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21 September 2023

1. INTRODUCTION

1.1 Background

Cove Ecological Surveys was instructed by Nikki Ainsworth in June 2023 to carry out a bat and nesting bird assessment of a two-storey house at Sunnyside Farm, Cambrose, Redruth, Cornwall, TR16 4HT. The survey was commissioned in preparation for a planning application to demolish the building and build a replacement dwelling within the existing footprint (PA23/00936/PREAPP). The survey was carried out on 14 June 2023 and identified the building as holding moderate potential for bats using the national survey guidelines (Collins, 2016), requiring two subsequent emergence surveys to establish whether bats were roosting there. This report presents the results of the surveys.

1.2 Site description

The survey site (SW6825645703) was a stone and block-built two-storey house (see Figures 1 & 2) located at the end of a private track, approximately 500m north-west of the village of Cambrose in west Cornwall. The building had a pitched slate roof with two chimneys (one at each end). Some suitable gaps for roosting bats were present beneath ridge tiles, lifting slates and beneath lead flashing around the base of the chimneys. No accessible roof void was present but the flat ceiling on the top floor indicated that an inaccessible space was present between the ceiling and the roof. A wooden fascia was present on the northern and southern aspects of the building; suitable gaps for roosting bats were present behind the fascia on the southern aspect.



Figure 1. Southern and western aspect of the building.

A small stone-built lean-to (internally rendered) was built on to the western aspect, which had a corrugated metal sheeted roof. A large split in the render was present at the junction between the house and the lean-to

(Figure 3), which offered a potential bat roost area. A window was present on the north side, which allowed light penetration within (Figure 4).



Figure 2. Northern and eastern aspect of the building.



Figure 3. Large gaps at the junction of the house and the lean-to on the western aspect.

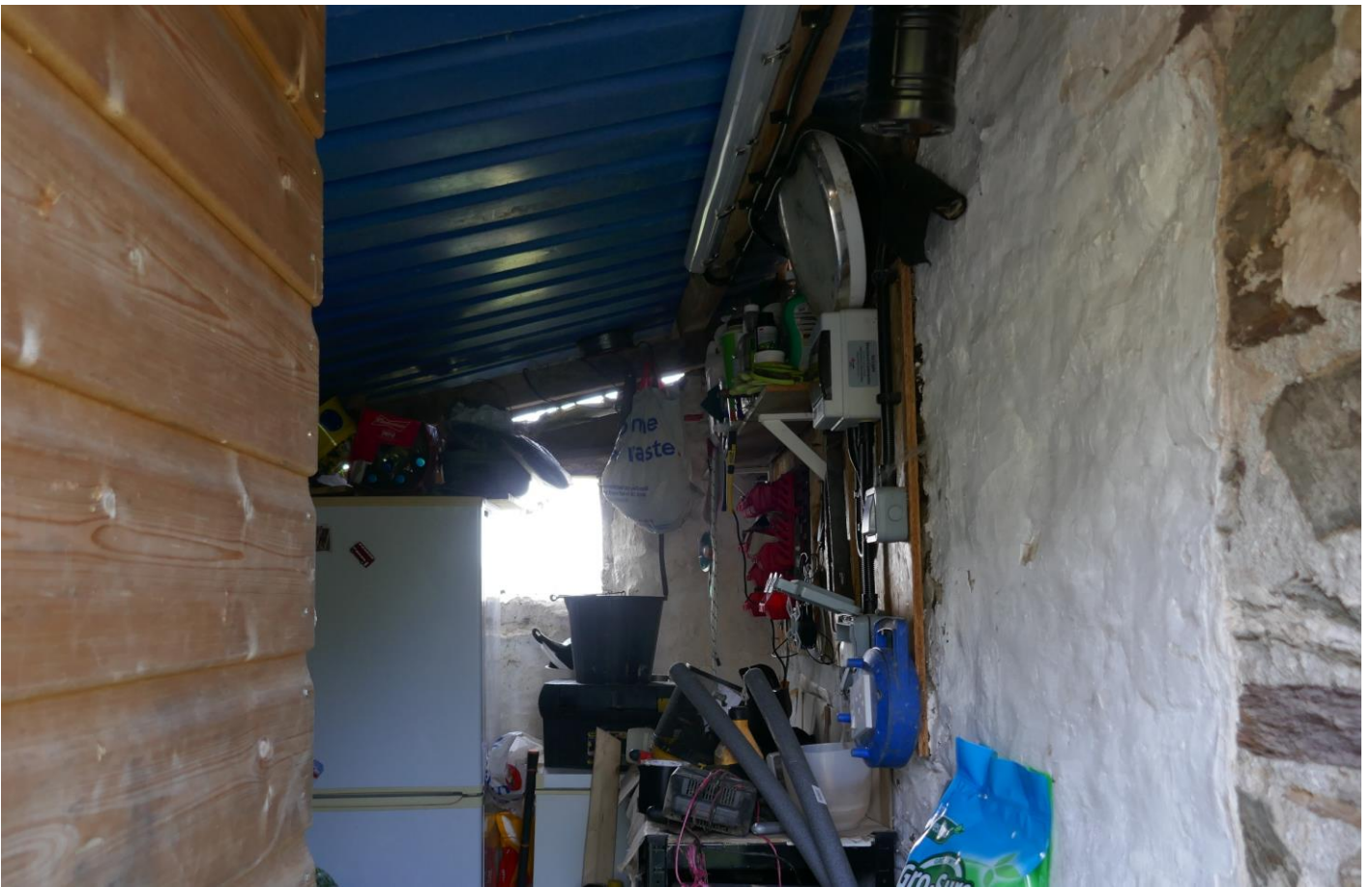


Figure 4. Interior of lean-to.

On the southern aspect of the building was a porched entrance with a sloping slate roof (Figure 5) and a small wooden constructed shelter over the door with a small area of vertical tiles. Some suitable gaps for roosting bats were present around these structures.



Figure 5. Porched entrance on southern aspect.

The site was located within a rural landscape, surrounded by pasture fields with mature hedgerows and scattered blocks of woodland, thus offering good foraging habitat for bats and habitat connectivity with relatively low levels of light pollution.

1.3 Proposed works

It is proposed to demolish the house and build a new dwelling in the footprint.

1.4 Aims of the surveys

The aims of the surveys were to establish if roosting bats were present and if so, what species and numbers, as well as the location of any roosts and means of access.

2. METHODS

2.1 Visual survey

A visual survey was carried out on 14 June 2023, searching for evidence of bat use, including droppings, feeding remains and staining from urine or grease from fur. The equipment used during the survey to examine accessible parts of the buildings were a high-powered torch and binoculars. An assessment was also made of Barn Owl *Tyto alba* activity and general nesting bird activity. Weather conditions at the time were dry with clear skies and a light northerly breeze.

2.2 Emergence surveys

Two dusk emergence surveys were carried out at the site in 2023. The first was conducted on 8 July, starting at 21.17 (15 minutes before sunset) and finishing at 23.02; sunset was at 21.32 B.S.T. The second emergence survey was conducted on 11 August, commencing at 20.33 (15 minutes before sunset) and finishing at 22.18; sunset was at 20.48 B.S.T.

Two surveyors were present on each survey. Surveyor 1 was located on the drive to the south of the property viewing the southern and western aspects, with surveyor 2 located in the field to the north, observing the northern and eastern aspects. This strategy enabled all aspects of the building to be fully viewed during the two surveys. Table 1 summarises the personnel and equipment used, Figure 6 shows the surveyor locations and Figure 7 shows the infrared illumination on 11 August.

Date (2023)	Surveyor number	Surveyor name	Equipment used	Method of detection
8 July	1	Mark Tunmore	Anabat Walkabout	Pitch shifting
8 July	2	Anthony Blunden	Echo Meter Touch 2 Pro & Anabat SD1	Time expansion & frequency division
11 August	1	Mark Tunmore	Anabat Walkabout, Canon XA15 & 2 x Nightfox XB5 infrared torches	Pitch shifting & infrared

11 August	2	Scott Barron	Anabat Scout	Frequency division & heterodyne
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Table 1. Surveyor and equipment information.

Methods of detection are described below:-

- Full spectrum records at very high sample rates, enabling high frequency sounds to be recorded in real time. Files are recorded for subsequent sound analysis.
- Heterodyne plays back sound in real time, operating at a narrow bandwidth of frequencies, dependent upon the frequency the observer is tuned into.
- Pitch shifting compresses the ultrasonic spectrum into an audible band by shifting the pitch of the sound, allowing calls to be heard in real time. Harmonic components and amplitude of bat calls are kept in the process. Files are recorded for subsequent sound analysis.
- Frequency division divides the frequency of ultrasound by a pre-set ratio (typically 16) so that ultrasonic noises can be heard. Calls are recorded for subsequent sound analysis.
- Time Expansion plays back recorded sound at a slower than normal speed (typically 1/10th), which has the effect of lowering the frequency of sound so that it is audible to the human ear. Calls are played in real time and recorded for subsequent sound analysis.

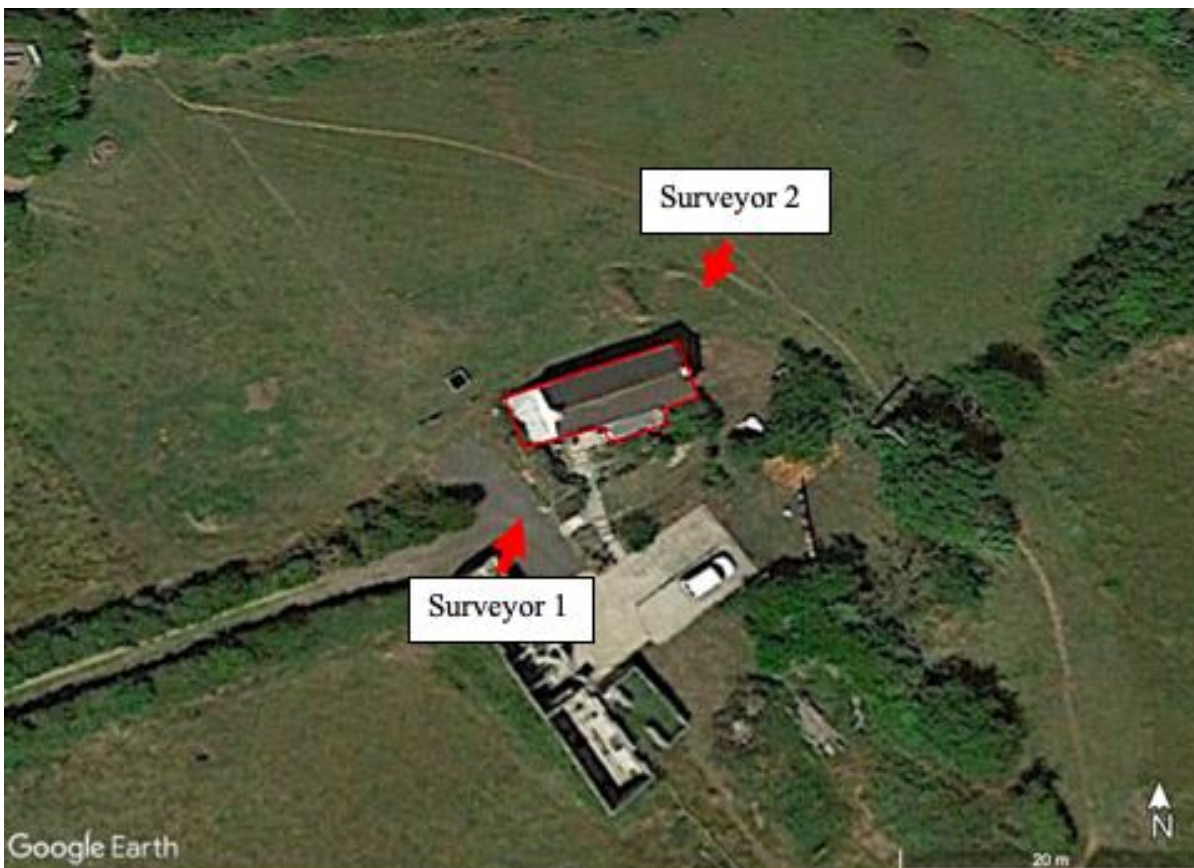


Figure 6. Surveyor locations.



Figure 7. Infrared illumination for surveyor 1 on 11 August 2023.

2.3 Surveyor information

Mark Tunmore (Natural England licence number 2015-14995-CLS-CLS), Anthony Blunden (Natural England licence number 2015-10884-CLS-CLS Level 2) and Scott Barron are all experienced bat surveyors with a wide range of experience on similar development projects.

2.4 Weather conditions

During the first emergence survey on 8 July conditions were dry with 3/8 cloud cover and a south-westerly wind of Beaufort Force 3. Temperatures started at 17°C, falling to 13°C by the end of the survey.

During the second survey on 11 August weather conditions were dry with 6/8 cloud cover and a westerly wind of Beaufort Force 3. Temperatures started at 15.7°C, falling to 15.0°C by the end of the survey.

3. RESULTS

3.1 Visual survey

Although no evidence of bats was found, features were identified externally that could provide bat roost areas. No evidence of nesting birds was found and the building did not offer suitability for Barn Owl due to lack of access/suitable nesting locations.

3.2 Emergence surveys

During the emergence survey on 11 July no bats were seen to emerge from the building. Common Pipistrelle *Pipistrellus pipistrellus* activity by up to three bats was recorded frequently in the area surrounding the property between 22.07 and 22.41, with two Brown Long-eared Bat *Plecotus auritus* passes noted at 22.16 and 22.33 B.S.T.

During the survey on 25 July no bats were seen to emerge from the building. Common Pipistrelle activity was regularly recorded from 21.16 onwards, with Soprano Pipistrelle *Pipistrellus pygmaeus* calls recorded on three occasions (21.16, 22.17 and 21.20) and a single Noctule *Nyctalus noctula* heard high overhead at 21.21 B.S.T. A Barn Owl was seen regularly foraging in the surrounding fields during the survey, which initially appeared from a distant barn on neighbouring land to the east and may have been roosting/nesting there.

4. LEGISLATION AND POLICY

4.1 Bats

As a result of the substantial declines in bat populations that have taken place over the last century bats are legally protected by domestic and European legislation. All British bats are European Protected Species (EPS), listed under Annex IV (a) of the EC Habitats Directive. They receive legal protection under the Conservation of Habitats and Species (amendment) (EU Exit) Regulations 2019. Additional legal protection is afforded under Section 9 of the Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act 2000), all British Bats being listed under Schedule 5 of the Act. In combination this makes it an offence to:

Intentionally kill, injure or take a wild bat

- Intentionally or recklessly damage, destroy or obstruct access to a wild bat roost (regardless of whether bats are present at the time or not)
- Intentionally or recklessly disturb a wild bat while it is occupying a structure or place it uses for shelter or protection

Since 2007 it is no longer a valid defence to show that the killing, capture or disturbance of a species covered by the Conservation Regulations or the destruction or damage of their breeding sites or resting places was the incidental or unavoidable result of an otherwise lawful activity.

4.2 Nesting birds

All nests and eggs of wild birds are protected under Part 1 of the Wildlife and Countryside Act 1981 (and amendments). Additional legal protection is given to Barn Owl, which makes it a legal offence to disturb the species when nesting or to damage/destroy the nest site while it is in use.

4.3 Planning policy

The National Planning Policy Framework (NPPF) 2021 sets out government policy with regard to the consideration of biodiversity in planning decisions. The presence of a protected species is a material consideration when a planning authority is considering a development proposal that would be likely to cause harm to the species or its habitat. The NPPF states that if significant harm from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated or, as a last resort, compensated for, then planning permission should be refused.

Under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 local authorities have a duty to have regard to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. The England Biodiversity List was published in compliance with section 41 of the Act and includes 941 species which make up the UK Biodiversity Action Plan Priority Species list. This includes seven of the UK's bat species (listed below).

The UK Biodiversity Action Plan (UK BAP) is the national strategy developed in response to the Convention on Biological Diversity signed in Rio in 1992. It identified the species requiring priority action to address their causes of decline and take action to maintain and conserve their biodiversity. Listed bats are:

- Barbastelle *Barbastella barbastellus*
- Bechstein's Bat *Myotis bechsteinii*
- Noctule *Nyctalus noctula*
- Soprano Pipistrelle *Pipistrellus pygmaeus*
- Brown Long-eared Bat *Plecotus auritus*

- Greater Horseshoe Bat *Rhinolophus ferrumequinum*
- Lesser Horseshoe Bat *Rhinolophus hipposideros*

5. RECOMMENDATIONS

As no bats were seen to be roosting in the building there are no licensing or mitigation requirements for bats. No further bat surveys are required and work can proceed with caution. In the unlikely event that a roosting bat is discovered during the work it should be left in situ, work stopped and contact made with the bat ecologist for further advice.

Under the Environment Act recently passed into law (HM Government, 2021) there is a legal requirement for all development requiring planning permission to deliver at least a 10% Biodiversity Net Gain (BNG). Provision is made for this in terms of planning policy under NPPF (2021) in the Cornwall Local Plan (Cornwall Council 2016). Best practice guidance for developers is provided in the Cornwall Planning for Biodiversity Guide (Cornwall Council, 2018). Cornwall Council require a minimum of one bird box (or bat box if more appropriate) to be erected at a rate of one per new dwelling and a bee brick at one for every two dwellings. See <https://www.cornwall.gov.uk/media/v1roqk0x/planning-for-biodiversity-v14.pdf> for more information. **It is recommended that a Schwegler ISP Sparrow terrace or equivalent be fitted to the building. A bee brick should also be fitted on the southern aspect of the building at approximately 1m height.**

As Barn Owl has been shown to be present in the immediate area, it would be worth considering siting a Barn Owl nest box in a suitable location within the landholding. Further information about Barn Owls and suitable nest boxes may be found at www.barnowltrust.org.uk

A precautionary approach to nesting birds must be adopted during building works. Birds may nest between March and September inclusive and if any nests are found within 5m of the works then activity must cease until nesting has finished. Although no evidence of nesting birds was found there is potential for species such as House Sparrow *Passer domesticus* to nest within the property and it is advisable to demolish the building during the period October to February, which is outside the bird nesting season.

The findings of this survey report are valid for one year and may require updating if works do not take place within this period.

6. REFERENCES

Collins, J. (ed.), 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (third edition). Bat Conservation Trust, London.

Cornwall Council, 2016. <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/>

Cornwall Council, 2018. *Cornwall Planning for Biodiversity Guide* <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/cornwall-planning-for-biodiversity-guide/>