Botley West Solar Farm, Oxfordshire

Bat Technical Note 2025

Prepared for: PhotoVolt Development Partners GmbH (PVDP) for the Applicant, SolarFive Ltd (SolarFive)

Author	Rosie McLaughlin BSc (Hons) MSc MCIEEM Dr Stephanie Murphy BSc (Hons) MSc PhD MCIEEM CEnv Dr Nicholas Betson BSc (Hons) PhD MCIEEM CEnv			
Version	**Checked by**	**Approved by**	**Date**	**Type**
V1.0	Stephanie Murphy	Stephanie Murphy	08/09/25	Final

Contents

1 Introduction 4

Overview

Error! Bookmark not defined.

Site description 6

Previous Studies 6

Research with Respect to Potential Effects of Solar Farms on Bats

Error! Bookmark not defined.

2 Survey Results 9

Habitat Data on Site

Error! Bookmark not defined.

Bat Static Monitoring 9

Walked activity transects 16

Bat Roosting 16

Bat Radio-Tracking 18

3 Evaluation 19

4 Mitigation Strategy 22

5 References 27

Appendix 1: Survey Maps 29

Appendix 2: Static bat detector results 2022-2023 35

Appendix 3: Paired static bat detector results 2024-2025 42

1 Introduction

BACKGROUND

1.1 PVDP has submitted an application on behalf of SolarFive Ltd for development consent to the Planning Inspectorate (PINS) under the Planning Act 2008 (PINS Ref EN010147). The proposal is to install and operate approximately 840MWe of solar generation in parts of West Oxfordshire, Cherwell and Vale of White Horse Districts (the Project).

1.2 The Project will be located in the county of Oxfordshire, across an area of approximately 1,300 ha. The Project extends from an area of land in the north (the Northern Site Area), situated between the A4260 and the Dorn River Valley near Tackley and Wootton, through a central section (the Central Site Area), situated broadly between Bladon and Cassington, and connecting to a section further south (the Southern Site Area) near to Farmoor Reservoir and north of Cumnor, where the Project will connect to the National Grid transmission network. The name 'Botley West' is derived from the location of the grid connection point.

1.3 The impact of solar farm developments on bats had, until recently, been seen as generally positive; solar farms frequently retained all the key features used by bats such as ponds, rivers and woodlands while impacts to hedgerow networks tended to be confined to small increases in existing gaps to facilitate access. Further, solar farms were often sited on what had previously been farmed land with grassland management beneath panels generally more supportive of wildlife than intensive farming practices.

1.4 However, although Natural England's 2017 review of the potential impacts of solar on bats (Harrison, Lloyd & Field 2017) concluded that there was no scientific evidence to identify any potential impact, two studies published in 2023 (Szabadi *et al*. 2023; Tinsley *et al*. 2023) identified fewer bats within solar farms in comparison to nearby control plots.

1.5 The exact mechanism by which such an effect could occur has yet to be elucidated, although Natural England in their Relevant Representation [RR-0761] highlighted other related research that may provide an explanation such as bats perceiving horizontal smooth surfaces as water (Greif & Siemers 2010) and smooth vertical surfaces as open flyways (Greif *et al*. 2017). Further, recent work in France found evidence of reduced feeding effort by some bat species in proximity to solar infrastructure; bats were observed flying faster, with straighter trajectories and lower probability of prey capture attempts (all suggesting lower foraging activity) within solar farms compared to nearby control plots (Barré *et al*. 2024).

1.6 Questions have been raised with respect to the applicability of this recent research to many solar development situations where the comparisons between grazed grassland with and without solar (as the majority of sites in the above work were) are often not relevant as many solar sites are proposed on intensive arable (see BSG 2025 for a summary of these questions).

1.7 Notwithstanding this, given the consistent trends in activity difference with respect to bat foraging/commuting between solar sites and control plots demonstrated by the various research, it is clear that there are potential impacts on bat foraging and commuting behaviour in proximity to solar developments that require appropriate avoidance and mitigation measures.

1.8 This potential for such impacts was recognised within ES Chapter 9 Ecology and Biodiversity [REP4-010] at section 9.9.774. In order to avoid any such impacts occurring, the Project committed to the inclusion of suitable buffers along important commuting and foraging habitat used by bats (Commitment 9.20 ES Appendix 6.1 Project Mitigation Measures and Commitments Schedule [REP4-014]).

1.9 During the Examination of the Project, a variety of Interested Parties have requested clarification with respect to bats within the Project site and the nature of the suitable buffers proposed. This includes Natural England [RR-0761], the Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust [RR-0098] and the Oxfordshire Host Authorities in their Local Impact Report [REP1-072].

1.10 This technical note has therefore been produced by Sylvan on behalf of the Applicant to provide Interested Parties with further clarification with respect to both bat survey work completed and how the avoidance and mitigation measures necessary with respect to bats will be delivered.

SITE DESCRIPTION

1.11 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.

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

PREVIOUS STUDIES

1.13 RPS has undertaken baseline ecological surveys to inform the Environmental Statement. An initial assessment in 2022, in line with common practice at the time, concluded that as the Project would be constructed within arable fields with features that might be used by bats for foraging/roosting/commuting retained under the proposals, surveying every feature suitable to support roosting/foraging bats was not necessary.

1.14 As such, the aim of the initial baseline studies undertaken in 2022 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.

1.15 Bat activity surveys were undertaken within the Project site boundary to gain information about the use within the site by bats between April and October 2022 and, also, between April and October 2023 (presented within the application at ES Appendix 9.4 Bat Surveys [APP-153]). The static detector surveys focused on areas of higher-value habitats which were identified as being most suitable for foraging and commuting bats. 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 such as water courses to areas of suitable foraging and roosting habitat within the wider Project site and wider landscape.

Commented [PM1]: Can we provide any examples of what these other features included?

1.16 The species recorded within the Project site account for at least nine, and potentially up to 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):

Commented [PM2]: Between 9 and 13? Could we just say up to 13?

Commented [NB3R2]: It's due to the way bats are identified (some are very similar so are very hard to tell apart). Have changed the wording slightly

- Barbastelle *Barbastella barbastellus* – widespread though uncommon;
- Bechstein's bat *Myotis bechsteinii* – very rare;
- Brandt's bat *Myotis brandtii* – uncertain, few in-hand identifications;
- Brown long-eared bat *Plecotus auritus* – widespread and relatively common;
- Common pipistrelle *Pipistrellus pipistrellus* – common and widespread;
- Daubenton's bat *Myotis daubentonii* – widespread;
- Leisler's bat *Nyctalus leisleri* - widespread though uncommon;
- Nathusius' pipistrelle *Pipistrellus nathusii* – rare;
- Natterer's bat *Myotis nattereri* – widespread though uncommon;

- Noctule *Nyctalus noctula* - widespread though uncommon;
- Serotine *Eptesicus serotinus* - widespread though uncommon;
- Soprano pipistrelle *Pipistrellus pygmaeus* - common and widespread; and
- Whiskered bat *Myotis mystacinus* – uncommon

1.17 Overall, the features on the Project site appeared to be important to a high diversity of UK and Oxfordshire bat species, including some of the rarest species, such as barbastelle.

1.18 The baseline activity static surveys identified that barbastelle bats, specifically, were present throughout the survey area using hedgerows and watercourses but the locations of the roosts were unknown. In May 2024 walked transects and acoustic static surveys of Pinsley 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 Survey Results Summary

2.1 Survey work undertaken to support the Project comprises:

- The use of static detectors across the Project site in 2022, 2023 and 2024/2025 (data presented in the updated ES Appendix 9.4 Bat Survey Report submitted at Deadline 5);
- Walked transects in woodlands (2024) (data presented in the updated ES Appendix 9.4 Bat Survey Report submitted at Deadline 5 [Doc Ref 15.6]); and
- Landscape-scale trapping and radio tracking in 2024 and 2025 (data presented in the Radio Tracking Report, Annex B of ES Appendix 9.4 Bat Survey Rerport).

2.2 The following provides a summary of the data collected and the results obtained.

BAT STATIC MONITORING

2.3 RPS has undertaken baseline ecological surveys to inform the Environmental Statement including static detector surveys. Static detector surveys were undertaken within the Project site boundary to gain information about the use within the site by bats between April and October 2022 and, also, between April and October 2023. The full methodology and results are presented within the application at ES Appendix 9.4 [APP-153]. Surveys were undertaken at 11 locations across 2022 and 2023 (Locations S1-S9 and D1-D2). Figure 2.1 shows the locations of the static detector surveys in 2022-2023.

2.4 Further static detector surveys were undertaken by RPS in 2024 and 2025 to supplement those undertaken as part of the ES. These surveys were undertaken in July 2024 and June, July and August 2025. Surveys were undertaken across ten locations (P1-P10) each with paired detectors, one within the field and one within the hedgerow to determine the difference in activity/species between the two habitat types. Static detectors were placed at each location for a minimum of five nights. Data has Figure 2.2 shows the locations of the paired static detector surveys in 2024-2025.

2.5 The static bat detector data was analysed using the British Trust for Ornithology's (BTO) Acoustic Pipeline (AP) which identifies bats to a species level. The BTO AP provides a probability value for each species identification, representing the confidence level of the identification. For the purpose of the analysis, any identifications below 0.5 (50%) were discarded, as recommended by BTO.

2.6 Due to the difficulties with identifying *Myotis* bats to species level, these bats have been grouped into genus level. The number of bat identifications recorded is not representative of the number of bats present within any given area, as a single bat may have made many passes. To compare results across survey locations, results have been adjusted to account for differences in the total number of nights surveys were undertaken, by calculating the number of bat identifications recorded per night.

2022-2023 static detector survey results

2.7 Static detector surveys undertaken in 2022 and 2023 identified the presence of at least nine bat species within the order limits. 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, Daubenton's bat,

Natterer's bat and whiskered bat (all rarer species in England) and Bechstein's bat (one of the rarest species in England) all of which have been recorded in Oxfordshire (Oxfordshire Bat Group, 2023).

2.8 Common pipistrelle was the most frequently recorded species across all locations and had the highest level of activity at every location apart from location S5 where soprano pipistrelle did.

2.9 The highest level of bat activity across all survey sessions in 2022 was recorded at location S6, as shown in Figure 2.1, with common pipistrelle, soprano pipistrelle, *Myotis sp.* 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.

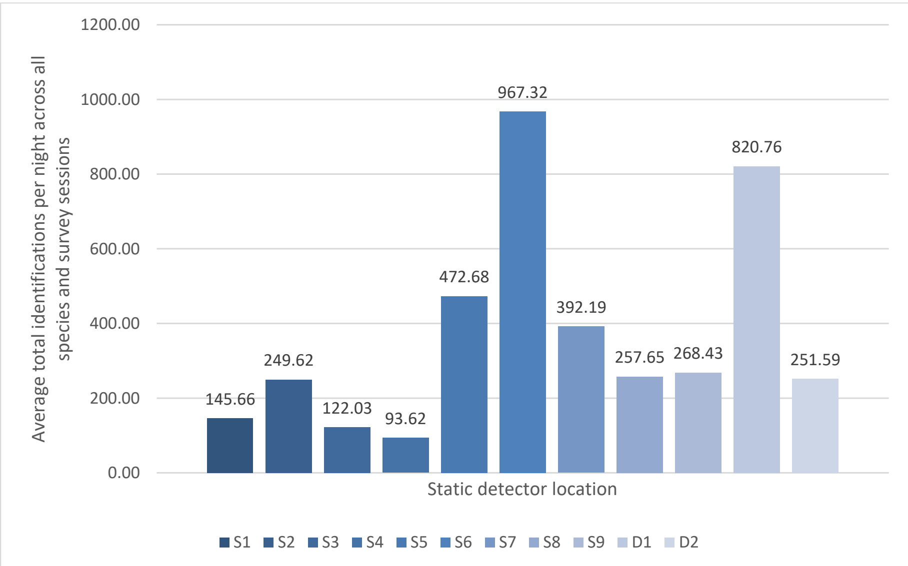


Figure 2.1 Average total identifications per night across all species and survey sessions

2.10 Location S6 also had the highest level of bat activity across all survey sessions in 2023.

2.11 The location with the highest average level of barbastelle activity across all survey sessions was location S7 with an average of 6.89 identifications per night as shown in Figure 2.2. Location S7 was located along a mature hedgerow between Bladon Heath and the River Glyme. The location with the highest level of *Myotis* activity across all survey sessions was location S6 with an average of 69.47 identifications per night.

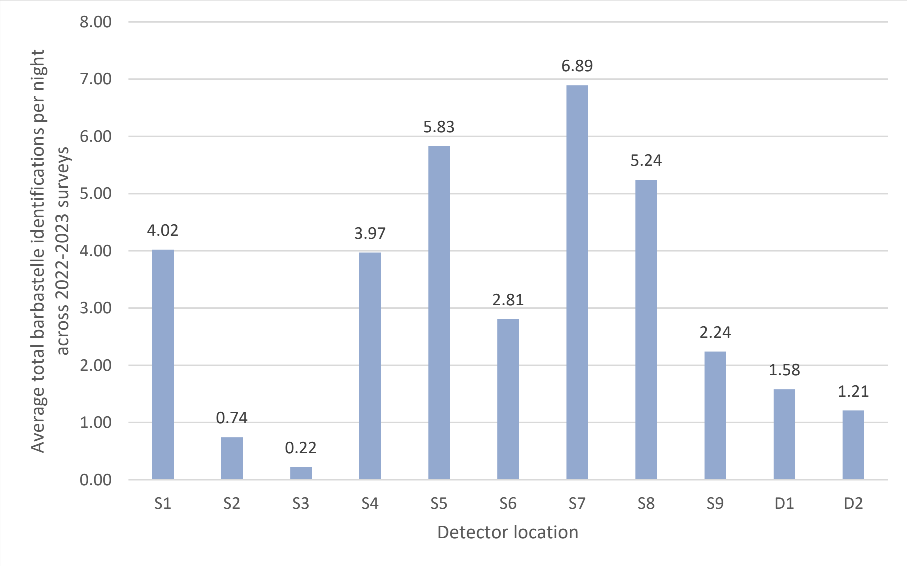


Figure 2.2 Average total barbastelle identifications per night across all survey sessions

2.12 Nathusius' pipistrelle were recorded at all locations, with the highest activity (10 identifications per night) recorded at location S5.

2.13 The majority of *Nyctalus sp.* activity was recorded at location S3. Location S3 was on the edge of small patch of woodland where the Rowel Brook ran through, to the east of Burleigh Wood. The location with the highest level of Leisler's bat activity was at location S2. Location S2 was on a species-rich hedgerow at the north of the project area, connected to a woodland to the west. Serotine activity was very low at all locations in

2022-2023. Brown long-eared bat activity was also very low across the site, with the highest activity at location S6.

2.14 A summary of the average identifications per night across all survey sessions is shown in Figure 2.1 below. A further breakdown of results is shown in Appendix 2 with pie charts displaying the average number of identifications per night for species groups (barbastelle, *Myotis sp., Plecotus sp.,* and *Nyctalus/Eptesicus sp*.) across all survey sessions. Data have been presented in two forms; one showing pipistrelles included and one with pipistrelles excluded from the data to be able to compare the less common species more easily. The full results are presented within the application at ES Appendix 9.4 [APP-153].

2024-2025 static detector survey results

2.15 The paired detector surveys were undertaken in July 2024 and June, July and August 2025 across ten locations (P1-P10) each with paired detectors, one within the field and one within the hedgerow to determine the difference in activity/species between the two habitat types.

2.16 A minimum of nine species were recorded during the paired detector surveys including barbastelle, brown long-eared bat, common pipistrelle, Leisler's bat, *Myotis sp*., Nathusius' pipistrelle, noctule, serotine and soprano pipistrelle.

2.17 Common pipistrelle and soprano pipistrelle were recorded at every field and hedge location. Barbastelle were recorded at every hedge location apart from locations P1-P3 and every field location apart from locations P1-P5. *Myotis sp*. were recorded at every hedge and field location other than the hedge at location P2 and field location at P5.

2.18 The species with the highest average number of identifications per night was common pipistrelle at all locations other than P4 where *Myotis sp*. had the highest number of identifications per night, and P7 and P8 where soprano pipistrelle had the highest number.

2.19 Location P5 had the highest average total identifications across all survey sessions with an average of 1184.0 identifications per night, as shown in Figure 2.3. This detector was located on a hedgerow along the railway line to the south of Burleigh Wood and east of the River Evenlode. This location only had results from the hedge detector. Therefore, comparisons cannot be made between the habitats at this location.

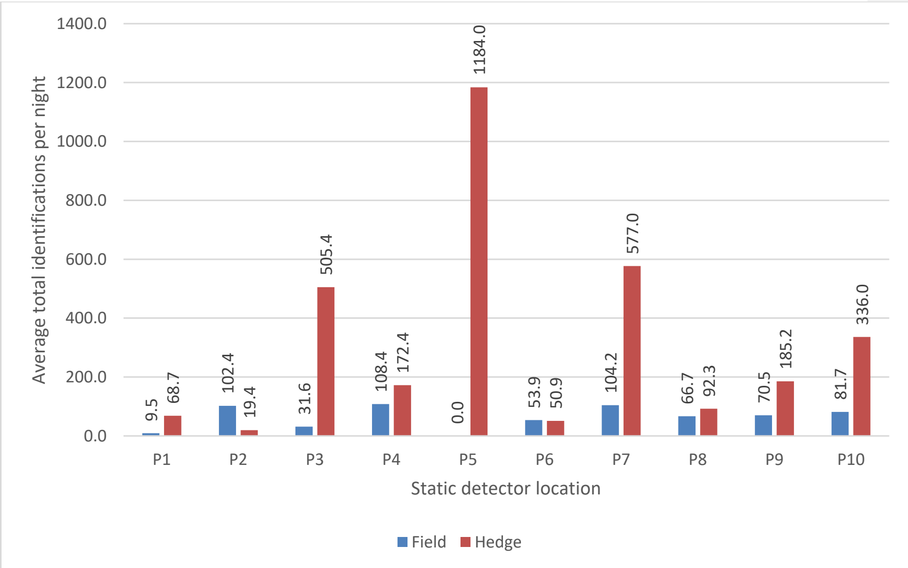


Figure 2.3 Average total identifications per night across all species and survey sessions

2.20 Barbastelle calls were more common at the hedge detector compared to the field detector at all locations apart from location P6 where there was an average of 0.4 identifications per night at the field detector and 0.3 identifications per night at the hedge detector, as shown in Figure 2.4. Location P6 was located adjacent to Burleigh Road just south of both Bladon Heath and Burleigh Wood.

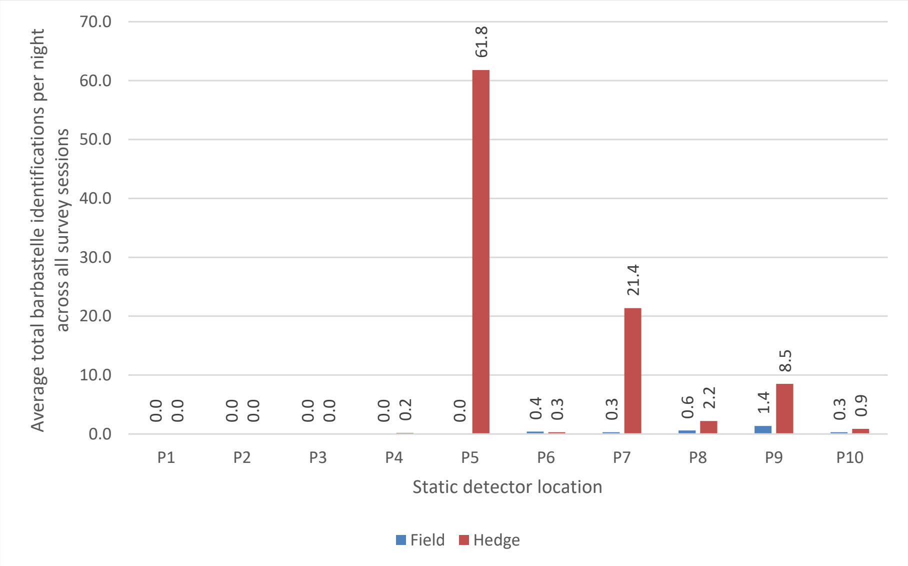


Figure 2.4 Average total barbastelle identifications per night across all survey sessions

2.21 More than four barbastelle identifications were recorded within an hour of sunset by the hedge detector at location P7 in both July 2024 and July 2025. A total of 18 barbastelle identifications were recorded at the hedge detector location in July 2025. Research suggests that in order to identify a woodland as likely to contain a colony of barbastelle, at least one detector (placed a minimum density of 0.16 detectors/ha) must record four or more barbastelle registrations within the first hour after sunset (O'Malley *et al.*, 2023). Therefore, it is considered likely that barbastelles are roosting within the woodland, Pinsley Wood, near to location P7. No other locations recorded more than four barbastelle identifications within an hour of sunset.

2.22 Certain species were located more often at the field location than the hedge location including noctules at locations P2, P4, P6, P7, P8 and P9 and *Myotis* sp. at locations P2, P6, P8, and P10. The presence of a higher number of noctule calls at the field location compared to the hedge location is not surprising given this species has a tendency to fly high and the uncluttered location of the detector will mean that more calls will likely be recorded. The BTO AP raw data has been interrogated for the higher number of *Myotis* sp. at locations P2, P6, P8 and P10 and the majority of these identifications were attributed to Natterer's bat. Use of this habitat type is not unusual for this species (JNCC 2019).

2.23 The results of the paired detector surveys are shown in Appendix 3, with graphs showing how the average identifications per night varies between the field and the hedge detectors at each location. Common pipistrelle and soprano pipistrelle identifications have been excluded from the graphs in order to compare the less common species more easily.

WALKED ACTIVITY TRANSECTS

2.24 In addition to static detector surveys, simultaneous walked transects were undertaken within Pinsley Wood, Burleigh Wood and Bladon Heath Wood in the central area of the Project site in May 2024. The full results are detailed within the ES Appendix 9.4 [APP-153].

2.25 The presence of multiple identifications of barbastelle bat identifications (>4 identification) within an hour after sunset was during surveys in Pinsley Wood, indicating the likely presence of a barbastelle roost in Pinsley Wood (O'Malley *et al*. 2023).

2.26 Barbastelles were not recorded within an hour of sunset during walked transects in Burleigh Wood and Bladon Heath Wood. However, multiple Myotis species were recorded in Bladon Heath Wood.

BAT ROOSTING

2.27 Bat trapping and radio-tracking surveys were undertaken by Sylvan in 2024 and 2025 (Sylvan, 2025). A total of 51 roosts were identified during these surveys, comprising 24 confirmed roosting locations and two 'estimated' roosting locations (estimated from triangulation as precise roosting location not determined due to access constraints). Roost overview maps are provided in the Radio-tracking Survey Report (Sylvan, 2025).

2.28 Ten Bechstein's bat roosts were identified during radio-tracking surveys in 2024 and 2025. Of the ten roosts, nine were classified as maternity roosts either due to the number of bats recorded emerging from the roost during surveys, or due to the breeding status of the bat. The other roost was classified as an autumnal dispersal roost. The majority of maternity roosts were located within Bladon Heath and Burleigh Wood. None of the roosts were located within the order limits but several roosts were located close to the order limits.

2.29 A total of 41 barbastelle roosts were recorded including:

- 20 maternity roosts – concentrated in Pinsley Wood, Burleigh Wood and parkland trees / woodland within the Blenheim Estate;
- six autumnal dispersal roosts – split between Pinsley, Burleigh and Begbroke Woods;
- two summer day roosts in Wytham Woods and Great Park; and
- 14 solitary (male) roosts dispersed throughout the wider landscape.

2.30 None of the roosts were located within the order limits.

2.31 A single Daubenton's bat roost was identified on the Blenheim Estate during surveys. This roost was classified as a maternity roost due to the breeding status of the radio-tagged bat.

2.32 A single female post-lactating Natterer's bat was radio-tagged, and this bat used three different tree roosts in Bladon Heath in August 2024, all classified as maternity roosts.

The maximum count of Natterer's bat emerging was 25 bats from an oak tree. None of the roosts were located within the order limits.

2.33 The location of all roosts identified during surveys in 2024-2025 is shown in Appendix 1, Figure 2.3.

BAT RADIO-TRACKING

2.34 The Bat Radio-Tracking Survey Report (Sylvan, 2025) details the results of bat radio-tracking surveys undertaken in 2024 and 2025.

2.35 Over 19 survey nights between August 2024 and May 2025 a combined total of 949 bats of 13 species was captured (602 in late-summer/autumn 2024; 347 in spring 2025). Twenty-four barbastelles and six Bechstein's bats were fitted with radio-transmitters. A further two woodland bat species (one Daubenton's bat and one Natterer's bat) were tagged to provide data on roosting locations.

2.36 Foraging and flightline analysis recorded distinct spatial patterns. Barbastelle activity was strongly associated with linear wet features and woodland. Core foraging zones (50 % kernel density estimates) lay (i) along the River Evenlode (ii) along field boundaries flanking Worton Heath and Begbroke Wood, and (iii) at the sewage works/Oxford to Hereford railway north of Worton. Regular commuting flight lines linked these foraging areas from roost sites along the River Glyme, Rowel Brook and the Oxford to Hereford railway. Re-use of identical routes by multiple tagged barbastelle bats on successive nights emphasises the importance of these corridors within the core sustenance zone (CSZ).

2.37 The spatial distribution of Bechstein's bats during the radio-tracking period was over a markedly smaller footprint. All tagged bats restricted core foraging activity to woodland blocks predominately within Bladon Heath and Burleigh Wood.

3 Evaluation

3.1 The data gathered with respect to bat activity show that of the habitats present both within the Project site and the surrounding landscape, there were a number of key bat foraging and commuting resources:

- the woodlands, in particular the ancient woodlands at Pinsley, Bladon, Burleigh, Begbroke and those within the Blenheim Estate;
- the river corridors, in particular the River Evenlode;
- the sewage treatment plant north of Cassington;
- the Cotswold Railway Line;
- the green lane within the Northern Site Area; and
- smaller watercourses and other water bodies.

3.2 Bat activity (in particular, Annex II species) within the woodlands across the landscape around the Project site was generally high across all survey types indicating their importance for the bat assemblage present for roosting and foraging. The use of different woodlands varied with season; for example, Bladon Heath was important during the maternity periods but less used during autumn dispersal. However, overall, they appear to form a key element of the bat population's range, in particular for the two woodland Annex II species identified.

3.3 Similarly, all data collected also suggest that the River Evenlode corridor currently forms a key foraging/commuting corridor – statics placed here (S5 and S6) showed very high counts while the radio tracking data highlighted its use by barbastelle, in particular. In addition, from the radio tracking data, within the wider landscape, the corridors of the rivers Dorn and Glyme were also used by barbastelle for commuting with bats roosting in woodlands adjacent to the rivers.

3.4 Radio tracking data also suggest that the sewage treatment plant north of Cassington is a key foraging resource for bats with tagged bats observed moving from the woodlands to forage in the tree lines surrounding the plant. Similar results have been found in studies of other sewage treatment plants, primarily those using filter beds rather than activated sludge systems (Park and Cristinacce 2006), with the beds providing aquatic invertebrates with a resource for that element of their life cycle allowing bats to feed on them as they emerge.

3.5 Of particular importance to commuting bats of all species, especially barbastelle, appeared to be the corridor formed by the Cotswold Railway Line. This linear feature supported the highest counts of all the statics detectors in 2024/25. Of relevance, the location of the detector in 2024/25 was south of the woodlands, near to the River Evenlode; the number of bats recorded in 2023 at position S8 north of the woodlands was not particularly high in the context of the data for that year. This supports the radio tracking data where bats were tracked emerging from the woodlands to follow the railway south. The railway provides a strong landscape feature, linking the woodlands with the sewage treatment works and the lakes at the Cassington Pits further south.

3.6 The green lane that runs north/south through the centre of the Northern Site Area had consistently high numbers of bat calls and was regularly used by bats during radio tracking. It comprises two parallel lines of scrub with mature trees present forming a distinctive feature through the landscape. It is linked by small linear blocks of woodland running east west to the river Dorn valley to the west along with other hedgerow links to Tackley Wood and Tackley Heath to the east.

3.7 Data suggests that, in addition, smaller watercourses are also used by bats across the Project site. Bats were tracked emerging from Bladon Heath and utilising the watercourse that runs south from the woodland, parallel to the Cassington Road towards the Cotswold Railway Line. In addition, detector positions D1 and D2 in the Southern Site Area had ditches along the hedgerows they were set within.

3.8 In addition, hedgerow and tree corridors linking these features together also appear to be well used. For example, the wooded track that links Bladon into Bladon Heath where Static S7 was located had one of the highest average nightly counts of bats, matching the experience of surveyors trapping for radio tracking purposes in this location. Also, the hedgerow linking Pinsley Wood to the hedgerow network adjacent to the River Evenlode (position P7) had one of the highest average nightly counts of bats.

3.9 Also, although hedgerows tended to be more important than fields for paired statics, data show that, for some species, in particular the larger bats (such as noctule and Leisler's), they will move and forage over fields. In addition, radio tracking data observed barbastelle foraging over a small area of setaside in the Central Site Area. These areas are likely to support a higher invertebrate abundance than the surrounding arable fields subject to input from agricultural chemicals and, as such, may form an additional foraging resource for bats, when available.

3.10 Together, these features, linking the woodlands, watercourses and other off-site resources provide a framework for the location and nature of buffers to protect them, described in Section 4.

4 Buffer Strategy

1.19 As set out within ES Chapter 9 Ecology and Biodiversity [REP4-010] at section 9.9.774, in order to avoid impacts to bats using the Project site, the Project committed to the inclusion of suitable buffers along important commuting and foraging habitat used by bats (Commitment 9.20 ES Appendix 6.1 Project Mitigation Measures and Commitments Schedule [REP4-014]).

4.1 In order to provide Interested Parties with further clarity with respect to these buffers, the following sets out the intended principles for how and where they will be provided within the Project during detailed design.

4.2 In order to ensure that the Project adopts a precautionary approach to the protection of features used by bats, a three-tier system has been adopted:

- Tier A: Known key flightlines and features identified from survey work (primarily radio tracking and static detectors) – 25m corridor either side of feature;
- Tier B: Landscape features with similar characteristics to Tier A or link key features such as woodland or riparian habitats – 10m corridor either side of feature; and
- Tier C: Other landscape features – 5m corridor either side of feature.

4.3 The Outline Landscape and Ecology Management Plan (oLEMP) that accompanies the Project has been updated at Deadline 5 [EN010147/APP/7.6.3 Rev 4] to include the details set out here to ensure they are secured; the final details of the Project design is required to be in accordance with the oLEMP via Requirement 6 of the dDCO [REP4-004].

4.4 The width of all buffers will be measured from the edge of the feature to the edge of solar infrastructure/perimeter fencing, whichever is closest, to ensure that the buffers are the width stated.

4.5 In addition to protecting the various flightlines and features used by bats, the buffer areas will be designed to ensure they provide increased invertebrate biomass compared to intensive arable. This will be achieved through varied habitat creation with the most diverse habitats in the Tier A buffers as they provide the most space. It is also intended to ensure that habitats are created that support the full lifecycle of invertebrate prey through the inclusion of areas of bare ground and water features, in particular.

TIER A BUFFERS

4.6 Tier A buffers will comprise a 25m corridor either from the edge of the feature (if a woodland) or either side of it (if a linear feature such as a hedgerow). Tier A buffers are the key flightlines and features that survey work has identified as critical to the bat assemblage, largely as set out in section 3 above. Tier A buffers comprise the following locations:

- Ancient woodlands in the centre of the site (Pinsley, Burleigh and Bladon Heath);
- Main hedgerow flightlines leading out of these woodlands;
- The Cotswold Railway Line;
- The green lane in the Northern Site Area with links to both the river Dorn and Tackley Wood;
- The River Evenlode;
- Sewage Treatment Works north of Cassington; and
- Watercourse coming from Bladon Heath south towards the railway

4.7 In addition, since the data shows that there are bat foraging/flightlines running broadly parallel to each other north-south along the River Evenlode towards the River Thames, and the Cotswold Railway Line towards the lakes at the Cassington Pits, an additional Tier A buffer will be created along existing hedgerows at the southern end of the Central Site Area, linking the two corridors. The placement of this corridor has been chosen to allow the Project to enhance connectivity between these two corridors and facilitate bat movement out of the woodlands, down one of the corridors, along this linkage and then back up the other corridor to the woodlands.

4.8 Within the Southern Site Area, an additional Tier A buffer has been included to provide enhanced linkage between the blocks of ancient woodland in this location. Although bat activity was generally lower in the Southern Site Area compared to that in the Central

Site Area, enhancing the linkages between the blocks of woodland will enable bats in the area to travel between them freely.

4.9 Tier A buffers will be planted with a matrix of habitats to provide enhanced foraging for bats commuting along them:

- Existing hedgerows will be to be allowed to grow both up and out and expand into the buffer to create ecotones.
- Additional scrub planting to be used alongside hedgerows to provide variation in structure of habitat.
- Grassland within them will be seeded with species rich grass mix and managed to allow tussocky structure closer to hedgerow/scrub and mown on a more regular basis away from the hedgerow to facilitate diversity of habitat structure.
- Depending on local hydrology and agricultural land classification, a scrape or similar water feature will be created (1-2m deep and up to 100m^2 in area) along each corridor with at least one such feature every 500m on each side of the corridor. Scrapes will be located outside of root protection areas with their exact location to be determined during detailed design following the principles set out here.
- Arisings from scrapes will be used to create bare earth mounds and allowed to vegetate naturally.

TIER B BUFFERS

4.10 Tier B buffers will be 10m either side of a feature and will be used to protect features that have not been identified as key to the bat assemblage from survey work but do have features that are similar to the Tier A buffers, recognising that detailed survey work of every feature across a site as large as the Project is impractical and that, therefore, a degree of precaution and professional judgement is required with respect to the protection of other features.

4.11 The location of these buffers will be chosen to ensure coherence with the key flightlines and link foraging/commuting locations to maintain and increase permeability through the Project site. As such, Tier B buffers will be located alongside:

- Hedgerows linking key flightline to key foraging resource;
- Hedgerows linking key flightline to other flightline; and
- Hedgerow with mature trees.

4.12 In addition, watercourses would be included in this Tier; however, a 10m buffer to all such features has already been committed to as part of the protection of those features (as set out in the oCoCP [REP4-024]) and, therefore, such buffers are not commented on further here.

4.13 The final location of Tier B buffers will be determined during detailed design to allow for flexibility in the final layout but will follow the principles set out above. Tier B buffers will be located to ensure that the Project has a coherent ecology and is able to maintain permeability for bats and other wildlife through the Project site. They will form secondary linkages, connecting Tier A buffers together across and through the Project site.

4.14 They will be managed in a similar manner to the Tier A buffers:

- Existing hedgerow features will be allowed to grow and expand into the buffer to create ecotones of different height of buffer.
- Additional scrub planting will be completed to be used alongside hedgerows to provide variation in structure of habitat.
- Grassland to be seeded with species rich mix and managed to allow tussocky structure closer to hedgerow/scrub and mown more regularly near to the edge of the buffer (i.e. closest to the Project fencing).

TIER C BUFFERS

4.15 All other hedgerows and features will have the 5m buffer set out within the oCoCP [REP4-024] and oLEMP [EN010147/APP/7.6.3 Rev 4].

4.16 They will be managed:

- Hedgerow to be managed as per section 11.3 of the oLEMP.
- Grassland alongside hedgerow to be managed as per tussock grassland in Table 11.1 of the oLEMP.

MONITORING

4.17 In order to ensure that the provision of buffers is successful with respect to maintaining bat use of the landscape, follow-up monitoring will be undertaken (as described in section 13 of the oLEMP [EN010147/APP/7.6.3 Rev 4]).

4.18 The monitoring will comprise the use of static detectors set up in broadly the same locations as in 2024/25 to monitor the key flightlines and to ensure that there are baseline data from before the Project were constructed (i.e. that collected in 2024/25.

4.19 Detectors will be set out in the same hedgerow location in spring, summer and autumn (i.e. three time periods per year).

4.20 Detectors will also be positioned within the same fields as during the 2024/25 work as close as panel positions allow. In addition, detectors will be placed in the centre of the largest panel arrays to determine if bats are foraging in the centre of the infrastructure.

4.21 Detectors will be placed at a height above panels to prevent any interactions between the panels and bat echolocation (one of the questions raised by BSG Ecology with respect to the 2023 research described in section 1 above was whether many of the findings could simply be an artifact of panels preventing bat calls from reaching detectors rather than any interaction between bats and panels *per se*).

4.22 Surveys will be undertaken in Years 1, 2, 4, 6 and 10 of operation, followed by once every 5 years for the lifetime of the Project.

4.23 Data will be presented in similar fashion to that set out in this technical note for ease of comparison in a report to be provided to the relevant stakeholders including Local Authorities and Natural England.

5 References

BSG Ecology (2024) *Do solar farms affect foraging & commuting bats?* https://bsg-ecology.com/bats-and-solar-farms/ [accessed 02/09/25]

Barré, K. Baudouin, A. Froidevaux, J. S. P. Chartendrault, V. & Kerbiriou, C. (2024) *Insectivorous bats alter their flight and feeding behaviour at ground-mounted solar farms*. Journal of Applied Ecology 61(2) 328-339.

Bat Conservation Trust (2025) *Barbastelle bat* https://www.bats.org.uk/about-bats/what-are-bats/uk-bats/barbastelle [accessed 24/07/25]

Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd edition. The Bat Conservation Trust, London.

Greif, S. & Siemers, B. M. (2010) *Innate recognition of water bodies in echolocating bats*. Nature Communications 1: 107.

Greif, S., Zsebok, S., Schmieder, D. & Siemers, B. M. (2017) *Acoustic mirrors as sensory traps for bats*. Science 357: 1045 1047.

Harrison C., Lloyd H. & Field C. (2017) *Evidence review of the impact of solar farms on birds, bats and general ecology*. Natural England NEER012.

Hutson, A.M., Aulagnier, S., Juste, J., Karataş, A., Palmeirim, J. & *Paunović*, M. © (2016) *The IUCN Red List of Threatened Species*.

JNCC (2019) *Supporting documentation for the conservation status assessment for the species: S1322 – Natterer's bat (*Myotis nattereri*)* https://jncc.gov.uk/jncc-assets/Art17/S1322-EN-Habitats-Directive-Art17-2019.pdf [accessed 02/09/2025]

Kerth G, Perony N & Schweitzer F (2011) *Bats are able to maintain long-term social relationships despite the high fission–fusion dynamics of their groups*. Proc R Soc B Biol Sci 278:2761–2767. https://doi.org/10.1098/rspb.2010.2718

Kerth G., Ebert C. & Schmidtke C. (2006) *Group decision making in fission-fusion societies: evidence from two-field experiments in Bechstein's bats*. Proc. Biol. Sci., 273, pp. 2785-2790

Mathews F, Kubasiewicz LM, Gurnell J, Harrower CA, McDonald RA, Shore RF. (2018) *A Review of the Population and Conservation Status of British Mammals: Technical Summary*. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough.

Natural England (2023). Definition of Favourable Conservation Status for Bechstein's bat. RP2970. Natural England.

O'Malley, K.D., Schofield, H., Wright, P.G.R., Hargreaves, D., Kitching, T., Bollo Palacios, M., Matthews, F. (2023) *An acoustic-based method for locating maternity colonies of rare woodland bats*. PeerJ 11:e15951

Park K.J. and Cristinacce A. (2006) *Use of sewage treatment works as foraging sites by insectivorous bats*. Animal Conservation 9(3): 259-268

Reason P. and Wray S. (2023) *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management, Ampfield.

Sylvan (2025) *Botley West Solar Farm Bat Radio-tracking Survey Report 2025*. Unpublished Survey Report.

Szabadi, K. L., Kurali, A., Rahman, N. A. A., Froidevaux, J. S. P., Tinsley, E., Jones, G., Gorfol, T., Estok, P. & Zsebok, S. (2023) *The use by solar farms in mosaic landscapes: implications for conservation*. Global Ecology and Conservation e02481.

Tinsley, E., Froidevaux, J. S. P., Zsebok, S., Szabadi, K. L. & Jones, G. (2023) *Renewable energies and biodiversity: impact of ground-mounted solar photovoltaic sites on bat activity*. Journal of Applied Ecology 60: 1752-1762.

Zeale, M. Davidson-Watts, I and Jones G. (2012) *Home range use and habitat selection by barbastelle bats (Barbastella barbastellus): implications for conservation.* Journal of Mammalogy, Volume 93, Issue 4, 14 September 2012, Pages 1110–1118,

Zeale M. (2024) *Definition of Favourable Conservation Status for barbastelle bat*. Natural England, Peterborough

Appendix 1: Survey Maps

Figure 1.1: Site Boundary

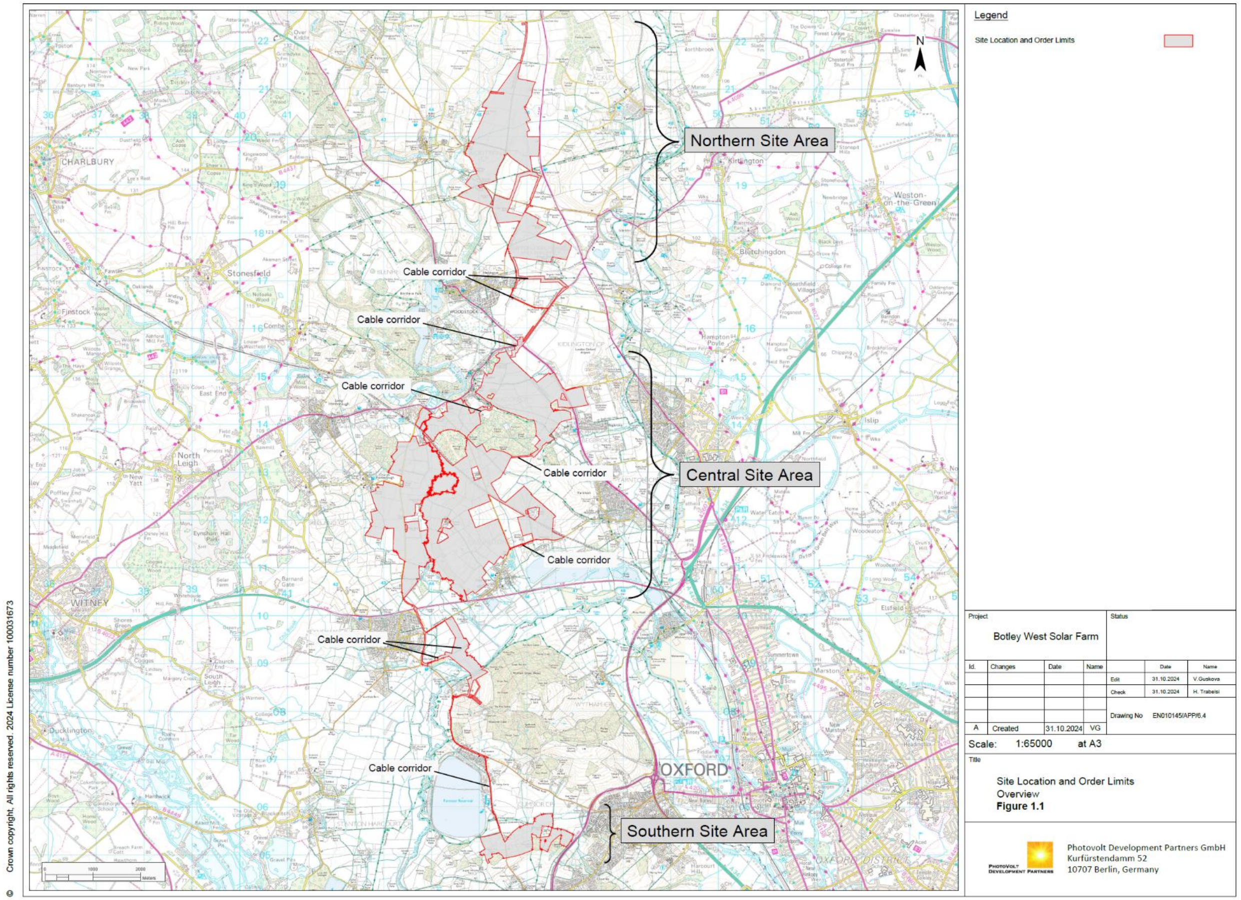


Figure 2.1: Static bat detector survey locations 2022-2023

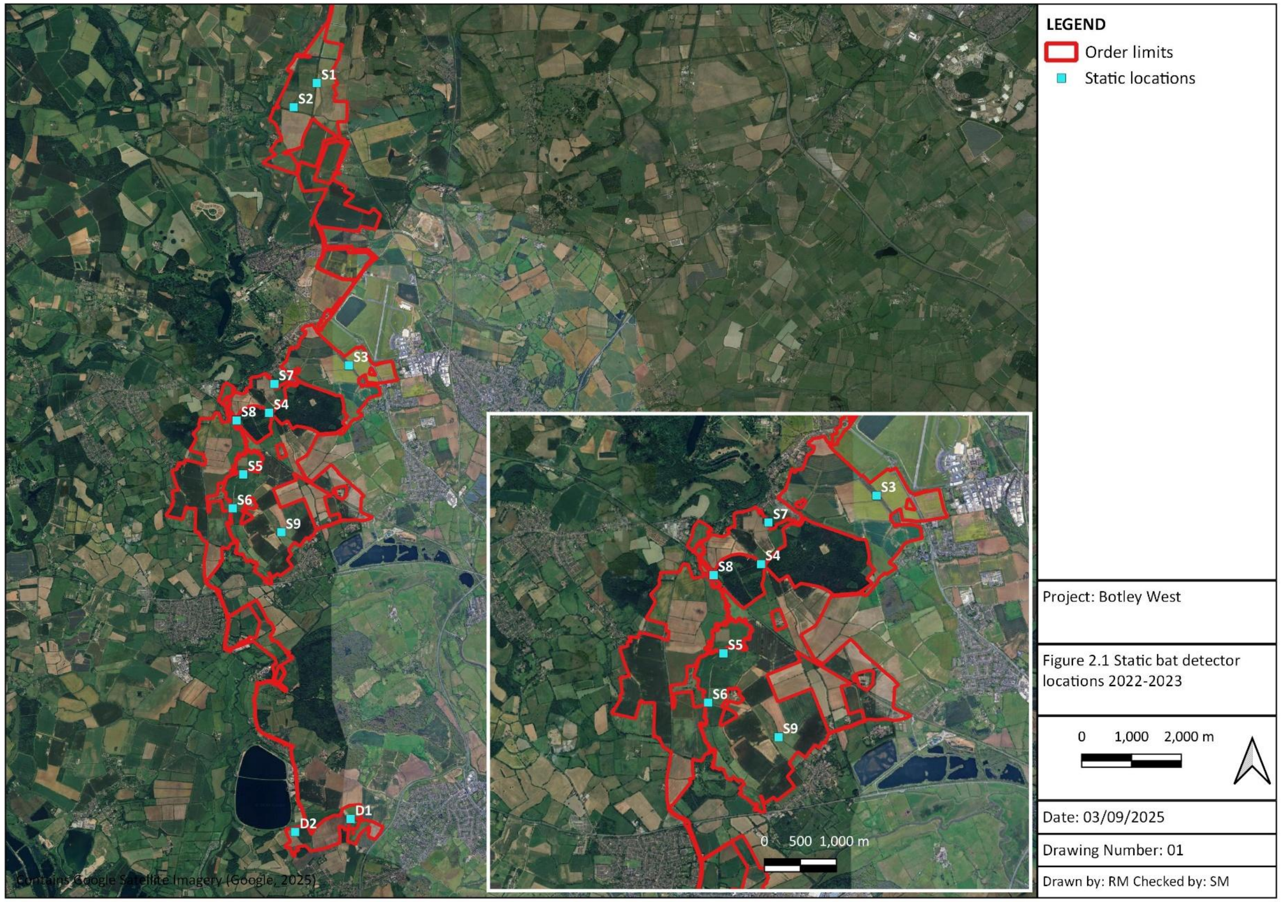


Figure 2.2: Paired static bat detector survey locations 2024-2025

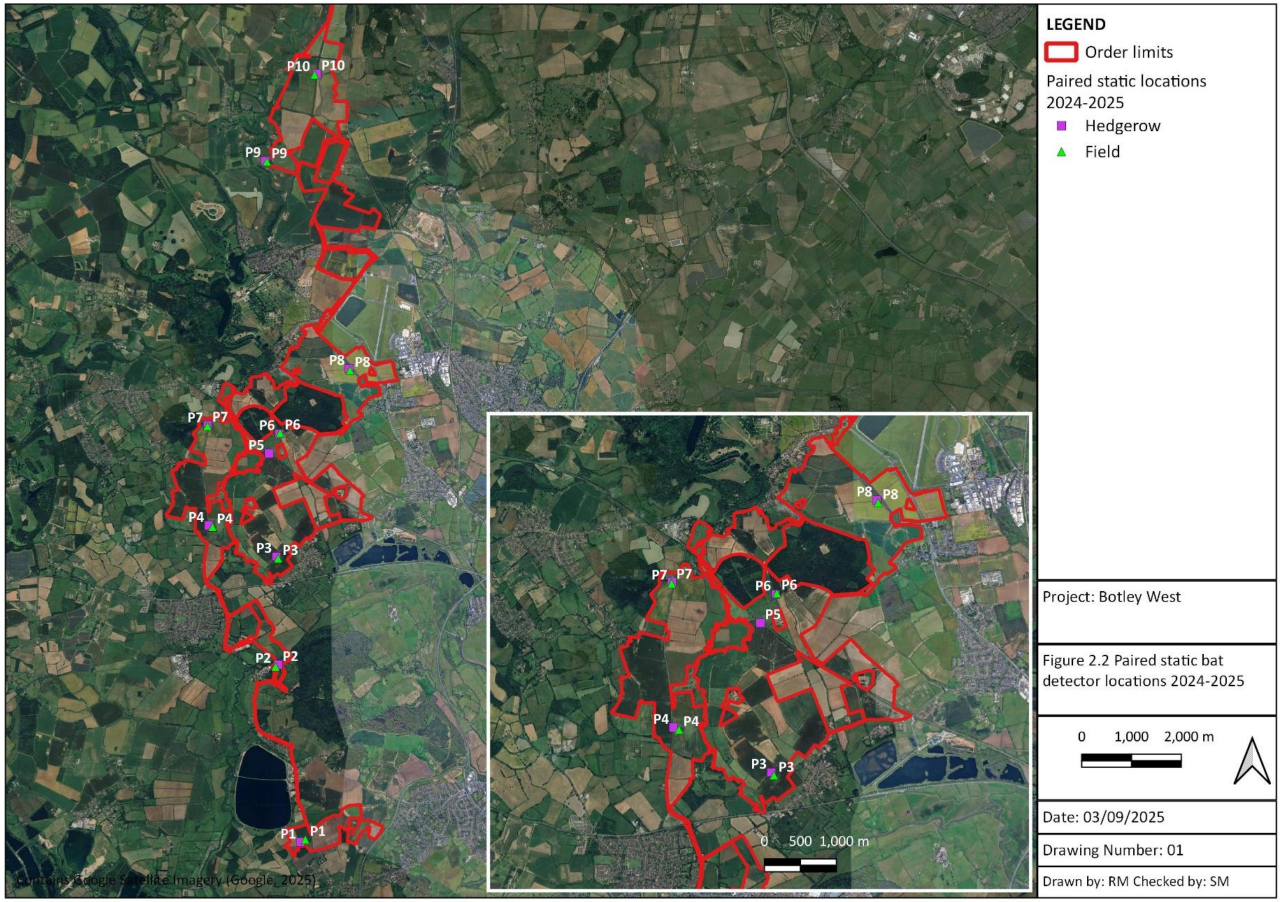


Figure 2.3: Roost summary from radio-tracking 2024-2025

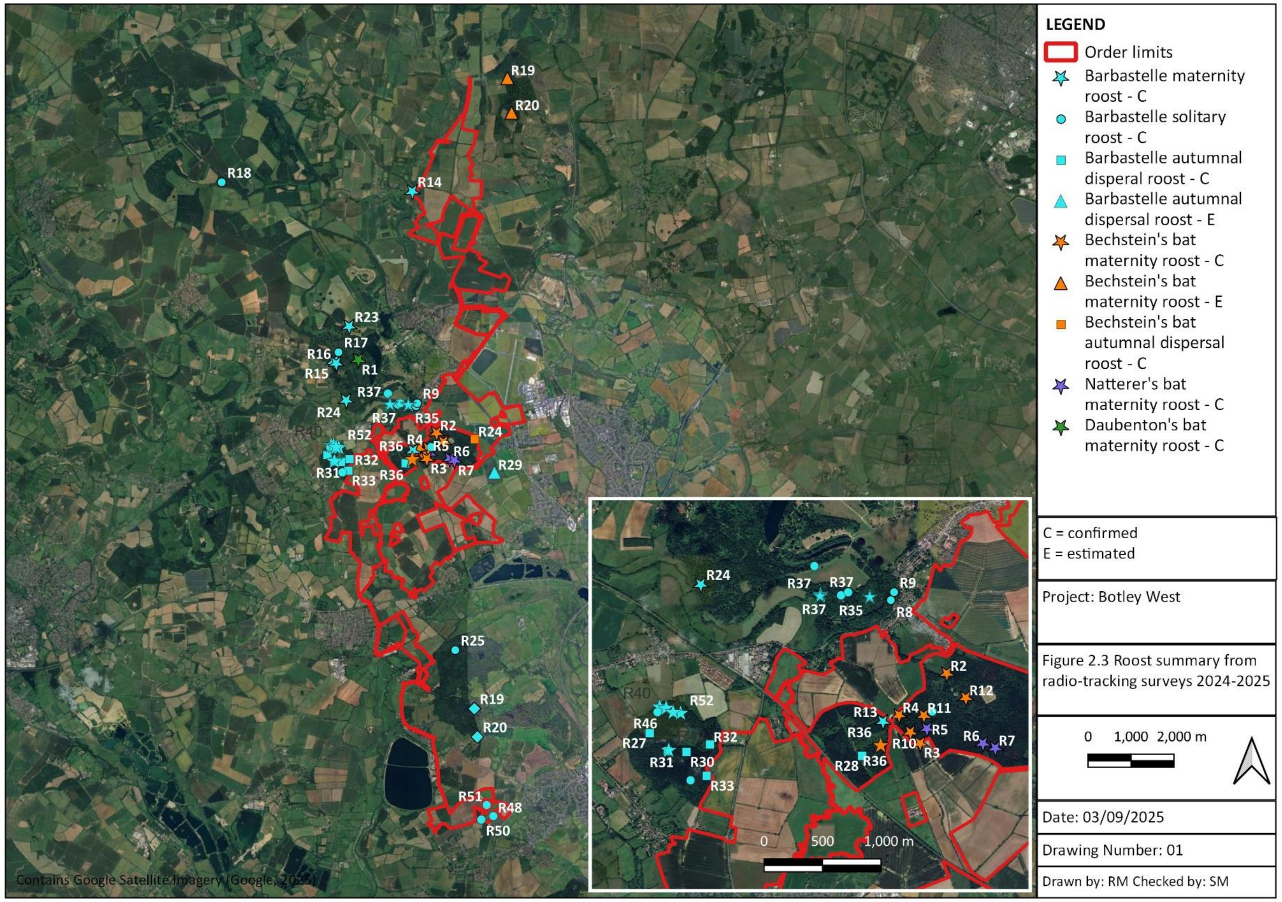
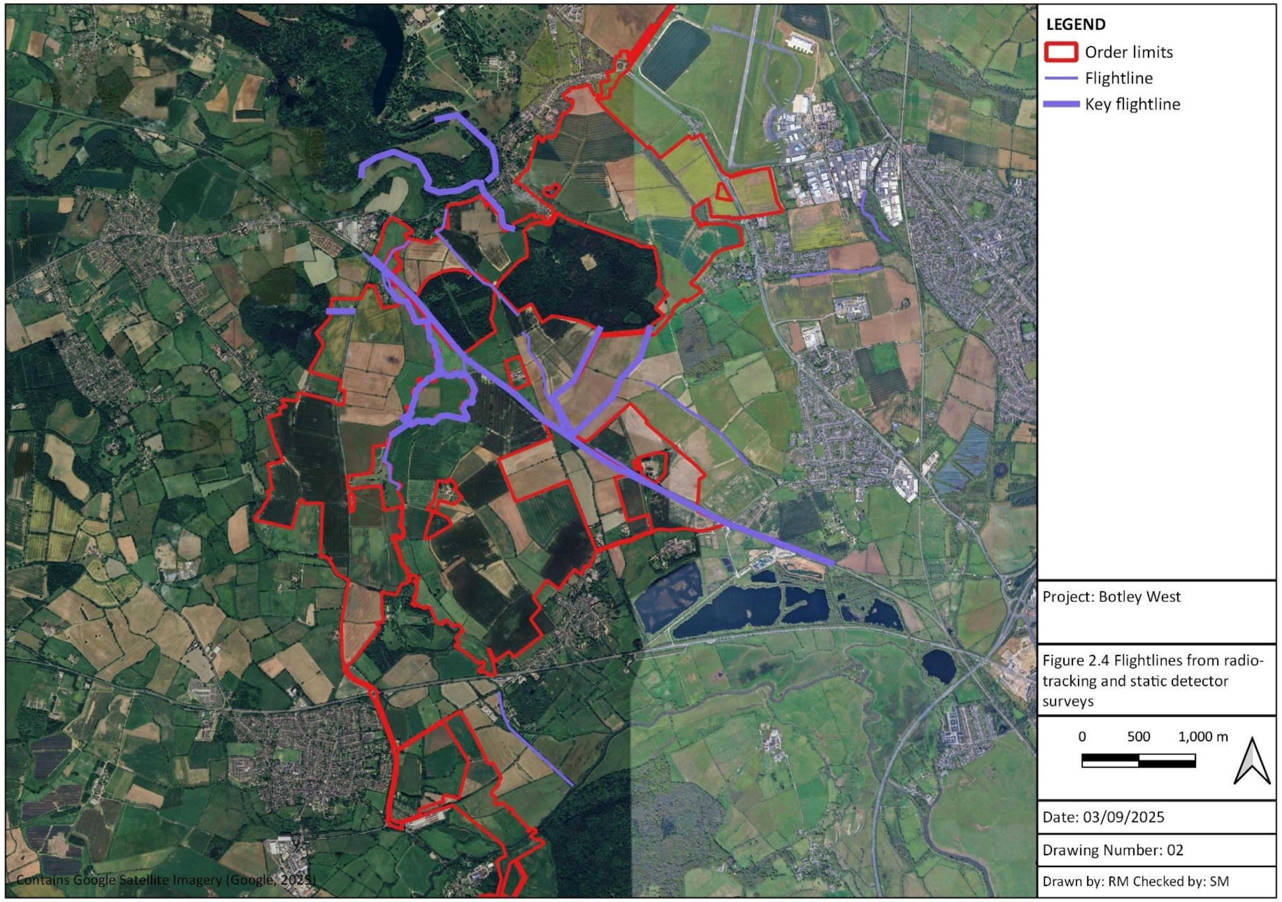


Figure 2.4: Flightlines from radio-tracking 2024-2025 and automated static bat detector surveys 2022-2025



Appendix 2: Static bat detector results 2022-2023

Table 1. Average identifications per night across all survey sessions - 2022/2023 data[1]

2022

Static detector location	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
S1	57	4.02	114.52	12.46	0.11	0.15	9.64	0.62	3.33	0.33	0.16	0.31	0.01	145.66
S2	49	0.74	181.78	53.8	0.01	0.02	2.02	0.11	7.32	1.15	1.79	0.77	0.11	249.62
S3	56	0.22	76.61	14.01	0.04	0.92	1.25	0.18	10.15	0.16	18.21	0.09	0.19	122.03
S4	56	3.97	55.77	11.93	0.11	1.12	5.94	0.06	7.6	0.46	6.46	0.03	0.17	93.62
S5	47	10.51	252.61	324.62	8.87	0.54	22.71	0.82	6.58	0.02	1.22	0.07	0.13	628.7
S6	28	4.83	744.46	527.57	0.53	13.15	128.91	3.9	11.76	1.09	0.2	0.45	0	1436.85
D1	69	1.58	527.42	264	0.5	0	8.25	10	6.17	1.67	0	1.17	0	820.76
D2	71	1.21	108.66	114.97	2.91	3.8	11	1.37	5.93	1.56	0	0.18	0	251.59
Total	**433**	**27.08**	**2061.83**	**1323.36**	**13.08**	**19.7**	**189.72**	**17.06**	**58.84**	**6.44**	**28.04**	**3.07**	**0.61**	3748.83

2023

Static detector location	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
S5	74	1.15	147.04	130.41	0.38	8.65	7.67	0.12	18.61	0.13	2.43	0.04	0.01	316.66
S6	68	0.78	251.56	207.95	0.27	4	10.02	1.47	21.61	0.01	0.03	0.08	0	497.79
S7	65	6.89	240.32	101.42	0.4	0.62	17.01	0.67	22.84	0.72	0.68	0.58	0.04	392.19
S8	41	5.24	70.4	58.7	60.86	0.5	27.46	8.88	20.09	4.15	0.95	0.42	0	257.65
S9	60	2.24	199	53.6	0.47	1.65	3.99	0.4	5.11	1.36	0.53	0.09	0	268.43
Total		**16.35**	**909**	**552.67**	**62.39**	**15.42**	**66.41**	**11.55**	**88.26**	**6.37**	**4.62**	**1.2**	**0.05**	**1732.72**

Average across 2022-2023

Static detector location	Number of nights detector deployed	Bb	Pp	Py	Pn	Psp	Msp	Pl	Nn	Nl	Nsp	Es	Es/Nsp	Total
S1	57	4.02	114.52	12.46	0.11	0.15	9.64	0.62	3.33	0.33	0.16	0.31	0.01	145.66
S2	49	0.74	181.78	53.80	0.01	0.02	2.02	0.11	7.32	1.15	1.79	0.77	0.11	249.62
S3	56	0.22	76.61	14.01	0.04	0.92	1.25	0.18	10.15	0.16	18.21	0.09	0.19	122.03
S4	56	3.97	55.77	11.93	0.11	1.12	5.94	0.06	7.60	0.46	6.46	0.03	0.17	93.62
S5	121	5.83	199.83	227.52	4.63	4.60	15.19	0.47	12.60	0.08	1.83	0.06	0.07	472.68
S6	96	2.81	498.01	367.76	0.40	8.58	69.47	2.69	16.69	0.55	0.12	0.27	0.00	967.32
S7	65	6.89	240.32	101.42	0.40	0.62	17.01	0.67	22.84	0.72	0.68	0.58	0.04	392.19
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	3.99	0.40	5.11	1.36	0.53	0.09	0.00	268.43
D1	69	1.58	527.42	264.00	0.50	0.00	8.25	10.00	6.17	1.67	0.00	1.17	0.00	820.76
D2	71	1.21	108.66	114.97	2.91	3.80	11.00	1.37	5.93	1.56	0.00	0.18	0.00	251.59

[1] **Bb**: barbastelle, **Pp**: common pipistrelle, **Py**: soprano pipistrelle, **Pn**: Nathusius' pipistrelle, **Psp**: pipistrelle sp., **Msp**: *Myotis sp.*, **Pl**: *Plecotus sp.*, **Nn**: noctule, **Nl**: Leisler's bat, **Nsp**: *Nyctalus sp.*, **Es**: serotine, **Es/Nsp**: serotine/*Nyctalus sp.*

Excluding pipistrelle species

Including pipistrelle species

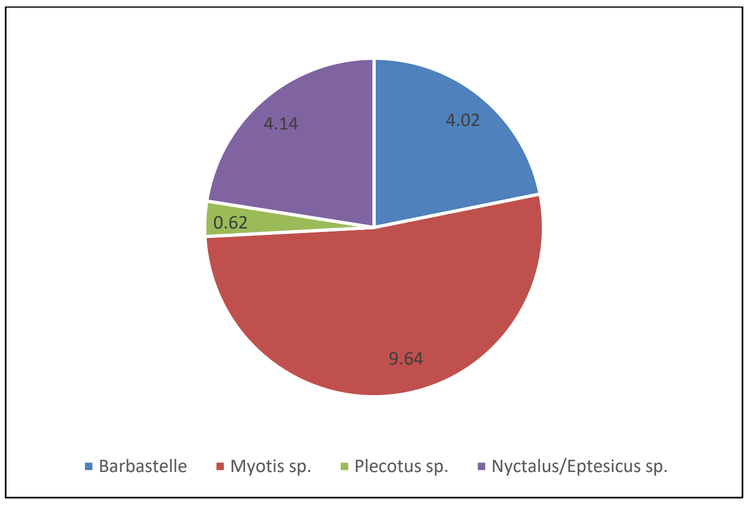


Figure 1: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location S1

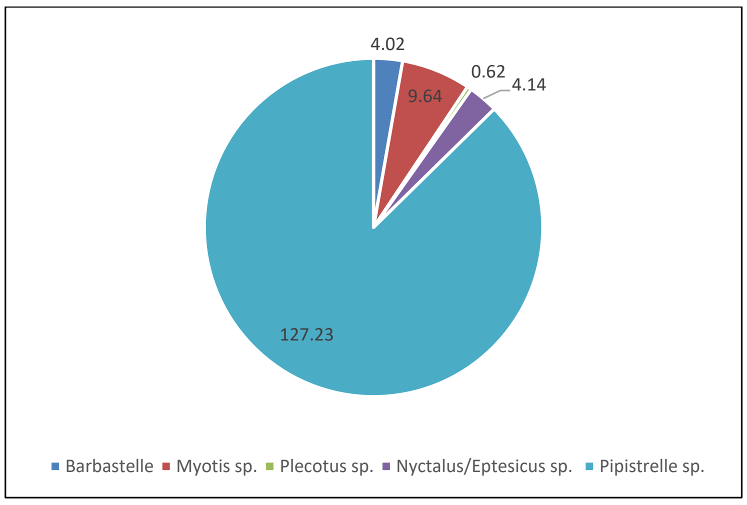


Figure 2: Average identifications per night across all survey sessions in 2022 – Location S1

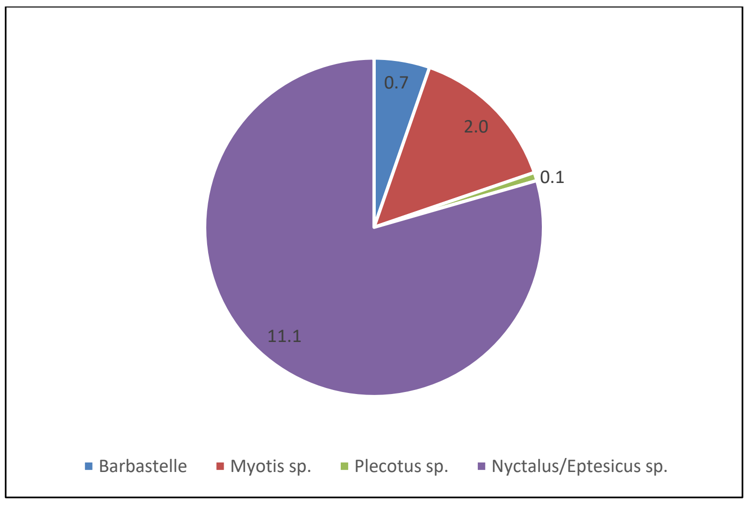


Figure 3: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location S2

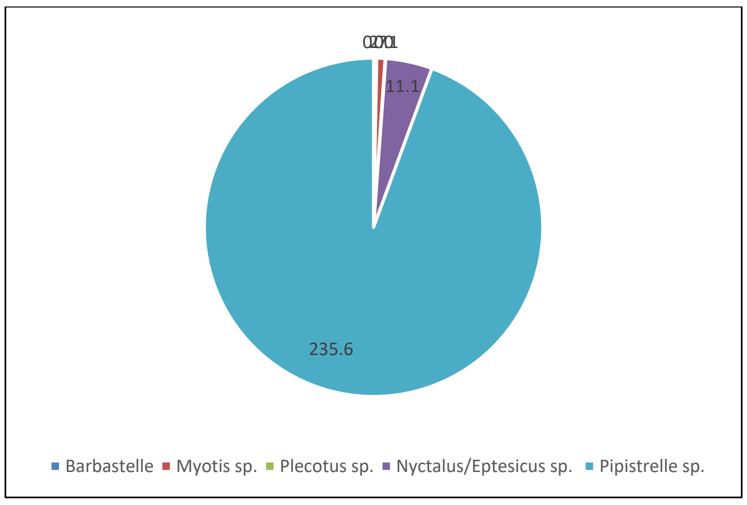


Figure 4: Average identifications per night across all survey sessions in 2022 – Location S2

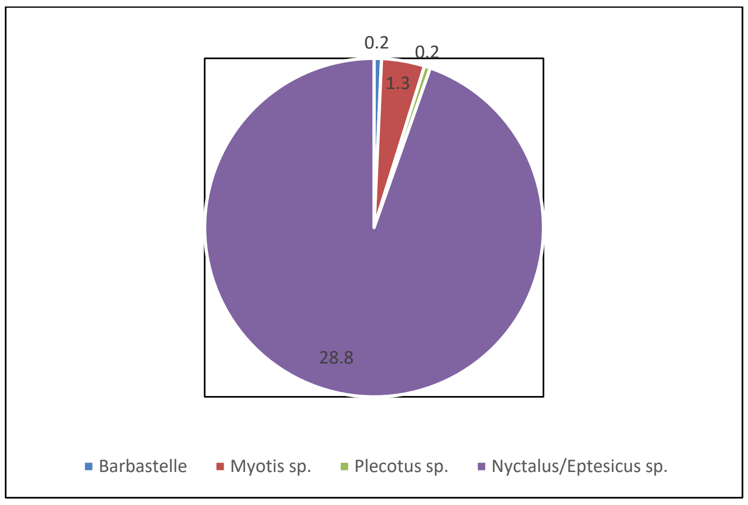


Figure 5: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location S3

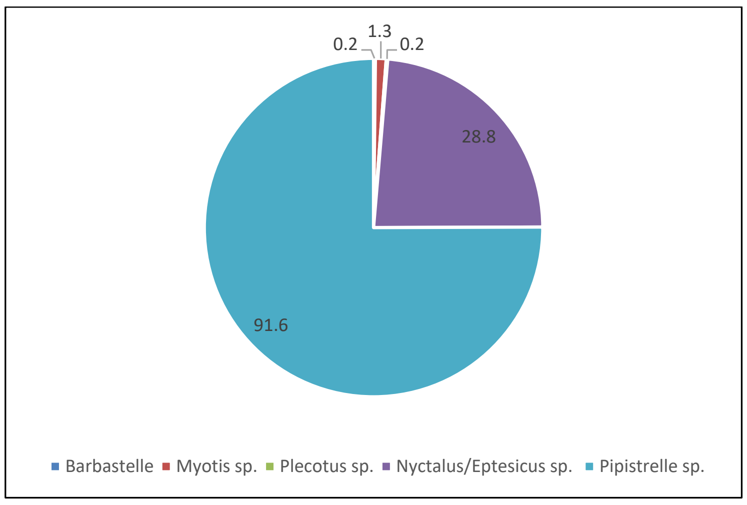


Figure 6: Average identifications per night across all survey sessions in 2022 – Location S3

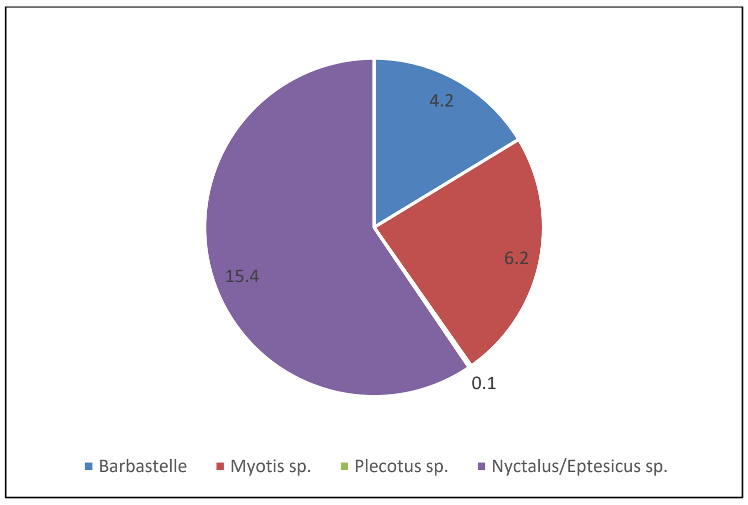


Figure 7 Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location S4

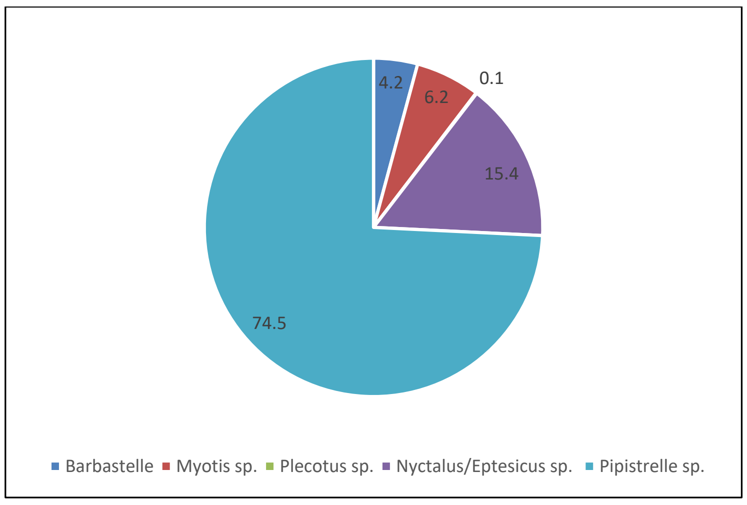


Figure 8: Average identifications per night across all survey sessions in 2022 – Location S4

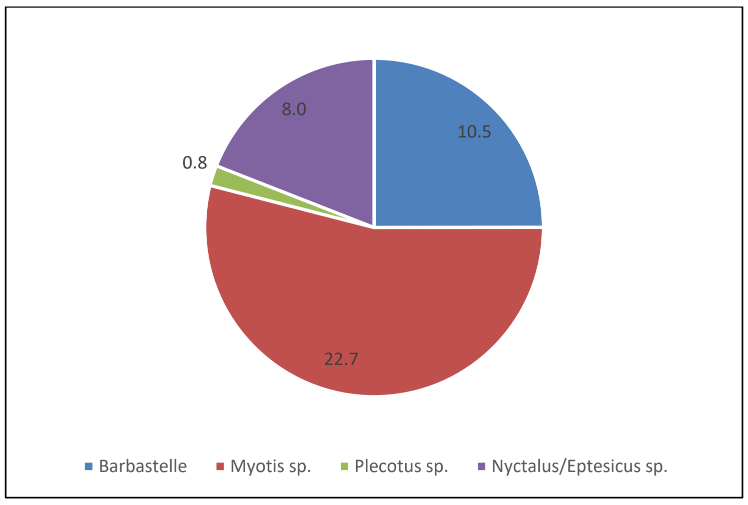


Figure 9: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location S5

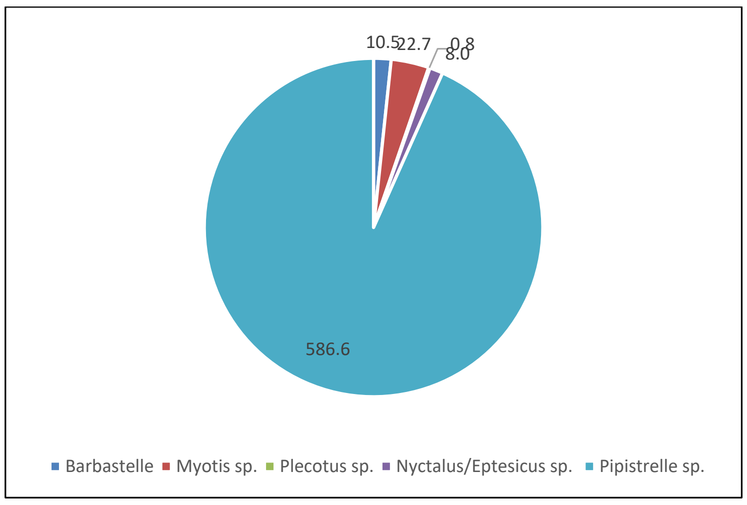


Figure 10: Average identifications per night across all survey sessions in 2022 – Location S5

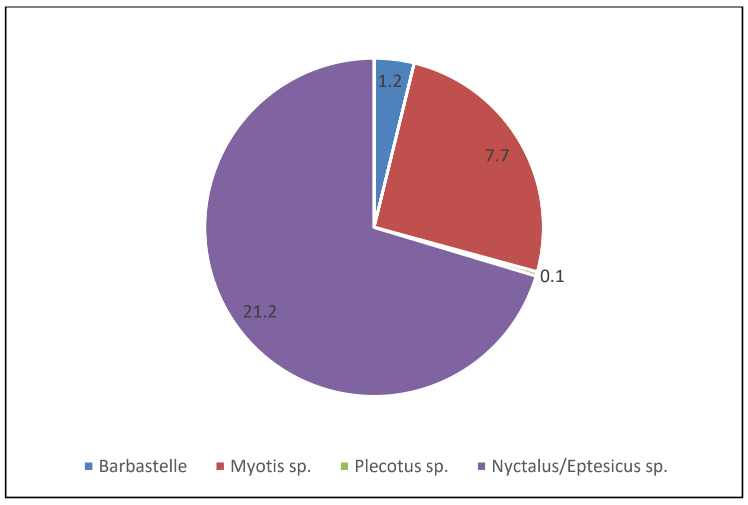


Figure 11: Average identifications per night (excluding pipistrelles) across all survey sessions in 2023 – Location S5

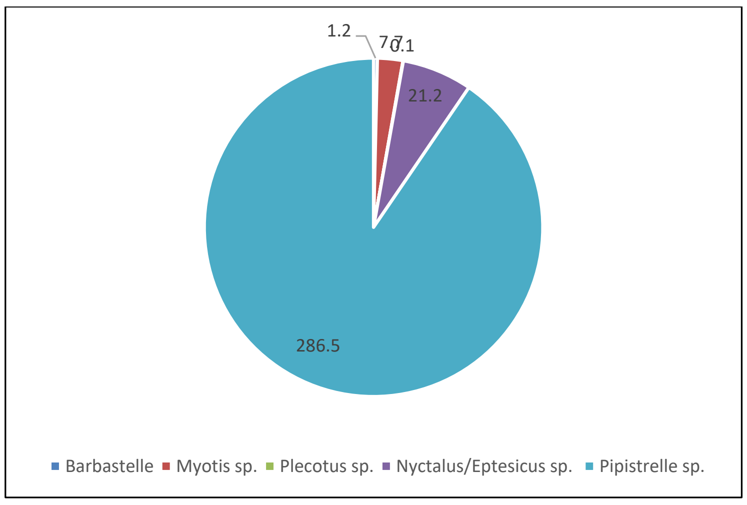


Figure 12: Average identifications per night across all survey sessions in 2023 – Location S5

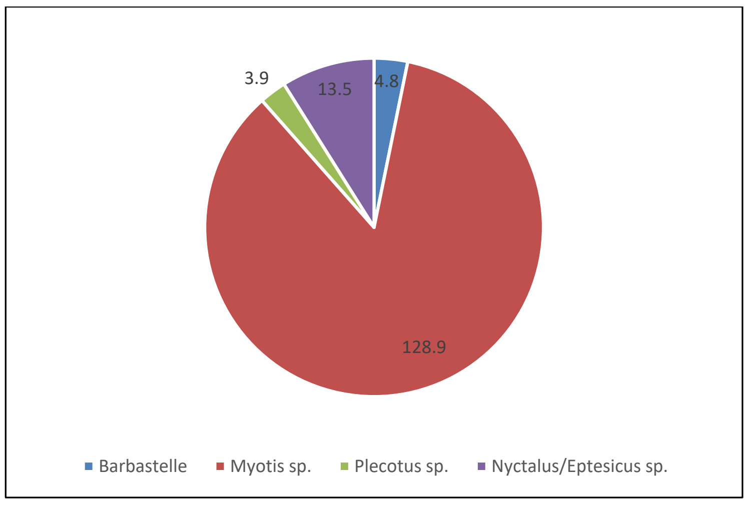


Figure 13: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location S6

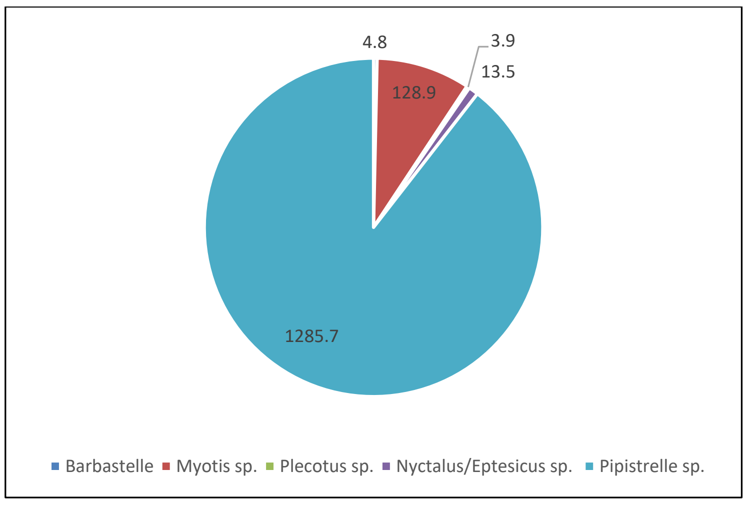


Figure 14: Average identifications per night across all survey sessions in 2022 – Location S6

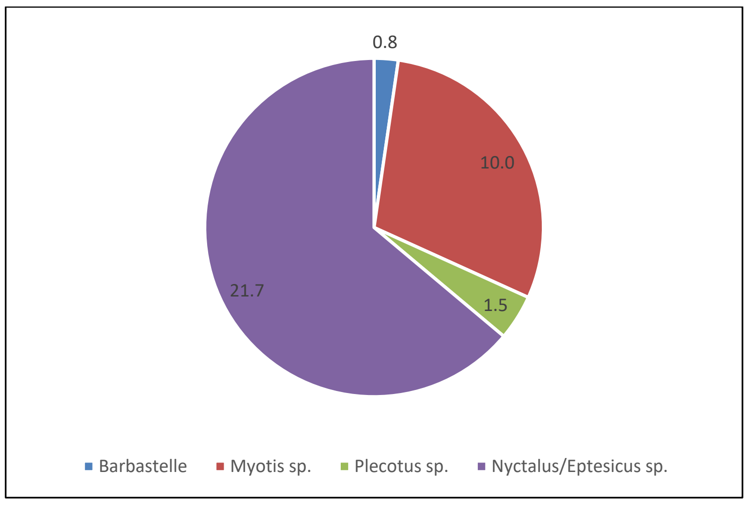


Figure 15: Average identifications per night (excluding pipistrelles) across all survey sessions in 2023 – Location S6

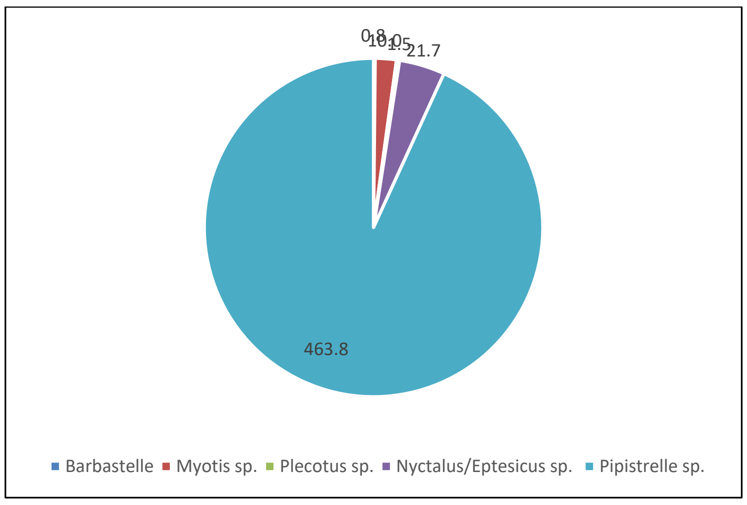


Figure 16: Average identifications per night across all survey sessions in 2023 – Location S6

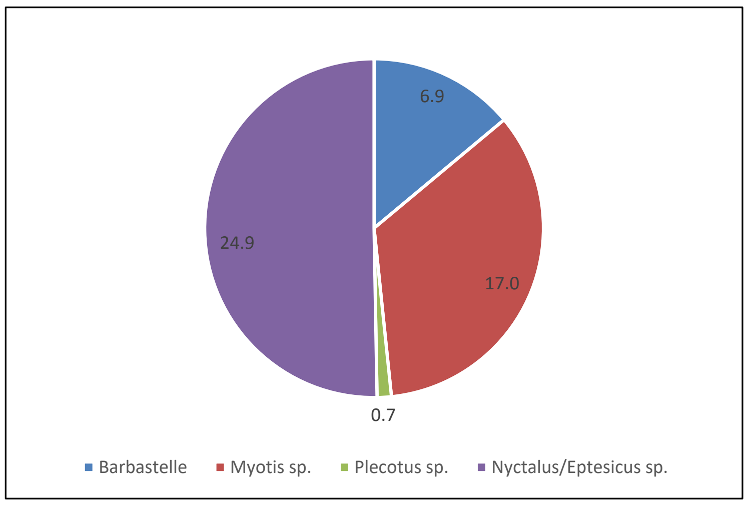


Figure 17: Average identifications per night (excluding pipistrelles) across all survey sessions in 2023 – Location S7

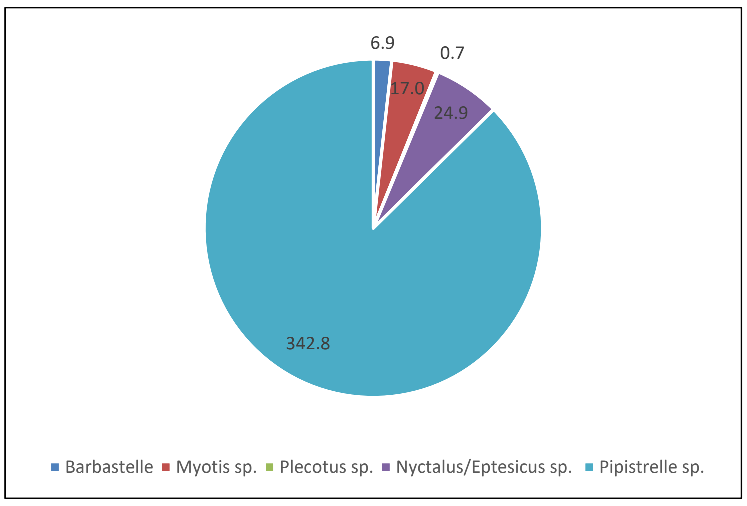


Figure 18: Average identifications per night across all survey sessions in 2023 – Location S7

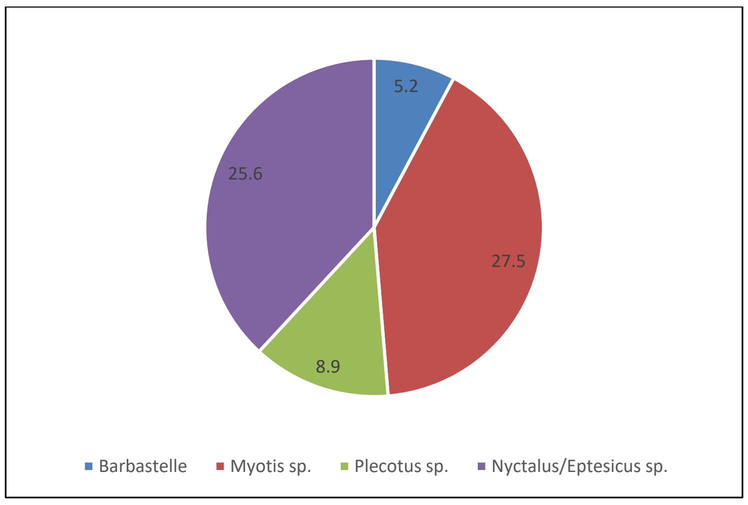


Figure 15: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location S8

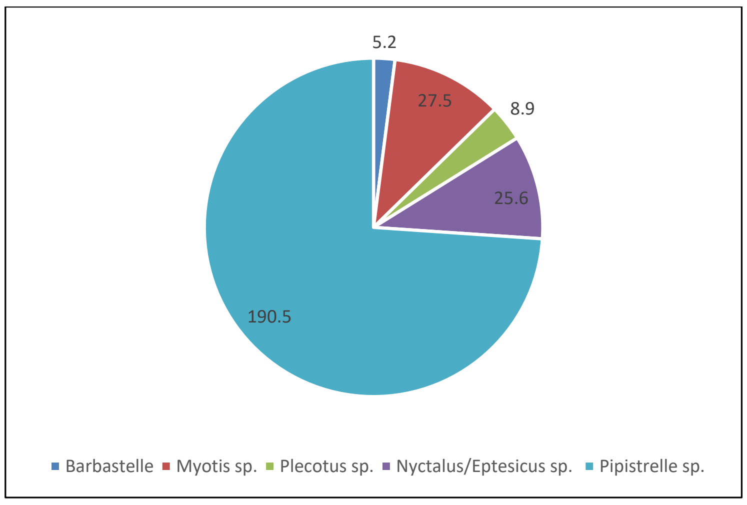


Figure 16: Average identifications per night across all survey sessions in 2022 – Location S8

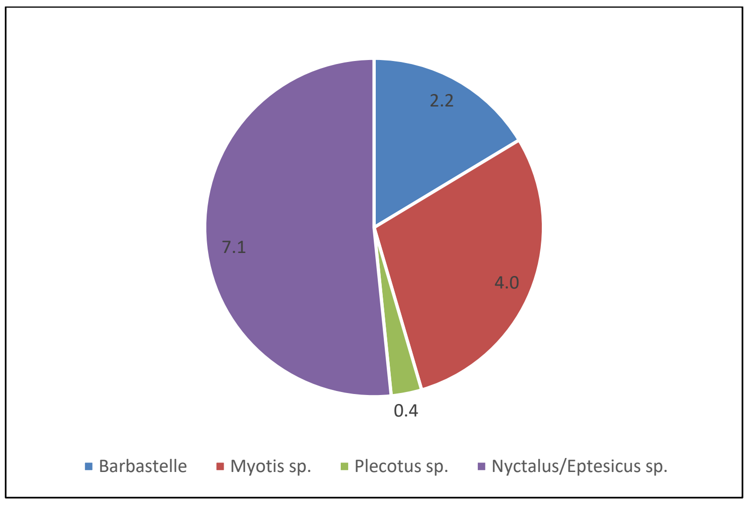


Figure 17: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location S9

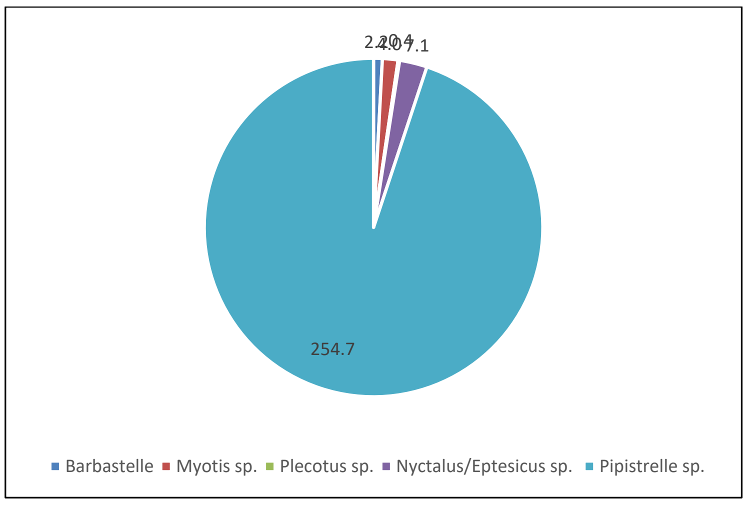


Figure 18: Average identifications per night across all survey sessions in 2022 – Location S9

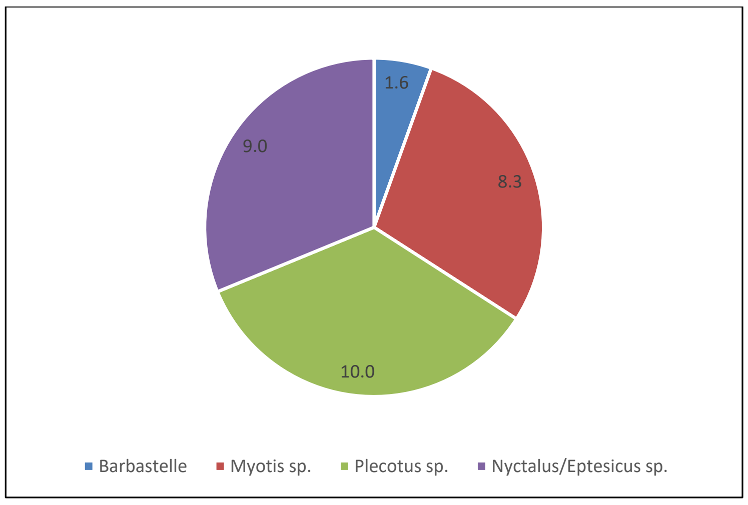


Figure 19: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location D1

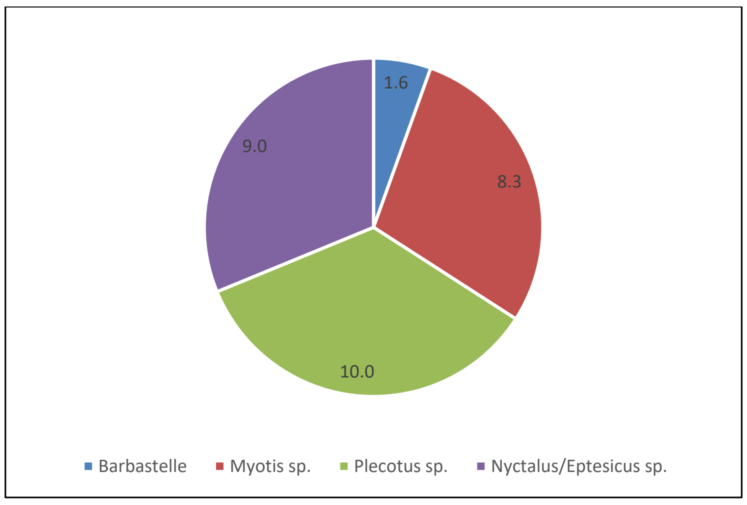


Figure 20: Average identifications per night across all survey sessions in 2022 – Location D1

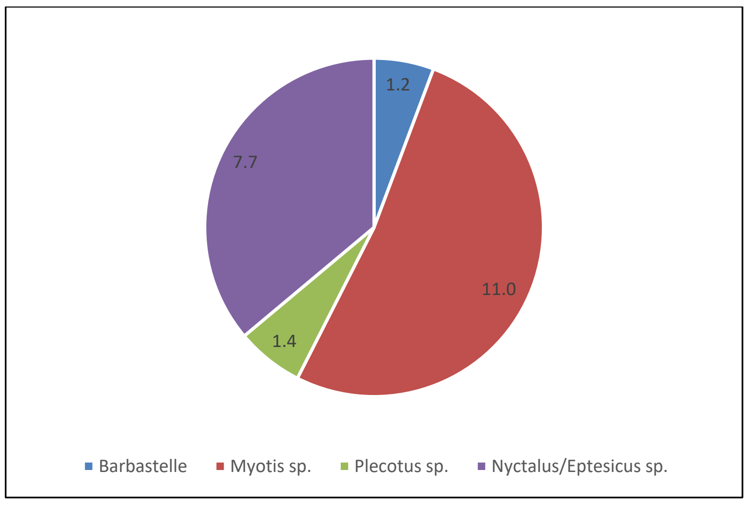


Figure 21: Average identifications per night (excluding pipistrelles) across all survey sessions in 2022 – Location D2

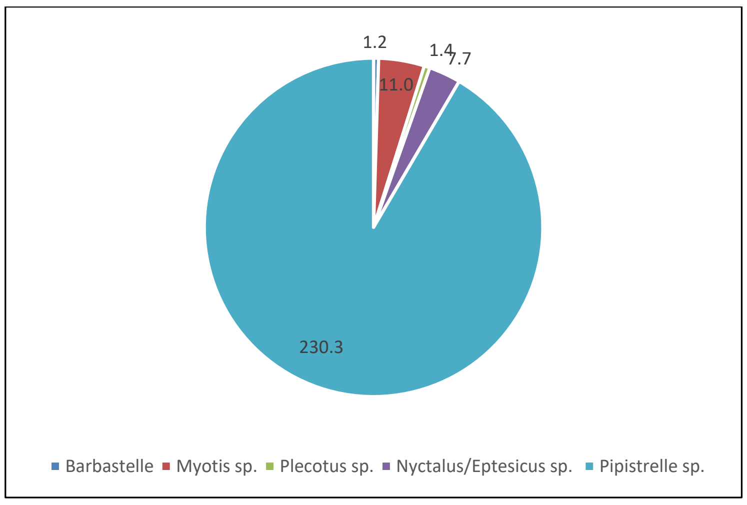


Figure 22: Average identifications per night across all survey sessions in 2022 – Location D2

Appendix 3: Paired static bat detector results 2024-2025

Table 1. Paired static detector survey results 2024-2025 – results in red show where more than four barbastelle identifications were recorded within an hour of sunset

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	**Species**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**
P1	Barbastelle	-	-	0.0	0.0	-	-			0.0	0.0
	Brown Long-eared Bat	-	-	0.0	0.2	-	-			0.0	0.2
	Common Pipistrelle	-	-	6.5	36.5	-	-			6.5	36.5
	Leisler's Bat	-	-	0.2	0.0	-	-			0.2	0.0
	Myotis sp.	-	-	0.2	1.8	-	-			0.2	1.8
	Nathusius' Pipistrelle	-	-	0.7	1.3	-	-			0.7	1.3
	Noctule	-	-	0.7	3.5	-	-			0.7	3.5
	Serotine	-	-	0.0	0.2	-	-			0.0	0.2
	Soprano Pipistrelle	-	-	1.3	25.2	-	-			1.3	25.2
	Total	-	-	9.5	68.7	-	-			9.5	68.7
P2	Barbastelle	-	-	0.0	0.0	-	-			0.0	0.0

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	Species	Field	Hedge	Field	Hedge	Field	Hedge	Field	Hedge	Field	Hedge
	Brown Long-eared Bat	-	-	2.4	0.0	-	-			2.4	0.0
	Common Pipistrelle	-	-	16.6	0.4	-	-			16.6	0.4
	Leisler's Bat	-	-	1.8	1.4	-	-			1.8	1.4
	Myotis sp.	-	-	5.8	0.0	-	-			5.8	0.0
	Nathusius' Pipistrelle	-	-	3.0	0.0	-	-			3.0	0.0
	Noctule	-	-	47.2	7.4	-	-			47.2	7.4
	Serotine	-	-	1.6	0.2	-	-			1.6	0.2
	Soprano Pipistrelle	-	-	24.0	10.0	-	-			24.0	10.0
	Total	-	-	102.4	19.4	-	-			102.4	19.4
P3	Barbastelle	-	-	0.0	0.0	-	-			0.0	0.0
	Brown Long-eared Bat	-	-	0.0	0.0	-	-			0.0	0.0
	Common Pipistrelle	-	-	4.0	387.4	-	-			4.0	387.4

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	Species	Field	Hedge	Field	Hedge	Field	Hedge	Field	Hedge	Field	Hedge
	Leisler's Bat	-	-	0.0	0.0	-	-			0.0	0.0
	Myotis sp.	-	-	16.2	22.6	-	-			16.2	22.6
	Nathusius' Pipistrelle	-	-	0.0	2.4	-	-			0.0	2.4
	Noctule	-	-	7.4	7.4	-	-			7.4	7.4
	Serotine	-	-	0.4	1.2	-	-			0.4	1.2
	Soprano Pipistrelle	-	-	3.6	84.4	-	-			3.6	84.4
	Total	-	-	31.6	505.4	-	-			31.6	505.4
P4	Barbastelle	-	-	0.0	0.2	-	-			0.0	0.2
	Brown Long-eared Bat	-	-	0.2	0.0	-	-			0.2	0.0
	Common Pipistrelle	-	-	17.2	25.2	-	-			17.2	25.2
	Leisler's Bat	-	-	2.2	14.4	-	-			2.2	14.4
	Myotis sp.	-	-	62.8	107.2	-	-			62.8	107.2

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	**Species**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**
	Nathusius' Pipistrelle	-	-	0.4	0.0	-	-			0.4	0.0
	Noctule	-	-	13.0	8.0	-	-			13.0	8.0
	Serotine	-	-	0.2	2.4	-	-			0.2	2.4
	Soprano Pipistrelle	-	-	12.4	15.0	-	-			12.4	15.0
	Total	-	-	108.4	172.4	-	-			108.4	172.4
P5	Barbastelle	-	-	-	61.8	-	-			0.0	61.8
	Brown Long-eared Bat	-	-	-	2.2	-	-			0.0	2.2
	Common Pipistrelle	-	-	-	854.2	-	-			0.0	854.2
	Leisler's Bat	-	-	-	0.4	-	-			0.0	0.4
	Myotis sp.	-	-	-	88.6	-	-			0.0	88.6
	Nathusius' Pipistrelle	-	-	-	0.0	-	-			0.0	0.0
	Noctule	-	-	-	32.2	-	-			0.0	32.2

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	**Species**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**
	Serotine	-	-	-	1.8	-	-			0.0	1.8
	Soprano Pipistrelle	-	-	-	142.8	-	-			0.0	142.8
	Total	-	-	-	1184.0	-	-			0.0	1184.0
P6	Barbastelle	0.4	0.0	-	-	0.4	0.6			0.4	0.3
	Brown Long-eared Bat	0.6	0.0	-	-	1.6	1.4			1.1	0.7
	Common Pipistrelle	7.4	18.4	-	-	11.2	15.2			9.3	16.8
	Leisler's Bat	0.4	0.6	-	-	0.0	0.4			0.2	0.5
	Myotis sp.	11.4	1.2	-	-	12.6	8.4			12.0	4.8
	Nathusius' Pipistrelle	0.0	0.2	-	-	0.0	0.0			0.0	0.1
	Noctule	9.2	6.2	-	-	41.8	27.2			25.5	16.7
	Serotine	0.4	0.0	-	-	2.4	2.8			1.4	1.4
	Soprano Pipistrelle	2.4	8.8	-	-	5.6	10.4			4.0	9.6

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	**Species**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**
	Total	32.2	35.4	-	-	75.6	66.4			53.9	50.9
P7	Barbastelle	0.6	6.4	-	-	0.0	36.3			0.3	21.4
	Brown Long-eared Bat	0.2	0.2	-	-	2.2	0.8			1.2	0.5
	Common Pipistrelle	44.4	257.4	-	-	6.2	144.0			25.3	200.7
	Leisler's Bat	0.0	3.4	-	-	0.7	0.5			0.3	2.0
	Myotis sp.	12.0	33.6	-	-	2.3	33.3			7.2	33.5
	Nathusius' Pipistrelle	2.6	4.4	-	-	0.0	0.0			1.3	2.2
	Noctule	9.6	14.0	-	-	100.5	24.8			55.1	19.4
	Serotine	0.4	0.2	-	-	6.7	4.7			3.5	2.4
	Soprano Pipistrelle	14.8	478.4	-	-	5.3	110.5			10.1	294.5
	Total	84.6	798.0	-	-	123.8	356.0			104.2	577.0
P8	Barbastelle	1.0	4.4	-	-	0.2	0.0			0.6	2.2

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	**Species**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**	**Field**	**Hedge**
	Brown Long-eared Bat	0.4	1.0	-	-	0.2	0.0			0.3	0.5
	Common Pipistrelle	15.6	30.2	-	-	14.8	1.8			15.2	16.0
	Leisler's Bat	3.2	3.2	-	-	3.0	0.2			3.1	1.7
	Myotis sp.	2.6	3.6	-	-	3.2	1.2			2.9	2.4
	Nathusius' Pipistrelle	0.0	0.2	-	-	0.6	0.0			0.3	0.1
	Noctule	42.2	36.0	-	-	32.0	9.0			37.1	22.5
	Serotine	2.8	4.4	-	-	1.2	1.0			2.0	2.7
	Soprano Pipistrelle	7.0	87.4	-	-	3.4	1.0			5.2	44.2
	Total	74.8	170.4	-	-	58.6	14.2			66.7	92.3
P9	Barbastelle	2.4	16.6	-	-	0.3	0.4			1.4	8.5
	Brown Long-eared Bat	0.6	0.4	-	-	0.2	2.2			0.4	1.3
	Common Pipistrelle	11.4	103.6	-	-	37.7	84.0			24.5	93.8

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	Species	Field	Hedge	Field	Hedge	Field	Hedge	Field	Hedge	Field	Hedge
	Leisler's Bat	0.0	0.0	-	-	2.2	0.6			1.1	0.3
	Myotis sp.	35.2	8.4	-	-	39.5	79.2			37.4	43.8
	Nathusius' Pipistrelle	0.0	5.0	-	-	0.0	0.0			0.0	2.5
	Noctule	4.0	2.6	-	-	1.0	1.2			2.5	1.9
	Serotine	0.2	0.0	-	-	0.0	0.0			0.1	0.0
	Soprano Pipistrelle	1.6	43.0	-	-	4.7	23.2			3.1	33.1
	Total	55.4	179.6	-	-	85.5	190.8			70.5	185.2
P10	Barbastelle	0.6	0.6	-	-	0.0	1.2			0.3	0.9
	Brown Long-eared Bat	1.6	0.2	-	-	0.0	0.2			0.8	0.2
	Common Pipistrelle	37.6	187.2	-	-	11.7	426.2			24.6	306.7
	Leisler's Bat	0.0	0.4	-	-	0.2	0.3			0.1	0.4
	Myotis sp.	91.0	10.0	-	-	0.3	3.3			45.7	6.7

		Jul-24		Jun-25		Jul-25		Aug-25		Average across surveys	
Location	Species	Field	Hedge	Field	Hedge	Field	Hedge	Field	Hedge	Field	Hedge
	Nathusius' Pipistrelle	2.8	1.0	-	-	0.0	0.8			1.4	0.9
	Noctule	4.8	1.4	-	-	0.7	4.8			2.7	3.1
	Serotine	0.0	0.0	-	-	0.0	0.8			0.0	0.4
	Soprano Pipistrelle	7.4	10.6	-	-	4.7	22.8			6.0	16.7
	Total	145.8	211.4	-	-	17.5	460.5			81.7	336.0

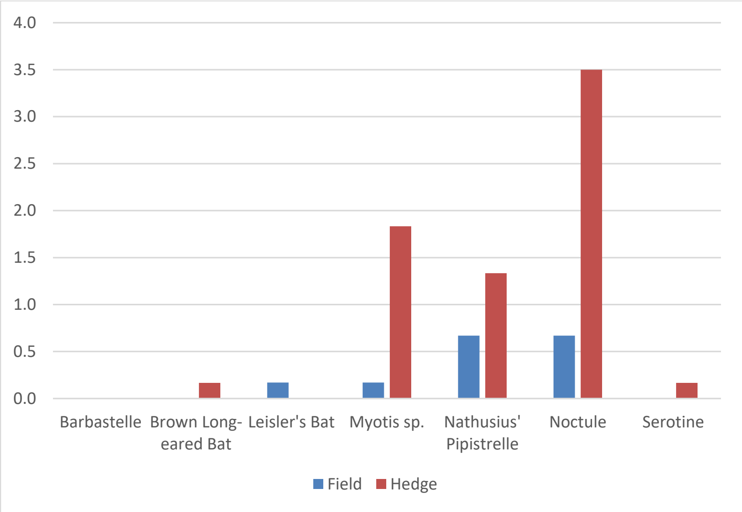


Figure 1. Average identifications per night at location P1, excluding common pipistrelle and soprano pipistrelle identifications

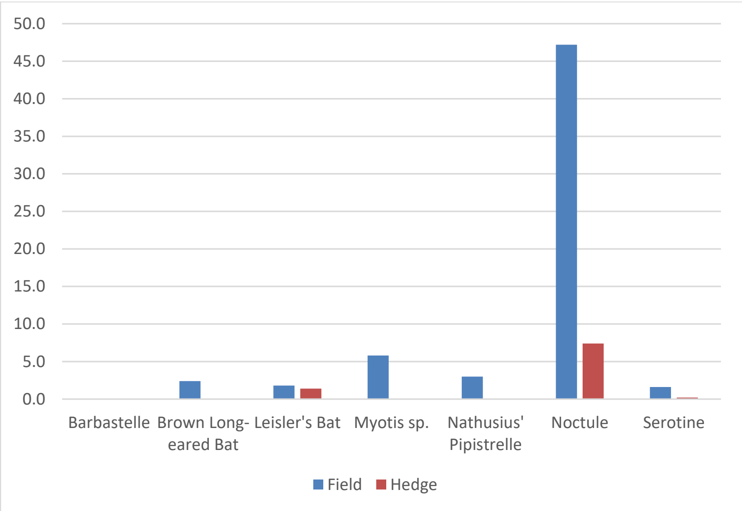


Figure 2. Average identifications per night at location P2, excluding common pipistrelle and soprano pipistrelle identifications

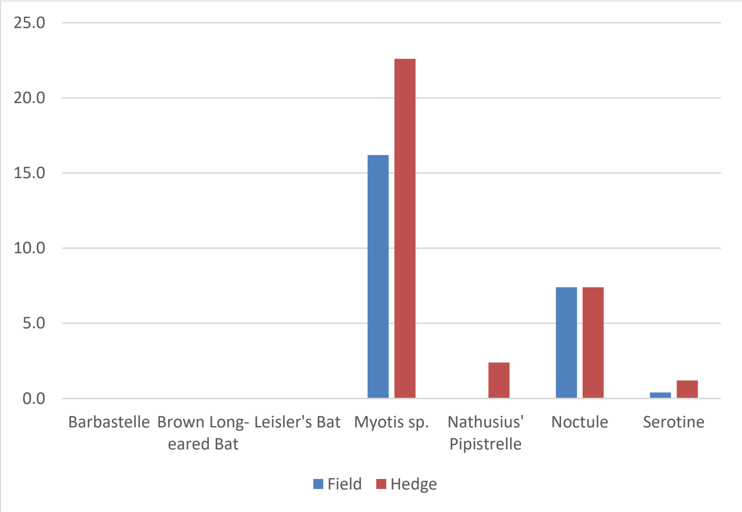


Figure 3. Average identifications per night at location P3, excluding common pipistrelle and soprano pipistrelle identifications

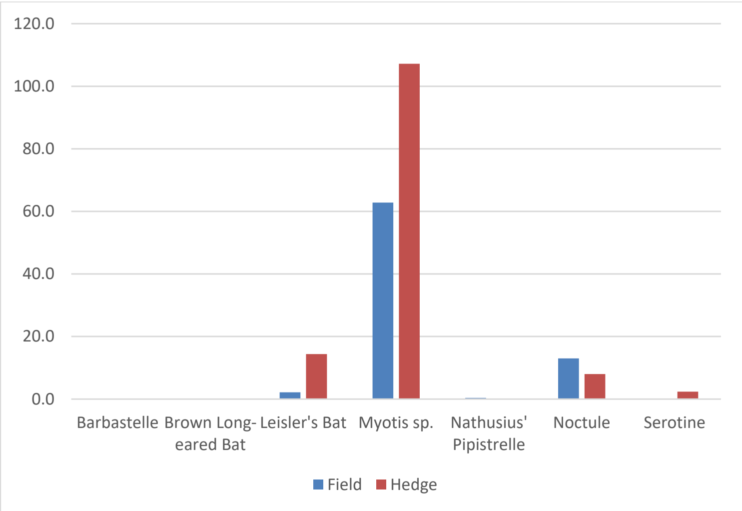


Figure 4. Average identifications per night at location P4, excluding common pipistrelle and soprano pipistrelle identifications

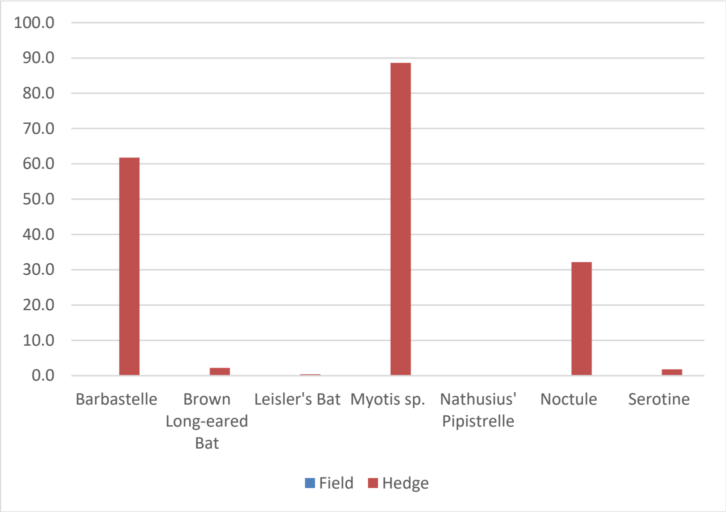


Figure 5. Average identifications per night at location P5, excluding common pipistrelle and soprano pipistrelle identifications

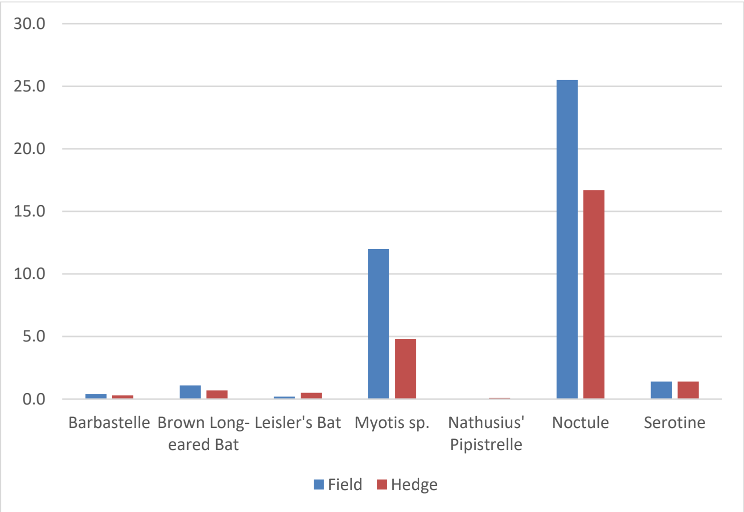


Figure 6. Average identifications per night at location P6, excluding common pipistrelle and soprano pipistrelle identifications

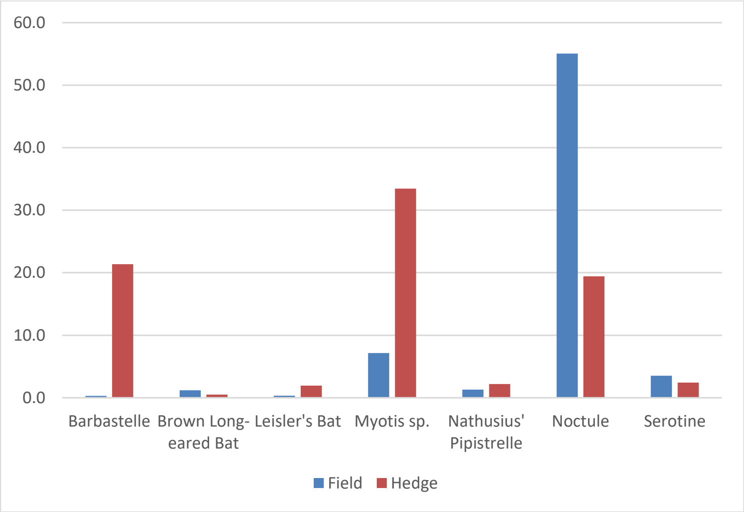


Figure 7. Average identifications per night at location P7, excluding common pipistrelle and soprano pipistrelle identifications

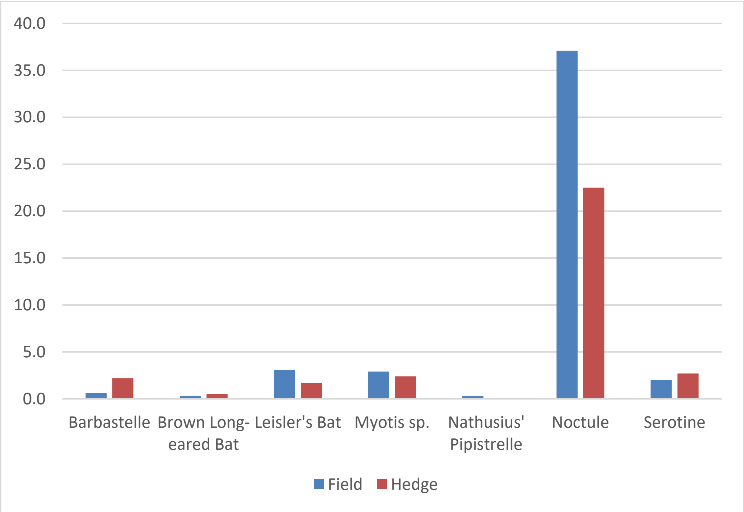


Figure 8. Average identifications per night at location P8, excluding common pipistrelle and soprano pipistrelle identifications

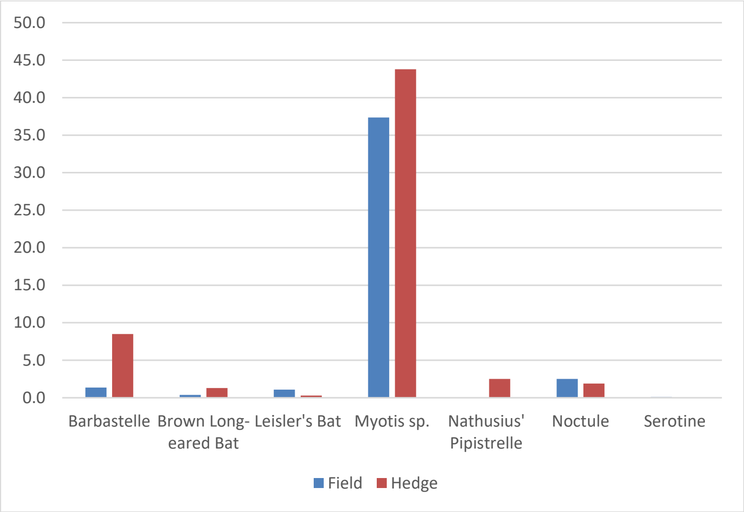


Figure 9. Average identifications per night at location P9, excluding common pipistrelle and soprano pipistrelle identifications

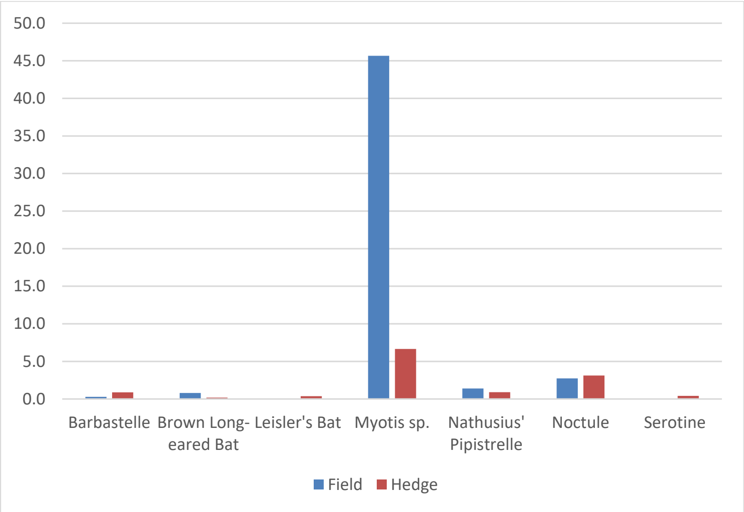


Figure 10. Average identifications per night at location P10, excluding common pipistrelle and soprano pipistrelle identifications

This page is intentionally blank