

## Ecological Impact Assessment Addendum

Ratby Lane, Markfield. November 2025

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### 1.0 Introduction

- 1.1 An Ecological Impact Assessment (EIA), supported by protected species survey reports, was submitted to Hinckley and Bosworth District Council in June 2025 (report reference CSA/2550/01), for land off Ratby Lane, Markfield (hereafter 'the Site'). The Site is proposed for residential development, with the purpose of the EIA to assess the impact of the proposals on ecology, and set out appropriate measures to prevent, reduce, mitigate or offset any significant adverse effects.
- 1.2 As the original submission was in June 2025, the bat activity survey work had not yet been fully completed at the time of writing the EIA. The landscaping scheme within the Site has also been reconfigured since the EIA was first issued to allow for a higher coverage of woodland planting, in line with requirements set by the National Forest. As such, this addendum provides an updated assessment relating to bats and the revised landscaping scheme, along with any necessary updates to avoidance, mitigation and compensation measures prescribed.

### 2.0 Legislation, Planning Policy and Standing Advice

- 2.1 Legislation, planning policy and standard advice is consistent with that set out within the Ecological Impact Assessment.

### 3.0 Methods

- 3.1 The methods adopted, including methods relating to evaluation and assessment remain the same as those set out under Chapter 3: Methods, within the EIA (CSA/2550/01). To inform this addendum, additional survey work for bats has been undertaken. Methods for the update bat survey work are consistent with those reported within the EIA, and set out in Appendix A of this addendum.

#### Limitations

- 3.2 Limitations to the bat surveys are addressed in the relevant appendix.

### 4.0 Baseline Ecological Conditions

#### Nature Conservation Designations

- 4.1 Designations are consistent with those set out within the EIA and are not updated here.

### Habitats

4.2 Habitats on-site are consistent with those reported within the EclA and therefore are not discussed further here.

### Fauna

#### *Bats*

4.3 Data search information relating to bats is unchanged from that reported within the EclA.

4.4 As reported within the EclA, arable habitat on-site offers limited opportunities for bats, with hedgerows, woodland and mature trees providing more suitable foraging and roosting habitats.

#### *Bat Activity Surveys*

4.5 At the time of writing the submitted EclA, one night-time bat walkover survey (May/Spring) and two months of static monitoring (April and May) had been completed. The remainder of the survey work has now been completed, with supplementary night-time bat walkovers completed in July (Summer) and September (Autumn), and static monitoring from June to October. The evaluation of bat data and assessment of the bat assemblage importance is updated below.

4.6 The night-time bat walkover surveys recorded at least four species of bat, including common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *P. pygmaeus*, noctule *Nyctalus noctula* and *Myotis* sp. Generally, bat activity was located along the southern and eastern boundaries, adjacent to existing areas of woodland. The areas of least activity were recorded along the northern boundary adjacent to the residential dwellings along Jacqueline Road. Common pipistrelle accounted for c. 93% of all bat contacts recorded during the night-time bat walkovers, with noctule accounting for c. 3% and *Myotis* sp. and soprano pipistrelle accounting for c. 2% each.

4.7 As with the night-time bat walkover surveys, common pipistrelle bats dominated the static monitoring survey results, with this species accounting for c. 86.87% of total contacts. Lower numbers of soprano pipistrelle (c. 8.5% of total contacts) were recorded, with less than 179 contacts for all other species. Low number of passes of Nathusius' pipistrelle *P. nathusii* was recorded during the surveys, with three and five contacts recorded at Monitoring Locations (ML) ML1 (along Boundary B1 to the west) and ML2 (along Boundary B2 to the south) respectively.

4.8 Species diversity was similar at both Monitoring Locations, with all species recorded at both Monitoring Locations, and the numbers of calls recorded by each species were similar.

4.9 Following the updated bat survey work undertaken, survey results have been found to be broadly consistent with those undertaken in previous

years. Based on the number of *Myotis* species recorded across the year, the assumption of one *Myotis* sp. utilising the Site has been maintained. For clarity, an updated assessment of importance has been set out in Table 1 below.

**Table 1.** Categorising Bats by Geographic Distribution and Rarity (adapted from Reason and Wray, 2023) Adapt as necessary for geographic location

<b>Rarity in central England/Midlands (score assigned per species present)</b>	<b>Species known to occur in the same region as the Site</b>	<b>Species recorded on-site</b>	<b>Importance in geographical context</b>
Widespread in all geographies (1)	Common pipistrelle Soprano pipistrelle Brown long-eared	Common pipistrelle Soprano pipistrelle Brown long-eared	Local
Widespread in many geographies, but not as abundant in all (2)	Whiskered Brandt's Daubenton's Natterer's Noctule	Natterer's* Noctule	Local
Rarer or restricted distribution (3)	Serotine Leisler's Nathusius' pipistrelle	Leisler's* Nathusius' pipistrelle	Local
Rarest Annex II species and very rare (4)	Barbastelle Lesser horseshoe		County
<b>Total Assemblage Score/Importance</b>	<b>26</b>	<b>13</b>	<b>County</b>

\*Assumed present based on habitats present on-site and records returned within the desk study.

4.10 Based on a combination of desktop and survey data, the Site is anticipated to score 13 out of a maximum 26 (equating to 50%), resulting in an assemblage importance of between County and Regional Importance. Although Reason and Wray assess the Site to be importance at up to the Regional level, based on the low numbers of passes from each species, and dominance by widespread species, the bat assemblage is considered to be important at up to the County Level. This is consistent with that set out within the submitted EclA.

## 5.0 Assessment of Effects

5.1 Outline planning permission for residential development is sought at the Site. Since the submission of the EclA in June 2025, the landscaping scheme has been updated to increase the coverage of woodland at the Site, as requested through consultation with the National Forest. In particular, key changes include:

- Conversion of thicket planting in the south of the Site to woodland planting

- Conversion of thicket and wildflower grassland along the western boundary to woodland planting

5.2 The following impact assessment is based on the Land Use Plan (CSA/2550/137) prepared by CSA Environmental.

5.3 Assumptions set out within the EclA are considered to be unchanged.

#### Potential Impacts and Ecological Effects

##### *Bats*

5.4 The assessment of potential impacts and ecological effects for roosting, foraging and dispersing bats is unchanged from that within the EclA.

5.5 The assessment of effects relating to change in land use is unchanged from that within the EclA.

5.6 A short stretch of hedgerow removal along Boundary B1 is proposed to facilitate access into and around the development. Activity surveys undertaken to inform the proposals recorded a variety of species using this boundary for dispersal, however this was largely comprised of common pipistrelle contacts, with less frequent activity from other species. All bat species rely on intact, green corridors for dispersal devoid of excessive light spill, however Boundary B1 is already lit by adjacent streetlamps, and therefore any bats utilising this corridor for dispersal and foraging will be tolerant of a certain level of artificial light. In addition, species most commonly recorded along this boundary (common and soprano pipistrelles, noctule) will cross breaks in vegetation if needed. Due to the presence of alternative dispersal routes in the locality, in the absence of mitigation, the loss of hedgerow at the Site is valued to be important at the Local level. This is consistent with the assessment reported within the previously submitted EclA report.

5.7 Based on the bat assemblage recorded on-site, an increase in artificial lighting is likely to be negative at up to the Local level. This is unchanged from the assessment reported within the previously submitted EclA report.

#### Mitigation By Design

5.8 It is an established principle (CIEEM, 2018) that, wherever possible, potential negative effects should be avoided through 'Mitigation by Design', as this gives greater certainty over deliverability, demonstrates a well-designed scheme and ensures the correct application of the 'Mitigation Hierarchy' (as advocated by BS42020:2013, Defra 2019 and CIEEM, CIRIA & IEMA 2016).

5.9 The proposed development has sought to minimise effects on foraging and dispersing bat species through sensitive design, maintaining the green corridors currently present at the Site to allow dispersal routes and

foraging habitats to be maintained. As shown on the landscaping plans, the Site boundaries are proposed to feature new vegetation planting, buffering them from development edge effects and enhancing the species and structural diversity. Furthermore, vegetation planting is proposed along the eastern Site boundary, creating additional green corridors and habitat to benefit bats, badger, amphibians, invertebrates and other wildlife.

- 5.10 Landscaping proposals include provision of new hedgerow planting, helping to provide a net gain in the availability of this habitat at the Site level. The new landscaping proposals specify a higher coverage of woodland planting, which in time will offer high quality foraging, dispersing and potentially roosting opportunities for bats.
- 5.11 Further detail of the establishment and long-term management of these habitats, to maximise benefits for biodiversity, will be set out in a LEMP at the detailed design stage.

#### Additional Mitigation

##### *Bats*

- 5.12 Additional mitigation for bats is consistent with measures set out within the EclA.

##### *Enhancement*

- 5.13 As set out within the EclA, new habitat features (e.g. bat and bird boxes) will be delivered across the development, fitted externally or within the fabric of new dwellings, and on retained mature trees. The variety and location of these features will be precisely established at the detailed design stage and set out in the LEMP for each phase of development.
- 5.14 Due to the consistent survey results recorded, no change in enhancement measures are proposed, with numbers specified within the EclA to be maintained.

##### *Cumulative and In-Combination Effects*

- 5.15 Discussion of cumulative and in-combination effects are consistent with that set out within the EclA.

## **6.0 Conclusions**

- 6.1 Based on the successful implementation of avoidance, mitigation and enhancement measures set out herein, the scheme is considered to accord with all relevant nature conservation legislation, as well as with the provisions of the Hinckley and Bosworth Core Strategy (Adopted 2009).
- 6.2 The parameters of landscaping shown in the revised landscaping scheme will deliver net benefits for wildlife in the form of additional and enhanced semi-natural habitats, with the opportunity to provide additional biodiversity enhancement measures alongside the new housing. The measures set out within the EcIA and herein will be secured through appropriate conditions imposed upon any planning consent, and the proposals may therefore be delivered without harm to nature conservation interests.

## 7.0 References

Chartered Institute of Ecology and Environmental Management, 2017. *Guidelines for Ecological Report Writing*. Winchester: CIEEM.

Chartered Institute of Ecology and Environmental Management, 2018. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1*. Winchester: CIEEM.

Collins, J., et al. 2023. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th ed. London: The Bat Conservation Trust.

## **Appendix A**

### **Bat Survey Report**

## **1.0 Introduction**

1.1 This appendix has been produced by CSA Environmental on behalf of Taylor Wimpey Strategic Land. It sets out the methods and results of bat activity surveys undertaken at Land at Ratby Lane, Markfield (hereafter referred to as 'the Site'), where residential development is proposed.

## **2.0 Legislation**

2.1 All British bat species are legally protected under Regulation 43 of the Conservation of Habitats and Species Regulations 2017 (as amended). These Regulations make it an offence to:

- Deliberately capture, injure, or kill a bat
- Deliberately disturb bats, impairing their ability to survive, breed, reproduce or rear/nurture their young, or which significantly affects the local distribution or abundance of the species
- Damage or destroy a breeding site or resting place used by bats

2.2 All bats and their roosts in the UK were previously fully protected under the Wildlife & Countryside Act 1981 (as amended). Amendments to the Act have removed most provisions as they relate to bats, however it remains an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection

2.3 It is important to note that bat roosts are protected throughout the year, regardless of whether or not bats are present at the time. Under the Regulations, the offence of damaging or destroying a breeding site or resting place is subject to 'strict liability', i.e. an offence is committed irrespective of whether the causal act was deliberate or otherwise.

2.4 Where development is proposed that would result in an offence under the Regulations, a European Protected Species (EPS) statutory derogation licence (often termed 'EPS Mitigation Licence') will need to be secured from Natural England to permit an act that would otherwise be unlawful. Such a licence can only be granted following receipt of planning permission with all relevant conditions discharged, and where it has been demonstrated that specific statutory derogation tests have been met.

## **3.0 Methods**

3.1 The following survey methods, design, data analysis and interpretation have been undertaken with due consideration of the Bat Conservation Trust (BCT) guidelines 4<sup>th</sup> edition (Collins, 2023).

### Daytime Bat Walkover

3.2 A Daytime Bat Walkover (DBW) was undertaken on 18 March 2025 by Alex Perry ACIEEM (Bat Class Survey Licence WML-CL18, Registration Number 2017-32919-CLS-CLS) in fine and dry weather conditions. The aim of the survey is to observe, assess and record any habitats suitable for bats to roost, commute and forage on-site and within the surrounding area.

3.3 As part of the survey, surveyors identified any structures, trees or other features that could be suitable for bats to roost in, and habitats that could be suitable for bats to use to commute, forage or swarm. Assigning potential to roosting features is discussed in the relevant sections below.

3.4 Following the survey, suitability of commuting and dispersal habitats are assigned under the following categories:

3.5 Either:

- **High** – Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
- **Moderate** – Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
- **Low** – Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
- **Negligible** – No obvious habitat features on-site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
- **None** – No habitat features on-site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flightlines, or generate/shelter insect populations available to foraging bats).

### Ground Level Tree Assessment (GLTA)

3.6 A GLTA is a detailed inspection of the exterior of a tree from the ground to look for features that bats could use for roosting, Potential Roost Features (PRFs).

3.7 All trees on-site were inspected from ground level, using binoculars, high-powered torches, ladder and endoscope as appropriate. The survey was completed on 03 June 2021 and updated on 17 April 2023 and 18 March 2025. Each survey was completed by Alex Perry ACIEEM (Bat Class Survey Licence WML-CL18, Registration Number 2017-32919-CLS-CLS). A description of each tree was made, including the species, height, diameter at 1.5m from ground level and condition.

3.8 The aim of this inspection was to look for PRFs from ground level and give a preliminary description of each (such as type of PRF, height, size and location on tree). Surveyors also recorded direct (i.e. actual roosting bats) or indirect evidence of roosting bats (e.g. droppings), as well as the nature and number of features with 'potential' to support roosting bats. This includes consideration of trees to support bats whilst in hibernation.

3.9 Following the GLTA, each tree was assigned one of the following categories:

- **PRF** – A tree with at least one PRF.
- **Far** – Further assessment required to establish if PRFs are present in the tree.
- **None** – Either no PRFs in the tree or highly unlikely to be any.

### *Assessing 'Potential' of Trees to Support Roosting Bats*

3.10 Each PRF was assigned to one of the following categories:

- **PRF-I** – Tree with a Potential Roost Feature (PRF) that is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surroundings.
- **PRF-M** – PRF is suitable for multiple bats and may therefore be used by a maternity colony.

3.11 The categories above are intended to provide initial guidance on whether further inspections are necessary to prove presence or likely absence of roosting bats, rather than to assign importance to such features.

3.12 The potential of a tree to support roosting bats is often influenced by its age, thermal stability, lighting and levels of human activity. Furthermore, the proximity to foraging habitat - particularly woodland, parkland and wetland- as well as the presence of navigational routes (e.g. hedgerows, treelines and watercourses) influence both the potential for bats to roost, as well as the species which may roost. Professional

judgement is therefore applied, based upon known factors which effect the potential of features to support roosting bats, insofar as determining the need or scope of further surveys or inspections.

### Activity Surveys

#### *Night-time Bat Walkover*

- 3.13 Seasonal transect surveys were originally undertaken in 2021 and then updated in May, July and September 2023. Following a change in guidance night-time bat walkover surveys were completed in May 2025, July and September 2025. On each occasion during the night-time bat walkovers, surveyors were stationed at specific points within the Site prior to sunset, and stationed on potential flight lines close to potential roost sources such as groups of buildings or woodland. Locations were predetermined by the results of the Daytime Bat Walkover (see Figure 1).
- 3.14 Each survey was walked at a moderate and consistent speed with qualitative observations of bat behaviour made by the surveyor. Each survey commenced at sunset (British Summer Time), continuing for the following two hours. The surveys were led by Georgina Gard, in suitable weather conditions (see Table 1).
- 3.15 Bat calls were recorded using Elekon Batlogger M detectors. This detector automatically records ultrasonic signals with a one second delay between recordings. Recordings of bat contacts were subsequently analysed using BatExplorer software, with sonograms reviewed to confirm bat identification to genera, or where possible, species level.
- 3.16 Each of the recorded files, which contain a variable number of call 'pulses', was designated a 'bat contact'. At the point of contact, each sound file is assigned a GPS location.
- 3.17 Night-time bat walkover surveys are intended to gather data on the spatial distribution of bat activity across the Site, identifying areas of relative importance for bats, including key flight lines. In addition, direct observation of bats allows for qualitative assessments of how bats use the Site to be made complementing quantitative data collected through remote monitoring.
- 3.18 On each occasion, surveyors were stationed at specific points within the Site prior to sunset, and stationed on potential flight lines close to potential roost sources such as groups of buildings or woodland. Locations were predetermined by the results of the Daytime Bat Walkover (see Figure 1).



**Stationed Surveyor Locations** SSL1 SSL2

**Figure 1.** Stationed surveyor locations (SSL) during the Night-time Bat Walkover Surveys undertaken in May, July and September 2025.

**Table 1.** Night-time Bat Walkover survey timings and weather conditions

Survey Date	Sunset Time	Start Time	End Time	Temp. (°C)		Cloud Cover (oktas)		Wind (Beaufort Scale)		Precipitation
				Start	End	Start	End	Start	End	
12/05/25	20:50	20:50	22:50	20	16	0	0	1	0	Dry
30/06/25	21:32	21:32	23:32	26	23	3	7	0	0	Dry
18/09/25	19:13	19:13	21:13	19	18	7	4	2	2	Dry

3.19 Surveyors remained in position to count, observe behaviour and make acoustic recordings of commuting (or foraging) bats for up to an hour after sunset. Any observations of bat activity such as feeding or commuting behaviour was noted, or identification of key flightlines (such as height, direction of travel, numbers of bats and response to weather or other features on-site). Alternatively, if streams of commuting bats were noted elsewhere on-site, surveyors used back-tracking methods to

move towards a roost, responding to live observations. Surveyors were equipped with BatLogger M bat detectors to allow any bat contacts to be recorded.

- 3.20 As part of the stationed observation, whilst surveyors are positioned across the Site at the start of the survey, vantage point observations were undertaken, including notes on early emerging/high-flying bats such as noctule. Notes made on behaviour include flight height, numbers of bats and direction of travel.
- 3.21 Following 30 minutes of stationed observations, surveyors walked a single transect route, which aimed to cover all accessible areas, features and habitats at the Site. Each transect route was repeated at least once during each survey to minimise temporal bias and walked at a moderate and consistent speed with qualitative observations of bat behaviour made by the surveyor.

#### *Automated/Static Surveys*

- 3.22 Two Wildlife Acoustics Songmeter (SM4/SMmini) detectors were deployed seasonally in 2021, and these surveys were then updated in May, July and September 2023 to provide six update data-sets. Following a change in bat survey guidance, the suitability of the on-site habitats were assessed as 'moderate' condition, and therefore monthly static monitoring surveys have been completed between April and October 2025. The locations of these Monitoring Locations (ML) are shown on Figure 1 below.



**Figure 2.** The locations of each Monitoring Location (ML) surveyed during remote monitoring surveys in May, July and September 2021 and 2023, and April to October 2025

- 3.23 The detectors were setup to automatically record ultrasonic signals for the period from half an hour before sunset to half an hour after sunrise each night, with each monitoring period spanning at least five consecutive nights.
- 3.24 Static detectors were deployed across the Site to provide a representative sample of all habitats in the survey area that could be impacted by the proposals.
- 3.25 Weather conditions were obtained for each night surveyed using historic weather data from the World Weather Online website, with weather observations taken from the nearest weather station in Leicester Forest East. The five nights showing the most optimal weather conditions (in terms of temperature, precipitation and wind speed, see Table 2) were taken forward for analysis.

3.26 Recordings are triggered when a bat echolocation call is detected and will contain a variable number of call 'pulses'. Each file containing call pulses by a bat(s) is designated as a 'bat contact' for each species present. The maximum recording duration is 15 seconds after which time a new recording file, and thus a new bat contact, is generated if echolocation calls are still being detected. This means that periods of prolonged bat activity near a detector is represented as multiple bat contacts, rather than a single one.

### Analysis of Data

#### *Call Analysis*

3.27 Bat calls were recorded using Elekon Batlogger M detectors. This detector automatically records ultrasonic signals with a one second delay between recordings. Recordings of bat contacts were subsequently analysed using BatExplorerPro software, with sonograms reviewed to confirm bat identification to genera, or where possible, species level.

3.28 Each of the recorded files, which contain a variable number of call 'pulses', was designated a 'bat contact'. At the point of contact, each sound file is assigned a GPS location.

3.29 For analysis of data recorded during static monitoring, quantitative analysis of bat activity was then undertaken by calculating the average bat contacts per hour on each night monitored, for each species.

3.30 Bat activity can show considerable inter-night variability and is dependent on a number of variables, including temperature, wind, and seasonality, amongst others. To account for this variability the median values for the average hourly bat contacts per night are reported, rather than a mean value which would misrepresent the average activity.

#### *Limitations*

3.31 It should be noted that the findings described herein for remote monitoring surveys are based on the bat activity recorded at the location immediate to each detector, and therefore only describe localised activity at the Site. Where possible, in line with best practice guidance static detectors have been placed c. 1.5m from any nearby vegetation however due to the potential for disturbance from the public, this has not always been possible. Where needed to be located within hedgerows, surrounding foliage has been removed to prevent interference from vegetation covering the microphone.

3.32 In addition, comparisons drawn on the number of detector activations by different species/genera can only give an indication of relative species abundance at the Site, as detectability varies between species.

3.33 It is acknowledged that the quantum of bat contacts recorded during a survey may not give a true reflection of the abundance of bats using the Site. For example, a single bat foraging close to a detector may trigger several hundred activations in the course of one night. However, this activity level does provide a proxy for the level of use by bats, and therefore its relative importance.

## **4.0 Results**

### Daytime Bat Walkover

4.1 The Site is bounded by woodland on the southern boundary, with the western boundary bounded by a native hedge, and the eastern boundary bounded by native, mature woodland. The northern boundary lies adjacent to residential gardens on Jacqueline Road and as such is varied in composition and management.

4.2 The daytime bat walkover survey has identified the Site as 'moderate' suitability for dispersing and foraging bats due to the intact boundaries bordering the Site and connectivity to woodland to the east.

### Ground Level Tree Assessment (GLTA)

4.3 All trees and tree groups on-site were included in the assessment. Tree numbers are consistent with those used within the Tree Survey Report (report reference: BHA\_4237\_TS).

4.4 Generally, trees on-site are small and restricted to within hedgerow features. Only trees within the site boundary were assessed, resulting in one tree, Tree T12 (a mature oak), identified as a PRF-I, due to minor roosting features identified.

### Activity Surveys

#### Night-time Bat Walkover

4.5 During the 2023 survey work, two species were recorded during the night-time bat walkover survey, comprising common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*. The majority of contacts were recorded along the western boundary where single bats were often recorded foraging under an adjacent streetlight along Ratby Lane, and along the southern boundary where foraging was observed along the woodland edge.

4.6 In the 2025 updates, common pipistrelle are the most frequently recorded species, and were largely recorded along the southern boundary of the Site, with activity also recorded along the east and western boundaries. Considerably fewer contacts were recorded of soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctule* and *Myotis* sp..

4.7 The number of bat contacts recorded for each species in the 2025 survey are summarised in Table 2 below. The locations of each bat contact and the overall distribution of activity across the Site are illustrated in Figures 3 and 4.

**Table 2.** Summary of bat contacts recorded during night-time bat walkover surveys

Month	Common pipistrelle	Myotis species	Noctule	Soprano pipistrelle
May	39	0	0	0
Jun	56	5	1	2
Sep	144	0	6	3
Total	239	5	7	5
<b>Percentage of Total (%)</b>	93.36%	1.95%	2.73%	1.95%



**Figure 3.** Locations of bat contacts recorded across all night-time bat walkover surveys in 2025

4.8 Figure 4 below provides an indicative illustration of 'hotspots' in bat activity recorded during the night-time bat walkover surveys undertaken

at the Site. No key commuting lines were observed, but foraging by a common and soprano pipistrelle bats along the eastern and western boundaries were seen during the night-time bat walkover survey, as is reflected within the results. Both areas of the Site are also more sheltered due to topography.



**Figure 4.** Indicative 'Utilisation Distribution' (UD) of all bat species/genera at the Site estimated from all transect data combined. The UD illustrates the relative probability of a bat in flight being present at a given point at the Site, with higher/central contours having a greater probability, and lower/peripheral contours having less probability.

#### Static/Automated Monitoring

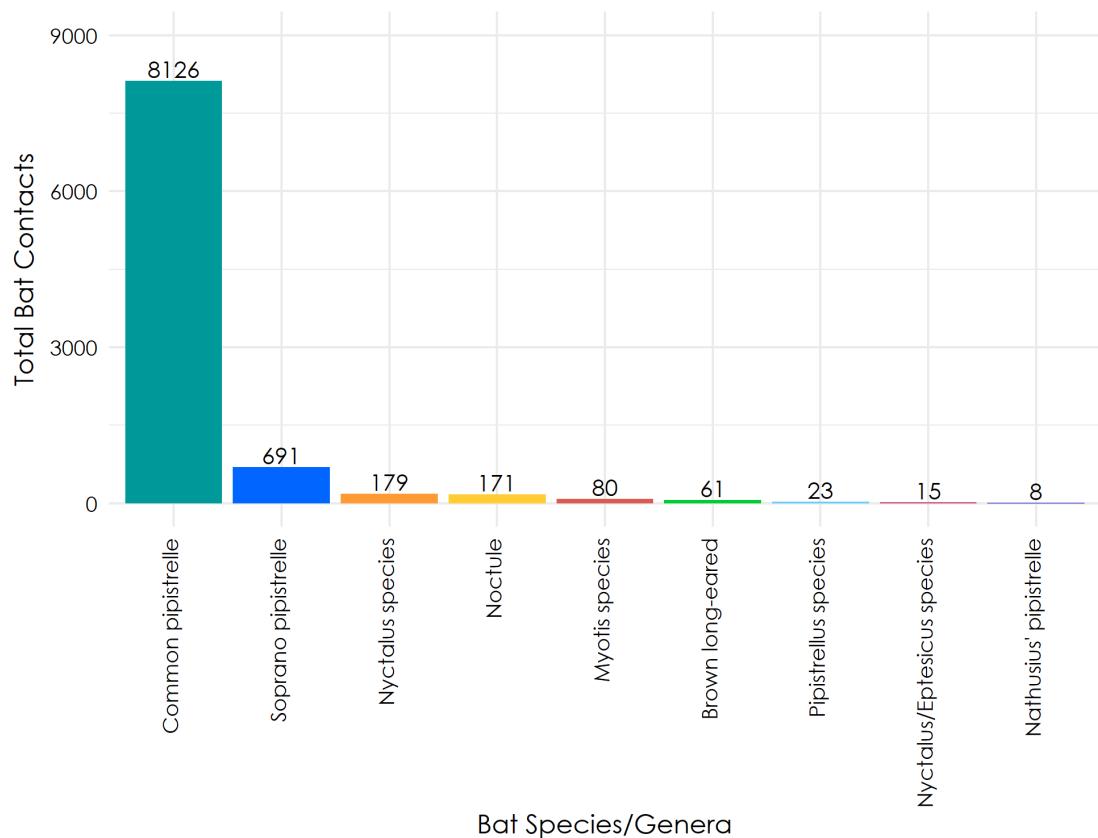
4.9 The weather conditions experienced during the ten nights where data was analysed are provided in Table 3 below.

**Table 3.** Overnight weather conditions during remote monitoring

Survey Month	Dates Sampled	Temp. (°C)		Cloud Cover (%)		Wind (km/h)		Precipitation
		Min	Max	Min	Max	Min	Max	
April	03/04/25	5	10	11	25	10	13	None
April	04/04/25	4	7	0	87	21	24	None

April	05/04/25	2	5	4	32	11	15	None
April	06/04/25	1	5	1	4	4	10	None
April	07/04/25	2	7	1	96	3	6	None
May	08/05/25	3	9	10	27	6	11	None
May	09/05/25	6	12	3	9	5	9	None
May	10/05/25	8	14	0	8	6	11	None
May	11/05/25	11	15	26	87	6	13	None
May	12/05/25	8	15	7	16	12	13	None
June	26/06/25	11	15	32	100	13	19	Light rain at 00:00
June	27/06/25	19	20	11	100	23	25	No rain
June	28/06/25	14	19	7	42	10	13	No rain
June	29/06/25	15	20	4	11	6	9	No rain
June	30/06/25	15	20	31	78	9	13	No rain
July	17/07/25	18	20	16	68	5	10	Very light rain at 21:00,
July	18/07/25	17	19	48	84	2	5	Very light rain at 21:00 and light rain at 03:00,
July	19/07/25	15	17	48	83	10	14	Light rain at 06:00
July	20/07/25	12	18	13	100	3	12	No rain
July	21/07/25	12	15	9	97	10	14	No rain
Aug	14/08/25	15	19	4	34	6	8	No rain
Aug	15/08/25	23	17	6	23	8	11	No rain
Aug	16/08/25	11	16	0	16	9	15	No rain
Aug	17/08/25	13	16	12	95	11	16	No rain
Aug	18/08/25	13	15	33	100	14	19	No rain
Sept	18/09/25	15	17	30	95	18	23	No rain
Sept	19/09/25	13	16	3	36	6	11	No rain
Sept	20/09/25	9	12	98	100	8	24	No rain
Sept	21/09/25	5	9	3	47	10	12	No rain
Sept	22/09/25	5	10	6	44	4	5	No rain
Oct	16/10/25	7	9	4	18	1	4	No rain
Oct	17/10/25	7	9	5	100	5	9	No rain
Oct	18/10/25	10	12	49	100	17	19	No rain
Oct	19/10/25	10	13	42	100	12	16	No rain
Oct	20/10/25	10	11	69	76	5	19	Very light rain 00:00-06:00

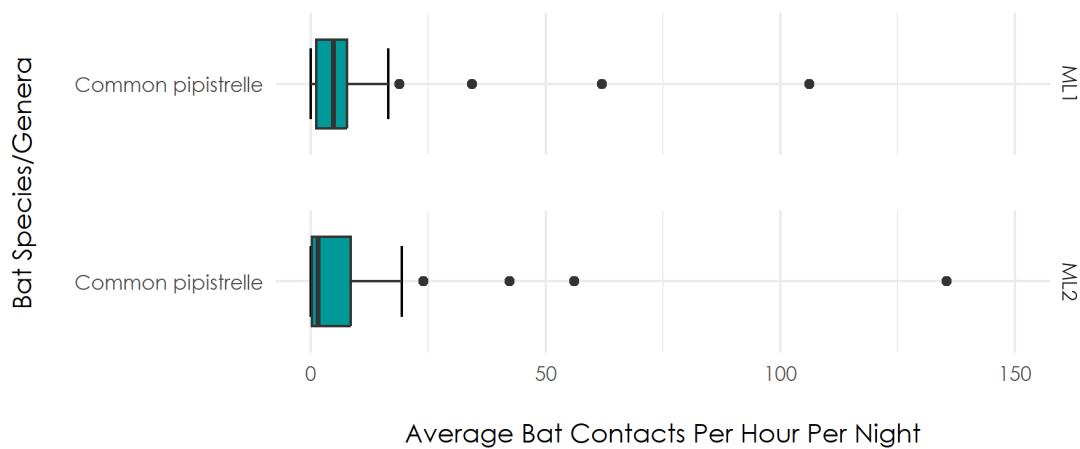
4.10 The total number of bat contacts recorded across all monitoring locations and monitoring periods for each bat species/genera are provided in Figure 5 below.



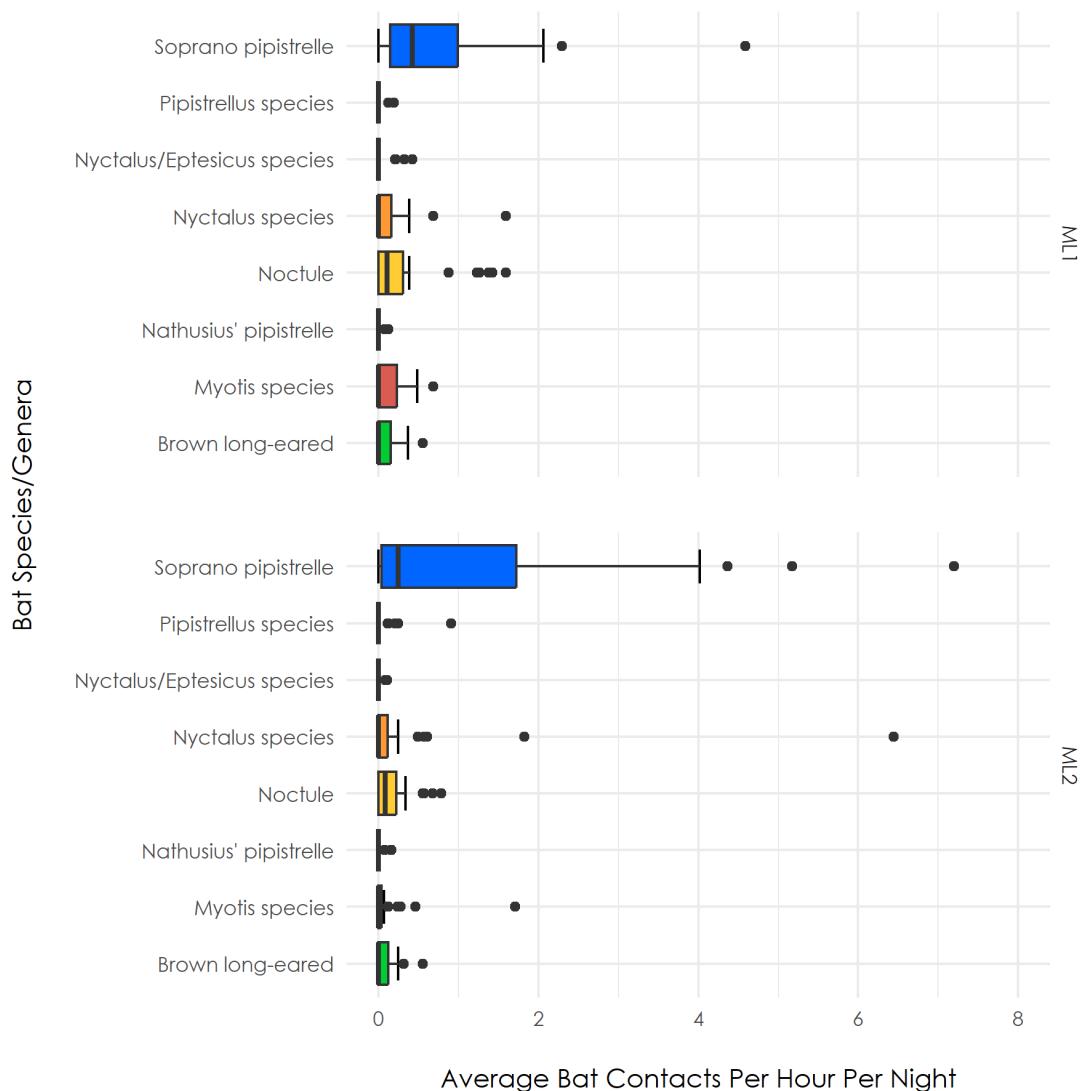
**Figure 5.** Total bat contacts by species/genera recorded across all remote monitoring periods and monitoring locations

4.11 Considerably higher numbers of common pipistrelle were recorded, with lower numbers of soprano pipistrelle. The remaining bat species were recorded at far lower levels, with c. 179 contacts or less for noctule and *Nyctalus* sp, and 80 or less for *Myotis* sp.

4.12 Figure 6 below shows the variance in nightly activity levels for each of these bat species recorded on-site. More detailed data describing Figure 6 are provided in Table 4. The activity data in Figure 6 is presented as boxplots for each bat species, which show the inter-night variability in bat activity across the 35 nights monitored. The median value (middle line of the boxplot) is taken as the typical level of activity for that species on-site at the point monitored. The length of each coloured boxplot is the interquartile range which shows the variance in nightly activity around the median value. The ends of each whisker line define the minimum and maximum nightly activity values recorded at the monitoring location. Outlying values are nightly activity levels that are greatly different when compared to the distribution of the remaining nightly activity levels. Outliers are illustrated as black points away from the boxplot. While important to note, these outliers do not represent the bat activity more commonly found at the Site for the species in question.



**Figure 6.** Average bat contacts per hour per night for common pipistrelle species/genera recorded across all remote monitoring



**Figure 7.** Average bat contacts per hour per night for the remaining bat species/genera recorded across all remote monitoring

4.13 The data shows higher numbers of common pipistrelle contacts at ML2 than ML1. The diversity of species is similar at both Monitoring Locations,

with all species recorded at both Monitoring Locations, including low passes from *Nathusius' pipistrelle*.

**Table 4.** Average bat contacts per hour per night recorded during remote monitoring surveys

ML	Species	Average bat contacts per hour per night				Total bat contacts	Number of nights monitored
		Min	Max	Med	IQ range		
ML1	Brown long-eared	0	0.555	0.000	0.156	34	35
ML1	Common pipistrelle	0	106.1 46	4.823	6.585	3684	35
ML1	Myotis species	0	0.683	0.000	0.230	47	35
ML1	<i>Nathusius' pipistrelle</i>	0	0.122	0.000	0.000	3	35
ML1	Noctule	0	1.591	0.105	0.303	115	35
ML1	<i>Nyctalus</i> species	0	1.591	0.000	0.164	54	35
ML1	<i>Nyctalus/Eptesicus</i> species	0	0.423	0.000	0.000	11	35
ML1	<i>Pipistrellus</i> species	0	0.195	0.000	0.000	4	35
ML1	Soprano pipistrelle	0	4.585	0.426	0.843	264	35
ML2	Brown long-eared	0	0.555	0.000	0.122	27	35
ML2	Common pipistrelle	0	135.4 81	1.501	8.167	4442	35
ML2	Myotis species	0	1.708	0.000	0.034	33	35
ML2	<i>Nathusius' pipistrelle</i>	0	0.159	0.000	0.000	5	35
ML2	Noctule	0	0.787	0.087	0.221	56	35
ML2	<i>Nyctalus</i> species	0	6.444	0.000	0.113	125	35
ML2	<i>Nyctalus/Eptesicus</i> species	0	0.107	0.000	0.000	4	35
ML2	<i>Pipistrellus</i> species	0	0.906	0.000	0.000	19	35
ML2	Soprano pipistrelle	0	7.196	0.244	1.692	427	35

## Summary

- 4.14 At least four bat species have been recorded during the night-time bat walkover, comprising common pipistrelle, soprano pipistrelle, noctule and *Myotis* sp. The majority of contacts were recorded along the southern and western boundaries, with least activity along the northern boundary.
- 4.15 The static monitoring surveys resulted in a greater diversity of bats, but the vast majority of recording were that of common pipistrelle. At least six bat species were recorded during the static monitoring surveys, including low numbers of *Nathusius' pipistrelle*.
- 4.16 As the mature oak, which was found to comprise a PRF-I, is due to be retained and protected within an area of open space and therefore no additional survey work has been deemed necessary