BAT PRESENCE/ABSENCE SURVEYS (PAS)

CAMELIA COTTAGE,
HOLY VALE, ST MARY'S, ISLES OF SCILLY

Client: *Perry Sladen*

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Executive Summary

Overview

A suite of surveys were undertaken on Camelia Cottage in order to characterise the use of the property by roosting bats. This followed the results of the Preliminary Roosting Assessment (PRA) undertaken in May 2023. The surveys included:

- 2x Presence/Absence Surveys (PAS);
- Passive monitoring of the loft space for 29 days using a static bat detector;
- A PRA of the adjacent Magnolia Cottage loft space.

Results

The PAS undertaken in July did not identify any bats emerging from the property. The static bat detector did not identify any bat activity within the loft space. No evidence of roosting bats was identified in Magnolia Cottage loft space.

Conclusion

A single brown long-eared bat dropping was confirmed in the PRA but no further evidence of presence was identified in the further surveys outlined in this report.

In accordance with the Precautionary Principle, occasional transient use of roosting opportunities within the loft by an individual brown long-eared bat is assumed.

Mitigation Strategy

In accordance with the precautionary assumption of a roost, a mitigation strategy is provided in the form of a Non-Licenced Method Statement.

The Non-Licenced Method Statement is focussed upon the following key principles:

- **Avoidance of impacts** through pre-commencement inspections; a Toolbox Talk from a Licenced Bat Worker; a Precautionary Method of Works (PMW) strategy; and ecological oversight of selected works;
- **Mitigation of impacts** through the retention of existing access features at the southern eaves of the property and the creation of a sealed void at the eaves which would represent a reduced but retained roosting opportunity for bats;
- **Enhancement of roosting opportunities** through the incorporation of a bat access tile into the roof of the adjacent Magnolia Cottage (under the same ownership as the applicant) and the installation of a Kent Bat Box within the loft space.

Planning Recommendations

A Planning Condition requiring compliance with the Non-Licenced Method Statement outlined in Chapter 4 could be attached to a Decision Notice at the discretion of the LPA.

The PRA and PAS reports together provide an appropriate ecological baseline for the purposes of assessing the Planning Application. No further surveys would be required. The results detailed in this report can be considered valid for the current active season. If works have not commenced by March 2024, an update should be undertaken.

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1. Introduction

1.1. Background to Surveys

The building under consideration is Camelia Cottage – a mid-terrace property within Holy Vale in the centre of St Mary's, Isles of Scilly.

The works subject to the current Planning Application involve the installation of rooflight windows in the southern pitch of the roof. This specific Planning Application is in the context of wider proposals to restore the loft space to residential accommodation. The impact assessment and proposed mitigation strategy will address the full suite of works in order to ensure that the project can take place with legislative compliance on the part both of the Applicant and the Contractor undertaking the works.

A Preliminary Roosting Assessment (PRA) was carried out in June 2023 – this assessment identified an individual brown long-eared bat dropping within the loft space of the property. This was confirmed by DNA analysis.

The PRA report stated that further surveys would be required to provide an evidence base sufficient to characterise the status of the buildings with regards to bats, and inform any mitigation measures required to ensure legislative compliance. These surveys include:

- Two Presence/Absence Surveys (PAS);
- Deployment of a static bat detector within the loft space of Camelia Cottage over the period of a month.
- An internal PRA inspection of the adjacent Magnolia Cottage roof space.

This report provides the results of the recommended surveys and outlines a mitigation strategy informed by the results. It should be read alongside the PRA report to provide a comprehensive assessment of the building with regards to roosting bats.

1.2. Survey Objectives

The overall survey objective is to characterise the use of the Camelia Cottage loft space by bats, specifically brown long-eared bats, and fully assess the potential impacts of the proposals on these species.

- The PAS were undertaken to watch for bats emerging from roost sites within the property at dusk.
- The deployment of the static bat detector within the loft space, immediately adjacent to the location where the dropping was identified, was undertaken to passively monitor the presence of bats in flight within the loft space over the course of a 1-month period from June – July. This

was in order to provide further information on the presence and frequency of bats within the loft space;

- The additional PRA survey of the loft space in Magnolia Cottage was undertaken to provide a comprehensive baseline assessment of features which may be indirectly impacted by the proposed works in the adjacent Camelia Cottage. The PRA survey of Camelia Cottage identified potential for bats to move between these two loft spaces through gaps at the top of the party wall which would be removed and replaced as part of the proposals. The aim of the PRA of Magnolia Cottage was to identify any evidence or potential for use of this loft space by bats.

2. Survey Methodology

2.1. Surveyor Details

The PAS was led by Darren Hart. Darren has undertaken Professional Bat Licence training and is a Level 2 licenced bat worker with experience in undertaking emergence, re-entry and activity surveys.

The static deployment survey and additional PRA were undertaken by James Faulconbridge. James is a Level 2 licenced bat worker with over 15 years' experience in undertaking emergence, re-entry and activity surveys.

2.2. Survey Methodology

2.2.1. PAS

The dusk emergence surveys were conducted following Best Practice methodology for bat surveys.

The dusk emergence surveys commenced from approximately 20 minutes before sunset and continued until 90 minutes after sunset. The survey was undertaken with regard for the appropriate weather conditions (≥10°C at sunset, no/light rain or wind).

Frequency division bat detectors were used to detect and record all bat passes. The surveyors recorded metadata including the time the pass occurred, the behaviour observed (foraging/commuting) and where possible, the species of bat observed. Results from the bat detector recordings were analysed using BatSound/Analook sonogram analysis computer software.

2.2.2. Static Deployment

An Anabat Express bat detector was used to passively record any bat passes within the loft space between 22nd June and 21st July 2023. The detector was operated using the standard trigger settings to record from 30 minutes before sunset until 30 minutes before sunrise throughout this period.

The detector was positioned on the gable where the bat dropping was identified, at a height of 1.5m above the floor. This corresponds with the likely flight height of bats within the loft space and therefore maximises the chances of detecting brown long-eared bats which have quiet echolocation characteristics.

The data files were subsequently analysed using AnaLook sound analysis software.

2.2.3. PRA

Both the exterior and interior of Magnolia Cottage were examined for structural features which could potentially support roosting bats or provide access to potential roosting sites.

Potential structural features may include:

- Gaps, crevices and cavities in roof void timbers;
- Lifted areas of sarking, under-felting, roof and wall tiles;
- Gaps in soffits, flashing, barge boards, fascias, cladding, lintels, window/door frames and weather boarding;
- Gaps and cavities in walls.

Close focussing binoculars and a torch were used to assess potential structural features in detail, where required. A search for live bats, bat droppings, urine staining and fur rubbing in and around potential roost sites and access points was undertaken in order to identify the potential presence of roosting bats, or signs of past use.

3. Results

3.1. Presence/Absence Surveys

3.1.1. PAS 1

The first dusk survey was undertaken on 3rd July 2023. The survey commenced at 21:22, approximately 20 minutes before sunset at 21:37. It was completed at 23:07.

The temperature throughout the survey was 17°c. The evening was still, overcast and warm. There was no precipitation throughout the survey.

The survey did not identify any bats emerging from the property. Regular foraging behaviour by common pipistrelle bats was recorded in the vicinity of the property from 22:08 until the end of the survey – this was predominantly offsite to the south and not directly associated with the property itself.

3.1.2. PAS 2

The second dusk survey was undertaken on 18th July 2023. The survey commenced at 21:11, approximately 20 minutes before sunset at 21:26. It was completed at 22:56.

The temperature throughout the survey was 16°c. The evening was still, mild, dry and clear with 20% high cloud. There was no precipitation throughout the survey.

The survey did not identify any bats emerging from the property. Occasional foraging behaviour by common pipistrelle bats was recorded in the vicinity of the property from 21:46 until the end of the survey, but this was relatively low level and not directly associated with the property.

3.1.3. Limitations

The weather conditions during both PAS were optimal with no precipitation or other adverse conditions which might be expected to affect bat behaviour. The two surveys were conducted 2 weeks apart during the key active month of July when brown long-eared bats are in maternity colonies (the highest Conservation Significance in the hierarchy of roost types).

There were restrictions on the ability to observe the property comprehensively as the structure of the building and the adjacent properties preclude direct observation of the northern portion of the roof. However no potential access points for bats were noted on this aspect through an internal inspection; and over 90% of the northern roof pitch (including to the eaves) is taken up by the flat-roof extension of the neighbouring property which is tied into it. This restriction on visibility is not therefore considered to be a significant constraint to survey as it is concluded that the potential access features are situated on the

southern aspect, particularly at the eaves of the property. The passive static detector recording within the roof space provides additional information to address this limitation to visibility.

3.2. Static Bat Detector

3.2.1. Results

The static bat detector was deployed for a total of 29 days from mid-June to mid-July 2023.

No bats were recorded throughout this period.

3.2.2. Limitations

Brown long-eared bats have quiet echolocation characteristics and therefore the lack of records cannot conclusively confirm that no bats were flying within the loft space; however the position of the detector and the confined nature of the space would make it highly unlikely that a deployment of this duration would fail to record any bat passes at all if the loft were regularly used.

The assessment methodology relies upon bats in flight within the loft space and would not necessarily detect evidence of bats roosting in discreet features which were accessed externally; however the nature of the potential roosting opportunities, the behavioural characteristics of the species and the internal dimensions of the roof void would suggest that internal flight would be likely if this were a regular roost.

3.3. Magnolia Cottage – Preliminary Roosting Assessment

3.3.1. Results

The PRA inspection of Magnolia Cottage focussed on the loft space which has the potential to be temporarily disturbed during the removal of the party wall between the two loft spaces, and the creation of a new wall. There is also the potential for the dropping identified within the loft space of Camelia Cottage to be associated with exploratory behaviour from a roost elsewhere within the connected terrace roof voids, potentially including the adjacent Magnolia Cottage.

The loft space of Magnolia Cottage is similar in structure to that of Camelia Cottage, though it does not have the relic northern pitch enclosed within the loft as there is not a flat-roof building tied into this property. There are stone block walls at the gable and up to the eaves, except for the party wall to Camelia Cottage which is breeze block with a concrete render. The roof is supported by timber trusses in good condition with no gaps noted between the timbers and the roof is under-felted throughout.

Evidence of nesting birds was noted, along with both dead sparrows and a dead white-toothed shrew. No evidence of bats was recorded.

Photo 01 – Showing the terminal timber A-frame adjacent to the wall

Photo 02 – Showing the eaves of the loft space

Photo 03 – Showing the timber roof structure with underfelting above

Photo 04 – Showing Magnolia Cottage from the exterior. The southern and western pitches of the roof can be seen.

3.3.2. Limitations

The void was dusty but clear of debris allowing a comprehensive inspection.

3.4. Conclusions

3.4.1. Overview

The surveys did not identify any further evidence of active use of Camelia Cottage by bats during the survey period.

No evidence of bats in the adjacent roof void of Magnolia Cottage was identified.

3.4.2. Assessment and Interpretation

Taking into account the limitations noted, and with due regard to the Best Practice Guidance, it is concluded that there is 'likely absence' of maternity use by brown long-eared bats.

The results cannot conclusively rule out the presence of an occasional, night or transient roost which is used by individual bats on an irregular basis. The confirmation of a single dropping on a cobweb does not confirm the presence of a roost as it could represent exploratory behaviour by an individual bat, especially as the most likely cause of the position of the dropping is a bat in flight. There is the potential that this is related to roosts elsewhere within the terrace building complex, with bats occasionally exploring adjacent voids.

With the application of expert judgement it is considered that the evidence base is proportionate to develop a mitigation strategy in this instance. This is based upon:

- the combined evidence of the suite of PRA, PAS and static monitoring surveys undertaken;
- the ability to avoid the risk of killing/injuring bats; retain a modified roost, and create a new roosting opportunity - thereby securing Continued Ecological Function (CEF) - through an appropriate method of works;
- the proportionality and relative benefit of further survey work which could incur significant additional costs and time delays whilst still resulting in a similarly inconclusive result.

It is not possible to obtain an European Protected Species Mitigation Licence (EPSML) as no roost is confirmed; therefore a Non-Licenced Method Statement can be used to control risk during construction; and secure the provision of roosting features in the long term.

For the purposes of developing this Non-Licenced Method Statement, a precautionary assumption of occasional day/transitional roosting by individual brown long-eared bats is made.

3.4.3. Impact Assessment

The proposed works which are subject to the current Planning Applications relate only to the installation of roof lights within the southern pitch of the property. This action in isolation would modify any roost present through the changes in light levels, and have the potential to kill or injure bats, thereby justifying the Non-Licenced Method Statement in their own right.

The wider scope of works involved in the project however include the conversion of the loft space of Camelia Cottage into residential use. In order to provide a comprehensive assessment of impacts and thereby assure legislative compliance for both the Applicant and Contractor, these works are also taken into account.

With the precautionary assumption of occasional use of the loft space for roosting by an individual brown long-eared bat, the following impacts are identified:

- Uncontrolled works could result in killing/injuring individual bats bat if they were present in the loft space at the time of works;
- In the absence of mitigation, the works would result in the modification of a roost (through installation of the roof light windows) and the destruction of a roost (through the internal remodelling works proposed).

The non-licenced method statement provided in Section 4 of this report will outline measures to avoid, minimise and mitigate these impacts. Further enhancement will also be provided.

4. Mitigation Strategy

4.1. Avoidance of Impacts: Precautionary Method of Works

4.1.1. Overview

A Precautionary Method of Works (PMW) would be required in order to ensure that bats are not harmed during works, in the unlikely event of their presence.

4.1.2. Timing of Works

The times of year when bats are most susceptible to disturbance are typically the maternity season (from mid-May to early-Sept) and the hibernation season (Dec to Feb inclusive). Works should not commence during these time periods as an additional precaution.

Works should be targeted to the transitional periods:

- Mid-March to mid-May
- Mid-September to end-November

Works commenced during these timeframes can continue into the more sensitive summer and winter periods provided that there is regular contractor presence/disturbance which would deter bats from establishing roosts, or the potential roosting sites are otherwise made unsuitable by the works undertaken to date.

4.1.3. Pre-commencement Inspection

A Licenced Bat Worker would inspect the roof space prior to the commencement of works. Once it is confirmed that no bats are present, works can proceed.

If a bat is identified, works would not commence until an EPSML was secured to ensure the works can proceed with legislative compliance.

4.1.4. Toolbox Talk

The Licenced Bat Worker (LBW) would provide a Toolbox Talk to the Contractor at the commencement of the project. This would include the following details:

- An introduction to bats;
- What evidence of bats might look like;
- How bats use buildings, with a focus on the features which could be used in Camelia Cottage;
- The legal protection of bats and their roosts;
- The precautionary method of working developed for the project;

- What to do if a bat is found or suspected.

4.1.5. Precautionary Method of Works

The following initial aspects of the works would be subject to a soft-strip methodology to ensure that, in the unlikely event of bats being present, they are not harmed or injured.

Provided the contractor has received the Toolbox Talk and the LBW is satisfied that they are competent and confident to proceed, these works can proceed under distance supervision. If there is any uncertainty, the works would be supervised by the LBW as a precaution:

- **Tiles around the locations where the new roof lights would be installed.**

  These would be lifted carefully and by hand in such a way that, if a bat were present beneath, they would not be crushed or otherwise harmed by the action. Tiles should be inspected carefully underneath for bats clinging to the underside before being set aside.

- **Internal timber boarding.**
  These would be removed by hand and the rear of the boards inspected for bats clinging to the underside. The exposed roof above would be carefully inspected to ensure bats are not present before continuing;

Once these actions are complete, works could then proceed under Distance Supervision.

4.1.6. Bat Encounter

If bats are identified or suspected at any time, works would cease and the LBW contacted immediately for advice.

- If the bat is in a safe situation, or a situation which can be made safe, they should remain undisturbed.
- Only if the bat is in immediate risk of harm can the bat be moved with care and using a gloved hand. This is a last resort and should only be undertaken for humane reasons if the bat is at immediate risk of harm and if the LBW cannot be contacted for advice.

4.2. Mitigation of Impacts: Roost Retention

4.2.1. Retention of Eaves Access

The existing access features which permit bats to enter the southern pitch of the Camelia Cottage roof void at the eaves would be retained. There is no requirement to install additional or alternative access features.

The final layout of the re-modelled loft space would retain an enclosed void at the eaves separated from the living space – see Figure 01. This would continue to be accessible to bats in the long term to provide continuity of roost provision in the same location.

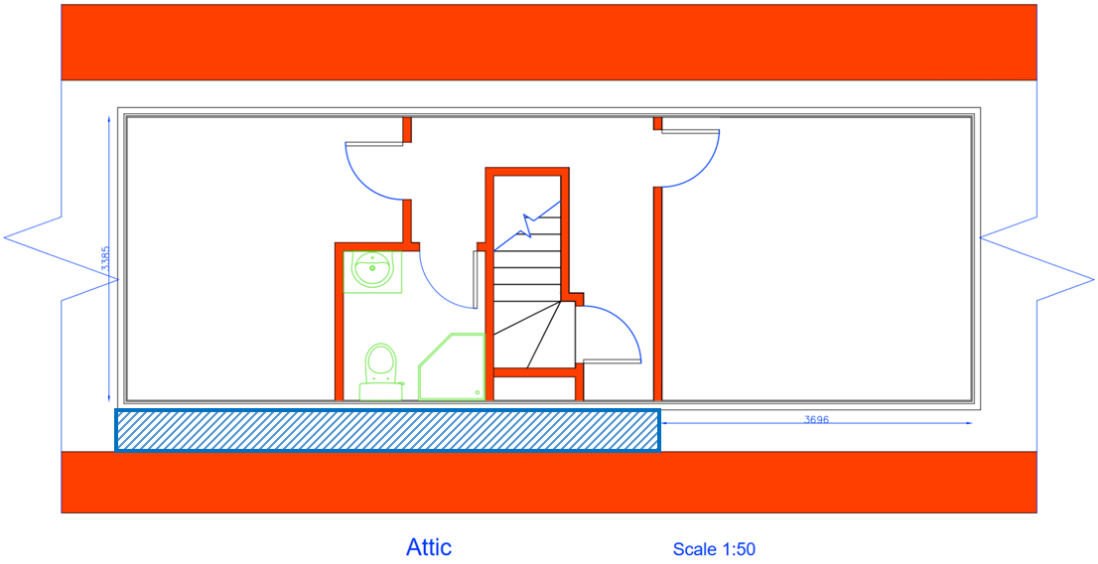

Figure 01 – Showing the location of the sealed void (blue hatch) which would be retained as a specific bat roost. This is directly accessed through the identified access features on the southern eaves of the property, thereby retaining a reduced roost void in situ.

The reduction in the available space within the loft would reduce the suitability of the roof as a roosting space for larger colonies of bats, however the results of the suite of surveys are sufficient to conclude 'likely absence' of a maternity colony. The retained eaves space is likely to remain suitable for use by individual brown long-eared bats.

Breathable roofing membranes (BRMs) are not suitable for locations where bats might come into contact with them. Over time, their condition and breathability is negatively affected by bats, and their deterioration can result in entanglement and killing of bats. For this reason, Natural England do not permit any BRMs to be used in confirmed roosts.

If there is a requirement to replace or install roofing membranes in the sealed eaves void on the southern roof pitch, these would be bitumen or similar. This applies only to the sealed void and does not apply to the wider roof as this would not be suitable for use by roosting bats after the conversion works are complete.

This eaves void would remain sealed and should not be used for storage or other uses in order to ensure that it remains suitable for use as a roosting space by bats. It would not include an internal access hatch in order to secure this.

4.3. Enhancement: Roost Creation

4.3.1. Access to Magnolia Cottage Loft Space

Magnolia Cottage is a holiday let which is immediately adjacent to Camelia Cottage on the eastern aspect. It is under the same ownership as Camelia Cottage and the party wall in the loft space between the two properties would be removed and reinstated in a new position as part of the works.

Following completion of works, the remaining loft space of Magnolia Cottage would not be modified or used for residential purposes. The construction, condition and aspect of the loft space, in close proximity to Camelia Cottage, would make an ideal location for alternative roost creation.

The key aspect of the enhancement would be to introduce a bat access feature to the loft space. This would be on the western aspect of the roof, close to the eaves in order to secure a sheltered fly-out for bats. The Leadworx Bat Access Tile has been demonstrated to successfully provide an access to roof spaces for bats and is the preferred model. Similar products could be used subject to agreement with the LBW. A small cut in the retained roofing membrane would be required to allow bats to access the roof void through the newly created access feature. The Bat Access Tiles are designed to allow access to bats, whilst maintaining the weatherproof nature of the roof itself, thereby ensuring the roof is not compromised.

Photo 05 – Showing an example of the bat access feature which would be installed. This model is the Leadworx Bat Access Tile but similar products could be used subject to agreement with the LBW.

Photo 06 – Showing the approximate location where the bat access tile would be installed in the western pitch of Magnolia Cottage (white arrow).

4.3.2. Bat Box

Brown long-eared bats are confirmed to use the Kent Bat Box design for roosting. One box would be installed within the loft space of Magnolia Cottage at the completion of works, when there would be no further disturbance from construction in the adjacent property.

The box would be situated at a height of >1.5m on one of the interior gable walls to ensure a good fly-in access. It should be securely fastened to the wall to ensure long-term stability.

A suitable box could be purchased or constructed following freely available plans. Kent Bat Box style boxes are slim and easy to construct from appropriate timber using the plans provided at:

http://www.kentbatgroup.org.uk/kent-bat-box.pdf

4.4. Survey Validity and Update

The surveys were completed between June – July 2023. Bats can change their use of roosts within and between years, and apparently minor changes in condition or use of the building can affect suitability. Given that a brown long-eared dropping was confirmed in the PRA survey in June 2022, it is considered that the survey baseline outlined in this report is valid for an application during the current active season only.

If works have not commenced by **March 2024**, an update survey should be undertaken to ensure that the ecological baseline remains appropriate to inform the impact assessment and mitigation strategy.

4.5. Planning Conditions

It is recommended that the following requirements should be incorporated into appropriate Planning Conditions if the LPA are minded to approve the application:

- A compliance condition requiring that works proceed with regards to Mitigation Strategy outlined in **Chapter 4** of this report.