A BAT EMERGENCE SURVEY AT THE GRANARY/TRACTOR

SHED BUILDING, WALLHEAD FARM, ST WEONARDS,

HEREFORDSHIRE, HR2 8PY



Commissioned by:

P.E.T. Price Properties

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EXECUTIVE SUMMARY

- 1. A Bat Emergence Survey was undertaken at the Granary/Tractor Shed building at Wallhead Farm, St Weonards, Herefordshire HR2 8PY, during August /September 2013, for: P.E.T. Price Properties.
- 2. This bat survey was required due to the conversion of the current Granary/Tractor Shed building into a residential dwelling. A previous bat survey done by another ecological consultancy on the adjacent buildings revealed bats to be present and using current buildings. As a result of this knowledge it was requested that a bat survey should be conducted to ascertain if these protected mammals are present at the development footprint or not.
- 3. No bat roosts were found at all within the Granary/Tractor Shed building during this bat survey.
- 4. Soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*) and a *Myotis* bat species (possibly Natterer's bat) were found to be using the immediate area around the Granary/Tractor Shed building for the purposes of foraging.
- 5. Overall, the Granary/Tractor Shed building was found to have Low/Medium bat roost potential, with some crevices found within the existing building. However most of these were deemed unsuitable for bats as a result of being too tight or being clogged with spider webs.
- 6. As a standard precaution only as per any development related site, the future contractor should still be fully aware of the legal protection of bats and what to do if an unexpected bat is found or suspected at the Granary/Tractor Shed building at the Wallhead Farm site during all conversion works.

1. INTRODUCTION

- A Bat Emergence Survey was undertaken at the Granary/Tractor Shed building at Wallhead Farm, St Weonards, Herefordshire HR2 8PY, during August /September 2013, for: P.E.T Price Properties.
- This bat survey was required due to the refurbishment of the existing Granary/Tractor shed building into a residential dwelling. Since bats are already known to be present on the Site as a result of a previous bat survey done on the adjacent buildings. This previous ecological survey revealed the Site was being used by a number of bat species and suggested the provision of a bat loft within the refurbished farm buildings This survey was requested as to definitively ascertain if these protected mammals are roosting within the building subject to development or not.
- The main method used for this bat survey, as well as the full results and the recommendations can be found within this report.
- Both this bat survey and report were undertaken and compiled by Mr Andrew S. Waller, Consultant Ecologist, ASW Ecology, and Casey-Ruth Griffin, ASW Ecology.
- Mr Andrew S. Waller has been a Consultant Ecologist since 1997, and has very extensive experience/knowledge of protected wildlife species/issues including bats, for which he is fully licensed to survey throughout England by Natural England for consultancy purposes (Licence Number: 20130245). He is also a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

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2. METHODOLOGY

2.1 Bat survey methods

- During August and September 2013, a total of three bat emergence survey visits were undertaken at the Granary/Tractor Shed building at Wallhead Farm Site, which is subject to proposed conversion into a residential dwelling. Two bat surveyors using Bat Box Duet bat detectors were present on each survey visit to investigate for any bats emerging out of any of the structures present. Sonogram recordings were also undertaken on all three visits.
- The three dusk visits were undertaken in suitable weather conditions only, so there was the best chance of finding any possible emerging bats.
- Indications of bats roosting at any site during bat detector surveying can include the sighting of early emerging bats; roost noises from a bat roost as bats get prepared for emergence; and bat "streams"- where bats may emerge one after the other in quick succession.
- Additionally, a repeat bat assessment was made of the Granary/Tractor Shed building, with a detailed search for any bat evidence and bat roost potential. This followed on from the initial daytime bat assessment in November 2013.

2.2 Constraints to bat survey

- Due to the timing of this survey, only part of the Summer and Autumn 2013 period could be covered by this bat survey, and there was no opportunity to investigate other times of this current year. This though is a standard constraint for any bat survey which can only investigate part of the year. But given the results of this survey, this is not therefore seen as a constraint.
- The June to August period is critical to bats since this is when maternity roosts are present and young bats will be born. Large roosts are sometimes present within structures, and can be very visible during such bat emergence surveys. This survey was indeed commissioned when such colonies will have started to disperse.
- As always though, without taking into account any further active surveying or monitoring, this study can only provide a "snapshot" of the presence of bats at the Wallhead Farm site during the time of the survey visits.

3. BAT SURVEY RESULTS

3.1 Bat emergence survey

Bat emergence survey - visit 1 – 28/8/2013

Sunset time: 8.08pm Weather: dry, no wind and clear skies Windspeed (max): 0mph Inverts present: small moths, mosquitoes and craneflies

Temp (sunset): 17°C

- 8.22pm 1 soprano pipistrelle may have emerged from adjacent converted barn with bat loft.
- 8.23pm 1 soprano pipistrelle foraging within open end of granary building (consistent foraging for 10/15mins)
- 8.34pm 1 soprano pipistrelle commuting next to the granary building.
- 9.05pm 1 soprano pipistrelle commuting next to the granary building.
- 9.07pm 1 Myotis spp. foraging within open end of granary building.
- 9.15pm 1 soprano pipistrelle commuting over field adjacent farm house.
- 9.19pm 1 soprano pipistrelle as above
- Note: No bats emergence noted from this building however early sightings of bats suggested that bats are roosting nearby i.e. bat loft in adjacent building.

Bat emergence survey - visit 2 – 4/9/2013

Sunset time: 8.42pm Weather: scattered cloud, dry and mainly calm Windspeed (max): 0mph Inverts present: flies, craneflies, moths, spiders, woodlice

- 8.01pm 1 soprano pipistrelle foraging within open end of granary building (continuous foraging until 8.17pm)
- 8.06pm 1 soprano pipistrelle near adjacent inhabited building yard area
- 8.17pm 1 soprano pipistrelle flew past bat lofts in adjacent building.
- 8.24pm 1 soprano pipistrelle return to foraging within open end of granary building.
- 8.36pm 1 soprano pipistrelle flew past bat lofts in adjacent building
- 9.03pm 1 common pipistrelle as above
- 9.04pm 1 common pipistrelle as above
- 9.10pm 1 soprano pipistrelle commuting over field adjacent granary building
- Note: No bats emergence noted from granary building however conversations with neighbour revealed bat roost within bat box on adjacent barn conversion.

Bat emergence survey- visit 3 -

Sunset time: 7.24pm Weather: mostly clear, dry and cool with light breeze Temp (sunset): 17°C Windspeed (max): 2mph Inverts present: moths, craneflies, flies

- 7.34pm 1 soprano pipistrelle foraging within granary building
- 7.36pm 1 soprano pipistrelle flew past building with bat boxes
- 7.52pm 1 soprano pipistrelle flew past adjacent building

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- 7.55pm 1 common pipistrelle flew past adjacent building
- 7.58pm 1 soprano pipistrelle foraging within granary building
- 8.00pm 2 common pipistrelle flew past barn
- 8.01pm 1 soprano and 1 common pipistrelle foraging in front of granary building
- 8.05pm 1 common pipistrelle flew past barn
- 8.08pm 1 soprano and 1 common pipistrelle flew in front of granary building .
- 8.13pm 1 soprano pipistrelle flew past barn
- 8.20pm 1 soprano pipistrelle foraging within granary building
- 8.20pm 1 soprano pipistrelle flew past barn
- 8.27pm 1 common pipistrelle foraging within granary building
- 8.34pm 1 soprano pipistrelle flew past barn

3.2 Daytime bat assessment of The Granary

Building description:	 Granary/Tractor Shed Building: This stone building is made up of two compartments. Both compartment used to store farm machinery. There was once a second level to this building however this is no longer the case. The building is currently roved by corrugated metal and is of brick built construction. Wooden rafters were noted to support roof.
External bat survey	 Granary/Tractor Shed Building: A number of entry points were noted – gaps under roofing, gaps in brickwork, broken windows and doors
Internal bat survey	• Granary/Tractor Shed Building: 2 old pipistrelle droppings noted (would have been ejected whilst a bat is foraging in the building only - during flight) as well as well as an old small tortoiseshell butterfly wing in end of granary building where bat foraging had been noted before
Bat evidence present	 Granary/Tractor Shed Building: as above only, but with no bat roosting evidence found at all
Other wildlife evidence present	 1 occupied Swallow nest present
Overall bat roost grading for this building	Granary/Tractor Shed Building: Low/Medium
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3.3 Sonogram Analysis

BatSound v4 was used to analyse recordings made during all three dusk emergence survey visits. This program is an efficient, high-performance tool for various types of sound analysis. It is suitable for sound analysis in general, but also includes a number of features particularly useful to analyse bat calls recorded from a bat detector.



Fig 1: Spectrogram of 1 common pipistrelle recorded on the 3rd visit of bat near granary building





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4. CONCLUSIONS

4.1 Significance of bat emergence survey results

- No bat roosts were found at all within the Granary/Tractor Shed building during this bat survey.
- Only common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and a single *Myotis* bat species were found to be using the immediate area around the Granary/Tractor Shed building for the purposes of foraging, as well as feeding sometimes inside the structure itself. These same species were noted to be commuting through the farm.
- Good foraging behaviour was noted in part of this stone building by pipistrelle bats, hence why two old droppings had been deposited during flight on objects at ground level. This is typical behaviour by these bats as they will eject numerous droppings whilst catching and eating small insects on the wing.
- Overall, the Granary/Tractor Shed was found to have Low/Medium bat roost potential, with a number of roost features noted within the building both externally and internally. However there were a number of more suitable features noted in adjacent buildings i.e. bat boxes and bat loft.
- The habitat found on the farm was noted to be suitable forage habitat for bats with a number of mature trees and hedgerows. There was also a large amount of desirable bat habitat found within the surroundings of the farm with woodland pockets and waterbodies nearby.
- It will be important still that the development does not impact on the foraging bats present on the farm, and further information can be found in the next chapter of this report.
- Therefore, in the absence of any bat roosts at this site, there are no constraints in regards to the planned refurbishment of the Granary/Tractor Shed building into a residential dwelling.

4.2 Impact assessment

In the absence of any mitigation measures or precautions, the following direct or indirect impacts from the planned conversion works at the Granary/Tractor Shed building on bats would be predicted as:

- **DIRECT:** Since no bat roost is to be lost at the stated building, without any mitigation, there could be no direct disturbance, damage or loss of any bat resting place by the future building works. **Impact magnitude predicted: None**
- **INDIRECT:** Given that no bat roost is to be lost at the stated building or any habitat, without mitigation, there is no risk of any loss of bat related habitat or fragmentation of the local bat populations due to the future conversion and building works. **Impact magnitude predicted: None**

4.3 Legal protection of bats in the UK (Simplified current summary only of the legislation – please see other texts for full details)

4.3.1 THE LEGAL PROTECTION OF BATS IN ENGLAND AND WALES

Introduction

All species of bats in England and Wales are protected by law. Their legal protection derives from two sources:

- the strict species protection provisions of the EU Habitats Directive as implemented in England and Wales by Part 3 of the Conservation of Habitats and Species Regulations 2010 (the **"2010 Regulations"**); and
- Part 1 of the Wildlife and Countryside Act 1981 (as amended).

Conservation of Habitats and Species Regulations 2010 ("2010 Regulations")

The 2010 Regulations came into force on 1 April 2010. They replace the previously applicable regulations (Conservation (Natural Habitats, &c) Regulations 1994) in relation to England and Wales. The 2010 Regulations are the principal means by which the EU Habitats Directive is transposed in England and Wales.

The Regulations contain a number of Parts but Part 3 sets out the protection to be afforded to "European Protected Species" ("EPS"), which includes all species of British bats. The list also includes other species which are rare on a European scale, such as great crested newts, otters and dormice.

Under Part 3 of the 2010 Regulations both bats themselves and their "breeding sites and resting places" (most commonly their roosts) are protected.

Part 3 provides that it is a criminal offence to do the following (note that this is not an exhaustive list of all offences but rather a list of offences which will be of most relevance to developers):

- a. to damage or destroy a breeding site or resting place of a bat (Reg 41(1)(d));
- b. to deliberately capture, injure or kill any bat (Reg 41(1)(a));
- c. to deliberately disturb bats [note, wherever they are occurring] (Reg 41(1)(b)), in particular:
 - i. any disturbance of bats which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young (Reg 41(2)(a)(i)); or
 - ii. any disturbance of bats which is likely to impair their ability to hibernate or migrate (Reg 41(2)(a)(ii)); or
 - any disturbance of bats which is likely to affect significantly the local distribution or abundance of the species to which they belong (Reg 41(2)(b));

- d. to have in one's possession or to control or to transport or to sell or exchange or offer to sell or exchange any live or dead bat or part of a bat which has been taken from the wild; or any part of, or anything derived from, a bat or any part of a bat (Reg 41(3) and (4)); and
- e. to attempt any of the above (Reg 116(1)).

The maximum penalty that can be imposed for the above offences is (as at May 2010) a fine of up to £5,000, and/or up to six months imprisonment. The offences can be committed by individuals or by bodies corporate. Where a body corporate has committed the offence, the directors or officers of the company may also be prosecuted if the offence has been committed with their consent or connivance, or is attributable to their neglect (Reg 124).

Wildlife and Countryside Act 1981 ("WCA 1981")

The WCA 1981 protects a wide range of animals, plants and habitats in the UK. All British bat species are afforded protection under Part 1 of the WCA 1981, in addition to the protection they have under the 2010 Regulations.

As regards England and Wales the following offences apply to protect bats under the W&CA 1981:

a. to intentionally or recklessly disturb any bat while it is occupying a structure of place which it uses for shelter or protection (s9(4)(b) WCA 1981);

b. to intentionally or recklessly obstruct access to any structure or place which any bat uses for shelter or protection (s9(4)(c) WCA 1981);

c. attempting either of the above (s18(1) WCA 1981).

The maximum penalty that can be imposed for the above offences is (as at May 2010) a fine of up to \pounds 5,000, and/or up to six months imprisonment. The offences can be committed by individuals or by bodies corporate. Where a body corporate has committed the offence, the directors or officers of that company may also be prosecuted if the offence has been committed with their consent or connivance or is attributable to their neglect (s69(1) WCA 1981).

5. RECOMMENDATIONS

5.1 Best practice regarding the planned conversion works

- As a standard precaution only as per any development related site, the future building contractor should still be fully aware of the legal protection of bats and what to do if an unexpected bat is found or suspected at the Granary/Tractor Shed during all works.
- This is especially important during any soft stripping works, where external features such as guttering boards, roof sheets or lead flashing may be removed by hand before building work begins. Bats and their evidence can unexpectedly be present under such features and be completely hidden until accidentally uncovered.
- If any new bat evidence such as crumbly droppings composed of insect remains or an actual bat is seen, apart from the ones already noted by the bat survey, during soft stripping or building works, then such work must stop and a licensed bat consultant contacted immediately for advice.

5.2 Timing of future conversion works

- Usually, late summer/early autumn e.g. late August/September/October or early spring e.g. April/May, are ideally the best times to work on such structures, as this avoids the main bat breeding season and winter hibernation period.
- However, since there is no bat roost at all within the development footprint, there are no constraints as to when the conversion works can begin. As long as all contractors at the site follow the above best practice recommendation.

5.3 Bats and lighting

- Any new lighting scheme at the converted Granary/Tractor Shed building should be sensitive to local bat species, and further work may be required so to ensure this. No intrusive external lighting should be present that illuminates the nearby hedgerows and trees.
- On some sites, inappropriate new lighting schemes can be detrimental to bats which require dark corridors to move around from site to site. Some bats can be completely deterred from using a site for roosting, feeding or commuting, for example, by the impacts from strong lighting present, and that includes brown long-eared bat, which is a light adverse bat species.
- Lighting should be directed only to where it is required, so that darker corridors or pockets are retained.

6. REFERENCES

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Appendix 1: Map A - Location of bat sightings at the Granary/Tractor Shed building at Wallhead Farm, St Weonards, Herefordshire – August/September 2013

BAT ACTIVITY MAP WALL HEAD FARM



Note – A total of three bat emergence surveys were conducted at the Wallhead Farm site. On all three visits the Tractor shed/Granary Building was covered to establish whether this building and its associated features were being used by roosting bats. All bat activity was recorded including behaviour and direction of flight.

On all three visits no emergence was noted and therefore it was concluded based on evidence gathered that no bats were roosting within this particular building on this occasion.

Photographs A-D

Photograph A



Note: Picture taken of a soprano pipistrelle foraging near Granary/Tractor Shed building on the 2nd bat emergence survey visit.

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Photograph B & C



Note: External features which may be exploited in theory by bats for roosting, although no evidence was present of this

The Granary/Tractor Shed Bat Survey September 2013

Photograph D



Note: An old pipistrelle dropping found within Granary/Tractor Shed Building, where a bat had ejected this during flying in and out of part of the structure at night

The Granary/Tractor Shed Bat Survey September 2013

Appendix 3 – Encouraging Bats

On all three survey visits a good amount of bat activity was noted, this suggests that the nearby habitat is valued by local bats. With this in mind and as a result of discussions with the client and gauging their enthusiasm for wildlife on their property, it was suggested that some suggestions could be made to encourage and support bats on the property. These include:

1 – The addition of a minimum of at least three 2F Schwegler Woodcrete bat boxes (<u>http://www.nhbs.com/2f_schwegler_bat_box_general_purpose_tefno_158629.html</u>) to existing mature trees – there are a number of mature trees to the rear of the converted barn and stables. The addition of several new bat boxes to these trees may provide additional roosting opportunities for local bats.

2 – Landscaping for bats – there are a number of ways a garden or area of land can be landscaped in a way that will not only be visually appealing but also beneficial for the foraging bats. Bats are reliant on insects as a food source so therefore plants and habitats such as ponds which attract insects will also provide valuable forage for bats. The Bat Conservation Trust has a number of resources and publications which may be useful for this purpose.

http://www.bats.org.uk/publications_detail.php/231/encouraging_bats_