

**10 Danywern Drive
Winnersh
Wokingham
Berkshire
RG41 5NR**

Preliminary Roost Assessment

Report ref.: R2632_PRA_a

Report Quality Control Information	
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1 EXECUTIVE SUMMARY

- 1.1.1** John Wenman Ecological Consultancy LLP was instructed by Heather Paxton of Wallace Bacon Consultants to undertake a Preliminary Roost Assessment (PRA) for bats at 10 Danywern Drive in Winnersh, Wokingham.
- 1.1.2** The aim of the PRA is to determine the actual or potential presence of bats in the property and whether further survey and/or mitigation would be required for future proposed development activities.
- 1.1.3** Whilst no evidence of void-dwelling bat species was observed within the roof void, external crevice roost features were observed including lifted roof tiles along the hips on the rear elevation and a gap between the uPVC soffit and brickwork on the front elevation. The property has been assigned low potential suitability for bats.
- 1.1.4** Future development proposals could obstruct access to and result in the damage/destruction of bats roosts and lead to direct/indirect disturbance, injury and/or death of bats, and potentially result in the permanent loss of a bat roost, which may have the potential to significantly affect the local distribution or abundance of a bat species.
- 1.1.5** If future development proposals cannot be altered to avoid the potential adverse effects on bats in the property, a further survey is recommended to establish the presence or absence of bat roosts in the property, in order to be able to assess fully whether the development proposals will have an adverse effect on bats and design a mitigation strategy if necessary.
- 1.1.6** This report contains information regarding a mobile species so it will likely be valid for less than 12 months (CIEEM 2019b).

2 INTRODUCTION

2.1 Project Background

2.1.1 John Wenman Ecological Consultancy LLP was instructed by Heather Paxton to undertake a Preliminary Roost Assessment (PRA) for bats at 10 Danywern Drive in Winnersh, Wokingham.

2.1.2 The PRA was commissioned to accompany a householder planning application to be submitted to Wokingham Borough Council seeking consent for raising the roof for the addition of second-storey extension with associated alterations and a rear extension.

2.2 Site Location and Context

2.2.1 The property is located on the northern side of Danywern Drive in Winnersh, a suburban village situated northwest of Wokingham (central OS grid reference: SU 78320 70838).

2.2.2 The property is bordered by neighbouring properties and their associated gardens along Danywern Drive with scattered trees and timber panel fencing along their boundaries. A railway corridor is situated approximately 140m to the southwest and the nearest playing field is situated 300m to the northwest. Furthermore, the closest parcel of woodland to the property is a 0.6ha parcel of priority deciduous woodland situated approximately 690m to the east. A network of scattered trees, hedgerows and gardens provides connectivity through the suburban landscape.

2.3 Report Objectives

2.3.1 The aim of the PRA is to ascertain if there is evidence of the presence of bats and/or potential for roosting bats to be present, and therefore whether further survey and/or mitigation would be required for future proposed development activities.

3 LEGISLATIVE AND POLICY BACKGROUND

3.1 Relevant Legislation

3.1.1 In England and Wales, all bat species found in the wild are fully protected under the Wildlife & Countryside Act 1981 (as amended) (WCA) and Conservation of Habitats and Species Regulations 2017 (as amended); the regulations are commonly referred to as the Habitat Regulations and hereafter referred to as such. The Habitat Regulations refer to European Protected Species (EPS) and all species of bats in the United Kingdom (UK) are EPS. Although the UK left the European Union on the 31st January 2020 and is therefore no longer tied to European legislation, the Habitat Regulations have been retained in their current format.

3.1.2 The legal framework underpinned by the WCA and Habitat Regulations makes these specific actions an offence as follows:

- Deliberately kill, injure, capture or take a wild bat;
- Deliberately, intentionally or recklessly disturb bats; in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or to significantly affect local distribution or abundance;
- Damage or destroy a place used by a bat for breeding or resting; and
- Intentionally or recklessly obstruct access to any place used by a bat for shelter or protection.

3.2 Planning Policy

3.2.1 The biodiversity duty imposed through the Environment Act 2021 states that Local Planning Authorities (LPAs) must consider what action they can take to conserve and enhance biodiversity in England. Government planning policy, such as the ODPM Circular 06/2005, requires LPAs to account for the conservation of protected species when considering and determining planning applications.

3.2.2 The ODPM Circular 06/2005 states that *‘the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.’* This policy means that in instances where there is a reasonable likelihood of bats being present and affected by a development, surveys must be undertaken to inform a mitigation strategy to be agreed prior to granting planning permission.

3.3 Mitigation Licensing

3.3.1 The government's statutory nature conservation body, Natural England, is responsible for issuing European Protected Species (EPS) mitigation licences that would permit activities that would otherwise lead to an infringement of the Habitat Regulations. An EPS mitigation licence can be issued if the following three tests derived from Regulation 55 have been satisfied:

- (2)(e) – the derogation is for the purposes of *'preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.'*
- (9)(a) – there is *'no satisfactory alternative'* to the derogation; and
- (9)(b) – *'the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.'*

3.3.2 LPAs have a statutory duty under Regulation 7(3)(e) of the Habitat Regulations to consider and determine whether these three tests are likely to be satisfied by planning proposals affecting EPS before granting planning permission. If an EPS mitigation licence is necessary, a licence can be sought once all the necessary planning consents have been granted. Natural England aims to issue a decision on licence applications within 30 working days of submission.

3.3.3 The Bat Mitigation Class Licence (BMCL) scheme allows ecologists to apply to become Registered Consultants to use this licence for low conservation status roosts, i.e. roosts comprising small numbers of seven commonly occurring species. A site registration form must be completed as a condition of the licence and submitted to Natural England at least three weeks before the licensable activities are due to start; Natural England aims to register sites within two weeks of submission.

3.3.4 Baseline survey information supporting EPS mitigation licence applications or BMCL site registrations must be up-to-date and have been completed within the current or most recent optimal season. A suitably experienced ecologist will be required to undertake a site walkover/check within three months prior to application/registration submission to confirm that conditions have not changed since the most recent survey.

4 SURVEY METHODOLOGY

4.1 Desk Study

4.1.1 A desk-based study for bats was undertaken to collate and review existing information about the site and the surrounding land. The study utilised the following open access resources:

- OS maps and Google Earth – maps and satellite imagery were used to identify potential flight-paths and foraging habitats for bats;
- DEFRA Data Services Platform and MAGIC – maps were used to locate relevant designated sites, habitats and granted European Protected Species licences; and
- existing bat survey reports – any available reports were obtained from the client or relevant planning portal.

4.2 Building Inspection

Survey Details

4.2.1 A detailed inspection of the exterior of the property was undertaken on the 15th February 2024 by Meghan Porter (a qualifying member of CIEEM) registered under Natural England Bat Survey Class Licence CL17 (Registration no. 2023-11300-CL17-BAT) and assistant ecologist Jake Morgan (a qualifying member of CIEEM), in accordance with good practice guidance (Collins 2023). A detailed interior inspection of the property was undertaken on the 23rd February 2024 by Conor Watson (ACIEEM) registered under Natural England Bat Survey Class Licence CL17 (Registration no. 2020-44817-CLS-CLS) and Meghan Porter. The equipment used during the inspection comprised binoculars, a high-power (1 million candlepower) LED torch, a headtorch, ladder and PPE (facemask, gloves etc.). The inspection involved a systematic search of the exterior and interior of the structure during daylight hours to compile information on potential and actual bat access points; potential and actual bat roost sites; and any evidence of bat presence.

External Survey

4.2.2 Frequently used bat access points and/or roost sites include (but are not limited to) spaces:

- behind hanging tiles, weatherboarding, soffit boxes and barge boards;
- under lead flashing (particularly around chimneys) and roof tiles/slates; and
- in existing bat boxes.

4.2.3 It is important to note that the two most abundant and widespread bat species, common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*), typically only require gaps measuring 15mm by 20mm to gain access to a roost inside a building.

4.2.4 The external survey involved a systematic search for evidence of bats including:

- live or dead specimens;
- droppings;
- urine marks;
- fur-oil staining; and
- squeaking noises.

4.2.5 It should be noted that bats can be present in a building while leaving no visible signs externally and wet weather has the potential to wash any evidence away. The search for evidence was focused on (but was not limited to) the ground, windowsills, windowpanes and walls (including cladding and hanging tiles); particularly in places near to potential bat access points and/or roost sites.

Internal Survey

4.2.6 The internal survey comprised a systematic search for evidence of bats on the upper floors of the building (i.e. checking the exterior from windows) and inside the roof and eave spaces. Evidence of bats found during an internal inspection can include:

- live or dead specimens;
- droppings;
- urine marks;
- fur-oil staining;
- feeding remains (i.e. moth wings);
- squeaking noises;
- bat-fly (Nycteribiid) pupal cases; and
- odour.

4.2.7 It should be noted that only specimens or droppings can be relied upon in isolation to confirm the presence of a bat roost.

4.2.8 Frequently used roosting locations within the roof include (but are not limited to):

- the apex of the gable end or dividing walls;
- the top of chimney breasts;
- ridge and hip beams;
- mortise and tenon joints;
- behind purlins; and
- between tiles and roof lining.

Survey Limitations and Validity

4.2.9 There were no significant survey limitations because PRAs can be carried out at any time of year under any weather conditions and the building was fully accessible.

4.2.10 It should be noted that it is not always possible to inspect all potential roost sites during a survey, particularly for bat species which typically roost in hidden crevices. Therefore, an absence of bat evidence found during a survey does not necessarily equate to evidence of bat absence in a building.

4.2.11 This report contains information regarding a mobile species so it will likely be valid for less than 12 months (CIEEM 2019b).

5 SURVEY RESULTS

5.1 Desk Study

5.1.1 Neighbouring gardens along Danywern Drive and adjoining roads, playing fields, linear hedgerows, scattered trees and tree lines are present within the local area and provide continuous habitat that could be used as a flight-path connecting to high-quality foraging habitats for any bat(s) roosting in the property such as the railway corridor to the southwest. The railway corridor can be used as a high-quality commuting and foraging route for bats, connecting to parcels of mixed woodland and arable farmland to the southeast.

5.1.2 Bat mitigation licences that have been granted within the last 15 years inside a 2-kilometre radius of the property are detailed in **Table 1** below.

Table 1. Bat mitigation licences granted within a 2km radius of the property (Source: MAGIC).

Case Reference of Granted Licence	Species on the Licence	Licensable Period	Licensable Works	Distance (m)
EPSM2009-1161	Common pipistrelle & Brown long-eared bat	30/10/2009 – 30/09/2011	Destruction of resting place	650 W
2015-13607-EPS-MIT	Common pipistrelle	26/08/2015 – 05/08/2020	Destruction of resting place	1060 SE
EPSM2009-899	Common pipistrelle	15/04/2010 – 14/04/2012	Destruction of resting place	1160 SW
2016-24486-EPS-MIT	Common pipistrelle	19/07/2016 – 18/07/2021	Damage & destruction of resting place	1900 E

5.1.3 The client had no existing bat survey reports in their possession and none had been published on the Local Planning Authority's (LPA) online planning portal.

5.2 Building Inspection

Overview

5.2.1 The findings from the external and internal inspections carried out for the property are described with photographs, and annotated in a plan, as follows:

External Survey

5.2.2 The detached bungalow had a hipped roof with a flat roof section over the front porch and glass-roofed conservatory at the rear (**Photographs 1 & 2**).



Photograph 1. Front of property viewed from southwest.



Photograph 2. Rear of property viewed from northeast.

- 5.2.3** The hipped roof was covered in clay tiles that were mostly flat and intact other than occasional lifted tiles along the hip on the rear elevation and southwest elevation (**Photograph 3; Target note 1**). The ridge and hip mortar was intact on all elevations (**Photograph 4**).



Photograph 3. Lifted clay roof tiles along the hips (rear elevation).



Photograph 4. Ridge and hip mortar fully intact (front elevation).

- 5.2.4** The lead flashing situated at the base of the chimneys was sealed to the clay roof tiles and brickwork (**Photographs 5 & 6**). The roof tiles were cut behind the western chimney and the gaps were closely inspected and confirmed to be superficial (**Photograph 7**).



Photograph 5. Lead flashing sealed to brickwork and roof tiles (northwest elevation).



Photograph 6. Lead flashing sealed to brickwork and roof tiles (southeast elevation).



Photograph 7. Superficial crevice beneath cut roof tile (northwest elevation).

- 5.2.5** The uPVC soffit was sealed to the wall of the property, with a gap situated between the soffit and wall on the front elevation (**Photographs 8 & 9; Target note 2**).



Photograph 8. uPVC soffit sealed to the rendered wall (northwest elevation).



Photograph 9. Gap between uPVC soffit & brickwork (front elevation).

Internal Survey

- 5.2.6** The roof void was of cut & pitch construction, accessible via a ladder and had an approximate floor-to-ridge height of 1.75 metres in which the ridge was cobwebbed throughout (**Photograph 10**).



Photograph 10. Ridge cobwebbed throughout the void.

- 5.2.7** The roof was lined by a fully intact hessian-reinforced bitumen felt which was tight to the roof timbers and around the timbers of the chimney on the eastern elevation (**Photographs 11 & 12**).



Photograph 11. Fully intact bitumen felt roof lining.



Photograph 12. Bitumen felt tight to the chimney timbers.

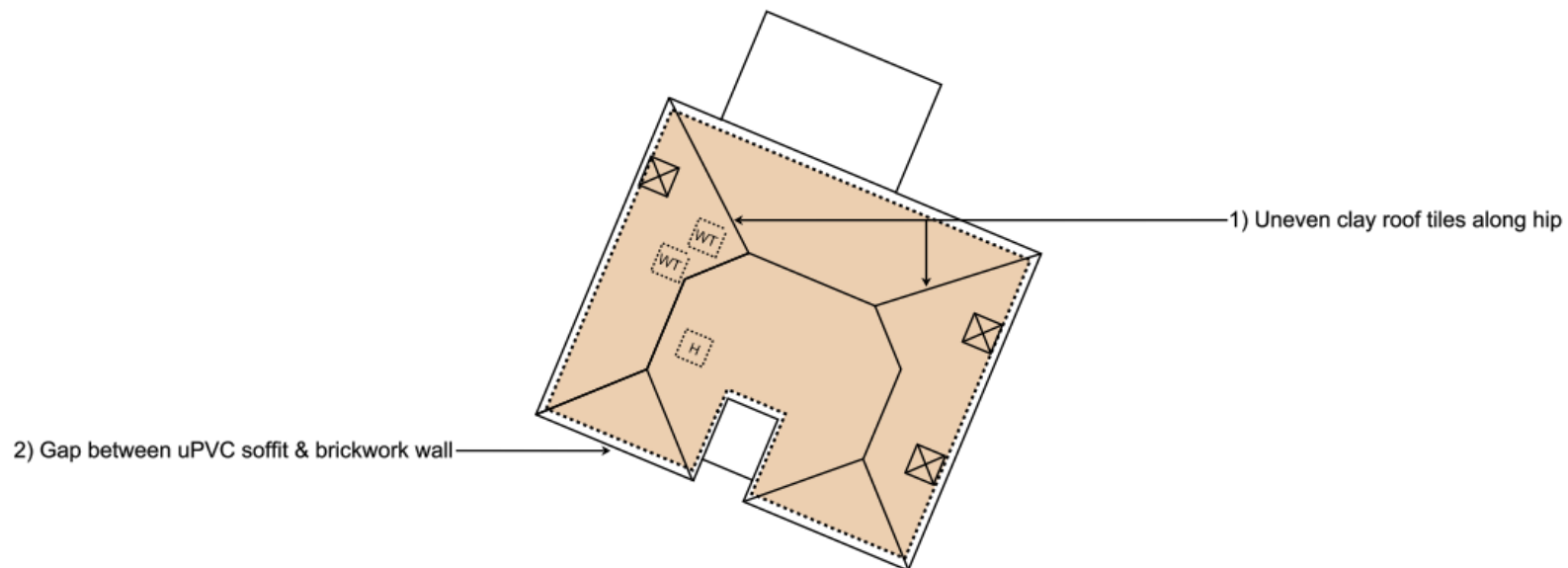
- 5.2.8** The floor was covered by fibreglass insulation that was installed in 2011 over a previously existing layer of vermiculite. The fibreglass filled the eaves, preventing access to the uPVC soffit (**Photograph 13**). A small, inactive wasp nest was situated within the southwest corner of the void (**Photograph 14**).



Photograph 13. Eaves blocked by fibreglass insulation.



Photograph 14. Small in-active wasp nest within southwest corner of the void.



 Chimney
  Roof void
  Loft hatch
  Water tank
  External target note

Drawn by:	Date:	Scale:	10 Danywern Drive, Wokingham	
JM	March 2024	Not to scale	Preliminary Roost Assessment Plan	

6 DISCUSSION

6.1 Assessment of Potential Roost Suitability

6.1.1 The suburban area surrounding the property with gardens, playing fields, linear hedgerows, scattered trees and tree lines provides continuous habitat that could be used as a flight-path connecting to high-quality foraging habitats for any bat(s) roosting in the property such as the railway corridor to the southwest and the parcels of woodland to the northeast & southeast. Furthermore, the search of granted bat mitigation licences identified two species known to be roosting within a 2km radius of the house: common pipistrelle (*Pipistrellus pipistrellus*) and brown long-eared bat (*Plecotus auritus*).

6.1.1 The house had the following suitable/potential bat access points:

- Lifted clay roof tiles along the rear hips of the property (**Target note 1**); and
- A gap between the uPVC soffit and brickwork on the front elevation (**Target note 2**).

6.1.2 With no evidence of roosting bats or access points identified during the internal survey in which the bitumen felt roof lining was fully intact and the eaves were filled with fibreglass insulation the presence of void-dwelling bats, such as the locally recorded long-eared bat species (*Plecotus* spp.) is considered highly unlikely. The uneven roof tiles along the hip on the rear elevation of the property and the gap behind the uPVC soffit are unlikely to lead into the roof void and instead offer crevice roost sites for small numbers of crevice-dwelling bats such as the locally recorded common pipistrelle (*Pipistrellus pipistrellus*). Whilst the roof tiles were partially damaged behind the chimneys, close inspection with a high-powered torch showed the resulting crevices to be superficial and unsuitable for use by crevice-dwelling bats.

6.1.3 The property has been assigned low potential suitability for bats (see **Appendix 1** for potential suitability categories).

6.2 Assessment of Potential Roost Status

6.2.1 The potential crevice roost sites in the property are considered to be suitable for use by typically crevice-dwelling bat species such as the abundant and widespread soprano pipistrelle (*P. pygmaeus*) & common pipistrelle (*P. pipistrellus*) and the rarer Brandt's / whiskered bats (*Myotis brandtii* / *mystacinus*). The presence of a maternity colony is considered to be highly unlikely given the scale and nature of the features observed.

6.2.2 The common pipistrelle (*P. pipistrellus*) and soprano pipistrelle (*P. pygmaeus*) are the most abundant and widespread bats in Great Britain. These species occur in almost any habitat type and are well adapted to the built environments; they are the species most regularly reported roosting in houses and churches (Mathews *et al.* 2018). Brandt's / whiskered bat (*Myotis brandtii* / *mystacinus*) are small *Myotis* species that are widespread and will roost in the same buildings as the much more abundant pipistrelle species (Mathews *et al.* 2018). Roosts supporting these species hold site to county level conservation importance subject to the roost type, i.e. non-breeding roosts supporting individual bat or small groups through to maternity roosts supporting large numbers of female bats (Reason & Wray 2023).

7 IMPACT ASSESSMENT

7.1 Potential Impacts of Development Proposals

Overview

- 7.1.1** The development proposals consist raising the roof for the addition of second-storey extension with associated roof alterations and a rear extension. The impacts of the proposals have been assessed in accordance with the mitigation hierarchy during construction and post development as follows:

Construction Phase

- 7.1.2** The development proposals will require the erection of scaffolding which could obstruct access to points of bat ingress/egress for the potential crevice roost sites associated with the lifted tiles at the rear and the soffit at the front. Furthermore, the proposals will involve the direct removal of the lifted roof tiles at the rear which may result in the damage and/or destruction of roost sites. As such, the construction activities could lead to direct/indirect disturbance, injury and/or death of bats.

Post Development

- 7.1.3** In the absence of mitigation and/or compensation, the development proposals could result in the permanent loss of bat roosts. The loss of a roost has potential to significantly affect the local distribution or abundance of a bat species, subject to its conservation status.

7.2 Recommended Actions

- 7.2.1** The development proposals cannot be altered to avoid the potential adverse effects on bats in the house. Therefore, further survey is recommended to determine the presence or likely absence of a bat roost(s) in the property, in order to be able to assess fully whether the development proposals will have an adverse effect on bats (see **Appendix 3** for further survey rationale). The recommended further survey is detailed in **Section 8.1** below.

8 RECOMMENDATIONS

8.1 Further Surveys

- 8.1.1** Further survey is recommended to determine the presence or likely absence of bat roosts in the property, in order to be able to assess fully whether the development proposals will have an adverse effect on bats.
- 8.1.2** A minimum of one dusk emergence survey visit should be undertaken in the period of May to August. This survey visit will form the roost characterisation necessary to inform an impact assessment and mitigation strategy.
- 8.1.3** Once roost characterisation is complete, an impact assessment with reference to the mitigation hierarchy will be made. In cases where the adverse effects caused by the development proposals are unavoidable, an application for a European Protected Species (EPS) mitigation licence or the registration of the site under the Bat Mitigation Class Licence (BMCL) would be required to permit the work to proceed lawfully. An EPS mitigation licence or BMCL can be issued by Natural England if the three licensing tests (detailed in **Paragraph 3.3.1**) have been satisfied by the proposals.
- 8.1.4** To satisfy one of the licensing tests, it would be necessary to demonstrate that the 'favourable conservation status' of the bat species using the house is maintained during the construction phase and post development. A mitigation strategy setting out avoidance, mitigation, compensation and enhancement measures would be required to achieve this. Indicative and provisional measures are summarised in **Section 8.2** below.

Indicative Mitigation Strategy

- 8.2** If further surveys and the impact assessment have demonstrated that an EPS mitigation

- 8.2.1** licence or BMCL (if applicable) is required to permit lawful development, the commencement of construction activities impacting the bat roosts would be timed to avoid the periods when bats are most susceptible to disturbance, i.e. winter hibernation period if there is a reasonable likelihood of hibernating bats (mid-November to mid-March) and peak breeding season (May to August) in the unlikely event a maternity colony is present.

Alternative roost sites would be made available to bats prior to and throughout the

- 8.2.2** construction phase by installing at least one woodcrete bat box (suitable for the type of roost/species present) on a suitable mature tree or a pole mount. The bat box should

be positioned at least 4 metres from the ground, away from artificial lighting and sheltered from strong wind while being exposed to sunshine (usually south, south east or south west facing).

- 8.2.3** Before the commencement of construction activities impacting the bat roost (i.e. the licensable works), a licensed ecologist or 'Registered Consultant' under the BMCL would provide a toolbox talk to all contractors working on site detailing how bats use buildings, legal protection, working methods (i.e. soft demolition/roof strip by hand), actual and potential roost sites, actions to be taken if a bat is found and personal safety procedures.
- 8.2.4** A soft demolition/roof strip approach to the works affecting the bat roosts would be adopted, i.e. careful removal of roof coverings by gloved hands and handheld tools under the direct supervision of a licensed ecologist or 'Registered Consultant'. In the event that a bat is found during the course of the works, the licensed ecologist or 'Registered Consultant' would capture the bat and transfer it directly to a woodcrete bat box installed in advance.
- 8.2.5** Replacement bat access points and roost sites may need to be created and/or reinstated into the house as part of an EPS mitigation licence or BMCL site registration. This compensation should aim for like-for-like roost sites with access points corresponding as closely as possible to the previous locations.
- 8.2.6** Where access is provided for bats, a bituminous roofing felt that does not contain polypropylene/polyethylene filaments (e.g. bitumen felt type 1F) or a non-bitumen coated 'breathable' membrane that has passed the snagging propensity test (e.g. TLX 'Bat Safe') should be used; other non-bitumen coated membranes are harmful to bats and must be avoided.

9 REFERENCES

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Mitchell-Jones, A. J. & McLeish, A. P. (2004). *Bat Workers' Manual (3rd edition)*. JNCC, Peterborough.

Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. CIEEM, Ampfield.

APPENDIX 1 – POTENTIAL SUITABILITY CATEGORIES FOR ROOSTING BATS

The categories detailed in **Table 2** below are derived from the '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*' (Collins 2023) and provide guidance for assessing the potential suitability of buildings (and other structures) for roosting bats. These categories are applied using professional judgement and irrespective of whether the presence of a bat roost has been confirmed during a survey, as additional bat roosts could be present which have not yet been discovered.

Table 1. Categories for potential suitability of buildings (and other structures) for roosting bats.

Potential Suitability	Category Justification
None	A building (or structure) that has no features likely to be used by any roosting bats at any time of the year (i.e. a complete absence of cracks, crevices or voids that could provide suitable shelter).
Negligible	A building (or structure) that has no obvious features likely to be used by roosting bats, but in this case a small element of uncertainty remains as bats will occasionally use small and apparently unsuitable features. This category may also be used where a bat could potentially roost due to one attribute, but it is considered unlikely due to another attribute (e.g. a feature that is subject to constant illumination from artificial lighting).
Low	A building (or structure) that has one or more potential roost sites suitable for opportunistic use by individual bats at any time of the year. However, these potential roost sites for bats do not provide sufficient space, shelter, protection, conditions and/or surrounding suitable habitat to be used regularly or by large numbers (i.e. unlikely to be suitable for a maternity colony and not a classic hibernation site).
Moderate	A building (or structure) that has one or more potential roost sites suitable for regular use by individual bats, or small non-breeding groups, due to sufficient space, shelter, protection, conditions and surrounding habitat. However, these potential roost sites for bats are unlikely to support a roost of high conservation status with regards to the type of roost only (i.e. maternity colonies and classic hibernation sites).
High	A building (or structure) that has one or more potential roost sites suitable for use by large numbers of bats more regularly and for longer periods of time due to sufficient space, shelter, protection, conditions and surrounding habitat. These potential roost sites for bats are capable of supporting high conservation status roosts (i.e. maternity colonies and classic hibernation sites).

APPENDIX 2 – DEFINITION OF BAT ROOST TYPES

The potential suitability of a building in conjunction with any evidence of bat presence is used to provide an initial assessment of likely roost type and importance. The types of roost considered are based on the following Natural England definitions:

- Day roost – a summer resting place used by individual bats, or small non-breeding groups, during the day;
- Night roost – a resting place used by individual bats on occasion, or by a whole colony regularly, during the night;
- Feeding perch – a resting place used by individual bats, or a few individuals, primarily for short periods of feeding during the night;
- Transitional roost – a place used by a few individual bats, or occasionally small groups, for a short period of time upon waking from hibernation or in the period prior to hibernation;
- Maternity roost – a place used by small to large groups of female bats to give birth and raise their young to independence;
- Hibernation roost – a place used by individual bats, or in groups, during winter where there is a constant cool temperature and high humidity; and
- Satellite roost – a place used by a few individuals to small groups of breeding female bats found in close proximity to the main nursery colony throughout the breeding season.

The importance of a bat roost is underpinned by the conservation status of the suspected species (i.e. the distribution/rarity of a species in a specific geographic location) and the type of roost (i.e. not all roosts have the same level of importance in supporting the local bat population). Further roost characterisation surveys may be required to fully determine the importance of a confirmed roost to allow for a robust impact assessment.

APPENDIX 3 – FURTHER SURVEY RATIONALE

In cases where no evidence of use by bats is found during a building inspection but the possibility of their presence cannot be ruled out, further presence/likely absence survey is likely to be required if the development proposals will impact potential roost sites. Emergence surveys are carried out to establish the presence or likely absence of roosting bats in buildings (and other structures) and these are designed in accordance with the ‘*Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*’ (Collins 2023) detailed in **Table 3** below.

Table 2. Recommended further survey for establishing presence/likely absence of roosting bats in buildings (and other structures).

Potential Suitability	Further Survey
None	No further surveys are required.
Negligible	No further surveys are required.
Low	A minimum of one dusk emergence survey visit should be undertaken in the period of May to August. However, if all areas (including cracks, crevices and voids) can be thoroughly inspected and no evidence of use by bats is found, then emergence surveys may not be required. In cases where a complete inspection cannot be carried out, professional judgement and proportionality should be applied when assessing the impacts of the development proposals.
Moderate	A minimum of two dusk emergence survey visits should be undertaken in the period of May to September, with at least one of the surveys between May and August; the survey visits should be spaced at least three weeks apart.
High	A minimum of three separate dusk emergence survey visits should be undertaken in the period of May to September (inclusive), with at least two of the surveys between May and August; the survey visits should be spaced at least three weeks apart.

In cases where the PRA and/or further survey establishes the presence of roosting bats in a building (or structure), this will likely trigger the need for roost characterisation to collect sufficient information to inform the impact assessment and mitigation strategy. The roost characterisation comprises information collected during the PRA, emergence surveys and by other methods, such as DNA analysis of bat droppings, and ultimately aims to determine the bat species roosting; the number of bats the roosts support; the roost access points; the locations of the roosts and the types of roost present. This information is crucial when applying for planning permission and/or a European Protected Species mitigation licence.