

Bat Survey Report



132 St Peter's Avenue

On behalf of Launchpadd

July 2020

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1 Executive Summary

Ecology by Design Ltd were commissioned by Launchpadd to conduct bat surveys of 132 St Peter's Avenue, Reading, RG4 7DR. The client seeks planning permission for demolition of the existing building and construction of a new two-storey dwelling.

All surveys were conducted based on standard guidance for bat surveys (Collins, J. 2016).

A preliminary roost assessment was undertaken on 3rd March 2020 which evaluated the building as having moderate potential to support roosting bats. Dusk emergence and dawn re-entry surveys were therefore recommended.

The dusk emergence survey was conducted on 2nd June 2020 and the dawn re-entry survey was conducted on 26th June 2020 during which no bats were recorded emerging from or re-entering the building. It is therefore considered that bats do not pose a constraint in relation to the proposed works

If the proposed works do not proceed within 2 years, then updated surveys are recommended.

Recommendations have been made for a sympathetic lighting scheme to avoid disturbing foraging and commuting bats and for the installation of bat boxes to increase opportunities for biodiversity within the site.

Badger were also observed on site within the back garden and it is recommended that if the fences are changed as part of the development proposals that gaps are left to enable badgers to continue to commute through the site.

2 Introduction

2.1 Background and Survey Objectives

Ecology by Design Ltd were commissioned by Launchpadd to conduct bat surveys of 132 St Peter's Avenue, Reading, RG4 7DR (central grid reference SU 70227 75560). The client seeks planning permission for demolition of the existing building and construction of a new two-storey dwelling.

Ecology by Design ecologists undertook a dusk emergence survey and dawn re-entry survey following a preliminary roost assessment conducted in March 2020. On 2nd June an internal inspection was conducted of the adjoining garage as access was not possible during the initial survey. The main building was identified as having moderate potential to support roosting bats therefore further surveys were recommended. This report details the findings of the further surveys undertaken.

The objectives of this report are to:

- Confirm presence or likely absence of roosting bats and where present, characterise the roost(s);
- Propose mitigation and enhancement measures to ensure the proposals maintain the favourable conservation status of bats within the site and local area.

2.2 Site Description

The building is a red brick bungalow in an L-shaped layout with adjoining garage. The building is located in the centre of Caversham, Reading. It is surrounded by residential development with large mature gardens. A pocket of woodland and recreation ground is situated 100m to the west of the site. The River Thames is 700m to the south.

2.3 Proposed Works

The client seeks planning permission for demolition of the existing building and construction of a new two-storey dwelling.

2.4 Limitations/ Constraints

The wildlife and wider ecological interest of a site can change. The report presented here is a statement of the findings of surveys carried out in March and June 2020.

If planning permission is not secured and works do not commence within two years of the date of this report an update of the surveys is recommended.

Weather conditions during the dusk emergence survey were considered suitable. There was intermittent light rain during the dawn re-entry survey, but conditions were suitable for the majority of the survey.

3 Methods

3.1 Desk Study

Biological records were obtained from Thames Valley Environmental Records Centre. The records were returned on 2nd July 2020.

3.2 Dusk Emergence and Dawn Re-entry Survey

The dusk emergence survey was conducted by Emily Power (2017-32544-CLS-CLS) and Tristan Carlyle (2020-46305-CLS-CLS) on the 2nd June 2020. Assistant ecologist Beth England and Raven Herald conducted the dawn re-entry survey on the 26th June 2020.

The surveys were based on the guidance included in the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins (ed.), 2016). Bat detectors utilized included Elekon Batlogger M detectors to record any bats emerging from or re-entering the buildings.

The dusk emergence survey commenced 15 minutes before sunset and lasted for at least 1.5 hours after sunset. The dawn re-entry survey commenced 2 hours before sunrise and ended at sunrise. Surveyors were located around the building focused on features with suitability for roosting bats identified during the preliminary roost assessment.

4 Results and Interpretation

4.1 Desk Study

Thames Valley Environmental Records Centre returned records of at least ten species of bat within 2km of the site, a summary of which is included in Table 1 below.

Table 1. Records of bats within 2km of the site (TVERC)

Species	Latin Name	Earliest record	Most recent record	Number of records
Brown Long-eared Bat	<i>Plecotus auritus</i>	1994	2018	28
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	1999	2019	80
Daubenton's Bat	<i>Myotis daubentonii</i>	1991	2015	23
Lesser Noctule	<i>Nyctalus leisleri</i>	2013	2017	3

Species	Latin Name	Earliest record	Most recent record	Number of records
Long-eared Bat species	<i>Plecotus sp.</i>	1992	2018	14
<i>Myotis</i> Bat species	<i>Myotis sp.</i>	1983	2017	17
Nathusius' Pipistrelle	<i>Pipistrellus nathusii</i>	1997	2017	4
Natterer's Bat	<i>Myotis nattereri</i>	2011	2017	3
Noctule Bat	<i>Nyctalus noctula</i>	1999	2018	40
Pipistrelle Bat species	<i>Pipistrellus sp.</i>	1986	2015	20
Serotine Bat	<i>Eptesicus serotinus</i>	2013	2017	2
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	2011	2019	67
Whiskered Bat	<i>Myotis mystacinus</i>	2011	2011	1

4.2 Preliminary Roost Assessment

The building is a red brick bungalow in an L-shaped layout with adjoining garage. The bungalow has a pitched clay tile roof. The bungalow was fully accessible both externally and internally. The garage was not accessible internally during the initial inspection but was inspected internally at a later date. Potential roost/ access features on the building included:

- Missing mortar from the bottom hip tile on the south western corner of the building which created a large hole;
- Several other hip tiles on both the western and southern elevations with missing mortar;
- Gaps between the brick work on both the west and east elevations of the chimney;
- Missing tiles on the eastern and southern elevations which provided access straight into the gap between the lining and the tiles; and
- Missing mortar on the ridge on the southern elevation.

Internally the bungalow loft space is similarly L-shaped and appeared in relatively good condition. It is timber framed, bitumen felt lined, insulated and partially boarded. There are some areas of torn bitumen felt lining, although no light ingress was obvious in these places. There are two small gaps in the eaves

allowing in light on both the western and eastern elevations, but these gaps were considered too small for bats to access. The adjoining garage is of brick construction with an asbestos type material corrugated lean-to roof. There are gaps in the eaves between the top of the wall and the roof sheets causing light ingress into the building. No bat droppings were found inside the building, and there were no internal roosting opportunities.

There was no evidence of previous use of the features by roosting bats. Overall, the building was identified as being of moderate suitability for use by crevice-dwelling roosting bats.

4.3 Roost Survey

The timings and weather conditions of the surveys are detailed in Table 2 below.

Table 2. Survey weather conditions

Date	Sunset/ sunrise	Start	End	Weather
02/06/2020	21:00	20:58	21:30	20°C, 2 cloud cover ¹ , 1 Beaufort ²
26/06/2020	04:48	02:48	04:48	19-18°C, 9-6 cloud cover, 2 Beaufort

4.3.1 Dusk emergence 2nd June 2020

No bats emerged from or re-entered the building during the survey. At 22:00 a soprano pipistrelle was recorded commuting south of the house. At 22:15 a common pipistrelle used the same route. At 21:41 and 21:58 a noctule bat was recorded flying overhead. At 21:54 a common pipistrelle was recorded foraging in the garden.

4.3.2 Dawn re-entry 26th June 2020

No bats emerged from or re-entered the building during the survey. Common pipistrelles were heard foraging throughout the survey, particularly around the trees to the east of the building. Soprano pipistrelles were heard at 02:54 and 02:59. Noctules were recorded at 03:09 and 04:13. At 04:00 and 04:21 a common pipistrelle was recorded flying between the house and the neighbouring house to the south. Given the timing of the latest pass it is likely the individual roosted in close proximity to the site.

¹ Cloud cover is measured using the system called oktas. The visible sky is divided into eight and cloud presence is determined within each section. A value of one to eight is then assigned (1 okta being cloudless to 8 oktas being total cloud cover).

² The Beaufort scale is an empirical measure from 0-12 which relates wind speed to observed conditions. 0- Calm, 1- Light air, 2- Light breeze, 3- Gentle breeze, 4- Moderate breeze, 5- Fresh breeze, 6- Strong breeze, 7- Moderate gale, 8- Fresh gale, 9- Strong gale, 10- Whole gale, 11- Storm, 12- Hurricane force.

4.3.3 Summary

During both surveys three species of bat were recorded commuting and/or foraging around the site including common pipistrelle, soprano pipistrelle and noctule. In terms of distribution and rarity these species are categorised as common within England (Wray *et al.*, 2010).

Bats do not pose a constraint to demolition of the building; however, recommendations are made in relation to redevelopment of the site to avoid impacts on foraging and commuting bats.

5 Potential Impacts and Recommendations

5.1 Potential Impacts

The building on site is currently uninhabited (although has been inhabited in the past) but does experience a certain level of disturbance in terms of human activity and lighting. The proposal may result in alterations or additions to the existing lighting present on the site. Should this lead to an increase in light spill along the trees to the east of the building or the area between the building and the neighbouring house to the south, identified as foraging and commuting routes, this could disturb bats using this feature.

Installing new fencing could block access to the garden for badgers which may disturb their commuting routes and reduce their foraging territories (which are already likely to be limited due to the urban location of the site).

5.2 Outline of strategy

- Sensitive use of artificial lighting;
- Retention of existing fence/ maintaining a gap beneath;
- Enhancement of the site.

5.3 Sensitive Use of Artificial Lighting

Increased levels of artificial light can cause disturbance to bats. Though several bat species can take advantage of artificial lighting systems for foraging, feeding off the insects they attract, other species avoid them as foraging within an illuminated area increases the risk of predation by nocturnal birds of prey or even domestic cats. If lighting is intensive and widespread, particularly lighting from lamps, which emit UV light (such as mercury vapour), it can deter some bats from utilising the site and in some instances can act as a barrier across commuting lines. Research has also shown that certain types of artificial lighting have been proven to disturb the emergence patterns of bats when they are placed within the vicinity of entrances to a bat roost.

Any lighting for the development will be designed sensitively with consideration of industry standard guidance (BCT & ILP, 2018). Particularly around trees and site boundaries, lighting will be directional or shrouds or baffles fitted so that the lights will not illuminate any new bat roosts, surrounding vegetation or adjacent housing. Lighting will be sensor activated and set to a sensitivity that will not be triggered by small mammals. Only the minimum light levels required to meet health and safety standards will be used within the development.

5.4 Badgers

The garden fence should either be retained or if plans are to install a new fence it is recommended that a gap is left at the base to allow badgers to continue to be able to use the site.

5.5 Recommended Enhancements

Although no bat roosts were identified within the building, bats were recorded commuting and foraging within the site therefore measures to enhance the site for bats have been included in line with planning policy. These include the installation of two bat boxes on the building. Example bat boxes are shown in Table 3.

Table 3. Recommended enhancements

Products	Description
	1FR Schwegler Bat Tube (or similar) A bat tube designed to be fitted discretely on the external walls of a building or fitted beneath a rendered surface. http://www.nhbs.com/title/161276/1fr-schwegler-bat-tube?bkfno=178018&ca_id=1495&gclid=CNb_5M_8o9ICFUFmGwodDgcEYw

Products	Description
	Habibat Bat Box The Habibat Bat Box is a solid box made of insulating concrete with an internal roost space, which can be incorporated into the fabric of a building as it is built or renovated. A variety of facings can be fitted to suit any building. The box is suitable for Pipistrelle bats and other common UK species. https://www.nhbs.com/habibat-bat-box-plain-for-rendering

6 Legislation and Policy

6.1 Bats

Bats and their roost sites are protected by UK and European legislation.

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat; and
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for that purpose.

Additionally, the Conservation of Habitats and Species Regulations 2017 (as amended) make it an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb a bat;
- Damage or destroy a breeding site or a resting place of a bat; and
- Keep, transport, sell or exchange or offer for sale or exchange alive or dead bat or any part of a bat.

6.2 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was updated in February 2019 thereby replacing the older version of July 2018. The new framework sets out in section 15 that to protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

The following should be given the same protection as habitats sites:

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

6.3 Government Circular ODPM 06/2005 Biodiversity and Geological Conservation

Paragraph 98 of Government Circular 06/2005 advises 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. Local authorities should consult Natural England before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure

the long-term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned..."

Paragraph 99 of Government Circular 06/2005 advises that "it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted".

6.4 Local Planning Policy

The following Reading Borough Council policy is contained within the Local Plan Document which was adopted in November 2019.

EN12: Biodiversity and the Green Network

The identified Green Network, the key elements of which are shown on the Proposals Map, shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted for development that negatively affects the sites with identified interest or fragments the overall network.

The Green Network comprises:

- Sites with identified biodiversity interest - Local Wildlife Sites, Local Nature Reserves, Biodiversity Opportunity Areas, protected and priority species and their habitats, Priority and Biodiversity Action Plan habitats, and the River Thames and all its tributaries (including the River Kennet and the Kennet & Avon Canal); and
- Areas with potential for biodiversity value and which stitch the Green Network together – designated Local Green Space and open green spaces, and existing and potential Green Links.

New development shall demonstrate how the location and type of green space, landscaping and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map.

b) On all sites, development should not result in a net loss of biodiversity and geodiversity and should provide a net gain for biodiversity wherever possible.

Development should:

- Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and
- Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable. In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is “no net loss” of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats and should be provided prior to development.

7 References

BCT & ILP (2018). *Guidance Note 08/18 Bats and artificial lighting in the UK*. Bats and the Built Environment series

Collins, J. (ed.) (2016) *Bat surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

HM Government (2019) *National Planning Policy Framework*. Department for Communities and local Government.

Reading Borough Council (Adopted 2019) *Reading Borough Local Plan*.

Wray S., Wells, D., Long, E. and Mitchell-Jones, T. (2010) *Valuing bats in the ecological impact assessment*, In Practice (70), pp23-26.

Appendix 1 – Photographs



Photo 1: South-western elevation



Photo 2: Loft space



Photo 3: Missing mortar from hip tile



Photo 4: Gaps in brickwork on chimney



Photo 5: Gaps around hip tiles



Photo 6: Missing tile on southern elevation

Appendix 2 – Categorising Bats by Distribution and Rarity (Wray *et al.* 2010)

Rarity within range	In England
Rarest (population under 10,000)	Greater horseshoe, Bechstein's, alcathoe, greater mouse-eared, barbastelle and grey long-eared
Rarer (population 10,000 – 100,000)	Lesser horseshoe, whiskered, Brandt's, Daubenton's, Natterer's, Leisler's, Noctule, Nathusius' pipistrelle and serotine
Common (population over 100,000)	Common pipistrelle, soprano pipistrelle and brown long-eared

Appendix 3 – Bat Survey Plan

Next page.



- LEGEND
- Building
 - Surveyor Locations

Project:
132 St Peter's Avenue

Client:
Launchpadd

Drawing Title:
Bat Survey Plan

Drawing No.:	Scale (@A3):
EBD_1211_DR001	1:110
Central Grid Ref.:	Date Drawn:
SU 70227 75560	02/06/2020
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