

**Sarandi
Forest Road
Wokingham
Berkshire
RG40 5SA**

Bat Emergence Survey

Report ref.: R2424_BES_a

Report Quality Control Information	
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1 EXECUTIVE SUMMARY

- 1.1.1** John Wenman Ecological Consultancy LLP was instructed by Mr Jack Streak to undertake a bat emergence survey at Sarandi, Forest Road, Wokingham in Berkshire (OS grid reference: SU 82445 71053). The assessment was commissioned in connection with planning proposals to be lodged with Wokingham Borough Council, seeking consent for a two-storey side extension and single storey rear extension, removing a pitched roof and replacing with a flat roof.
- 1.1.2** The bat emergence survey was commissioned following a Preliminary Roost Assessment for bats (PRA) completed by John Wenman Ecological Consultancy LLP on the 7th February 2023. The PRA found approximately 200 small and medium sized bat droppings of a shape and size most typical of those deposited by the crevice dwelling pipistrelle bat species (*Pipistrellus sp.*) and the void dwelling long-eared bat species (*Plecotus sp.*) throughout the main roof void. Externally, a bat dropping was visible in a cobweb behind the northern facing extension gable end and the property had potential roost features suitable for use by crevice-dwelling bats such as pipistrelle (*Pipistrellus spp.*) and small *Myotis* species. The potential roosting sites were located under the barge boards at the eastern facing side gable end and in gaps the verge mortar and behind the barge boards at the rear. Emergence surveys were conducted on the 30th April, 22nd May and 12th June 2024.
- 1.1.3** During the emergence surveys,) no bats were observed emerging from the property however the number of small and medium sized bat droppings found internally had increased since the survey was undertaken in 2023.. This survey result demonstrates that the property acts as a day roost (i.e. summer resting place used by individual or small groups of non-breeding bats) by an individual pipistrelle and brown long eared bats. Day roosts used by these species hold site

level conservation importance only and the loss of such roosts is not usually significant beyond the scale of the site (Reason & Wray 2023).

- 1.1.4** The development proposals will impact the access and roost site located at the gable end.
- 1.1.5** Therefore, a European Protected Species (EPS) mitigation licence would be required for the planning works to proceed lawfully.
- 1.1.6** This report contains information regarding a mobile species so it will likely be valid for 12 months only (CIEEM 2019b)

2 INTRODUCTION

2.1 Project Background

2.1.1 John Wenman Ecological Consultancy LLP was instructed by Mr Jack Streak to undertake a bat emergence survey at Sarandi, Forest Road, Wokingham in Berkshire (OS grid reference: SU 82445 71053). The assessment was commissioned in connection with planning proposals to be lodged with Wokingham Borough Council, seeking consent for a two-storey side extension and single storey rear extension, removing a pitched roof and replacing with a flat roof.

2.1.2 The bat emergence survey was commissioned following a Preliminary Roost Assessment for bats (PRA) completed by John Wenman Ecological Consultancy LLP on the 7th February 2023. The PRA found approximately 200 small and medium sized bat droppings of a shape and size most typical of those deposited by the crevice dwelling pipistrelle bat species (*Pipistrellus sp.*) and the void dwelling long-eared bat species (*Plecotus sp.*) throughout the main roof void. Externally, a bat dropping was visible in a cobweb behind the northern facing extension gable end and the property had potential roost features suitable for use by crevice-dwelling bats such as pipistrelle (*Pipistrellus spp.*) and small *Myotis* species. The potential roosting sites were located under the barge boards at the eastern facing side gable end and in gaps the verge mortar and behind the barge boards at the rear. The building was assigned high suitability for roosting bats and in line with best practice guidance (Collins 2023), a minimum of three dusk emergence surveys were conducted on the 30th April, 22nd May and 12th June 2024.

2.2 Site Location and Context

2.2.1 The semi-detached residential property is situated on the northern side of Forest Road in Wokingham, Berkshire (OS grid reference: SU 82445 71053).

2.2.2 The property is situated to the north of Wokingham town centre, with further residential properties and their associated gardens to the east and west, with open agricultural fields and grassland to the north and south.

2.2.3 In the wider area, Tippin's Wood is approximately 230m to the north-east, Pond Wood approximately 300m to the north and Ashridge Woods approximately 510m to

the west. The nearest non-statutory designated sites, Holt Copse and Joel Park Local Nature Reserves, are approximately 2.5km to the south-west.

- 2.2.4** Overall, the habitats nearby offer high quality habitat suitable for roosting, commuting and foraging bats adapted to semi-rural environments.

2.3 Report Objectives

- 2.3.1** The aim of the bat emergence survey is to determine the presence or absence of roosting bats and to characterise the bat roost(/s) in cases where presence is confirmed. The emergence survey findings inform an impact assessment and mitigation strategy for the development proposals and ascertain whether a European Protected Species (EPS) mitigation licence would be required to allow the works to proceed lawfully.

3 LEGISLATIVE AND POLICY BACKGROUND

3.1 Relevant Legislation

3.1.1 In England and Wales, all bat species found in the wild are fully protected under the Wildlife & Countryside Act 1981 (as amended) (WCA) and Conservation of Habitats and Species Regulations 2017 (as amended); the regulations are commonly referred to as the Habitat Regulations and hereafter referred to as such. The Habitat Regulations refer to European Protected Species (EPS) and all species of bats in the United Kingdom (UK) are EPS. Although the UK left the European Union on the 31st January 2020 and is therefore no longer tied to European legislation, the Habitat Regulations have been retained in their current format.

3.1.2 The legal framework underpinned by the WCA and Habitat Regulations makes these specific actions an offence as follows:

- Deliberately kill, injure, capture or take a wild bat;
- Deliberately, intentionally or recklessly disturb bats; in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or to significantly affect local distribution or abundance;
- Damage or destroy a place used by a bat for breeding or resting; and
- Intentionally or recklessly obstruct access to any place used by a bat for shelter or protection.

3.2 Planning Policy

3.2.1 The biodiversity duty imposed through the Environment Act 2021 states that Local Planning Authorities (LPAs) must consider what action they can take to conserve and enhance biodiversity in England. Government planning policy, such as the ODPM Circular 06/2005, requires LPAs to account for the conservation of protected species when considering and determining planning applications.

3.2.2 The ODPM Circular 06/2005 states 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.' This policy means that in instances where there is a reasonable likelihood of bats being present and affected by a development, surveys must be

undertaken to inform a mitigation strategy to be agreed prior to granting planning permission.

3.3 Mitigation Licensing

3.3.1 The government's statutory nature conservation body, Natural England, is responsible for issuing European Protected Species (EPS) mitigation licences that would permit activities that would otherwise lead to an infringement of the Habitat Regulations. An EPS mitigation licence can be issued if the following three tests derived from Regulation 55 have been satisfied:

- (2)(e) – the derogation is for the purposes of '*preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.*'
- (9)(a) – there is '*no satisfactory alternative*' to the derogation; and
- (9)(b) – '*the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.*'

3.3.2 LPAs have a statutory duty under Regulation 7(3)(e) of the Habitat Regulations to consider and determine whether these three tests are likely to be satisfied by planning proposals affecting EPS before granting planning permission. If an EPS mitigation licence is necessary, a licence can be sought once all the necessary planning consents have been granted. Natural England aims to issue a decision on licence applications within 30 working days of submission.

3.3.3 The Bat Mitigation Class Licence (BMCL) scheme allows ecologists to apply to become Registered Consultants to use this licence for low conservation status roosts, i.e. roosts comprising small numbers of seven commonly occurring species. A site registration form must be completed as a condition of the licence and submitted to Natural England at least three weeks before the licensable activities are due to start; Natural England aims to register sites within two weeks of submission.

3.3.4 Baseline survey information supporting EPS mitigation licence applications or BMCL site registrations must be up-to-date and have been completed within the current or most recent optimal season. A suitably experienced ecologist will be required to undertake a site walkover/check within three months prior to

application/registration submission to confirm that conditions have not changed since the most recent survey.

4 SURVEY METHODOLOGY

4.1 Emergence Survey

- 4.1.1** Dusk emergence surveys were undertaken on the 30th April, 22nd May and 12th June 2024 by experienced bat surveyors Vicky Potts registered under Natural England Bat Survey Class Licence CL18 (Registration no.: CL18 2016-27162-CLS-CLS) and Verity West (a qualifying member of CIEEM).
- 4.1.2** One surveyor was situated at the front of the property on the south-eastern corner (Survey Location 1) and a second in the rear garden on the north-eastern corner (Survey Location 2) – refer to survey plan in **Appendix 2**.
- 4.1.3** The survey was undertaken with the aid of Batlogger M detectors, Nightfox Whisker night vision binoculars. A still shot of the darkest point of the survey has been included for both night vision aids in **Appendix 1**.
- 4.1.4** The emergence survey started 15 minutes before sunset and continued until 1.5 hours after sunset.
- 4.1.5** After the survey the Batlogger recordings were analysed by each surveyor using the BatExplorer computer software package and the night vision video footage was reviewed in VLC media player.
- 4.2 Survey Constraints**
- 4.2.1** There were no significant constraints to the survey, which was undertaken at a suitable time of year for undertaking emergence surveys, i.e. May to August, and in conditions suitable for bat activity, i.e. dry with air temperatures 10°C or above at sunset (Collins 2023).
- 4.2.2** This report contains information regarding a mobile species so it will likely be valid for 12 months only (CIEEM 2019b).

5 SURVEY FINDINGS

5.1 Overview

5.1.1 The survey details and findings are summarised in the **Tables 1-9** below and illustrated in a survey plan in **Appendix 2**; the raw detector data is detailed in **Appendix 3**.

5.2 Emergence Surveys

30th April 2024

5.2.1 No bats were filmed/seen emerging from the property during the survey.

Table 1. Weather conditions and survey timings

	Wind (BF0-12)	Cloud cover (%)	Rain	Temp start (°C)	Temp end (°C)
Weather	1-2	10	None	15	12
Start time	20:11	Sunset time	20:26	Finish time	21:56

Table 2. Surveyor recordings at Survey Location 1

Species	Recordings*	Emergences	Time of first call (minutes after sunset)
<i>Nyctalus noctula</i>	5	0	21:18 (52)
<i>Pipistrellus pipistrellus</i>	5	0	21:38 (72)

Table 3. Surveyor recordings at Survey Location 2

Species	Recordings*	Emergences	Time of first call (minutes after sunset)
<i>Nyctalus noctula</i>	2	0	20:39 (13)
<i>Pipistrellus pipistrellus</i>	4	0	21:13 (47)
<i>Pipistrellus pygmaeus</i>	1	0	21:34 (68)
<i>Plecotus auritus</i>	1	0	21:25 (59)

*recordings are the number of times that the detector was triggered when bat calls were detected.

5.2.2 The first bat recorded during the survey was a commuting noctule (*Nyctalus noctula*) recorded by the surveyor at Survey Location 2 at the rear of the property at 20:39. The common (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) bats recorded at 21:13 and 21:34 by the surveyor at Survey Location 1, were later than the expected emergence time for these species. The brown long-eared (*Plecotus auritus*) bat recorded at 21:25 by the surveyor at Survey Location 2, was at an expected emergence time for the species, indicating a nearby roost.

10th June 2024

5.2.3 No bats were filmed/seen emerging from the property during the survey.

Table 4. Weather conditions and survey timings

	Wind (BF0-12)	Cloud cover (%)	Rain	Temp start (°C)	Temp end (°C)
Weather	1-2	25-50	None	14	12
Start time	20:44	Sunset time	20:59	Finish time	22:29

Table 5. Surveyor recordings at Survey Location 1

Species	Recordings*	Emergences	Time of first call (minutes after sunset)
<i>Pipistrellus pipistrellus</i>	28	0	21:04 (5)
<i>Pipistrellus pygmaeus</i>	1	0	22:04 (65)

Table 6. Surveyor recordings at Survey Location 2

Species	Recordings*	Emergences	Time of first call (minutes after sunset)
<i>Pipistrellus pipistrellus</i>	17	0	21:38 (39)
<i>Pipistrellus pygmaeus</i>	5	0	21:40 (41)

*recordings are the number of times that the detector was triggered when bat calls were detected.

- 5.2.4 The first bat recorded during the survey was a common (*Pipistrellus pipistrellus*) bat recorded at 21:04 by the surveyor at Survey Location 1, at an expected emergence time for the species, indicating a nearby roost. Soprano pipistrelle (*Pipistrellus pygmaeus*) bats were then recorded from 21:40 by the surveyor at Survey Location 2, later than the expected emergence time for this species.

12th June 2024

- 5.2.5 No bats were seen/filmed emerging from the property during the survey..

Table 7. Weather conditions and survey timings

	Wind (BF0-12)	Cloud cover (%)	Rain	Temp start (°C)	Temp end (°C)
Weather	1	5	None	14	11
Start time	21:05	Sunset time	21:20	Finish time	22:50

Table 8. Surveyor recordings at Survey Location 1

Species	Recordings*	Emergences	Time of first call (minutes after sunset)
<i>Nyctalus noctule</i>	2	0	22:45 (85)
<i>Pipistrellus pipistrellus</i>	30	0	21:49 (29)
<i>Pipistrellus pygmaeus</i>	4	0	22:31 (71)

Table 9. Surveyor recordings at Survey Location 2

Species	Recordings*	Emergences	Time of first call (minutes after sunset)
<i>Pipistrellus pipistrellus</i>	55	0	22:00 (40)
<i>Pipistrellus pygmaeus</i>	4	0	22:41 (81)

*recordings are the number of times that the detector was triggered when bat calls were detected.

- 5.2.6 The first bat recorded during the survey was a common (*Pipistrellus pipistrellus*) bat recorded at 21:49 by the surveyor at Survey Location 1, at an expected emergence time for the species, indicating a nearby roost. An individual was observed flying along the eaves at the rear of the property at 22:00, and seen flying away from the gable end by both surveyors. Soprano pipistrelle (*Pipistrellus*

pygmaeus) bats were then recorded from 22:31 by the surveyor at Survey Location 2, later than the expected emergence time for this species. An individual noctule (*Nyctalus noctule*) bat was recorded passing overhead at 22:45 by the surveyor in Survey Location 1.

- 5.2.7** An updated inspection of the roof void was undertaken on 12th June 2024, by Vicky Potts - an ecologist registered under Natural England bat survey Class Licence CL18 (Registration no. CL18 2016-27162-CLS-CLS) - and assistant ecologist Verity West. There were no significant changes to the findings of the PRA undertaken on 7th February 2023, however fresh small-sized and medium sized bat droppings were observed.



Photograph 1. Additional droppings at eastern gable.



Photograph 2. Additional droppings under ridge beam.



Photograph 1. Additional droppings on top of boiler.



Photograph 2. Additional droppings on boards around stored items.

5.3 Habitat Features Suitable for Bats

- 5.3.1** The habitats present onsite were typical of a residential garden in a suburban setting flanked by similar residential properties and associated gardens. There were open agricultural fields and grassland to the north and south of the property.
- 5.3.2** Overall, the nearby habitats provide suitable commuting and foraging opportunities for bats adapted to roosting in suburban environments.
- 5.3.3** Approximately 1.3km to the north-west of the property, a European Protected Species Bat Licence application was granted for the destruction of a brown long eared bat (*P. auritus*) and common pipistrelle (*P. pipistrellus*) bat maternity roost and resting place (Case ref.: 2015-8658-EPS-MIT-1). Approximately 1.6km to the south-west of the property, a European Protected Species Bat Licence application was granted for the damage and destruction of a brown long eared bat (*P. auritus*) and common pipistrelle (*P. pipistrellus*) bat resting place (Case ref.: 2020-48489-EPS-MIT).

6 DISCUSSION AND RECOMMENDATIONS

6.1 Assessment of Bat Roost Status

- 6.1.1** During the emergence surveys, no bats were observed emerging from the property, however common pipistrelle (*Pipistrellus pipistrellus*) bats were recorded at the typical emergence time confirming a nearby roost. It was observed that the number of small and medium bat droppings in the roof space had increased since the survey undertaken in 2023. This survey result demonstrates that the property acts as an occasionally used day roost (i.e. summer resting place used by individual or small groups of non-breeding bats) by individual or small numbers of pipistrelle bat (*Pipistrellus sp.*) considered most likely to be common pipistrelle bats (*Pipistrellus pipistrellus*) which were recorded nearby at the typical emergence time and brown long-eared bats (*Plecotus auritus*) (to be confirmed by DNA analysis).
- 6.1.2** Common pipistrelle (*P. pipistrellus*) is a crevice-dwelling species that is the most abundant and widespread bat in Great Britain. This species occurs in almost any habitat type and is well adapted to the built environments; it is one of the species most regularly reported roosting in houses and churches (Mathews et al. 2018).
- 6.1.3** Brown long-eared bat (*P. auritus*) is a widespread species in Great Britain, commonly associated with broadleaved and mixed woodland habitats. This species will roost in trees, bat boxes and buildings but maternity roosts are predominantly located in barns, churches and houses with large internal flight spaces (Mathews et al. 2018). The grey long-eared bat (*P. austriacus*) is very similar in morphology and flight pattern to the brown long-eared bat (*P. auritus*) but very few colonies are known in Great Britain; this species is found almost exclusively in lowland regions of southern England, near to the coast (Mathews et al. 2018).
- 6.1.4** Day roosts used by these species hold site level conservation importance only and the loss of such roosts is not usually significant beyond the scale of the site (Reason & Wray 2023).

6.2 Impact Assessment

Overview

- 6.2.1** The proposed development involves seeking consent for a two-storey side extension and single storey rear extension, removing a pitched roof and replacing with a flat roof (see **Appendix 4**). The impacts of these proposals

have been assessed in accordance with the mitigation hierarchy during construction and post development, as follows:

Construction Phase

- 6.2.2** The development proposals will impact the access and roosting site located at the gable end. The new roof line will be dropped by approximately 12 inches along the front elevation and will join the existing roof on the rear elevation, therefore obstructing and blocking access to roosting sites behind the barge boards and into the roof space. The works will also lead to the temporary disturbance to the bat roost in the roof space in order to join the new roof to the existing roof. Furthermore, in the absence of mitigation the works could lead to the disturbance and/or injury of bats if present at the time.

Post Development

- 6.2.3** The development proposals include the long-term retention of the existing barge boards along the front elevation of the roof at the eastern end of the property however access will be obstructed.

Recommendations

- 6.2.4** The survey data shows that the development proposals will result in the permanent damage to pipistrelle (*Pipistrellus pipistrellus*) and brown long eared (*Plecotus auritus*) day roosts.
- 6.2.5** A European Protected Species (EPS) Mitigation Licence will be required to allow the work to proceed lawfully, and the survey findings establish that the house would qualify for registration under the “low impact” Bat Mitigation Class Licence (BMCL) WML-CL21. Under the terms of a full EPS mitigation licence or BMCL, mitigation for the impacts of the work will be required in order to avoid harming bats and the mitigations proposals detailing the strategy to be adopted are set out in **Section 7** below.

7 MITIGATION AND COMPENSATION PROPOSALS

- 7.1.1** Following the grant of planning consent, before the licensable work begins i.e. demolition, a European Protected Species Mitigation Licence (EPSML) or confirmation of the registration of the site under the Bat Mitigation Class Licence (BMCL) (Low Impact) WML-CL21 will be obtained.
- 7.1.2** All licensable works to the gable end i.e. removal of soffits will be undertaken outside of the winter hibernation season (mid-November to February) to minimise the risk of disturbing torpid bats. One woodcrete bat box will be fixed to a suitable mature tree or purpose-built pole on site prior to the works starting and will be in place for a minimum of five years (boxes can only be removed after the five years if no evidence of use has been found at this stage).
- 7.1.3** Removal of coverings will be carried out by a soft strip i.e. hand removal of features suitable for roosting bats such as the roof coverings and timber barge boards. Before the soft strip begins, the licensed ecologist or 'Registered Consultant' if working under the BMCL, will give a toolbox talk to the contractors on site detailing bats are present, the legislation protecting bats, the location of the roosting site in the buildings, good working practices, the measures that are required to protect bats during the work and what to do if bats are found. A copy of the licence will be available for inspection on site during all licensable works.
- 7.1.4** The verge roof tiles and timber barge boards will be carefully removed by gloved hands under the supervision of a licensed ecologist, or Registered Consultant if working under the BMCL. If bat(s) are discovered during the work, the licensed ecologist or Registered Consultant would capture the bat(s) and transfer it/them directly to a bat box erected in advance of the works
- 7.1.5** In the long-term, the newly extended dwelling should incorporate features that provide access points/roosting sites for common pipistrelle and brown long-eared bats. For example, by installing integrated bat box on the new gable end at a similar orientations to the existing roosts identified.
- 7.1.6** The new section of roof will be lined with bitumen and hessian (Type 1F) felt or a breathable membrane that meets Natural England's testing regime for bat safe membranes e.g. TLX Batsafe.

8 REFERENCES

- CIEEM (2019b). *Advice Note on the Lifespan of Ecological Reports and Surveys*. CIEEM, Winchester.
- Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists – Good Practice Guidelines* 4th Edition. Bat Conservation Trust, London.
- Mathews F., Kubasiewicz L.M., Gurnell J., Harrower C.A., McDonald R.A., Shore R.F. (2018). *A Review of the Population and Conservation Status of British Mammals*. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough. ISBN 978-1-78354-494-3.
- Mitchell-Jones, A. J. & McLeish, A. P. (2004). *Bat Workers' Manual* (3RD Edition). JNCC, Peterborough.
- Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management, Ampfield.

APPENDIX 1 – DARKEST POINT OF SURVEY FOR NIGHT VISION AIDS

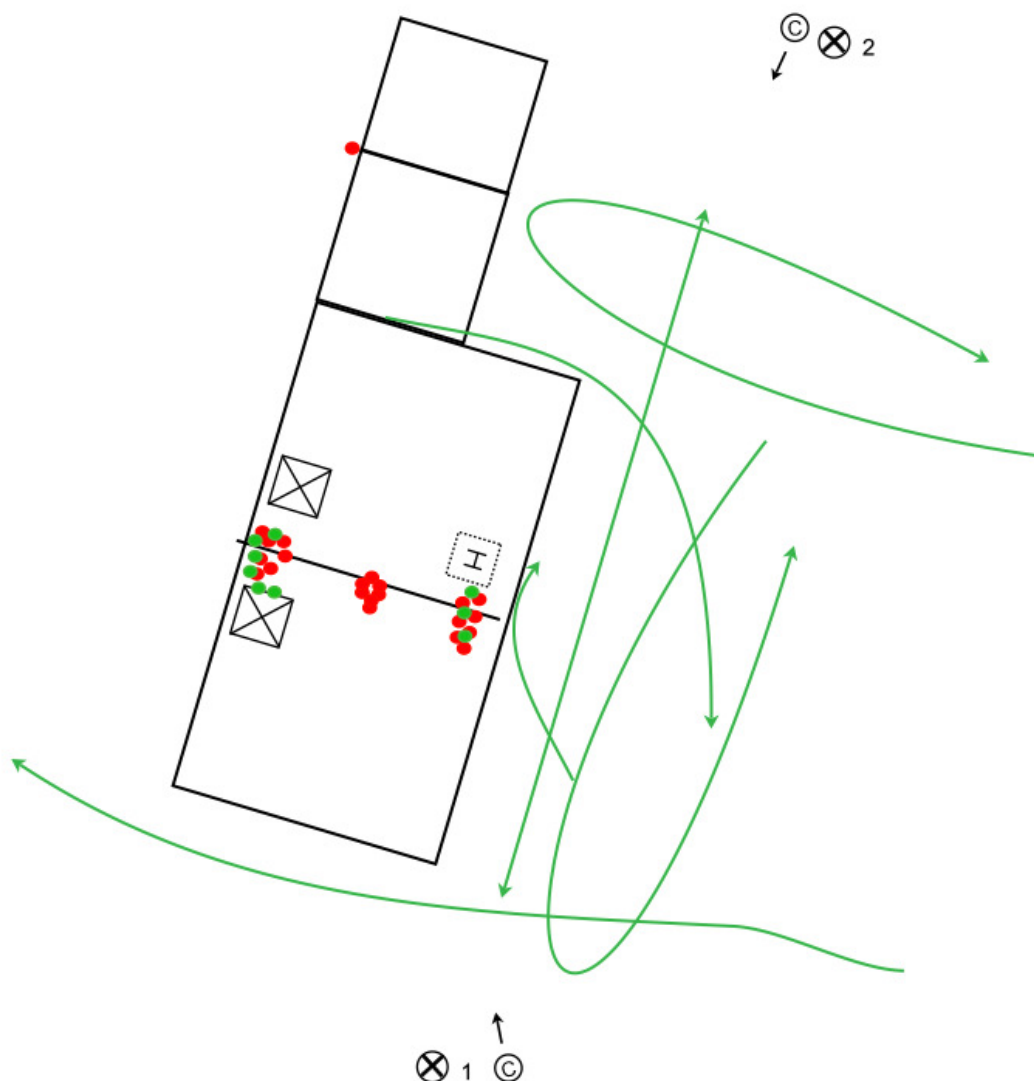


Nightfox Whisker at Survey Location 1.



Nightfox Whisker at Survey Location 2.

APPENDIX 2 – BAT EMERGENCE SURVEY FINDINGS



Surveyor location
 Camera location
 Common pipistrelle flight paths

Drawn by:	Date	Scale:	Sarandi Wokingham	
VP	June 2024	Not to scale	Emergence Bat Survey Findings	

APPENDIX 3 – BAT EMERGENCE SURVEY RAW DATA TABLES

30th May 2024 – Verity West at Location 1 (Batlogger M)

Time	Species	Number of calls
21:18	<i>Nyctalus noctula</i>	2
21:18	<i>Nyctalus noctula</i>	3
21:38	<i>Pipistrellus pipistrellus</i>	16
21:40	<i>Pipistrellus pipistrellus</i>	13
21:45	<i>Pipistrellus pipistrellus</i>	13
21:56	<i>Pipistrellus pipistrellus</i>	22

30th April 2024 – Vicky Potts at Location 2 (Batlogger M)

Time	Species	Number of calls
20:39	<i>Nyctalus noctula</i>	3
21:13	<i>Pipistrellus pipistrellus</i>	7
21:17	<i>Nyctalus noctula</i>	12
21:25	<i>Plecotus auritus</i>	21
21:34	<i>Pipistrellus pygmaeus</i>	20
21:38	<i>Pipistrellus pipistrellus</i>	9
21:39	<i>Pipistrellus pipistrellus</i>	8
21:55	<i>Pipistrellus pipistrellus</i>	10

22nd May 2024 – Verity West at Location 1 (Batlogger M)

Time	Species	Number of calls
21:04	<i>Pipistrellus pipistrellus</i>	29
21:05	<i>Pipistrellus pipistrellus</i>	17
21:06	<i>Pipistrellus pipistrellus</i>	27
21:11	<i>Pipistrellus pipistrellus</i>	16
21:13	<i>Pipistrellus pipistrellus</i>	8
21:13	<i>Pipistrellus pipistrellus</i>	11
21:14	<i>Pipistrellus pipistrellus</i>	17
21:45	<i>Pipistrellus pipistrellus</i>	1
21:46	<i>Pipistrellus pipistrellus</i>	22
21:54	<i>Pipistrellus pipistrellus</i>	4
21:54	<i>Pipistrellus pipistrellus</i>	3
21:54	<i>Pipistrellus pipistrellus</i>	19
21:58	<i>Pipistrellus pipistrellus</i>	8
22:04	<i>Pipistrellus pipistrellus</i>	17
22:04	<i>Pipistrellus pygmaeus</i>	15
22:06	<i>Pipistrellus pipistrellus</i>	21
22:07	<i>Pipistrellus pipistrellus</i>	6
22:10	<i>Pipistrellus pipistrellus</i>	14
22:15	<i>Pipistrellus pipistrellus</i>	2
22:15	<i>Pipistrellus pipistrellus</i>	13

22:15	<i>Pipistrellus pipistrellus</i>	1
22:17	<i>Pipistrellus pipistrellus</i>	4
22:18	<i>Pipistrellus pipistrellus</i>	3
22:19	<i>Pipistrellus pipistrellus</i>	1
22:20	<i>Pipistrellus pipistrellus</i>	4
22:20	<i>Pipistrellus pipistrellus</i>	4
22:20	<i>Pipistrellus pipistrellus</i>	2
22:21	<i>Pipistrellus pipistrellus</i>	1
22:21	<i>Pipistrellus pipistrellus</i>	1

22nd May 2024 – Vicky Potts at Location 2 (Batlogger M)

Time	Species	Number of calls
21:38	<i>Pipistrellus pipistrellus</i>	5
21:12	<i>Pipistrellus pipistrellus</i>	20
21:39	<i>Pipistrellus pipistrellus</i>	14
21:39	<i>Pipistrellus pipistrellus</i>	8
21:40	<i>Pipistrellus pygmaeus</i>	15
21:44	<i>Pipistrellus pygmaeus</i>	10
21:45	<i>Pipistrellus pipistrellus</i>	3
21:45	<i>Pipistrellus pygmaeus</i>	1
21:45	<i>Pipistrellus pipistrellus</i>	17
21:45	<i>Pipistrellus pipistrellus</i>	13
21:45	<i>Pipistrellus pipistrellus</i>	5
21:45	<i>Pipistrellus pipistrellus</i>	6
21:58	<i>Pipistrellus pipistrellus</i>	53
22:12	<i>Pipistrellus pygmaeus</i>	10
22:18	<i>Pipistrellus pipistrellus</i>	21
22:19	<i>Pipistrellus pipistrellus</i>	13
22:20	<i>Pipistrellus pygmaeus</i>	14
22:20	<i>Pipistrellus pipistrellus</i>	5
22:20	<i>Pipistrellus pipistrellus</i>	6
22:21	<i>Pipistrellus pipistrellus</i>	15
22:21	<i>Pipistrellus pipistrellus</i>	5
22:21	<i>Pipistrellus pipistrellus</i>	11

12th June 2024 – Verity West at Location 1 (Batlogger M)

Time	Species	Number of calls
21:49	<i>Pipistrellus pipistrellus</i>	6
21:56	<i>Pipistrellus pipistrellus</i>	1
21:56	<i>Pipistrellus pipistrellus</i>	1
22:01	<i>Pipistrellus pipistrellus</i>	2
22:02	<i>Pipistrellus pipistrellus</i>	11
22:05	<i>Pipistrellus pipistrellus</i>	21
22:11	<i>Pipistrellus pipistrellus</i>	16
22:12	<i>Pipistrellus pipistrellus</i>	2

22:12	<i>Pipistrellus pipistrellus</i>	4
22:13	<i>Pipistrellus pipistrellus</i>	11
22:15	<i>Pipistrellus pipistrellus</i>	17
22:17	<i>Pipistrellus pipistrellus</i>	0
22:17	<i>Pipistrellus pipistrellus</i>	1
22:18	<i>Pipistrellus pipistrellus</i>	1
22:19	<i>Pipistrellus pipistrellus</i>	15
22:19	<i>Pipistrellus pipistrellus</i>	13
22:22	<i>Pipistrellus pipistrellus</i>	15
22:24	<i>Pipistrellus pipistrellus</i>	3
22:26	<i>Pipistrellus pipistrellus</i>	2
22:31	<i>Pipistrellus pygmaeus</i>	22
22:32	<i>Pipistrellus pipistrellus</i>	2
22:37	<i>Pipistrellus pipistrellus</i>	4
22:39	<i>Pipistrellus pipistrellus</i>	1
22:39	<i>Pipistrellus pipistrellus</i>	7
22:40	<i>Pipistrellus pipistrellus</i>	7
22:40	<i>Pipistrellus pipistrellus</i>	12
22:41	<i>Pipistrellus pygmaeus</i>	9
22:43	<i>Pipistrellus pipistrellus</i>	6
22:44	<i>Pipistrellus pipistrellus</i>	13
22:44	<i>Pipistrellus pipistrellus</i>	2
22:45	<i>Pipistrellus pipistrellus</i>	3
22:45	<i>Pipistrellus pygmaeus</i>	13
22:45	<i>Nyctalus noctula</i>	2
22:45	<i>Nyctalus noctula</i>	1
22:48	<i>Pipistrellus pygmaeus</i>	8
22:48	<i>Pipistrellus pipistrellus</i>	3

12th June 2024 – Vicky Potts at Location 2 (Batlogger M)

Time	Species	Number of calls
22:00	<i>Pipistrellus pipistrellus</i>	9
22:05	<i>Pipistrellus pipistrellus</i>	25
22:15	<i>Pipistrellus pipistrellus</i>	17
22:34	<i>Pipistrellus pipistrellus</i>	7
22:34	<i>Pipistrellus pipistrellus</i>	1
22:34	<i>Pipistrellus pipistrellus</i>	11
22:34	<i>Pipistrellus pipistrellus</i>	32
22:34	<i>Pipistrellus pipistrellus</i>	12
22:34	<i>Pipistrellus pipistrellus</i>	3
22:34	<i>Pipistrellus pipistrellus</i>	20
22:34	<i>Pipistrellus pipistrellus</i>	10
22:34	<i>Pipistrellus pipistrellus</i>	21
22:35	<i>Pipistrellus pipistrellus</i>	13
22:35	<i>Pipistrellus pipistrellus</i>	15
22:37	<i>Pipistrellus pipistrellus</i>	13

22:38	<i>Pipistrellus pipistrellus</i>	6
22:38	<i>Pipistrellus pipistrellus</i>	2
22:38	<i>Pipistrellus pipistrellus</i>	6
22:38	<i>Pipistrellus pipistrellus</i>	16
22:38	<i>Pipistrellus pipistrellus</i>	4
22:38	<i>Pipistrellus pipistrellus</i>	3
22:39	<i>Pipistrellus pipistrellus</i>	7
22:39	<i>Pipistrellus pipistrellus</i>	28
22:39	<i>Pipistrellus pipistrellus</i>	4
22:39	<i>Pipistrellus pipistrellus</i>	15
22:39	<i>Pipistrellus pipistrellus</i>	23
22:39	<i>Pipistrellus pipistrellus</i>	12
22:39	<i>Pipistrellus pipistrellus</i>	21
22:40	<i>Pipistrellus pipistrellus</i>	31
22:40	<i>Pipistrellus pipistrellus</i>	12
22:40	<i>Pipistrellus pipistrellus</i>	38
22:40	<i>Pipistrellus pipistrellus</i>	5
22:41	<i>Pipistrellus pygmaeus</i>	14
22:42	<i>Pipistrellus pipistrellus</i>	8
22:42	<i>Pipistrellus pipistrellus</i>	5
22:42	<i>Pipistrellus pipistrellus</i>	14
22:42	<i>Pipistrellus pygmaeus</i>	2
22:42	<i>Pipistrellus pipistrellus</i>	15
22:42	<i>Pipistrellus pygmaeus</i>	1
22:42	<i>Pipistrellus pipistrellus</i>	10
22:42	<i>Pipistrellus pipistrellus</i>	1
22:42	<i>Pipistrellus pipistrellus</i>	5
22:42	<i>Pipistrellus pipistrellus</i>	6
22:42	<i>Pipistrellus pipistrellus</i>	6
22:42	<i>Pipistrellus pipistrellus</i>	3
22:42	<i>Pipistrellus pipistrellus</i>	12
22:44	<i>Pipistrellus pipistrellus</i>	1
22:44	<i>Pipistrellus pipistrellus</i>	28
22:44	<i>Pipistrellus pipistrellus</i>	12
22:45	<i>Pipistrellus pipistrellus</i>	18
22:45	<i>Pipistrellus pygmaeus</i>	19
22:47	<i>Pipistrellus pipistrellus</i>	5
22:47	<i>Pipistrellus pipistrellus</i>	11
22:47	<i>Pipistrellus pipistrellus</i>	8
22:47	<i>Pipistrellus pipistrellus</i>	26
22:48	<i>Pipistrellus pipistrellus</i>	24
22:49	<i>Pipistrellus pipistrellus</i>	21
22:49	<i>Pipistrellus pipistrellus</i>	13
22:49	<i>Pipistrellus pipistrellus</i>	8

APPENDIX 4 – PLANNING DRAWINGS

