Botley West Solar Farm

Environmental Statement

Volume 3

Appendix 9.4: Bat Surveys

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Term	Meaning
The Applicant	SolarFive Ltd
The Project	Botley West Solar Farm

Abbreviations

Abbreviation	Meaning
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
NSIP	Nationally Significant Infrastructure Project
PEIR	Preliminary Environmental Information Report
PV	Photovoltaic
PVDP	Photovolt Development Partners GmbH

Units

Unit	Description
%	Percentage
km^2	Square kilometres
kWh	Kilowatt hour
MW	Megawatt
Mwe	Megawatt electrical
MWh	Megawatt hour

1 Introduction

1.1 Overview

1.1.1 This Appendix of the Environmental Statement (ES) has been prepared by RPS on behalf of Photovolt Development Partners GmbH. (PVDP) for the Applicant, SolarFive Ltd. (SolarFive). This Appendix supports Chapter 9: Ecology and Nature Conservation in Volume 1 of the ES **[EN010147/APP/6.3]**.

1.1.2 The Project site is located in rural Oxfordshire near to Blenheim Palace and the villages of Bladon, Woodstock, Cassington and Cumnor. It comprises approximately 1,300 ha of mainly arable land with over 90 km of hedgerow dividing fields. The majority of the land proposed for the Project is currently used for arable crops or is otherwise down to pasture. The River Evenlode runs through the centre of the Project site in a north-south orientation.

1.1.3 The wider landscape is rural in nature with blocks of woodland, including ancient woodland, other riparian systems (both the River Glyme and Cherwell are nearby) and large water bodies including the lakes within Blenheim Palace and Farmoor Reservoir.

1.1.4 The Project would be constructed within arable fields with all features that might be used by bats for foraging/roosting/commuting retained. As such, the aim of the study was to determine the general level of bat activity across the Project site through the use of static monitoring of key landscape features and the likely assemblage of bat species present.

1.2 Legislation

1.2.1 Relevant legislation, policy guidance and both Local and National Biodiversity Action Plans (BAPs) are referred to throughout this report where appropriate. Their context and application are explained in the relevant sections of this report.

1.2.2 The relevant articles of legislation are:

- The Environment Act, 2021;
- The National Planning Policy Framework (NPPF, 2021, 2023);
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2021);
- Adopted Cherwell Local Plan 2011-2031 (Part 1);
- The Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019;
- The Natural Environment and Rural Communities Act 2006; and
- National/Local Biodiversity Action Plan for Oxfordshire.

2 Methods

2.1 Bat Activity Surveys – Statics Monitoring

2.1.1 Bat activity surveys were undertaken within the site boundary to gain information about bat use in both 2022 and 2023. Statics surveys were undertaken within the site between April and October 2022, and again between April and October 2023. In 2022, static bat detectors were deployed at eight locations across the site and; these are shown on Figure 2.1 (2022 locations) and five location in 2023 these are shown in Figure 2.2 (2023 locations) and the habitats present at each static location are described in Table 2.1 (2022 locations) and Table 2.2 (2023 locations).

2.1.2 The static detector surveys focused on areas of higher-value habitats which were identified as being most suitable for foraging and commuting bats, and those which are likely to be significantly impacted by the Project.

2.1.3 The woodland edges, hedgerows and land close to the River Evenlode were considered to provide good value foraging and commuting habitat for bats and would likely support a variety of night-flying invertebrates for bats to forage upon. These features were linked via hedgerows (on and off site) and other linear features to areas of suitable foraging and roosting habitat within the wider project area and wider landscape.

Table 2.1: Habitats present at each static detector deployment location (2022 locations).

Location	Habitat
S1	Species-rich hedgerow
S2	Species-rich line hedgerow connected to a patch of woodland to the west
S3	Woodland edge
S4	Open habitat in between two sections of woodland
S5	A line of mature trees south of the River Evenlode
S6	A line of mature trees surrounded by improved grassland, connecting a patch of woodland to the River Evenlode
D1	Intact hedge – species-poor bordered by standing water, surrounded by improved grassland and arable farmland
D2	Defunct hedge – native species-rich bordered by a dry ditch, surrounded by arable farmland

Table 2.2: Habitats present at each static detector deployment location (2023 locations).

Location	Habitat
S5	Under an oak tree within species rich hedgerow.
S6	Species-rich hedgerow and fence.
S7	Woodland area between farmlands.
S8	Treeline / scrub area next to trainline.
S9	Interconnecting hedgerow within farmland.

2.1.4 The static bat detectors were left once or twice a month at each location, to record overnight over at least five consecutive nights. The detectors were programmed to commence recording approximately 15 minutes before sunset

and terminated 15 minutes after sunrise. This period covered the peak time bats would be commuting to and from their roosts. A summary of all the deployment nights (including month and session number) at each location is shown in Table 2.3 (2022 locations) and Table 2.4 (2023 locations) overleaf.

Table 2.3: Static detector deployment information per location (2022)

Static Location	Deployment session dates													
	April		May		June		July		August		September		October	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
S1	20 - 25	-	6 - 10	17 - 23	16 - 20	-	7 - 11	-	19 - 28	-	9 - 13	23 - 27	12 - 16	19 - 22
S2	20 - 25	-	6 - 10	17 - 23	16 - 20	-	7 - 11	-	19 - 28	-	23	-	12 - 16	19 - 22
S3	13 - 20	-	11 - 16	-	1 - 6	16 - 20	22	-	19 - 28	-	9 - 13	23 - 27	12 - 16	19 - 22
S4	13 - 19	-	12 - 16	-	1 - 6	16 - 20	22 - 31	-	19 - 21	-	9 - 13	23 - 27	12 - 16	19 - 22
S5	-	-	-	-	7 - 11	22 - 29	7 - 17	-	3 - 6	-	1 - 3	16 - 21	3 - 9	26 - 30
S6	-	-	-	-	7 - 9	22 - 29	-	-	3 - 7	-	1 - 3	16 - 21	26 - 30	-
D1	7 - 12	26 - 30	1 - 5	24 - 30	21 - 30	-	12 - 17	19 - 21	4 - 9	-	1 - 3	16 - 21	3 - 9	26 - 30
D2	7 - 13	26 - 30	1 - 5	24 - 29	21 - 30	-	12 - 18	-	4 - 12	-	1 - 5	16 - 21	3 - 9	26 - 30

S = Static location; D = Denmans Farm static location

Table 2.4: Static detector deployment information per location (2023)

Static Location	Deployment session dates													
	April		May		June		July		August		September		October	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
S5	20 - 24	25-29	03 - 11	19 - 24	01 - 06	13 - 18	07 - 12	12 - 18	09 - 13	14 - 19	07 - 11	12 - 17	05 - 10	10 - 18
S6	06 - 10	20 - 24	05 - 08	19 - 20	01 - 06	13 - 13	07 - 15	-	09 - 20	-	07 - 17	-	04 - 10	11 - 17
S7	06 - 11	19 - 21	05 - 11	19 - 25	13 - 18	-	07 - 18	-	09 - 20	-	07 - 11	12 - 17	05 - 10	11 – 16
S8	06 - 10	20 - 24	04 - 10	19 - 24	01 - 03	13 - 20	07 - 09	13 - 14	-	-	07- 09	12 - 15	04 - 07	11 - 13
S9	06 - 10	20 - 24	05 - 10	19 - 24	13 - 17	-	07 - 13	15 - 18	09 - 13	14 - 19	07 - 09	12 - 16	08 - 11	04 - 17

2.2 Static Bat Data analysis

2.2.1 The bat passes were recorded and all bats were identified to species level, where possible using either BatExplorer or Kaleidoscope. As not all bat calls recorded can be identified to species, especially with Myotis bats, therefore descriptions of bat species assemblage represent the minimum number present rather than a definite list of all species present.

2.2.2 Where several bat species were present within a call segment, then all the species were tagged in the results spreadsheet. For example, a common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and Myotis bat all calling simultaneously would result in three individual bat registrations for calculating bat pass counts.

2.2.3 The number of bat passes recorded is not representative of the number of bats present within any given area, as a single bat may have made many passes. Therefore, results are provided as an amount of activity for each species over the course of a recording session and survey period, provided as passes per night.

2.3 Static Bat Data Limitations

Surveys

2.3.1 In 2022 each location comprised at least five nights of recordings for each month, apart from Static Location 5 (S5) and Static Location 6 (S6) in April and May, Static Location 3 (S3) and S6 for July and S3 for September, due to access constraints and/or equipment failure. Two deployments (per month) were undertaken for some locations. Some deployments lost data due to equipment failure meaning they had less than five nights of data. This has been taken into account when evaluating the results.

2.3.2 The bat data presented in the tables, detailing the results of the surveys, shows the number of passes for each species. It is important to note that the number of contacts does not equate to the number of individual bats, as several contacts can be generated by one bat flying past several times. Instead, the number of contacts provides an index of bat activity, which can be used to identify areas of habitat of higher or lower value for bats. Where appropriate, data has been presented at an average of bat passes per night, in order for data to be comparable between surveying periods and static locations.

2.3.3 Species identification by sonogram is limited to a certain extent by similarities in call structure parameters for certain species. All bats modulate their calls according to the habitats they are navigating and their behaviour. This imposes limitations on reliable identification of bats to species level for species of the same genus, and specifically for *Plecotus*, *Myotis* and *Nyctalus* bats.

2.3.4 Due to the location of the site and known range of *Plecotus* bats, every *Plecotus* bat recorded was assumed to be a brown long-eared bat *Plecotus auritus*. *Nyctalus* species (noctule *Nyctalus noctula* and Leisler's bat *Nyctalus leislerii*) were separated where possible but grouped where call parameters overlapped and prevented reliable identification to species.

2.3.5 Bats of the species group *Myotis* are notoriously difficult to differentiate based on echolocation call structure alone and therefore these bats were only analysed to species level if calls were characteristic of a certain species, present within suitable habitat.

2.3.6 A proportion of species are likely to be underrepresented in the analysis, such as long-eared bats *Plecotus* sp., barbastelle bats *Barbastellus barbastellus* and serotine bats *Eptesicus serotinus*. For long-eared and barbastelle bats, this is most likely due to their call characteristics, which are comparatively quiet compared to that of other species. In order for the detectors to record brown long-eared bat calls, bats must fly within 3 m of the microphone. For serotine bats, it's call parameters overlap with *Nyctalus* species making it difficult to distinguish.

2.4 Walked Transects and Woodland Bat Trapping Surveys May 2024

2.4.1 In order to ascertain the likelihood of the woodlands supporting bat roosts, and in particular the presence of bat roost for Annex II species, specifically barbastelle bats at the centre of the Project site (where the panels are located in fields immediately adjacent to the woodlands), a bat transect was undertaken of each of the three woods, Pinsley Wood (central grid reference: SP 42881 13541), Burleigh Wood (central grid reference: SP 44430 13571), Bladon Heath Wood (central grid reference: SP 45571 13837 by a pair of surveyors on 14th May 2024. The transects were led by experienced bat surveyors with assistants. It was not possible to survey Begrooke Wood due to access limitations.

2.4.2 Surveyors were equipped with Anabat Scout or Anabat Walkabout full spectrum handheld bat detectors. Weather for the surveys was around 17°C, dry and with light winds. The surveys commenced at 20:50 (sunset) and continued for two to three hours after sunset, ensuring a full rotation of highest suitability woodland in each wood was walked once. In each wood, three static bat detectors were placed at strategic locations to maximise the likelihood of detecting barbastelle bats. Static detectors were either Anabat Swifts, or Wildlife Acoustics Song Meter 4 (SM4). Detectors were in place and recording prior to the transects commencing and were recollected at the end of the transect.

2.4.3 The transect routes, stropping points and static locations are set out on Figure 2.3 (Pinsley Wood), Figure 2.4 (Burleigh Wood), and Figure 2.5 (Bladon Heath Wood). The transect routes selected, including stopping points and locations of static detectors, was based on a daytime familiarisation survey of each wood carried out earlier the same day prior to the transect survey commencing.

2.4.4 A repeat of the transects, supported by static detectors, was scheduled to take place on the 21 May 2024. The first trapping night in Pinsley Wood was also scheduled for the same evening. However, a change in the weather system that day brought heavy rain at the start time of the surveys that remained forecast to continue for the entire night. The transects were therefore aborted. It was decided to still set out static detectors in Burleigh (three Anabat Swifts) and Bladon Heath Wood (four SM4's) - see Figure 2.6). These remained in

place until the 28 May 2024. The highest level of Barbastelle activity was detected in Pinsley Wood on the first transect (14 May 2024) and therefore further static surveys were not carried out for this wood.

2.4.5 Bat audio data collected during the surveys was initially analysed using Kaleidoscope Pro auto-analysis software (version 5) using the UK and Europe classifier. Bat calls were then further analysed using Analook software (Version 4.5z; Titley Scientific). It should be recognised that a series of separate sound files could represent multiple bats calling infrequently (e.g. as they each pass overhead moving in one direction) or a small number of bats (or even one individual) calling frequently (e.g. bats making repeated foraging passes). The species analysis follows the call parameters as describe in Russ1. Due to the unreliability of auto-analysis software, all barbastelle calls (and verification of 'Noise' and 'NoID' files) generated by Kaleidoscope Pro are manually verified by an ecologist experienced in sound analysis.

2.4.6 Bat trapping surveys were carried out at Pinsley Wood (22 May 2024), and Bladon Heath Wood (28 May 2024). The surveys were carried out using two Austbat triple bank harp traps, and two single 9m Ecotone mist nets. The Sussex Autobat acoustic lure were used at three of the four traps at any one time (always both harp traps, and one mist net). The Sussex Autobats were set to play synthesised calls of woodland bat species on a sequence. The bat trapping was carried out by experienced and appropriately licenced Level 3 & 4 bat ecologists. The trapping locations are shown in Figure

2.4.7 Bat trapping surveys were undertaken during suitable weather conditions, and commenced at sunset, continuing for at least 2 hours to capture the peak bat emergence period:

- Pinsley Wood (22 May 2024): 16°C, dry, still. Heavy rain preceded the 24 hours before the survey. Survey commenced 21:01 (sunset) and ceased at 00:00.
- Bladon Heath Wood (28 May 2024): 14°C, dry, light breeze. Rain earlier in the day. Survey commenced 21:10 (Sunset) and ceased 00:30.

2.4.8 All ecologist handling bats wore FFP2 non-valved fast masks and clean nitrile gloves (or thicker gloves for larger species) for each bat handled. Captured bats were placed temporarily in clean cotton drawstring bags, prior to being processed. The following data was collected for each captured bat:

- The trap in which it was caught
- Time
- Species
- Sex
- Forearm measurement (mm)
- Weight (g)
- Any distinguishing marks or rings
- Any other relevant notes

2.4.9 In addition, Eppendorf sample jars were available to collect dropping samples, should these be needed for species verification post survey. All bats were released immediately following processing

2.5 Advanced Bat Licence Survey Techniques 2024 (Radio-tracking)

2.5.1 The baseline activity static surveys identified that barbastelle bats, specifically, are present throughout the survey area using hedgerows and watercourses but the locations of the roosts are unknown. In May 2024 walked transects and acoustic static surveys of Pinsely Wood, Burleigh Wood and Bladon Heath identified the presence of barbastelle bats soon after sunset, which could indicate the presence of maternity colonies in the vicinity of proposed development.

2.5.2 A bat research licence (Sci-Con) was applied for to undertake trapping and radiotracking of bat species including barbastelle, Bechstein's, lesser horseshoe and the woodland bat assemblage to develop a more comprehensive knowledge of the potential ecology constraints to the development, to inform appropriate design and mitigation and to avoid impacts to important ecological receptors including rare and Annex II bat species, by informing the masterplan design.

2.5.3 The methods followed the standard best practice guidance for trapping and radio-tracking[1]. The sites selected for trapping were guided by known roosts from biological records data, previous survey data, using analysis of aerial photography and OS map data to assess the landscape and habitat connectivity and a site walkover. Sites were chosen to maximise coverage of the habitats of high suitability within the Site Boundary.

2.5.4 Initial trapping surveys focussed on nine key areas located within and adjacent to the Site Boundary, which are shown in Figure 2.9, Figure 2.10 and Figure 2.11.

2.5.5 Roosts for target species were identified following initial trapping surveys and subsequent roost identification through radio-tracking surveys.

2.5.6 Trapping was undertaken at eight of the nine locations by two trapping teams at each location each night over five nights in the post maternity (early August 2024) and trapping was undertaken at four of the five locations by two trapping teams in September 2024. A minimum of three traps, using a combination of harp traps and mist nets, were deployed by each team at each location. Trapping was not possible at Begbrooke Wood due to access constraints.

2.5.7 Each trap or net was fitted with an Autobat acoustic lure to increase the likelihood of catching bats present within the vicinity of the traps. Acoustic lures were not deployed on traps within 50m of known roosts. Trapping commenced at sunset and continued for a maximum of six to eight hours per night depending on the conditions, capture success and general bat activity. In

[1] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4rd edn). The Bat Conservation Trust, London.

September trapping was terminated on two nights after 5 hours as the weather become unsuitable during a survey (i.e. temperatures fell below 8°C) to avoid captured bats becoming torpid. However, the surveys were considered valid as bats were captured during the earlier part of the survey.

2.5.8 When bats were captured in either a harp trap or mist net, they were removed by a suitably experienced and qualified person (under the direction of the licence holder or accredited agent) and transferred to a clean cloth bag. Biometric data was recorded for each bat of the target species including weight, sex, breeding status and forearm measurements. Bats not selected for radio-tracking will be released immediately at the site of capture.

2.5.9 Bats selected for radio-tagging were chosen based on their apparent health and body condition. No underweight bats were selected for radio-tagging. The weight of the radio-tag was always less than 5% of the animal's weight. Female bats, and in particular reproductive females (avoiding heavily pregnant bats), were radio-tagged in preference to male bats, as this enabled the location of breeding colonies to be determined. However, male Annex II bats were also radio-tagged.

2.5.10 Transmitters were attached to the focal animal using Skin-Bond® (Pfizer Inc) to the area between the shoulder blades from which fur has been clipped. The animals fitted with radio-transmitters were released at the location of capture and only held for the minimum time necessary to obtain the required data and to be fitted with radio-tags as necessary.

2.5.11 Each bat that is radio-tagged was also ringed (recently volant juvenile bats were not ringed) and had a 2.9mm metal ring fitted to their forearm which has a unique serial number and the inscription 'London Zoo' (London Zoo has an arrangement with the Bat Conservation Trust to notify it of any ring or number sent in). Ringing bats will allow for on-going monitoring and ensure that bats captured later in the season are not radio-tagged.

2.5.12 The locations of radio-tagged bats were determined during the day (daytime roost locations) by radio-tracking on foot by a minimum of two surveyors using a Biotrack 'Sika' receiver and a Yagi 3-element antenna on a height-adjustable and portable mast. Roosts were confirmed and counts of bats emerging were undertaken, where access permitted. The surveys were carried out in appropriate weather conditions following standard guidelines (Collins, 2023) and when bats are likely to be active. The dusk surveys commenced approximately 15 minutes before sunset and continued until it was considered that all the bats have left the roost.

2.5.13 An infra-red camera (such as the Canon XA-20) equipped with night vison aids (such as the IR Lab Outdoor IR Illuminator LIR-IC88) were used to aid accurate counts of bats emerging from the roost. Full spectrum bat detectors, such as Elekon Batlogger M were used to detect bat echolocation calls of any emerging bats and identify species where possible. Video and recordings will be analysed later to ensure accurate assessment of numbers. The flight direction of the bats will be recorded and correlated with known flightlines.

3 Results

3.1 Location S1 (2022)

3.1.1 A summary of the survey dates, number of nights deployed, and bat passes for location S1 is provided in Table 3.1. A summary of the average bat passes per night by species recorded at location S1 is provided in Table 3.2. Totals of bat passes per recording period, per species are provided in Appendix B.

3.1.2 In Table 3.1 and Table 3.2, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.1: Bat static survey summary for location S1 (2022)

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
20/04/22 - 25/04/22	6	578	96.3
06/05/22 - 10/05/22	5	2091	418.2
17/05/22 - 23/05/22	7	1568	224.0
16/06/22 - 20/06/22	5	598	119.6
07/07/22 - 11/07/22	5	1903	380.6
19/08/22 - 28/08/22	10	733	73.3
09/09/22 - 13/09/22	5	225	45.0
23/09/22 - 27/09/22	5	80	16.0
12/10/22 - 16/10/22	5	181	36.2
19/10/22 - 22/10/22	4	193	48.3

3.1.1 At least nine species of bats were recording at location S1 in 2022, including common, soprano and Nathusius' pipistrelle *Pipistrellus nathusii*, barbastelle, *Myotis sp.,* noctule, Leisler's, serotine, and brown long-eared bats. Common and soprano pipistrelle, barbastelle, *Myotis sp.,* and noctule bats were recorded during each of the recording sessions.

3.1.2 Common pipistrelle were the most frequently recorded species at this location, with an average of 110 passes per night over the survey period.

3.1.3 The next highest activity was soprano pipistrelle and *Myotis* sp. although this was far lower than that of common pipistrelles with an average of 12 passes and ten passes per night respectively over the survey period. Both soprano pipistrelle and *Myotis* bats had a peak in activity in July 2022 at 40 passes and 27 passes per night respectively.

3.1.4 Barbastelle bats had an average of five passes per night, with a peak of 19 passes per night in April 2022.

3.1.5 All other species had far less activity each with an average of less than one pass per night over the survey period. Activity was mainly recorded between May and August.

3.1.6 Overall, higher amounts of bat activity was recorded at location S1 in May, June and July 2022, with lower amounts in late May and in June 2022. Looking at this trend by species, common pipistrelle activity follow this trend with much higher activity in May and July, but lower activity in June. This could indicate a maternity colony(s) using the site for foraging and/or commuting. Pregnant bats tend to stay closer to maternity roosts when heavily pregnant, which tends to be in June; this could account for the lower activity observed in June 2022. None of the other bat species recorded on site follow this pattern as closely, however both barbastelle and soprano pipistrelle had a similar pattern (but at much lower passes per night) with higher activity either side of late May and June 2022. This is particularly apparent with barbastelle that had 19, nine and seven passes per night in April, early May and August respectively, but less than two passes per night all other recording sessions, suggesting commuting between summer and autumn/winter sites.

Table 3.1: Average bat passes per night at location S1 in 2022

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
20/04/22 - 25/04/22	6	18.83	63.83	2.50	0.00	0.00	10.17	0.17	0.67	0.00	0.00	0.17	0.00	96.33
06/05/22 - 10/05/22	5	8.60	387.20	14.00	0.00	0.00	6.60	0.00	1.40	0.00	0.40	0.00	0.00	418.20
17/05/22 - 23/05/22	7	0.43	198.57	4.43	0.86	0.29	18.43	0.00	0.43	0.00	0.43	0.00	0.14	224.00
16/06/22 - 20/06/22	5	0.20	94.80	7.40	0.20	0.00	12.20	0.20	3.60	0.00	0.00	0.00	0.00	119.60
07/07/22 - 11/07/22	5	1.40	299.00	40.40	0.00	0.80	27.20	1.20	8.80	0.20	0.00	1.60	0.00	380.60
19/08/22 - 28/08/22	10	6.90	24.80	15.60	0.00	0.40	13.10	4.60	5.30	1.50	0.20	0.90	0.00	73.30
09/09/22 - 13/09/22	5	0.20	18.20	14.20	0.00	0.00	1.80	0.00	10.20	0.20	0.00	0.20	0.00	45.00
23/09/22 - 27/09/22	5	1.00	6.40	5.40	0.00	0.00	2.40	0.00	0.80	0.00	0.00	0.00	0.00	16.00
12/10/22 - 16/10/22	5	1.40	19.60	9.20	0.00	0.00	3.20	0.00	1.60	0.60	0.60	0.00	0.00	36.20
19/10/22 - 22/10/22	4	1.25	32.75	11.50	0.00	0.00	1.25	0.00	0.50	0.75	0.00	0.25	0.00	48.25
Total	**57**	**4.54**	**110.14**	**12.30**	**0.12**	**0.18**	**10.40**	**0.95**	**3.40**	**0.40**	**0.18**	**0.35**	**0.02**	**142.98**

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.2 Location S2 2022

3.2.1 A summary of the survey dates, number of nights deployed, and bat passes for location S2 is provided in **Table 3.3**. A summary of the average bat passes per night by species recorded at location S2 is provided in **Table 3.4**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.2.2 In **Table 3.3** and **Table 3.4**, data is presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.2: Bat static survey summary for location S2 in 2022

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
20/04/22 - 25/04/22	6	23	3.8
06/05/22 - 10/05/22	5	1078	215.6
17/05/22 - 23/05/22	7	463	66.1
16/06/22 - 20/06/22	5	937	187.4
07/07/22 - 11/07/22	5	3197	639.4
19/08/22 - 28/08/22	10	5768	576.8
23/09/22	1	10	10.0
12/10/22 - 16/10/22	5	698	139.6
19/10/22 - 23/10/22	5	2039	407.8

3.2.3 At least nine species of bats were recording at location S2 in 2022, including common, soprano and Nathusius' pipistrelle, barbastelle, *Myotis sp.,* noctule, Leisler's, serotine and brown long-eared bats. Soprano pipistrelle were recorded during each of the recording sessions. Common pipistrelle and *Myotis sp.* were recorded during all but one of the recording sessions (September 2022).

3.2.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 222 passes per night over the survey period. Over twice as much activity was recorded during July and August 2022 (approx. 530 passes/night) than on any other session.

3.2.5 The next highest activity was soprano pipistrelle with an average of 55 passes per night over the survey period. The highest soprano pipistrelle activity was recorded in late October 2022 (177 passes/night).

3.2.6 Noctule bats had an average of eight passes per night over the survey period, with over twice the amount of activity recorded in both the October 2022 sessions than any other recording session, although this was still a relatively low amounts of activity, with a peak of 22 passes per night.

3.2.7 All other species had less activity, each with an average of less than three pass per night over the survey period. Nathusius' pipistrelle were only recorded during the August 2022 session.

3.2.8 Overall, activity at location S2 fluctuated over the course of the 2022 season, with the highest amount of bat activity recorded in July 2022 (639 passes/night), second

highest in August 2022 (577 passes/night), and third highest in late October 2022 (408 passes/night). Lower levels of activity were recorded in April 2022 (four passes/night) and in September 2022 (ten passes/night). However, the static detector only recorded for one night in September 2022, with only soprano pipistrelle recorded on that evening.

Table 3.3: Average bat passes per night at location S2 in 2022

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
20/04/22 - 25/04/22	6	0.00	0.83	1.17	0.00	0.00	1.67	0.00	0.00	0.00	0.17	0.00	0.00	3.83
06/05/22 - 10/05/22	5	1.60	144.80	53.60	0.00	0.00	3.20	0.00	2.40	2.80	5.80	1.40	0.00	215.60
17/05/22 - 23/05/22	7	0.00	43.00	18.71	0.00	0.00	0.43	0.00	1.57	0.71	1.71	0.00	0.00	66.14
16/06/22 - 20/06/22	5	0.00	142.40	40.40	0.00	0.20	0.60	0.20	3.20	0.00	0.20	0.20	0.00	187.40
07/07/22 - 11/07/22	5	0.20	535.00	87.80	0.00	0.00	3.40	0.60	8.80	2.20	0.00	1.40	0.00	639.40
19/08/22 - 28/08/22	10	0.30	531.80	16.30	0.10	0.00	5.30	0.20	8.90	3.60	8.00	1.30	1.00	576.80
23/09/22	1	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
12/10/22 - 16/10/22	5	1.40	37.00	79.60	0.00	0.00	1.80	0.00	19.40	0.20	0.00	0.20	0.00	139.60
19/10/22 - 23/10/22	5	3.20	201.20	176.60	0.00	0.00	1.80	0.00	21.60	0.80	0.20	2.40	0.00	407.80
Total	**49**	**0.71**	**222.98**	**51.04**	**0.02**	**0.02**	**2.45**	**0.12**	**7.69**	**1.45**	**2.53**	**0.84**	**0.20**	**290.06**

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.3 Location S3 (2022)

3.3.1 A summary of the survey dates, number of nights deployed, and bat passes for location S3 is provided in **Table 3.5**. A summary of the average bat passes per night by species recorded at location S3 is provided in **Table 3.6**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.3.2 In **Table 3.5** and **Table 3.6**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.1: Bat static survey summary for location S3

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
13/04/22 - 20/04/22	8	2766	345.8
11/05/22 - 16/05/22	6	836	139.3
01/06/22 - 06/06/22	6	345	57.5
16/06/22 - 20/06/22	5	251	50.2
22/07/22	1	0	0
19/08/22 - 28/08/22	10	1527	152.7
09/09/22 - 13/09/22	5	289	57.8
23/09/22 - 27/09/22	5	741	148.2
12/10/22 - 16/10/22	5	1004	200.8
19/10/22 - 23/10/22	5	193	38.6

3.3.3 At least nine species of bats were recording at location S3 in 2022, including common, soprano and Nathusius' pipistrelle, barbastelle, *Myotis sp.,* noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle and noctule bats were recorded during all but one of the recording sessions (July 2022).

3.3.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 93 passes per night over the survey period. The highest common pipistrelle activity was recorded in April 2022 (318 passes/night).

3.3.5 The next highest activity was soprano pipistrelle and noctule bats with an average of 14 passes per night over the survey period. Soprano pipistrelle activity was higher between August and late-October 2022 (14-34 passes/night), potentially indicating swarming or mating activity that occurs in autumn, although these activity levels are fairly low. It is unlikely that this indicates commuting between summer and winter sites as there is not a similar peak in April 2022.

3.3.6 Noctule bat activity was very close to soprano pipistrelle with an average of 13 passes per night over the survey period. Leisler's bat activity was very low with less than one pass per night over the survey period, and with activity only recorded in April and May 2022. However, *Nyctalus* sp. calls were recorded at higher level (21 passes/night) over the survey period, and on all but one of the recording sessions (July 2022). Thus, noctule and/or Leisler's bat activity will have been higher than that identified to individual species.

3.3.7 All other species had less activity, each with an average of less than two pass per night over the survey period.

3.3.8 Overall, activity at location S3 fluctuated over the course of the survey period, with the highest amount of bat activity recorded in April 2022 (346 passes/night) second highest in mid-October 2022 (201 passes/night), and roughly between 140 and 150 passes per night in May, August and late September 2022. The static detector only recorded for one night in July 2022, and no bat passes were recorded on that evening.

Table 3.2: Average bat passes per night at location S3 in 2022

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
13/04/22 - 20/04/22	8	0.25	318.00	7.63	0.00	0.75	1.00	0.38	5.38	1.25	11.00	0.13	0.00	345.75
11/05/22 - 16/05/22	6	0.00	91.83	1.67	0.17	1.00	1.17	0.17	13.17	0.33	29.50	0.17	0.17	139.33
01/06/22 - 06/06/22	6	0.00	38.17	9.50	0.00	0.00	0.83	0.00	6.67	0.00	2.33	0.00	0.00	57.50
16/06/22 - 20/06/22	5	0.40	22.80	1.20	0.20	0.00	2.40	0.00	4.20	0.00	19.00	0.00	0.00	50.20
22/07/22	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19/08/22 - 28/08/22	10	0.90	58.30	14.30	0.00	2.20	4.50	0.80	31.50	0.00	38.50	0.20	1.50	152.70
09/09/22 - 13/09/22	5	0.00	10.60	24.20	0.00	0.40	0.60	0.00	17.20	0.00	4.80	0.00	0.00	57.80
23/09/22 - 27/09/22	5	0.40	119.40	29.20	0.00	2.40	0.60	0.20	10.00	0.00	15.20	0.00	0.00	148.20
12/10/22 - 16/10/22	5	0.20	100.80	34.00	0.00	1.00	1.40	0.20	9.60	0.00	53.20	0.20	0.20	200.80
19/10/22 - 23/10/22	5	0.00	6.20	18.40	0.00	1.40	0.00	0.00	3.80	0.00	8.60	0.20	0.00	38.60
Total	**56**	**0.25**	**92.96**	**14.39**	**0.04**	**1.07**	**1.61**	**0.25**	**12.52**	**0.21**	**20.86**	**0.11**	**0.30**	**142.00**

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.4 Location S4 (2022)

3.4.1 A summary of the survey dates, number of nights deployed, and bat passes for location S4 is provided in **Table 3.7**. A summary of the average bat passes per night by species recorded at location S4 is provided in **Table 3.8**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.4.2 In **Table 3.7** and **Table 3.8** data is presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.3: Bat static survey summary for location S4

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
13/04/22 - 19/04/22	7	187	26.7
12/05/22 - 16/05/22	5	197	39.4
01/06/22 - 06/06/22	6	254	42.3
16/06/22 - 20/06/22	5	162	32.4
22/07/22 - 31/07/22	10	5580	558.0
19/08/22 - 21/08/22	3	328	109.3
09/09/22 - 13/09/22	5	188	37.6
23/09/22 - 27/09/22	5	91	18.2
12/10/22 - 16/10/22	5	231	46.2
19/10/22 - 23/10/22	5	130	26.0

3.4.3 At least nine species of bats were recording at location S4, common, soprano and Nathusius' pipistrelle, barbastelle, *Myotis sp.,* noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle and noctule bats were recorded during each of the recording sessions. *Myotis sp.* were recorded during all but one of the recording sessions (late October 2022).

3.4.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 91 passes per night over the survey period. Far higher common pipistrelle activity was recorded in July (455 passes/night) than in any other recording session.

3.4.5 The next highest activity was soprano pipistrelle with an average of 15 passes per night over the survey period. The highest soprano pipistrelle activity was also recorded in July 2022 (55 passes/night).

3.4.6 Noctule bats had an average of eight passes per night over the survey period. Leisler's bat activity was very low with less than one pass per night over the survey period, and with activity only recorded in April and July 2022. However, *Nyctalus* sp. calls were recorded an average of seven passes per night over the survey period, and on every recording session. Thus, noctule and/or Leisler's bat activity will have been higher than that identified to individual species.

3.4.7 *Myotis* bats had an average of five passes per night, with a peak of 25 passes per night in August 2022.

3.4.8 Barbastelle bats had an average of four passes per night, with a peak of 26 passes per night in August.

3.4.9 All other species had less activity, each with an average of less than 1 pass per night over the survey period. Brown long-eared bats were only recorded during the early September 2022 session.

3.4.10 Overall, activity at location S4 was much higher in July 2022 (558 passes/night) than in any other recording session. This appears to be attributed to the far higher activity of common pipistrelles (455 passes/night) than any other species or genus that and all other recording sessions.

Table 3.4: Average bat passes per night at location S4 in 2022

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
13/04/22 - 19/04/22	7	1.57	6.71	6.71	0.00	0.14	3.43	0.00	4.71	0.29	3.14	0.00	0.00	26.71
12/05/22 - 16/05/22	5	0.80	17.20	5.00	0.00	1.80	7.40	0.00	2.80	0.00	4.20	0.20	0.00	39.40
01/06/22 - 06/06/22	6	0.00	32.67	4.83	0.17	0.17	2.33	0.00	0.50	0.00	1.67	0.00	0.00	42.33
16/06/22 - 20/06/22	5	0.20	15.20	5.60	0.00	0.60	3.80	0.00	4.40	0.00	2.40	0.00	0.20	32.40
22/07/22 - 31/07/22	10	9.10	454.80	55.40	0.10	1.70	5.60	0.00	12.30	4.30	14.10	0.10	0.50	558.00
19/08/22 - 21/08/22	3	25.67	19.67	19.33	0.00	3.00	24.67	0.00	6.33	0.00	10.67	0.00	0.00	109.33
09/09/22 - 13/09/22	5	1.60	5.00	6.00	0.60	0.00	9.60	0.60	10.80	0.00	2.80	0.00	0.60	37.60
23/09/22 - 27/09/22	5	0.80	0.40	5.20	0.00	0.60	2.20	0.00	4.20	0.00	4.60	0.00	0.20	18.20
12/10/22 - 16/10/22	5	0.00	2.60	5.80	0.00	2.80	0.40	0.00	20.60	0.00	13.80	0.00	0.20	46.20
19/10/22 - 23/10/22	5	0.00	3.40	5.40	0.20	0.40	0.00	0.00	9.40	0.00	7.20	0.00	0.00	26.00
Total	**56**	**3.50**	**90.52**	**15.23**	**0.11**	**1.05**	**5.09**	**0.05**	**7.84**	**0.80**	**6.79**	**0.04**	**0.20**	**131.21**

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.5 Location S5 (2022)

3.5.1 A summary of the survey dates, number of nights deployed, and bat passes for location S5 is provided in **Table 3.9**. A summary of the average bat passes per night by species recorded at location S5 is provided in Table 3.10. Totals of bat passes per recording period, per species are provided in Appendix B.

3.5.2 In **Table 3.9** and **Table 3.10**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.5: Bat static survey summary for location S5

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
07/06/22 - 11/06/22	5	12623	2524.6
22/06/22 - 29/06/22	6	7109	1184.8
07/07/22 - 17/07/22	11	8716	792.4
03/08/22 - 06/08/22	4	999	249.8
01/09/22 - 03/09/22	3	325	108.3
16/09/22 - 21/09/22	6	559	93.2
03/10/22 - 09/10/22	7	252	36.0
26/10/22 – 30/10/22	5	201	40.2

*** no data available for nights of 25th & 26th June 2022**

3.5.3 At least nine species of bats were recording at location S5 in 2022, including common, soprano and Nathusius' pipistrelle, barbastelle, *Myotis sp.,* noctule, Leisler's, serotine and brown long-eared bats. Soprano pipistrelle were recorded during each of the recording sessions. Common pipistrelle and *Myotis sp.* were recorded during all but one of the recording sessions (September 2022). No static recording sessions were undertaken at this location in April or May 2022.

3.5.4 Soprano pipistrelle were the most frequently recorded species at this location, with an average of 337 passes per night over the survey period. The next highest activity was common pipistrelle with an average of 259 passes per night over the survey period. The highest activity for both these species was recorded in early June 2022 (1,420 and 1,079 passes/night respectively), with the second highest activity in late June and third highest in July 2022. This could indicate maternity roost of both species are near this location; as previously mentioned pregnant bats will stay closer to the roost when heavily pregnant which is typically in June. Ideally, data in April and May 2022 would support this theory, however no data were available for these months. The weather was warm in early 2022; anecdotal evidence provided by field surveyors noted that maternity roosts had broken up earlier that year than typically expected (early August rather than mid to late August). Thus it is possible that female pipistrelle bats would stay closer to the maternity roost in early June, rather than the expected mid/late June.

3.5.5 *Myotis sp*. bats had an average of 29 passes calls per night over the survey period, with the highest activity recorded in July (73 passes/night).

3.5.6 Nathusius' pipistrelle had an average of ten passes per night over the survey period, with a peak of 46 passes per night in late June 2022. Very little activity was recorded in August and both September sessions (less than one pass/night) and no activity was recorded in both October 2022 sessions.

3.5.7 Noctule bats had an average of eight passes per night over the survey period, with the highest activity recorded in July 2022 (20 passes/night).

3.5.8 Barbastelle bats had an average of eight passes per night over the survey period, with far higher activity recorded in August 2022 (64 passes/night) than on any other recording session.

3.5.9 All other species had less activity, each with an average of less than two pass per night over the survey period. Leisler's bat calls were only identified during the late September session, but *Nyctalus sp*. calls were recorded on other sessions. Thus, it is possible that Leisler's was present at location S5 on other recording sessions.

3.5.10 Overall, activity at location S5 was much higher in early June 2022 (2,525 passes/night) than in any other recording session. This appears to be attributed to the far higher activity of common and soprano pipistrelles (1,079 and 1,420 passes/night respectively) than any other species or genus that and all other recording sessions.

Table 3.6: Average bat passes per night at Location S5 in 2022

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
07/06/22 - 11/06/22	5	0.00	1079.40	1419.60	15.40	1.00	5.00	0.60	3.00	0.00	0.60	0.00	0.00	2524.60
22/06/22 - 29/06/22	6	2.33	438.33	633.00	46.17	0.83	50.00	1.33	11.17	0.00	1.00	0.17	0.17	1184.83
07/07/22 - 17/07/22	11	0.36	296.36	385.36	8.00	1.27	73.45	0.00	19.82	0.00	6.73	0.18	0.64	792.36
03/08/22 - 06/08/22	4	64.00	56.00	94.25	0.75	0.75	20.00	1.50	12.50	0.00	0.75	0.00	0.00	249.75
01/09/22 - 03/09/22	3	1.67	73.33	14.67	0.33	0.00	14.67	1.00	2.33	0.00	0.33	0.00	0.00	108.33
16/09/22 - 21/09/22	6	14.83	34.00	26.83	0.33	0.17	13.17	1.67	1.50	0.17	0.33	0.17	0.00	93.17
03/10/22 - 09/10/22	7	0.86	17.43	12.86	0.00	0.29	2.00	0.43	2.14	0.00	0.00	0.00	0.00	36.00
26/10/22 – 30/10/22	5	0.00	26.00	10.40	0.00	0.00	3.40	0.00	0.20	0.00	0.00	0.00	0.20	40.20
Total	**47**	**7.91**	**259.30**	**337.43**	**9.53**	**0.57**	**29.09**	**0.70**	**8.13**	**0.02**	**1.89**	**0.09**	**0.19**	**654.94**

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat

* no data available for nights of 25th & 26th June 2022

3.6 Location S6 in 2022

3.6.1 A summary of the survey dates, number of nights deployed, and bat passes for location S6 is provided in **Table 3.11**. A summary of the average bat passes per night by species recorded at location S6 is provided in **Table 3.12**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.6.2 In **Table 3.11** and **Table 3.12**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.7: Bat static survey summary for location S6

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
07/06/22 - 09/06/22	3	8834	2944.7
22/06/22 - 29/06/22*	6	9046	1507.7
03/08/22 - 07/08/22	5	8146	1629.2
01/09/22 - 03/09/22	3	5392	1797.3
16/09/22 - 21/09/22	6	3128	521.3
26/10/22 – 30/10/22	5	1104	220.8

*** no data available for nights of 25th & 26th June 2022**

3.6.3 At least nine species of bats were recording at location S6 in 2022, including common, soprano and Nathusius' pipistrelle, barbastelle, *Myotis sp.,* noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle, barbastelle, *Myotis sp*. and brown long-eared bats were recorded during each of the recording sessions. Noctule and Leisler's bats were recorded during all but one of the recording sessions (October 2022). No static recording sessions were undertaken at this location in April, May or July 2022.

3.6.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 660 passes per night over the survey period. The highest amount activity was recorded in early September 2022 (1,338 passes/night), and the second highest in early June 2022 (1,183 passes/night).

3.6.5 The next highest activity was soprano pipistrelle with an average of 460 passes per night over the survey period. The highest soprano pipistrelle activity was recorded in late early June 2022 (1,602 passes per night).

3.6.6 Both common and soprano pipistrelle had activity patterns similar to that at location S5 with high activity in early June 2022 and decreasing activity in from late June and August 2022. This potentially indicates maternity roosts nearby. Soprano pipistrelle activity continued to decrease through the survey period, while common pipistrelle activity mainly decreased, however had high amounts of activity again in early September 2022. Although these patterns are not supported by the lack of data in April, May and July 2022.

3.6.7 *Myotis* bats had an average of 125 passes calls per night over the survey period, with the highest activity recorded in August 2022 (519 passes/night), nearly as high

as common pipistrelle activity that month. The next highest *Myotis* bat activity was in early June 2022 (119 passes/night).

3.6.8 Noctule bats had an average of ten passes calls per night over the survey period, with over twice the amount of activity recorded in early June 2022 than in any other recording session, although this was still relatively low amounts of activity with a peak of 31 passes per night.

3.6.9 *Myotis* bats. and noctule activity both had higher amounts of activity in early June than in later June 2022, similar to that exhibited by pipistrelles at this location. These types of bats typically have smaller maternity roosts than those of pipistrelle bats, thus the more modest activity levels could still be indicative nearby maternity roosts. However, the lack of April, May and July data makes this pattern less robust.

3.6.10 Barbastelle bats had an average of five passes per night over the survey period, with the highest activity recorded in August 2022 (12 passes/night).

3.6.11 Brown long-eared bats had an average of three passes per night over the survey period, with the highest activity recorded in early September 2022 (12 passes/night).

3.6.12 All other species had less activity, each with an average of less than one pass per night over the survey period.

3.6.13 Overall, activity at location S6 fluctuated over the course of the survey, with the highest amounts of bat activity recorded in early June 2022 (2,945 passes/night), the second highest in early September 2022 (1,798 passes/night), and third highest in August 2022 (1,629 passes/night). Much lower amounts of activity were recorded in late September 2022 (521 passes/night) and in October 2022 (220 passes/night).

Table 3.1: Average bat passes per night at location S6 in 2022

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
07/06/22 - 09/06/22	3	3.00	1182.33	1601.67	0.00	0.00	119.00	4.00	31.33	2.00	0.67	0.67	0.00	2944.67
22/06/22 - 29/06/22*	6	0.17	739.17	715.67	0.17	0.00	41.33	1.17	9.33	0.67	0.00	0.00	0.00	1507.67
01/09/22 - 03/09/22	3	12.00	587.40	494.60	0.00	0.20	519.20	4.00	11.40	0.20	0.20	0.00	0.00	1629.20
16/09/22 - 21/09/22	6	8.00	1337.67	253.33	2.67	78.67	83.67	11.67	16.00	3.33	0.33	2.00	0.00	1797.33
26/10/22 – 30/10/22	5	3.83	457.17	49.17	0.33	0.00	7.83	0.17	2.50	0.33	0.00	0.00	0.00	521.33
07/06/22 - 09/06/22	3	2.00	163.00	51.00	0.00	0.00	2.40	2.40	0.00	0.00	0.00	0.00	0.00	220.80
Total	**28**	**4.54**	**660.36**	**460.07**	**0.39**	**8.46**	**125.39**	**3.11**	**9.64**	**0.82**	**0.14**	**0.29**	**0.00**	**1273.21**

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.7 Location D1 in 2022

3.7.1 A summary of the survey dates, number of nights deployed, and bat passes for location D1 is provided in **Table 3.13**. A summary of the average bat passes per night by species recorded at location D1 is provided in **Table 3.14**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.7.2 In **Table 3.13** and **Table 3.14**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.1: Bat static survey summary for Location D1

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
07/04/22 - 12/04/22	6	887	221.75
26/04/22 - 30/04/22	5	658	131.60
01/05/22 - 05/05/22	5	858	171.60
24/05/22 - 30/05/22	7	540	77.14
21/06/22 - 30/06/22	10	1122	112.20
12/07/22 - 17/07/22	6	1270	254.00
19/07/22 - 21/07/22	3	877	292.33
04/08/22 – 09/08/22	6	909	181.80
01/09/22 – 03/09/22	3	885	295.00
16/09/22 – 21/09/22	6	566	94.33
03/10/22 – 09/10/22	7	1025	146.43
26/10/22 – 30/10/22	5	288	72.00

3.7.3 At least nine species of bats were recording at location D1 in 2022, including common, soprano and Nathusius' pipistrelle, barbastelle, *Myotis sp.,* noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle were recorded during each of the recording sessions.

3.7.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 92 passes per night over the survey period. The highest amount activity was recorded in July 2022 (909 passes/night), and the second highest in early June 2022 (903 passes/night).

3.7.5 The next highest activity was soprano pipistrelle with an average of 46 passes per night over the survey period. The highest soprano pipistrelle activity was recorded in July (496 passes per night).

3.7.6 *Myotis* bats had an average of 1.43 passes calls per night over the survey period, with the highest activity recorded in July 2022 (32 passes/night).

3.7.7 Noctule bats had an average of 1.6 calls per night over the survey period, with July being the highest activity recorded (13 passes/night).

3.7.8 Barbastelle bats had an average of 0.28 passes per night over the survey period, with the highest activity recorded in May 2022 (8 passes/night).

3.7.9 Brown long-eared bats had an average of 1.74 passes per night over the survey period, with the highest activity recorded in early September 2022 (56 passes/night).

3.7.10 All other species had less activity, each with an average of less than one pass per night over the survey period.

Table 3.2: Average bat passes per night at location D1 in 2022

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
07/04/22 - 12/04/22	6	1	555	308	0	0	8	0	9	5	0	1	**0**	**887**
26/04/22 - 30/04/22	5	2	380	259	0	0	15	0	1	0	0	1	**0**	**658**
01/05/22 - 05/05/22	5	6	583	256	0	0	4	0	9	0	0	0	**0**	**858**
24/05/22 - 30/05/22	7	8	379	147	0	0	0	0	4	2	0	0	**0**	**540**
21/06/22 - 30/06/22	10	0	903	194	0	0	13	0	10	0	0	2	**0**	**1122**
12/07/22 - 17/07/22	6	1	909	323	0	0	14	3	13	3	0	4	**0**	**1270**
19/07/22 - 21/07/22	3	0	309	496	4	0	32	23	8	1	0	4	**0**	**877**
04/08/22 – 09/08/22	6	1	454	372	2	0	13	18	4	9	0	0	**0**	**909**
01/09/22 – 03/09/22	3	0	636	188	0	0	0	56	5	0	0	0	**0**	**885**
16/09/22 – 21/09/22	6	0	362	184	0	0	0	11	9	0	0	0	**0**	**566**
03/10/22 – 09/10/22	7	0	807	212	0	0	0	5	1	0	0	0	0	**1025**
26/10/22 – 30/10/22	5	0	52	229	0	0	0	4	1	0	0	2	0	**288**
Total	**69**	**19**	**6329**	**3168**	**6**	**0**	**99**	**120**	**110**	**20**	**0**	**14**	**0**	**9885**
Average		**0.28**	**91.72**	**45.91**	**0.09**	**0**	**1.43**	**1.74**	**1.60**	**0.29**	**0**	**0.20**	**0**	**143.26**

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.8 Location D2 in 2022

3.8.1 A summary of the survey dates, number of nights deployed, and bat passes for location D2 is provided in **Table 3.15**. A summary of the average bat passes per night by species recorded at location D2 is provided in **Table 3.16**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.8.2 In **Table 3.15** and **Table 3.16**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.3: Bat static survey summary for Location D2 in 2022

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
07/04/22 - 12/04/22	6	1163	290.75
26/04/22 - 30/04/22	5	378	75.60
01/05/22 - 05/05/22	5	451	90.20
24/05/22 - 30/05/22	7	1760	251.43
21/06/22 - 30/06/22	10	2149	214.90
12/07/22 - 18/07/22	7	2347	391.17
04/08/22 – 12/08/22	9	4207	840.80
01/09/22 – 05/09/22	5	909	181.80
16/09/22 – 20/09/22	5	825	137.50
03/10/22 – 09/10/22	7	966	138.00
26/10/22 – 30/10/22	5	625	156.25

3.8.3 At least 9 species of bats were recording at location D2 in 2022, including common, soprano and Nathusius' pipistrelle, barbastelle, *Myotis sp.,* noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle were recorded during each of the recording sessions.

3.8.4 Soprano pipistrelle were the most frequently recorded species at this location, with an average of 115 passes per night over the survey period. The highest amount activity was recorded in August 2022, and the second highest in July 2022.

3.8.5 The next highest activity was common pipistrelle with an average of 109 passes per night over the survey period. The highest common pipistrelle activity was recorded in August (within an average of 413 passes per night).

3.8.6 *Myotis* bats had an average of 11 passes calls per night over the survey period, with the highest activity recorded in June 2022 (30 passes/night).

3.8.7 Noctule bats had an average of 6 calls per night over the survey period, with August being the highest activity recorded (32 passes/night).

3.8.8 All other species had less activity, each with an average of less than four pass per night over the survey period.

Table 3.4: Average bat passes per night at Location D2 in 2022 – TBC

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Rhi Hip	Total
07/04/22 - 12/04/22	6	1.00	141.00	144.00	0.00	0.00	1.75	0.00	2.50	0.00	0.00	0.50	**0.00**	**290.75**
26/04/22 - 30/04/22	5	0.00	3.00	27.00	0.00	41.80	2.40	0.00	1.40	0.00	0.00	0.00	**0.00**	**75.60**
01/05/22 - 05/05/22	5	0.40	50.60	30.80	0.20	0.00	6.60	0.00	1.60	0.00	0.00	0..00	**0.00**	**90.20**
24/05/22 - 30/05/22	7	10.14	116.71	109.86	0.86	0.00	7.86	0.00	5.29	0.00	0.00	0.71	**0.00**	**251.43**
21/06/22 - 30/06/22	10	0.20	109.60	72.80	0.20	0.00	29.60	0.00	2.40	0.00	0.00	0.10	**0.00**	**214.90**
12/07/22 - 18/07/22	7	0.00	133.00	213.17	1.33	0.00	24.50	10.00	8.17	0.67	0.00	0.33	**0.00**	**391.17**
04/08/22 – 12/08/22	9	0.80	413.8	328.00	24.40	0.00	24.00	0.60	32.80	16.40	0.00	0.00	**0.00**	**840.80**
01/09/22 – 05/09/22	5	0.80	68.40	84.60	1.80	0.00	21.40	0.20	3.40	0.00	0.00	0.00	**0.00**	**181.80**
16/09/22 – 20/09/22	5	0.00	40.83	87.33	1.17	0.00	1.50	0.33	6.33	0.00	0.00	0.00	**0.00**	**137.50**
03/10/22 – 09/10/22	7	0.00	36.29	97.14	2.00	0.00	0.86	0.14	1.29	0.14	0.00	0.14	**0.00**	**138.00**
26/10/22 – 30/10/22	5	0.00	82.00	70.00	0.00	0.00	0.50	3.75	0.00	0.00	0.00	0.00	**0.00**	**156.25**
Average		**1.21**	**108.66**	**114.97**	**2.91**	**3.80**	**11.0**	**1.37**	**5.92**	**1.56**	**0.00**	**0.27**	**0.00**	

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.9 Location S5 (2023)

3.9.1 A summary of the survey dates, number of nights deployed, and bat passes for location S5 is provided in **Table 3.17**. A summary of the average bat passes per night by species recorded at location S5 is provided in **Table 3.18**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.9.2 In **Table 3.11** and **Table 3.18**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.5: Bat static survey summary for location S5.

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
20/04/23 – 24/04/23	4	294	6.13
25/04/23 – 29/04/23	4	1979	41.23
03/05/23 – 11/05/23	8	4791	49.91
19/05/23 – 24/05/23	5	687	11.45
01/06/23 – 06/06/23	5	609	10.15
13/06/23 – 18/06/23	5	2300	38.33
07/07/23 – 12/07/23	5	2261	37.68
12/07/23 – 18/07/23	6	3599	49.99
09/08/23 – 13/08/23	5	1993	33.22
14/08/23 – 19/08/23	5	1650	27.50
07/09/23 – 11/09/23	4	1012	21.08
12/09/23 – 17/09/23	5	1027	17.12
05/09/23 – 10/09/23	5	1377	22.95
10/10/23 – 18/20/23	8	259	2.70

3.9.3 At least nine species of bats were recording at location S5 in 2023, including common, soprano and Nathusius' pipistrelle, barbastelle, Myotis sp., noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle, Myotis sp. and Noctule bats were recorded during each of the recording sessions.

3.9.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 147 passes per night over the survey period. The highest amount activity was recorded in May 2023 (average of 459 passes/night), and the second highest in April 2023 (average of 266 passes/night).

3.9.5 The next highest activity was soprano pipistrelle with an average of 131 passes per night over the survey period. The highest soprano pipistrelle activity was recorded in July 2023 (average of 374 passes per night).

3.9.6 Noctule bats had an average of eighteen passes calls per night over the survey period, with almost three times the amount of activity recorded in late June 2023 than in any other recording session.

3.9.7 Myotis bats had an average of seven passes per night over the survey period, with the highest activity recorded in early September 2023 (55 passes/night).

3.9.8 All other species had less activity, each with an average of less than three pass per night over the survey period.

3.9.9 Overall, activity at location S5 was relatively similar over the survey period. The highest period of bat activity happened in early May and late July 2023 (both averaging of 50 passes per night), and the third highest in late April 2023 (average of 41 passes per night). The lowest amount of activity happened in late October (average of 4 passes per night).

Table 3.6: Average bat passes per night at location S5 in 2023.

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
20/04/23 – 24/04/23	4	0.00	67.25	3.25	0.00	0.50	0.75	0.00	0.25	0.00	1.50	0.00	0.00	**6.13**
25/04/23 – 29/04/23	4	0.00	266.00	171.5	0.00	54.75	1.00	0.00	1.00	0.00	0.50	0.00	0.00	**41.23**
03/05/23 – 11/05/23	8	0.00	459.38	111.00	3.50	17.25	4.63	0.00	1.50	0.00	1.25	0.38	0.00	**49.91**
19/05/23 – 24/05/23	5	0.00	89.00	41.20	0.00	2.00	1.80	0.20	2.60	0.00	0.60	0.00	0.00	**11.45**
01/06/23 – 06/06/23	5	0.00	48.60	43.80	0.20	26.80	2.20	0.00	0.20	0.00	0.00	0.00	0.00	**10.15**
13/06/23 – 18/06/23	5	0.00	116.60	216.80	0.80	9.20	0.80	0.00	114.40	0.00	1.200	0.20	0.00	**38.88**
07/07/23 – 12/07/23	5	0.00	114.20	313.40	0.00	2.20	3.20	0.00	18.60	0.20	0.20	0.00	0.20	**37.68**
12/07/23 – 18/07/23	6	0.00	203.67	374.00	0.00	1.17	2.17	0.00	12.00	0.17	6.67	0.00	0.00	**49.99**
09/08/23 – 13/08/23	5	0.00	135.20	205.60	0.40	1.60	3.80	0.00	40.60	0.00	11.40	0.00	0.00	**33.22**
14/08/23 – 19/08/23	5	1.00	141.80	145.00	0.00	0.60	7.80	0.60	26.80	0.00	6.40	0.00	0.00	**27.50**
07/09/23 – 11/09/23	4	0.25	150.75	5.50	0.25	1.50	55.25	0.50	35.00	1.50	2.50	0.00	0.00	**21.08**
12/09/23 – 17/09/23	5	0.40	159.20	28.80	0.20	0.60	9.60	0.00	6.00	0.00	0.60	0.00	0.00	**17.12**
05/09/23 – 10/09/23	5	13.60	91.00	152.20	0.00	2.80	12.80	0.40	1.40	0.00	1.20	0.00	0.00	**22.95**

10/10/23 – 18/20/23	8	0.88	15.88	13.75	0.00	0.13	1.63	0.00	0.13	0.00	0.00	0.00	0.00	**2.70**
Total		**1.15**	**147.04**	**130.41**	**0.38**	**8.65**	**7.67**	**0.12**	**18.61**	**0.13**	**2.43**	**0.04**	**0.01**	

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.10 Location S6 (2023)

3.10.1 A summary of the survey dates, number of nights deployed, and bat passes for location S6 is provided in **Table 3.197**. A summary of the average bat passes per night by species recorded at location S5 is provided in **Table 3.12**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.10.2 In **Table 3.19** and **Table 3.20**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.7: Bat static survey summary for location S6.

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
06/04/23 – 10/04/23	5	127	2.12
20/04/23 – 25/04/23	5	999	16.65
05/05/23 – 08/05/23	4	2918	60.79
19/05/23 – 20/05/23	2	3984	166.0
01/06/23 – 06/06/23	6	3275	45.49
13/06/23	1	347	28.92
07/07/23 – 15/07/23	9	4244	39.30
09/08/23 – 20/08/23	12	5012	34.81
07/09/23 – 17/09/23	11	3860	29.24
04/10/23 – 10/10/23	7	2433	28.96
11/10/23 – 17/10/23	6	291	4.04

3.10.3 At least nine species of bats were recording at location S6 in 2023, including common, soprano and Nathusius' pipistrelle, barbastelle, Myotis sp., noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle, and Myotis sp. bats were recorded during each of the recording sessions. Noctule bats were recorded during all but two of the recording sessions (the first and last recording periods).

3.10.4 Both pipistrelle species were by far the most abundant species recorded. Common pipistrelle were the most frequently recorded species at this location, with an average of 252 passes per night over the survey period. The highest amount activity was recorded in May 2023 (average of 940 passes/night), and the second highest in October 2023 (average of 252 passes/night).

3.10.5 The next highest activity was soprano pipistrelle with an average of 207 passes per night over the survey period. The highest soprano pipistrelle activity was recorded in May 2023 (average of 1,029 passes per night).

3.10.6 Noctule bats had an average of 22 passes calls per night over the survey period, with the highest period recorded in June 2023.

3.10.7 All other species had less activity, each with an average of ten or fewer passes per night over the survey period.

Table 3.8: Average bat passes per night at location S6 in 2023.

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
06/04/23 – 10/04/23	5	0.40	14.80	9.60	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	**2.12**
20/04/23 – 25/04/23	5	0.00	120.60	73.40	0.00	0.80	3.80	0.80	0.40	0.00	0.00	0.00	0.00	**16.65**
05/05/23 – 08/05/23	4	0.00	548.75	174.25	0.25	0.00	2.75	0.00	3.50	0.00	0.00	0.00	0.00	**60.79**
19/05/23 – 20/05/23	2	0.50	940.00	1029.50	1.00	0.50	19.50	0.50	0.50	0.00	0.00	0.00	0.00	**166.00**
01/06/23 – 06/06/23	6	0.50	436.33	105.83	0.33	0.00	1.50	0.00	1.33	0.00	0.00	0.00	0.00	**45.49**
13/06/23	1	0.00	171.00	9.00	0.00	0.00	3.00	5.00	159.00	0.00	0.00	0.00	0.00	**28.92**
07/07/23 – 15/07/23	9	0.00	223.33	227.44	0.11	0.22	6.78	1.00	12.56	0.00	0.00	0.11	0.00	**39.30**
09/08/23 – 20/08/23	12	0.92	88.50	250.08	0.08	3.33	35.42	2.25	36.83	0.08	0.00	0.17	0.00	**43.81**
07/09/23 – 17/09/23	11	0.73	131.27	132.36	0.91	29.00	32.73	3.00	20.00	0.00	0.36	0.55	0.00	**29.24**
04/10/23 – 10/10/23	7	4.86	79.29	252.00	0.00	1.00	3.86	3.00	3.57	0.00	0.00	0.00	0.00	**28.96**
11/10/23 – 17/10/23	6	0.67	13.33	24.00	0.33	9.17	0.33	0.67	0.00	0.00	0.00	0.00	0.00	**4.04**
Total		**0.78**	**251.56**	**207.95**	**0.27**	**4.00**	**10.02**	**1.47**	**21.61**	**0.01**	**0.03**	**0.07**	**0.00**	

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.11 Location S7 (2023)

3.11.1 A summary of the survey dates, number of nights deployed, and bat passes for location S7 is provided in **Table 3.21**. A summary of the average bat passes per night by species recorded at location S5 is provided in **Table 3.22**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.11.2 In **Table 3.21** and **Table 3.22**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.9: Bat static survey summary for location S7.

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
06/04/23 – 11/04/23	5	582	9.70
19/04/23 – 21/04/23	2	223	9.29
05/05/23 – 11/05/23	6	492	6.83
19/05/23 – 25/05/23	6	4216	58.56
13/06/23 – 18/06/23	5	4963	82.72
07/07/23 – 18/07/23	11	7809	59.16
09/08/23 – 20/08/23	11	2103	15.93
07/09/23 – 11/09/23	4	713	14.85
12/09/23 – 17/09/23	5	1946	32.43
05/10/23 – 10/10/23	5	3913	65.22
11/10/23 – 16/10/23	5	294	4.90

3.11.3 At least nine species of bats were recording at location S7 in 2023, including common, soprano and Nathusius' pipistrelle, barbastelle, Myotis sp., noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle, Barbastelle, Myotis sp. and Noctule bats were recorded during each of the recording sessions.

3.11.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 240 passes per night over the survey period. The highest amount activity was recorded in October 2023 (average of 677 passes/night), and the second highest in July 2023 (average of 617 passes/night).

3.11.5 The next highest activity was soprano pipistrelle with an average of 101 passes per night over the survey period. The highest soprano pipistrelle activity was recorded in June 2023 (average of 385 passes per night).

3.11.6 Noctule bats had an average of 23 passes calls per night over the survey period, with almost twice times the amount of activity recorded in late September 2023 than in any other recording session.

3.11.7 Myotis bats had an average of 17 passes per night over the survey period, with the highest activity recorded in early June 2023 (87 passes/night).

3.11.8 Barbastelle bats recorded an average of 7 passes per night over the survey period, with the highest activity recorded in June 2013 (average of 23 passes/night) and October 2023 (20 passes/night). All other months recorded fewer than an average of 10 passes per night.

3.11.9 All other species had much less activity, each with an average of less than one pass per night over the survey period.

Table 3.10: Average bat passes per night at location S7 in 2023.

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
06/04/23 – 11/04/23	5	0.60	58.00	50.80	0.00	0.00	5.40	0.00	1.20	0.40	0.00	0.00	0.00	**9.70**
19/04/23 – 21/04/23	2	2.50	24.50	66.50	0.00	0.00	1.50	0.00	16.00	0.50	0.00	0.00	0.00	**9.29**
05/05/23 – 11/05/23	6	3.17	28.83	27.33	0.67	3.50	1.33	0.33	14.83	1.67	0.00	0.33	0.00	**6.83**
19/05/23 – 25/05/23	6	2.33	406.67	247.50	0.50	0.17	18.33	1.00	23.00	1.17	0.00	2.00	0.00	**58.56**
13/06/23 – 18/06/23	5	23.20	449.80	385.20	1.40	1.60	87.60	2.40	39.60	0.00	0.80	1.00	0.00	**82.72**
07/07/23 – 18/07/23	11	0.55	617.18	57.82	0.00	0.45	4.64	0.09	26.00	1.00	0.82	0.36	0.00	**59.16**
09/08/23 – 20/08/23	11	4.36	68.64	77.82	0.00	0.09	14.45	0.18	21.55	3.18	0.36	0.55	0.00	**15.93**
07/09/23 – 11/09/23	4	4.50	87.50	38.00	0.25	0.00	15.50	0.00	30.50	0.00	1.25	0.75	0.00	**14.85**
12/09/23 – 17/09/23	5	4.80	195.20	92.60	0.20	1.00	19.80	0.60	69.80	0.00	3.80	1.40	0.00	**32.43**
05/10/23 – 10/10/23	5	20.20	677.20	61.80	1.00	0.00	11.60	2.40	8.00	0.00	0.00	0.00	0.40	**65.22**
11/10/23 – 16/10/23	5	9.60	30.00	10.20	0.40	0.00	7.00	0.40	0.80	0.00	0.40	0.00	0.00	**4.90**
Total		**6.89**	**240.32**	**101.42**	**0.40**	**0.62**	**17.11**	**0.67**	**22.84**	**0.72**	**0.68**	**0.58**	**0.04**	

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.12 Location S8 (2023)

3.12.1 A summary of the survey dates, number of nights deployed, and bat passes for location S8 is provided in **Table 3.23**. A summary of the average bat passes per night by species recorded at location S5 is provided in **Table 3.24**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.12.2 In **Table 3.23** and **Table 3.24**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.11: Bat static survey summary for location S8.

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
06/04/23 – 10/04/23	4	1118	23.29
20/04/24 – 21/04/23	4	122	2.54
04/05/23 – 10/05/23	6	808	11.22
19/05/23 – 24/05/23	5	2022	33.70
01/06/23 – 03/06/23	2	560	23.33
13/06/23 – 20/06/23	7	1574	18.74
07/07/23 – 09/07/23	2	693	28.88
13/07/23 – 14/07/23	1	601	50.08
07/09/23 – 09/09/23	2	687	28.63
12/09/23 – 15/09/23	3	677	18.81
04/010/23 – 07/10/23	3	434	12.06
11/10/23 – 13/10/23	2	153	6.38

3.12.3 At least nine species of bats were recording at location S8 in 2023, including common, soprano and Nathusius' pipistrelle, barbastelle, Myotis sp., noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle, Noctule and Brown Long-eared bats were recorded during each of the recording sessions.

3.12.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 70 passes per night over the survey period. The highest amount activity was recorded in May 2023 (average of 226 passes/night), and the second highest in July 2023 (average of 168 passes/night).

3.12.5 The next highest activity was Nathusius' pipistrelle with an average of 61 passes per night over the survey period. The highest Nathusius' pipistrelle activity was recorded in July 2023 (average of 474 passes per night).

3.12.6 The next highest activity was soprano pipistrelle with an average of 59 passes per night over the survey period. The highest soprano pipistrelle activity was recorded in May 2023 (average of 225 passes per night).

3.12.7 Myotis bats had an average of 27 passes per night over the survey period, with the highest activity recorded in early July 2023 (72 passes/night).

3.12.8 Noctule bats had an average of 21 passes calls per night over the survey period, with almost twice times the amount of activity recorded in July and October than in any other recording session.

3.12.9 All other species had much less activity, each with an average of less than nine passes per night over the survey period.

3.12.10 The Static 8 location recorded the least amount of bat activity out of all of the static locations, with a total of only 9449 calls over the entire recording period.

Table 3.12: Bat static survey summary for location S8.

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
06/04/23 – 10/04/23	4	10.75	53.75	157.50	1.00	2.25	16.75	1.75	35.00	0.00	0.75	0.00	0.00	**23.29**
20/04/24 – 21/04/23	4	0.00	12.25	15.50	0.25	0.00	1.50	0.25	0.75	0.00	0.00	0.00	0.00	**2.54**
04/05/23 – 10/05/23	6	1.67	68.83	35.00	0.17	1.33	11.33	0.17	16.17	0.00	0.00	0.00	0.00	**11.22**
19/05/23 – 24/05/23	5	8.00	225.80	106.20	0.60	0.60	42.80	3.60	14.80	1.80	0.00	0.20	0.00	**33.70**
01/06/23 – 03/06/23	2	13.00	76.00	34.00	98.00	0.00	50.00	7.00	2.00	0.00	0.00	0.00	0.00	**23.33**
13/06/23 – 20/06/23	7	0.00	121.14	37.86	0.00	0.29	48.14	0.43	16.86	0.00	0.00	0.14	0.00	**18.74**
07/07/23 – 09/07/23	2	4.50	168.00	41.50	1.00	1.50	72.00	3.00	54.00	0.50	0.00	0.50	0.00	**28.88**
13/07/23 – 14/07/23	1	0.00	10.00	44.00	474.00	0.00	0.00	12.00	18.00	43.00	0.00	0.00	0.00	**50.08**
07/09/23 – 09/09/23	2	0.00	16.00	87.00	155.00	0.00	0.00	70.00	8.00	4.50	0.00	3.00	0.00	**28.63**
12/09/23 – 15/09/23	3	15.00	45.00	95.67	0.00	0.00	61,67	5.33	3.00	0.00	0.00	0.00	0.00	**18.81**
04/010/23 – 07/10/23	3	3.00	25.00	30.67	0.33	0.00	11.33	1.00	62.00	0.00	10.67	0.67	0.00	**12.06**
11/10/23 – 13/10/23	2	7.00	23.00	19.50	0.00	0.00	14.00	2.00	10.50	0.00	0.00	0.50	0.00	**6.38**
Total		**5.24**	**70.40**	**58.70**	**60.86**	**0.50**	**27.46**	**8.88**	**20.09**	**4.15**	**0.95**	**0.42**	**0.00**	

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.13 Location S9 (2023)

3.13.1 A summary of the survey dates, number of nights deployed, and bat passes for location S8 is provided in **Table 3.25**. A summary of the average bat passes per night by species recorded at location S5 is provided in **Table 3.26**. Totals of bat passes per recording period, per species are provided in Appendix B.

3.13.2 In **Table 3.25** and **Table 3.26**, the data are presented as the total numbers of bat passes divided by the number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between recording sessions as some ran for longer periods than others. It also makes the data recorded more comparable between static locations.

Table 3.13: Bat static survey summary for location S9.

Survey dates	Number of nights detector deployed	Total number of bat passes	Average bat passes/night
06/04/23 – 10/04/23	4	497	124.25
20/04/24 – 24/04/23	4	69	17.25
05/05/23 – 10/05/23	5	1173	234.60
19/05/23 – 24/05/23	5	2818	563.60
13/06/23 – 17/06/23	4	1563	390.75
07/07/23 – 13/07/23	7	1921	274.43
15/08/23 – 18/08/23	3	750	250.00
13/07/23 – 14/07/23	4	593	148.25
07/09/23 – 09/09/23	5	3345	669.00
12/09/23 – 15/09/23	2	347	173.50
04/010/23 – 07/10/23	4	622	155.50
11/10/23 – 13/10/23	13	2874	221.08

3.13.3 At least nine species of bats were recording at location S9 in 2023, including common, soprano and Nathusius' pipistrelle, barbastelle, Myotis sp., noctule, Leisler's, serotine and brown long-eared bats. Common and soprano pipistrelle were the only species that recorded during each of the recording sessions at this location.

3.13.4 Common pipistrelle were the most frequently recorded species at this location, with an average of 199 passes per night over the survey period. The highest amount activity was recorded in August 2023 (average of 480 passes/night), and the second highest in May 2023 (average of 445 passes/night). Almost four times as many Common Pipistrelle calls were recorded than any other species.

3.13.5 The next highest activity was soprano pipistrelle with an average of 53 passes per night over the survey period. The highest soprano pipistrelle activity was recorded in August 2023 (average of 175 passes per night).

3.13.6 All other species had much less activity, each with an average of five or fewer passes per night over the survey period.

Table 3.14: Bat static survey summary for location S8.

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
06/04/23 – 10/04/23	4	0.00	78.75	43.25	0.00	0.00	0.25	1.00	0.50	0.00	0.50	0.00	0.00	**124.25**
20/04/24 – 24/04/23	4	0.75	8.00	5.75	0.00	2.25	0.50	0.00	0.00	0.00	0.00	0.00	0.00	**17.25**
05/05/23 – 10/05/23	5	12.60	171.60	22.00	0.20	6.20	16.20	3.80	0.20	1.40	0.40	0.00	0.00	**234.60**
19/05/23 – 24/05/23	5	1.80	445.40	107.20	0.00	1.80	6.00	0.00	1.20	0.20	0.00	0.00	0.00	**563.60**
13/06/23 – 17/06/23	4	3.25	279.75	93.00	0.00	8.75	.00	.00	3.50	1.50	0.00	0.00	0.00	**390.75**
07/07/23 – 13/07/23	7	0.14	214.57	48.71	4.86	0.00	1.57	0.00	1.71	2.29	0.00	0.57	0.00	**274.43**
15/08/23 – 18/08/23	3	0.33	225.00	21.67	0.00	0.00	0.00	0.00	2.33	0.67	0.00	0.00	0.00	**250.00**
13/07/23 – 14/07/23	4	0.75	95.75	46.50	0.00	0.00	4.00	0.00	1.00	0.00	0.25	0.00	0.00	**148.25**
07/09/23 – 09/09/23	5	1.20	480.40	175.20	0.00	0.00	4.20	0.00	5.20	0.00	2.80	0.00	0.00	**669.00**
12/09/23 – 15/09/23	2	0.00	105.00	17.50	0.00	0.00	0.50	0.00	42.00	8.00	0.00	0.50	0.00	**173.50**
04/010/23 – 07/10/23	4	0.25	111.50	26.25	0.50	0.50	9.75	0.00	3.25	1.75	1.75	0.00	0.00	**155.50**
11/10/23 – 13/10/23	13	5.85	172.31	36.15	0.08	0.31	4.92	0.00	0.38	0.46	0.62	0.00	0.00	**221.08**
Total		**2.24**	**199.00**	**53.60**	**0.47**	**1.65**	**4.07**	**0.40**	**5.11**	**1.36**	**0.53**	**0.09**	**0.00**	

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.14 Static Survey Overview 2022 and 2023

3.14.1 A summary of the average bat passes per night by species recorded at each static location over the survey period is provided in **Table 3.25** and **Table 3.26**. Data are presented as the total numbers of bat passes during the entire survey period divided by the total number of nights over which the calls were recorded to show an average number of bat contacts per night. This allows more comparability between the static locations as recording period differed between locations.

3.14.2 At least nine species of bats were recording at every static location during the course of the 2022 and 2023 survey period: common, soprano and Nathusius' pipistrelle, barbastelle, *Myotis* sp., noctule, Leisler's bat, serotine and brown long-eared bats.

3.14.3 Overall, the highest amount of bat activity across all static recording sessions was recorded at location S6 (mature treeline surrounded by improved grassland) with an average of 1,273 passes per night.

3.14.4 Common pipistrelle was the most frequently recorded species across all locations and had the highest activity at every location except location S5 where it came second to soprano pipistrelle. The highest amount of common pipistrelle activity was recorded at location S6 (660 passes/night). This is roughly twice to seven times higher than at the other static locations. At all the static locations this species had fairly moderate to high levels of activity.

3.14.5 Soprano pipistrelle had the second highest activity at most of the locations, except location S5 where it had the highest activity (337 passes/night), and location S3 where it was third highest after *Nyctalus* species. Overall this species fairly high activity at locations S5 and S6 and low to moderate activity at the other locations.

3.14.6 Low levels of activity from Nathusius' pipistrelle were recorded at all locations, with the highest activity at location S5 (ten passes/night). Nathusius' pipistrelle activity was much lower at all other sites. The higher activity at location S5 can be attributed to the 46 passes per night recorded during the late June session at this location (**Table 3.10**), as well as the 15 and 8 passes per night recorded in the early June and July sessions respectively, This is higher than recorded during any other session at all locations.

3.14.7 Most noctule/*Nyctalus* activity was recorded at location S3 (11 and 21 passes/night respectively) with low levels at all locations, and confirmed noctule activity fairly evenly spread across the site. The highest confirmed Leisler's bat activity was at location S2 (less than twp passes/night) and was very low at all locations.

3.14.8 Serotine activity was very low at all locations, with less than one pass per night at all locations. Call recordings identified as having parameters similar to serotine and *Nyctalus*. were also less than one pass per night at all locations (except S6 where none were identified) and therefore wouldn't significantly change serotine activity levels.

3.14.9 *Myotis* activity was between ten and 125 passes per night at locations S1, S5 and S6, which is relatively moderate to high activity given that *Myotis'* species are less common in the UK. *Myotis* activity was fairly low at the other locations. Much of the high activity at location S6 can be attributed to the 519 passes per night recorded in August 2022, as well as activity in early September 2022 (84 passes/night) and

early June 2022 (119 passes/night) (**Table 3.12**). Peaks in activity of 27, 25, and 73 passes per night were recorded at locations S1, S4 and S5 respectively.

3.14.10 Brown long-eared activity was low across the site, with the highest activity at location S6 (three passes/night), and less than one pass per night at the other locations. However, it should be noted that a peak of 12 passes per night was recorded during the early September recording session at location S6 (**Table 3.12**), which was at least three times higher than activity recorded during any other session at all locations.

3.14.11 Barbastelle activity was highest at location S5 (eight passes per night), location S1, S4 and S6 had approximately four to five passes per night, and there was lower activity at location S2 and S3 (less than one pass per night). Looking at the activity per recording session at each location, barbastelle activity was not spread evenly over the survey period at locations S1, S4, S5 and S6 (see previous tables in this section). Peak activity at these locations were 19 passes per night in April at location S1, 26 passes per night in August at location S4, 64 passes per night in August at location S5 and 12 passes per night in August at location S6. Given the rarity of barbastelle within the UK, these activity levels can be considered high.

Table 3.15: Average total bat passes per static location 2022

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
S1	57	4.54	110.14	12.30	0.12	0.18	10.40	0.95	3.40	0.40	0.18	0.35	0.02	142.98
S2	49	0.71	222.98	51.04	0.02	0.02	2.45	0.12	7.69	1.45	2.53	0.84	0.20	290.06
S3	56	0.25	92.96	14.39	0.04	1.07	1.61	0.25	12.52	0.21	20.86	0.11	0.30	142.00
S4	56	3.50	90.52	15.23	0.11	1.05	5.09	0.05	7.84	0.80	6.79	0.04	0.20	131.21
S5	47	7.91	259.30	337.43	9.53North	0.57	29.09	0.70	8.13	0.02	1.89	0.09	0.19	654.94
S6	28	4.54	660.36	460.07	0.39	8.46	125.39	3.11	9.64	0.82	0.14	0.29	0.00	1273.21
D1	69	0.28	91.72	45.91	0.09	0	1.43	1.74	1.60	0.29	0	0.20	0	143.08
D2	71	1.12	108.66	114.97	2.91	3.80	11.0	1.37	5.92	1.56	0.00	0.27	0.00	251.58
Total	**404**	**22.85**	**1636.64**	**1051.34**	**13.21**	**15.15**	**186.46**	**8.29**	**56.74**	**5.55**	**32.39**	**2.19**	**0.91**	**3029.06**

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

Table 3.26: Average total bat passes per static location 2023

Survey dates	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
S5	71	1.19	147.72	131.00	0.38	8.65	7.74	0.12	18.61	0.13	2.43	0.04	0.01	318.04
S6	68	0.78	251.56	207.95	0.27	4.00	10.02	1.47	21.61	0.01	0.03	0.07	0.00	497.79
S7	65	6.89	240.32	101.42	0.40	0.62	17.11	0.67	22.84	0.72	0.68	0.58	0.04	392.28
S8	41	5.24	70.40	58.70	60.86	0.50	27.46	8.88	20.09	4.15	0.95	0.42	0.00	257.65
S9	60	2.24	199.00	53.60	0.47	1.65	4.07	0.40	5.11	1.36	0.53	0.09	0.00	268.52
Total		**16.35**	**909.00**	**552.67**	**62.39**	**15.42**	**66.41**	**11.55**	**88.26**	**6.37**	**4.62**	**1.20**	**0.05**	

Bb – Barbastelle, Pp - Common pipistrelle, Py - Soprano pipistrelle, Pn - Nathusius' pipistrelle, Psp: *Pipistrellus* species.; Msp - *Myotis* species, Pl -Brown long-eared bat, Nn - Noctule, Nl - Leisler's Bat, Nsp – *Nyctalus* species, Es - Serotine Bat; ES/NSP: serotine or *Nyctalus* bat

3.15 Walked Transects and Trapping 2024

3.15.1 A summary of key bat data (barbastelle as the primary target species) is provided below arising from the transects undertaken in each wood on the 14 May 2024, where each wood also had three statics set out for the duration of the transect (see Figures 2.3, 2.4 and 2.5). Sunset was at 20:50 on the 14 May 2024.

Pinsley Wood Walked Transect

3.15.2 Static 3: Confirmed barbastelle calls at 21:23 (33 mins after sunset), 21:30 (40 mins after sunset), 21:33 (43 mins after sunset), and 21:49 (59 min after sunset).

3.15.3 Static 2: No barbastelle detected.

3.15.4 Static 1: Confirmed barbastelle calls at 21:45 (55 mins after sunset), 21:45 (55 mins after sunset), 22:34 22:37, 22:38, 22:40, 22:41, and 22:41 (all >1 hour after sunset).

3.15.5 Handheld detector: Confirmed barbastelle recording at 22:41 (51 mins after sunset) along the central ride close to static location 1.

Burleigh Wood Walked Transect

3.15.6 Static 3: Confirmed barbastelle call at 22:02:15 (72 mins after sunset).

3.15.7 Static 2: No barbastelle detected.

3.15.8 Static 1: No barbastelle detected.

3.15.9 Handheld detector: No barbastelle detected.

Bladon Heath Wood Walked Transect

3.15.10 Static 3: No barbastelle detected.

3.15.11 Static 2: No barbastelle detected.

3.15.12 Static 1: Confirmed barbastelle call at 21:24 (34 mins after sunset)

3.15.13 Handheld detector: No barbastelle detected.

3.15.14 Whiskered bats were detected at static locations 3 and 1 in Burleigh Wood, static location 3 in Pinsley Wood, and on all handheld detectors (i.e., in all woods). Bechstein's bats were detected at static locations 3 and 1 in Burleigh Wood, and on the handheld detector in Bladon Heath. The confidence in assigning any *Myotis* calls to species level from sonograms only in the absence of other species identification methods (such as in hand) is inevitably constrained.

Static Detector Results: Burleigh Wood and Bladon Heath Wood May 2024

3.15.15 The following results are arising from the static surveys to Burleigh Wood and Bladon Heath Wood between 21 May and 28 May 2024 (see Figure 2.6).

Burleigh Wood static detector results:

3.15.16 Confirmed barbastelle calls were recorded on static O2 on 22nd May at 23:02 (121 min after sunset), 24 May 2024 at 02:46 (123 mins before sunrise), 25

May 2024 at 22:11 (65 mins after sunset) and 22:14:51 (68 mins after sunset), 27 May 2024 at 22:37 (59 mins after sunset).

3.15.17 Confirmed barbastelle calls were recorded on static J4 on 23 May 2024 at 01:55 (3.05 hours before sunrise), 03:28 (92 mins before sunrise), and 03:31 (89 mins before sunrise), 25 May 2024 at 02:16 (2.39 before sunrise), and 21:41 (35 mins after sunset) 27 May 2024 at 03:26 (90 before sunrise), and 03:49 (69 mins before sunrise).

3.15.18 No barbastelle calls were detected on static J5.

Bladon Heath Wood static detector results:

3.15.19 Static A: One confirmed Barbastelle call was recorded on 28 May 2024 at 03:14 (128 mins before sunrise)

Static B: No barbastelle calls were detected were detected on statics B, C and D.

3.15.20 Whiskered/Brandts bats were detected at all static locations in Bladon Heath and at J4 and O2 in Burleigh Wood. Bechstein's were identified at static location C in Bladon Heath, and O2 and J4 in Burleigh Wood. However, it is noted that the confidence in assigning calls of bats belonging to the *Myotis genus* to species level from sonograms only in the absence of other species identification methods (such as in hand) is constrained.

Trapping surveys May 2024

3.15.21 Trapping was undertaken in Pinsley Wood on 22 May 2024. One male common pipistrelle was captured.

3.15.22 Trapping was undertaken in Bladon Heath Woodland on 28 May 2024 and five bats were captured. Details of the bats captured is provided in Table 3.27.

Table 3.27: Biometric data of bats captured in May 2024.

Date & Location	Trap	Species	Sex	Forearm (mm)	Weight (g)
22.5.24 – Pinsley Wood	1	Common pipistrelle	Male	28.7	4.2
29.5.24 – Bladon Heath Wood	1	Natterer's	Male	36.2	6
29.5.24 – Bladon Heath Wood	2	Brown long-eared	Male	37.3	7.9
29.5.24 – Bladon Heath Wood	2	Brown long-eared	Female	38.2	8.8
29.5.24 – Bladon Heath Wood	2	Natterer's	Female	38.8	7.2
29.5.24 – Bladon Heath Wood	2	Leisler's	Male	41.9	14

3.16 Advanced Bat Licensed Survey Techniques 2024 (trapping and radio-tracking)

3.16.1 A total of 602 bats of thirteen species were captured in August and September 2024 under project licence 2024 – 68876 – SCI-SCI in eight woodland habitats located immediately adjacent to the Project site. These woodlands included

Tackley Wood, Dornford Grove, Blenheim Estate, Pinsley Wood, Burleigh Wood, Bladon Heath Woodland, Wytham Woods and woodlands south of Farmoor Reservoir.

3.16.2 Of the 602 bats captured, 501 were captured across eight locations in August 2024 and 101 were captured across four locations (Blenheim Estate, Pinsley Wood, Burleigh Wood, Bladon Heath Woodland) in September 2024. This comprised of 341 male bats and 261 female bats as detailed in Table 3.28.

3.16.3 The thirteen species captured included barbastelle *Barbastella barbastellus,* Bechstein's *Myotis bechsteinii,* Brandt's *Myotis brandtii*, brown long-eared *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus,* Daubenton's *Myotis daubentonii,* Leisler's *Nyctalus leisleri*, Nathusius's pipistrelle *Pipistrellus nathusii,* Natterer's *Myotis nattereri,* noctule *Nyctalus noctule,* serotine *Eptesicus serotinus,* soprano pipistrelle *Pipistrellus pygmaeus* and whiskered *Myotis mystacinus*,

Table 3.28: Trapping data summary of bats captured across the site in August and September 2024.

Species Latin Name	Species Common Name	Male	Female	Total
Barbastella barbastellus	Barbastelle	8	9	17
Eptesicus serotinus	Serotine	1	1	2
Myotis bechsteinii	Bechstein's	3	4	7
Myotis brandtii	Brandt's	3	0	3
Myotis daubentonii	Daubenton's	19	16	35
Myotis mystacinus	Whiskered	19	11	30
Myotis nattereri	Natterer's	65	41	106
Nyctalus noctula	Noctule	21	9	30
Nyctalus leisleri	Leisler's	2	1	3
Plecotus auritus	Brown long-eared	44	35	79
Pipistrellus nathusii	Nathusius	1	0	1
Pipistrellus pipistrellus	Common pipistrelle	63	57	120
Pipistrellus pygmaeus	Soprano pipistrelle	92	77	169
		341	**261**	**602**

3.16.4 A total of nineteen bats were fitted with radio-transmitters in August and September 2024, to ascertain roosting locations within and adjacent to the order limits during the maternity and autumnal dispersal period. This resulted in the identification of 33 bat roost locations, both trees and structures, within and adjacent to the Order Limits, as shown in Figure 2.12, Figure 2.13 and Figure 2.14.

3.16.5 A total of ten barbastelle bats were radio-tagged in August 2024 and three were radio-tagged in September 2024. A total of six barbastelle maternity roosts (predominately within Blenheim Estate), six Barbastelle autumnal dispersal roosts (Pinlsey Wood and Burleigh Wood), one estimated (due to access constraints) autumnal dispersal roost (Begbrooke Wood), two barbastelle summer roosts (Wytham Woods and Blenheim Estate) and five

barbastelle solitary roosts were subsequently identified. The locations of the roosts are detailed in Figure 2.12, Figure 2.13 and Figure 2.14.

3.16.6 Three Bechstein's bats were radio-tagged in August 2024, and one was radio-tagged in September 2024. A total of six Bechstein's maternity roosts were identified (Bladon Heath Wood), two estimated (due to access constraints) Bechstein's maternity roost (Tackley Wood) and one autumnal dispersal roost (Bladon Heath Wood) was subsequently identified. The locations of the roosts are detailed in Figure 2.12 and Figure 2.13.

3.16.7 One Daubenton's bat was radio-tagged in August 2024. A Daubenton's maternity roost was subsequently identified in Blenheim Estate. The location of the maternity roost is shown in Figure 2.13.

3.16.8 One Natterer's bat was radio-tagged in August 2024. Three different trees used by the Natterer's maternity roost colony were subsequently identified in Bladon Heath Wood. The locations of the maternity roosts are detailed in Figure 2.13.

4 Evaluation

4.1 Bat Activity Static Surveys

4.1.1 From field surveys undertaken between April and October 2022 and between April and October 2023, at least nine bat species have been identified within the site boundary. These include:

- One of the rarest species in England – barbastelle;
- Four of the rarer species in England – Leisler's bat; Nathusius' pipistrelle, noctule and serotine;
- Three common species within England – common pipistrelle, soprano pipistrelle and brown long-eared bat; and
- *Myotis* species – rarer to rarest depending on the species, and five *Myotis* species are known to be present within Oxfordshire: Brandt's bat *Myotis brandtii,* Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri* and whiskered bat *Myotis mystacinus* (all rarer species in England) and Bechstein's bat *Myotis bechsteinii* (one of the rarest species in England) all of which have been recorded in Oxfordshire (Oxfordshire Bat Group, 2023).

4.1.2 Species classified as common, rarer and rarest are based on their population within England (CIEEM, 2010).

4.1.3 The species recorded within the site Project site during the static surveys account for at least nine, and potentially 13 of the 14 known species within Oxfordshire, including some of the rare and rarest species. Distribution of these species within Oxfordshire are described as (OBG, 2023):

- Barbastelle – widespread though uncommon;
- Bechstein's bat – very rare;
- Brandt's bat – uncertain, few in-hand identifications;
- Brown long-eared bat – widespread and relatively common;
- Common pipistrelle – common and widespread;
- Daubenton's bat – widespread;
- Leisler's bat - widespread though uncommon;
- Nathusius' pipistrelle – rare;
- Natterer's bat – widespread though uncommon;
- Noctule - widespread though uncommon;
- Serotine - widespread though uncommon;
- Soprano pipistrelle - common and widespread; and
- Whiskered bat - uncommon

4.1.4 Given the proximity of riverways and woodland to the site and the static locations, it is very likely that Daubenton's bats were recorded by the static detectors given these species are known to forage over water. It is considered possible that the

other *Myotis* species were also recorded as these are associated with woodland foraging.

4.1.5 In 2022, the highest level of bat activity overall was recorded at location S6, with common pipistrelle, soprano pipistrelle, *Myotis* and brown long-eared bats having their highest activity levels over the survey period at this location. The static recorder at location S6 was on a mature treeline forming a linear connection between a small woodland and the River Evenlode. There is also a farmhouse to the north of the woodland. This location is likely a key commuting and foraging route for these species between roosting sites (the woodland and farmhouse or other buildings) and the river.

4.1.6 In 2022, the static recorded at location S5 was also located near the River Evenlode and this likely accounts for the levels of activity located here, particularly that of soprano pipistrelle and *Myotis* species as both soprano pipistrelle and Daubenton's bat are associated with ponds and waterways. Blenheim Woods is also located north of location S5 and bats could be commuting along the river from it.

4.1.7 The lowest activity overall was recorded at location S4 in 2022, which was located between two patches of woodland. Cassington Road is located between the woodland, and perhaps this factors into the lower activity. Overall activity at locations S1 and S3 were at similar levels. However, in 2023 S8 was re-deployed at this location and recorded the highest level of bat activity across all the sites in 2023. Specifically, there was a high number of barbastelle and *Myotis* passes.

4.1.8 In 2023, S7, which was located on the main driveway connecting Blenheim Estate to Bladon Heath Wood had a high amount of bat activity but, specifically a high number of barbastelle and *Myotis* bat passes, which were recorded soon after sunset indicating the likely presence of roosts in proximity to the Project site.

4.1.9 The static detectors deployed in 2023 and 2023 confirmed the presence of an Annex II species, barbastelle bat, and a large number of *Myotis* bats was recorded in and around the woodlands to the central area of the Project site in 2023. Overall, the features on site appear to be important to a high diversity of UK and Oxfordshire bat species, including some of the rarest species, such as barbastelle. This is particularly the case with the mature tree lines leading to the River Evenlode at locations S5 and S6.

4.1.10 The static detectors confirmed that species recorded within the Project site account for at least nine, and potentially 13 of the 14 known species within Oxfordshire. However, the statics did not provide detail on where bats were roosting within Project site and, as such, could not provide information on where the important ecological receptors were located within the Project site. The statics also did not provide information on what species of *Myotis* bats were present and whether the bats recorded were male bats and/or breeding females. Therefore, further advanced and targeted surveys were recommended and undertaken in 2024 in order to provide more data for a robust assessment, specifically with respect to the roost locations of barbastelle and *Myotis* spp.

4.2 Bat Trapping Surveys – May 2024

4.2.1 The target species of barbastelle was not caught on any of the two nights of trapping.

4.2.2 A low number of bats (six) were captured in May 2024 during the trapping surveys in Pinsley Wood and Bladon Heath Wood. Male Natterer's, common pipistrelle and Leisler's were confirmed present. In addition, female brown long-eared were confirmed present, one of which was confirmed to be pregnant indicating the likely presence of brown long-eared breeding roosts in Bladon Heath Wood.

4.3 Woodland Transects and Static Surveys May 2024

4.3.1 Simultaneous walked transects to ascertain the presence of barbastelle bats in the woodlands across the central area of the Project site, Pinsley Wood, Burleigh Wood and Bladon Heath wood, were undertaken in May 2024.

4.3.2 The presence of multiple passes of barbastelle bat calls (>4 passes) within an hour after sunset (was recorded on both the static and handheld detectors in Pinsley Wood, indicating the likely presence of a barbastelle roost in Pinsley Wood (O'Malley *et al.* 2023).

4.3.3 Low numbers of barbastelle calls (<4 passes) within an hours after sunset was recorded on only the statics in Burleigh Wood and Bladon Heath Wood. However, multiple *Myotis* species were recorded in Bladon Heath Wood.

4.4 Bat Trapping and Radio-tracking August and September 2024

4.4.1 The number of bats captured (501) of 13 species over three nights in August 2024 demonstrates the importance of the habitats within and adjacent to the Project site to support a bat assemblage of at least national importance.

4.4.2 The trapping surveys during August and September 2024 confirmed the presence of two Annex II species, barbastelle and Bechstein's bats. The presence of breeding Bechstein's bat in Bladon Heath Wood is a first record for the county of Oxfordshire for breeding.

4.4.3 The trapping surveys also confirmed that at least five species of the genus *Myotis* are present throughout the woodlands in the central belt including Bechstein's Brandt's, Daubenton's, Natterer's and whiskered bat.

4.4.4 The project licence allowed for radio-tagging up to five *Myotis* bats of each species and five brown long-eared bats. However, given the number of Annex II barbastelle and Bechstein's bats captured and subsequently radio-tagged, the efforts of the survey team prioritised gathering data on these species. Only one Daubenton's and one Natterer's bat were radio-tagged on the first night of trapping. As such the presence of a low number of roosts for these species and the absence of roost data for brown long-eared and Myotis bats (with the exception of Bechstein's) is likely to be a significant under-representation.

Barbastelle

4.4.5 Barbastelle bat is listed as near threatened on the the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016), and is a Species of Principal Importance in England, and is considered rare at a national level (Bat Conservation Trust, 2010). Very few breeding sites are currently known in the UK and it is important that surrounding environments of these and winter hibernation sites are maintained (JNCC (2019). The prospects for this species' range and habitat cannot be confirmed to be in a favourable conservation (Zeale 2024) but this is potentially due to a lack of survey data.

4.4.6 A total of 17 barbastelle bats were captured, 14 in August 2024 and 3 in September 2024. Barbastelle bats were captured at six of the eight trapping locations within and adjacent to the Project site including Dornford Grove, Blenheim Estate, Pinsley Wood, Burleigh Wood, Bladon Heath Woodland and Wytham Woods.

4.4.7 Of the 17 bats that were captured, thirteen were fitted with radio-transmitters and a total of 20 barbastelle roosts were identified within and adjacent to the Project site including a total of six barbastelle maternity roosts (predominately within Blenheim Estate), six Barbastelle autumnal dispersal roosts (Pinlsey Wood and Burleigh Wood), one estimated (due to access constraints) autumnal dispersal roost (Begbrooke Wood), two barbastelle summer roosts (Wytham Woods and Blenheim Estate) and five barbastelle solitary roosts.

4.4.8 In August the majority of the maternity roosts were confirmed to be located in the Blenheim estate parkland and bats roosting in these parkland trees used the intervening habitat of the hedgerows, woodlands and watercourses to navigate to access riparian habitats which were used as a foraging resource.

4.4.9 In August solitary roosts and summer roosts were used by male and non-breeding female bats in Ditchley Estate, Wytham Woods and Burleigh Wood.

4.4.10 The autumnal dispersal roosts identified in September 2024 were associated with woodlands on lower grounds including Begbrooke and Pinsley Wood. The weather during the survey period was very interchangeable and Pinsley Wood may provide a better micro-climate for autumnal dispersal roosts, due to its topography, when compared to other woodlands across the central area of the Project site.

Bechstein's

4.4.11 Bechsetein's bat is listed as Near Threatened on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016), is a Species of Principal Importance in England, is rare, found in southern England and southern Wales at a national level (Bat Conservation Trust, 2010). It is found almost exclusively in woodland habitat. The prospects for this species' range and habitat are considered to be stable (Matthews et al., 2018).

4.4.12 A total of seven Bechsten's bats were captured, six in August 2024 and one in September 2024. Five Bechstein's bats were captured in Bladon Heath Wood and

one was captured in Tackley Wood in August 2024. One male Bechstein's was captured in Blenheim Estate in September 2024.

4.4.13 Six maternity roost locations were identified by radio-tracking in August 2024, all located in Bladon Heath wood and two 'estimated' maternity roosts were located in Tackley Wood by radio-tracking. Access was not possible to Tackley Wood to confirm the status of the roosting female (i.e. undertake an emergence survey) but the female captured and radio-tagged was a post-lactating female and, as such, adopting a precautionary approach for breeding in Tackley Wood for Bechstein's bat is taken.

4.4.14 These are the first confirmed records for breeding Bechstein's in the county of Oxfordshire.

Brandt's

4.4.15 Brandt's bat is listed as Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016), is a cryptic species because it is so similar to whiskered and alcathoe bat but is thought to be slightly less common and widespread than the whiskered bat. It is found throughout England and Wales (Bat Conservation Trust, 2010). The future prospects for this species' range and habitat are unknown (Matthews et al., 2018).

4.4.16 A total of three male Brandt's were captured in August and September 2024 in Bladon Heath Woods. No females were captured. No evidence of breeding roosts were found across throughout the site, otherwise a much higher number of bats, including female and / or juvenile bats would have been recorded during the trapping surveys.

Brown Long-eared Bat

4.4.17 The brown long-eared bat is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016), and is a Species of Principal Importance in England, and is considered widespread and relatively common at a national (Bat Conservation Trust, 2010). The future prospects for this species' range and habitat are considered to be stable (Matthews et al., 2018).

4.4.18 A total of 79 Brown long-eared bats were captured across all of the eight locations surveyed across the site in August and September 2024. Breeding female brown long-eared bats or male and female juvenile brown long-eared bats were recorded present at all eight locations, indicating breeding throughout the area.

Common Pipistrelle

4.4.19 The common pipistrelle is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016) and is considered to have a widespread distribution at a national level (Bat Conservation Trust, 2010) and is considered to be locally abundant. Future prospects for this species' range and habitat are considered to be stable (Matthews et al., 2018).

4.4.20 A total of 120 common pipistrelle bats were captured across all of the eight locations surveyed across the site in August and September 2024. Breeding

female common pipistrelle or male and female juvenile common pipistrelle bats were recorded present at all eight locations, indicating breeding throughout the area.

Daubenton's

4.4.21 Daubenton's bat is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016) and is considered to have a widespread distribution at a national level (Bat Conservation Trust, 2010) and is considered to be locally abundant. Future prospects for this species' range and habitat are considered to be stable (Matthews et al., 2018).

4.4.22 A total of 35 Daubenton's bats were captured across all of the eight locations surveyed across the site in August and September 2024. Breeding females were captured at the north, centre and southern area of the Project site and a breeding colony was confirmed to be present (from the one post-lactating female radio-tagged) in Blenheim estate.

Leisler's bat

4.4.23 Leisler's bat is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016) and is considered widespread and relatively rare at a national level (Bat Conservation Trust, 2010). The prospects for this species' range and habitat are considered to be unknown (Matthews et al., 2018).

4.4.24 Two male Leisler's bats and one female Leisler's bats were caught during the trapping surveys, all at Bladon Heath Woodland. Both a juvenile male and a juvenile female were captured, indicating the likelihood of a maternity roost in proximity to the Project site.

Nathusius pipistrelle

4.4.25 The Nathusius pipistrelle is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016) and is considered to have a widespread distribution at a national level (Bat Conservation Trust, 2010) but records are sparse. The species is both migratory and confirmed to breed I the UK. Future prospects for this species' range and habitat are considered to be unknown (Matthews et al., 2018).

4.4.26 A single male Nathusius pipistrelle bat was captured during the trapping surveys. Breeding has not been confirmed.

Natterer's

4.4.27 The Natterer's bat is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016) and is considered widespread and relatively common at a national (Bat Conservation Trust, 2010). The prospects for this species' range and habitat are considered to be stable (Matthews et al., 2018).

4.4.28 A total of 106 Natterer's bats were captured across all of the eight locations surveyed across the site in August and September 2024. Natterer's bats were the third most frequently caught bat during the trapping surveys. Breeding female Natterer's or male and female juvenile Natterer's bats were recorded present at all eight locations, indicating breeding throughout the area.

4.4.29 A single female post-lactating Natterer's bat was radio-tagged, and this bat used a number of different tree roosts in Bladon wood throughout August 2024.

Noctule

4.4.30 The noctule bat is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016) and is considered widespread and relatively common at a national (Bat Conservation Trust, 2010). The future prospects for this species' range and habitat are considered to be unknown (Matthews et al., 2018).

4.4.31 Thirty noctule bats were caught during the trapping surveys, including 21 males and nine females captured throughout the Project site, including the northern, central and southern woodlands. Both juveniles (male and female) and breeding females were captured, indicating the likelihood of a maternity roost in proximity to the Project site.

Serotine

4.4.32 The serotine bat is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016), is a Species of Principal Importance in England, and is considered widespread and relatively common at a national (Bat Conservation Trust, 2010). The future prospects for this species' range and habitat are considered to be stable (Matthews *et al*., 2018).

4.4.33 Two serotine bats were caught during the trapping surveys, both captured at Dornford Grove. Both a male and a breeding female were captured, indicating the likelihood of a maternity roost in proximity to the Project site.

Soprano Pipistrelle

4.4.34 This species is listed as of Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016), is a Species of Principal Importance in England, and is considered to have a widespread distribution at a national level (Bat Conservation Trust, 2010). The future prospects for this species' range and habitat are considered to be stable (Matthews *et al*., 2018).

4.4.35 A total of 169 soprano pipistrelle bats were captured across all of the eight locations surveyed across the site in August and September 2024. Breeding soprano pipistrelle or male and female juvenile soprano pipistrelle were recorded present at all eight locations, indicating breeding throughout the area.

Whiskered

4.4.36 Whiskered bat is listed as Least Concern on the IUCN Red List of Threatened Species (Hutson and Paunovic, 2016), is a cryptic species because it is so similar to whiskered and alcathoe bat but is thought to be more common and widespread than both Brandt's and alcathoe bat. It is found throughout England and Wales (Bat Conservation Trust, 2010). The future prospects for this species' range and habitat are unknown (Matthews et al., 2018).

4.4.37 A total of three 30 whiskered bats were captured were captured across all of the eight locations surveyed across the site in August and September. Breeding was confirmed in the woodlands across the centre of the Project site.

4.5 Importance of Assemblage

4.5.1 In line with the Bat Mitigation Guidelines (BCT, 2023), an assessment of the importance of the bat assemblage on site has been undertaken, see Table 4.1, below.

Table 4.1 – Valuation of bat assemblage on site

Species	Importance of roosts	Importance of commuting and foraging habitat	Importance of assemblage
Widespread Common pipistrelle Soprano pipistrelle Brown long-eared	Limited evidence of roosts on site for either pipistrelle species or BLE (though smaller roosts undoubtedly exist). **Does not exceed district importance**	Continuous high-quality habitat that is well connected to the wider landscape. Has been found to be important for many species of both commuting and foraging bats, with the northern hedgerow, north / south hedgerow, southern hedgerow and woodland all recording relatively high numbers of call registrations during the surveys, which could indicate reliance on these features within the wider landscape.	1 point per species Score 3 for this part of the assemblage (of a maximum of 3)
Widespread but not as abundant in all geographies Daubenton's bat Natterer's bat Noctule	No evidence of roosts for Daubenton's bat or noctule, though smaller tree roosts undoubtedly exist. **Does not exceed district importance**		2 points per species Score 2 for this part of the assemblage (of a maximum of 6)
Rarer or restricted distribution Myotis Serotine Leisler's bat Nathusius' pipistrelle	No evidence of roosts existing, smaller tree roosts undoubtedly exist. **Does not exceed district importance**		3 points per species Score 6 for this part of the assemblage (of a maximum of 12)
Rarest Annex 2 species and very rare Barbastelle	No evidence of bats using the site for roosting. **Does not exceed district importance**	Those areas of woodland are well used across the year by a diverse	4 points per species Score 4 for this part of the assemblage (of a maximum of 4)

Bechstein's	assemblage including barbastelle. Taking the above into account, the mosaic of habitats within the Zone of Influence is considered to be of regional importance. However, the area to be developed comprises species-poor fields, which are of much lower value. 1 point per species	

Overall score: Assemblage Score 25/25 = 100%; meets threshold for national importance – i.e. Assemblage score meets or exceeds 70% of the maximum score

5 Conclusion

5.1.1 The extensive bat activity (statics), woodland transects, trapping and radio-tracking have identified an assemblage of bats that are at least of national importance.

5.1.2 The surveys have confirmed the presence of at least two Annex II species of bat, both barbastelle and Bechstein's that use the woodlands adjacent to the Project site for roosting and the intervening habitats, hedgerows, watercourses and riparian habitats for commuting and foraging.

5.1.3 Taking the above into account, the mosaic of habitats within the Zone of Influence is considered to be of at least national importance. However, the area to be developed comprises species-poor fields, which are of much lower value for bats.

6 References

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Annex A

Figures

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Legend

- Site boundary
- Bat static detector location 2022

Static 1
Static 2
Static 3
Static 4
Static 5
Static 6
Static D1
Static D2

Rev	Description	By	CB	Date

PHOTOVOLT DEVELOPMENT PARTNERS

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Client	PVDP
Project	Botley West Solar Farm
Title	Bat Statics 2022

Status	Drawn By	PM/Checked By
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Drawing Number	**Scale @ A3**	**Date Created**
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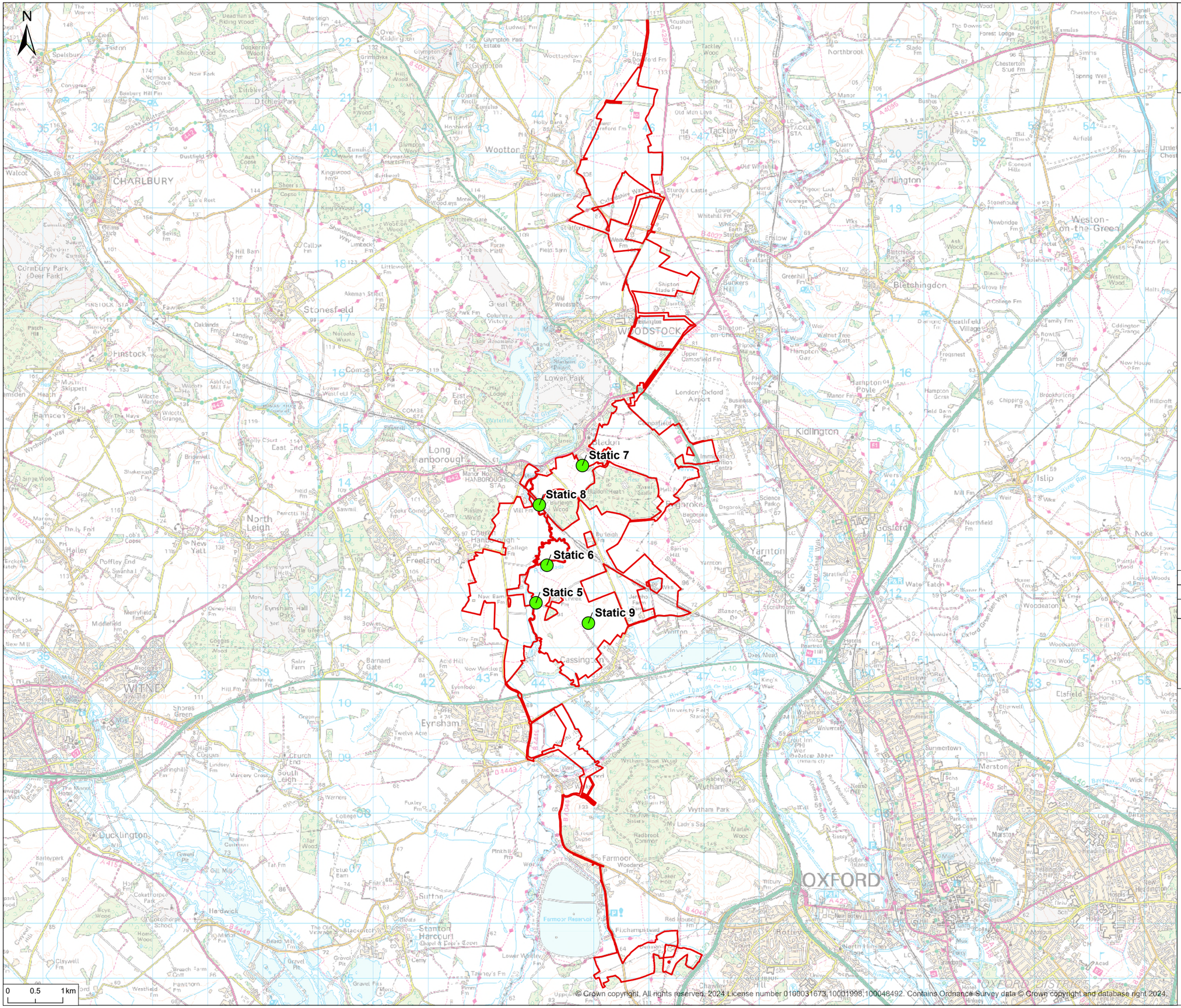

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Legend

- Site boundary
- Bat static detector locations 2023

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PHOTOVOLT DEVELOPMENT PARTNERS

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Client	PVDP
Project	Botley West Solar Farm
Title	Bat Statics 2023

Status	Drawn By	PM/Checked By
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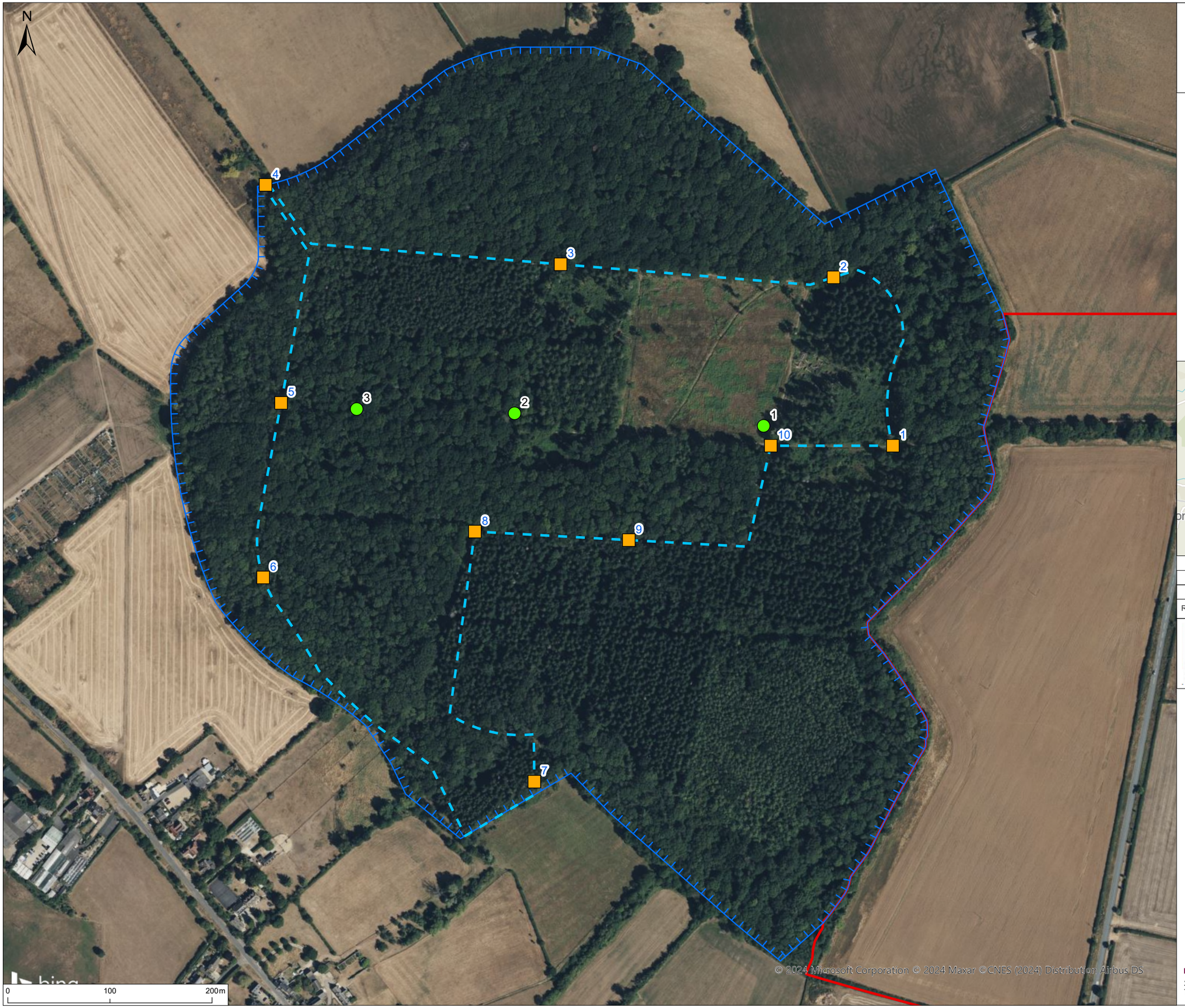

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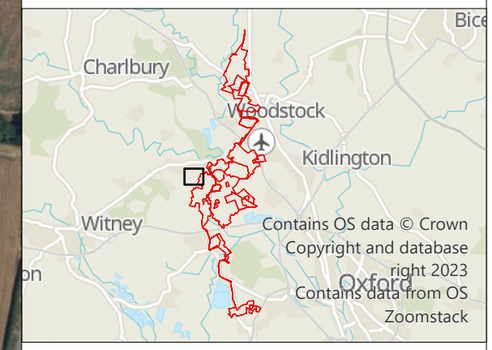
Legend

- Site boundary
- Survey boundary
- Bat transect route
- Stopping point
- Bat static detector



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Client	PVDP
Project	Botley West Solar Farm
Title	Pinsley Wood Transect

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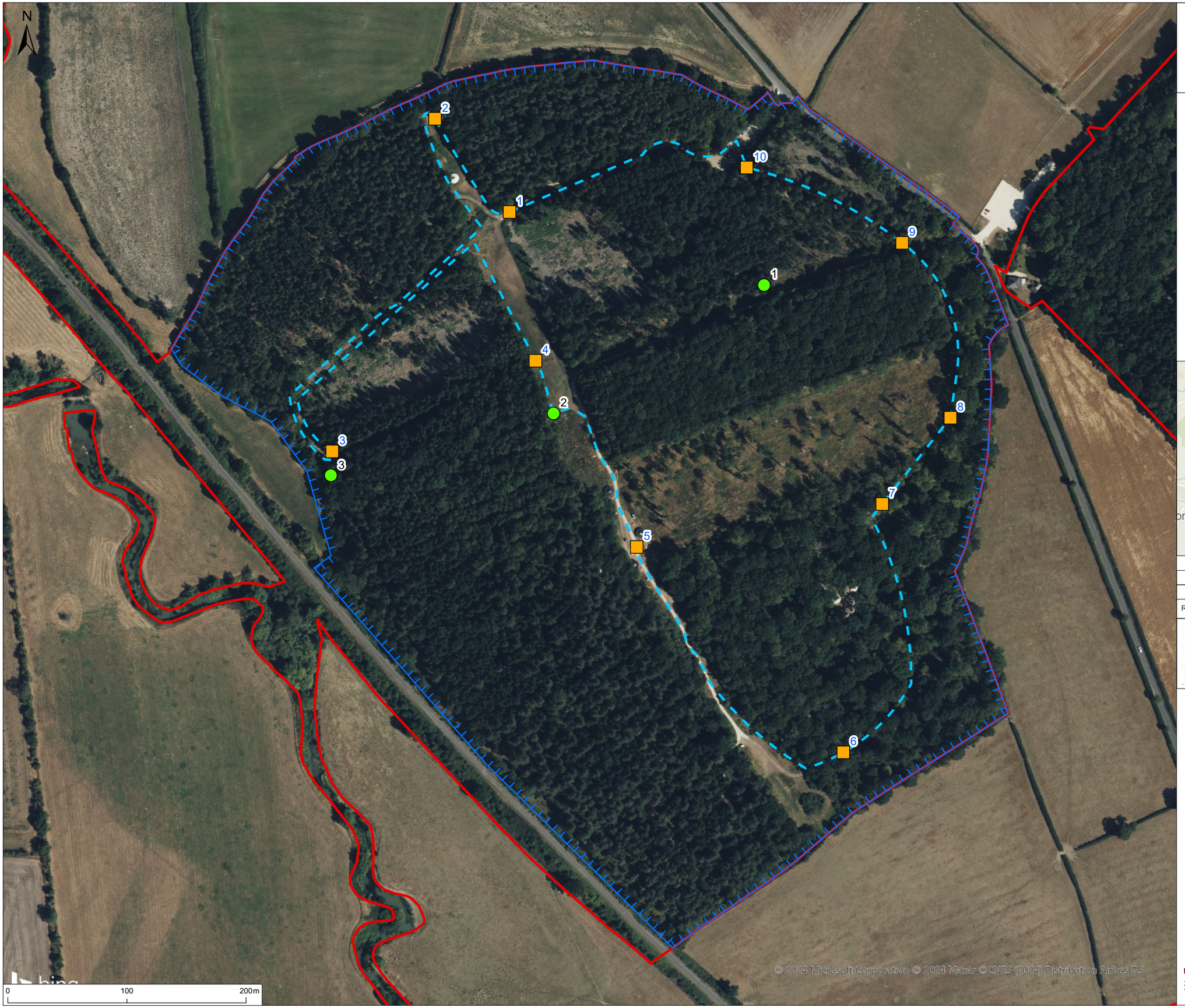

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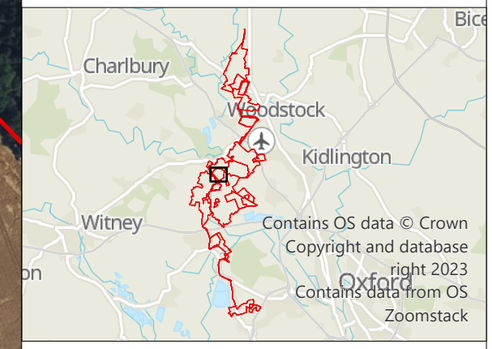
Legend

- Site boundary
- Survey boundary
- Bat transect route
- Stopping point
- Bat static detector



Rev	Description	By	CB	Date

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Client	PVDP
Project	Botley West Solar Farm
Title	Burleigh Wood Transect

Status	Drawn By	PM/Checked By
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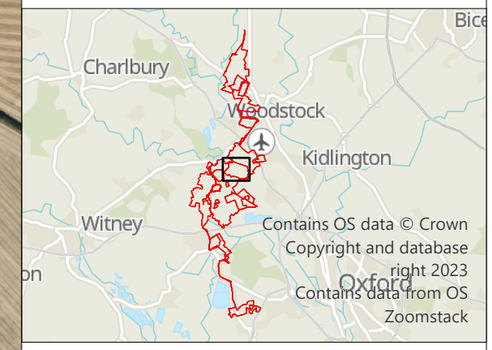
Legend

- Site boundary
- Survey boundary
- Bat transect route
- Stopping point
- Bat static detector



Rev	Description	By	CB	Date

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Client	PVDP
Project	Botley West Solar Farm
Title	Bladon Heath Wood Transect

Status	Drawn By	PM/Checked By
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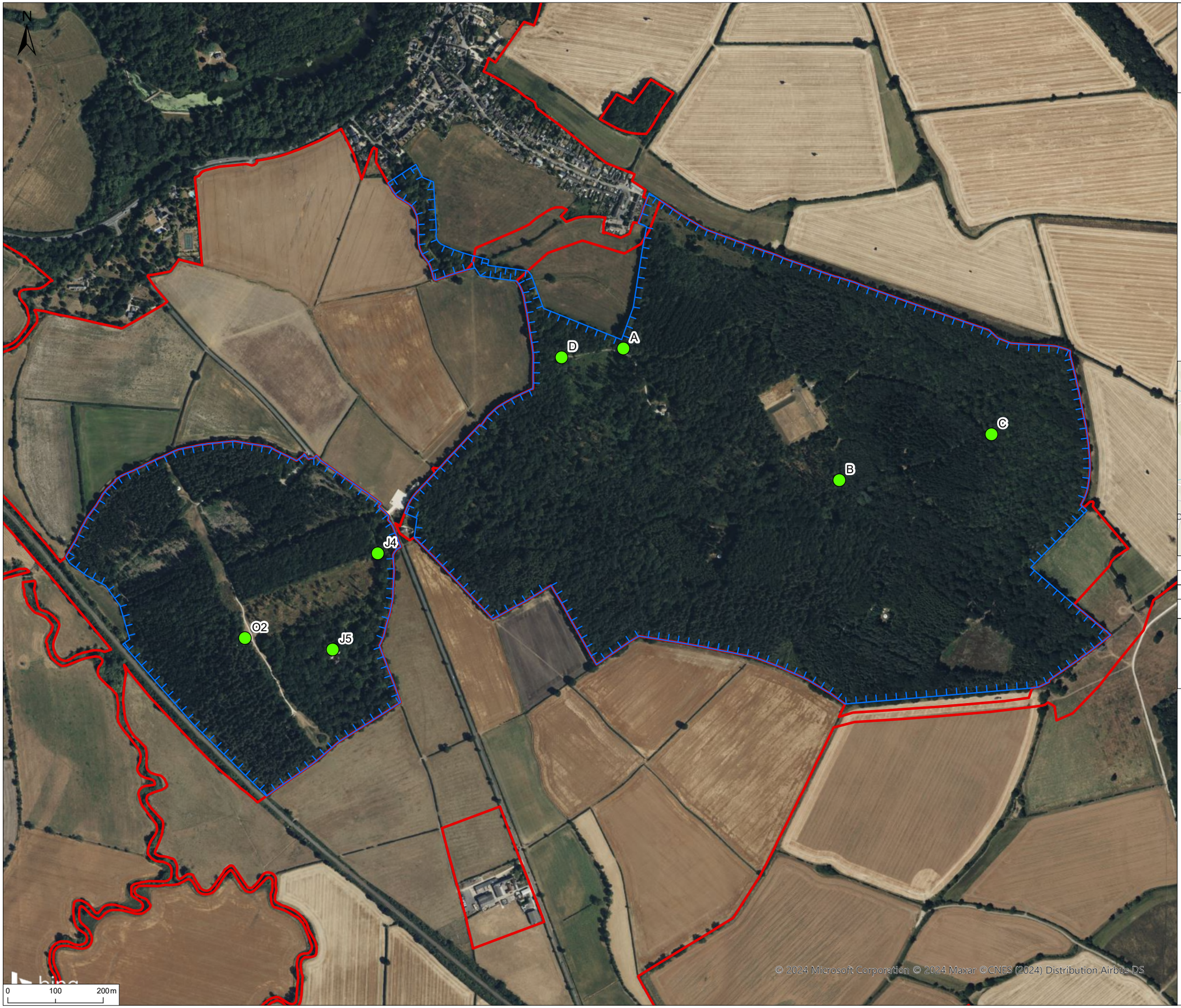

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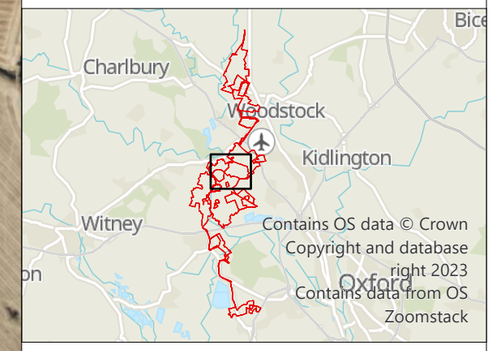
Legend

- Site boundary
- Survey boundary
- Bat static detector



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Client	PVDP
Project	Botley West Solar Farm
Title	Burleigh Wood and Bladon Heath Wood Bat Statics: 21st May - 28th May 2024

Status	Drawn By	PM/Checked By
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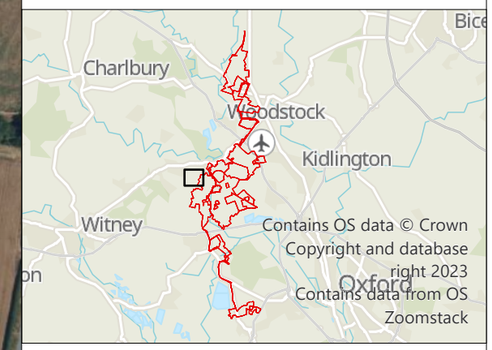
Legend

- Site boundary
- Survey boundary
- Harp trap
- Mist net



Rev	Description	By	CB	Date

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Client	PVDP
Project	Botley West Solar Farm
Title	Pinsley Wood Bat Trapping: May 2024

Status	Drawn By	PM/Checked By
FINAL	LP	NB
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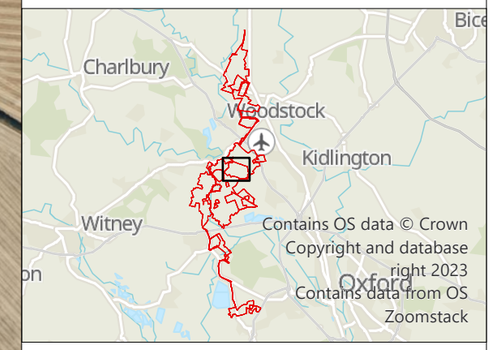
Legend

- Site boundary
- Survey boundary
- Harp trap
- Mist net



Rev	Description	By	CB	Date

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Client: PVDP

Project: Botley West Solar Farm

Title: Bladon Heath Bat Trapping: May 2024

Status	Drawn By	PM/Checked By
FINAL	LP	NB
Drawing Number	**Scale @ A3**	**Date Created**
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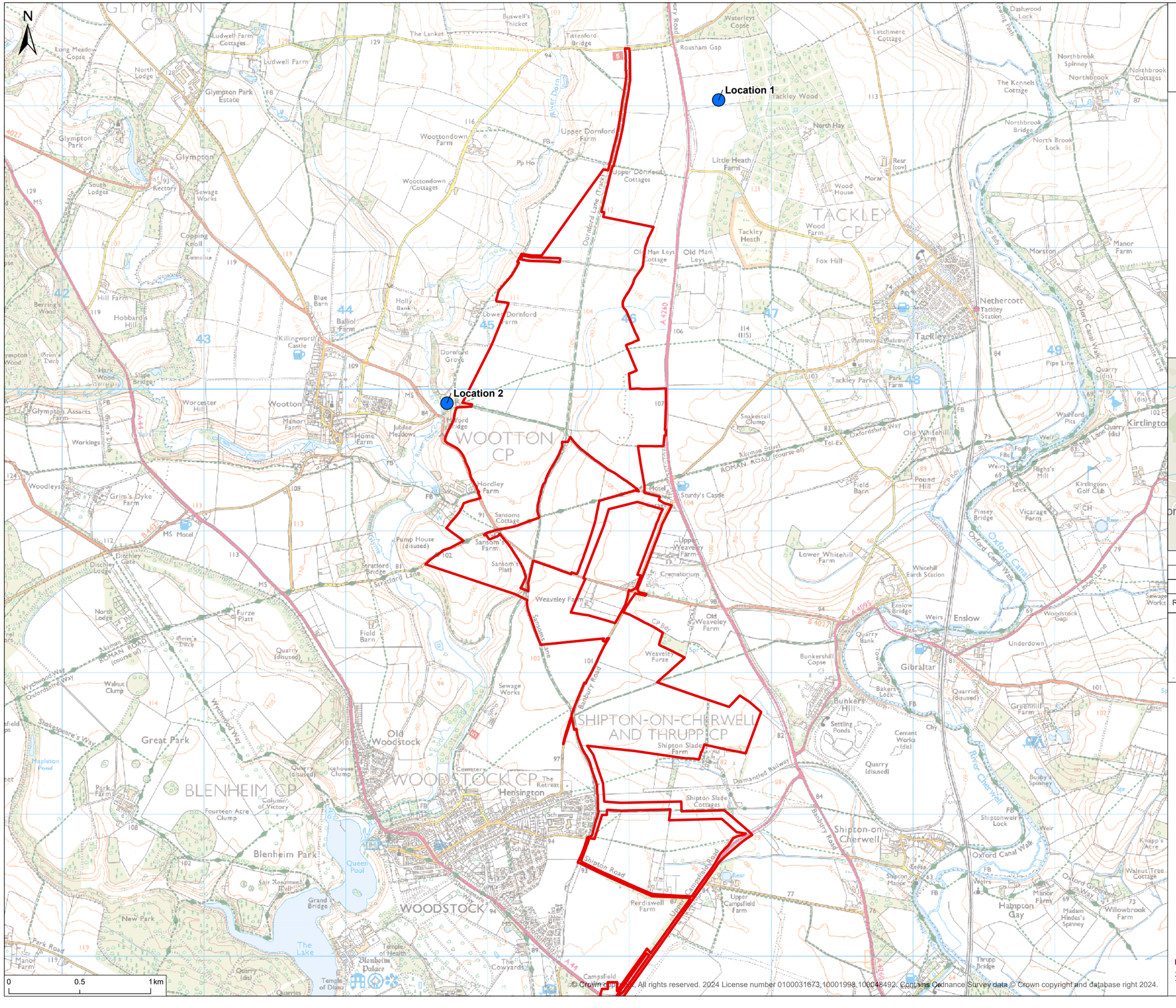

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Legend

- Site boundary
- Proposed trapping location

Rev	Description	By	CB	Date

PHOTOVOLT DEVELOPMENT PARTNERS

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Client	PVDP
Project	Botley West Solar Farm
Title	Bat Trapping Post Maternity Locations 1 and 2: Northern Area

Status	Drawn By	PM/Checked By
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Drawing Number	**Scale @ A3**	**Date Created**
NPI00019	1:25,000	OCT 2024
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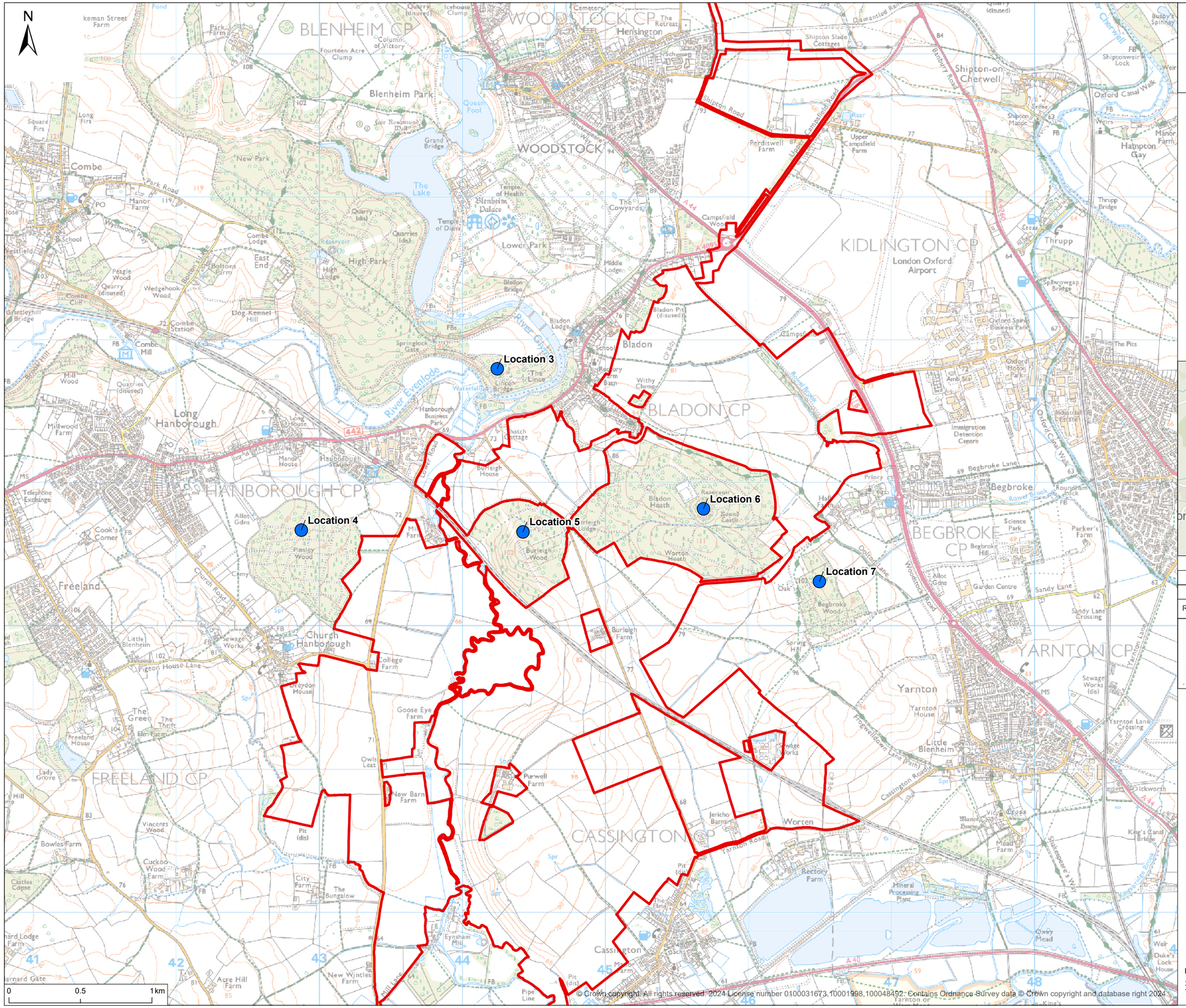

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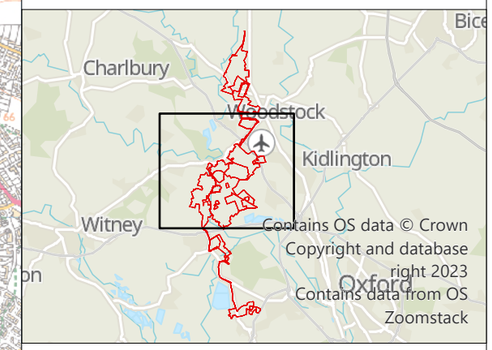
Legend

- Site boundary
- Proposed trapping location



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Client	PVDP
Project	Botley West Solar Farm
Title	Bat Trapping Post Maternity and Autumnal Dispersal: Locations 3, 4, 5, 6 and 7

Status	Drawn By	PM/Checked By
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Drawing Number	**Scale @ A3**	**Date Created**
NPI00019	1:25,000	OCT 2024
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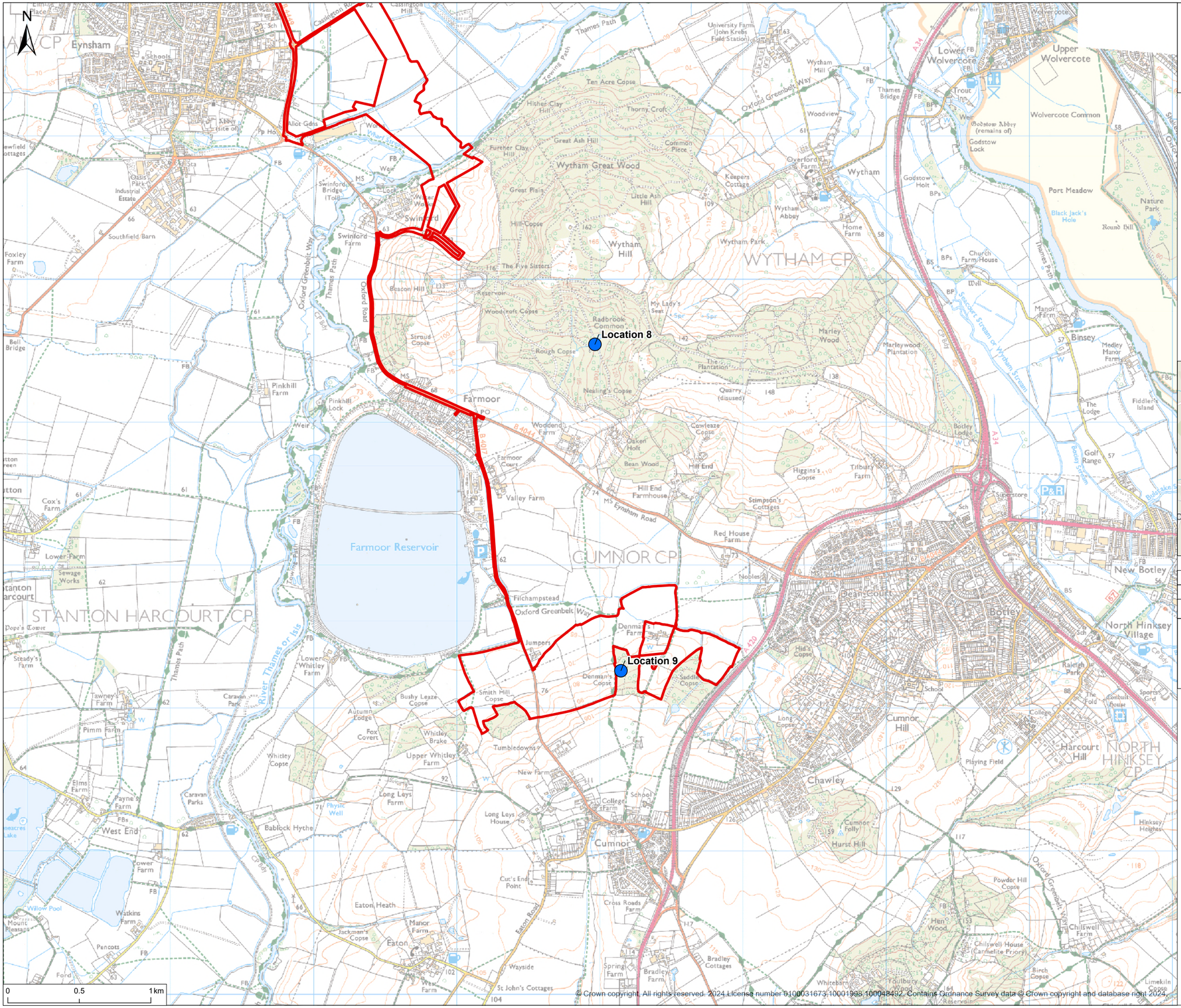

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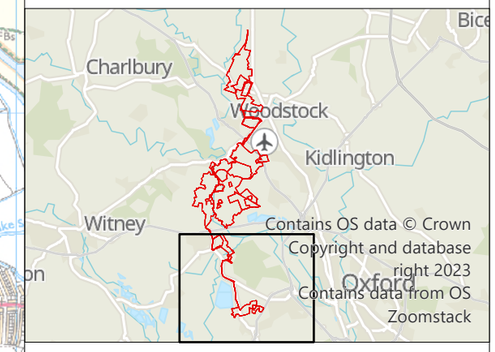
Legend

- Site boundary
- Proposed trapping location



Rev	Description	By	CB	Date

PHOTOVOLT DEVELOPMENT PARTNERS

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Client	PVDP
Project	Botley West Solar Farm
Title	Bat Trapping Post Maternity Locations 8 and 9: Southern Area

Status	Drawn By	PM/Checked By
FINAL	LP	NB
Drawing Number	**Scale @ A3**	**Date Created**
NPI00019	1:25,000	OCT 2024
Figure Number		**Rev**
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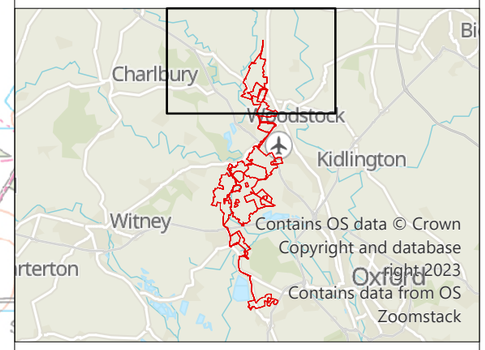
Legend

- Site boundary
- Barbastelle bat - Maternity roost (1)
- Barbastelle bat - Solitary roost (1)
- Bechstein's bat - Estimated maternity roost (2)



Rev	Description	By	CB	Date

PHOTOVOLT DEVELOPMENT PARTNERS

rps A TETRA TECH COMPANY

Client	PVDP
Project	Botley West Solar Farm
Title	Bat Roosts 2024

Status	Drawn By	PM/Checked By
Draft	LP	NB
Drawing Number	**Scale @ A3**	**Date Created**
NPI00019	1:33,500	NOV 2024
Figure Number		**Rev**
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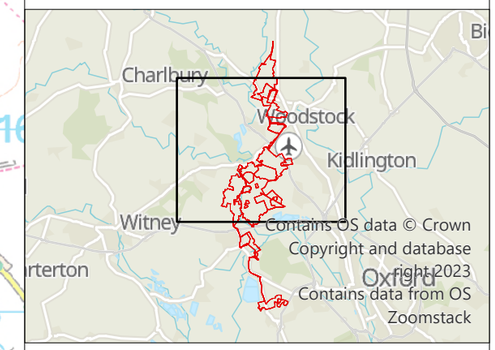
Legend

- Site boundary
- Barbastelle bat - Autumnal dispersal roost (6)
- Barbastelle bat - Estimated autumnal dispersal roost (1)
- Barbastelle bat - Maternity roost (6)
- Barbastelle bat - Solitary roost (4)
- Bechstein's bat - Autumnal dispersal roost (1)
- Bechstein's bat - Maternity roost (6)
- Daubenton's bat - Maternity roost (1)
- Natterer's bat - Maternity roost (3)



Rev	Description	By	CB	Date

PHOTOVOLT DEVELOPMENT PARTNERS

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Client	PVDP
Project	Botley West Solar Farm
Title	Bat Roosts 2024

Status	Drawn By	PM/Checked By
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Drawing Number	**Scale @ A3**	**Date Created**
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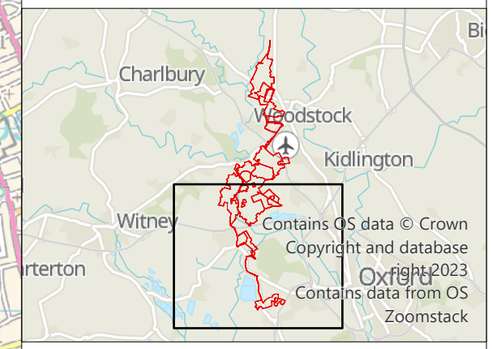
Legend

- Site boundary
- Barbastelle bat - Solitary roost (1)
- Barbastelle bat - Summer roost (2)



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Client	PVDP
Project	Botley West Solar Farm
Title	Bat Roosts 2024

Status	Drawn By	PM/Checked By
Draft	LP	NB
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