Bat Emergence and Re-Entrance Survey

Woodlay Farm, Herodsfoot, Liskeard, PL14 4RB

Mark Tindall

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Executive summary

Arbtech Consulting Limited was commissioned by Mark Tindall to undertake a Bat Emergence and Re-entrance Surveys (BERS) at Woodlay Farm. The survey suite was was completed on the 4th July 2021. The aim of the assessment was to appraise the presence/likely-absence of a bat roost and to provide an assessment of the current status of all the survey features. This includes providing evidence for species, numbers and levels of activity, to identify any entrance and egress points, and to gain an understanding of the activity of bats using the site in the local landscape.

As a result of the survey suite, it is assessed that there is one bat roost at the property:

1] A summer day roost of 2# common pipistrelle bat

The re-development proposals involve the demolition and rebuild of the property.

Recommendations

	Survey Findings	**Foreseen impacts**	**Recommendations / Mitigation**	**Enhancements** The Local Planning Authority has a duty to ask for enhancements under the NPPF (July 2018)
B1	As a result of the survey suite, it is assessed that there is one bat roost at the property: 1] A summer day roost of 2# common pipistrelle bat	Uncontrolled works could result in the death, injury or death of individual bats and the loss of roost habitat.	The works should be legitimised by a Natural England Conservation Regulations licence to be obtained after planning resolution. The project would qualify for being put under the WML-CL21 “low impact” bat licensing route. Whilst mitigation/compensation is not required under the BMCL a proportional scheme is to be offered: Bat mitigation/compensation will be by the installation of a tree mounted Improved triple cavity FSC bat box and the integration of a bespoke integrated bat box into the masonry of the south facing elevation of the new build. A timing restriction is not required but a demolition in either October/November or March/April would be desirable.	New structural planting in the landscaping of the new-build will include native fruit-rich woody species that will increase local insect abundance and rise and therefore allow extended local foraging by the site bats.

Contents

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Ltd was commissioned by Mark Tindall to undertake a suite of bat emergence and re-entrance surveys at a dwelling named Woodlay Farm in the summer of 2021 following a confirmed roost grading assessed at PRA (Arbtech, December 2021). The survey suite was completed on the 4th of July 2021 and in reasonable survey conditions with all of the three surveys undertaken during the optimum survey window. The assessment is informed by the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016).

1.2 Site Context

The site is located at National Grid Reference SX 18760 60570 and has an area of approximately 0.5ha. The site consists of an existing dwelling, double garage, driveway, and associated gardens. The site lies in agricultural land. There is valley woodland including FC plantation to the east of the site.

1.3 Scope of the report

This report provides a description of the bat activity observed and recorded during the survey. The aim of the assessment was to characterise any roosts present including species, number of individuals, number and location of roost access points, and to gain an understanding of how bats use the site.

Robust data has been collected, following good practice guidelines, to inform an assessment of the potential impacts of the proposed development on bats, and inform mitigation and enhancements. This report provides information on constraints to the proposals as a result of roosting bats, and summarises any mitigation required to achieve planning permission, and statutory consent to comply with wildlife legislation.

To achieve the aims of the assessment, the following steps have been taken:

- A desk study has been carried out, including a request for information from the local bat group or records centre – refer to PRA.
- Field survey(s) has been undertaken, including an external survey and internal inspection.
- An outline of likely impacts on any known roosts has been provided, based on current development proposals.
- Recommendations for further survey and assessment have been made, along with advice on the requirements of a European Protected Species Mitigation Licence (EPSML) application if appropriate.

A survey plan is presented in Appendix 1 showing the location of each surveyor and the bat activity observed and recorded during each survey, proposed plans will be provided once available in Appendix 2, desk study results are provided in Appendix 3, and a summary of relevant legislation is presented in Appendix 4.

1.4 Project Description

The development proposals involve a demolition and rebuild of a dwelling.

2.0 Methodology

2.1 Desk Study methodology

Refer to PRA (2021).

2.2 Site Survey methodology

Three BERS surveys (two dusk and one predawn) were undertaken in Jun and July 2021 with all being within the optimum timing window as advised in the BCT survey guidelines.

The bat emergence/ and re-entrance surveys undertaken in 2021 confirm that there is one minor bat roost in the property.

The survey involved surveyors positioned around the building ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. The location of each surveyor during each survey is shown in Appendix 1. Each surveyor was assigned an area of the building to observe for the duration of the survey. Surveyors used heterodyne and frequency division bat detectors, and Wildlife Acoustics EM3+ and Echo Meter Touch detectors connected to iPads. Bat echolocation calls recorded during the surveys were analysed using Wildlife Acoustics sound analysis software Kaleidoscope V3.1.7 when required. The Echo Meter Touch includes an auto ID function for bat species; however, this is not 100% accurate and further post-survey sound analysis is often required to confirm species that could not be identified by the auto ID software during the survey. Surveyors also used head torches, survey record sheets and pens/pencils for recording all activity observed during the surveys. Each surveyor was also provided with a hand-held radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the building.

In accordance with the latest bat survey guidelines (Collins, J. 2016) dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility. Dawn re-entry surveys commenced 2 hours before sunrise and continued until 15 minutes after sunrise.

Surveys were completed during optimal weather conditions i.e. when temperatures were above 10^{o}C, with no significant rain or strong winds, as these adverse weather conditions can impact upon bat emergence and foraging behaviour.

2.3 Surveyors

The lead surveyor was Chris Formaggia (Natural England Class Licence 2016-22119-CLS-CLS) and he was assisted by Elias Formaggia (5 years of bat survey experience) and Megan James or Loveday Pride (undergoing bat survey training). Three surveyors were able to provide enough cover of the building. The designated position of each surveyor during each survey is detailed in the tables in Section 3.6 below and shown on the plan in Appendix 1.

2.4 Survey Timings and Weather Conditions

The dates and times of the survey is presented in Table 1, along with sunset/sunrise times as applicable and the weather conditions at the start and end of each survey.

Table 1: Survey schedule and weather conditions

Reference	Survey date	Survey Start and End Times Sunset/sunrise time	Weather Conditions Start	Weather Conditions END
B1	05/06/2021	2055– 2330 Sunset: 2124	Temp: 13°C Humidity: 92% Cloud Cover: 100% Wind: 12 km/h from SSW Rain: None - fog	Temp: 11°C Humidity: 98% Cloud Cover: 100% Wind: 5 km/h from SSW Rain: None - fog
B1	19/06/2021	2100– 2330 Sunset: 2133	Temp: 15°C Humidity: 85% Cloud Cover: 95% Wind: 21 km/h from ESE Rain: None	Temp: 14°C Humidity: 98% Cloud Cover: 100% Wind: 23 km/h from ESE Rain: None
B1	04/07/2021	0255– 0520 Sunrise: 0513	Temp: 10°C Humidity: 92% Cloud Cover: 5% Wind: 6 km/h from NNE Rain: None	Temp: 11°C Humidity: 92% Cloud Cover: 40% Wind: 6 km/h from ESE Rain: None

2.5 Limitations

This survey follows best practice guidance to confirm presence/likely-absence of roosting bats and where present, characterise the roost. However, this information is collected at finite dates and times, and provides an indication of the conditions on site only. The use of the building, and the site as a whole by bats, at all times cannot be established based on this information.

There were no specific limitations to the survey which was undertaken with the favoured optimal survey window and under suitable weather conditions. It should be noted that the survey conditions in May had been characterised up to the survey date by cold temperatures, high rainfall and strong winds. The survey months were characterised by generally higher temperatures and less rainfall than the May but weather conditions were patchy throughout the period. Surveys around the country have suggested a slightly delayed start to bat life-cycles.

3.0 Results and Evaluation

3.1 Survey Results

The results of the survey are provided in the tables below.

Table 2: Survey results – Dusk Emergence/Re-entrance Surveys

Date		05/06/2021
Start and End Times		2055– 2330 Sunset: 2124
Surveyor (position) **As shown in Appendix 1**		**Chris Formaggia** (32 years of professional bat survey experience) – at NGR SX 18741 60574 at front of property **Elias Formaggia** (15+ years of BERS experience) at NGR SX 18777 60576 at rear of property **Loveday Pride** (1st year of bat training) at NGRSX 18766 60550 at south side of property
Building Reference	**Surveyor Position**	**Notes/observations:**
B1	1 to 2	**No bat emergence or re-entrance from building.** 1st bat activity at 2117 – a soprano pipistrelle pass on the southern boundary. Bat activity was generally quite light around and concentrated around the southern parts of the garden throughout the whole survey period. Several bats arrived from the direction of the farm barns at NGR SX 18784 60619. 31 bat detections were recorded and these included common pipistrelle, soprano brown long-eared bat (one detection/observation), noctule and serotine bats (one detection). Noctule bats were also generally passing along the east west axis. A limited amount of common pipistrelle foraging took place in the trees along the front drive at NGR SX 18701 60578
Date		19/06/2021
Start and End Times		2100– 2330 Sunset: 2133
Surveyor (position) **As shown in Appendix 1**		**Chris Formaggia** (32 years of professional bat survey experience) – at NGR SX 18741 60574 at front of property **Megan James** (Intern) at NGR SX 18777 60576 at rear of property **Static Detector** (at Anabat Express) at NGRSX 18766 60550 at south side of property
Building Reference	**Surveyor Position**	**Notes/observations:**
B1	1 to 2	**A single CP emerged from one of the front dormer apexes at SX 18758 60568 at 2148 and from a gap above the covered veranda at the wall plate at NGR SX 18752 60572 at 2153.**

<table>
<tr><td colspan="2"></td><td> 

CP Emergence Points
1st bat activity at 2107 – a noctule – detected not seen.
Bat activity was generally spasmodic around the site. 27 bat detections were recorded and these were mainly common pipistrelle with occasional noctule passes.
No other species were recorded.
2-3 CP foraged over the front drive trees for over an hour.</td></tr>
<tr><td colspan="2">Date</td><td>04/07/2021</td></tr>
<tr><td colspan="2">Start and End Times</td><td>0255– 0520
Sunrise: 0513</td></tr>
<tr><td colspan="2">Surveyor (position)
As shown in Appendix 1</td><td>Chris Formaggia (32 years of professional bat survey experience) – at NGR SX 18741 60574 at front of property
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Loveday Pride (1st year of bat training) at NGRSX 18766 60550 at south side of property</td></tr>
<tr><td>Building Reference</td><td>Surveyor Position</td><td>Notes/observations:</td></tr>
<tr><td>B1</td><td>1 to 2</td><td>No bats entered or emerged from the building.
Bat activity was very low – only five CP and one noctule detection were made – these were on the peripheries of the search area.</td></tr>
</table>

4.0 Conclusions, Impacts and Recommendations

4.1 Informative guidelines

When bat roosts are present, the bat surveys undertaken at a site facilitate the characterisation of the roost type. This allows for appropriate mitigation and compensation to be designed to inform a European Protected Species Mitigation Licence (EPSML) application to Natural England.

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016).

Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.

Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.

Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.

Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites

Mating sites: sites where mating takes place from later summer and can continue through winter.

Maternity roost: where female bats give birth and raise their young to independence.

Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

The surveys undertaken to date in and around B1 provide sufficient information to inform a planning application. A WML-CL21 "Low Impact" Bat Class Licence will be required to authorise the works.

On the basis of the survey, it is concluded that there is one day roost present in the building.

4.2 Evaluation

The optimum BERS survey finds a presence of bats at the property. The level of effort is sufficient for planning consent purposes and accords with standard bat survey guidelines.

Table 5: Evaluation of buildings on site

	Survey Findings	**Foreseen impacts**	**Recommendations / Mitigation**	**Enhancements** The Local Planning Authority has a duty to ask for enhancements under the NPPF (July 2018)
B1	As a result of the survey suite, it is assessed that there is one bat roost at the property: 1] A summer day roost of 2# common pipistrelle bat	Uncontrolled works could result in the death, injury or death of individual bats and the loss of roost habitat.	The works should be legitimised by a Natural England Conservation Regulations licence to be obtained after planning resolution. The project would qualify for being put under the WML-CL21 “low impact” bat licensing route. Whilst mitigation/compensation is not required under the BMCL a proportional scheme is to be offered: Bat mitigation/compensation will be by the installation of a tree mounted Improved triple cavity FSC bat box and the integration of a bespoke integrated bat box into the masonry of the south facing elevation of the new build. A timing restriction is not required but a demolition in either October/November or March/April would be desirable.	New structural planting in the landscaping of the new-build will include native fruit-rich woody species that will increase local insect abundance and rise and therefore allow extended local foraging by the site bats.

4.3 Mitigation/Compensation

#1 FSC Triple Cavity Enhanced box to be tree mounted at SX 18738 60534. This will be mounted in advance of demolition and would be utilised for transfer of any bat removed during controlled roof strip.

Controlled roof strip to be undertaken under WML-CL21 Class Licence to be obtained from Natural England.

Integrated bat box suitable for CP to be installed in south facing elevation of masonry of new building.

Dedicated Bat Facility (DBF):

Not required.

Enhancement:
Landscape planting to promote sustained foraging close to roost.

5.0 Bibliography

- Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected?
- Google Earth (2018) accessed on 09/07/2021
- Magic database (2018) http://www.magic.gov.uk/MagicMap.aspx accessed on 09/07/21.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Appendix 1: Survey Plan

Surveyor positions and main CP emergence points (blue arrows) and forage area

Appendix 2: Proposed Site Plan

Refer to PRA

Appendix 3: Desk Study Information

Refer to PRA

Appendix 4: Legislation and Planning Policy related to bats

LEGAL PROTECTION

All species of bat are fully protected under ***The Conservation of Habitats and Species Regulations 2017*** through their inclusion on Schedule 2.

Regulation 43: Protection of certain wild animals - offences

(1) A person is guilty of an offence if they:

(a) Deliberately captures, injures or kills any wild animal of a European protected species,

(b) Deliberately disturbs wild animals of any such species,

(c) Deliberately takes or destroys the eggs of such an animal, or

(d) Damages or destroys a breeding site or resting place of such an animal,

(2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—

(a) To impair their ability:

(i) To survive, to breed or reproduce, or to rear or nurture their young; or

(ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or

(b) To affect significantly the local distribution or abundance of the species to which they belong.

All species of bats are also protected under the ***Wildlife and Countryside Act 1981 (as amended 01.04.1996)*** through their inclusion on ***Schedule 5*** (which applies to England and Wales). Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 42 of the Act requires The National Assembly for Wales must, as respects Wales, publish a list of the living organisms and types of habitat which in the Assembly's opinion are of principal importance for the purpose of conserving biodiversity. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.