be completed in May. The surveys should maximise the possibility of detecting maternity roosts, which can switch roosts between pregnancy and lactation, and the optimum coverage includes the pre-parturition, post-parturition, and mating periods.

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# Acer Ecology

## Appendix 4: Guidelines for Assessing Bat Habitat Suitability<sup>35</sup>

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. <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> The site is close to and connected to known roosts.

<sup>35</sup> Taken from Table 4.1 of the Bat Survey Guidelines (2023) 4th edition.