



Robson Ecology Ltd.
Tel: 01787 248407 / 07443 620934
Email: Odette@RobsonEcology.co.uk



Preliminary Bat Roost Assessment

of

**Court Farm Cottage, Fox and Pin Lane, Nowton,
Bury St Edmunds, IP29 5LP**

Survey Commissioned by:	Ms Lucy Pettitt
Project Number:	REP21035
Report issued:	15 th September 2021
Date of survey:	5 th August 2021
Surveyor:	Odette Robson BSc (Hons) PhD MCIEEM

Project number:	Title:	Revision:	Issued:
REP21035	Bat Roost Assessment of Court Farm Cottage, Fox and Pin Lane, Nowton, Bury St Edmunds, IP29 5LP.	Final	15 th September 2021

Disclaimer

The findings detailed in this report are based on evidence from thorough survey, where every effort has been taken to provide an accurate assessment of the site at the time of the survey. No liability can be assumed for omissions or changes after the survey has taken place.

This report was instructed by Ms Lucy Pettitt, and following the brief agreed. Robson Ecology Ltd has made every effort to meet the client's brief.

Neither Robson Ecology, nor any associated company, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use of the report. We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above. This report is confidential to the Client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Information supplied by the Client or any other parties and used in this report is assumed to be correct and Robson Ecology accepts no responsibility for inaccuracies in the data supplied.

*Where roosting bats are recorded, a Protected Species Licence may be required: Natural England (the licensing authority in England) require data from the most recent survey season. **Where a bat roost is not recorded, data will be valid for a maximum of 12 months from survey date.** The Report is not to be relied upon more than 12 months after its original date.*

Reports must not be submitted to the LPA for a planning application until outstanding invoices have been settled.

© Robson Ecology Ltd. 2021 (Copyright of this report remains with Robson Ecology: Content must not be reproduced, in whole or part, without written consent)

Summary

Site:	Court Farm Cottage, Fox and Pin Lane, Nowton, Bury St Edmunds, IP29 5LP
Grid Reference:	TL 86141 62010
Report Commissioned by:	Lucy Pettitt
Date of Survey:	5 th August 2021

Activity	Impacts	Recommendations
Bat roost potential	Extension to Cottage involving demolition of outbuilding and porch	<p>The Cottage was re-roofed (including new roof timbers) and fully renovated when it was converted to a single dwelling in 2016-2017 (previously a pair of semi-detached cottages). As such, the cottage was intact and in a very good state of repair, with well-sealed slate roof, brick and flint-work walls, and new window-frames.</p> <p>The main cottage roof will not be impacted when the proposed extension adjoins the north-east-facing gable.</p> <p>No bat droppings or other signs of roosting bats were recorded externally, or internally (within the loft void or outbuilding and porch extensions).</p> <p>Negligible potential for roosting bats and no further surveys or precautions are required.</p>
Precautions	<p>Lighting</p> <p>Roofing Membrane</p>	<p>Any external lighting should be sensitive to foraging and commuting bats by maintaining the dark areas surrounding the Cottage, and avoiding light directed towards mature trees, boundary hedges, and any enhancement bat box/roosting opportunities.</p> <p>Breathable wall/roofing membranes (BRMs) must not be used on any part of the new extension which could be accessible to bats (e.g., under wooden weather-board which could warp over time). Bats can access holes as small as 1cm.</p>
Ecological enhancement	Bat boxes on the garden trees and/or a bat roosting feature on the south-eastern elevation of the new extension, would enhance the site for bats, in line with policies designed to ensure a net gain for wildlife from all planning applications.	

Contents

- 1 Introduction 5
 - 1.1 Background..... 5
 - 1.2 Aims and Objectives..... 5
- 2 Survey Methodology..... 5
 - 2.1 Site Survey..... 5
 - 2.1.1 Bats..... 5
 - 2.2 Site Context and Proposals 6
- 3 Results 7
 - 3.1 Desk Study..... 7
 - 3.2 Site Survey..... 7
 - 3.3 Suitability of Buildings for Roosting Bats 8
 - 3.4 Foraging and Commuting Bats 9
 - 3.5 Limitations and Assumptions..... 9
- 4 Recommendations 9
 - 4.1 Key Recommendations and Precautions..... 9
 - 4.1.1 Phase 2 Surveys for Bats..... 9
 - 4.1.2 Building Materials..... 9
 - 4.1.3 Sensitive Lighting 10
 - 4.1.4 Enhancement Bat Boxes..... 10
- 5 Conclusion 12
- 6 References..... 12

1 Introduction

1.1 Background

Robson Ecology Ltd was commissioned to undertake a Bat Roost Assessment of a residential property: Court Farm Cottage, Fox and Pin Lane, Nowton. The report is required to inform a planning application to extend the living accommodation of the property following demolition of the existing outbuilding and porch.

1.2 Aims and Objectives.

All UK species of bats are protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. The surveys were therefore required to:

- Identify the presence, or potential presence, of any bats;
- assess the potential impact of the proposals on bats within the zone of impact;
- make recommendations for further surveys to inform a Protected Species Licence application (if required);
- detail any precautions required to protect bats from impact, and/or mitigation or compensation, where necessary.

2 Survey Methodology

2.1 Site Survey

The site survey was undertaken by Odette Robson BSc (Hons) PhD MCIEEM, a full member of the Chartered Institute of Ecology & Environmental Management (MCIEEM), subject to the CIEEM Professional Code of Conduct and licensed by Natural England to survey for bats (WML-CL18; Level 2).

During the survey, on 5th August 2021, the temperature was 18°C; the wind at Beaufort scale 2, <10% cloud cover and excellent visibility.

2.1.1 Bats

The survey was undertaken in accordance with *Bat Surveys for Professional Ecologists: Best Practice Guidelines* (Collins, 2016). The cottage was assessed externally and internally, using binoculars, high-powered torch, ladder and a borescope inspection camera (Ridgid CA300) to enable investigation of deeper cavities, where necessary. Accessible cracks, holes, crevices and other potential bat roosting features were thoroughly inspected for bats themselves, or for signs (e.g., staining, droppings, scratch marks) of past bat presence.

Aerial photographs, available maps and assessment of habitat outside the immediate garden boundary (where access was available) was used to identify any bat habitat in the wider landscape which could be impacted by the proposed extension. The likely impact of the development (both construction and operational phase) to bats using the surrounding area (foraging and/or commuting) was also assessed.

2.2 Site Context and Proposals

The property lies approximately 250m to the south of the southern outskirts of Bury St Edmunds, approximately 2.5km to the south-west of the town centre.

The Cottage (formerly two estate-workers Cottages) is immediately surrounded by woodland and scattered trees. A single, detached residential property lies adjacent to the eastern boundary of the garden (Figure 2.1). Nowton Park lies 300m to the east, with associated parkland, woodland and water bodies. The River Lark runs approximately 1.2km to the east. The wider countryside is predominantly arable farmland.

Planning approval is sought for demolition of the single-storey outbuilding and porch (adjoined to the north-eastern elevation of the Cottage), and erection of a new extension adjoining the gable end of the existing Cottage.

Figure 2.1: Location of the Cottage and site context.



3 Results

3.1 Desk Study

Moreton Hall Community Woods Local Nature Reserve is the only statutory site designated for wildlife within 2km (MAGIC, 12/09/21). The site, 1.85km to the north, includes the Glen Chalk Caves Site of Special Scientific Interest (SSSI), designated for hibernating bats with up to five species of bats regularly using the tunnels and the lime-kiln for hibernation.

One European Protected Species (EPS) licence has been granted within 2km of Court Farm Cottage, at 1.8km to the west (licence issued in 2016) for destruction of a resting place for brown long-eared *Plecotus auritus*, and Common pipistrelle *Pipistrellus pipistrellus* bats (MAGIC, 12/09/21).

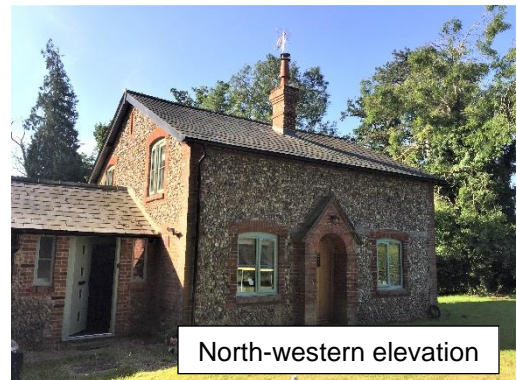
3.2 Site Survey

Building descriptions in Table 3.1 refer to the two distinct but adjoined parts of Court Farm Cottage, as shown in Figure 2.1.

Table 3.1: Roost assessment of Court Farm Cottage.

Cottage - External:

Double-story cottage (previously two semi-detached cottages) with brick and flint walls and gabled double-pitch, slate roof. The former estate cottages, built in the 1870's, underwent complete renovation and conversion to a single dwelling in 2016-2017. The external walls (flint and brickwork) were very well pointed and sealed, with no notable cracks, gaps or missing mortar.



The roof was in very good condition and well-maintained: Slates and ridge tiles were intact and well-sealed with no lifting slates or notable gaps. The gable-ends were well-sealed: Barge boards appeared new, intact, and well-sealed to the walls. The join between the Cottage gable wall and porch roof was intact cement. Lead flashing on the single chimney was mainly flush with the slates, with some minor lifting (circled - inset photo). All windows were replaced during the renovation and well-sealed into surrounds.



Cottage - Internal (loft-void):

The internal roof space was approximately 1m in height (floor to ridge), with modern roof timbers (no gaps), and internally lined with a breathable roofing membrane which was intact with no tears or holes.

Limited flight potential for bats internally, due to shallow pitch and narrow roof space.

Each gable end had a large air-brick, which was sealed with a fine mesh (inset photo). Potential for void-roosting bats was reduced due to lack of space for free-flight space, internally draughty,



lack of crevices and potential roosting opportunities, and high light levels. No bat droppings were recorded, or other evidence of bats having accessed the void.

Outbuilding/Porch – External:

Single-storey porch and unheated outbuilding directly adjoined but not inter-connected internally. The porch extended from the north-east-facing cottage gable end, joining below eaves/roof-height.

Shallow, double-pitched slate roofs - well-sealed slates and ridge tiles with no gaps (re-roofed – including the timbers in 2016/17).



Outbuilding: South-eastern elevation

Outbuilding/Porch – Internal:



Outbuilding: Internal

The porch had a false ceiling and small, shallow (<1m void) which was inaccessible (no loft-hatch). The outbuilding was open to the roof timbers with no loft-void. Roofs were internally lined with breathable membrane. Internally, light levels were high due to windows. Conditions for roosting bats were negligible due to lack of dark crevices or other potential roost features. No bat droppings were recorded, or other evidence of bats having accessed the outbuilding or porch.

3.3 Suitability of Buildings for Roosting Bats

An assessment was made under the criteria detailed in current Best Practice Guidelines (Collins, 2016). The results detailed below show the assessment of roost features for both the cottage, and the outbuildings, with the level of further survey required to ascertain the roost status, based on level of risk.

Table 3.2: Summary of bat roosting potential.

Building	Roosting habitat suitability	Further Actions
Cottage	Low/negligible roosting potential.	No further surveys or precautions needed. Low potential for roosting under lifting lead-flashing around the chimney base, which will not be impacted by proposals.
Outbuilding/Porch	Negligible roosting potential	No further surveys or precautions necessary.

3.4 Foraging and Commuting Bats

There is good potential for bats to use the garden boundaries, due to the mature trees, hedges, and woodland/parkland surrounding the Cottage. High-quality foraging habitat was present in the wider landscape, associated with Nowton Park, including mature trees, ponds, meadows and woodlands.

No foraging habitat or commuting corridors would be lost as a result of the proposals. Any new external lighting should follow the standard good practice precautions detailed in Section 4.1.3.

3.5 Limitations and Assumptions

The baseline conditions reported and assessed in this document represent those identified during a single site survey, on the 5th August 2021, within the peak bat active season. A reasonable assessment of habitats can be made during a single survey however, seasonal variations cannot be observed. The survey provides an overview of the likelihood of presence of roosting bats, limited by the transient use of roosting opportunities and the short-lived nature of some signs (such as droppings). Where no evidence was found, this does not mean that bats do not use the building at some stage of the life-cycle. Further surveys are only recommended if there is a significant likelihood that bats may be present and impacted by the proposals, based on the suitability of the property, surrounding habitat, and any direct evidence.

All areas of the property were accessible on the day of the survey. The roof void was internally accessed. Constraints were within normal limits and have been taken into consideration on drawing conclusions and recommendations from the survey.

4 Recommendations

4.1 Key Recommendations and Precautions

4.1.1 Phase 2 Surveys for Bats

Due to lack of evidence of past roosting bats, and low suitability of the roof (Cottage, porch and outbuilding) for roosting, no further surveys are recommended.

There was low potential for bats to roost under a section of lifting lead flashing at the base of the chimney on the Cottage roof, however, this will not be affected by the proposals. The proposed two-storey new extension adjoins the main Cottage on the gable end wall: The Cottage roof will not be impacted. No further surveys or precautions, are necessary.

4.1.2 Building Materials

Breathable membranes must not be used on any part of the roof or walls which would be accessible to bats. Bitumen felt underlining must be used under any cladding or roofing materials with gaps more than 1cm which could form small crevice-roosting opportunities.

4.1.3 Sensitive Lighting

Any new external lighting at the property should be minimized to encourage bats to use the site, both during the construction phase, and on completion. Guidance from the Institute of Lighting Professionals and the Bat Conservation Trust (IPL 2018; ILE 2012, BCT 2009) has been used to inform the following considerations:






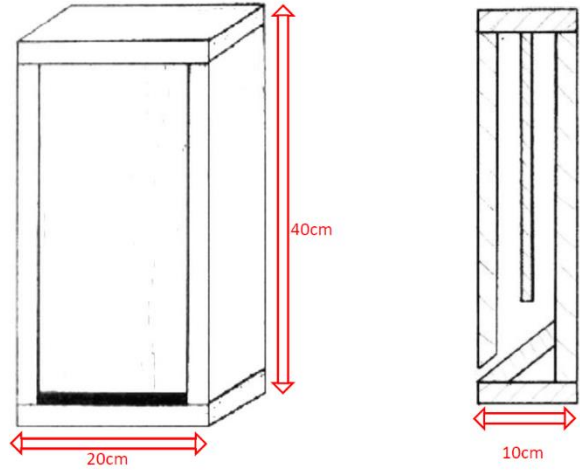
- The garden boundaries must be maintained as dark corridors for wildlife (where this is feasible and meets safety standards). No lighting should be directed towards any mature trees, hedge-lines or the garden boundary.
- LED luminaires should be used where possible (No UV elements: Metal halide, fluorescent sources should not be used).
- A warm white spectrum (ideally <2700Kelvin) should be used to reduce the blue light component.
- Peak wavelengths higher than 550nm should be used to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- Column heights should be as low as functionally feasible to minimise light spill.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used (See ILP 2011).
- Luminaires should be mounted on the horizontal to avoid upward tilt.
- Any external security lighting should be set on motion-sensors sensitive to large moving objects only, and short (<1 minute) timers.
- All external lighting should be kept to the minimal feasible level and be directed downward: Baffles, hoods or louvres can be used to reduce light spill and direct it only to where needed.
- Lighting should be appropriately directed to avoid illuminating all garden boundary vegetation, mature trees, and any enhancement bat boxes.
- Construction works should only be undertaken during daylight hours and task lighting should not be used during the construction.

4.1.4 Enhancement Bat Boxes

Additional Bat boxes will help towards Suffolk Biodiversity Action Plan targets and enhancement, as encouraged through the NPPF (National Planning Policy Framework; DCLG, 2019). An integral bat box on the south-east-facing upper wall of the new extension should be considered: This could be a bespoke bat-roosting opportunity built into the fibre-cement weather-board cladding (see Table 4.1), or an externally mounted bat box; the Schwegler 1FF or the Beaumaris Woodstone Bat Box would be suitable for positioning on the external walls of the Cottage.

Bat boxes on suitable mature garden trees are also suggested, in line with obligations for all planning applications to provide a net gain for wildlife. Woodcrete boxes, such as Schwegler 2F for pipistrelle bats, and 2FN for larger bats, would be suitable for positioning in trees. These boxes are constructed of wood fibres, clay and cement and are more durable and long-lasting than wooden alternatives. Bat boxes should be located at least 5m above the ground and facing south-east to south-west, to receive sun for part of the day, close to boundary vegetation and with open flight access into the boxes.

Table 4.1: Bat Box Specification

<p>Schwegler 2FN (for brown long-eared bats)</p> <p>The 2FN bat box is for bigger bats (e.g., noctule, brown long-eared) and should be sited in trees and is best positioned at a height of between 3 to 6 metres</p> 	<p>Schwegler 2F (for pipistrelle bats)</p> <p>Multi-purpose bat box for pipistrelles – tree-mounted. Manufactured from long-lasting Woodcrete, a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years.</p> 
<p>Bat boxes for Buildings (externally-mounted):</p> <p>Chillon Woodstone Bat Box:</p> <p>A large crevice style bat box made from long-lasting woodstone with a wooden back plate for attachment. The internal space is 35mm deep and can accommodate up to 15 pipistrelle bats. Dimensions: 29 x 44 x 9 cm</p> 	<p>Roosting Box for Buildings: Built-In (Integral)</p> <p>e.g., Schwegler 1FR Tube, Integrated Eco Bat Box, or similar and approved.</p>  
<p>Bespoke Crevice-Roosting Box</p> <p>Designed to fit beneath cladding on external walls of buildings.</p> 	

5 Conclusion

No evidence was recorded of roosting bats having used the property in the past, or currently. The property was completely re-roofed and renovated approximately 4 years ago, and currently has very low potential to support roosting bats within the loft void, outbuilding/porch, or external walls and roof.

Impact to bats from the proposed extension is likely to be negligible if any new external lighting is sensitive to wildlife, specifically bats which could forage and/or commute through the local landscape.

The property can be enhanced for roosting bats if additional bat-roosting features are included within the design of the new extension and/or on garden trees.

6 References

Bat Conservation Trust. (2009). Bats and lighting in the UK- bats and the built environment series www.bats.org.uk

Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Best Practice Guidelines (3rd edn). The Bat Conservation trust, London. ISBN – 13 978-1-872745-96-1.

ILP (2018). Institute of Lighting Professionals. Bats and artificial lighting in the UK Bats and the Built Environment series. Guidance Note 08/18.

IPE (2011) Institution of Lighting Engineers Guidance Notes for the Reduction of Obstructive Light

National Planning Policy Framework (2019) ISBN 978-1-5286-1033-9.

Stone, E.L., Jones, G., Harris, S. (2012). Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats. Glob. Change Biol. 18, 2458–2465.

UK BAP from URL <http://jncc.defra.gov.uk/page-5717>

MAGIC (accessed 12th September 2021): Designated site data downloaded from URL <http://www.magic.gov.uk.html>