

## Bat Survey: Polvellan Manor, Looe



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# 1. Introduction

Land and Heritage Ltd was commissioned to undertake a series of extended bat surveys of Polvellan Manor, West Looe, Cornwall. This was carried out to support a planning application to renovate and make alterations to the building.

Polvellan Manor has been unoccupied for several years and is in a state of disrepair with permanently open windows where panes have been smashed, and openings to the west where an extended section has been unfinished.

The building has been surveyed for bat presence regularly between 2013 and 2018. Low numbers of non-breeding Common Pipistrelle, Lesser Horseshoe and Greater Horseshoe have been identified using the building as a summer, day-time roost.

In 2020 the bat surveys were updated, and this report gives the findings of the updated survey work.

The Bat & Nesting Bird Survey was undertaken to determine presence/likely absence of bat and nesting bird species and to assess the impact the proposed works may have on any species found to be present.

Bats are a European Protected Species under the EC Habitats Directive. In England and Wales all bat species are fully protected under [The Conservation of Habitats and Species Regulations 2017](#), and the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is illegal to:

- intentionally or deliberately\* kill, injure or capture (or take) bats.
- deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
- recklessly disturb roosting bats or obstruct access to their roosts.
- damage or destroy a roost (this is an 'absolute' offence and need not be deliberate or intentional).
- possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.

*\* In a court, 'deliberately' will probably be interpreted as someone who, although not intending to capture/injure or kill a bat, performed the relevant action, being sufficiently informed and aware of the consequence his/her action will most likely have.*

Some bat species (Barbastelle, Bechstein's, Soprano Pipistrelle, Brown Long-eared, Greater and Lesser Horseshoes) are included on the S41 list of UK Biodiversity Action Plan species. Under the Natural Environment and Rural Communities Act 2006, local authorities must consider the conservation of these species in planning decisions.

## 2. Site Description

Polvellan Manor is located on a north facing slope adjacent to the old mill pool (currently a large car park). The property extends over a length of 340m and is dominated by mature broadleaf plantation.

In general, the main site has changed little between 2013 and 2018. The majority of the site is broadleaved woodland plantation, which has received little management in the last seven years, apart from limited safety management. There has been a continued steady loss of mature trees from the woodland, as a result of storm damage, leaving some more open areas, notably to the east of the site and below the proposed west courtyard. Natural regeneration is beginning to fill gaps in the canopy. Closer to the house the old gardens have seen gradual ecological succession. The land to the east of the house, previously used as temporary parking, has now evolved into woody shrubs and bramble scrub. Land in front of the house is now dense young woodland scrub (on the slopes) and much younger woody scrub on the flat areas that were previously classed as grassland in 2014. Land to the west of the main house, once classed bare land has now developed into rough grass and scattered scrub. The house and grounds remain derelict, with a continued gradual deterioration in the building fabric and with broken windows, letting in more of the elements.

The main house (figure 1) has been derelict for some years, with access for bats available via broken windows at first floor level (figure 2). The building includes two separate loft areas, where bats have previously been recorded (figure 3). The woodlands also contain some mature trees with a range of potential roost features (figure 4).



Figure 1: Polvellan Manor (front, north elevation)



Figure 2: First floor, with open access



Figure 3: Attic (western end)



**Figure 4: Potential Roost Features in mature oak - hollows within main trunk.**

### 3. Survey Methodology

The bat survey was conducted in accordance with guidelines given by Natural England and the Bat Conservation Trust in *'Bat Surveys for Professional Ecologists: Good Practice Guidelines'* (Collins, 2016) and *'Bat Worker's Manual'* (Mitchell-Jones, 1999). The bat survey was carried out to determine presence/likely absence of bat species, and comprised a building inspection, and three dusk emergence surveys.

The building inspection included:

- an inspection (with a high powered torch where necessary) of the eaves, ridge beams and hips, and any other likely building habitat for bats; for signs of bats and individuals
- examination of walls and floors for droppings, dead individuals and skeletons
- a search for signs of bats including oily stains at entrance/exit holes, feeding remains, lack of cobwebs, characteristic smells and sounds
- an inspection of the surrounding area for suitable habitats.

The dusk emergence surveys included:

- experienced surveyors watching from pre-determined strategic locations (opposing corners of the building) for bats emerging from any potential access points
- the survey beginning 15 minutes before sunset and continuing for 90 minutes thereafter
- surveyors carrying hand-held bat detectors (Elekon Batscanner) and recording devices (Anabat Express) to capture any bat calls heard

Surveyors for the work were:

Dee Medicott BSc(Hons), MCIEEM  
(NE Bat Licence: 2020-13782-CLS-CLS)  
(NE REGISTERED CONSULTANT BLICL)  
(NE Barn Owl Licence no: CL29/00298 SCI SCI)  
(NRW Bat Licence: 48898:OTH:CSAB:2020)

Ian Lawson  
(NE Bat Licence: 2020-27458-CLS-CLS)

Stephen Lees, B.A., MSc., MCIEEM  
Matt Jackson, MCIHort.

### 4. Survey Results

A building inspection was carried out on 11 June 2020. Many of the window panes of the house have been broken and the windows now provide multiple permanently open apertures. Some disturbance to the loft voids has occurred through trespass. Bat droppings were identified within the westerly loft space, below a section of torn roofing felt. Occasional bat droppings were identified at various locations within the building, conducive with bats in flight.

The results of the emergence survey may be summarised as follows:

**Table 1: Results of Emergence Survey 29 June 2020**

<b>Date of Survey:</b> 29/06/20			
<b>Type of Survey:</b> Sunset/Emergence			
<b>Sunset Time:</b> 2132			
<b>Weather Conditions:</b> 30% cloud cover. Still & dry.			
<b>Start Time:</b> 2115		<b>Finish Time:</b> 2300	
<b>Start Temp:</b> 16°C		<b>Finish Temp:</b> 15°C	
<b>Time</b>	<b>Species Recorded</b>	<b>Emerging?</b>	<b>Behaviour/Notes</b>
2143	2 x Common Pipistrelle	Yes	Emerged from fascia at easterly elevation (Fig 1).
2129 - 2240	3 x Common Pipistrelle, 1 x Brown long-eared*	No	Periodically foraging around building.
2216	1 x Lesser Horseshoe	Yes	Emerged from open window to north elevation (Fig 2).

\* Whilst DNA analysis has not been made, it is considered Polvellan Manor lies outside of the range of *Plecotus austriacus*.

**Table 2: Results of Emergence Survey 28 July 2020**

<b>Date of Survey:</b> 28/07/20			
<b>Type of Survey:</b> Sunset/Emergence			
<b>Sunset Time:</b> 2108			
<b>Weather Conditions:</b> 0% cloud cover. Still & dry.			
<b>Start Time:</b> 2053		<b>Finish Time:</b> 2233	
<b>Start Temp:</b> 15°C		<b>Finish Temp:</b> 12°C	
<b>Time</b>	<b>Species Recorded</b>	<b>Emerging?</b>	<b>Behaviour/Notes</b>
2114	1 x Common Pipistrelle	Yes	Emerged from fascia at easterly elevation (Fig 1).
2130	1 x Lesser Horseshoe	Yes	Emerged from open window to north elevation (Fig 2)
2115 - 2203	Common Pipistrelle	No	Foraging periodically around building.

**Table 3: Results of Emergence Survey 18 August 2020**

<b>Date of Survey:</b> 18/08/20			
<b>Type of Survey:</b> Sunset/Emergence			
<b>Sunset Time:</b> 2030			
<b>Weather Conditions:</b> 40% thin cloud cover. Still & dry.			
<b>Start Time:</b> 2015		<b>Finish Time:</b> 2140	
<b>Start Temp:</b> 18°C		<b>Finish Temp:</b> 17°C	
<b>Time</b>	<b>Species Recorded</b>	<b>Emerging?</b>	<b>Behaviour/Notes</b>
2037 - 2140	2 x Common Pipistrelle	No	Periodically foraging around building.
2041	1 x Greater Horseshoe	Yes	Emerged from open window to north elevation, and flew into unfinished extension (Fig 3).



**Figure 5: Common Pipistrelle emergence points.**



Figure 6: Lesser Horseshoe emergence point.

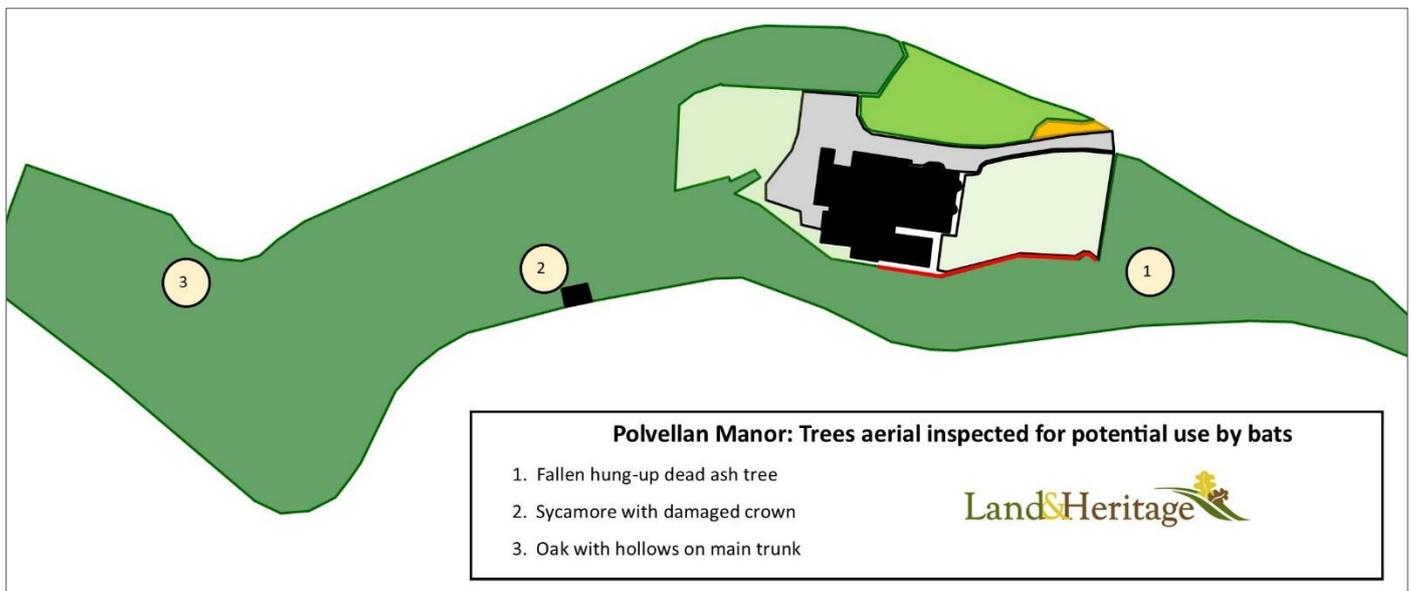


Figure 7: Greater Horseshoe emergence point, and pre-emergence flight behaviour in unfinished extension.

Three trees were also inspected by aerial climbing on 28th July. A qualified arborist worked under the instruction and guidance of the lead bat surveyor, using an endoscope with camera to assess splits tears, cracks and hollows. The trees were identified as having the best potential for bat roosts, within the areas at risk from the proposed development. The trees were:

1. A hung up dead ash tree, not recorded in the BS5837 arboricultural survey
2. A large sycamore with major limb damage following the fall of an adjacent nature sweet chestnut, recorded as tree 118 in the BS5837 arboricultural survey
3. A mature oak, with hollows on the main trunk, recorded as tree 2010 in the BS5837 arboricultural survey; see also figure 4.

The tree locations are shown in figure 8 below.



**Figure 8: Location of trees aerially inspected**

No evidence of roosting bats was found in any of the surveyed trees.

## 5. Analysis and Interpretation of Results

2 x Common Pipistrelle, 1 x Lesser Horseshoe and 1 x Greater Horseshoe has been identified emerging from the building.

### Common Pipistrelle

Common Pipistrelle are common and widespread throughout the UK. Pipistrelle bats are known to form maternity roosts in new and old buildings during the summer months. Maternity roost sizes normally comprise between 50 and 75 females. The males usually roost away from the maternity roost either singularly or in small numbers (Bat Conservation Trust, 2020). It is considered that the low numbers of Common Pipistrelle bats recorded at Polvellan Manor indicates that a non-breeding roost is present.

## Lesser & Greater Horseshoe

Greater Horseshoe and Lesser Horseshoe bats are rare, and restricted to south and western areas of England, Wales, and west Ireland (Lesser Horseshoe only). Horseshoe bats are known to use larger buildings that allow uninterrupted flight into roost areas that are typically in roof spaces. Horseshoe bats are known to roost in buildings, particularly as their summer and maternity roost sites (Bat Conservation Trust, 2020).

It is considered that the low numbers of Horseshoe species recorded during the surveys are non-breeding individuals. Horseshoe bat species are known to be antagonistic towards each other and will not share roosts. It is considered likely that when the more dominant Greater Horseshoe is present the Lesser Horseshoe will not use the house. The building is therefore likely to be used intermittently by each species.

## 6. Conclusions and Recommendations

Polvellan Manor is being used as a day-time, non-breeding roost by low numbers of Common Pipistrelle, which are common and widespread.

Polvellan Manor is being used as an intermittent day-time, non-breeding roost by low numbers of Greater and Lesser Horseshoe, which are nationally rare.

**It is therefore recommended that a Natural England European Protected Species Mitigation Licence (EPSML) will be required to permit the works to be undertaken lawfully.**

The EPSML cannot be applied for until planning permission is in place.

The bat licence shall include the following mitigation strategy:

1. Most roosts are used seasonally, and it is considered unlikely Polvellan Manor will provide suitable conditions for hibernating bats.
2. Works shall therefore commence after the active season has ended and bats have departed for their hibernation sites. Works shall therefore not commence until after 1 September.
3. The removal of fascias and key features of the roof shall be dismantled by hand under the watching brief of the licensed ecologist.
4. The roosting features beneath the fascias of the eastern elevation (as shown in Fig 1) shall be retained/re-created.
5. Continued provision for Horseshoe bats must be made to ensure there is no net loss of habitat. This may be either through the retention of a loft space over the house, or by the modification of another building such as the stone shed in the adjacent woodland (Fig 9). The loft dimensions will be a minimum of 5m length x 4m width x 2m loft floor to apex height. There shall be access via a permanently open aperture measuring a minimum of 200mm width x 300mm length. The loft shall be lined with Type 1F bitumastic underfelting. The loft/stand

alone feature design will be authorised by the acting ecologist prior to commencement of works.



**Figure 9: woodland shed**

6. Should remedial timber treatments against wood-boring insects be required, or to treat cluster flies, etc. these should be safe for bats, such as pyrethroids and boron compounds (e.g. Permethrin, Flurox™).
7. As per recommendation in the Preliminary Ecological Appraisal and BS5837 arboricultural report, trees should be felled by soft felling techniques. Trees must be felled by sectional dismantling. Climbers must be briefed about the possibility of bat roosts and inspect potential bat roosts with an endoscope prior to felling. Cease work and seek immediate support from the site ecologist or ecological clerk of works if any bats are found. No additional measures are required for tree felling work.

**Dee Medicott,  
Land and Heritage Ltd  
19th August 2020**

**Land&Heritage** 