

**BAT AND BARN OWL SURVEY OF AN OUTBUILDING AT
LAWNDOWNS, GRAMPOUND ROAD, TRURO, CORNWALL**

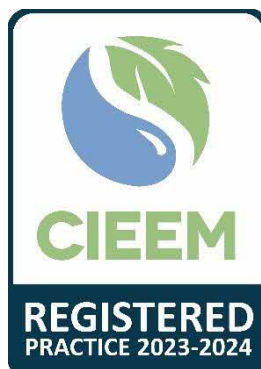
July 2023



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BAT AND BARN OWL SURVEY OF AN OUTBUILDING AT LAWNDOWNS, GRAMPOUND ROAD, TRURO, CORNWALL.

O.S. Grid Ref: SW 917 515

Survey date: 28th July 2023

Surveyor: Katherine Hampton BSc (Hons) QCIEEM
Bat Class Licence No: 2023-11008-CL18 BAT (Level 2).

Time spent on site: 1 hour

Taxonomic groups: Bats
Barn Owls

Report author: Katherine Hampton BSc (Hons) QCIEEM

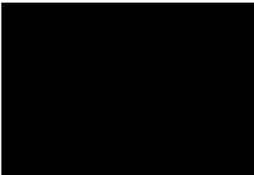
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Report for: Trudi Davey

Report No: 22-150_BBO_Lawndowns

Document approved by: Adrian Spalding PhD Director

Signature: 

Date: 5th December 2023

1. INTRODUCTION

Spalding Associates (Environmental) Ltd were instructed by Trudi Davey to carry out a Bat and Barn Owl survey on an outbuilding located at Lawndowns, Grampound Road, Truro. The proposal is to develop the buildings to create dwellings.

2. DESCRIPTION OF BUILDING

The building is a single storey long barn which has been divided into several rooms. The roof is flat, mono pitched and sloping to the east. The building is comprised of concrete blocks with a corrugated asbestos sheet roof. The entrances to the rooms are on the western side of the building and consist of large metal sliding doors. Along the wall tops expanding foams fills gaps between the corrugated roof rises and walls. The rear of the building does not contain any windows or doorways.



Figure 1: The externals of the building from the west (left) and east (right).

Internally there are three separate rooms. Each room has a smooth cement floor. On the rear (eastern) wall of each room internally is an area of wooden boarding which is stepped away from the rear wall slightly. These areas are mostly covered in cobwebs. All three rooms are clear, light and open.

Room 1: The first room surveyed was a large open space which lies on the northern end of the building and was empty. There were several Perspex sheets within the roof and an area has been segregated on the western end of the room to create a small office like space.

Room 2: The central room of the three was mostly open with a small window within the rear wall. There are also several Perspex sheets in the roof of this room.

Room 3: This room is to the south of the building and is an open space which is clean and empty.



Figure 2: The internals of room 1 on the northern end of the building (top left), room 2 (top right) and room 3 to the south of the building (bottom left).

2.1. Surrounding Landscape

The building is situated inland to the north of Grampound Road and is immediately surrounded by open fields used as a livery. Further open farmland surrounds this. These will be lined with Cornish hedgebanks which will provide commuting and foraging habitats for bats through the landscape. There is a tributary to Tresillian River to the west of the site which provides connectivity down to Truro River to the south. The River Fal flows towards the east of the site and there is also a railway corridor to the east. These will both provide good connectivity for bat species. Areas of the rivers are well wooded which will provide

potential roosting and foraging areas for bat species. Furthermore, a large area of woodland lies to the east of the site which may provide roosting potential.

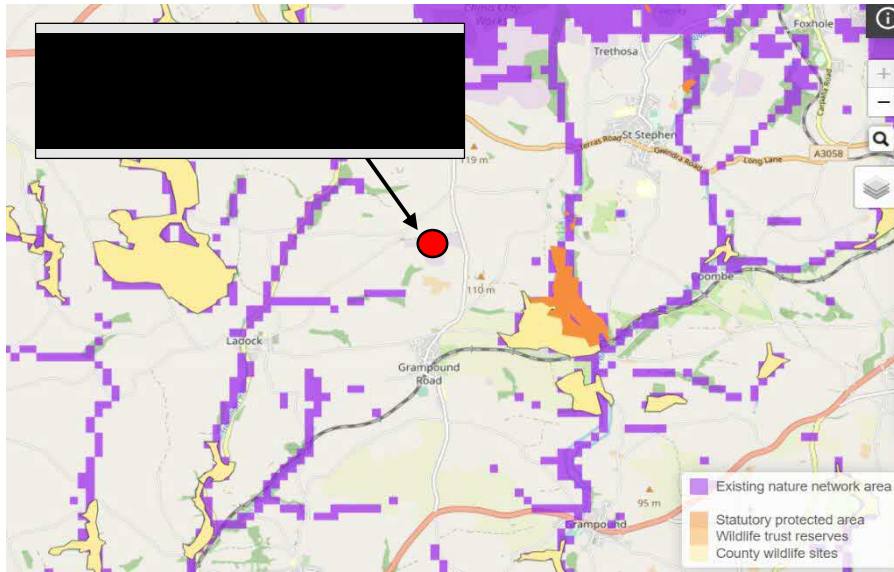


Figure 3: Existing nature networks surrounding Lawndowns, Grampound Road Cornwall. (Source Lagas Nature Network Maps: September 2023 www.lagas.co.uk/app/product/nature-network).

2.2. Darkscape

The building is within an area which receives low light levels. There are levels of medium to high light level emitted by the Foxhole area however, the surrounding landscape, especially south and west could encourage light intolerant bat species including Lesser and Greater Horseshoe and Brown Long-eared bats to commute across the area.

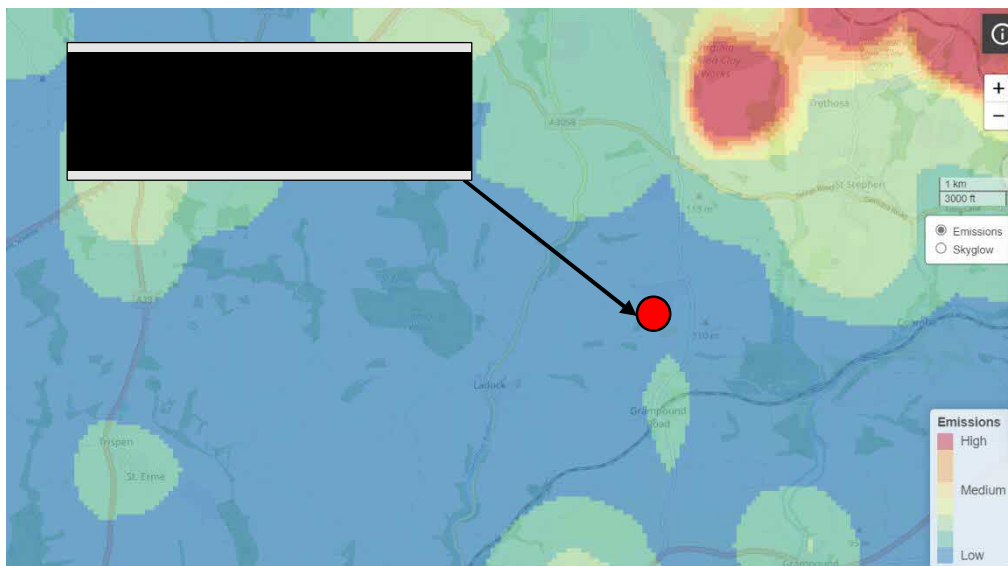


Figure 4: Low light emissions surrounding Lawndowns, Grampound Road, Cornwall. Credit: Lagas Light Maps, September 2023 <https://lagas.co.uk/app/product/light-maps>

2.3. Assessment of Potential for Bats and Barn Owls

The survey includes an assessment of the building to determine the suitability for bats or birds. This includes a structured evaluation for bats based on the characteristics of the roost which allows a broad categorisation of its potential. In terms of birds and in particular Barn Owls features such as direct access and external materials also enable indicative values to be placed on the likelihood of presence.

Category (Bat Potential)	Description
Negligible value	Building, structure or tree where surveyor has not identified any suitable potential roosting features, or where those that are present are of such poor quality or condition, such that bats are highly unlikely to use them.
Low value	Building, structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate value	Building, structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High value	Building, structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed Roost	Bats or signs of bats, such as droppings and / or feeding remains, found, or information provided via desk study which indicates a roost.

Table 1: Classification of buildings and trees, according to their potential to support roosting bats (Based on Collins, 2016).

The building was assessed for bats and birds based on the features of the building and potential roosting opportunities. The building was limited in potential for bats and no evidence of bats was found. In the context of Barn Owls, the building was deemed unsuitable for this species. Evidence of the use of the building by birds for roosting was discovered in the form of droppings.

In summary the building was assessed as having negligible potential for bats and negligible value for birds.

3. METHODS

3.1. Bats

With the aid of a high-power torch the building was carefully searched internally and externally, where access allowed, for bats or any signs of bat presence, past or present. This included searching for droppings, feeding remains and individuals as well as searching for potential entry points, polishing, or scratching of woodwork (indicating use by bats) and for cavities capable of providing roosting space for bats.

All surfaces were examined where accessible, internally, and externally, as well as ledges, hanging tiles and other protruding features for bat droppings and feeding evidence. Any cavities present and open areas were searched with a torch, for roosting bats, as were any cavities present along the wall tops, between the roof timbers and walls and around any openings.

As bats can leave little evidence of their occupation, this survey included an assessment of the potential of the building and features of the building to support roosting bats.

The survey was carried out at on 28th July 2023 and the weather was sunny at times with 40% cloud cover and mild with a slight breeze. The temperature was approximately 17°C.

3.2. Barn Owls

With the aid of a torch any access points which could admit Barn Owls into the building were searched for and any ledges present within the building which were thought to have the potential to be used by nesting or roosting Barn Owls were searched for owl pellets, feathers, and nest debris, as were the floors and beneath crossing timbers.

3.3. Swallows and other birds

Suitable ledges and spaces which could provide nesting space for Swallows and other birds were inspected for evidence of previous or current nest building attempts.

4. RESULTS

4.1. Bats

No evidence of the use or occupation of the building by bats was found. The roof contained areas of Perspex sheeting which allows high light levels into the externals. There were little gaps present along the wall tops due to the presence of the expanding foam. Some small gaps between the foaming were present on the front of the building however these were cobwebbed which indicates that these may not be used by bats. The areas of stepped away boarding on the rear walls of the rooms were also well cobwebbed which again indicates that bats are not frequenting these areas.

4.2. Barn Owls

No evidence of the use or occupation of this building by Barn Owls was found.

4.3. Swallows and other bird species

Evidence of roosting birds was discovered in the form of collections of droppings on the floors within all three rooms and along areas of the wall tops.



Figure 5: Evidence of roosting birds within the rooms on the floor and wall tops in the form of droppings.

5. RECOMMENDATIONS

5.1. Bats

No evidence of bats utilising the internals of the building were discovered and there were very limited external features of the building which hold negligible potential to be used by bats.

We do not believe that further surveys are necessary at this time due to the limited potential that bats are using the building. As a precaution, if, however, any bats are found during the proposed works, all work on the building should stop immediately and Spalding Associates or Natural England must be approached for advice.

The surrounding area to the site provides foraging and commuting areas for bat species. As an alternative to further surveys, we recommend the installation of bat enhancements where possible to encourage roosting bats to utilise the refurbished building (see section 6.1).

5.2. Barn Owls

No recommendations necessary.

5.3. Swallows and other bird species

No recommendations necessary however, evidence of roosting birds was discovered within the buildings and bird species could be incorporated into the proposed designs.

6. MITIGATION AND ENHANCEMENTS

6.1. Bats

There are many opportunities for commuting bats along the highlighted connected areas within the landscape surrounding the site. New roosting opportunities for bats could be incorporated into the building to encourage commuting bats to utilise the site. This could be done by installing purpose-built bat boxes onto/into the walls of the building. If this is carried out, care should be taken that no light sources reach the roost entrances. This would help to increase the biodiversity value of the site. If a roof lining is required on the proposed roof, it is recommended that type 1 bitumen felting is used as bats can become entangled within modern breathable roof membranes. For more ways on encouraging bats and providing roosting space for bats, see Appendix 1.

Bat boxes

Bat boxes can be included within the proposed plans. These can be mounted onto any south facing aspects, so they are warmed by the sun, or, alternatively, aspects that are facing particularly good features such as the estuary or nearby trees. We usually recommend Schwegler if available as these are the most durable. There are other durable products on the market but if alternatives are to be used then these should be appraised by a qualified bat

expert to ensure their suitability. Please note that durable bat boxes are heavy and will need secure fixings (see below for some examples).



Vivaro Pro Woodstone bat box



2F Schwegler Box



Schwegler 1WQ

Bat slates / access points (if desired)

There is no obligation to do so, however, access into the roof void of the proposed building could be provided for bats to include bat slates and ridge tiles which are lifted slightly to allow access for bats. Bat slates can be built by making the appropriate shape with an off-cut of lead. The opening should be 15-25mm wide by at least 50mm long. This allows bats to land on the roof and crawl into the roof void. The bat slates or vents will be installed approximately one third of the way down the roof slope. A small hole (25mm x 50mm) would be cut into the roof lining/membrane under the bat slate to allow bats access.

Modified ridge tile bat accesses can be created by overlapping one ridge tile over its neighbours. The gap created should be 15-25mm wide by at least 50mm long. Mortar should be applied sparingly on nearby ridge tiles so that a tunnel-like void is created through several ridge tiles.

Any areas accessible to bats must employ type 1 bitumen felting is used or a breathable membrane which is deemed snag proof such as TLX Bat Safe Membrane. Modern breathable membranes can be detrimental to bats as they can become entangled.



Figure 6: Examples of bat access slates (top) and modified ridge tiles (bottom).

Access to the wall tops from outside of the proposed building can be created, ideally including a cavity around the outside of the building by spacing off any new the fascia boards by 25mm. This will allow bats to roost behind the fascias and access the wall tops above.

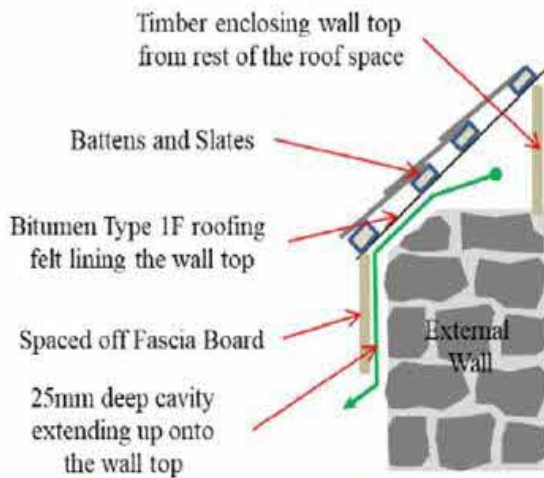


Figure 7: Diagram demonstrating access to wall tops for crevice dwelling species.

6.2. Barn Owls

No mitigation required.

6.3. Swallows and other bird species

New nesting areas could be incorporated into the proposed development of the building and as a temporary measure for after the proposed re-pointing works which will lead to a loss of this nesting habitat. This could include pre-fabricated Sparrow terraces integrated or added to the externals of the buildings.



Figure 8: An example of a House Sparrow nesting terrace which can be integrated or bolted onto the outside of buildings (1SP Schwegler Sparrow Terrace).

Additionally, if the owners were interested, the site could be enhanced for birds by providing either bolt on or integrated pre-fabricated nest boxes on the buildings or placed on surrounding trees or within scrub to benefit additional species including Robin, Dunnock, Wren, Blue Tits and Great Tits. Deep over-hanging eaves would enhance the site for Swallow and House Martins or could include providing an open structure such as a shed or woodstore. Pre-fabricated nest cups are also available (right - Eco Swallow Nest - NHBS).



Figure 9: Example Swallow (left) and Swift (centre) boxes which can be erected onto the proposed building. Passerine nest boxes can also be provided onto nearby trees or onto the buildings (right, Vivara WoodStone® Barcelona Open Nest Box).

7. LEGISLATION

7.1. Bats

Bats in England have been protected under a number of regulations and amendments but the most up to-date and relevant are:

- The Conservation of Habitats and Species Regulations 2017
- Wildlife and Countryside Act 1981 (Section 9)

The result of Regulations and Acts is that all species of bat and their breeding sites or resting places (roosts) are protected under law. It is an offence to:

- Deliberately capture, injure or kill a bat
- Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young or significantly affect the local distribution or abundance of the species
- Intentionally or recklessly disturb a bat at a roost
- Intentionally or recklessly obstruct access to a roost whether bats are present or not
- Damage or destroy a roost whether bats are present or not
- Possess, control, transport, sell exchange or offer for sale/exchange any live or dead bat or any part of a bat

Through the Conservation (Natural Habitats &c.) Regulations 1994 (this has been updated and consolidated with subsequent amendments by the Conservation of Habitats and Species Regulations 2017 mentioned above) bats were designated a European protected species as part of Europe wide effort to conserve certain plant and animal species.

Any development which is likely to result in the disturbance of a European protected species, or damage to its habitat usually requires a European protected species licence from Natural England.

‘Development’ is interpreted broadly to include projects involving demolition of buildings, rebuilding, structural alterations and additions to buildings.

7.2. Birds

All birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to intentionally:

- Kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.

The Conservation of Habitats and Species (Amendment) Regulations 2012 require public bodies to help “*preserve, maintain and re-establish habitat for wild birds.*”

Barn Owls and other birds listed in Schedule 1 of the Wildlife and Countryside Act 1981 are given a further level of protection against disturbance whilst breeding.

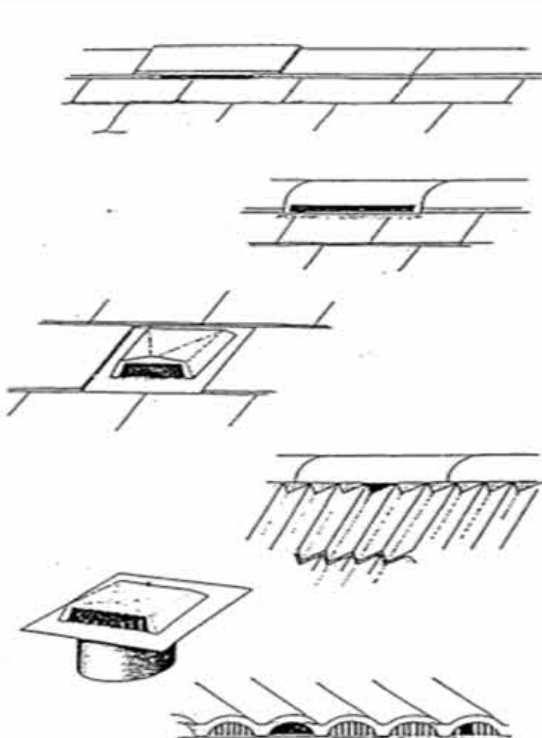
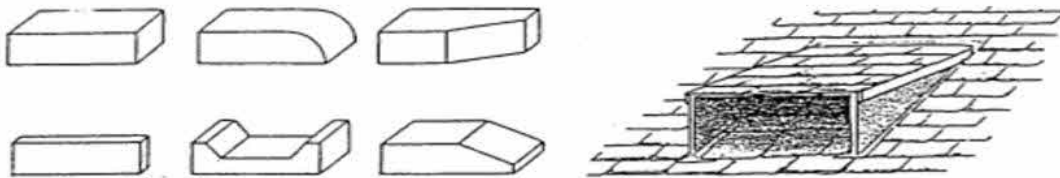
APPENDIX 1

PROVIDING ACCESS FOR BATS

For most species of bat only small holes or slots are needed and this helps to prevent birds from getting in. A Gap of 20mm wide by 50mm long is often adequate. The ideal position is between the soffit and the wall. Unlike birds, bats can land on vertical wall and crawl up through the gap to their roost behind the soffit or in the roof. A rough surface is essential for the bats to grip on.

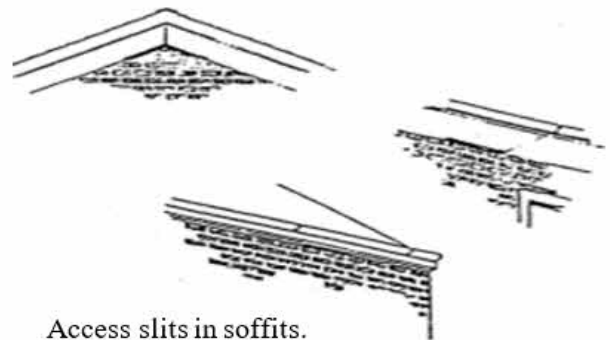
Building regulations specify that roofs must have adequate ventilation. This is usually provided at the eaves and so access for bats can be easily incorporated at the same time. Other suitable places for access points are at gable ends, under lead flashing or gaps between tiles or slates. Horseshoe bats have more specialised requirements, preferring to fly directly into their roosts. Access openings need to be large enough to allow the bats to fly into the roof.

Walling bricks for creating bat access points. A standard brick is shown top left

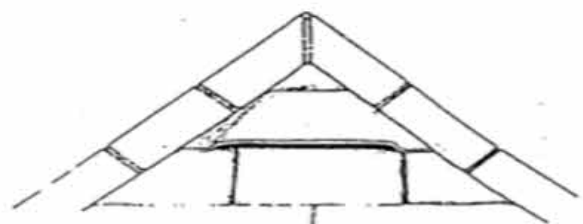


Ridge ventilators can be adapted as bats access points. It may be necessary to remove internal plastic moulding.

Dormer entrance particularly suitable for horseshoe bats.



Access slits in soffits.



Lead saddle in place of a slate to allow bats access to ridge or roof void.