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August 2019

BAT ROOST ASSESSMENT

Moorhampton House Barn, Hereford, HR4 7BE

A bat roost assessment undertaken for Moorhampton House Barn, Hereford, for the proposed conversion of the barn from agricultural to residential use.



Produced for: Mr J Jay Moorhampton House Moorhampton Hereford HR4 7BE

Yasmina Ashcroft MSc & Dave Smith BSc ACE | Ashcroft Conservation & Ecology www.ashcroftecology.co.uk Tel: 07896715512 | 07905849842 yasmina@ashcroftecology.co.uk

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1.0 Summary

- **1.0.1** The proposed works to Moorhampton House Barn, Hereford are change of use from agricultural to residential and conversion of the barn into a single residential dwelling. A preliminary ecological appraisal and preliminary scoping survey has already been undertaken for the site by Janet Lomas. This report should be read in conjunction with the report produced by Janet Lomas, dated 1st May 2019.
- **1.0.2** The purpose of this report is to present the results of the suite of bat activity surveys undertaken between July and August 2019. Surveys were undertaken to assess the ecological and conservation importance of the site for bats and to inform a planning application for change of use of the barn and conversion to a two-storey residential dwelling. A thorough desktop study has already been undertaken within the ecological appraisal produced by Janet Lomas, dated 1st May 2019, and as such, is not included in this report.
- **1.0.3** No bats were observed roosting in the building during the scoping surveys, however, one pair of Swallows are actively nesting on the interior of the South elevation of the barn. Scattered bat droppings were observed on the floor in the main barn void. During the bat activity surveys a maximum of five Soprano Pipistrelle (SPIP), seven Common Pipistrelle (CPIP), four Brown Long-Eared (BLE) and two Whiskered/Brandt's (small *Myotis*) were observed emerging from or reentering the barn and associated porch/lean-to structures and foraging on site.
- **1.0.4** The key issues with proposed works include loss of or disturbance to bat roosting features and bird nesting habitats as well as disturbance or injury to roosting/nesting bats and birds. As a result of the use of the building as a day roost by four species of bat, an EPS licence will be required from Natural England in order to carry out the proposed conversion.

1.1 Mitigation & Enhancements

- Time all works outside of main bat activity season (May to September)
- Provision of toolbox talk for site workers and installation of four bat boxes in mature retained trees and nearby undisturbed barn prior to works
- Destructive search of potential features prior to commencement of works
- Large bat loft created within lean-to adjoining North Elevation with access features and interior crevice features
- Shallow bat loft spanning full length of building from North to South gable end with access feature from both gables and interior crevice features
- Four Bat access tiles
- Two raised ridge access tiles
- Integral Built-In Bat Box on Southern elevation
- Bitumen felt type 1F to be used, exclusively, to line roof tiles throughout and timber treatments must be bat friendly
- Bird enhancements to be undertaken as per biodiversity enhancement plan produced by Janet Lomas, with the addition of two artificial Swallow cups

2.0 Introduction

2.1 Background

2.1.1 Dave Smith was commissioned by Mr Jay to undertake a suite of bat surveys to provide and accurate assessment of bat roost potential for the site. The site is comprised of a traditional red brick threshing barn and is known as Moorhampton House Barn, situated in Moorhampton, Hereford, HR4 7BE. The site is proposed for development by change of use from agricultural to residential and conversion of the barn and adjoining lean-to structures into a two-storey dwelling.

2.1.2 This report is informed and preceded by the preliminary ecological appraisal, scoping survey and biodiversity enhancement plan produced by Janet Lomas, dated 1st May 2019, and the reports should therefore be read in conjunction.

3.0 Methodology

3.1 Ecological Context

3.1.1 Please see report by Janet Lomas, dated 1st May 2019.

3.2 Desktop Study

3.2.1 Please see report by Janet Lomas, dated 1st May 2019.

3.3 Site Surveys

3.3.1 Additional scoping was undertaken prior to the first dusk emergence survey, in accordance with the BCT Good Practice Guidelines (Collins, 2016) and in addition to that undertaken by Janet Lomas in 2018. The interior and exterior of the building and associated lean-to structures were searched for potential roost features, such as loose tiles, deteriorated or absent mortar, weathered cladding and roofing felt, in addition to evidence of bat activity such as absence of cobwebs, staining, droppings and feeding remains. The scoping was undertaken using a powerful torch, bat detector, ladder and endoscope where necessary and was carried out by licensed bat ecologist Dave Smith (CL137061) and bat surveyor Yasmina Ashcroft.

3.3.2

Three bat activity surveys were undertaken of Moorhampton House Barn during the peak bat activity/maternity season by two to three bat surveyors and informed by the following equipment; two Magenta Bat5, Batbox Duet, EM3, Pettersson 240X and two Infrared Cameras. Of the three bat activity surveys, two were undertaken at dusk (emergence) on the 15th and 30th July 2019, by Dave Smith, Yasmina Ashcroft and Dwayne Martin and the third at dawn (re-entry) on the 19th August 2019 by Dave Smith, Yasmina Ashcroft and Natasha James. All surveys were undertaken in optimal conditions, as outlined in Table 1 below.

Table 1: Summary of Bat Activity Survey Conditions

Date	Туре	Start	Finish	Temp	Wind	Rain	Cloud
15.07.19	Dusk	21:10	22:40	21.3°C	1.0 m/s	Dry	15%
30.07.19	Dusk	20:55	22:25	18.8°C	1.8 m/s	Dry	30%
19.08.19	Dawn	04:30	06:10	15.8°C	0 m/s	Dry	10%

Results

Desktop Study

4.1.1

4.2

4.1

Please see section 3.1 and 4.1 of preliminary ecological report by Janet Lomas, dated 1st May 2019.

Site Surveys

4.2.1

Scoping of the barn was undertaken prior to the initial bat activity survey to identify evidence of bat and bird activity and to identify key potential roosting features. No bats were observed roosting in the building during the scoping survey, however, 20-30 scattered small bat droppings were seen across the barn floor. Most of the roof tiles on the main part of the barn and adjoining lean-tos are unlined, except for the East pitch of the main barn roof. Scoping also identified potential brickwork features created by deteriorated mortar and constructional vents.

4.2.2

Four species of bat were recorded emerging from and re-entering a variety of features on the North, South and East elevations of the barn during the dusk and dawn activity surveys. The roost features observed being utilised and by which species are summarised in Table 2 below. Raw survey data can be provided upon request.

Table 2: Summary of Roost Features by Species and Survey	ry of Roost Features by Species and Survey
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Survey	Species	No.	Elevation	Feature	Figure
15.07.19	CPIP	1	S	Edge tile gap	3
15.07.19	BLE	1	S	Edge tile gap, gable end, ridge/apex	3
30.07.19	SPIP	4	Ν	Lean-to, timber-tile crevice	2
30.07.19	Myotis	2	S	Gable end, edge tile gap	3
30.07.19	CPIP	2	S	Edge of tiles and mortar/brick feature	3&4
30.07.19	SPIP	1	S	Gable end, edge tile gap	3
30.07.19	BLE	1	S	Edge tile gap, gable end, ridge/apex	3
19.08.19	SPIP	4	Ν	Lean-to, timber-tile crevice	2
19.08.19	BLE	3	Ν	Lean-to, timber-tile crevice	2
19.08.19	CPIP	3	Ν	Gable end ridge, edge tile gap	2
19.08.19	CPIP	2	E	Constructional vent, access to timbers	1
19.08.19	CPIP	2	S	Edge of tiles and mortar/brick feature	3 & 4
19.08.19	BLE	1	S	Edge tile gap, gable end, ridge/apex	3

4.2.3

The dense hedging and overhanging tree branches create a sheltered foraging and commuting area along the Northern proposed development boundary. The level of foraging activity around the yard and extensive agricultural buildings surrounding the proposed site, but outside of the development boundary, suggest high levels of bat activity in the nearby landscape.

5.0

5.1

Evaluation

Designated Sites

5.1.1

The desktop study outlined in the preliminary ecological appraisal by Janet Lomas, dated 1st May 2019, indicates that there are no designated sites within the proposed development boundary or within the immediate landscape. Due to the nature and scale of the development i.e. conversion of an existing building within a hardstanding yard, the likelihood of any impact upon the designated sites in the wider landscape, by the proposed development, is negligible. Please see report by Janet Lomas, dated 1st May 2019, for full details of desktop study and biological records search.

5.2

Habitats 5.2.1

As a result of the confirmed status of Moorhampton House Barn as a bat roost for low numbers of a maximum of four species of bat, the ecological value of the site, in terms of roosting habitat, is considered to be moderate. The conversion of the barn would result in a loss of Swallow nesting habitat.

5.3

Protected Species

5.3.1

The results of the bat surveys carried out in July and August 2019 indicate that four species of bat are using Moorhampton House Barn as a day roost; Soprano Pipistrelle (SPIP), Common Pipistrelle (CPIP), Brown Long-Eared (BLE) and Whiskered/Brandt's (small *myotis*). It is unlikely due to the low numbers of bats utilising each roost feature that the site is used as a maternity roost.

5.3.2

The conversion works proposed for Moorhampton House Barn would likely result in the destruction and/or disturbance of key roost features and/or individual bats. In order to mitigate the impacts of the proposed development and to reduce the likelihood of injury or death to individual bats, a mitigation strategy and enhancement scheme are suggested in section 5.4. The Conservation of Habitats and Species Regulations 2017 makes it an offence to kill, injure or disturb a bat and/or to damage or destroy a breeding site or resting place as bats are classified as a European Protected Species. As a result the proposed works can only be permitted under a licence from Natural England.

5.4

Mitigation & Compensation

5.4.1

Mitigation strategy (including working method statement):

- Conversion/Construction works to Moorhampton House Barn, Hereford, will be timed outside of the bat activity season May to September. Works shall commence no earlier than beginning of October 2019 and all external works including the implementation of the bat features, including bat lofts, bat boxes, bat access tiles and Swallow nesting features shall be completed by end of April 2020.
- 2) Prior to the commencement of works a destructive search shall be undertaken by Dave Smith, or a similarly licensed and qualified ecologist, of all brick features within the walls of the barn in particular those identified as confirmed roost features. Any features which are empty/unused will be blocked to prevent use/access. Where bats are found, they will be transferred to bat boxes installed on site, or if removal is not physically possible, the features will be partially blocked to restrict access, allowing bats to exit but not re-enter.
- 3) Prior to the commencement of works, all site construction workers will be subject to a 'toolbox talk' which will communicate the details of the licence, UK bat ecology, potential bat habitat and features within the development boundary and the details of the mitigation strategy, enhancement scheme and working method statement. The talk will also detail appropriate actions should a bat be found on site when a licensed bat ecologist is not present.
- 4) Prior to the commencement of works four bat boxes (details in Appendix 3) shall be installed on the mature Birch to the North of the barn and on the Dove Cote building to the South, to receive bats removed during the destructive search.
- 5) Any tile removal from the roof of the main part of the barn and adjoining lean-to structures must be undertaken by hand and supervised by Dave Smith, or a similarly licensed and qualified ecologist.
- 6) Any demolition of brickwork shall be undertaken by hand in a careful manner with each brick checked for evidence of bat activity and individual bats before discarding/storing. If

bats are found during the works when the licensed bat ecologist is absent, works must cease and the licensed bat ecologist consulted, likely resulting in a site visit.

- 7) No exterior lighting shall be installed on the barn, particularly around bat features. If lighting is imperative for reasons of health, safety and security, lighting must be installed on posts or bollards at a maximum height of 1m, and must be directed towards the ground using hoods or baffles. Similarly, no security/alarm systems should be installed near bat features.
- 8) Upon completion of the installation of the recommended bat roost features, a compensation visit will be undertaken by Dave Smith, to ensure the features are satisfactorily implemented.
- 9) As a result of the fatal interactions between bats and modern Breathable Roofing Membrane (BRM), BRM will not be utilised within the barn or adjoining lean-tos. Type 1F Bitumen Roofing Felt will be used exclusively, throughout the entire structure. Any timber treatments used in treating internal roofing and structural timbers and/or external cladding timbers must be bat-safe (more information available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachm ent_data/file/825651/timber-treatment-table1.pdf).

5.4.2

Compensation and Enhancements (See details in Appendix 2):

- 1) As compensation for the loss of the Common Pipistrelle tile roost on the North elevation two bat tiles will be installed at the edge of the roof on each pitch at the Northern end.
- 2) As compensation for the loss of the small *myotis* tile roost and Common Pipistrelle tile roosts on the South elevation two bat tiles will be installed at the edge of the roof on each pitch at the Southern end.
- 3) As compensation for the loss of the Common Pipistrelle brick cavity roost on the Southern elevation an integral build-in bat box will be incorporated into the wall on the Southern elevation.
- 4) As compensation for the loss of the Common Pipistrelle vent access feature on the East elevation an integral build-in bat box will be incorporated into the wall on the Eastern elevation.
- 5) As compensation for the loss of the Brown Long-Eared timber roost feature in the North elevation adjoining lean-to, a bat loft with integrated crevice features will be created within the proposed loft void within the lean-to with bat access feature from the East elevation.
- 6) As compensation for the loss of the Soprano Pipistrelle timber roost feature in the North elevation adjoining lean-to, a shallow bat loft with integrated crevice features will be created within the apex of the main part of the barn and will span the full length of the building with bat access features from the North and South elevations.
- 7) As compensation for the loss of the Brown Long-Eared tile roost on the Southern elevation two raised ridge access tiles will be installed to create access to an un-mortared ridge tunnel spanning the length of the roof apex of the main part of the barn.
- 8) As compensation for the loss of Swallow nesting habitat, two artificial Swallow nest cups shall be installed on the East elevation beneath the roof overhang.

6.0 References

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

GOV.UK (2019), Remedial Timber Treatment Products Suitable for Use in Bat Roosts [online] Accessed 01/09/2019, Available via:

<https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_dat a/file/825651/timber-treatment-table1.pdf>

Institution of Lighting Professionals (ILP), (2018) Guidance Note 8 Bats and Artificial Lighting [online] Accessed 01/09/2019, Available vie: <https://www.theilp.org.uk/documents/guidancenote-8-bats-and-artificial-lighting/>

Appendix 1: Photographs







Appendix 2: Bat Survey Results



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Kent bat box for use during destructive search - to be recycled and used as crevice features in



total):

Woodstone Cavity bat box for use for BLE during destructive search – to be recycled and used as crevice feature in loft (1 total – chambers to be removed):



Bat access tile to replace tile roosts (4 total):



Swallow nest cups to be installed on East elevation (2 total)

