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Phase 1 bat and nesting bird survey report

Site: Barn at West Lawn,
Newtown Road,
Illand,
Launceston,
PL15 7LS

For: Mr. Adrian Parsons

Report prepared by: Richard Bates, ACIEEM, BSc(Hons).

December 2022

	Name	Date	Signature
Report prepared by:	Richard Bates, BSc ACIEEM	19.12.22	

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PLEASE NOTE: The contents of this report are based on the latest survey data. Should a period of more than 12 months pass between the issuing of this report and work commencing on a project, an update survey of the site may be required.

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Executive Summary

Survey date:	13th December, 2022
Location:	Barn nr West Lawn, Illand, Launceston, PL15 7LS
Grid Reference:	SX 29129 78294
Surveyor:	Richard Bates, ACIEEM BSc, bat licence ref: 2017-30400-CLS-CLS

Devon and Cornwall Ecology was commissioned to undertake a phase 1 bat survey of a modern agricultural barn on behalf of the client, Mr. Parsons. The survey was undertaken to support a planning application to convert the barn for residential use.

A full internal and external inspection of the barn was conducted on the 13th December 2022, looking for signs of use by bats and/or nesting birds. The survey was conducted in suitable weather conditions and in line with guidance available in *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins *et al*, 2016).

The survey found negligible potential for crevice dwelling bats internally or externally and no evidence of bats. No further survey work is required. **Simple precautions to be undertaken during the development have been included in section 5** in the unlikely event that bats are found.

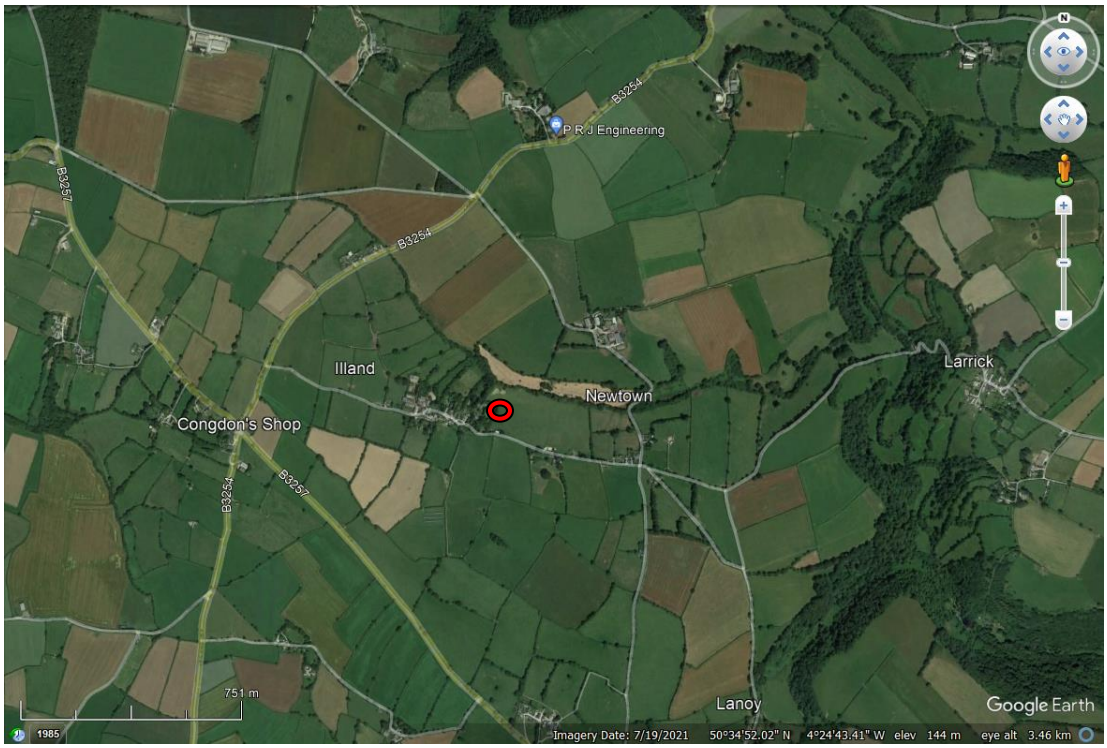
Nearby linear features (hedgerows/walls on site boundaries) were assessed as having moderate potential to support foraging and commuting bats. The proposed development will not impact on these features directly, but may result in disturbance through additional artificial lighting. **Recommendations have been made in section 5** to minimise this disturbance.

1. Introduction

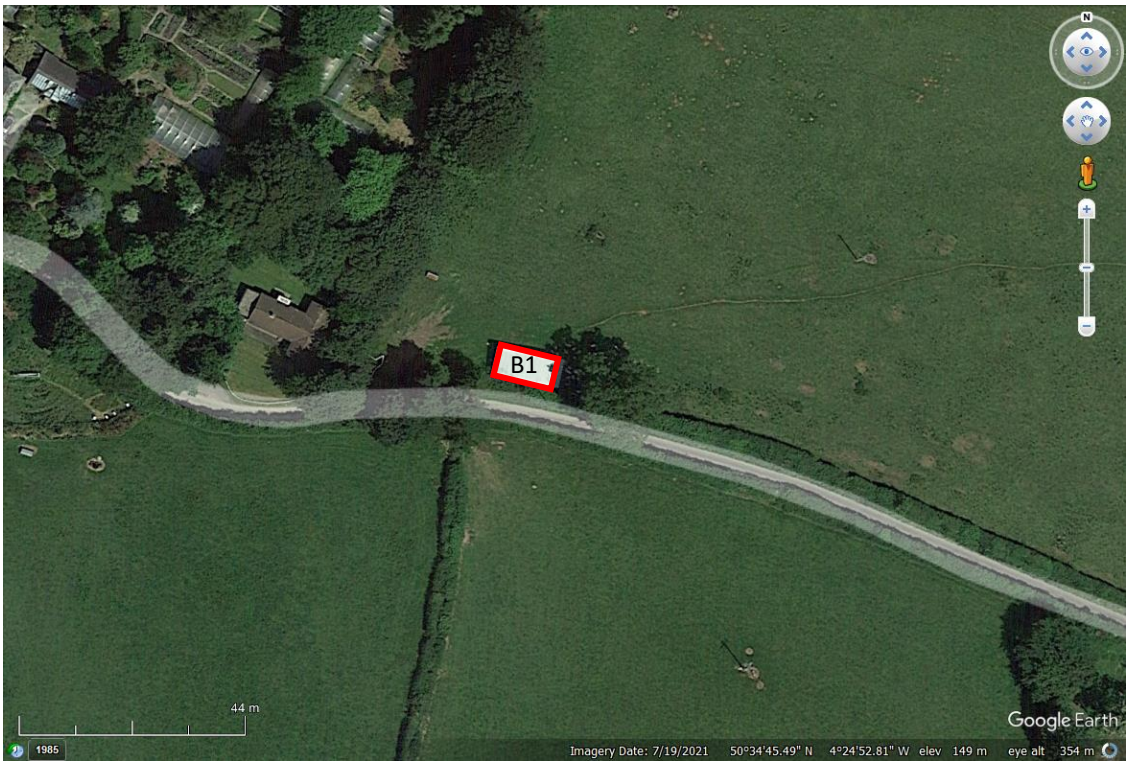
Devon & Cornwall Ecology were commissioned to undertake an initial phase 1 bat and nesting bird survey of a modern agricultural barn near West Lawn, Illand. The survey was undertaken to support a planning application to convert the building to residential accommodation. It was undertaken by Ecologist Richard Bates BSc (Hons) who is a field ecologist and consultant with 11 years experience and a licence to survey for bats (2017-30400-CLS-CLS, Level 2). Subject to a Professional Code of Conduct, Richard is an Associate Member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

The site is under the ownership of the client, Mr. Adrian Parsons, and is located in a rural setting near the hamlet of Illand. In its immediate setting the site is bordered by agricultural fields to the north, south and east and by residential properties to the west.

In the wider landscape the site is in a rural setting that is favourable for bats; extensive agricultural fields and a network of small, tree-lined watercourses are present in all directions. A large, wooded river valley is located to the east of the site. These features are likely to provide good quality foraging habitat and are connected to the site through a network of hedgerows, watercourses and rural lanes. No significant urban development or transport infrastructure is present within 2km of the site.



Wider landscape view of Barn nr West Lawn, Illand (Google Earth Pro).	Approximate site location



Site layout near West Lawn, Illand (Google Earth Pro).	Approximate outline of existing building.

2. Species records and desktop survey

A data search of records from the local biological records centre has not been undertaken for this site. The phase 1 survey had identified negligible bat potential within the proposed work areas. It is considered unlikely that the proposed development will impact on bats or their roosts. It is therefore considered unlikely that a search of local records will provide any further actionable information.

However, a search of publicly available records returned instances of Daubenton's (*Myotis daubentonii*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared (*Plecotus auritus*), greater horseshoe (*Rhinolophus ferrumequinum*) and lesser horseshoe (*Rhinolophus hipposideros*) within 5km of the site. A search of granted European Protected Species licences (through the Natural England *Magic Map* website) returned no records of bat licences being issued within 2km of the site.

3. Methodology

Equipment

- Camera
- Binoculars
- Ladder
- Endoscope

The bat survey consisted of a full internal and external inspection of the buildings due to be affected by the proposed works. The survey method consisted of searching for evidence of bats, including bat droppings, corpses, scratch marks, urine staining, grease marks and clean cobweb free areas. Particular attention was paid around potential access points, attic spaces (where accessible) and crevice roosting features within each structure and on its outside. Binoculars were used to assess potential crevice features. Bats do make audible squeaks and these were listened out for by the surveyor during the survey. The methodology used to search this site is consistent with the guidelines provided in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins *et al*, 2016). The building was assessed for their potential to support roosting bats based on the criteria set out in Table 1 below:

Table 1 - Criteria for assessing bat roosting potential of buildings and trees

Confirmed Roost	Evidence of bat occupation found, including live bats, droppings, corpses, grease and/or scratch marks and urine staining.
High Roosting Potential	Buildings or trees with significant roosting potential, either because they contain a large number of suitable features or the features present appear optimal due to their size, shelter, conditions and surrounding habitat.
Moderate Roosting Potential	Buildings or trees with one or more potential roosting features that may be used by bats but are unlikely to support a roost of high conservation status.
Low Roosting Potential	Buildings or trees with few features that may be used opportunistically by bats but are unlikely to be used on a regular basis due to the size, location, conditions and/or suitability of nearby habitat.
Negligible Roosting Potential	Buildings and trees with negligible suitable features and poor quality surroundings.

The site was also assessed for potential to support commuting and foraging bats, based on the criteria set out in Table 2 below, adapted from the *Good Practice Guidelines* (Collins *et al*, 2016):

Table 2 - Criteria for assessing bat commuting and foraging habitats

Suitability	Description of habitats
Negligible	Negligible commuting features on site and/or unsuitable foraging features, such as large areas of hardstanding.
Low	Habitats that could be used by small numbers of commuting bats, such as gappy hedgerows or sites with limited connectivity to the wider landscape. Suitable but isolated foraging habitat that could be used by small numbers of bats, such as small patches of scrub or lone trees.
Moderate	Continuous commuting habitats connected to the wider landscape, such as a line of trees and scrub or linked residential gardens. Habitat that can be used for foraging and is connected to the wider landscape, such as trees, scrub, grassland and water.
High	Continuous, high quality habitat with good connectivity to the wider landscape. This would include features such as watercourses, river valleys, hedgerows and woodland edges. High quality foraging habitat that well connected to the wider landscape and likely to be used regularly by bats, such as broadleaved woodland, tree lined watercourses, grazed parkland or sites that are close to and/or connected to known roosts.

A summary of legislation relating to bats can be found in Appendix 1 of this report.

4. Results

4.1 Bats and nesting birds – modern barn B1

The survey noted the following about the building:

Photograph 1– View of the north aspect of the barn.

External

- The building is a large, timber framed agricultural barn with a mono-pitched metal roof.
- The metal roof is in good condition with no missing panels. No suitable crevice features are present.
- No ridge line is present on the roof.
- Wooden slat panels and corrugated metal walls are present. The walls are single skinned with no internal backing. As such no crevice features are present.
- The wooden slats are well fitted with no gaps between or under the slats.
- Folded metal bargeboards are present on all aspects of the building. Gaps are present where they meet the walls. However, these gaps are not considered suitable for bats; the metal offers no grip for bats and the gaps are large and exposed. All gaps could be closely inspected from ground level – most were found to be cobwebbed over with no evidence of use by bats.
- No other fascia (such as soffits) is present.
- The exterior was assessed as having **negligible** potential for bats.

Photograph 2– Internal view of the barn.

Internal

- The building has no internal void and is open to the ridge line. The interior measures approximately 14m in length, 6m in width and 3m in height.
- The roof structure has wooden support beams. Gaps were noted on the tops of the rafters where they meet the corrugated roof. However, these gaps are generally large and exposed and considered unlikely to be used by bats.
- No ridge beam is present.
- The interior is very well lit and exposed to draughts due to the open front. This and the limited roosting potential suggest bats are unlikely to be present internally.
- All areas of the barn were inspected for signs of bats. **No evidence of bats was recorded**.

Survey Constraints
No significant constraints were noted during the survey.

5. Recommendations

5.1 Bats
The phase 1 survey of the building recorded no evidence of bats and negligible potential for bats within the proposed work areas. As such no further survey work is required for this development. However, bats do move around regularly and can adopt new roosts. Although it is unlikely that bats will adopt this building, a simple precautionary approach will be undertaken:

- All roof panels affected by the development will be removed by lifting them from the batons or ridge. The panels will not be slid from the roof as this can cause accidentally crushing injuries if bats are present. The reverse side of all panels will be inspected to ensure no bats are present. Should bats be encountered during this process, all work will cease immediately and a licensed ecologist will be consulted.
- All bargeboards will be carefully lifted away from the building using hand tools. The reverse side of all boards will be checked to ensure no bats are present before being lowered to ground level.
- If a bat is discovered during any other works at the site, all works will cease immediately and a licensed ecologist will be consulted. This advice may include leaving the bat to disperse of its own accord or waiting for the licensed handler to arrive and move the bat. Builders and contractors are explicitly forbidden from handling bats.

The site boundaries were assessed as having **moderate** foraging and commuting opportunities for bats. The proposed work is a small scale residential development of the site but is likely to include external lighting. Any proposed lighting plan will incorporate the following (where applicable) to minimise the potential for light disturbance:

- Construction work on site will be limited to daylight hours only. No artificial use of lighting will be used for construction during the hours of darkness.
- External lighting used to illuminate any building entrances will use motion sensors. The use of sensors will reduce the amount of time the lights are on to only when needed.
- All external lights will be angled downwards and away from the site boundaries. The spread of light from these sources will be minimised by using hoods or cowls to limit light spill to below the horizontal, in line with guidance available in *Landscape and urban design for bats and biodiversity* (Gunnel, Grant, & Williams, 2012).
- Any required footpath lighting will consist of ground level bollard-style lighting or poll mounted lighting where an incorporated hood will direct the light downwards and away from the nearby foliage and commuting features. For either design, lighting will be restricted to providing 3 lux or less at ground level, in line with guidance available in *Bats and Lighting in the UK: Bats and the Built Environment Series* (Bat Conservation Trust, 2008).
- Where available, external lighting will incorporate LED luminaires or narrow spectrum bulbs that emit minimal ultra-violet light, as recommended in guidance from the Bat Conservation Trust & Institute of Lighting Professionals (2018) and the Bat Conservation Trust (2008) respectively. This will avoid attracting insects to lit areas, maintaining the availability of those insects for foraging bats.

5.2 Site enhancements

As part of the National Planning Policy Framework (2019), local planning authorities aim to secure enhancements for biodiversity for all developments. To achieve this aim the following will be incorporated into the design proposals for this site. Illustrative examples for these enhancements are available in Appendix 3:

- Provision should be made for pollinating insects on site. A number of commercial products are available to 'house' important pollinators such as solitary bee and solitary wasp species. A minimum of two suitable product should be included to provide nesting opportunities. These may be free standing, attached to trees or installed on buildings. The provision of nesting opportunities for pollinators will be of benefit to a range of important insect species, the plants they pollinate and the mammals and birds that prey on them.
- A minimum of one Schwegler brick nest boxes, or other suitable tree/building mounted bird box, should be installed at the site. The box will be positioned as high as possible on the wall or tree, a minimum of 3m from ground level. The boxes should also be located on a north facing aspect out of the prevailing wind and strong sunlight. The addition of bird boxes will provide nesting opportunities for common bird species.
- One Schwegler 2F or 1FF bat box or, if compatible with the new building, one Schwegler bat tube will be installed at the site. If a bat box is included this will be installed on an external wall. The box/tube will be positioned a minimum of 3m from ground level in a sheltered location. The box/tube also requires a clear, uncluttered flight path to the entrance point and **will not be illuminated by any artificial light sources**.

6. References

Bat Conservation Trust (2008). *Bats and Lighting in the UK: Bats and the Built Environment Series*. Bat Conservation Trust.

Bat Conservation Trust & Institute of Lighting Professionals (2018). *Bats and Artificial Lighting in the UK*. https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting

Collins, J., Charleston, P., Davidson-Watts, I., Markham, S. and Kerslake, L. (2016). *Bat Surveys for Professional Ecologists Good Practice Guidelines*. Bat Conservation Trust, London.

Gunnel, K., Grant, G., and Williams, C., (2012). *Landscape and urban design for bats and biodiversity.* Bat Conservation Trust.

Natural England (2020). *Magic Map*. Available at: http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx [Accessed 19.12.22]

Appendix 1: Legislation (summary)

Wildlife Protection legislation

This appendix details the legislation relevant to the protection of species and habitats. It also details the relevant policies within national, regional, and local planning policy.

National Planning Policy Framework (2018)

The National Planning Policy Framework (NPPF) is the Government's vision for biodiversity in England and is considered by local councils during all planning applications where development is proposed. The NPPF has a broad aim that any construction, development or regeneration proposals should maintain and enhance biodiversity, with the aim of securing biodiversity enhancements for all developments in order to facilitate sustainable development.

Biodiversity Action Plans (BAPs): BAPs set out policy for protecting and restoring priority species and habitats as part of the UK's response as signatories to the Convention on Biological Diversity. BAPs operate at both a national and local level with priority species and habitats identified at a national level and a series of Local BAPs that identify ecological features of particular importance to a particular area of the country. The requirement to consider and contribute towards BAP targets was strengthened through the **Countryside and Rights of Way (CRoW) Act 2000**. Although now superseded by other legislation, the lists drawn up under the BAPs are still valuable reference sources on local and national wildlife priorities.

Natural Environment & Rural Communities (NERC) Act (2006)
The NERC Act 2006 amends the above mentioned CRoW Act, obliging local authorities to include biodiversity considerations in their duties, including in consideration of planning applications. Under Section 41 of the Act, this consideration is based on lists of organisms and habitat types deemed to be of principal importance to in conserving biodiversity. These lists are primarily based on lists created for the UK and local authority BAPs.

Mammals:

Otters, dormice, water voles, and **all bat species** are fully protected under section 9 (5) of the Wildlife and Countryside Act 1981 (as amended). According to this act it is an offence to:

- Intentionally capture, kill or injure one of these animals
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used by one of these animals for shelter or protection
- Intentionally or recklessly disturb an animal whilst it is using this place
- sell, offer for sale or advertise for one of these animals live or dead

Designated as European Protected Species' **otters, dormice,** and **all bat species** receive additional protection from the Conservation of Habitats and Species Regulations 2010, under Schedule 2 which implements the EC Directive 92/43/EEC in the United Kingdom. In accordance with this act, it is an offence to:

- Deliberately capture or kill a European Protected Species

- Deliberately disturb a European Protected Species
- Damage or destroy the breeding site or resting place of a European Protected Species

The **greater and lesser horseshoe bats**, **barbastelle** and **bechstein's bats**, are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations. Areas which support populations of these species can therefore be considered for designation as a Special Areas of Conservation **(SACs).**

Birds:

Please Note: All breeding birds and their nests are protected under the general protection of Section 1 of the Wildlife and Countryside Act, 1981 as amended. This makes it an offence to disturb breeding birds.

Appendix 2: Additional Site Photographs

Photograph 1 – View of the north and west aspects.

Photograph 2 – View of the east aspect.

Photograph 3 – Alternative view of barn interior.

Appendix 3: Examples of suitable site enhancement measures

Schwegler 2F Schwegler 1FF

Examples of tree or wall mounted bat boxes. Box should comprise one Schwegler 2F or Schwegler 1FF bat box to provide suitable roosting site for multiple bat species.

Schwegler 2FR

Example of Schwegler 2FR bat tube, designed to be incorporated into wall. To be installed on this aspect for protection from artificial light sources and prevailing wind. Requires no maintenance and can be painted/rendered.

For either design, box should be located a minimum of 3m from ground level and with a clear, uncluttered flight path to the box entrances. **Boxes must not be illuminated from any nearby artificial lighting.**

Example of 'bee bricks' that can be incorporated into new buildings or stand-alone insect houses. Either design should be installed at a minimum of 1m from ground level, preferably on south facing wall for warmth.

Example of a suitable wall/tree mounted bird box and a Schwegler bird brick, to be installed in a sheltered location out of the prevailing wind. Not to be installed in south facing locations to prevent overheating of eggs or chicks.