Bat Emergence and Re-Entry Survey

Survey Site
Gamford House, Gamford Lane, Rossett, Wrexham LL12 0EW

Client
Nathan Cunningham

Report Date
10/08/2026

Project
This report is prepared to inform a planning application for the proposal described as the conversion and/or demolition of existing buildings to provision a residential development.

This report is supplementary to the Preliminary Roost Assessment report completed by Arbtech Consulting Ltd (2026).

BERS survey methodology and legislation can be found in the Appendices of this report.

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Survey Author & Designer

Survey design and oversight were provided by Consultant Ecologist Katie Whitfield BSc (Hons) MSc, (Accredited on Leo Plevin's Natural England Bat License, and Gareth Hey's Natural Resources Wales Bat License - license details on request) at BCT Level 2 competence.

Executive Summary

This report is an addendum to and must be read in conjunction with the Preliminary Roost Assessment completed by Arbtech Consulting Limited (2026) for the same site address. Further reports should be read in conjunction with the present reports including: ▪ Preliminary Roost Assessment (TEP., 2015) ▪ Bat Emergence/Re-entry Surveys (Arbtech Consulting Ltd., 2015) ▪ Preliminary Ecological Appraisal (Tyrer Ecological Consultants., 2018) ▪ Bat Emergence/Re-entry Surveys (Tyrer Ecological Consultants., 2019) ▪ Preliminary Ecological Appraisal/Preliminary Roost Assessment (Arbtech Consulting., 2023). This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the consultant for advice.

Two roosts were identified during the course of the 2026 survey effort (Roosts 1-2). Previous and historic roosts are also noted within the report (Roosts 3-9). The requirements arising from the findings can be found in Table 1.

Table 1: Requirements arising as a result of this survey.

Requirement	Details
Bat Licence	A European Protected Species Licence is required to legally permit the works. This requirement exists independently of the planning system, and is required whether planning permission is needed or not, and whether this is listed as a condition of planning or not. If the EPSL is not submitted by 22/10/2026 a material changes check will be required. If the EPSL is not submitted by 01/05/2027 updated dusk surveys may be required. The EPSL can be applied for once planning permission has been granted (where required), and within 3 months of the start of works. Any pre-commencement wildlife related planning conditions that require sign off from the council will need to be discharged prior to licence submission.
Wildlife Sensitive Lighting Strategy	A low impact lighting strategy will be adopted for the site during and post-development.
Precautionary measures for non roosting buildings	Precautionary measures are required for B4a in which no roosts were found in the current survey effort, but roosting features are evident. This includes precautions such as works being undertaken with supervision from the Named Ecologist.

Report Validity

This report is valid for up to 18 months for the purposes of planning/LBC applications. For the purposes of bat licensing, the report is considered 'up to date' and suitable for licence application until the start of the following bat activity season. After those timeframes, some level of updated surveys may be required. The level of survey effort will depend on the specific circumstances of the site.

Site Context and Background

Background

B1 and B2 were confirmed to have high roosting value, with B4a and B5 having moderate roosting value during the most recent PRA (Arbtech Consulting., 2026).

Previous survey data
B1:
Historically B1 contained a bat roost, confirmed via droppings noted during the 2015 PRA. The subsequent 2015 BERS confirmed the presence of a common pipistrelle day roost within B1. Following these surveys the building was subject to significant fire damage with the roof structure lost. The 2018 PRA concluded that the building had moderate roosting value for bats, with the following 2019 BERS confirming a common pipistrelle day roost. The most recent PRA survey in 2023 re-confirmed that the building had moderate roosting value. 2023 BERS which were partially completed confirmed a soprano pipistrelle emergence.

B2:
During the 2015 PRA survey, B2 was concluded to have low roosting value for bats. The 2018 PRA survey concluded B2 to have moderate suitability for bats, with the subsequent 2019 BERS confirming the presence of a common pipistrelle day roost within the building. The updated 2023 PRA confirmed B2 still held moderate roosting value for a low number of crevice-dwelling bats. Subsequent 2023 BERS were partially completed which confirmed 11 soprano pipistrelle (SP) emergences during visit 1 with a further SP emergence in visit 2.

B2a:
All previous surveys concluded B2a as having negligible value for roosting bats.

B3:
B3 was historically found to have high roosting value for bats during the 2015 survey. No roosts were found in the subsequent 2015 BERs. The 2019 BERs confirmed the presence of a common pipistrelle day roost via an open doorway. Since these surveys B3 has been subject to deterioration with the roof no long present, as such the 2023 PRA concluded B3 to no longer be suitable for roosting bats.

B4:
Previous surveys concluded B4 to have negligible value for roosting bats, including the more recent 2023 PRA.

B4a:
B4a was concluded as having low roosting value during the 2015 PRA, and moderate roosting value during the 2018 PRA. The 2023 PRA also confirmed B4a to have moderate roosting value. No bat roosts were confirmed during any of the subsequent BERS.

B5:
B5 was concluded to have low roosting value for bats during the 2015 PRA, with an additional 2018 PRA concluding B5 had moderate roosting value. Subsequent BERS in 2019 confirmed a common pipistrelle day roost within B5. The 2023 PRA also concluded B5 to have moderate roosting value. No emergences were observed during the 2024 BERS.

B6:
Previous surveys concluded B6 to have negligible value for roosting bats, including the more recent 2023 PRA.

B7:
Previous surveys concluded B7 to have negligible value for roosting bats, including the more recent 2023 PRA.

B8:
Previous surveys concluded B8 to have negligible value for roosting bats, including the more recent 2023 PRA.

Context

Number of buildings on site

8

Number of buildings surveyed

4

Reason for omitting buildings

Buildings B2a, B3, B4, B6, B7 and B8 were determined to have negligible bat roosting value.

Site Inspection

Site Inspection

An updated internal inspection was undertaken immediately prior to the first bat survey visit by Consultant Ecologist Katie Whitfield, BSc (Hons) MSc at BCT Level 2 competence. No material changes have occurred internally or externally since the Preliminary Roost Assessment.

Following the emergence noted in visit 1, an additional internal was done on B1 prior to visit 2 to check for any evidence of bats. Two bat droppings were noted but these were significantly degraded and as such no sample could be retrieved.



Figure 1a: Updated internal within B2.



Figure 1b: Updated internal within B5 (bird nests noted within)

Proposed Works

Proposed Development

Current use of building(s)

B1 is currently a vacant residential dwelling, with B2, B4 and B5 vacant barns.

Proposed use of building(s)

B1: N/A, B2: Residential dwelling, B4: Residential dwelling and B5: Residential dwelling.

Structural changes to building(s)

B1: N/A
B2/B4/B5: Existing barns to be converted. Whilst detailed proposals are to follow after the planning stage, it is anticipated that this will include alterations to the whole roof structure, walls, and window/door frames.

Cosmetic/repair work

B1: N/A
B2/B4/B5: Existing barns to be converted. Whilst design proposals are to follow after the planning stage, repairs to the whole roof structure, and walls are anticipated.

Type of permission required

Full planning application

Proposed Plan

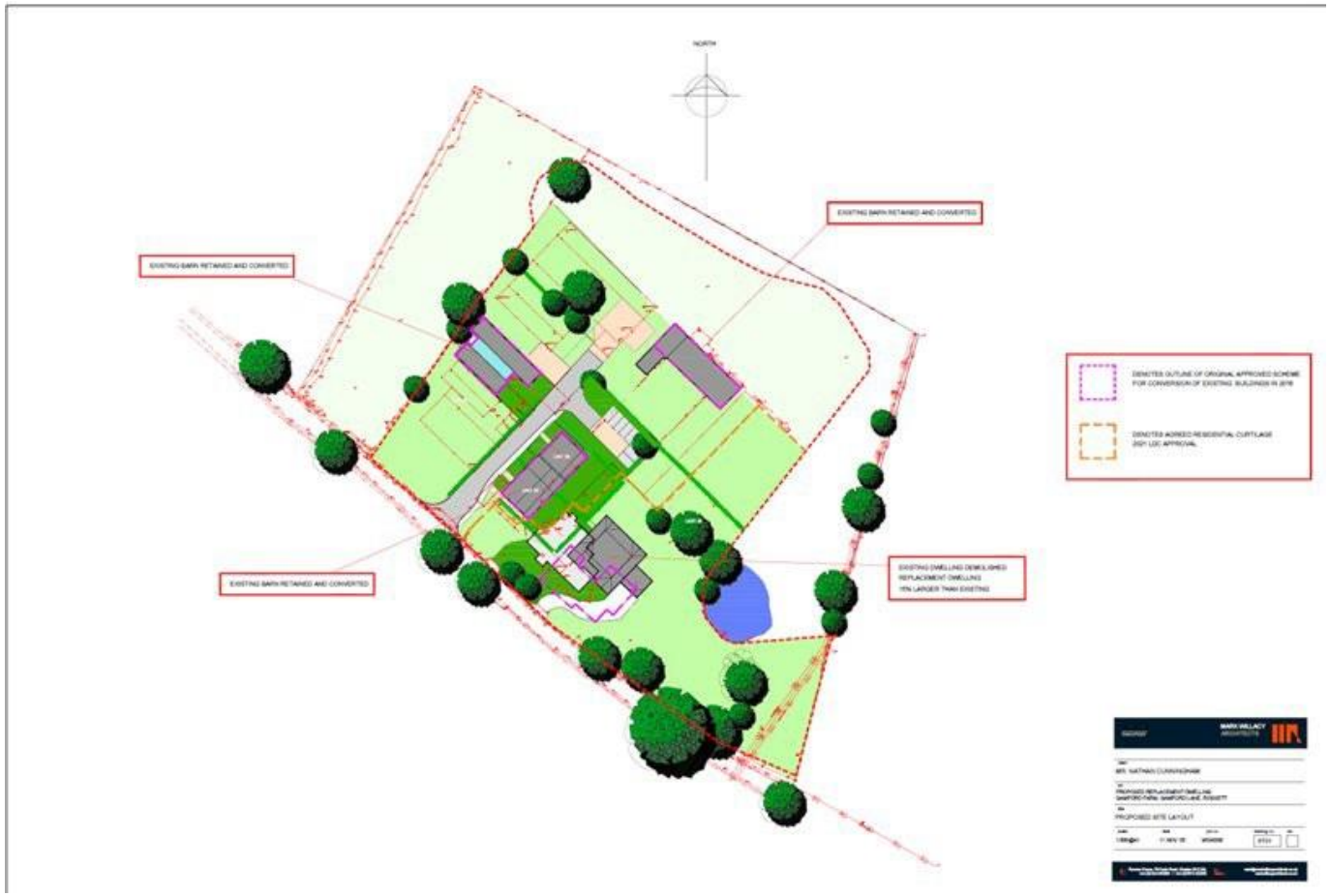


Figure 2: The proposed plans

Surveyors and Equipment

Surveyors

Table 2: Details of the surveyors involved in each of the surveys

Name	BERS Experience	Bat Licence	BCT Competency
Abbie Saul	4 years	n/a	Level 1
Paige Robertson	2 years	N/A	Level 2
Sophia Tudisca	1 years	N/A	Level 1
Dexter Green	3 years	N/A	Level 1
Margaret Warren	3 years	N/A	Level 2
Giorgina Shaw	3 years	N/A	Level 1
Katie Whitfield	4 years	N/A	Level 2
Talal Azzomi	1 years	N/A	Level 1
Jason Nash	5 years	N/A	Level 2
Jamie Keith	2 years	N/A	Level 2
Joshua Pollard	1 years	N/A	Level 2
David Soares	1 years	N/A	Level 1
Benjamin Giardelli	1 years	N/A	Level 2
Sabina Harcenkova	1 years	N/A	n/a
Nicholas Smith	6 years	N/A	Level 2
Lizzie Hill	2 years	N/A	Level 2
Aron Marshall	2 years	N/A	Level 1
Amber Williams	4 years	Level 2	Level 2
Ryan Oakes	2 years	N/A	Level 1
Kayleigh Davies	5 years	N/A	Level 2
Ennis Joyce	3 years	n/a	Level 1

Equipment

Table 3: Details of the equipment used in each of the visits

Category	Equipment	Count		
		Visit 1	Visit 2	Visit 3
Night Vision Aid	Nightfox Whisker	15	15	11
Additional illumination	Nightfox Arc IR Floodlight	4	6	3
Bat detector	Wildlife Acoustics Echo Meter Touch 2	14	14	8
Bat detector	Magenta Electronics Bat 4	14	14	8
Two-way radio	BAOFENG FV-880E two-way radio (or similar)	14	14	8
Additional illumination	Nightfox XB5 PRO	6	6	4
Other	Panasonic hc-vx980	1	-	-
Bat detector	Titley Chorus Static Bat Detector	2	3	3
Night Vision Aid	Nightfox nova	-	1	-

Surveyor Positions

Positions

Details of each surveyor position for each visit

A diagram of the positions on site can be found in Appendix 1 along with the position images.

Table 4: The surveyor positions and the surveyors associated with them on each visit. The initials LS indicate the lead surveyor for the site visit

Position	Elevation	Visit 1	Visit 2	Visit 3
B1-1	Northwest	Katie Whitfield (LS)	Katie Whitfield (LS)	Jamie Keith (LS)
B1-2	Northeast	Benjamin Giardelli	Benjamin Giardelli	Benjamin Giardelli
B1-3	Southeast	Sabina Harcenkova	Ryan Oakes	Ryan Oakes
B1-4	Southwest	Giorgina Shaw	Aron Marshall	Ennis Joyce
B1-5	Inside B1 to the north (semi-manned)	-	Kayleigh Davies	Jamie Keith (LS)
B2-1	Northwest	Joshua Pollard	Joshua Pollard	Joshua Pollard
B2-2	Southeast	Paige Robertson	Kayleigh Davies	Lizzie Hill
B2-3	South	Jason Nash	Amber Williams	Talal Azzomi
B2-4	East	David Soares	David Soares	David Soares
B2-5	West (semi-manned)	Jamie Keith	Jamie Keith	Jamie Keith (LS)
B2-6	East (semi-manned)	Benjamin Giardelli	Benjamin Giardelli	Benjamin Giardelli
B4-1	Southwest	Margaret Warren	Margaret Warren	-
B4-2	Northeast	Abbie Saul	Lizzie Hill	-
B5-1	South	Jamie Keith	Jamie Keith	-
B5-2	Northeast	Dexter Green	Dexter Green	-

Surveyor Positions

Table 4 ctd: The surveyor positions and the surveyors associated with them on each visit. The initials LS indicate the lead surveyor for the site visit

Position	Elevation	Visit 1	Visit 2	Visit 3
B5-3	North	Talal Azzomi	Talal Azzomi	-
B5-4	Southwest	Sophia Tudisca	Nicholas Smith	-

Survey Visit Details and Limitations

Visit 1

10/06/2026

Start time	Sunset	End time
21:23	21:38	23:08

Start Conditions

Temperature(°C): 12.9
Relative humidity (%): 81.0
Wind (km/h): 6.7

End Conditions

Temperature(°C): 11.0
Relative humidity (%): 89.0
Wind (km/h): 7.5

Rain

None

Buildings surveyed

4

Trees surveyed

N/A

Visit 2

01/07/2026

Start time	Sunset	End time
21:28	21:43	23:13

Start Conditions

Temperature(°C): 17.5
Relative humidity (%): 75.0
Wind (km/h): 9.6

End Conditions

Temperature(°C): 17.0
Relative humidity (%): 83.0
Wind (km/h): 4.8

Rain

None

Buildings surveyed

4

Trees surveyed

N/A

Visit 3

22/07/2026

Start time	Sunset	End time
21:08	21:23	22:53

Start Conditions

Temperature(°C): 18.2
Relative humidity (%): 84.0
Wind (km/h): 4.8

End Conditions

Temperature(°C): 16.3
Relative humidity (%): 90.0
Wind (km/h): 3.2

Rain

None

Buildings surveyed

2

Trees surveyed

N/A

Limitations

There are no limitations associated with this survey.

Emergence Results

Findings

Summary of all recorded emergences

Emergences were recorded for building B1 with one distinct species (Brown long-eared bat) and building B2 with one distinct species (Brown long-eared bat).

Full details of emergences, including times and species, can be found in Appendix 6.

Table 5: Number of emergences by species and visit for all buildings

			Number of Emergences			
Roost	**Roost Location**	**Species**	**Visit 1**	**Visit 2**	**Visit 3**	**Peak Count**
1 - B1	Western flat roof section of B1	Brown long-eared bat	1	-	-	**1**
2 - B2	Emergence from the Window on Eastern elevation of B2	Brown long-eared bat	1	-	-	**1**

Roosts and Impacts

Findings & Impacts

Reports on the roosts identified

Table 6: Roosts identified

Roost	Location	Access Point	Type	Species	Peak Count	Impact Level	Impact Scale
1 - B1	Western flat roof section of B1	Open doorway on western elevation	Day roost	Brown long-eared bat	1	Destruction	Site
2 - B2	Emergence from the Window on Eastern elevation of B2	Window on Eastern elevation of B2	Day roost	Brown long-eared bat	1	Destruction	Site
3 - B1	Northwest flat roof extension	Under the fascia board	Day roost	Soprano pipistrelle	1	Destruction	Site
4 - B2	Northwest gable end	Open window on second storey	Day roost	Soprano pipistrelle	11	Destruction	Site
5 - B1	Northwest flat roof extension	Under fascia board	Day roost	Common pipistrelle	1	Destruction	Site
6 - B2	Northeast elevation on second storey	Crevice in brickwork at wall plate	Day roost	Common pipistrelle	1	Destruction	Site
7 - B5	Northwest elevation on second storey section (noted as southern elevation in previous report)	Under ridge tiles	Day roost	Common pipistrelle	2	Destruction	Site
8 - B3	North-most section on the western elevation	Open door	Day roost	Common pipistrelle	1	None - Historic	Site
9 - B1	Southeast gable end	Under roof tiles	Day roost	Common pipistrelle	1	None - Historic	Site

Roosts and Impacts (continued)

Roost 3 (B1): Roost 3 was identified as a bat roost during the 2023 survey. No emergences were recorded from this roost during the current survey; it is included on the basis of that previous identification.

Roost 4 (B2): Roost 4 was identified as a bat roost during the 2023 survey. No emergences were recorded from this roost during the current survey; it is included on the basis of that previous identification.

Roost 5 (B1): Roost 5 was identified as a bat roost during the 2019 survey. No emergences were recorded from this roost during the current survey; it is included on the basis of that previous identification.

Roost 6 (B2): Roost 6 was identified as a bat roost during the 2019 survey. No emergences were recorded from this roost during the current survey; it is included on the basis of that previous identification.

Roost 7 (B5): Roost 7 was identified as a bat roost during the 2019 survey. No emergences were recorded from this roost during the current survey; it is included on the basis of that previous identification.

Roost 8 (B3): Roost 8 was identified as a bat roost during the 2019 survey. No emergences were recorded from this roost during the current survey; it is included on the basis of that previous identification. The day roost is considered historic and no longer present due to the deterioration of the building, in which the roof is no longer present.

Roost 9 (B1): Roost 9 was identified as a bat roost during the previous survey. No emergences were recorded from this roost during the current survey; it is included on the basis of that previous identification. The day roost is considered historic. The access point under the roof tiles is no longer present due to degradation of B1 in which the roof is no longer present.

Images of all roosts identified in this survey can be found in Appendix 4.

Roosts and Impacts (continued)

Table 7: Roosts identified in previous surveys

Year	Roost	Location	Access Point	Type	Species	Peak Count
2015	9 - B1	Southeast gable end	Under roof tiles	Day roost	Common pipistrelle	1
2019	5 - B1	Northwest flat roof extension	Under fascia board	Day roost	Common pipistrelle	1
2019	6 - B2	Northeast elevation on second storey	Crevice in brickwork at wall plate	Day roost	Common pipistrelle	1
2019	7 - B5	Northwest elevation on second storey section (noted as southern elevation in previous report)	Under ridge tiles	Day roost	Common pipistrelle	2
2019	8 - B3	North-most section on the western elevation	Open door	Day roost	Common pipistrelle	1
2023	3 - B1	Northwest flat roof extension	Under the fascia board	Day roost	Soprano pipistrelle	1
2023	4 - B2	Northwest gable end	Open window on second storey	Day roost	Soprano pipistrelle	11

General Observations & Impacts

Findings & Impacts

Summary of all other observations and impacts

Key Foraging Areas

Foraging activity was observed between the eastern elevation of B2 and western elevation of B1 as well as adjacent to the southern elevation of B1 and to the northeast/east of B2. Further routes were noted near the entryway and along the adjacent road to the west as well as within the open barn (B4) and adjacent to the northeast. Additional paths are found between B4a and B5.

Key Commuting Paths

Key commuting routes were observed between the west elevation of B2 and east elevation of B1. Further routes included to and from the southeast pond (P1), to the north and east of B2 as well as commuting in and out of the open doorway/window on the eastern gable end as well as paths over B1/B2, along the driveway heading north and between adjacent barns (B4) and B4a.

Impacts on Foraging / Commuting Bats

The proposed development will lead to an increase in the amount of current lighting on surrounding habitats and retained buildings without mitigation. This may disturb commuting and foraging bats.

Hibernation suitability

The site offers limited suitable hibernation habitat for bats, in the form of gaps in brickwork and raised/missing tiles. Such features are exposed to external conditions as well as significant light ingress due to the degraded nature of the buildings. Hibernating bats require stable dark spaces and a stable thermal environment, making the likelihood of these features being utilized low. Additionally, such features cannot be subject to further assessment, as such hibernation surveys are considered disproportionate.

Other Observations and Impacts

A tawny owl was observed prior to the start of the second bat survey, within missing tiles on the western roof of B5. The owl subsequently emerged and was not seen in or around B5 for the remainder of the visits. It is deemed likely the owl was roosting within.

Evaluation of Impacts

The common and soprano pipistrelle roosts found within previous survey data, provide evidence of the wider usage of the buildings across the site, but are not noted as directly connected to the current brown long-eared roosts within B1 and B2 during the 2026 surveys.

Roosts noted within B2 in 2019 and 2023 are within the northeast upper gabled section. Whilst different access points are utilized within these two survey efforts both lead to the same roof structure with common/soprano pipistrelles roosting under roof tiles.

General Observations & Impacts Continued

Findings & Impacts

Summary of all other observations and impacts

Other roosts identified from 2015 to the present day provide entry only to the roof space associated with that particular section of each building and as such represent separate roosting locations rather than an interconnected roost space. However, the buildings form part of a wider complex of suitable roosting structures in relation to B1, B2, B4a, and B5. The absence of roosting bats within B4a and B5 and roosts from previous visits, does not confirm their permanent absence, as such roosts can be used temporally and be utilized within a wider area of roosting locations within the locality. However, the roost found within B3 is considered lost due to the degradation of the building. Overall, due to the roosts previously found and ongoing usage of the site by local bat populations it cannot be discounted that such populations may move between buildings and return in subsequent years within the noted buildings.

Therefore, the proposed impacts on buildings on site, may reduce the availability of alternative roosting opportunities within the site as well as cause destruction to present and previously noted roosts.

Requirements & Enhancements

Requirements

Two roosts were identified during the course of the 2026 survey effort (Roosts 1-2). Previous and historic roosts are also noted within the report (Roosts 3-9). The requirements arising from the findings can be found in Table 1.

Bat Licence

A European Protected Species Licence (EPSL) is required to legally permit the works. This requirement exists independently of the planning system, and is required whether planning permission is needed or not, and whether this is listed as a condition of planning or not.

All roosts, included those noted within previous survey data (i.e., **Roosts 1-7**) should be covered under the EPSL.

If the licence is not submitted by 01/10/2026 a material changes check will be required.
If the licence is not submitted by 01/05/2027 updated dusk surveys may be required.

The licence can be applied for once planning permission has been granted (where required), and within 3 months of the start of works. Any pre-commencement wildlife related planning conditions that require sign off from the council will need to be discharged prior to licence submission.

BRD

Local bat records have been obtained. The following species are found to be present within a 2km radius of the site:

- Common pipistrelle (Pipistrellus pipistrellus) - 1x CP day roost in B2, B3 and B5 as per 2019 surveys
- Noctule (Nyctalus noctula) - commuting on site
- Brown long-eared bat (Plecotus auritus) - foraging on site

The remainder of the records found within a 2km radius of the site were from >10 years ago.

Mitigation

The licence application will detail any mitigation and compensation measures that will be required for the proposed development to comply with the standing advice and will be designed to reduce any impacts to an acceptably low level so as to maintain (or enhance) the Favourable Conservation Status (FCS) of the local bat population. The EPSL will include (but not be limited to) the following measures:

Requirements Continued

Mitigation Continued

▪ The named ecologist will need to visit the site prior to preparation of the licence documents.
▪ The installation of bat boxes and/or replacement roosts appropriate for the species and roost types present prior to works commencing to form a receptor site for any bats found during the works. Boxes may be installed on buildings or trees or can be pole mounted but must be in an undisturbed location and will need to be maintained in this location post-development. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
▪ The provision of a toolbox talk to contractors, by the Named Ecologist or an Accredited Agent, to inform them of the presence of bat roosts prior to the start of works.
▪ A pre-commencement inspection of any roost features by the Named Ecologist or an Accredited Agent using a torch and an endoscope (this may be via ladders, scaffolding or a mobile elevated platform).
▪ Soft demolition of bat roosts by hand under supervision of the named ecologist or accredited agent. The ecologist will move any bats found to the receptor site by gloved hand. If bats are found during periods of adverse weather conditions, these must be left undisturbed until weather conditions become more favourable to move bats to the receptor site.
▪ Roost replacement appropriate for the species and roost types present will be required on site.
▪ Post-development monitoring may be required dependent upon species present and roost replacement type.

The EPSL will only include the bat species, numbers and roost types listed above, including all historic roosts. EPSLs do not allow for the disturbance of hibernating bats. Therefore, if any bats are found during the hibernation period or if any unexpected bat species or roost types are identified works must cease and advice must be sought from the Named Ecologist regarding the possible requirement for timing restrictions for works, the completion of further bat surveys or a modification to the EPSL. If full specifications of mitigation and compensation measures are required for planning determination, these can be provided in a separate standalone document prepared by a suitably experienced ecologist for the species and roost types present.

Precautionary measures should also be put in place for works to buildings in which no roosts were found during the current survey effort to minimise the risks of bats incidentally using other buildings and features, particularly in relation to B4a in which roosting features are known. Such measures will include but are not limited to:
- A pre-commencement inspection of roosting features by the Named Ecologist or an Accredited Agent using a torch and an endoscope.
- The removal of any of the roof structure by hand under supervision of the Named Ecologist or an Accredited Agent.
- The provision of suitable roost replacements appropriate for the species and roost types historically present on site.

Requirements Continued

Wildlife Sensitive Lighting Strategy

Foraging and commuting bats could be impacted by additional lighting on site which can affect resources for the local population. Due to the presence of pipistrelles, brown long eared bats, noctules and myotis sp., foraging/commuting on site, a wildlife sensitive lighting strategy will be adopted within the proposed development during and post-development. This should be designed in accordance with Guidance Note GN08/23 Bats and Artificial Lighting at Night (Institution of Lighting Professionals, 2023). Parameters include avoiding light spill onto key habitats or features used by bats for roosting, foraging, or commuting.

A low impact lighting strategy will be adopted for the site during and post-development, and this should be designed in accordance with Guidance Note GN08/23 Bats and Artificial Lighting at Night (Institution of Lighting Professionals, 2023). Parameters can be found on the Bat Conservation Trust website: https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released

Enhancements

The creation of additional habitat for bats is recommended in line with the local authorities' duty to request enhancements under the PPW (2024).

Bat Boxes

The installation of two bat boxes for at the site will provide additional roosting habitat for crevice dwelling bats. The bat boxes will be integrated within the new dwellings. Bat boxes should be positioned 3-5m above ground level (at the eaves of buildings), facing in a south or south-westerly direction, with a clear flight path to and from the entrance, away from and unlit by artificial light, and not above any windows. The bat boxes will be a specification suitable for crevice dwelling species.

Cavity Bat Box

To enhance opportunities for void dwelling bats, two cavity bat boxes can be installed at the site. These can be erected onto the created dwellings or converted B2, B4a, and/or B5.

Planting - Fruit trees and hedgerows

Habitat should be retained where possible. Planting of native fruit bearing tree and hedgerow planting will increase opportunities for foraging and commuting bats.

Enhancements Continued

Planting - Wildflowers

Planting of species rich night-scented wildflower is recommended to increase prey availability to enhance the site for foraging and commuting bats. Species include evening primrose Oenothera biennis, common honeysuckle Lonicera periclymenum, red campion Silene dioica, Common White Jasmine Jasminum officinale, and night-scented stock Matthiola longipetala.

Additional Bat Habitat

The installation of additional bat habitat can be incorporated into the roof repair. When a bitumen 1F felt or a proven bat safe liner (e.g TLX bat safe liner) is present, this can involve the installation of bat tiles.

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Version Control

Status	Issue	Name	Date
Draft	0.1	Katie Whitfield, BSc (Hons) MSc, Consultant Ecologist	10/08/2026
Review	0.2	Natalie Evans, MA, MRSB, Principal Consultant	21/08/2026
Review	0.3	Natalie Evans, MA, MRSB, Principal Consultant	02/09/2026
Review	0.4	Natalie Evans, MA, MRSB, Principal Consultant	04/09/2026
Final	1.0	Katie Whitfield, BSc (Hons) MSc, Consultant Ecologist	04/09/2026
Review	1.1	Katie Whitfield, BSc (Hons) MSc, Consultant Ecologist	08/09/2026
Final	2.0	Katie Whitfield, BSc (Hons) MSc, Consultant Ecologist	08/09/2026

Appendix 1: BERS plan



Plan 1: BERs plan



Plan 2: BERs plan with previous/historic roosts

Appendix 2: Biological Record Details



Appendix 3: Surveyor Photos

Note: Visit 2: The images for positions B2-1 and B2-2 were unavailable due to Some elevation pictures were not available. The darkest point images provide the viewpoint for these positions..



V1 B1-1 surveyor photo



V2 B1-1 surveyor photo



V3 B1-1 surveyor photo



V1 B1-1 darkest point image



V2 B1-1 darkest point image



V3 B1-1 darkest point image



V1 B1-2 surveyor photo



V2 B1-2 surveyor photo



V3 B1-2 surveyor photo



V1 B1-2 darkest point image



V2 B1-2 darkest point image



V3 B1-2 darkest point image



V1 B1-3 surveyor photo



V2 B1-3 surveyor photo



V3 B1-3 surveyor photo



V1 B1-3 darkest point image



V2 B1-3 darkest point image



V3 B1-3 darkest point image



V1 B1-4 surveyor photo



V2 B1-4 surveyor photo



V3 B1-4 surveyor photo



V1 B1-4 darkest point image



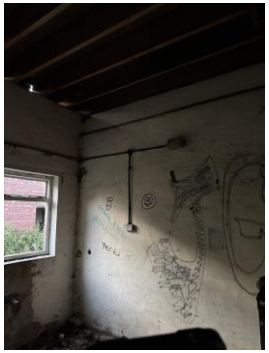
V2 B1-4 darkest point image



V3 B1-4 darkest point image



V2 B1-5 surveyor photo



V3 B1-5 surveyor photo



V1 B2-1 surveyor photo



V2 B1-5 darkest point image



V3 B1-5 darkest point image



V1 B2-1 darkest point image



V2 B2-1 surveyor photo



V3 B2-1 surveyor photo



V1 B2-2 surveyor photo



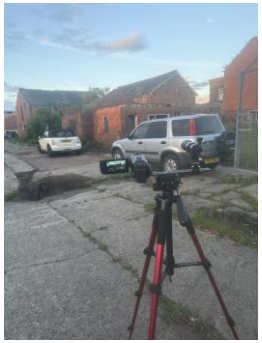
V3 B2-1 darkest point image



V1 B2-2 darkest point image



V3 B2-2 surveyor photo



V1 B2-3 surveyor photo



V2 B2-2 darkest point image



V3 B2-2 darkest point image



V1 B2-3 darkest point image



V2 B2-3 surveyor photo



V3 B2-3 surveyor photo



V1 B2-4 surveyor photo



V2 B2-3 darkest point image



V3 B2-3 darkest point image



V1 B2-4 darkest point image



V2 B2-4 surveyor photo



V3 B2-4 surveyor photo



V1 B2-5 surveyor photo



V2 B2-4 darkest point image



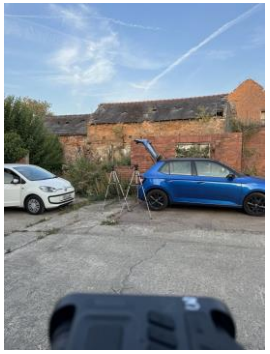
V3 B2-4 darkest point image



V1 B2-5 darkest point image



V2 B2-5 surveyor photo



V3 B2-5 surveyor photo



V1 B2-6 surveyor photo



V2 B2-5 darkest point image



V3 B2-5 darkest point image



V1 B2-6 darkest point image



V2 B2-6 surveyor photo



V3 B2-6 surveyor photo



V1 B4-1 surveyor photo



V2 B2-6 darkest point image



V3 B2-6 darkest point image



V1 B4-1 darkest point image



V2 B4-1 surveyor photo



V1 B4-2 surveyor photo



V2 B4-2 surveyor photo



V2 B4-1 darkest point image



V1 B4-2 darkest point image



V2 B4-2 darkest point image



V1 B5-1 surveyor photo



V2 B5-1 surveyor photo



V1 B5-2 surveyor photo



V1 B5-1 darkest point image



V2 B5-1 darkest point image



V1 B5-2 darkest point image



V2 B5-2 surveyor photo



V1 B5-3 surveyor photo



V2 B5-3 surveyor photo



V2 B5-2 darkest point image



V1 B5-3 darkest point image



V2 B5-3 darkest point image



V1 B5-4 surveyor photo



V2 B5-4 surveyor photo



V1 B5-4 darkest point image



V2 B5-4 darkest point image

Appendix 4: Additional Roost Images



Roost 1 from recent survey effort (B1)



Roost 2 from recent survey effort (B2)

Appendix 5: Summary of Call Data

Species	Visit 1	Visit 2	Visit 3	Total
Soprano pipistrelle	250	126	109	**485**
Common pipistrelle	36	191	152	**379**
Common noctule	36	70	1	**107**
Brown long-eared bat	5	-	4	**9**
Myotis sp.	-	4	-	**4**
Nyctalus sp.	2	1	-	**3**
Pipistrelle sp.	-	3	-	**3**

Appendix 6: Raw Survey Data Log

Pos - Position **Spp** - Species **Act** - Activity **Emer** - Emergence **Fora** - Foraging **Comm** - Commuting **PSR** - Post-survey result **Re-ent** - Re-entry **CPIP** - Common pipistrelle **SPIP** - Soprano pipistrelle **PIPSP** - Pipistrelle sp. **BLE** - Brown long-eared bat **PLECSP** - Plecotus sp. **NOC** - Common noctule **DAUB** - Daubenton's bat **NAT** - Natterer's bat **WHI** - Whiskered bat **WHI/BRAN** - Whiskered/Brandt's bat **MYOSP** - Myotis sp. **SERO** - Serotine **NYCSP** - Nyctalus sp. **LEI** - Leisler's noctule **NPIP** - Nathusius pipistrelle **LHO** - Lesser horseshoe bat **BARB** - Barbastelle **GHO** - Greater horseshoe bat **GLE** - Grey long-eared bat **ALCA** - Alcathoe **BECK** - Bechstein's bat **GME** - Greater mouse-eared bat

Visit 1

Time	Pos	Spp	Act	Notes	PSR
09:06	B1-1	SPIP	Call		
12:47	B1-2	SPIP	Call	Derived from foraging observations	PSR
21:52	B2-2	NOC	Call		
21:53	B5-2	NOC	Call		
21:53	B4-1	NOC	Call		
21:53	B1-4	NOC	Call	Derived from commuting observations	PSR
21:53	B1-1	NOC	Call	hns	
21:53	B5-1	NYCSP	Call		
21:53	B2-1	NOC	Call		
21:53	B2-4	NOC	Call	HNS	
21:53	B2-5	NOC	Call		PSR
21:53	B2-5	NOC	Call		PSR
21:53	B2-5	NOC	Call		PSR
21:53	B2-6	NOC	Call		PSR
21:53	B1-4	NOC	Comm	North to east over the site	PSR
21:54	B5-4	NOC	Call		
21:58	B1-4	NOC	Call	HNS. Faint.	
21:59	B5-2	NOC	Call		
21:59	B4-1	NOC	Call		
21:59	B4-2	CPIP	Comm	Heading in south-east direction along east gable end of B4 coming from the north (B5)	
22:00	B5-4	CPIP	Call	Derived from commuting observations	

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:00	B1-4	SPIP	Call	HNS. Faint.	
22:00	B5-3	SPIP	Call	hns	
22:00	B2-4	SPIP	Call	HNS	
22:00	B2-4	SPIP	Call	Derived from commuting observations	
22:00	B2-5	SPIP	Call		PSR
22:00	B5-4	CPIP	Comm	Over the roof of B5 flying south towards B4	
22:00	B2-4	SPIP	Comm	North west to South east	
22:01	B1-4	SPIP	Call	Derived from commuting observations	
22:01	B2-3	CPIP	Call	Derived from commuting observations	
22:01	B2-1	SPIP	Call		
22:01	B1-3	SPIP	Call		
22:01	B2-5	SPIP	Call		PSR
22:01	B2-5	CPIP	Call		PSR
22:01	B2-5	SPIP	Call		PSR
22:01	B2-5	SPIP	Call		PSR
22:01	B2-5	SPIP	Call		PSR
22:01	B1-4	SPIP	Comm	Corner of B1 heading north to southeast	
22:01	B2-3	CPIP	Comm	North to south over buildings	
22:02	B5-2	CPIP	Call	faint	
22:02	B1-4	CPIP	Call	HNS. Faint.	

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:02	B1-4	SPIP	Call	Derived from commuting observations	
22:02	B2-1	SPIP	Call		
22:02	B2-5	SPIP	Call		PSR
22:02	B2-5	SPIP	Call		PSR
22:02	B2-5	SPIP	Call		PSR
22:02	B2-5	SPIP	Call		PSR
22:02	B2-5	SPIP	Call		PSR
22:02	B2-5	NOC	Call		PSR
22:02	B2-5	CPIP	Call		PSR
22:02	B2-5	SPIP	Call		PSR
22:02	B2-5	SPIP	Call		PSR
22:02	B1-4	SPIP	Comm	Between B1 and B2 heading north to southeast	
22:03	B4-1	CPIP	Call	Derived from commuting observations	
22:03	B2-4	CPIP	Call	HNS	
22:03	B2-5	SPIP	Call		PSR
22:03	B2-5	SPIP	Call		PSR
22:03	B2-5	SPIP	Call		PSR
22:03	B2-5	SPIP	Call		PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:03	B2-5	SPIP	Call		PSR
22:03	B2-5	SPIP	Call		PSR
22:03	B2-5	SPIP	Call		PSR
22:03	B2-5	SPIP	Call		PSR
22:03	B2-5	SPIP	Call	Derived from foraging observations	PSR
22:03	B2-5	SPIP	Fora	Opposite side of B2 to position, eastern facing elevation, above the lower pitched roof of B2	PSR
22:03	B4-1	CPIP	Comm	South west to in-between building 4 and adjoining barn.	
22:03	B2-1	SPIP	Comm	Flew clover b2 roof	
22:04	B2-3	SPIP	Call		
22:04	B2-1	SPIP	Call		
22:04	B2-5	SPIP	Call		PSR
22:04	B2-5	SPIP	Call		PSR
22:04	B2-5	SPIP	Call		PSR
22:04	B2-5	SPIP	Call		PSR
22:04	B2-5	SPIP	Call		PSR
22:04	B2-5	SPIP	Call		PSR
22:04	B2-5	SPIP	Call		PSR
22:04	B2-5	SPIP	Call		PSR
22:04	B1-1	CPIP	Comm	Passing north between b1 and 2	
22:04	B2-1	SPIP	Comm	Flew clover b2 roof	

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:05	B4-1	CPIP	Call	Derived from foraging observations	
22:05	B2-1	SPIP	Call		
22:05	B2-5	SPIP	Call		PSR
22:05	B2-5	SPIP	Call		PSR
22:05	B2-5	SPIP	Call		PSR
22:05	B2-5	SPIP	Call		PSR
22:05	B2-5	SPIP	Call		PSR
22:05	B2-5	SPIP	Call		PSR
22:05	B2-5	SPIP	Call		PSR
22:05	B2-5	SPIP	Call		PSR
22:05	B2-5	SPIP	Call		PSR
22:05	B4-1	CPIP	Fora	Under metal structure between building and barn	
22:06	B2-5	SPIP	Call		PSR
22:06	B2-5	SPIP	Call		PSR
22:06	B2-5	SPIP	Call		PSR
22:06	B2-5	SPIP	Call		PSR
22:06	B2-5	SPIP	Call		PSR
22:06	B2-5	SPIP	Call		PSR
22:06	B2-5	SPIP	Call		PSR
22:06	B4-1	CPIP	Fora	Under metal structure between building and barn	

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:07	B5-2	SPIP	Call		
22:07	B1-4	SPIP	Call	HNS	
22:07	B2-1	SPIP	Call		
22:07	B2-1	SPIP	Call	consistent calls	
22:07	B2-5	SPIP	Call		PSR
22:07	B2-5	SPIP	Call		PSR
22:07	B2-5	SPIP	Call		PSR
22:07	B2-5	SPIP	Call		PSR
22:07	B2-5	SPIP	Call		PSR
22:07	B2-5	SPIP	Call		PSR
22:07	B2-5	SPIP	Call		PSR
22:07	B2-5	SPIP	Call		PSR
22:07	B4-1	CPIP	Fora	Under metal structure between building and barn	
22:08	B2-5	SPIP	Call		PSR
22:08	B2-5	SPIP	Call		PSR
22:08	B2-5	SPIP	Call		PSR
22:08	B2-5	SPIP	Call		PSR
22:08	B2-5	SPIP	Call		PSR
22:08	B2-5	SPIP	Call		PSR
22:08	B2-5	SPIP	Call		PSR
22:08	B2-5	SPIP	Call		PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:09	B2-5	SPIP	Call		PSR
22:09	B2-5	SPIP	Call		PSR
22:09	B2-5	SPIP	Call		PSR
22:09	B2-5	SPIP	Call		PSR
22:09	B2-5	SPIP	Call		PSR
22:09	B4-1	CPIP	Fora	Under metal structure between building and barn	
22:10	B2-5	SPIP	Call		PSR
22:10	B2-5	SPIP	Call		PSR
22:10	B2-5	SPIP	Call		PSR
22:10	B2-5	SPIP	Call		PSR
22:10	B2-5	SPIP	Call		PSR
22:10	B2-5	SPIP	Call		PSR
22:10	B2-5	SPIP	Call		PSR
22:10	B2-5	SPIP	Call		PSR
22:11	B2-1	SPIP	Call		
22:11	B2-5	SPIP	Call		PSR
22:11	B2-5	SPIP	Call		PSR
22:11	B2-5	SPIP	Call		PSR
22:11	B2-5	SPIP	Call		PSR
22:11	B2-5	SPIP	Call		PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:11	B2-5	SPIP	Call		PSR
22:11	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:13	B2-5	SPIP	Call		PSR
22:13	B2-5	SPIP	Call		PSR
22:13	B2-5	SPIP	Call		PSR
22:13	B2-5	SPIP	Call		PSR
22:13	B2-5	SPIP	Call		PSR
22:13	B2-5	SPIP	Call		PSR
22:13	B2-5	SPIP	Call		PSR
22:13	B4-1	CPIP	Fora	Under metal structure between building and barn	
22:14	B2-1	SPIP	Call		
22:14	B1-3	CPIP	Call		

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:14	B2-5	SPIP	Call		PSR
22:14	B2-5	SPIP	Call		PSR
22:14	B2-5	SPIP	Call		PSR
22:14	B2-5	SPIP	Call		PSR
22:14	B2-5	SPIP	Call		PSR
22:14	B2-5	SPIP	Call		PSR
22:14	B2-5	SPIP	Call		PSR
22:14	B2-5	SPIP	Call		PSR
22:14	B4-1	CPIP	Fora	Under metal structure between building and barn	
22:15	B2-2	SPIP	Call	Derived from commuting observations	PSR
22:15	B2-5	SPIP	Call		PSR
22:15	B2-5	SPIP	Call		PSR
22:15	B2-5	SPIP	Call		PSR
22:15	B2-5	SPIP	Call		PSR
22:15	B2-5	SPIP	Call		PSR
22:15	B2-5	SPIP	Call		PSR
22:15	B2-2	SPIP	Comm	North west to so th West and back along e stern and northern elevatio s	PSR
22:16	B1-4	SPIP	Call	HNS	
22:16	B2-5	SPIP	Call		PSR
22:16	B2-5	SPIP	Call		PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:16	B2-5	SPIP	Call		PSR
22:17	B5-1	SPIP	Call		
22:17	B2-1	SPIP	Call		
22:17	B2-5	SPIP	Call		PSR
22:18	B5-2	NOC	Call		
22:18	B4-1	SPIP	Call		
22:18	B4-1	NOC	Call		
22:18	B1-4	NOC	Call	Derived from commuting observations	
22:18	B1-1	NOC	Call	hns	
22:18	B1-1	SPIP	Call	hns Paige saw passing towards her between b1 and B2	
22:18	B5-3	NOC	Call	hns	
22:18	B5-1	NYCSP	Call		
22:18	B2-1	NOC	Call		
22:18	B2-5	NOC	Call		PSR
22:18	B2-5	NOC	Call		PSR
22:18	B2-6	NOC	Call		PSR
22:18	B1-4	NOC	Comm	North to west over site	
22:19	B2-2	NOC	Call		
22:19	B2-2	SPIP	Call	Derived from commuting observations	PSR
22:19	B5-4	NOC	Call		
22:19	B1-4	SPIP	Call	HNS	
22:19	B2-4	NOC	Call	HNS	
22:19	B2-5	SPIP	Call		PSR
22:19	B2-5	SPIP	Call		PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:19	B2-5	SPIP	Call		PSR
22:19	B2-5	SPIP	Call		PSR
22:19	B2-2	SPIP	Comm	North west to south West and back along eastern and northern elevations	PSR
22:20	B1-4	SPIP	Call	HNS	
22:20	B2-4	NOC	Call	HNS	
22:20	B2-2	SPIP	Comm	North west to south West and back along eastern and northern elevations	PSR
22:21	B1-4	SPIP	Call	HNS	
22:21	B2-3	SPIP	Call	Derived from foraging observations	
22:21	B2-1	SPIP	Call		
22:21	B1-3	SPIP	Call		
22:21	B2-5	SPIP	Call		PSR
22:21	B2-5	SPIP	Call		PSR
22:21	B2-5	SPIP	Call		PSR
22:21	B2-5	SPIP	Call		PSR
22:21	B4-1	CPIP	Fora	Under metal structure between building and barn	
22:21	B2-3	SPIP	Fora	Circling over entrance	
22:22	B4-2	SPIP	Call	very faint	
22:22	B2-2	SPIP	Call		
22:22	B5-2	SPIP	Call	Derived from commuting observations	
22:22	B5-1	SPIP	Call		
22:22	B5-1	SPIP	Call		
22:22	B2-1	SPIP	Call		
22:22	B2-5	SPIP	Call		PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:22	B2-5	SPIP	Call		PSR
22:22	B2-5	SPIP	Call		PSR
22:22	B2-2	SPIP	Comm	East to south West along southeast elevation of B2	
22:22	B5-2	SPIP	Comm	Towards and over my position - check ir for route	
22:23	B4-2	SPIP	Call	very faint	
22:23	B4-1	SPIP	Call		
22:23	B1-4	SPIP	Call	HNS	
22:23	B1-3	CPIP	Call		
22:23	B2-5	SPIP	Call		PSR
22:23	B2-5	SPIP	Call		PSR
22:23	B2-5	SPIP	Call		PSR
22:23	B2-5	SPIP	Call		PSR
22:23	B2-5	SPIP	Call		PSR
22:24	B1-4	SPIP	Call	Derived from commuting observations	
22:24	B2-3	SPIP	Call	Derived from commuting observations	
22:24	B2-3	SPIP	Call		
22:24	B2-5	SPIP	Call		PSR
22:24	B4-1	CPIP	Fora	Under metal structure between building and barn	
22:24	B2-1	SPIP	Fora	Destroyed barn with metal roof	
22:24	B1-4	SPIP	Comm	Corner of B1 heading southeast to north	
22:24	B2-3	SPIP	Comm	North to south over buildings	

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:25	B1-4	SPIP	Call	HNS	
22:25	B2-5	SPIP	Call		PSR
22:25	B2-5	SPIP	Call		PSR
22:25	B2-5	SPIP	Call		PSR
22:25	B2-5	NOC	Call		PSR
22:25	B2-5	SPIP	Call		PSR
22:25	B4-1	CPIP	Fora	Under metal structure between building and barn	
22:26	B4-1	SPIP	Call	Derived from commuting observations	
22:26	B2-5	SPIP	Call		PSR
22:26	B2-1	SPIP	Fora	Destroyed barn with metal roof	
22:26	B4-1	SPIP	Comm	South west to in-between building 4 and adjoining barn.	
22:27	B4-2	CPIP	Call	Derived from commuting observations	PSR
22:27	B1-4	SPIP	Call	HNS	
22:27	B5-1	SPIP	Call	Derived from commuting observations	
22:27	B2-5	SPIP	Call		PSR
22:27	B2-5	SPIP	Call		PSR
22:27	B2-5	SPIP	Call		PSR
22:27	B4-2	CPIP	Comm	Heading north/north-east infront of gable end of B4 coming from south direction	PSR
22:27	B5-1	SPIP	Comm	Came from east of B2 and exited along north eastern elevation of B5	

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:28	B4-2	CPIP	Call	faint	
22:28	B1-4	SPIP	Call	HNS	
22:28	B2-1	SPIP	Call		
22:28	B2-5	SPIP	Call		PSR
22:28	B2-5	SPIP	Call		PSR
22:28	B2-5	SPIP	Call		PSR
22:28	B2-5	SPIP	Call		PSR
22:28	B2-6	SPIP	Call	Derived from commuting observations	PSR
22:28	B2-3	SPIP	Fora	Circling over entrance	
22:28	B2-3	SPIP	Fora	Circling over entrance	
22:28	B2-1	SPIP	Fora	Destroyed barn with metal roof	
22:28	B5-4	CPIP	Comm	From South West over my head along the B4 building edge between B4 and B5, then turned South towards B4	PSR
22:28	B2-6	SPIP	Comm	From SouthWest to Northeast, between B1 and B2	PSR
22:29	B1-4	SPIP	Call	HNS	
22:29	B1-1	BLE	Call	Derived from emergence observations	PSR
22:29	B1-1	BLE	Emer	West (Roost 1)	PSR
22:29	B1-2	SPIP	Fora	Infront of Northeast elevation of B2.	PSR
22:29	B1-1	SPIP	Comm	Passing north between b1 and 2	
22:30	B5-2	SPIP	Call		
22:30	B5-1	SPIP	Call	Derived from commuting observations	PSR
22:30	B2-6	SPIP	Call		PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:30	B2-2	SPIP	Comm	West to east between B1 and B2	
22:30	B5-1	SPIP	Comm	Came from east of B2 and exited along north eastern elevation of B5	PSR
22:31	B2-2	SPIP	Call		
22:31	B1-4	NOC	Call	Derived from commuting observations	
22:31	B1-4	SPIP	Call	Derived from commuting observations	PSR
22:31	B2-3	SPIP	Call		
22:31	B1-4	NOC	Comm	North to east over the site	
22:31	B1-4	SPIP	Comm	Between B1 and B2 heading north to southeast	PSR
22:32	B2-2	SPIP	Call		
22:32	B5-4	CPIP	Call	Derived from commuting observations	PSR
22:32	B1-4	SPIP	Call	Derived from foraging observations	
22:32	B2-5	SPIP	Call		PSR
22:32	B2-5	SPIP	Call		PSR
22:32	B1-4	SPIP	Fora	Adjacent to northwest elevation of B1, heading north to southeast	
22:33	B2-3	SPIP	Call		
22:33	B2-3	CPIP	Call		
22:33	B5-1	SPIP	Call	Derived from commuting observations	
22:33	B2-1	SPIP	Call		
22:33	B2-5	SPIP	Call		PSR
22:33	B2-5	SPIP	Call		PSR
22:33	B2-5	SPIP	Call		PSR

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Time	Pos	Spp	Act	Notes	PSR
22:33	B5-1	SPIP	Comm	Came from east of B2 and exited along north eastern elevation of B5	
22:33	B2-1	SPIP	Comm	B2 to b4 barn	
22:34	B5-2	CPIP	Call		
22:34	B1-3	CPIP	Call	Derived from foraging observations	
22:34	B1-3	CPIP	Call	Derived from foraging observations	
22:34	B1-3	CPIP	Fora	Next to trees and hedges behind B1-3 positions. Common pip	
22:35	B1-4	CPIP	Call	HNS	
22:35	B2-3	CPIP	Call		
22:35	B1-3	CPIP	Comm	From trees behind B1-3 to B1-1	
22:36	B1-1	CPIP	Call	Derived from commuting observations	PSR
22:36	B1-1	CPIP	Comm	Passing north between b1 and 2	PSR
22:37	B1-4	SPIP	Call	HNS	
22:37	B2-3	SPIP	Call		
22:37	B2-3	SPIP	Call		
22:37	B2-3	SPIP	Call		
22:37	B1-3	CPIP	Fora	Next to trees and hedges behind B1-3 positions. Common pip	
22:40	B1-4	SPIP	Call	HNS	
22:40	B2-3	SPIP	Call		
22:40	B2-5	NOC	Call		PSR
22:40	B2-5	NOC	Call		PSR
22:41	B1-4	SPIP	Call	HNS	
22:41	B1-4	SPIP	Call	Derived from foraging observations	
22:41	B2-3	CPIP	Call		

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:41	B2-1	SPIP	Call		
22:41	B1-3	CPIP	Call	Derived from commuting observations	
22:41	B2-5	SPIP	Call		PSR
22:41	B2-5	SPIP	Call		PSR
22:41	B1-4	SPIP	Fora	Adjacent to northwest elevation of B1, heading north to southeast	
22:41	B1-3	CPIP	Comm	From trees behind B1-3 to B1-1	
22:42	B2-3	SPIP	Call		
22:43	B1-4	SPIP	Call	HNS	
22:44	B5-2	SPIP	Call	Derived from commuting observations	PSR
22:44	B5-2	SPIP	Call	Derived from commuting observations	PSR
22:44	B1-4	SPIP	Call	HNS	
22:44	B2-3	SPIP	Call		
22:44	B2-3	SPIP	Call		
22:44	B2-3	CPIP	Call		
22:44	B5-2	SPIP	Comm	North along driveway	PSR
22:44	B5-2	SPIP	Comm	North following driveway	PSR
22:45	B5-1	SPIP	Call	faint	
22:46	B1-3	CPIP	Call		
22:48	B1-4	SPIP	Call	HNS	
22:48	B1-1	SPIP	Call	Commutes through B1/B2	
22:48	B2-6	SPIP	Call		PSR
22:49	B5-1	SPIP	Call	Derived from foraging observations	PSR
22:49	B5-1	SPIP	Fora	Close to south west facing elevation of B5	PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:49	B2-2	SPIP	Comm	West to east between B1 and B2	
22:50	B1-4	SPIP	Call	HNS	
22:50	B2-3	SPIP	Call		
22:50	B5-1	SPIP	Call	Derived from commuting observations	
22:50	B2-1	SPIP	Call		
22:50	B2-5	SPIP	Call		PSR
22:50	B2-5	SPIP	Call		PSR
22:50	B2-5	SPIP	Call		PSR
22:50	B5-1	SPIP	Comm	Came from west of position through open courtyard area, exiting northbound between B5's western elevation and adjacent building	
22:51	B2-3	SPIP	Call		
22:51	B1-2	CPIP	Call	Derived from commuting observations	PSR
22:51	B1-2	CPIP	Comm	Flying from the SouthEast (Pond) across infront of B1 NorthEast elevation, towards the NorthWest/ towards B2	PSR
22:53	B1-3	NOC	Call		
23:00	B4-2	CPIP	Call	Heard not seen	
23:00	B5-2	SPIP	Call	faint	
23:00	B4-1	SPIP	Call		
23:00	B1-4	CPIP	Call	HNS	
23:00	B2-3	CPIP	Call		
23:00	B5-1	SPIP	Call	social	
23:00	B1-3	CPIP	Call	Derived from commuting observations	
23:00	B2-5	NOC	Call	Derived from foraging observations	PSR

Visit 1 - ctd

Time	Pos	Spp	Act	Notes	PSR
23:00	B2-5	SPIP	Fora	in front of B2 western elevation, parallel to where the pitched roof lowers	PSR
23:00	B1-3	CPIP	Comm	From north to south above B1-3	
23:01	B2-3	CPIP	Call		
23:02	B2-6	BLE	Emer	Heads southwest in between B1 and B2 (Roost 2)	PSR
23:03	B2-5	SPIP	Call	Derived from commuting observations	PSR
23:03	B2-5	SPIP	Comm	south-west to north east along the fascia/soffit	PSR
23:05	B4-1	BLE	Call		
23:05	B2-6	BLE	Call		PSR
23:06	B1-1	BLE	Call	hns	
23:06	B5-1	BLE	Call		
23:09	B1-3	SPIP	Call		
23:09	B2-5	SPIP	Call	Derived from commuting observations	PSR
23:09	B2-6	SPIP	Call		PSR
23:09	B1-1	CPIP	Comm	Passing north between b1 and 2	
23:09	B2-5	SPIP	Comm	south-west to north east along the fascia/soffit	PSR
23:11	B1-4	CPIP	Call	HNS	
23:11	B1-3	CPIP	Call		
23:12	B1-4	CPIP	Call	HNS	
23:12	B2-3	CPIP	Call		
23:13	B1-4	CPIP	Call	HNS	
23:15	B2-5	NOC	Call		PSR

Visit 2

Time	Pos	Spp	Act	Notes	PSR
08:41	B1-1	SPIP	Call	Derived from commuting observations	
20:55	B1-3	CPIP	Call	Derived from commuting observations	PSR
20:55	B1-3	CPIP	Comm	Cpip seen in footage passing south to north low beside the building no emergence	PSR
21:00	B2-5	NOC	Call		PSR
21:02	B2-5	NOC	Call		PSR
21:04	B2-5	NOC	Call		PSR
21:25	B2-5	CPIP	Call		PSR
21:29	B2-5	NOC	Call		PSR
21:36	B2-6	NOC	Call		PSR
21:37	B2-6	CPIP	Call		PSR
21:58	B2-5	SPIP	Call		PSR
21:58	B2-3	SPIP	Comm	Across courtyard and road to tree line to south	
21:59	B5-3	CPIP	Call		
21:59	B2-1	SPIP	Call		
21:59	B2-5	SPIP	Call		PSR
21:59	B4-1	CPIP	Call		
22:00	B2-4	CPIP	Call	Extremely faint call	
22:00	B1-4	SPIP	Call		
22:02	B5-2	SPIP	Call		
22:02	B2-2	SPIP	Comm	NE to sw	
22:03	B2-6	SPIP	Call		PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:03	B2-5	SPIP	Call		PSR
22:04	B2-4	SPIP	Call	Derived from commuting observations	
22:04	B4-2	SPIP	Call	heard but not seen	
22:04	B2-3	SPIP	Call		
22:04	B5-1	SPIP	Call		
22:04	B2-1	SPIP	Call		
22:04	B2-1	SPIP	Call	Derived from commuting observations	
22:04	B2-4	SPIP	Comm	North west to South east	
22:04	B1-4	CPIP	Comm	Commuting from NE, headed W passed NW elevation of B1 then looped to N	
22:04	B2-1	SPIP	Comm	Fallen down metal barn to b2	
22:05	B5-4	SPIP	Call	Derived from foraging observations	
22:05	B5-4	SPIP	Fora	Foraging above my position over the grassland west	
22:06	B1-3	CPIP	Call	Derived from commuting observations	
22:06	B5-2	SPIP	Call		
22:06	B1-3	CPIP	Comm	Heading west over b1	
22:07	B2-6	CPIP	Call		PSR
22:07	B2-6	CPIP	Call		PSR
22:07	B2-6	CPIP	Call		PSR
22:07	B2-6	CPIP	Call		PSR
22:07	B2-6	CPIP	Call		PSR
22:07	B2-6	CPIP	Call		PSR

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Time	Pos	Spp	Act	Notes	PSR
22:07	B2-6	CPIP	Call		PSR
22:07	B1-3	CPIP	Call	Derived from commuting observations	
22:07	B1-1	SPIP	Call	Derived from foraging observations	PSR
22:07	B2-5	SPIP	Call		PSR
22:07	B1-1	SPIP	Fora	Passing north to south between B1 and B2	PSR
22:07	B1-3	CPIP	Comm	From trees behind B1-3 to B1-1	
22:08	B2-6	CPIP	Call		PSR
22:08	B2-6	CPIP	Call		PSR
22:08	B2-6	CPIP	Call		PSR
22:08	B2-6	CPIP	Call		PSR
22:08	B2-6	SPIP	Call		PSR
22:08	B2-6	CPIP	Call		PSR
22:08	B2-6	CPIP	Call		PSR
22:08	B2-6	CPIP	Call		PSR
22:08	B2-6	CPIP	Call		PSR
22:08	B2-6	SPIP	Call		PSR
22:08	B2-4	SPIP	Call	Derived from foraging observations	
22:08	B2-1	SPIP	Call		
22:08	B2-2	PIPSP	Call	faint	
22:08	B2-5	SPIP	Call		PSR
22:08	B2-5	SPIP	Call		PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:08	B2-4	SPIP	Fora	Foraging near b1-1	
22:09	B2-6	CPIP	Call		PSR
22:09	B2-6	CPIP	Call		PSR
22:09	B2-6	CPIP	Call		PSR
22:09	B2-6	CPIP	Call		PSR
22:09	B2-6	CPIP	Call		PSR
22:09	B2-6	SPIP	Call		PSR
22:09	B2-6	CPIP	Call		PSR
22:09	B2-6	CPIP	Call		PSR
22:09	B2-4	SPIP	Call	Derived from foraging observations	
22:09	B2-4	SPIP	Fora	Foraging near b1-1	
22:09	B2-4	SPIP	Fora	Foraging near b1-1	
22:09	B2-4	SPIP	Fora	Foraging near b1-1	
22:10	B2-6	CPIP	Call		PSR
22:10	B2-6	CPIP	Call		PSR
22:10	B2-6	CPIP	Call		PSR
22:10	B2-6	CPIP	Call		PSR
22:10	B2-6	CPIP	Call		PSR
22:10	B2-6	CPIP	Call		PSR
22:10	B1-2	SPIP	Call		
22:10	B1-2	CPIP	Call	Derived from commuting observations	
22:10	B4-2	SPIP	Call	Derived from commuting observations	

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Time	Pos	Spp	Act	Notes	PSR
22:10	B1-3	SPIP	Call	faint	
22:10	B5-1	SPIP	Call		
22:10	B2-1	SPIP	Call		
22:10	B1-1	SPIP	Call	Derived from commuting observations	PSR
22:10	B2-5	SPIP	Call		PSR
22:10	B4-1	SPIP	Call	Derived from commuting observations	
22:10	B1-2	CPIP	Comm	Came from B2 to the North West, across the south West elevation of B1 then away to the South East (pond)	
22:10	B4-2	SPIP	Comm	Around B4 towards entrance track	
22:10	B1-1	SPIP	Comm	Between b1 and B2 circling north to south	
22:10	B1-1	SPIP	Comm	Passes over B2 to the east	PSR
22:10	B4-1	SPIP	Comm	In and out of building to west of b4	
22:11	B2-6	CPIP	Call		PSR
22:11	B2-6	CPIP	Call		PSR
22:11	B2-6	CPIP	Call		PSR
22:11	B2-6	SPIP	Call		PSR
22:11	B2-6	SPIP	Call		PSR
22:11	B2-6	SPIP	Call		PSR
22:11	B1-2	CPIP	Call	Derived from commuting observations	
22:11	B2-5	SPIP	Call		PSR
22:11	B2-5	SPIP	Call		PSR

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Time	Pos	Spp	Act	Notes	PSR
22:11	B2-5	SPIP	Call		PSR
22:11	B4-1	SPIP	Call	Derived from commuting observations	
22:11	B4-1	SPIP	Call	Derived from foraging observations	
22:11	B4-1	SPIP	Fora	Under metal structure between building and barn	
22:11	B1-2	CPIP	Comm	Came from B2 to the North West, across the south West elevation of B1 then away to the South East (pond)	
22:11	B1-1	SPIP	Comm	Between b1 and B2 circling north to south	
22:11	B1-1	SPIP	Comm	Between b1 and B2 circling north to south	
22:12	B2-6	CPIP	Call		PSR
22:12	B2-4	SPIP	Call	Derived from commuting observations	
22:12	B1-2	SPIP	Call		
22:12	B1-3	SPIP	Call		
22:12	B2-1	SPIP	Call		
22:12	B2-1	SPIP	Call	multiple calls	
22:12	B5-2	CPIP	Call	Derived from commuting observations	
22:12	B2-5	SPIP	Call		PSR
22:12	B2-5	SPIP	Call		PSR
22:12	B1-2	SPIP	Fora	Over B1 and in between B1 & B2	
22:12	B2-4	SPIP	Comm	North to east	
22:12	B5-2	CPIP	Comm	North following driveway	
22:13	B2-5	SPIP	Call		PSR

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Time	Pos	Spp	Act	Notes	PSR
22:14	B2-1	SPIP	Call		
22:14	B2-5	SPIP	Call		PSR
22:14	B2-5	SPIP	Call		PSR
22:15	B4-2	SPIP	Call	heard but not seen	
22:15	B2-5	SPIP	Call		PSR
22:16	B2-1	SPIP	Call		
22:16	B2-5	SPIP	Call		PSR
22:16	B2-5	SPIP	Call		PSR
22:16	B2-5	SPIP	Call		PSR
22:18	B2-6	CPIP	Call		PSR
22:18	B2-6	CPIP	Call		PSR
22:18	B2-6	CPIP	Call		PSR
22:18	B2-6	CPIP	Call		PSR
22:18	B2-6	CPIP	Call		PSR
22:18	B5-1	SPIP	Call		
22:18	B2-1	SPIP	Call		
22:18	B2-1	SPIP	Call		
22:18	B1-2	SPIP	Fora	Infront of Northeast elevation of B2.	
22:18	B1-1	SPIP	Comm	Between b1 and B2 circling north to south	
22:19	B2-6	CPIP	Call		PSR
22:19	B2-6	CPIP	Call		PSR
22:19	B2-6	CPIP	Call		PSR

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Time	Pos	Spp	Act	Notes	PSR
22:19	B2-6	CPIP	Call		PSR
22:19	B4-2	SPIP	Call	Derived from commuting observations	
22:19	B1-3	SPIP	Call		
22:19	B1-1	SPIP	Call	Derived from foraging observations	PSR
22:19	B1-1	SPIP	Fora	Passing north to south between B1 and B2	PSR
22:19	B4-2	SPIP	Comm	From entrance track towards B4	
22:19	B1-1	SPIP	Comm	Around b1 to the east	
22:19	B1-1	SPIP	Comm	Towards Ben Infront of b1	
22:20	B2-6	CPIP	Call		PSR
22:20	B2-6	CPIP	Call		PSR
22:20	B2-6	CPIP	Call		PSR
22:20	B2-6	CPIP	Call		PSR
22:20	B2-6	CPIP	Call		PSR
22:20	B2-6	CPIP	Call		PSR
22:20	B2-6	CPIP	Call		PSR
22:20	B2-4	CPIP	Call	Derived from commuting observations	
22:20	B2-3	SPIP	Call		
22:20	B1-3	CPIP	Call	close/loud	
22:20	B5-2	CPIP	Call	Derived from foraging observations	PSR
22:20	B2-5	SPIP	Call		PSR
22:20	B2-5	SPIP	Call		PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:20	B2-3	SPIP	Fora	Circling over entrance	
22:20	B5-2	CPIP	Fora	Behind surveyor position over the driveway	PSR
22:20	B2-4	CPIP	Comm	Between b1 and B2 (in alleyway) constant commuting up and down	
22:20	B1-1	SPIP	Comm	Between b1 and B2 circling north to south	
22:21	B5-2	CPIP	Call	faint	
22:21	B1-4	CPIP	Fora	Foraging above surveyor and road	
22:22	B1-2	CPIP	Call	Derived from commuting observations	
22:22	B1-3	CPIP	Call	Derived from commuting observations	
22:22	B5-2	CPIP	Call	Derived from foraging observations	PSR
22:22	B5-2	CPIP	Call	Derived from commuting observations	PSR
22:22	B5-2	CPIP	Call	Derived from commuting observations	PSR
22:22	B5-2	CPIP	Fora	Into B5 through opening on south elevation, then back out and flies northwest along elevation	PSR
22:22	B1-2	CPIP	Comm	Flying from the SouthEast (Pond) across infront of B1 NorthEast elevation, towards the NorthWest/ towards B2	
22:22	B1-3	CPIP	Comm	From east over b1	
22:22	B1-1	SPIP	Comm	Towards Ben Infront of b1	
22:22	B5-2	CPIP	Comm	Flies into building at south end, then back out and north west along elevation	PSR
22:23	B5-1	CPIP	Call		
22:23	B2-5	SPIP	Call		PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:24	B2-3	CPIP	Call		
22:24	B5-2	CPIP	Call	faint	
22:24	B2-5	SPIP	Call		PSR
22:24	B2-3	SPIP	Fora	Circling over entrance	
22:25	B2-6	CPIP	Call		PSR
22:25	B2-6	CPIP	Call		PSR
22:25	B2-6	CPIP	Call		PSR
22:25	B2-6	CPIP	Call		PSR
22:25	B2-4	SPIP	Call	Derived from commuting observations	
22:25	B1-4	CPIP	Call		
22:25	B1-3	CPIP	Call	Derived from commuting observations	
22:25	B1-1	SPIP	Call	Derived from foraging observations	PSR
22:25	B5-2	CPIP	Call		
22:25	B2-5	CPIP	Call		PSR
22:25	B2-5	CPIP	Call		PSR
22:25	B2-5	CPIP	Call		PSR
22:25	B1-1	SPIP	Fora	Passing north to south between B1 and B2	PSR
22:25	B2-4	SPIP	Comm	Between b1 and B2 (in alleyway) constant commuting up and down	
22:25	B2-3	CPIP	Comm	Across courtyard and road to tree line to south	
22:26	B2-4	CPIP	Call	Derived from commuting observations	
22:26	B1-4	CPIP	Call		
22:26	B2-1	CPIP	Call		
22:26	B1-1	CPIP	Call		

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Time	Pos	Spp	Act	Notes	PSR
22:26	B5-2	CPIP	Call		
22:26	B2-5	CPIP	Call		PSR
22:26	B2-5	CPIP	Call		PSR
22:26	B1-4	CPIP	Fora	Foraging above surveyor and road	
22:26	B2-4	CPIP	Comm	Commuting towards the road from in between b1 and B2	
22:26	B1-4	CPIP	Comm	Commuting from NE, headed W passed NW elevation of B1 then looped to N	
22:27	B5-3	NOC	Call		
22:27	B5-2	CPIP	Call		
22:27	B2-5	CPIP	Call		PSR
22:27	B2-5	CPIP	Call		PSR
22:27	B2-5	CPIP	Call		PSR
22:28	B2-6	NOC	Call		PSR
22:28	B2-6	NOC	Call		PSR
22:28	B2-6	NOC	Call		PSR
22:28	B5-3	NOC	Call		
22:28	B5-3	NOC	Call		
22:28	B2-3	NOC	Call		
22:28	B5-2	CPIP	Call		
22:28	B5-2	NOC	Call		
22:28	B2-5	NOC	Call		PSR
22:28	B2-5	NOC	Call		PSR
22:28	B2-5	NOC	Call		PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:28	B2-5	NOC	Call		PSR
22:28	B2-5	NOC	Call		PSR
22:29	B5-4	NOC	Call	heard not seen	
22:29	B5-4	NOC	Call	heard not seen	
22:29	B2-6	NOC	Call		PSR
22:29	B2-6	NOC	Call		PSR
22:29	B2-6	NOC	Call		PSR
22:29	B2-6	NOC	Call		PSR
22:29	B2-6	NOC	Call		PSR
22:29	B2-6	NOC	Call		PSR
22:29	B2-6	NOC	Call		PSR
22:29	B2-4	NOC	Call	Derived from foraging observations	
22:29	B1-2	NOC	Call		
22:29	B5-3	NOC	Call	Derived from commuting observations	
22:29	B1-4	NOC	Call		
22:29	B1-3	NOC	Call	close	
22:29	B5-1	NOC	Call		
22:29	B2-1	CPIP	Call	multiple calls	
22:29	B2-1	NOC	Call	multiple calls	
22:29	B1-1	NOC	Call		
22:29	B5-2	NOC	Call		
22:29	B5-2	CPIP	Call		
22:29	B2-5	NOC	Call		PSR
22:29	B2-5	NOC	Call		PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:29	B2-5	NOC	Call		PSR
22:29	B2-5	NOC	Call		PSR
22:29	B4-1	NOC	Call		
22:29	B2-4	NOC	Fora	Very high above b1	
22:29	B5-3	NOC	Comm	Pass over building towards heading towards the front of the site	
22:30	B2-6	NOC	Call		PSR
22:30	B2-6	NOC	Call		PSR
22:30	B2-6	NOC	Call		PSR
22:30	B2-4	NOC	Call	Derived from foraging observations	
22:30	B1-3	NOC	Call	constant since last call	
22:30	B5-1	NOC	Call	Derived from commuting observations	
22:30	B2-1	NOC	Call	Derived from commuting observations	
22:30	B5-2	CPIP	Call		
22:30	B5-2	NOC	Call		
22:30	B2-5	NOC	Call		PSR
22:30	B2-5	NOC	Call		PSR
22:30	B2-4	NOC	Fora	Very high above b1	
22:30	B5-1	NOC	Comm	Came from north east following the straight path between buildings before exiting view above the northern corner of B2	
22:30	B2-1	NOC	Comm	Above b2 north to south	
22:31	B1-1	NOC	Call		
22:31	B5-2	CPIP	Call		

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:32	B1-3	SPIP	Call	very loud, constant from 22.28 to 22.34	
22:32	B5-2	CPIP	Call		
22:32	B5-2	MYOSP	Call		
22:33	B2-2	MYOSP	Call	hns	
22:33	B5-2	CPIP	Call		
22:34	B5-2	CPIP	Call		
22:35	B5-2	CPIP	Call		
22:35	B5-2	NOC	Call		
22:36	B5-4	NOC	Call	heard not seen	
22:36	B2-6	CPIP	Call	Derived from commuting observations	PSR
22:36	B5-3	NOC	Call		
22:36	B4-2	NOC	Call	heard but not seen	
22:36	B2-3	CPIP	Call		
22:36	B5-1	NOC	Call		
22:36	B2-1	CPIP	Call		
22:36	B2-2	NOC	Call	hns	
22:36	B4-1	CPIP	Call		
22:36	B4-1	NOC	Call		
22:36	B2-6	CPIP	Comm	From SouthWest to Northeast, between B1 and B2	PSR
22:37	B5-1	CPIP	Call		
22:37	B2-1	CPIP	Call	Derived from foraging observations	
22:37	B5-2	CPIP	Call		
22:37	B2-5	CPIP	Call		PSR
22:37	B2-1	CPIP	Fora	Above Road between b2 and barn	
22:38	B5-2	CPIP	Call		
22:39	B2-6	CPIP	Call	Derived from commuting observations	PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:39	B4-2	CPIP	Call	heard but not seen	
22:39	B1-3	CPIP	Call		
22:39	B5-1	CPIP	Call	Derived from foraging observations	
22:39	B5-2	CPIP	Call		
22:39	B2-5	CPIP	Call		PSR
22:39	B2-5	CPIP	Call		PSR
22:39	B5-1	CPIP	Fora	Close to south west facing elevation of B5	
22:39	B2-6	CPIP	Comm	NW to SE over B2 and out towards pond	PSR
22:40	B2-6	CPIP	Call		PSR
22:40	B2-6	CPIP	Call	Derived from commuting observations	PSR
22:40	B2-6	CPIP	Call	Derived from foraging observations	PSR
22:40	B1-2	CPIP	Call		
22:40	B5-3	CPIP	Call		
22:40	B5-3	SPIP	Call		
22:40	B4-2	CPIP	Call	heard but not seen	
22:40	B2-3	SPIP	Call		
22:40	B2-3	CPIP	Call		
22:40	B2-3	CPIP	Call		
22:40	B2-3	SPIP	Call	feeding buzz	
22:40	B2-3	SPIP	Call	social call	
22:40	B2-3	SPIP	Call		
22:40	B5-1	CPIP	Call	Derived from foraging observations	
22:40	B2-1	CPIP	Call	social calls	
22:40	B2-2	CPIP	Call	hns	
22:40	B5-2	CPIP	Call		
22:40	B2-5	CPIP	Call		PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:40	B2-5	CPIP	Call		PSR
22:40	B2-5	CPIP	Call		PSR
22:40	B2-6	CPIP	Fora	Between B1 and B2	PSR
22:40	B5-1	CPIP	Fora	Close to south west facing elevation of B5	
22:40	B2-6	CPIP	Comm	From SouthWest to Northeast, between B1 and B2	PSR
22:41	B5-3	SPIP	Call		
22:41	B1-4	CPIP	Call		
22:41	B5-1	CPIP	Call	Derived from foraging observations	
22:41	B2-1	CPIP	Call	Derived from foraging observations	
22:41	B2-2	CPIP	Call	hns	
22:41	B5-2	CPIP	Call		
22:41	B5-1	CPIP	Fora	Close to south west facing elevation of B5	
22:41	B2-1	CPIP	Fora	Above Road between b2 and barn	
22:42	B2-6	SPIP	Call	Derived from commuting observations	PSR
22:42	B1-4	SPIP	Call		
22:42	B1-4	CPIP	Call		
22:42	B1-4	CPIP	Call	Social calls	
22:42	B2-5	SPIP	Call		PSR
22:42	B2-5	SPIP	Call		PSR
22:42	B2-6	SPIP	Comm	From SouthWest to Northeast, between B1 and B2	PSR
22:43	B2-6	SPIP	Call		PSR
22:43	B2-6	SPIP	Call	Derived from commuting observations	PSR

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:43	B5-3	SPIP	Call		
22:43	B1-1	NOC	Call		
22:43	B1-1	SPIP	Call	Derived from commuting observations	PSR
22:43	B2-5	SPIP	Call		PSR
22:43	B2-5	SPIP	Call		PSR
22:43	B2-5	SPIP	Call		PSR
22:43	B2-5	SPIP	Call		PSR
22:43	B2-5	SPIP	Call		PSR
22:43	B2-5	NYCSP	Call		PSR
22:43	B4-1	SPIP	Call		
22:43	B2-6	SPIP	Comm	From SouthWest to Northeast, between B1 and B2	PSR
22:43	B1-1	SPIP	Comm	Between b1 and B2 circling north to south	PSR
22:44	B2-4	SPIP	Call	HNS	
22:44	B5-3	SPIP	Call		
22:44	B5-3	SPIP	Call		
22:45	B2-6	CPIP	Call	Derived from commuting observations	PSR
22:45	B1-4	SPIP	Call		
22:45	B1-3	CPIP	Call	constant calls for about 10 minutes	
22:45	B2-1	SPIP	Call		
22:45	B2-5	SPIP	Call		PSR
22:45	B2-6	CPIP	Comm	From SouthWest to Northeast, between B1 and B2	PSR
22:48	B5-1	MYOSP	Call	Derived from foraging observations	

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:48	B5-2	CPIP	Call	Derived from commuting observations	PSR
22:48	B5-2	CPIP	Call	Derived from commuting observations	PSR
22:48	B5-1	MYOSP	Fora	Close to south west facing elevation of B5	
22:48	B5-2	CPIP	Comm	Southeast along elevation and into building at south end - exploratory	PSR
22:49	B5-3	SPIP	Call		
22:51	B2-6	NOC	Call		PSR
22:51	B1-4	MYOSP	Call		
22:53	B2-6	CPIP	Call	Derived from foraging observations	PSR
22:53	B2-6	SPIP	Call	Derived from foraging observations	PSR
22:53	B2-6	CPIP	Fora	Between B1 and B2	PSR
22:53	B2-6	SPIP	Fora	Between B1 and B2	PSR
22:54	B2-6	CPIP	Call		PSR
22:54	B1-2	CPIP	Call		
22:54	B5-3	SPIP	Call		
22:54	B5-1	CPIP	Call	Derived from foraging observations	
22:54	B5-1	CPIP	Call	social	
22:54	B2-1	CPIP	Call		
22:54	B2-2	CPIP	Call	hns	
22:54	B1-1	CPIP	Call		
22:54	B1-1	CPIP	Call		
22:54	B5-1	CPIP	Fora	Close to south west facing elevation of B5	
22:55	B4-2	CPIP	Call	heard but not seen	
22:55	B5-1	SPIP	Call		

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:55	B2-1	SPIP	Call		
22:55	B1-1	SPIP	Call		
22:55	B2-5	SPIP	Call		PSR
22:55	B2-5	SPIP	Call		PSR
22:56	B2-6	SPIP	Call		PSR
22:56	B1-2	SPIP	Call		
22:56	B2-3	SPIP	Call		
22:56	B2-3	SPIP	Call		
22:56	B1-3	CPIP	Call		
22:59	B2-6	CPIP	Call		PSR
22:59	B5-1	CPIP	Call		
22:59	B5-1	SPIP	Call		
22:59	B2-5	CPIP	Call		PSR
22:59	B2-5	SPIP	Call		PSR
23:00	B1-2	CPIP	Call		
23:00	B5-3	SPIP	Call		
23:00	B4-2	CPIP	Call	heard but not seen	
23:00	B2-1	CPIP	Call	social	
23:00	B2-2	PIPSP	Call	faint	
23:00	B1-1	CPIP	Call		
23:00	B5-2	SPIP	Call		
23:00	B4-1	CPIP	Call	with social calls	
23:01	B2-6	NOC	Call		PSR
23:01	B2-4	NOC	Call	HNS	
23:01	B5-3	NOC	Call		
23:01	B1-4	CPIP	Call		
23:01	B2-3	NOC	Call		
23:01	B2-3	CPIP	Call		

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
23:01	B1-3	NOC	Call		
23:01	B1-1	NOC	Call		
23:01	B5-2	NOC	Call		
23:01	B2-5	NOC	Call		PSR
23:01	B2-5	NOC	Call		PSR
23:02	B2-2	PIPSP	Call	faint	
23:03	B2-6	SPIP	Call		PSR
23:03	B1-3	CPIP	Call	social call	
23:03	B2-5	SPIP	Call		PSR
23:03	B2-5	SPIP	Call		PSR
23:04	B5-1	SPIP	Call		
23:04	B2-1	SPIP	Call	social	
23:04	B1-1	SPIP	Call		
23:05	B5-1	SPIP	Call		
23:05	B5-1	CPIP	Call		
23:06	B1-2	CPIP	Call		
23:07	B2-6	CPIP	Call		PSR
23:07	B2-6	CPIP	Call		PSR
23:07	B4-2	CPIP	Call	heard but not seen	
23:07	B2-1	CPIP	Call		
23:07	B1-1	CPIP	Call		
23:07	B5-2	CPIP	Call		
23:07	B2-5	CPIP	Call		PSR
23:07	B2-5	CPIP	Call		PSR
23:07	B2-5	CPIP	Call		PSR
23:08	B2-4	CPIP	Call	extremity faint call HNS	

Visit 2 - ctd

Time	Pos	Spp	Act	Notes	PSR
23:08	B1-4	CPIP	Call		
23:08	B2-2	CPIP	Call	hns	
23:09	B1-1	CPIP	Call		
23:09	B2-5	CPIP	Call		PSR
23:10	B1-3	CPIP	Call		
23:10	B5-1	CPIP	Call		
23:10	B2-2	CPIP	Call	hns	
23:10	B5-2	CPIP	Call		
23:10	B2-5	CPIP	Call		PSR
23:10	B4-1	CPIP	Call	distant	
23:10	B1-2	CPIP	Comm	Flying from the SouthEast (Pond) across infront of B1 NorthEast elevation, towards the NorthWest/ towards B2	
23:11	B2-4	CPIP	Call	extremity faint call HNS	
23:11	B1-4	CPIP	Call		
23:11	B2-3	SPIP	Call		
23:11	B2-5	CPIP	Call		PSR
23:11	B4-1	SPIP	Call		
23:12	B2-4	CPIP	Call	extremity faint call HNS	
23:13	B2-6	SPIP	Call		PSR
23:13	B2-5	SPIP	Call		PSR

Visit 3

Time	Pos	Spp	Act	Notes	PSR
21:31	B2-2	CPIP	Call	Derived from foraging observations	
21:31	B2-2	CPIP	Fora	South of B2	
21:32	B1-3	CPIP	Call	Derived from commuting observations	
21:32	B2-4	CPIP	Call	Derived from foraging observations	
21:32	B2-4	CPIP	Fora	Foraging in between buildings	
21:32	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
21:32	B1-3	CPIP	Comm	Seen to the north of my position foraging over grassland	
21:34	B1-2	CPIP	Fora	Infront of Northeast elevation of B2.	
21:37	B2-1	SPIP	Call		
21:37	B2-5	SPIP	Call		PSR
21:37	B2-5	SPIP	Call		PSR
21:37	B2-5	SPIP	Call		PSR
21:37	B2-5	SPIP	Call		PSR
21:38	B2-1	SPIP	Call		
21:38	B2-5	SPIP	Call		PSR
21:38	B2-5	SPIP	Call		PSR
21:38	B2-5	SPIP	Call		PSR
21:38	B2-5	SPIP	Call		PSR
21:39	B2-1	SPIP	Call	Multiple calls	
21:39	B2-5	SPIP	Call		PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
21:39	B2-5	SPIP	Call		PSR
21:39	B2-5	SPIP	Call		PSR
21:39	B2-5	SPIP	Call		PSR
21:39	B2-5	SPIP	Call		PSR
21:39	B2-5	SPIP	Call		PSR
21:40	B2-5	SPIP	Call		PSR
21:40	B2-5	SPIP	Call		PSR
21:40	B2-5	SPIP	Call		PSR
21:40	B2-5	SPIP	Call		PSR
21:40	B2-5	SPIP	Call		PSR
21:40	B2-5	SPIP	Call		PSR
21:41	B2-1	SPIP	Call	Foraging calls	
21:41	B2-5	SPIP	Call		PSR
21:41	B2-5	SPIP	Call		PSR
21:41	B2-5	SPIP	Call		PSR
21:41	B2-5	SPIP	Call		PSR
21:41	B2-5	SPIP	Call		PSR
21:42	B2-1	SPIP	Call		
21:42	B2-5	SPIP	Call		PSR
21:42	B2-5	SPIP	Call		PSR
21:42	B2-5	SPIP	Call		PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
21:42	B2-5	SPIP	Call		PSR
21:42	B2-5	SPIP	Call		PSR
21:42	B2-5	SPIP	Call		PSR
21:43	B2-5	SPIP	Call		PSR
21:43	B2-5	SPIP	Call		PSR
21:43	B2-3	SPIP	Call	Derived from commuting observations	
21:43	B2-3	SPIP	Comm	North to south over buildings	
21:44	B1-4	SPIP	Call	Derived from commuting observations	
21:44	B1-4	SPIP	Comm	pass over top of my position north to south	
21:46	B2-1	SPIP	Call		
21:46	B2-2	CPIP	Call	Derived from commuting observations	
21:46	B2-6	SPIP	Call	Derived from foraging observations	PSR
21:46	B1-2	SPIP	Call	Derived from commuting observations	
21:46	B2-4	CPIP	Call	Hns	
21:46	B2-4	CPIP	Call	Hns	
21:46	B2-4	CPIP	Call	Hns	
21:46	B2-6	SPIP	Fora	Between B1 and B2	PSR
21:46	B2-2	CPIP	Comm	Southwest to north infront of B2	
21:46	B1-2	SPIP	Comm	Flying from the SouthEast (Pond) across infront of B1 NorthEast elevation, towards the NorthWest/ towards B2	
21:47	B1-1	CPIP	Call	Derived from foraging observations	

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
21:47	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
21:48	B2-1	CPIP	Call	Derived from commuting observations	
21:48	B2-5	CPIP	Call		PSR
21:48	B2-5	SPIP	Call		PSR
21:48	B2-5	SPIP	Call		PSR
21:48	B2-1	CPIP	Comm	Flew between buildings east to west over driveway	
21:49	B2-1	CPIP	Call		
21:49	B2-1	CPIP	Call		
21:49	B2-5	SPIP	Call		PSR
21:49	B2-5	SPIP	Call		PSR
21:49	B2-5	CPIP	Call		PSR
21:49	B2-5	CPIP	Call		PSR
21:49	B2-5	CPIP	Call		PSR
21:49	B2-5	SPIP	Call		PSR
21:49	B2-4	CPIP	Call	Seen for a split second in between B1 and B2	
21:49	B1-1	CPIP	Call	Derived from commuting observations	
21:49	B1-1	CPIP	Comm	Passing north between b1 and 2	
21:50	B2-1	CPIP	Call		
21:50	B2-5	CPIP	Call		PSR
21:50	B2-5	CPIP	Call		PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
21:50	B2-5	CPIP	Call		PSR
21:50	B2-5	CPIP	Call		PSR
21:50	B2-2	CPIP	Call	Derived from commuting observations	PSR
21:50	B2-2	CPIP	Comm	East to south West along southeast elevation of B2	PSR
21:51	B2-1	CPIP	Call	Derived from commuting observations	
21:51	B2-5	SPIP	Call		PSR
21:51	B2-5	SPIP	Call		PSR
21:51	B2-5	SPIP	Call		PSR
21:51	B2-5	SPIP	Call		PSR
21:51	B2-5	SPIP	Call		PSR
21:51	B2-5	SPIP	Call		PSR
21:51	B1-3	CPIP	Call	Distant	
21:51	B1-3	CPIP	Call	Derived from commuting observations	
21:51	B2-4	CPIP	Call	Heard not seen, two calls	
21:51	B1-1	CPIP	Call	Derived from foraging observations	
21:51	B1-1	CPIP	Call	Derived from foraging observations	
21:51	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
21:51	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
21:51	B2-1	CPIP	Comm	Flew into open window on the western gable end, before immediately emerging via open doorway below.	PSR
21:51	B1-3	CPIP	Comm	Infront of b1 south side	
21:52	B2-1	SPIP	Call		
21:52	B2-1	CPIP	Call	Derived from foraging observations	
21:52	B2-1	CPIP	Call		
21:52	B2-1	SPIP	Call		
21:52	B2-5	SPIP	Call		PSR
21:52	B2-5	SPIP	Call		PSR
21:52	B1-2	NOC	Call	Derived from commuting observations	
21:52	B1-1	CPIP	Call	Derived from foraging observations	
21:52	B1-4	CPIP	Call		
21:52	B2-1	CPIP	Fora	Infront of destroyed barn above road	
21:52	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
21:52	B1-2	NOC	Comm	Flying from the SouthEast (Pond) across infront of B1 NorthEast elevation, towards the NorthWest/ towards B2	
21:53	B2-5	SPIP	Call		PSR
21:53	B2-5	CPIP	Call		PSR
21:53	B2-5	SPIP	Call		PSR
21:53	B2-5	SPIP	Call		PSR
21:53	B2-5	SPIP	Call		PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
21:53	B2-5	SPIP	Call		PSR
21:53	B2-3	CPIP	Call	Derived from commuting observations	
21:53	B2-4	CPIP	Call	Heard not seen very short call	
21:53	B1-1	CPIP	Call	Derived from foraging observations	
21:53	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
21:53	B2-3	CPIP	Comm	North to south over buildings	
21:54	B2-1	SPIP	Call		
21:54	B2-1	SPIP	Call		
21:54	B2-5	SPIP	Call		PSR
21:54	B2-5	SPIP	Call		PSR
21:54	B2-5	SPIP	Call		PSR
21:54	B2-5	SPIP	Call		PSR
21:54	B2-5	SPIP	Call		PSR
21:54	B2-4	CPIP	Call	Derived from commuting observations	
21:54	B2-4	CPIP	Comm		
21:55	B2-1	CPIP	Call	Derived from foraging observations	
21:55	B2-5	SPIP	Call		PSR
21:55	B2-5	SPIP	Call		PSR
21:55	B2-5	CPIP	Call		PSR
21:55	B1-3	CPIP	Call	Close	

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
21:55	B1-3	CPIP	Call	Derived from commuting observations	
21:55	B1-1	SPIP	Call	Derived from foraging observations	
21:55	B2-1	CPIP	Fora	Infront of destroyed barn above road	
21:55	B1-1	SPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
21:55	B1-3	CPIP	Comm	Pasted south to north past b1 but not close	
21:56	B2-1	CPIP	Call	Derived from commuting observations	
21:56	B2-1	SPIP	Call	Derived from commuting observations	
21:56	B2-5	SPIP	Call		PSR
21:56	B2-5	SPIP	Call		PSR
21:56	B2-5	CPIP	Call		PSR
21:56	B2-2	CPIP	Call	Derived from foraging observations	
21:56	B2-3	CPIP	Call	Derived from commuting observations	
21:56	B2-4	CPIP	Call	Faint calls, however foraging happening near b1-1	
21:56	B2-4	CPIP	Call	Faint call, heard not seen	
21:56	B2-2	CPIP	Fora	Northwest of B2	
21:56	B2-1	CPIP	Comm	Flew between buildings east to west over driveway	
21:56	B2-1	SPIP	Comm	Flew between buildings east to west over driveway	
21:56	B2-3	CPIP	Comm	North to south over buildings	
21:56	B1-4	CPIP	Comm	pass over top of my position north to south	

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
21:57	B2-1	SPIP	Call	Derived from foraging observations	
21:57	B2-5	SPIP	Call		PSR
21:57	B2-1	SPIP	Fora	Destroyed barn with metal roof	
21:59	B2-5	CPIP	Call		PSR
21:59	B1-1	CPIP	Call	Derived from foraging observations	
21:59	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
22:00	B2-1	SPIP	Call	Derived from foraging observations	
22:00	B2-5	CPIP	Call		PSR
22:00	B2-5	CPIP	Call		PSR
22:00	B2-5	CPIP	Call		PSR
22:00	B2-5	CPIP	Call		PSR
22:00	B1-3	CPIP	Call	Close	
22:00	B2-3	CPIP	Call	Derived from foraging observations	
22:00	B2-4	CPIP	Call	Derived from commuting observations	
22:00	B1-4	CPIP	Call		
22:00	B2-1	SPIP	Fora	Above Road between b2 and barn	
22:00	B2-3	CPIP	Fora	Circling over entrance	
22:00	B2-2	CPIP	Comm	South to northwest around B2	
22:00	B2-4	CPIP	Comm	Around b1 and towards b1-1	
22:01	B2-5	CPIP	Call		PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:01	B2-5	CPIP	Call		PSR
22:01	B1-3	CPIP	Call	Derived from commuting observations	
22:01	B1-3	CPIP	Comm	Unsure but looked like it came from b1 direction but not emerged	
22:02	B1-3	CPIP	Call	Social	
22:02	B2-4	CPIP	Call	Common pip social calls being heard	
22:02	B1-1	CPIP	Call	Derived from foraging observations	
22:02	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
22:03	B2-5	CPIP	Call		PSR
22:03	B2-5	CPIP	Call	Derived from commuting observations	PSR
22:03	B2-5	CPIP	Comm	CPIP observed heading in a north eastern directing from south west of site, following the main path onto site passed B2	PSR
22:04	B2-1	SPIP	Call	Derived from foraging observations	
22:04	B2-1	CPIP	Call	Derived from foraging observations	
22:04	B2-1	CPIP	Call	Derived from foraging observations	
22:04	B2-5	CPIP	Call		PSR
22:04	B2-5	CPIP	Call		PSR
22:04	B2-5	CPIP	Call		PSR
22:04	B2-5	CPIP	Call		PSR
22:04	B1-3	CPIP	Call	Derived from commuting observations	

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:04	B2-1	CPIP	Fora	Destroyed barn with metal roof	
22:04	B2-1	SPIP	Fora	Above Road between b2 and barn	
22:04	B2-1	CPIP	Fora	Above Road between b2 and barn	
22:04	B1-3	CPIP	Comm	Infront of b1 south side	
22:05	B2-1	CPIP	Call	Derived from foraging observations	
22:05	B2-5	CPIP	Call		PSR
22:05	B2-5	CPIP	Call		PSR
22:05	B2-5	CPIP	Call		PSR
22:05	B2-5	CPIP	Call		PSR
22:05	B2-5	CPIP	Call		PSR
22:05	B2-4	CPIP	Call	Social calls	
22:05	B2-1	CPIP	Fora	Destroyed barn with metal roof	
22:06	B2-5	CPIP	Call		PSR
22:06	B2-5	CPIP	Call		PSR
22:06	B2-5	SPIP	Call		PSR
22:07	B1-3	CPIP	Call	Derived from foraging observations	
22:07	B2-4	CPIP	Call	HNS	
22:07	B1-1	CPIP	Call	Derived from foraging observations	
22:07	B1-3	CPIP	Fora	Infront of western elevation of b1	
22:07	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:09	B1-3	CPIP	Call	Derived from commuting observations	PSR
22:09	B2-4	CPIP	Call	HNS	
22:09	B1-3	CPIP	Comm	infront of my position going north to south	PSR
22:11	B2-5	CPIP	Call	Derived from commuting observations	PSR
22:11	B2-5	CPIP	Comm	CPIP observed heading in a north eastern directing from south west of site, following the main path onto site passed B2	PSR
22:13	B1-2	SPIP	Call		
22:14	B2-1	CPIP	Call	Derived from commuting observations	
22:14	B2-5	CPIP	Call		PSR
22:14	B2-5	CPIP	Call		PSR
22:14	B1-3	CPIP	Call	Derived from re-entry observations	
22:14	B2-6	SPIP	Call	Derived from commuting observations	PSR
22:14	B1-1	CPIP	Call	Derived from foraging observations	
22:14	B1-1	CPIP	Fora	Along full sealed surface path between South east elevation of B2 and north west elevation of B1	
22:14	B2-1	CPIP	Comm	Flew between buildings east to west over driveway	
22:14	B2-6	SPIP	Comm	From SouthWest to Northeast, between B1 and B2	PSR
22:15	B2-1	CPIP	Call	Derived from commuting observations	
22:15	B2-1	CPIP	Call	Derived from foraging observations	
22:15	B2-5	CPIP	Call		PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:15	B2-5	CPIP	Call		PSR
22:15	B2-5	CPIP	Call		PSR
22:15	B2-5	CPIP	Call		PSR
22:15	B2-6	CPIP	Call	Derived from foraging observations	PSR
22:15	B2-1	CPIP	Fora	Above Road between b2 and barn	
22:15	B2-6	CPIP	Fora	Between B1 and B2	PSR
22:15	B2-1	CPIP	Comm	Flew between buildings east to west over driveway	
22:16	B2-5	CPIP	Call	Derived from commuting observations	PSR
22:16	B2-2	CPIP	Call	Derived from commuting observations	
22:16	B1-2	SPIP	Call	Derived from commuting observations	
22:16	B2-4	CPIP	Call	NoID but definitely a Common pip, commuting towards the road	
22:16	B2-5	CPIP	Comm	CPIP observed heading in a north eastern directing from south west of site, following the main path onto site passed B2	PSR
22:16	B2-2	CPIP	Comm	North to south across B2	
22:16	B1-2	SPIP	Comm	Came from B2 to the North West, across the south West elevation of B1 then away to the South East (pond)	
22:21	B2-6	CPIP	Call	Derived from foraging observations	PSR
22:21	B2-6	CPIP	Fora	Between B1 and B2	PSR
22:26	B2-6	CPIP	Call	Derived from foraging observations	PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:26	B2-6	CPIP	Fora	Between B1 and B2	PSR
22:32	B2-5	BLE	Call		PSR
22:33	B2-1	CPIP	Call	Derived from commuting observations	
22:33	B2-5	SPIP	Call		PSR
22:33	B2-1	CPIP	Comm	Flew between buildings east to west over driveway	
22:34	B2-5	CPIP	Call		PSR
22:34	B1-2	CPIP	Call	Derived from commuting observations	
22:34	B1-1	CPIP	Call	Feeding buzz	
22:34	B1-2	CPIP	Comm	Flying from the SouthEast (Pond) across infront of B1 NorthEast elevation, towards the NorthWest/ towards B2	
22:35	B2-2	CPIP	Call	Derived from commuting observations	PSR
22:35	B1-3	CPIP	Call		
22:35	B2-2	CPIP	Comm	Southeast to northwest across B2	PSR
22:39	B2-1	CPIP	Call	Derived from commuting observations	
22:39	B2-5	BLE	Call		PSR
22:39	B2-4	BLE	Call	Very clear call	
22:39	B2-1	CPIP	Comm	Flew between buildings east to west over driveway	
22:41	B2-1	CPIP	Call	Derived from commuting observations	
22:41	B2-1	CPIP	Call	Derived from foraging observations	
22:41	B2-5	CPIP	Call		PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:41	B2-5	SPIP	Call		PSR
22:41	B2-5	CPIP	Call		PSR
22:41	B2-5	CPIP	Call		PSR
22:41	B1-2	BLE	Call		
22:41	B1-1	CPIP	Call		
22:41	B2-1	CPIP	Fora	Infront of destroyed barn above road	
22:41	B2-1	CPIP	Comm	Flew between buildings east to west over driveway	
22:42	B2-1	CPIP	Call		
22:42	B2-5	CPIP	Call		PSR
22:42	B2-5	CPIP	Call		PSR
22:42	B2-5	CPIP	Call		PSR
22:42	B1-3	CPIP	Call	Derived from foraging observations	PSR
22:42	B1-1	CPIP	Call		
22:42	B1-1	SPIP	Call		
22:42	B1-3	CPIP	Fora	Foraging infront of the upper floor of b1 on the western elevation	PSR
22:43	B2-6	SPIP	Call	Derived from commuting observations	PSR
22:43	B2-6	SPIP	Comm	From SouthWest to Northeast, between B1 and B2	PSR
22:45	B2-5	SPIP	Call		PSR
22:46	B2-1	SPIP	Call		
22:46	B2-5	SPIP	Call		PSR
22:46	B2-6	CPIP	Call	Derived from foraging observations	PSR

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:46	B2-6	CPIP	Fora	Between B1 and B2	PSR
22:48	B2-1	SPIP	Call	Derived from commuting observations	
22:48	B2-5	SPIP	Call		PSR
22:48	B2-2	CPIP	Call	Heard not seen	
22:48	B1-1	CPIP	Call		
22:48	B2-1	SPIP	Comm	Flew between buildings east to west over driveway	
22:50	B2-5	SPIP	Call		PSR
22:50	B2-5	SPIP	Call		PSR
22:50	B2-5	CPIP	Call		PSR
22:50	B2-5	SPIP	Call		PSR
22:51	B2-1	CPIP	Call		
22:51	B2-1	CPIP	Call	Derived from foraging observations	
22:51	B2-5	CPIP	Call		PSR
22:51	B2-5	CPIP	Call		PSR
22:51	B2-5	CPIP	Call		PSR
22:51	B1-2	CPIP	Call	Derived from commuting observations	
22:51	B1-1	CPIP	Call		
22:51	B2-1	CPIP	Fora	Above Road between b2 and barn	
22:51	B1-2	CPIP	Comm	Flying from the SouthEast (Pond) across infront of B1 NorthEast elevation, towards the NorthWest/ towards B2	
22:52	B2-1	CPIP	Call		

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
22:52	B2-5	SPIP	Call		PSR
22:52	B2-5	SPIP	Call		PSR
22:52	B2-5	CPIP	Call		PSR
22:52	B2-3	CPIP	Call		
22:52	B2-4	CPIP	Call	Very faint call	
22:52	B1-4	CPIP	Call		
22:53	B2-1	CPIP	Call		
22:54	B1-3	CPIP	Call		
22:57	B2-1	SPIP	Call		
22:57	B2-5	SPIP	Call		PSR
22:57	B2-3	CPIP	Call		
22:58	B2-1	SPIP	Call	Feeding buzz	
22:58	B2-5	SPIP	Call		PSR
22:58	B2-5	SPIP	Call		PSR
22:58	B2-2	SPIP	Call	Heard not seen	
22:59	B2-5	SPIP	Call		PSR
22:59	B2-4	CPIP	Call	Very faint call	
23:00	B2-1	CPIP	Call		
23:00	B2-5	SPIP	Call		PSR
23:00	B1-2	SPIP	Call		
23:01	B2-1	SPIP	Call	Feeding buzz, social call, continuous	
23:01	B2-5	CPIP	Call		PSR
23:01	B2-5	CPIP	Call		PSR
23:01	B2-2	CPIP	Call	Heard not seen	
23:01	B2-3	CPIP	Call		

Visit 3 - ctd

Time	Pos	Spp	Act	Notes	PSR
23:01	B2-4	CPIP	Call	4x calls heard not seen and very faint apart from the last one	
23:03	B1-3	CPIP	Call		
23:03	B2-4	CPIP	Call	HNS	
23:05	B2-5	SPIP	Call		PSR

Appendix 7: General Methodology

BAT EMERGENCE AND RE-ENTRY SURVEY METHODOLOGY — GENERAL

1. Survey Aims and Approach

Dusk bat emergence surveys (and, where justified, dawn re-entry surveys) were undertaken to determine the presence or likely absence of roosting bats and, where present, to characterise roosts by species, numbers, access points, roost type and how bats use the site. Survey design follows an iterative approach: results and audit data are reviewed after each visit so that subsequent survey effort, positioning, equipment deployment and objectives can be refined as needed (BCT 7.2.17; 10.1.1).

2. Guidance and Standards

All surveys were designed and delivered with reference to Bat Surveys for Professional Ecologists — Good Practice Guidelines (4th ed.) (Collins, 2023), the CIEEM Guidelines for Ecological Report Writing (2nd ed.) (CIEEM, 2017a), and other relevant guidance including Natural England standing advice for bats (updated April 2025) and BS 42020:2013. Where departures from published good practice were made, the report identifies what changed, why, how survey robustness was maintained, and the competence of the ecologist(s) making that judgement (BCT 1.1.4–1.1.5; 2.2.32–2.2.33).

3. Competence and Roles

Survey design and oversight were provided by Consultant Ecologist Katie Whitfield BSc (Hons) MSc, (Accredited on Leo Plevin's Natural England Bat License, and Gareth Hey's Natural Resources Wales Bat License - license details on request) at BCT Level 2 competence. On-site survey work was led by Katie Whitfield, BSc (Hons) MSc at BCT Level 2 competence, supported by 13 additional Bat Surveyors. Bat Surveyors (minimum BCT Level 1, trained to internal standard) worked under the supervision of the Project Surveyor and were responsible for data collection at their manned positions, including real-time species identification and operating IR camera/acoustic equipment. Training records and competency sign-offs are maintained in line with CIEEM Code of Professional Conduct. Full surveyor details are provided in Table 2.

4. Survey Timing, Effort and Seasonal Windows

Survey effort was set in line with BCT Tables 7.1 and 7.2 and reviewed as results emerged. Dusk emergence surveys commenced with surveyors and equipment in place 15 minutes before sunset and continued for 1.5–2 hours after sunset (BCT 7.2.31). Survey visits were spaced a minimum of three weeks apart and timed within the core May–August survey window wherever feasible. Where September surveys were required, the report details the justification, how robustness was maintained, and any residual uncertainty.

Survey dates, start/end times, and sunset/sunrise times are provided in the survey visit details section of the report.

5. Weather Conditions

Surveys were undertaken only when conditions were likely to support typical bat emergence and flight behaviour. Conditions were assessed using forecasts and confirmed on arrival. Minimum thresholds: temperature >7°C at survey start; wind ≤ Beaufort Scale 3 (~5 m/s); no persistent heavy rain. Where suboptimal but permissible conditions occurred (e.g. intermittent light drizzle), these are recorded and interpretation reflects this. Weather data recorded during each survey are provided in the survey visit details section of the report.

6. Survey Area and Position Design

The survey area comprised 4 buildings, selected on the basis of the PRA findings and/or tree assessment results. Justification for the extent of survey coverage is provided in the Site Context and Background section.

The arrangement of surveyors and equipment was informed by the Preliminary Roost Assessment (structures) and/or tree assessment (PRFs/GLTA) so that identified roosting features and likely access points were the focus of coverage, while recognising that bats may emerge from unexpected locations (BCT 7.2.12). Where NVAs were deployed, a still image or screenshot was captured from the darkest point of the survey from each NVA to demonstrate field of view and adequacy of illumination; these are provided in 3 (BCT 7.2.10). Surveyor and equipment positions for each survey visit are shown on Appendix 1.

7. Equipment Standards

All electronic survey equipment (detectors, recorders and NVAs) was tested prior to deployment (function check, storage capacity, battery health, time synchronisation) and calibrated/tested in line with manufacturer guidance, typically at least annually, with evidence retained and available on request (BCT 2.5.14). Microphone sensitivity was verified prior to the survey season, as sensitivity can decline over time (BCT 2.5.16). Equipment was selected as suitable for the target species and site conditions (BCT 2.5.13; 2.5.17). Detector settings and deployment metadata were documented consistently, including gain/sensitivity, trigger parameters, recording format, sample rate, firmware/app version, time settings and any filters applied (BCT 2.5.15; 2.5.20). Equipment details and settings are provided in Table 3.

8. Data Capture and Acoustic Analysis

All results were recorded using a standardised digital survey form, including surveyor positions, start/end times, weather at intervals, equipment identifiers, detector settings, observed emergences/returns, bat passes, flight direction, behaviour notes and confidence/uncertainty notes (BCT 7.2.19). Raw audio/video recordings and metadata were retained as an auditable record. Negative survey results were also recorded (BCT 2.5.19).

A bat pass was defined as a sequence of two or more echolocation pulses produced by an individual bat, with a new pass recorded when a gap of one second or more occurred between successive calls. Where sustained activity was recorded (e.g. circling bats), this was noted as sustained activity rather than counted as individual passes.

At manned positions, species identification was carried out in real-time by the ecologist using a heterodyne detector for live listening and an Echo Meter Touch

(built-in MEMS microphone) for full-spectrum recording. All recordings were retained as an auditable record. Post-survey acoustic review was undertaken only where specific calls could not be confidently identified on site; these were reviewed using Wildlife Acoustics Kaleidoscope Pro with reference to Russ (2012) British Bat Calls: A Guide to Species Identification.

Where semi-manned positions were deployed (Titley Chorus with ultrasonic microphone), recordings were processed through Titley Scientific Anabat Insight (BatClassify UK plug-in) to provide automated species identification. Auto-ID outputs were subject to targeted manual verification by an experienced ecologist using Kaleidoscope Pro. Manual verification was applied to: uncertain or low-confidence classifications; any classifications of conservation-significant, locally uncommon or Annex II species regardless of confidence score (BCT 10.2.19); and any records detected at unusual times. Manual verification involved visual inspection of spectrograms and examination of call parameters including peak frequency (kHz), start and end frequency (kHz), call duration (ms), inter-pulse interval (ms), bandwidth (kHz), and call shape/structure (e.g. FM, FM-QCF, QCF). Where calls could not be confidently assigned to species level (e.g. Myotis species group), they were recorded at the most reliable taxonomic level.

It is acknowledged that automated classification software is not infallible; false positives and false negatives may occur. Different species can produce similar calls, and recording quality, environmental conditions and bat behaviour can affect call characteristics. Some species groups (e.g. Myotis spp., Nyctalus/Eptesicus) cannot be reliably separated by echolocation alone (Russ, 2012).

Acoustic data were reviewed promptly after each survey to inform subsequent survey design (BCT 2.2.16; 10.1.1).

9. Health and Safety

A site-specific risk assessment was prepared addressing both site and generic survey hazards (night working, slips/trips, lone working, antisocial behaviour risk). The risk assessment was reviewed on arrival at each visit, and new hazards identified on site were recorded for subsequent visits (BCT 2.7.3).

10. Report Quality Assurance

This report has been written by, or reviewed by, a senior member of staff to confirm technical adequacy, clarity and that recommendations are justified (BCT 11.4.1). Survey effort has been checked as part of project quality assurance (BCT 7.2.13).

11. Limitations and Survey Validity

Survey data in this report were collected during the 2026 survey season. In accordance with CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys, survey data are generally considered valid for up to 12 months / state period from the date of the last survey visit. Where this report is relied upon beyond that period, an update assessment may be required.

- Weather conditions (suboptimal conditions, aborted/rescheduled surveys)
- Access constraints (areas not surveyed and reasons)

- Timing constraints (surveys outside core season, justification)
- Equipment limitations (NVA range/coverage gaps, IR illumination constraints, detector sensitivity to quiet species such as Plecotus)
- Health and safety constraints affecting survey design
- Any other factors, and how these were addressed or their implications for survey robustness

References

References relevant to this methodology.

- BCT (2023, amended 27.03.2024) Bat Surveys for Professional Ecologists — Good Practice Guidelines (4th ed.). Bat Conservation Trust, London.
- BCT / Fawcett-Williams, J. (2021) Thermal Imaging: Bat Survey Guidelines. Bat Conservation Trust, London.
- CIEEM (2017a) Guidelines for Ecological Report Writing (2nd ed.). CIEEM, Winchester.
- CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys. CIEEM, Winchester.
- BSI (2013) BS 42020:2013 Biodiversity — Code of practice for planning and development. British Standards Institution, London.
- Natural England (2025) Bats: advice for making planning decisions. Updated April 2025.
- Russ, J. (2012) British Bat Calls: A Guide to Species Identification. Pelagic Publishing, Exeter.

Appendix 8: Survey Methodology

BAT EMERGENCE SURVEY METHODOLOGY — HYBRID NVA/ECOLOGIST SURVEY

1. Survey Method

This survey used a hybrid approach combining manned positions (ecologist with NVA, live detector and recording) and semi-manned automatic recording positions (NVA with dedicated static audio detector). Semi-manned positions were deployed to maintain coverage of roosting features while reducing the number of human positions required, consistent with BCT guidance that NVAs can reduce the number of surveyors where appropriately deployed with a detector soundtrack and evidence of efficacy (BCT 7.2.8; 7.2.11).

2. Position Design

The arrangement of manned and semi-manned positions was determined from the PRA and/or tree PRF assessment, with coverage designed so that all elevations and identified roosting features were monitored (BCT 7.2.12). Survey design and oversight were provided by Consultant Ecologist Katie Whitfield BSc (Hons) MSc, (Accredited on Leo Plevin's Natural England Bat License, and Gareth Hey's Natural Resources Wales Bat License - license details on request) at BCT Level 2 competence. at BCT Level 3 competence (BCT 7.2.6). Manned positions were staffed with either Project Surveyors or Bat Surveyors, who were responsible for data collection, including real-time species identification and recording all bat activity, including peripheral activity across the wider site (BCT 7.2.13). Semi-manned positions were monitored by either the Project Surveyor or Bat Surveyors, which were allocated by the Project Surveyor. Where required, additional assistants were present to monitor semi-manned positions to provide additional equipment security. Surveyor and equipment positions are shown on Appendix 1.

3. Equipment

Manned positions: IR camera (Nightfox Whisker) with tripod; true IR illumination source (Nightfox XB5 Pro 850 nm); tablet for digital data capture; full-spectrum detector (Echo Meter Touch, built-in MEMS microphone) with recording enabled, supplemented by heterodyne detector for real-time species identification; radio communication; red-light head torch; weather meter/anemometer.

Semi-manned positions: IR camera with true IR illumination source; full-spectrum static bat detector/recorder (Titley Chorus with ultrasonic microphone, unique identifier) deployed on a tripod at approximately 1.5–2 m above ground level, with the microphone oriented horizontally and directed towards the building features under observation — height and orientation were adjusted on site as necessary to maximise acoustic coverage of identified roosting features; tripod/clamp system for stable alignment and security.

Staffing and equipment deployment were designed to ensure survey effort was not diluted across the site, with sufficient coverage of all relevant elevations and features (BCT 7.2.15).

All equipment was tested and calibrated in line with manufacturer guidance, with evidence retained and available on request (BCT 2.5.14). Detector settings

(gain/sensitivity, trigger parameters, recording format, sample rate, firmware version, time settings) were documented (BCT 2.5.15; 2.5.20). Equipment details and settings are provided in Table 3, along with any deviations from this kit list.

4. Survey Operation

All equipment was deployed and operational before the 15-minute pre-sunset survey start. Each NVA was checked for focus, field of view and adequacy of true IR illumination (BCT 7.2.10). NVAs and audio recorders were turned on before the survey window and remained running until after completion (BCT 7.2.11). During the survey, each surveyor monitored their allocated NVAs and carried out operational checks (recording status, IR illumination timing, lamp alignment). Surveyors maintained constant radio contact. A still image was captured from the darkest point of the survey from each NVA to demonstrate field of view and illumination adequacy; these are provided in Appendix 3 (BCT 7.2.10).

5. Post-Survey Review

NVA footage was reviewed promptly (typically the following day) while the survey remained fresh in surveyors' minds (BCT 7.2.16). Acoustic files were processed promptly to inform subsequent survey design (BCT 2.2.16; 10.1.1). Results from each visit were used to refine positioning, equipment deployment and objectives for subsequent visits where required (BCT 7.2.17). Where overlap between independent observer and NVA detections was noted, this was recorded to support internal quality assurance (BCT 7.2.14). Where bats were observed emerging, survey interpretation recognised that the roosting location may differ from the emergence point, and follow-up survey design was adjusted accordingly (BCT 7.2.17).

6. Justification for Method

This hybrid approach was selected as appropriate for the site based on number of features and safe deployment conditions for equipment. The method maintains full auditable NVA and acoustic coverage of all identified roosting features while providing direct ecologist observation at key positions.

Whilst NVAs were utilised, the majority of positions were manned due to the complexity of the site.

7. Limitations

All limitations are listed, along with their impact level, in the Limitations section of the main report.