



## **Bat Survey Report**

Site: Dolphin House, Tresco, Isles of Scilly TR24 0QQ

Grid Reference: SV 89087 15351

17<sup>th</sup> September 2020



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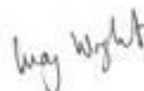
### Document Control:

<b>Site Name:</b>	Dolphin House, Tresco, Isles of Scilly TR24 0QQ
<b>OS Grid Reference:</b>	SV 89087 15351
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<b>Client:</b>	Tresco Estate
<b>Report Reference Number:</b>	P4E2100
<b>Version:</b>	01
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### Declaration:

"The information, evidence and advice, which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology & Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions."

<b>Katherine Biggs</b>	
<b>Lucy Wright</b>	

### Report Lifespan:

Ecological features can change over time, particularly if site management/ use changes. Typically, bat surveys are valid for 12 – 24 months (until September 2021/ 2022).



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## CONTENTS

<b>1.0 SUMMARY.....</b>	<b>3</b>
<b>2.0 INTRODUCTION.....</b>	<b>4</b>
2.1 BACKGROUND .....	4
2.2 PROJECT ADMINISTRATION.....	5
2.3 LEGISLATION & PLANNING POLICY.....	5
<b>3.0 METHODOLOGY .....</b>	<b>7</b>
3.1 SUMMARY VISUAL ASSESSMENT .....	7
3.2 EMERGENCE/RE-ENTRY SURVEYS .....	7
3.3 ECOLOGICAL EVALUATION .....	8
3.4 WEATHER CONDITIONS.....	10
3.5 LIMITATIONS .....	10
<b>4.0 BAT SURVEY RESULTS .....</b>	<b>11</b>
4.1 SITE DESCRIPTION AND HABITAT ASSESSMENT .....	11
4.2 VISUAL ASSESSMENT SUMMARY .....	11
4.3 EMERGENCE/RE-ENTRY SURVEYS .....	16
4.4 BAT SPECIES EVALUATION.....	17
<b>5.0 IMPACTS AND MITIGATION RECOMMENDATIONS .....</b>	<b>18</b>
5.1 EVALUATION OF DEVELOPMENT PROPOSALS AND IMPACTS .....	18
5.2 MITIGATION .....	18
5.3 OPPORTUNITIES FOR BIODIVERSITY .....	18
<b>6.0 REFERENCES .....</b>	<b>20</b>



## 1.0 Summary

### **Bat evidence?**

No bats were seen to emerge from the buildings during the emergence survey on 4<sup>th</sup> August 2020. However, during the re-entry survey on 28<sup>th</sup> August 2020, a single common pipistrelle was seen to re-enter a gap underneath lead flashing on the south western elevation of the south eastern chimney on the main cottage. This is adjacent to the area of the building subject to the proposed works. **The survey results show that Dolphin House supports an occasional day roost for at least one individual common pipistrelle.**

### **Proposed works?**

Demolition of existing rear extension, construction of new single-storey rear extension and incorporation of existing outbuilding and adjoining roofless building

### **Bat specific mitigation recommendations?**

As far as we are aware, no works are proposed to the roof, chimneys or fascias over the main cottage and the roosting feature will not be lost or damaged as part of the works. Disturbance as a result of noise and vibration is considered unlikely except for during demolition of the existing two-storey extension, which has potential to cause some low-level disturbance to bats within the neighbouring roost.

Works to be carried out in accordance with the Bat Mitigation Method Statement at Section 5.2 of this report.

Works to demolish the two-storey extension will be carried out under an ecological watching brief and scheduled for a time of year when bats are least likely to be impacted (March to October inclusive).

Building contractors will be notified about the presence of bats in the adjacent chimney on the cottage and informed that if a bat/s is uncovered during works, then work must stop immediately (as soon as it is safe to do so) and advice sought from licensed bat ecologist/s (Plan for Ecology Ltd, 01326 218839).

No exterior lighting will be installed close to the identified roost feature within the south eastern chimney.



## **2.0 Introduction**

### **2.1 Background**

Diana Mompoloki, on behalf of the Tresco Estate, commissioned Plan for Ecology Ltd to undertake a Preliminary Bat and Bird Assessment (sometimes referred to as a Bat and Barn Owl Assessment) of Dolphin House and associated outbuildings, Tresco, Isles Of Scilly TR24 0QQ (OS Grid Ref: SV 89087 15351) in July 2020. No evidence of the use of the buildings by bats was found; however, a number of external features with potential to support roosting bats were noted. Dolphin House was assessed as being of 'moderate suitability' for roosting bats (Plan for Ecology Ltd 2020).

In accordance with the 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Collins, 2016), further surveys were recommended, comprising a minimum of two bat emergence or re-entry surveys during the bat active season (May to September inclusive). Tresco Estate commissioned Plan for Ecology Ltd to undertake the further survey work in July 2020.

This report describes and evaluates the use of the buildings by bats, and details mitigation recommendations to minimize impacts upon bats in accordance the 'Bat Surveys for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2016).



## 2.2 Project Administration

<b>Property Address:</b>	Dolphin House, Tresco, Isles of Scilly, TR24 0QQ
<b>OS Grid Reference:</b>	SV 89087 15351
<b>Client:</b>	Tresco Estate
<b>Planning Authority:</b>	Council of the Isles of Scilly
<b>Planning Reference Number:</b>	-
<b>Report Reference Number:</b>	P4E2100
<b>Proposed work:</b>	Demolition of existing rear extension, construction of new single-storey rear extension and incorporation of existing outbuilding and adjoining roofless building
<b>Visual Assessment Date:</b>	4 <sup>th</sup> August 2020
<b>Emergence/re-entry Survey Dates:</b>	4 <sup>th</sup> August 2020 (emergence survey) and 28 <sup>th</sup> August 2020 (re-entry survey)
<b>Ecologist &amp; Licence Number:</b>	Katherine Biggs BSc (Hons) MSc ACIEEM: Bat licence No. 2016-22188-CLS-CLS; Barn owl licence no. CL29/00552  Chloe Balmer MSci (Hons) Qualifying CIEEM member: Bat licence No. 2020-47040-CLS-CLS  Dr Lucy Wright BSc (Hons) MSc PhD MCIEEM

## 2.3 Legislation & Planning Policy

**Planning:** The local planning authority has a statutory obligation to consider impacts upon protected species resulting from development. Planning permission will not be granted with outstanding ecological surveys, and if applicable an appropriate mitigation plan.

**Bats:** In the UK all bat species are listed on Annex IV(a) of the European Communities Habitats Directive and as such are European Protected Species (EPS). In Britain protection of bats is achieved through their inclusion on Schedule 2 of the Conservation and Habitats Regulations 2010, Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 12 of the Countryside and Rights of Way Act 2000 (HM Government, 1981, 2000 & 2010).

As a result of this statutory legislation it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat/s in its roost;
- Intentionally or recklessly damage, destroy or obstruct access to a bat roost (even if bats are not occupying the roost at the time);
- Possess or sell or exchange a bat (dead or alive) or part of a bat.



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Works with potential to cause significant disturbance to roosting bats may require a European Protected Species (EPSL) licence or Bat Mitigation Class Licence (CL21) from Natural England before works can legally commence. Works likely to result in less significant disturbance may be carried out under a Bat Mitigation Method Statement. The magnitude of disturbance and therefore the requirement for an EPSL, Bat Mitigation Class Licence or method statement is assessed on a case by case basis by the bat ecologist. The Bat Mitigation Method Statement or EPSL must be prepared and/or applied for by a suitably experienced and licenced bat ecologist. Where planning permission is required, the appropriate licence cannot be obtained until planning permission has been granted.



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## 3.0 Methodology

### 3.1 Summary Visual Assessment

A visual assessment of Dolphin House, Tresco was undertaken on 4<sup>th</sup> August 2020. The ecologists (Katherine Biggs and Chloe Balmer) assessed the suitability of the buildings and the surrounding habitat to support bats and birds. A high-power torch was used to illuminate all accessible areas of the buildings with potential to support roosting bats and roosting/ nesting birds. The ecologist searched for signs of bats and birds including droppings, staining, feeding remains, bird nests, barn owl pellets and liming. Accessible crevices with potential to conceal a roosting bat were inspected using an endoscope.

The assessment was carried out in accordance with the 'Bat Surveys for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2016). Potential bat roosts identified during the visual inspections of the building were categorised as to their suitability in accordance with these guidelines as described below:

Negligible: negligible features with potential to support roosting bats.

Low: one or more features with potential to support individual bats on an occasional basis. Unlikely to support large numbers of bats.

Moderate: one or more features with potential to support roosting bats but unlikely to be of high conservation status.

High: one or more features with potential to support large numbers of bats on a regular basis.

### 3.2 Emergence/re-entry Surveys

An emergence survey of the buildings was undertaken on 4<sup>th</sup> August 2020 and a re-entry survey of the buildings was undertaken on 28<sup>th</sup> August 2020. An emergence survey involves an ecologist(s) counting the number of bats emerging from the buildings at dusk for a period of 1.5 hrs (or until low light levels prevent observation of emerging bats). A re-entry survey involves an ecologist(s) counting the number of bats re-entering the buildings for a period of 1.5 hrs before dawn. The surveyor(s) record the calls of any bats that emerge using a bat detector and recording equipment; this enables identification of the species present and the location of bat access points.

Two ecologists were used during the first survey and it was deemed necessary to include a third surveyor for the second survey in order to fully observe all elevations of the building. Surveyor locations are shown in Figure 1 (below). On both survey occasions surveyor 1 (Chloe Balmer) used an Echo Meter Touch (EMT) 2 and surveyor 2 (Katherine Biggs) used an EMT 2 and an Elekon Batscanner Stereo. On the second survey occasion surveyor 3 (Lucy Wright) used an EMT 2. Each detector type uses a different method of detecting. The EMT 2 detector and Elekon Batscanner Stereo detectors use heterodyne and real-time expansion, both of which are described below:

- Heterodyne: this method identifies bat calls echolocating at the frequency set by the operator but will fail to/ or only partially record bat calls outside this frequency.
- A real-time expansion bat detector digitally records ultrasonic bat calls and then plays them back at a slower rate and frequency to give an audible output.





- Frequency division: this method automatically and continuously records bat calls at all frequencies, and makes them audible to the human ear by dividing the call frequency by 10. Calls are played in real time and can be readily identified with sound analysis.

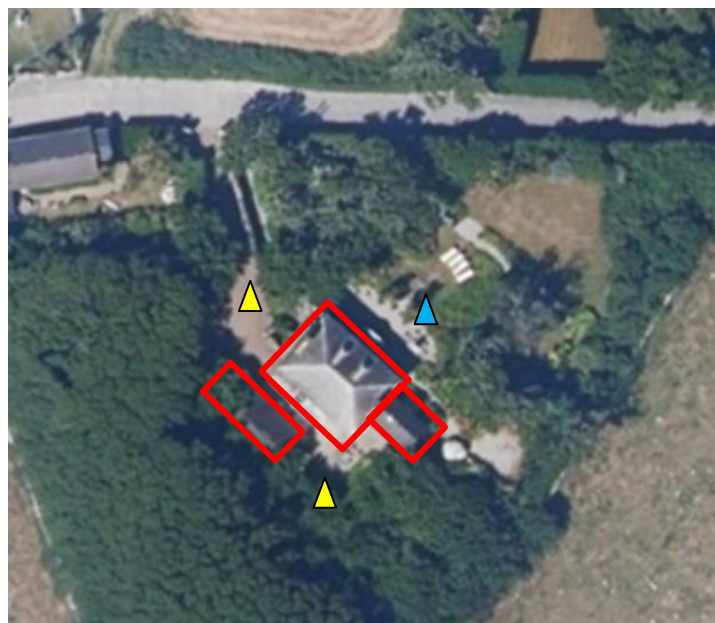


Figure 1: Emergence/re-entry surveys – surveyor locations. Dolphin House and its outbuildings are outlined in red. Yellow triangles show surveyor locations on both surveys, blue triangle shows location of surveyor 3 on the second survey

### 3.3 Ecological Evaluation

The value of buildings/ other structures for roosting bats is determined following the framework provided by Wray *et al.* (2010). This framework determines the appropriate value of a roost on a geographic scale, based on the relative rarity of the bat species using the site (based on the known distribution and population size in the U.K.), as well as the type of roost (based on the results of the emergence/ re-entry and static detector surveys). Where more than one bat species is present within the site, each species is valued individually, and the highest value obtained is assigned to the site.

Table 1 (below) categorizes bat species by their distribution and rarity in England. Table 2 (below) assigns a value for each roost type for the different rarity categories (Tables 1 and 2 are adapted from Wray *et al.* 2010).



Table 1: Relative rarity of bat species in England (adapted from Wray *et al.* 2010)

Rarity (within range)	Region
	England
Common	Common pipistrelle ( <i>Pipistrellus pipistrellus</i> ) Soprano pipistrelle ( <i>Pipistrellus pygmaeus</i> ) Brown long-eared ( <i>Plecotus auritus</i> )
Rarer	Lesser horseshoe ( <i>Rhinolophus hipposideros</i> ) Whiskered ( <i>Myotis mystacinus</i> ) Brandt's ( <i>Myotis brandtii</i> ) Daubenton's ( <i>Myotis daubentonii</i> ) Natterer's ( <i>Myotis nattereri</i> ) Leisler's ( <i>Nyctalus leisleri</i> ) Noctule ( <i>Nyctalus noctula</i> ) Nathusius' pipistrelle ( <i>Pipistrellus nathusii</i> ) Serotine ( <i>Eptesicus serotinus</i> )
Rarest	Greater horseshoe ( <i>Rhinolophus ferrumequinum</i> ) Bechstein's ( <i>Myotis bechsteinii</i> ) Alcathoe ( <i>Myotis alcathoe</i> ) Greater mouse-eared ( <i>Myotis myotis</i> ) Barbastelle ( <i>Barbastella barbastellus</i> ) Grey long-eared ( <i>Plecotus austriacus</i> )

Table 2: Value of bat roosts (adapted from Wray *et al.* 2010)

Value	Roost types
District, local or parish	Feeding perches (common species) Individual bats (common species) Small numbers of non-breeding bats (common species) Mating sites (common species)
County	Maternity sites (common species) Small numbers of hibernating bats (common and rarer species) Feeding perches (rarer/rarest species) Individual bats (rarer/rarest species) Small numbers of non-breeding bats (rarer/rarest species)
Regional	Mating sites (rarer/rarest species) including well-used swarming sites Maternity sites (rarer species) Hibernation sites (rarest species) Significant hibernation sites for rarer/rarest species or all species assemblages
National	Maternity sites (rarest species) Sites meeting SSSI guidelines
International	SAC sites



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### 3.4 Weather Conditions

The weather during the initial visual assessment was in line with seasonal norms. The emergence/re-entry surveys were undertaken during suitable weather conditions, as described below:

- 4<sup>th</sup> August 2020: Dry with full cloud cover and a temperature of 17°C at the beginning of the survey; and 17°C, dry with full cloud cover at the end of the survey; in accordance with the Beaufort Scale, wind was no greater than 'moderate breeze'.
- 28<sup>th</sup> August 2020: Dry with part cloud cover and a temperature of 14°C at the beginning of the survey; and 14°C, dry with part cloud at the end of the survey; in accordance with the Beaufort Scale, wind was no greater than 'moderate breeze'.

### 3.5 Limitations

The buildings support external features with potential to support roosting bats. It was not possible to access all exterior features to search for roosting bats/ evidence of roosting bats. This limitation was addressed by undertaking two bat emergence/ re-entry surveys. Two surveyors were used for the first survey, although it was deemed necessary to include a third surveyor for the second survey in order to fully observe all elevations of the buildings. There are no limitations associated with weather conditions.

The bat surveys were undertaken in accordance with best practice guidance; however, the results of these surveys represent only a snapshot of use at the time of survey.

The calls of four bat species are notoriously difficult to record: the long-eared bats (*Plecotus spp.*) and the barbastelle bat (*Barbastella barbastellus*) have a quiet echolocation call, and the horseshoe bats (*Rhinolophus hipposideros* & *R. ferrumequinum*) have highly directional calls. The long-eared, barbastelle and horseshoe species can be easily missed during bat detector surveys. We presume all *Plecotus spp.* recordings are those of brown long-eared bat because Cornwall is outside the known range of the grey long-eared bat (*Plecotus austriacus*).



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## 4.0 Bat Survey Results

### 4.1 Site Description and Habitat Assessment

The property 'Dolphin House' is located centrally on the island of Tresco, Isles of Scilly c. 0.25 km north east of New Grimsby beach, c. 4.8 km north-west of Hugh Town on St Marys and c. 3.8 km west of Higher Town on St Martin's, Isles of Scilly.

The location is rural in character, immediately surrounded by broadleaved trees to the south and west with a mature, well managed garden to the north east. Beyond the house and garden on all sides is mixed farmland (pasture and arable with hedgerows), with an area of bracken, scrub and woodland to the south and south east. An area of Reedbed is present c. 0.5 km to the south of the site, a Section 41 NERC Act (2006) / UK BAP Priority Habitat. Castle Down (Tresco) SSSI is present c. 0.4 km to the north west of the site, Great Pool (Tresco) Site of Special Scientific Interest (SSSI) is present c. 0.5 km to the south of the site and Pentle Bay, Merrick and Round Islands SSSI is present c. 0.6 km to the east of the site. Buildings in the wider area comprise a mixture of period and modern properties, outbuildings and barns. In combination, these features provide potential high-quality foraging and roosting habitat for bats.

### 4.2 Visual Assessment Summary

The assessment was undertaken on 4<sup>th</sup> August 2020.

The property 'Dolphin House' consists of a three-storey Grade II listed stone cottage with a pitched, hip-ended roof covered with traditional slate and clay ridge tiles. On the south-eastern elevation is a single storey extension with a pitched slate roof, and on the south-western elevation is a two-storey extension with a mono-pitched roof covered with slate. The latter is proposed to be demolished. The north-eastern elevation features a small porch with a pitched slate roof.

At ground floor level on the south-western elevation, the main cottage is attached to a single-storey outbuilding via a covered, open-sided walkway with a pitched slate roof. Attached to the north-western elevation of this outbuilding is a redundant roofless stone structure. The outbuilding and roofless structure are built into an earth bank along their south western elevations. A stone retaining wall to the south of the cottage, together with the extensions and outbuildings, creates a sheltered courtyard at the rear of the property (Figs 2 to 5).



Figure 2: North-eastern elevation of Dolphin House



Figure 3: South-western elevation of Dolphin House



Figure 4: North-eastern elevation of outbuilding and part of roofless structure



Figure 5: South western elevation of Dolphin House and roofless structure (viewed from top of earth bank)

The external walls are either bare stone or they have been rendered and whitewashed. The property features two stone chimneys, timber sash windows and timber doors and both plastic and metal guttering. There are timber fascias on the main cottage with notable gaps behind, which provide potential roosting opportunities for bats, and which could enable access for bats onto the wall tops. There are two dormer windows on the north eastern elevation of the roof with pitched slate roofs and clay ridge tiles. These exhibit hanging tiles on the sides, which are well-sealed with no notable gaps. However, there are notable gaps under the lead flashing around the dormers which provide potential roosting opportunities for crevice-dwelling bats.

The porch features a timber barge board on its north-eastern elevation, although this appears to be well-sealed. Overall, the roofing material over the property appears well-sealed with no notable gaps present.



The outbuilding and single-storey extension feature hanging slates on their gable ends with notable gaps behind which provide potential roosting opportunities for crevice-dwelling bats. These gaps could also enable access for bats into the interior of the roof void over the outbuilding.

Internally the cottage is built into the underside of the roof creating a second floor with vaulted ceilings, the interior of the single-storey extension contains a vaulted ceiling and the underside of the roof within the two-storey extension has been boarded. Therefore, there are no accessible roof voids within these parts of the building (Figs 6 and 7).



Figure 6: Interior of second floor stairwell within Dolphin House (viewed towards the south-west)



Figure 7: Interior of single-storey extension (viewed towards the south-east)

The interior of the outbuilding consists of a single room open from the concrete floor to the underside of the roof, which is partly bare slate and partly boarded creating a narrow roof void above. The interior of this roof void could not be accessed. This room is light internally and is in regular use as a utility room. The interior of the roofless structure consists of two rooms with bare stone walls and earth floors with ephemeral vegetation. The rooms are accessed via timber doors on the north eastern elevation. There are crevices present within the internal walls with some potential for crevice-dwelling bats, although this building is open and exposed to the elements which would have reduced the overall likelihood of bats roosting within this building (Fig 8).





Figure 8: Interior of roofless structure (viewed towards the north-west)

No evidence of the use of the buildings by roosting bats was found. However, a number of external features were noted on the buildings with potential to be used by roosting bats including gaps behind the fascias and lead flashing on the main cottage and gaps behind hanging slates on the outbuilding and single-storey extension. The gaps behind the hanging slates on the outbuilding also provide potential access for bats into the interior of the roof void. As it was not possible to inspect the interior of the small roof void space over the outbuilding, the likely presence or absence of bats roosting within this area could not be determined.

Dolphin House and associated outbuildings were, therefore, assessed as being of '**moderate suitability**' for roosting bats.

### **4.3 Emergence/re-entry Surveys**

No bats were seen to emerge from the buildings subject to the proposals during the first (emergence) survey. During the second (re-entry) survey a single common pipistrelle was seen to re-enter a gap underneath lead flashing on the south western elevation of the south eastern chimney on the main cottage (Fig 9).



Figure 9: Re-entry location of a single common pipistrelle bat into a gap under lead flashing on the south western elevation of the south eastern chimney on 28<sup>th</sup> August 2020 (yellow arrow). Red outline shows approximate extent of proposed works at Dolphin House (including outbuildings further to the west).

#### 4.4 Bat Species Evaluation

The survey results show that the main cottage supports an occasional day roost for at least one individual common pipistrelle. No bats were seen to emerge from the area of the building to be directly impacted by the proposed works i.e. the two-storey extension and adjacent outbuildings.

The common pipistrelle: is common and widespread throughout the UK. The population is considered to have increased since 1999 (BCT, 2020).

The cottage likely supports an occasional day roost for a single non-breeding common pipistrelle. The location of the roost is likely within a gap underneath lead flashing on the south western elevation of the south eastern chimney on the main cottage. This roost is considered to be of **low conservation significance** for common pipistrelle.

Following the framework described by Wray *et al* (2010), as outlined in Section 3.4 above (Tables 1-2), the rarity of the bat species recorded on-site is 'common', and the corresponding value for a day roost of a small number of common species bats is 'District, local or parish' level. Dolphin House is, therefore, considered to be of **Local** importance for roosting bats.

**NB:** As far as we are aware, the roof over the main cottage, including its chimneys, are not being directly impacted by the proposals and are being retained. Disturbance of the common pipistrelle day roost within the south eastern chimney is considered unlikely except for during demolition of the existing two-storey extension, which has potential to cause some low-level disturbance to bats within the neighbouring roost.



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## 5.0 Impacts and Mitigation Recommendations

### 5.1 Evaluation of Development Proposals and Impacts

The survey results showed that the main cottage supports an occasional day roost for at least one individual common pipistrelle (low impact). No bats were seen to emerge from the area of the building to be directly impacted by the proposed works i.e. the two-storey extension and adjacent outbuildings. The client proposes to demolish the two-storey extension at the rear of the property, below eaves height, and construct a replacement extension below eaves height, incorporating the adjacent outbuildings. Disturbance of the common pipistrelle day roost within the south eastern chimney is considered unlikely because works within the vicinity are restricted to works to the two-storey extension and outbuildings, below the level of the roof. It is recommended that a precautionary approach be adopted. Building works will be carried out under a Bat Mitigation Method Statement as detailed below:

### 5.2 Bat Mitigation Method Statement

Although bats are not currently, at the time of the survey, using the two-storey extension or adjacent outbuildings, at least one bat has been shown to roost within the south western elevation of the south eastern chimney on the main cottage, which is close to the area of the building subject to the proposed works. As far as we are aware, no works are proposed to the roof, chimneys or fascias over the main cottage and so the roosting feature will not be lost or damaged as part of the works. The proposed works are to be undertaken below the level of the roof over the main cottage, therefore disturbance as a result of noise and vibration is considered unlikely except for during demolition of the existing two-storey extension, which has potential to cause some low-level disturbance to bats within the neighbouring roost.

In order to avoid disturbance to bats roosting within the chimney, it is recommended that a precautionary approach should be adopted:

- Prior to demolition of the existing two-storey extension, the roof over this part of the building will be 'soft striped' under an ecological watching brief between March and October (a time of year when any bats present are least likely to be negatively impacted), or when the temperature is consistently above 8°C. A licensed bat ecologist will oversee removal of the roof. In the unlikely event that a bat(s) is uncovered, works will be stopped, and Natural England consulted. Under this scenario, it will be necessary to obtain an appropriate licence from Natural England to permit continuation of works.
- Building contractors will be notified about the presence of bats in the adjacent chimney on the cottage and informed that if a bat/s is uncovered during works, then work must stop immediately (as soon as it is safe to do so) and advice sought from licensed bat ecologist/s (Plan for Ecology Ltd, 01326 218839)
- No exterior lighting will be installed close to the identified roost feature within the south eastern chimney

### 5.3 Opportunities for Biodiversity

The value of the site for roosting bats post-development could be enhanced by incorporating the following measures:

- A single bat box could be installed on the exterior of the building post-development, ideally onto the south eastern or south western elevation. Any enhancements installed should not



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be lit by artificial lighting, either directly or indirectly through light spill. This is in line with the Cornwall Planning for Biodiversity Guide (2018). Suitable products for bats at this site include the 1FF Schwegler bat box, or a comparable product. Suitable products are available at <https://www.nhbs.com>, and <https://www.wildcare.co.uk/>.



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## 6.0 References

- BCT (2020) National Bat Monitoring Programme Annual Report 2019. Bat Conservation Trust, London.
- Collins (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition, Bat Conservation Trust, London.
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