

The Lodge, 8-10 Lower Road, Old Bedhampton, Havant, Hampshire, P09 3LH

Bat Emergence & Re-entry Survey Report

September 2018

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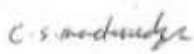
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Emergence & Re-entry Survey Report**The Lodge, 8-10 Lower Road, Old Bedhampton, Havant, Hampshire, PO9 3LH****for****The Manor Trust**

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Review & Technical QA by:	
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This report represents sound industry practice; reports and recommends correctly, truthfully and objectively; is appropriate given the local site conditions; scope of works proposed and resources allocated to us by the client; and avoids invalid, biased, and exaggerated statements.

The author disclaims any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and the author accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

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EXECUTIVE SUMMARY

1. This report provides information from dusk emergence and pre-dawn re-entry surveys at The Lodge, 8-10 Lower Road, Old Bedhampton, Havant, Hampshire, PO9 3LH carried out by Hampshire Ecological Services Ltd for The Manor Trust (approximate Ordnance Survey Grid Reference SU700063). The site location is shown in *Figures 1* and *2*; and a site plan showing the location of the building is given in *Figure 3* (see *Section 6*).
2. An initial bat survey was carried out on 25th July 2018 by Middlemarch Environmental Ltd, which assessed the buildings on site for the presence of bats and their potential to support bats. During this initial survey, no evidence of bats was found but due to a high number of internal and external features that could be used by bats the building was assessed as having high bat roost potential. Also, the whole of the interior could not be explored due to clutter or safety. As such further bat survey works were required to establish the status of the building and to advice on bat mitigation. As only one part of the main building will be affected by the proposed works, only this area was surveyed. The area surveyed is shown on the building plan in *Figure 4* in *Section 6*.
3. Two dusk emergence surveys and one pre-dawn re-entry survey were carried out on the 21st August, 3rd and 17th October 2018 by Victoria Russell MCIEEM, Chloe Mockridge MSc, Ben Willers and Sam Rickard.
4. No bats were observed emerging or re-entering and no evidence of bats was found by Middlemarch Environmental Ltd. Therefore, a bat EPS licence is not required.
5. Common pipistrelles, soprano pipistrelles, serotines and noctules were observed flying in the vicinity and foraging on the site indicating the weather was suitable for bat activity. The data from the emergence and re-entry surveys is given in *Appendix B* and plans illustrating bat activity during the surveys are given in *Figure 4-5* in *Section 6*.
6. If viable (and to support the application under the National Planning Policy Framework (NPPF)), the site could be enhanced for bats using at least one bat brick *e.g.* HabibatTM Bat Box or Istock Enclosed Bat Box, which provide cavities that are incorporated into the build structure to offer roosting space for bats.
7. No lighting should be installed near to or directed onto the retained vegetation so that light disturbance is not a problem. This is because lighting can impact bat populations habitat directly by disturbing roosts and reducing foraging area, or indirectly by severing commuting routes from roosts
8. The trees in the garden connect to a network of hedges, tree-lines and woodland strips that connect the site to areas of high quality foraging habitat in the wider landscape, such as woodland and the Hermitage Stream nearby to the site.

9. This survey data is valid for a maximum of 12 months. Bats frequently move around and adopt new roosting sites and therefore if more than 12 months elapses it may be advisable to conduct further survey work to obtain up-to-date information thereby ensuring protected species compliance.

INTRODUCTION

2.1 Purpose of this report

This report provides information from bat emergence and re-entry surveys carried out by Hampshire Ecological Services Ltd for The Manor Trust in connection with a proposal to extend the building at The Lodge, 8-10 Lower Road, Old Bedhampton, Havant, Hampshire, PO9 3LH (approximate Ordnance Survey Grid Refence SU700063). The site location is shown in *Figures 1* and *2*; and a site plan showing the location of the building is given in *Figure 3* (see *Section 6*).

A preliminary roost assessment survey was carried out on the 25th July 2018 by Middlemarch Environmental Ltd, which assessed the main building and outbuildings for the presence of bats and their potential to support bats. During this no signs of bats were found, but due to a high number of internal and external features with bat roost potential the main building was deemed high potential requiring three emergence/ re-entry surveys.

As only one part of the main building will be affected by the proposed works, only this area was surveyed. The area surveyed is shown on the building plan in *Figure 4* in *Section 6*.

2.2 Site description

The site consists of a building which is currently used as a residential care home and a garage. There is garden areas to the south of the main building and an allotment area to the west. The area surveyed is shown on the building plan in *Figure 4* in *Section 6*.

The site lies in a bend on Lower Road with the road running along the north and east boundaries. The site is at the southern end of Bedhampton. The immediate surroundings consist of residential housing. In the wider landscape the urban area extends to the north, east and west. There is an extensive area of arable fields and grazed pasture to the south before reaching Langstone Harbour. The A3 is to the west of the site and the A27 is to the south. In addition, there is patches of woodland in all directions and the Hermitage Stream is c.370m to the south-east. The boundaries of the site link to a network of hedges, tree-lines and woodland that in turn connect to the fields and woodland in the wider landscape.

2.3 Proposed activities

This survey was carried out in connection with a proposal to make alterations to the western end of the building, which includes demolition of part of the existing building and replacing it with a larger extension. The porch is also being demolished and replaced with a new section slightly further to the east. This does not affect any areas with bat roost potential.

2.4 Current planning status

Planning permission is being applied for at this site.

2.5 ***Structure of this report***

This report is structured as follows:

- *Section 1* contains the executive summary;
- *Section 2* contains an introduction;
- *Section 3* describes the survey methods;
- *Section 4* describes the results;
- *Section 5* evaluates the findings;
- *Section 6* contains the figures including:
 - *Figure 1* gives aerial photographs showing the site location;
 - *Figure 2* gives an Ordnance Survey map showing the location of the site;
 - *Figure 3* gives a site plan; and
 - *Figures 4-5* illustrates the bat activity recorded during the dusk emergence and pre-dawn re-entry surveys.
- *Section 7* lists the references;
- *Appendix A* lists key legislation and regulations; and
- *Appendix B* gives the results of the dusk emergence and pre-dawn re-entry surveys.

METHODS

3.1 Date(s), times and weather

Two dusk emergence surveys were carried out on the 21st August and 17th September and one pre-dawn re-entry survey was carried out on the 3rd September 2018. Details of the weather, air temperature and times of these surveys are given in *Table 3.1.1*.

Table 3.1.1. Weather conditions during the dusk emergence and pre-dawn re-entry surveys.

Date	Start time	End time	Sunset/ sunrise	Temperature at start & end (°C)	Wind (Beaufort scale)	Cloud Cover (%)
21/08/18	19:58	21:45	20:13	19.2-17.8	1	0
03/09/18	04:50	06:35	06:20	12-10	1	50
17/09/18	19:00	20:45	19:15	20-18	1	0

The emergence surveys commenced at least fifteen minutes before sunset and continued for at least an hour and a half after sunset (long after bats would have exited). The re-entry survey commenced at least an hour and a half before sunrise and continued for at least fifteen minutes after sunrise. The weather was suitable conditions for bat emergence and foraging on all occasions.

3.2 Personnel

The surveys were carried out by Victoria Russell MCIEEM, Chloe Mockridge MSc, Ben Willers and Sam Rickard. All surveyors are trained and experienced in carrying out bat surveys using detectors.

Personnel carrying out the dusk emergence/ dawn re-entry surveys are given in *Table 3.2.1*.

Table 3.2.1. Personnel carrying out the dusk emergence and pre-dawn re-entry surveys.

21/08/18	03/09/18	17/09/18
Victoria Russell	Ben Willers	Chloe Mockridge
Ben Willers	Sam Rickard	Ben Willers
Sam Rickard		

This report was reviewed by Victoria Russell MCIEEM who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) with over 21 years of experience in ecological consultancy. She holds a Natural England licence allowing the disturbance and handling of bats for the purposes of survey in all counties of England (current Bat Class Licence Registration number CLS03048).

All staff adhere to the Chartered Institute of Ecology and Environmental Management's *Code of Professional Conduct*.

3.3 Dusk emergence and pre-dawn re-entry survey

The surveys followed standard survey protocol in *Bat Surveys – Good Practice Guidelines, 3rd edition* (Bat Conservation Trust 2016).

The emergence surveys commenced at least fifteen minutes before sunset and continued for at least an hour and a half after sunset. The re-entry survey commenced at least an hour and a half before sunrise and continued for at least fifteen minutes after sunrise. The weather was suitable for bat activity on all occasions. See *Sections 3.1* and *3.2* for the dates and personnel carrying out the surveys.

The surveyors were located with good views of potential bat access points identified during the first site visit and from the previous report. The timing of the visits, from early evening until after dark and also early morning until after dawn, was aimed at detecting active bats in the vicinity. When it was too dark for visual observation, electronic bat detectors were used to listen for the ultrasonic sounds produced by bats either flying in the vicinity or emerging from or re-entering the building.

The surveyors recorded all bat activity encountered but particular attention was focused on any bats emerging or entering. The results were documented by noting the time, bat species and behaviour (*e.g.* commuting, foraging, social interaction *etc.*). Surveyors were in constant contact via hand-held radios so that information could be easily exchanged regarding bat activity. The time on all surveyors watches and mobile phones were synchronised so time data was recorded precisely.

Bat detectors are used so that surveyors can identify most bat species in the field, using the heterodyne output in combination with bat shape, flight pattern and behaviour. In addition, solid-state recorders (Tascam® DR-O7) were employed to record bat calls for later sonogram analysis using BatSound™ computer software. This is particularly important to identify *Myotis* species. Frequency-division, whereby the ultrasound is divided by 10 into an audible range, has a considerable advantage over time-expansion for survey work as it allows recordings to be taken in real time. This ensures that all bat activity is recorded.

The recordings were later replayed in full and analysed through BatSound™ software to ensure that any activity accidentally missed during the survey were recorded and times and location calculated. The species of bat was confirmed at this stage. Bat detector surveys provide one of the most effective methods of identifying bat species and activity patterns. However, it is not always possible to identify bats down to species level even with subsequent sound analysis.

RESULTS**4.1 Dusk emergence surveys and pre-dawn re-entry survey**

No bats were observed emerging or re-entering.

Common pipistrelles, soprano pipistrelles, serotines and noctules were observed flying in the vicinity of the building and foraging on the site indicating the weather was suitable for bat activity.

The data from the dusk emergence and pre-dawn re-entry surveys are given in *Appendix B* and plans illustrating bat activity during the surveys are given in *Figures 4-5* in *Section 6*.

4.2 Commuting and foraging bats

The mature trees in the gardens provide sheltered bat foraging habitat in the immediate vicinity of the building. The trees along the boundaries connect a network of hedges, tree-lines and woodland strips that connect the site to areas of high quality foraging habitat in the wider landscape such as woodland and the nearby Hermitage Stream.

Bats follow linear landscape features such as lines of trees, hedges, buildings and waterways in order to commute from their roost sites to their feeding grounds. Likewise they use these features to navigate between feeding areas and alternative roosts.

5 INTERPRETATION AND EVALUATION

5.1 Constraints on survey

Bat surveys can only provide a snapshot of the bat activity at a site and if the level of usage is very low it is possible that no bats will be observed using a roost. However, this in itself gives an indication that the roost is of low value to the local bat population.

5.2 Bats

5.2.1 Commuting and foraging bats

There is foraging habitat for emerging bats in the immediate vicinity of the buildings including mature trees. The trees along the boundaries connect a network of hedges, tree-lines and woodland strips that connect the site to areas of high quality foraging habitat in the wider landscape such as streams, lakes and woodland. Woodland and lakes provide high quality foraging habitat for a number of different species of bat. The onsite foraging habitat will be unaffected by the development and all links will be maintained. Retaining connectivity (the trees, hedges and shrubs) around the edges of the site will help minimise any potential impact to foraging bats and bat populations in the local area.

Changes in lighting can also affect foraging (and roosting) bats. Therefore no lighting should be directed onto retained vegetation (particularly the tree), and security lights should operate on a timer, to avoid any negative impact on foraging bats.

5.2.2 Buildings

No bats were recorded emerging or re-entering the area of the building affected by the proposed works.

Common pipistrelles, soprano pipistrelles, serotines and noctules were recorded commuting and foraging around site, indicating the weather was suitable for bat activity.

5.3 Survey report expiry

This survey data is valid for a maximum of 12 months. Bats frequently move around and adopt new roosting sites and therefore if more than 12 months elapses it may be advisable to conduct further survey work to obtain up-to-date information to advise work thereby ensuring protected species compliance.

5.4 Further survey

No further surveys are proposed.

5.5 ***Enhancement measures***

If viable (and to support the application under the National Planning Policy Framework (NPPF)), the site could be enhanced for bats using at least one bat brick *e.g.* Habibat™ Bat Boxes or Ibstock Enclosed Bat Box, which provide cavities that are incorporated into the building structure to offer roosting space for bats.

Other options for enhancing the site for bats could be as simple as access into soffit boxes (via 50x50mm gaps), or using hanging tiles or timber cladding offset with 30mm gaps for bats to roost behind.

No lighting should be installed near to or directed onto the retained vegetation so that light disturbance is not a problem. This is because lighting can impact bat populations habitat directly by disturbing roosts and reducing foraging area, or indirectly by severing commuting routes from roosts

5.6 ***Requirement for Natural England licences***

5.6.1 *European Protected Species (EPS) licences*

A bat EPS licence is not required to make the proposed alterations to The Lodge. In the unlikely event that bats are subsequently found, then all works will stop immediately and an EPS licence from Natural England will be applied for.

An EPS licence from Natural England permits activities that may otherwise be offences under the *Conservation of Habitats & Species Regulations 2010*.

Evidence is required from emergence/ re-entry surveys during the bat active season between May and September in order to gather enough information about bat populations (including species, numbers and status of roost sites) to support a bat EPS licence application or site registration under a Bat Low Impact Class Licence.

Natural England takes a minimum of 30 working days to process licence applications following receipt of all the relevant documentation. This includes an application form and a Method Statement. This includes a detailed mitigation strategy to eliminate or reduce impacts on bats.

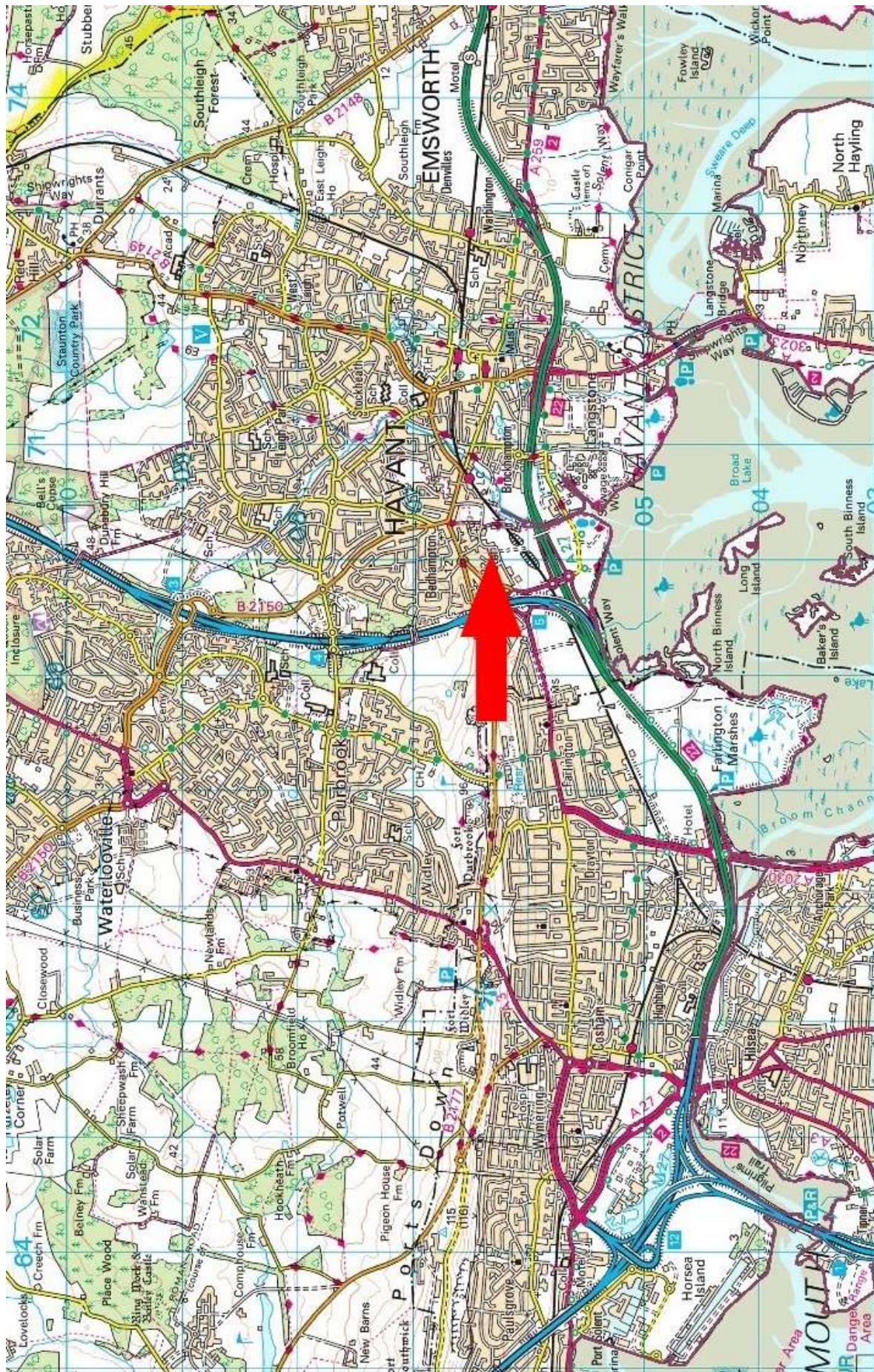
It is not possible to apply for an EPS licence until full planning permission has been granted and any conditions relating to wildlife fulfilled, although Local Planning Authorities usually request the information prior to determining a planning application request. Additional time will be required where any revisions to a proposed mitigation strategy are necessary to obtain the licence.

FIGURES

Figure 1. Aerial photographs showing the location of the site.



Figure 2. OS Map showing the location of the site (as indicated by red arrow).



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Figure 3. Plan showing the site boundary outlined in red and the area of the building surveyed highlighted in red.

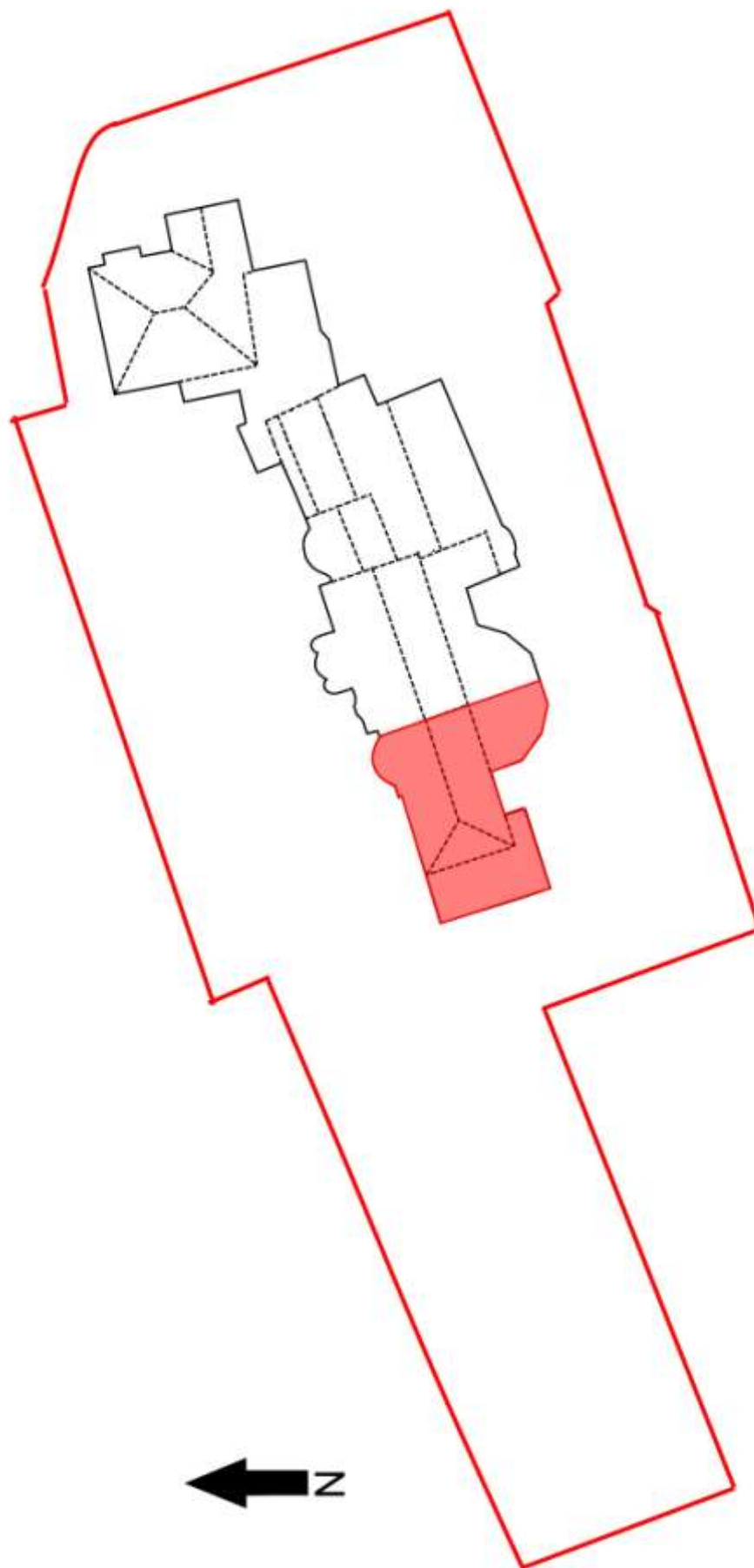


Figure 4. Plan showing bat activity (observations only) for the emergence survey carried out on the 21st August 2018. Arrows show direction of flight (where known).

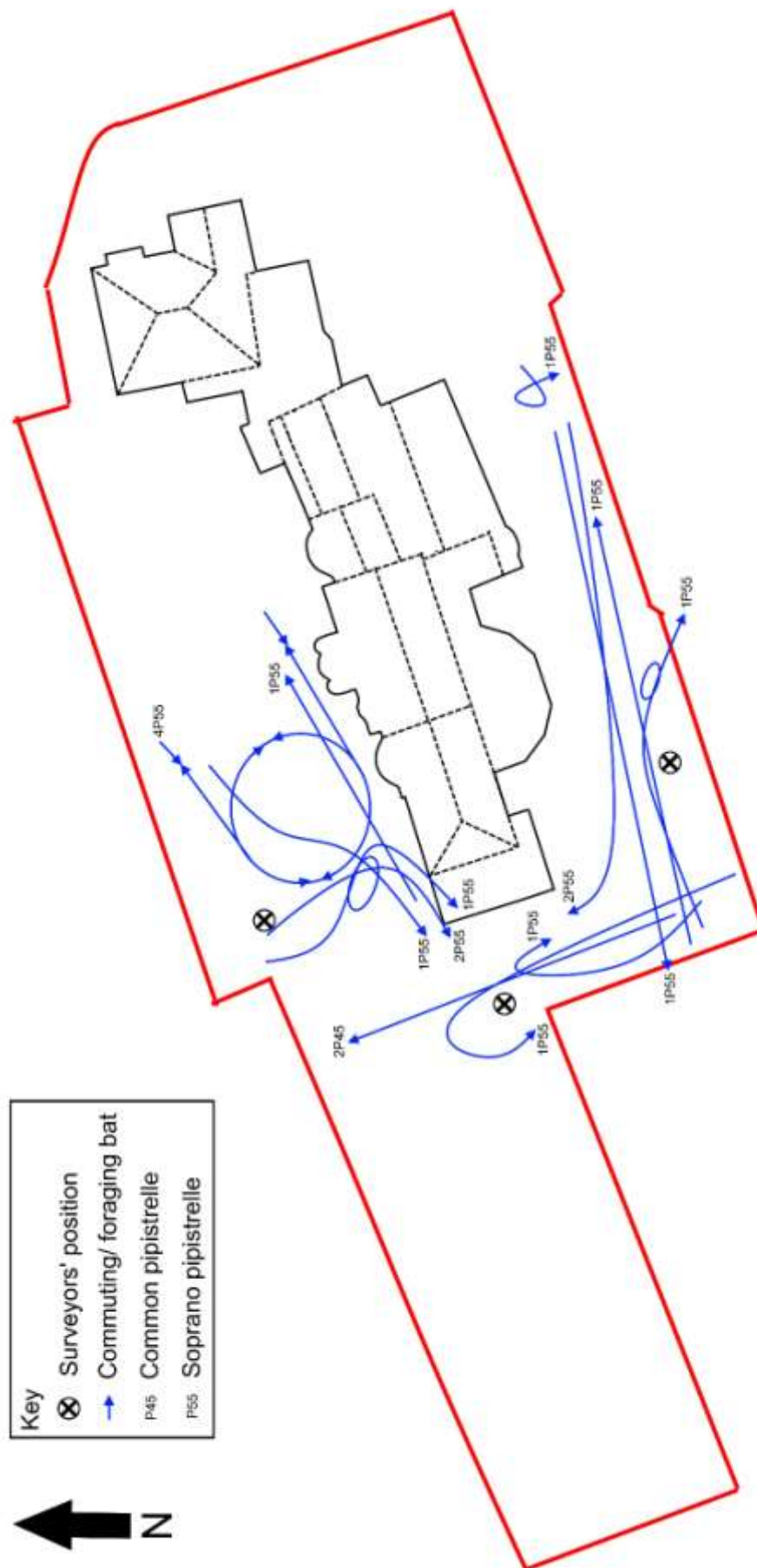
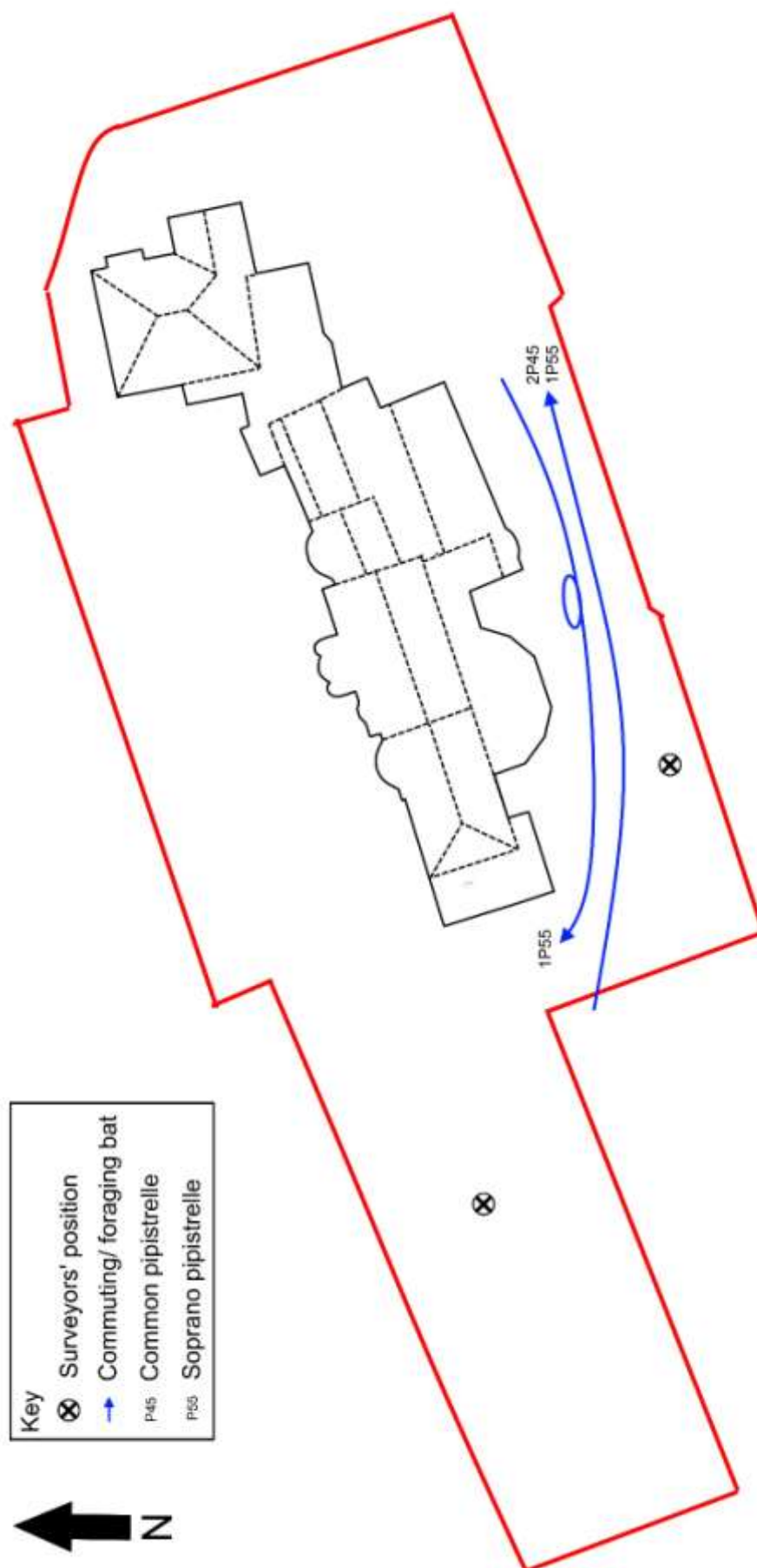


Figure 5. Plan showing bat activity (observations only) for the emergence survey carried out on the 17th September 2018. Arrows show direction of flight (where known).



7 REFERENCES

Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines, 3rd edition*. Bat Conservation Trust, London.

HMSO (1981). *Wildlife and Countryside Act 1981*. HMSO, London.

HMSO (2000). *Countryside and Rights of Way Act*. HMSO, London.

HMSO (2006). *Natural Environment and Rural Communities Act*. HMSO, London.

HMSO (2012). *The Conservation of Habitats and Species (Amendment) Regulations 2012*. HMSO, London.

8 APPENDIX A - PROTECTED SPECIES LEGISLATION

8.1 General

This section briefly describes the legal protection afforded to the protected species identified in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

8.2 Bats

All species of British bat are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act). This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European protected species listed on *Schedule 2* of the *Conservation Habitats & Species (Amendment) Regulations 2012* which gives them full protection under *Regulation 39*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb a bat (in such a way as to be likely to significantly affect: (i) the ability of a significant group of bats to survive, breed or rear/nurture their young; or (ii) the local distribution or abundance of the species concerned);
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present (bats tend to reuse the same roost). Several species of bat are included as a Priority Species in the UK Biodiversity Action Plan (UKBAP - JNCC (2003)) and also as species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

All species of British bat are also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.

8.3 European Protected Species Licences

Where it is necessary to carry out an action that could result in an offence under the *Conservation Habitats & Species (Amendment) Regulations 2012* it is possible to apply for a European Protected Species (EPS) licence from Natural England. Licences are only issued where Natural England are

satisfied that three derogation tests are met. These are that the activity is for **imperative reasons of overriding public interest**, that there must be **no satisfactory alternative** and that **favourable conservation status of the species must be maintained**.

Consideration of these three derogation tests was previously left to Natural England as part of their deliberations on whether to grant a licence for the development activity after a planning consent has been issued. However, the regulations now require that **all** public bodies, *i.e.* **Local Planning Authorities** (LPAs), have regard to the requirements of the European Habitats Directive when carrying out their functions. As a result, LPAs **must** address the three derogation tests when considering a planning application that that could impact upon any European Protected Species (EPS).

8.4 *National planning context*

8.4.1 *General*

Surveys should be completed in line with Natural England's *Standing Advice for Local Authorities* (<http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/default.aspx>), which states:

- Natural England will not comment on applications that are submitted without the relevant protected species surveys (see flowchart) if there are no other issues (*i.e.* in relation to SSSIs or landscape).
- Natural England will not comment on scoping surveys that recommend further surveys where these have not been undertaken and submitted with the scoping reports.

In addition to the above, *Section 40* of the *Natural Environment and Rural Communities Act* (2006) imposes a new duty on all public authorities to have regard for biodiversity.

8.4.2 *National Planning Policy Framework (NPPF)*

From the 27th March 2012, the NPPF now supersedes Planning Policy Statements. The NPPF understands that economic, social and environmental roles of sustainable development are mutually dependent on each other and therefore should not be viewed in isolation. It states: "*in assessing and determining development proposals, local planning authorities should apply the presumption in favour of sustainable development*".

The NPPF incorporates the UK Sustainable Development Strategy's five guiding principles of sustainable development:

- living within the planet's environmental limits;
- ensuring a strong, healthy and just society;
- achieving a sustainable economy;
- promoting good governance; and
- using sound science responsibly.

NPPF states that planning should enhance the natural environment and provide net gains for biodiversity where possible. It states that "*development proposals where the primary objective is to conserve or enhance biodiversity should be permitted*" and "*opportunities to incorporate biodiversity in and around developments should be encouraged*". The importance of ecosystem services and soils is now also specifically noted.

It also includes a statement to "*encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value*".

It should be noted that the "*presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined*".

It also encourages planning policies to "*minimise impacts on biodiversity and geodiversity by identify[ing] and map[ing] components of the local 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 local partnerships for habitat restoration or creation*". This applies to non-statutory designated sites including Sites of Importance for Nature Conservation (SINCs) and equivalent county wildlife sites.

Early engagement with all necessary stakeholders, including expert bodies, is encouraged by NPPF.

APPENDIX B: DUSK EMERGENCE SURVEY DATA

Date	21/08/2018			
Temp	19.2° C at start and 17.8° C at the end			
Weather	Warm and dry with clear skies and light air (Beaufort scale 1)			
Ecologists	Victoria Russell, Ben Willers and Sam Rickard			
Observer	Time	No.	Species	Observation
-	19:58	-	-	Ecologists commenced observations
-	20:13	-	-	Sunset
VR	20:39	1	Soprano pipistrelle	Commuting in front of building
BW	20:39	1	Soprano pipistrelle	Heard but not seen
BW	20:40	1	Soprano pipistrelle	Heard for two passes but not seen
BW	20:42	1	Soprano pipistrelle	Flying east along rear of building
SR	20:42	1	Soprano pipistrelle	Foraging north then south towards rear garden
BW	20:43	1	Soprano pipistrelle	Heard foraging but not seen
SR	20:44	1	Soprano pipistrelle	Foraging north then south around surveyor
BW	20:45	1	Soprano pipistrelle	Foraging and feeding west along rear of building
BW	20:47	1	Soprano pipistrelle	Heard but not seen
VR	20:50	1	Soprano pipistrelle	Commuting and foraging over building and into garden
BW	20:50	1	Soprano pipistrelle	Foraging and feeding over rear garden heading south-east
BW	20:52	2	Soprano pipistrelle	Foraging west round rear building then north
VR	20:55	1	Soprano pipistrelle	Flying towards garden
VR	20:55	2	Soprano pipistrelle	Foraging and feeding in front carpark by wall
BW	20:56	1	Soprano pipistrelle	Feeding to the east of the rear of the building
SR	20:57	2	Common pipistrelle	Commuting north to east of building
BW	20:57	1	Soprano	Heard foraging for three passes but not seen

			pipistrelle	
VR	20:58	1	Soprano pipistrelle	Foraging and feeding in front carpark by wall
VR	20:59	1	Soprano pipistrelle	Heard but not seen
VR, BW	21:00	1	Soprano pipistrelle	Heard but not seen
BW, SR	21:01	1	Soprano pipistrelle	Heard foraging but not seen
VR	21:04	1	Soprano pipistrelle	Foraging from carpark to garden
BW	21:04	1	Soprano pipistrelle	Heard foraging but not seen
VR	21:05	1	Soprano pipistrelle	Heard foraging but not seen
VR	21:06	1	Soprano pipistrelle	Foraging and feeding in front carpark by wall
VR	21:06	1	Soprano pipistrelle	Foraging from carpark to garden
BW	21:06	1	Soprano pipistrelle	Heard but not seen
BW	21:07	1	Soprano pipistrelle	Heard foraging but not seen
VR	21:13	1	Soprano pipistrelle	Heard but not seen
BW	21:14	1	Soprano pipistrelle	Heard foraging but not seen
SR	21:15	1	Common pipistrelle	Heard but not seen
BW	21:16	1	Serotine	Heard but not seen
VR, BW	21:22	1	Soprano pipistrelle	Heard but not seen
VR, BW	21:23	1	Noctule	Heard but not seen
VR	21:24	1	Soprano pipistrelle	Heard foraging but not seen
BW	21:24	1	Common pipistrelle	Heard foraging but not seen
VR	21:25	1	Common pipistrelle	Heard foraging but not seen
BW	21:25	1	Soprano pipistrelle	Heard foraging but not seen
SR	21:27	1	Common pipistrelle	Heard but not seen

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VR	21:28	1	Noctule	Heard but not seen
BW	21:28	1	Soprano pipistrelle	Heard but not seen
VR	21:29	1	Common pipistrelle	Heard but not seen
VR	21:29	1	Soprano pipistrelle	Heard with social calls but not seen
BW	21:30	1	Common pipistrelle	Heard but not seen
BW	21:30	1	Soprano pipistrelle	Heard foraging but not seen
BW	21:34	1	Common pipistrelle	Heard but not seen
BW	21:36	1	Pipistrelle species	Heard but not seen
BW	21:36	1	Common pipistrelle	Heard but not seen
BW	21:39	1	Serotine	Heard but not seen
BW	21:42	1	Soprano pipistrelle	Heard but not seen
VR	21:43	1	Soprano pipistrelle	Heard but not seen
-	21:45	-	-	Ecologists ceased observations
Date	03/09/2018			
Temp	13° C at start and 12° C at the end			
Weather	Cool and dry with 20% cloud cover and light air (Beaufort scale 1)			
Ecologists	Ben Willers and Sam Rickard			
Observer	Time	No.	Species	Observation
-	04:50	-	-	Ecologists commenced observations
-	06:20	-	-	Sunset
-	06:35	-	-	Ecologists ceased observations
Date	17/09/2018			
Temp	20° C at start and 18° C at the end			
Weather	Warm and dry with clear skies and a light air (Beaufort scale 1)			
Ecologists	Chloe Mockridge and Ben Willers			
Observer	Time	No.	Species	Observation
-	19:00	-	-	Ecologists commenced observations
-	19:15	-	-	Sunset
CM, BW	19:35	1	Soprano pipistrelle	Commuting over rear garden flying east
BW	19:37	1	Soprano pipistrelle	Heard but not seen
CM, BW	19:39	1	Common	Commuting over rear garden flying east

			pipistrelle	
CM, BW	19:43	1	Soprano pipistrelle	Foraging and feeding over rear garden flying west
BW	19:45	1	Soprano pipistrelle	Heard foraging but not seen
CM, BW	19:47	1	Soprano pipistrelle	Heard feeding but not seen
CM, BW	19:55	1	Common pipistrelle	Heard foraging but not seen
CM, BW	19:58	1	Common pipistrelle	Commuting over rear garden flying east
CM, BW	20:05	1	Soprano pipistrelle	Heard but not seen
CM	20:05	2	Common pipistrelle	Heard foraging until 20:08 but not seen
BW	20:08	1	Soprano pipistrelle	Heard foraging but not seen
BW	20:09	1	Serotine	Heard but not seen
BW	20:16	1	Common pipistrelle	Heard foraging but not seen
BW	20:18	1	Common pipistrelle	Heard foraging but not seen
BW	20:19	1	Common pipistrelle	Heard foraging but not seen
CM, BW	20:21	1	Common pipistrelle	Heard foraging but not seen
BW	20:27	1	Common pipistrelle	Heard foraging but not seen
CM, BW	20:39	1	Common pipistrelle	Heard foraging for two passes but not seen
-	20:45	-	-	Ecologists ceased observations