# BAT PRESENCE/ABSENCE SURVEY OF:

# BARN 10
# CARN FRIAR FARM
# CARN FRIAR
# ST MARY'S
# ISLES OF SCILLY
# TR21 0NZ

*Client: Mrs A Jenkins*

*Our reference: BS36-2021PAS*

*Planning Applications no: P/20/075*

*Report date: 25th May 2021*

*Author: Darren Mason BSc (Hons)*

*Report peer reviewed: Sarah Mason.*

*Report signed off: Sarah Mason.*

***REPORT ISSUED IN ELECTRONIC FORMAT ONLY***

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# Contents

## Non-Technical Summary

- On 18th November 2020, the Isles of Scilly Wildlife Trust (IoSWT) conducted a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of Barn 10, Carn Friar Farm, Carn Friar, St Mary's, Isles of Scilly, TR21 0NZ (BS36-2020). These surveys were undertaken to establish baseline conditions, determine the importance of any ecological features within and around the survey areas and to establish the actual or potential use of the building by bats to help inform the determination of planning application P/20/075.
- These surveys concluded that Barn 10 had low potential to support roosting bats. One presence/absence survey was recommended, and the results of this survey are outlined in the Presence/Absence (PAS) report.
- A dusk emergence survey conducted on 19th May 2021 did not identify any bats emerging from potential roosting sites associated with the building but did identify a small number of bats commuting and feeding in the general area of the development.
- On two occasions a single bat was seen briefly entering the southern, open section of the barn before leaving. No feeding buzzes were recorded during this activity.

  Both the PEA/PRA and PAS reports should be considered together to provide a comprehensive assessment of nature conservation issues at the site.
- The results **confirm the likely absence** of bats using Barn 10 as a day roost but consideration should be given that bats may be using the western lean-to as a night roost
- The recommendations from the PEA/PRA along with this report, suggest **no further surveys and no requirement to obtain an EPS license, if continuing ecological functioning can be maintained during the demolition and construction phase of the project. Measures to include the erection of the eastern car port prior to the demolition of the western lean-to.**
- To assist the local authority to meet its legal obligation to provide a net gain in biodiversity the installation of two free-standing bat boxes at the apex of the gable ends of south-facing elevation and the eastern car port.

# 1.0 Introduction

## 1.1 Background

A Preliminary Roost Assessment report (BS36-2020) dated 18th November 2020 identified that the building under consideration provided low roosting potential for bats. An additional presence/absence survey was recommended to meet best practice guidance to support the planning application P/20/075. This report outlines the results of this additional survey.

## 1.2 Survey Objectives

The objectives of this Presence and Absence Survey (PAS) report, is to provide further ecological information to support the planning proposal by:

- Ascertaining if roosting bats are present at the application site.
- To identify the location of these bat roosts (including exit/entry points)
- Subjecting this information (and the information from the PEA and PRA) to evaluation and impact assessment
- To provide advice on the potential for contravention of legislation/policy
- To provide recommendations on any further actions needed (i.e., further surveys, licensing, mitigation, or enhancement)

## 1.3 Surveyor details

The survey was undertaken by Darren Hart BSc of the Isles of Scilly Wildlife Trust and with the assistance of Rhianna Pearce. Darren has undertaken professional Bat Licence Training and holds a Natural England WML-A34-Level 2 (Class 2 License); registration number: 2020-46278-CLS-CLS which permits him to survey bats using artificial light, endoscopes, hand, and hand-held static nets.

# 2.0 Methodology

## 2.1 Bat Dusk emergence survey

The objective of the dusk emergence surveys was to detect active bat use of the site and identify any exit locations being used around the building. Survey effort was concentrated on areas of the site where suitable features or bat field signs were noted from the PRA. The survey involved:

- Starting the survey 15 minutes before sunset and continuing for approximately 1.5-2hours after[1]
- Identification of bat species primarily using ultrasound characteristics. To aid identification flight and habitat characteristics were also noted (where possible) to determine the species.
- Identifying exit locations of bats by standing at different vantage points around the building that offered visual contact with any potential exit point previously recorded. Surveyors stood no more than 50m apart, or away from the building (see Fig 1 for location of surveyors).

## 2.2 Equipment

The following equipment was used for the dusk emergence survey at the site:

- Anabat Express (Frequency Division) static bat recorder
- Elekon Batscanner Stereo Hetereodyne
- Elekon Batscanner Heterodyne
- Magenta Bat 4 Bat Detector
- Bestguarder WG-50 Night vision camera

Sound recordings were analysed using Anabat Insight software (version 1.9.2) to confirm surveyors' identification of species.

### 2.3 Survey Limitations

Surveys carried out during a specific season can only provide information on bat presence at that particular time as bats are highly mobile in nature and may only use buildings at certain times of the year that favour a particular part of their roosting, maternity, and hibernating requirements.

## 3.0 Results

### 3.1 Weather conditions, temperatures, and timings

| Survey Information: | Start and End Times: | Conditions (Start): | Conditions (End): |
|---|---|---|---|
| **Dusk emergence:** 11/5/21 | Start: 20:54<br>Sunset: 21:09<br>End: 22:24 | Temp: 16.5$^0$C<br>Humidity: 73%<br>Wind speed: 13mph – WSW<br>Cloud cover: 60%<br>Rain: none | Temp: 12$^0$C<br>Humidity: 86.5%<br>Wind speed: 13mph – SW<br>Cloud cover: 85%<br>Rain: none |
| | **Surveyors** | | |
| | 1. Darren Hart<br>2. NV camera<br>3. Rhianna Pearce | Notes: | |

*Table 1. Site conditions for the dusk emergence survey 19-5-21*


*Photo 1. Surveyor location for the dusk emergence survey 19-5-21*

### 3.2 Dusk emergence roost survey results

During the dusk emergence survey no bats were seen exiting or leaving the development from those potential roost features identified during the PEA/PRA, or any other area of the building affected by the planning application proposal. Bat activity consisted of both feeding and commuting behaviour, particularly in a north – south direction. All species recorded were Common Pipistrelle (*Pipistrellus pipistrellus*).

In total 24 bat contacts were recorded, the first 28 minutes after sunset, well within the normal temporal parameters of this species[2,3]. Of these calls 14 were recorded by both surveyors, with both surveyors commenting that most activity consisted of bats travelling up and down the length of both sides of the building (west - east). At 21:37 and again at 21:40 a single bat was recorded by surveyor 1 briefly entering the western, open end of the barn from the south before quickly leaving and continuing eastwards. Activity was deemed as medium, with most contacts recorded during the 1st hour after sunset but continued (albeit less frequently) until the end of the survey period. For all contacts see Appendix A.

### 3.3 Summary

The results of the dusk emergence survey has confirmed the likely absence of bats using Barn 10 as a day roost. Consideration must be given that Barn 10 could be utilised as a night roost, particularly as bats were seen entering and leaving the building during the survey period. A night roost is used for several reasons including predator avoidance, food digestion, energy conservation and social interactions[4], and are particularly important near to foraging sites when foraging conditions are sub-optimal for example during poor weather[5]. In this instance, the timing of the visit, the length of time, weather conditions and the number of bats (at each instance) recorded do not seem to suggest that the site is being used as a night roost. However, the results can only be based on presence/absence at a particular time as bats are highly mobile in nature and may use the building at other times of the year. For an evaluation of the findings please see Section 4.

## 4. Evaluation of Results

To identify which ecological features are important and which could potentially be affected by the proposed project, an evaluation of their importance for example, in a geographical context, degree of scarcity or level of protected status needs to be undertaken[6]. The table below outlines those features identified as important, the nature conservation legislation relevant to those features and an assessment of the level of impact from the proposed development on those features.

| Ecological Feature | Relevant Legislation | Evaluation (of importance) | Mitigation Hierarchy | Impact Level |
|---|---|---|---|---|
| **Bats** | CHSR, W&CA | Local | A, M & E | Low |
| | **Impact to roost site:**<br>**The proposed works could lead to the permanent loss of a possible roost site through the removal of the structural features which constitute it. The subsequent inclusion of an open parking port at the north end of the proposed development could restore an equivalent roosting feature in the longer term. Continued Ecological Functionality (CEF) could be argued if the car port was built prior to the demolition of the southern lean to.**<br>**Impacts to bats:**<br>**The proposed works could result in the loss of a 'local' foraging/resting area for Common Pipistrelle. Due to the small and isolated nature of Common Pipistrelle populations on the isles of Scilly, this impact could be considered significant. However, there are several other outbuildings on the site with open access into their interiors, which could be utilised during the demolition phase of the project. Or the construction of the northern car port prior to demolition of the southern lean could ensure that no foraging/resting area is lost.**<br><br>**There is a very small possibility that the proposed works could result in the killing/injuring of a bat if it were present in the lean to at the time when works were undertaken. Undertaking Reasonable Avoidance Measures (RAM) could reduce the likelihood of negatively affecting the location population status.** | | | |

| Key to Legislation and Mitigation Hierarchy |
|---|
| CHSR – Conservation of Habitats and Species Regulations 2017[7] - http://www.legislation.gov.uk/uksi/2017/1012/made<br>W&CA – Wildlife & Countryside Act 1981 (as amended)[8] - http://www.legislation.gov.uk/ukpga/1981/69/contents<br>HRA – Hedgerow Regulations Act 1997[9] - https://www.legislation.gov.uk/uksi/1997/1160/made<br>**A** – Avoid, **M** – Mitigate, **C** – Compensate, **E** – Enhancement |

# 5. Recommendations and Mitigation

The recommendations in this section are provided as information only and specialist legal advice may be required. If works are delayed for more than one year, then re-assessment may be required.

## 5.1 Survey constraints

The surveys were undertaken at an appropriate time of year, during the main summer active season.

## 5.2 Further survey requirements

**No further surveys** are recommended with regards to the proposed development – it is considered that this report, alongside the PEA/PRA (BS36) constitute a comprehensive ecological baseline from which to assess the impacts of the application.

## 5.2 EPS Licence requirement

For any development that is likely to commit an offence (or offences) in respect to a European Protected Species (EPS) i.e., bat, or their habitat, a licence will be required. In this instance based on sufficient survey work and the construction of the northern car port prior to the destruction of the southern lean to **no licence would be required**. If, in the unlikely event a bat was found during the demolition phase of the project, Reasonable Avoidance Measures (RAM) must be followed and will determine any further action, such as licensing if necessary.

## 5.4 Planning Recommendation(s)

The information gathered in the PEA/PRA (BS36-2020) and this report is sufficient to support a planning application with regards to protected species in accordance with relevant best practice guidelines.

It is considered that the impacts of the proposed works on protected species can be mitigated sufficiently to ensure that the conservation status of Common Pipistrelle on St Mary's is not negatively impacted. The mitigation outlined in Section 5.5. would represent appropriate measures.

It is recommended that planning permission be granted if compliance with the recommendations in Section 5.5 of this report is conditioned.

## 5.5 Mitigation Proposals

### 5.5.1 Avoidance (A) – Bats

As there is a very low risk that bats may roost within the building, prior to demolition, precautions should be taken to reduce the probability of committing an offence. By undertaking Reasonable Avoidance Measures (RAM), if affected RAM should include:

i. When roofing works are planned these should avoid the main breeding and mating season of *Vespertilionidae* bats, work should typically take place between the 1st November and 1st May inclusive, however the months of **November to February should be avoided where possible** as this is when bats enter a time of reduced activity and torpor which makes disturbance impacts more significant.

ii. Ensure all workers on site (including sub-contractors) are made familiar with bat legislation and agree to work in accordance with and fully follow best practice measures.

iii. Carry out prior to demolition careful checks of any cracks/crevices and cavities in or on the building. Signs of usage include bat droppings, dis-colouration or polishing of access points where bats rub against them, urine stains and a lack of cobwebs, particularly if other crevices around them have plenty.

iv. Individual bats may be found in/under; cladding, between timber boards, between corrugated sheeting, in soffit boxes, behind lead flashing and sometimes just clinging to timber beams around joins as well as other areas. When any of these are removed, please do so carefully, lifting outwardly, and checking for bats continually. If in doubt, consult a licensed bat worker.

v. Try to minimise any dust generated from demolition works from entering off-site buildings and gardens.

vi. In the unlikely event that a bat is found please see below:

1. At no point should a worker handle a bat. Untrained handling may cause undue stress and injury to the bat, and if bitten may expose the worker to rabies-related European Bat Lyssavirus
2. Where possible replace any covering without damaging the bat, then halt works and contact **Natural England** (Tel: 0845 601 4523), or the **Bat Conservation Trust Helpline (**0845 1300 228), or **IoSWT** (01720 422153) for advice.
3. Any bats that go to ground should be covered with a box and left alone until a licensed bat worker arrives to assess the condition of the bat.
4. If the bat attempts to fly at any point allow it to do so. Preventing natural behavior will cause unnecessary stress and may cause injury. Attempt to see where bat goes. If the bat returns to the building, halt works and report the escaped bat to the local bat worker.

### 5.5.2 Mitigation (M) - Bats

As there is a low risk that bats may be using the western lean-to as a night roost, consideration should be given to the effect of the buildings loss during the demolition phase of the proposed works on bats. To mitigate this risk the following should be undertaken: Construct the car port on the eastern elevation before demolition of the existing western lean-to, to ensure that CEF can be maintained during the length of the proposed works. This should be undertaken alongside all remaining outbuildings remaining open during the demolition phase of the project (where possible), up until the car port has been constructed.

### 5.5.3 Enhancement (E) – Bats

The Isles of Scilly have the most southern population of Common Pipistrelle (*Pipistrellus pipistrellus*) bats in the United Kingdom. The islands also hold small populations of Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Brown Long-eared Bat (*Plecotus* auritus) both UK Biodiversity Action Plan (BAP) priority species and holds records for the rare Nathusius Pipistrelle (*Pipistrellus nathusii*). Any loss of roosting, commuting or foraging sites could have a detrimental effect on these species distributions as a whole and cause a net loss in biodiversity on the islands.

Each local planning authority in England and Wales has a statutory obligation under Part 3 Section 40 of the Natural Environment & Rural Communities Act 2006[10] (NERC 2006) to have due regard for biodiversity when carrying out their functions and under Section 15 paragraph 170(d) of the NPPF 2019[11], all planning policies and decisions shall contribute to and enhance the natural and local environment by providing net gains in biodiversity. **Therefore, to assist in meeting these obligations the following suggestion should be undertaken:**

i. Erect two free-standing 'Kent' style bat boxes developed for crevice-dwelling species (see Appendix B for supplier details) at the apex of the gable end of the south-facing elevation and at the apex of the gable end of the eastern car port.

## 6. Bibliography


1. Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust

2. Rydell, J. et al. (1996). Timing of Foraging Flights of Three Species of Bats in Relation to Insect Activity and Predation Risk. Oikos. Vol 76. No.2. p243-252

3. Jones, G. and Rydell, J. (1994). Foraging strategy and predation risk as factors influencing emergence time in echolocating bats.

4. Kunz, T.H. (1982). *Ecology of Bats.* Plenum Press: p1-55

5. Kunz, T.H. and Lumsden, L.F. (2003). *Bat Ecology.* University of Chicago Press. Chicago, IL: p3-89

6. CIEEM. (2016). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal (2nd edition). Chartered Institute of Ecology and Environmental Management, Winchester.

7. H.M.S.O. (2017). *The Conservation of Habitats and Species Regulations.* London.

8. H.M.S.O. (1981). *The Wildlife and Countryside Act 1981* (as amended). London.

9. H.M.S.O. (1997). *The Hedgerow Regulations 1997. London*

10. H.M.S.O. (2006). *The Natural Environment and Rural Communities Act 2006*. London

11. Ministry of Housing, Communities & Local Government. (2019). National Planning Policy Framework. OGL

# APPENDIX A – BAT CONTACTS SURVEY TABLE

| **Date:** | **19/5/21 – Dusk emergence survey** | | | |
|---|---|---|---|---|
| **Survey Type:** | **Surveyor 1** | **Surveyor 2** | **Surveyor 3** | **Night vision camera** |
| **Location:** | E–W; W-E; E-W; E-W; unseen; E-W; E-N; E-W; E-W; E-W; unseen; W-E; E-S; E-W; unseen and unseen | W-E; unseen; unseen; unseen; unseen; unseen; unseen; E-W; E-W; W-E; unseen; unseen; unseen; W-N; unseen; E-W; unseen; unseen; unseen; unseen; unseen and unseen | | |
| **Exit/Entry point:** | None recorded | None recorded | | None recorded |
| | | | | |
| **Time(s):** | 21:22; 21:29; 21:37; 21:40; 21:41; 21:43; 21:44; 21:47(fb); 21:49; 21:52; 21:54; 21:57; 22:02; 22:09 and 22:23 | **21:22;** 21:31; 21:35; **21:37**; **21:40; 21:41; 21:43; 21:44; 21:47;** 21;48; **21:49; 21:52; 21:54; 21:57;** 21:58; **22:02; 22:09;** 22:10; 22:13 and **22:23** | | |
| **Species of bat:** | Common Pipistrelle | Common Pipistrelle | | None recorded |
| **Roost present:** | None confirmed | None confirmed | | None confirmed |

*(fb) – feeding buzz*

# APPENDIX B – SUPPLIERS

1. Natural History Book Service
   1-6 The Stables
   Ford Road
   Totnes
   Devon, TQ9 5LE
   Tel: 01803 865913
   Email: customer.services@nhbs.com
   Website: https://www.nhbs.com/

2. Habibat
   Tel: 01642 724626
   Email: http://www.habibat.co.uk/contact
   Website: www.habibat.co.uk

3. Dreadnought Tiles
   Dreadnought Works
   Brierley Hilly
   West Midlands, DY5 4TH
   Tel: 01384 77405
   Email: sales@dreadnought-tiles.co.uk
   Website: www.dreadnought-tiles.co.uk

4. Wildlife & Countryside Services
   Covert Cottage
   Pentre Lane
   Rhuddlan
   North Wales, LL18 6LA
   Tel: 0333 9000927
   Email: support@wildlifeservices.co.uk
   Website: www.wildlifeservices.co.uk

5. Wildcare
   Eastgate House
   Moreton Road
   Longborough
   Gloucestershire, GL56 0QJ
   Tel: 01451 833181
   Email: sales@wildcare.co.uk
   Website: www.wildcare.co.uk