Breezy Hill Energy Project

Bat Survey Report

Technical Appendix 6.3

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1 INTRODUCTION

MacArthur Green (now SLR Consulting Limited[1]) was commissioned by the Applicant to carry out bat surveys at the proposed Breezy Hill Energy Project, hereafter referred to as the 'Proposed Development'.

Bat surveys included:

- desk-based assessment;
- a Preliminary Roost Assessment (PRA) for Bats (2024); and
- automated activity surveys (2020, 2021 and 2025).

The aim of the surveys was to quantify the Proposed Development usage by bats and variation in bat activity levels within the Site, and to inform the ecological impact assessment for the Breezy Hill Energy Project Environmental Impact Assessment Report (EIA Report).

2 THE PROPOSED DEVELOPMENT AND SURVEY AREA

The Proposed Development is located approximately 13 km south-east of Ayr, 8.5 km south-west of Cumnock and 4.5 km north of Dalmellington, within the North Kyle Forest Estate (NKF) managed by Forestry and Land Scotland (FLS). The Proposed Development is located adjacent to the North Kyle Wind Farm. The Site falls within the East Ayrshire Council (EAC) administrative area, Site centre at British National Grid (BNG) coordinates 248092 612583. **Figure 1.1** indicates the location of the Site.

The Site comprises an area of approximately 1,012 ha, and is situated within the NKF, which spans around 4,000 hectares. The NKF primarily features Sitka spruce and has experienced extensive opencast coal mining in recent decades. Many of the coal mines within the NKF have been abandoned, with the result that the land is scarred, derelict and unsafe in some locations.

Most of the Site is currently under forestry, some of which has been recently felled (2024). The Site is underlain by historical underground coal mine workings; consequently, there is residual mining infrastructure on the surface including a mine water reservoir or void which has become somewhat naturalised over time, referred to as the Coyle Water, and there are several mining access tracks that are used to access the Site.

The elevation of the Site varies from 245 m Above Ordnance Datum (AOD) in the north-west of the Site to 410 m AOD in the south of the Site.

The Proposed Development does not overlap with any statutory designated sites containing bat related qualifying features and interests.

The temporal (Anabat) survey area in 2020 covered the main turbine infrastructure area at the north of the Site and consisted of nine Anabat deployment locations as shown in **Figure 6.6** (**EIA Report Volume 2a**).

[1] Following acquisition, MacArthur Green became part of SLR Consulting Limited on 1 September 2025.

The temporal (Anabat) survey area in 2021 covered the main turbine infrastructure area at the south of the Site and consisted of 12 Anabat deployment locations as shown in **Figure 6.6** (**EIA Report Volume, 2a**).

The temporal (Anabat) survey area in 2025 covered the main turbine infrastructure area at the south of the Site and consisted of five Anabat deployment locations as shown in **Figure 6.6** (**EIA Report Volume 2a**).

The PRA survey area covered during the 2024 survey for the Proposed Development was within the Site Boundary, see **Figure 6.6** (**EIA Report Volume 2a**).

3 BATS AND WIND FARMS

3.1 Policy and Guidance

All bat species are protected under the following legislation:

- The Habitats Directive 92/43/EEC (as amended);
- The Wildlife and Countryside Act 1981 (as amended); and
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

Details pertaining to the legal status of bats are included within **Table A-1** of **Annex A**.

In the UK and Europe, guidelines have been produced with regards to assessing the ecological impact upon bats from wind farm developments. These guidelines help to inform survey and mitigation strategies.

The following guidance documents have been used in the preparation of this report:

- Collins, J. (ed) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd Edition. The Bat Conservation Trust, London[2];
- Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th Edition. The Bat Conservation Trust, London;
- Andrews, H. (2018) *Bat Roosts in Trees: a guide for identification and assessment for tree-care and ecology professionals*. Pelagic Publishing, Exeter;
- Reason, P.F. 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;
- Russ, J. (2012) *British Bat Calls, A Guide to Species Identification*. Pelagic Publishing, Exeter; and

[2] Methods and analysis for surveys undertaken in 2020 and 2021 followed the 3rd edition of the Bat Conservation Trust survey guidelines as surveys were completed before the 4th edition guidelines were published in September 2023.

- NatureScot, Natural England, Natural Resources Wales, Renewable UK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter & the Bat Conservation Trust (BCT). (2021). *Bats and Onshore Wind Turbines: Survey Assessment and Mitigation*.

4 METHODS

4.1 Desk-Based Assessment

A desk-based assessment was undertaken with regards to the presence of bat species within the Site and its environs.

A National Biodiversity Network; NBN (2025) Atlas Scotland search was completed to obtain bat records from 2010 to 2025 within 10 km of the Proposed Development.

4.2 Field Survey Methods

4.2.1 Preliminary Bat Roost Assessment

The PRA followed the assessment methodology as set out in Collins (2023) to identify any Potential Roost Features (PRFs) in trees, buildings and structures which could support roosting bats, and to search for evidence of roosting bats. Where PRFs were identified in 2024, they were assigned a value of low, moderate or high suitability for buildings and structures or PRF-I or PRF-M for trees which indicates the likelihood of bats being present and informs the requirement for further survey work, such as a climbing inspection and/or dusk and dawn bat activity surveys. Collins (2023), state the following descriptions for assessing PRFs recorded in buildings or structures:

- Negligible – No obvious habitat features on site to be used by roosting bats at any time of the year[3].
- Low – A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[4] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity or hibernation[5]).
- Moderate – A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[4] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the

[3] Negligible is defined as 'so small or unimportant as to not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but is unlikely that they actually would (due to another attribute).

[4] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

[5] Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2016 and Jansen *et al.*, 2022.). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).

- High – A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[4] and surrounding habitat.

Collins (2023), state the following descriptions for assessing PRFs recorded in trees:

- PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
- PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony.

The PRA was carried out within the respective survey area in 2024 as shown in **Figure 6.6** (**EIA Report Volume 2a**).

4.2.2 Automated Activity Surveys

Static surveys were initially carried out in 2020 and 2021; however, due to the application submission extending beyond the validity of pre-application bat survey data (normally remain valid for two more surveys periods), NatureScot were consulted to advise on whether the data was sufficient. Information was issued to NatureScot on the 24th September 2024, with follow-up information provided to NatureScot on 3rd December 2024. NatureScot responded on the 11th December 2024 clarifying that a re-survey of the site would not be required, but that a programme of post-construction monitoring should be undertaken for a minimum of 3 years. However, within the correspondence NatureScot noted that detector coverage was barely adequate, particularly in respect of the T1, T2 and T3 cluster. It was therefore decided to undertake further ground-level static surveys in 2025 to cover turbines 1, 2, 3, 4, 9 and 10, to ensure a more robust dataset to aid assessment and provided baseline information.

NatureScot *et al.* (2021) recommends that, "*Where developments have more than ten turbines, detectors should be placed within the developable area at ten potential turbine locations plus a third of additional potential turbine sites up to a maximum of 40 detectors for the largest developments*".

The Proposed Development includes up to 20 turbines, and as such the required number of sampling locations to meet minimum guidance standards would be 13 survey locations. Across the three years of surveys, a total of 25 Anabat detectors (nine in 2020, 11 in 2021 and five in 2025) were placed and spread across potential turbine locations across the Site, deployed seasonally (three deployment periods) from April to October (see also **Annex B**); NatureScot *et al.* (2021) also recommends a minimum of ten consecutive nights of sampling per seasonal deployment. Detector locations are shown in **Figure 6.6** (**EIA Report Volume 2a**), and despite the change in turbine locations since surveys were undertaken, the spread of detectors in relation to the Proposed Development and typical habitats and features continues to provide an accurate and suitable representation of bat activity at the Site.

Anabat Swift detectors recording full-spectrum files were deployed for a minimum period of 14 consecutive nights across the Site in 2020, 2021 and 2025 (i.e., exceeding minimum survey requirements of ten days per season; spring April - May, summer June - mid-August; autumn mid-

August - October) and were positioned at a height of 2 m above ground level. Each detector recorded bats from dusk to dawn with detectors starting 30 minutes before dusk and finishing 30 minutes after dawn. Detector operating times and a description of the habitat type at each location is shown in **Table B-1, B-2 and B-3** of **Annex B**.

The full spectrum detector was deployed with the following settings:

- sensitivity value of 14;
- minimum frequency of 15 kHz;
- maximum frequency of 250 kHz;
- maximum file length of 15 s;
- minimum event of -2 ms; and
- sampling rate of 320 kHz.

Data was analysed using Kaleidoscope 4 and Pro Auto ID classifier which assigns a species label to a sound file (Reason *et al.* 2016). To ensure that all bat calls (with the exception of common and soprano pipistrelle which were excluded) were identified correctly by the software, they were manually reviewed by an appropriately trained ecologist using Kaleidoscope Viewer software. This method of analysis is in line with current guidelines for data analysis which recommends the manual checking of all non-*Pipistrellus* calls (excluding Nathusius' pipistrelle) when using automated methods (Collins, 2023). Sound files labelled as noise were also reviewed. Guidance on call parameters was taken from Russ (2012).

For the purpose of this report and for analysis, a single bat registration was classed as a single labelled Kaleidoscope file containing a sequence of bat pulses.

In line with NatureScot *et al.* (2021), further analysis of bat data was carried out using the secure online tool Ecobat[6], to gain a measure of relative bat activity at the Proposed Development. Ecobat data was then evaluated in accordance with NatureScot *et al.* (2021) guidance to determine the overall Site risk level. The Ecobat analysis automatically analyses data per month and not per season. The results are presented based on this analysis per month.

4.3 Methods for Analysing Bat Activity Levels and Risks

NatureScot *et al.* (2021) details the methodology for analysing bat activity levels. This method is summarised below and involves the following steps:

1. Estimating bat activity levels.
2. Categorising collision risk of the relevant species.
3. Identifying population relevant abundance (size of the populations).
4. Categorising the potential vulnerability of bat populations by combining collision risk with population abundance.

[6] https://mammal.org.uk/current-research/bat-survey-tools

5. Categorising the Site risk level.
6. Completing the overall risk assessment.
7. An assessment of significance and mitigation.

The following sections outline the methods used in each step.

4.3.1 Step 1: Bat Activity Levels

A measure of relative bat activity was obtained using the secure online tool Ecobat[6] for automated data. NatureScot *et al.* (2021) explains that "*The tool compares data entered by the user with bat survey information collected from similar areas at the same time of year and in comparable weather conditions…. Ecobat generates a percentile rank for each night of activity and provides a numerical way of interpreting the levels of bat activity recorded at a site across regions in Britain*". **Table 4-1,** taken from NatureScot *et al.* (2021) shows the five percentile categories for ease of reference. Only static data from automated activity surveys was analysed with the Ecobat tool.

The reference range data for the 2020 and 2021 set were stratified to include:

- only records from within 30 days of the survey date;
- only records from within 100 km radius of the survey location; and
- records using any make/model of bat detector.

The reference range data for the 2025 set were stratified to include:

- only records from within +/- 1 month of the survey date;
- only records from within the Region of the survey location; and
- records using any make/model of bat detector.

Table 4-1: Percentile Score and Categorised Level of Bat Activity[7]

Percentile Score	Bat Activity
81 to 100	High
61 to 80	Moderate to High
41 to 60	Moderate
21 to 40	Low to Moderate
0 to 20	Low

[7] Table sourced from: NatureScot, Natural England, Natural Resources Wales, Renewable UK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter & Bat Conservation Trust (BCT). (2021). Bats and Onshore Wind Turbines: Survey Assessment and Mitigation.

4.3.2 Step 2: Vulnerability to Collision

Appendix 3 of NatureScot *et al*. (2021) presents a generic assessment of vulnerability to collision for UK species, based on species behaviour, flight characteristics and casualties in the UK and Europe. **Table 4-2** provides a summary of the vulnerability of each bat species to collision.

Table 4-2: Vulnerability of Bat Species to Turbine Impact in the UK

Risk of Turbine Impact (Collision Risk)		
Low Risk	**Medium Risk**	**High Risk**
Myotis spp.	Serotine	Common pipistrelle
Long-eared bats	Barbastelle	Soprano pipistrelle
Horseshoe bats		Noctule
		Leisler's bat
		Nathusius' pipistrelle

Habitat characteristics at the location of turbines can have an important influence on the vulnerability of bat species to collision. For example, proximity to key feeding sites and commuting routes such as water features and woodland edge habitats is known to increase the likelihood of bat collision (NatureScot *et al*. (2021)).

4.3.3 Step 3: Population Relative Abundance

NatureScot *et al.* (2021) details the sensitivity of a bat species to impact based on their population's relative abundance in Scotland as detailed in **Table 4-3**. Species with the rarest relative abundance are more susceptible to significant effects.

Table 4-3: Population Relative Abundance of Bats in Scotland

Relative Abundance	Species
Common	Common pipistrelle (*Pipistrellus pipistrellus*)
	Soprano pipistrelle (*Pipistrellus pygmaeus*)
Rarer	Brown long-eared bat (*Plecotus auritus*)
	Daubenton's bat (*Myotis daubentonii*)
	Natterer's bat (*Myotis nattereri*)
Rarest	Whiskered bat (*Myotis mystacinus*)
	Brandt's bat (*Myotis brandtii*)
	Nathusius' pipistrelle (*Pipistrellus nathusii*)
	Noctule bat (*Nyctalus noctule*)
	Leisler's bat (*Nyctalus leisleri*)

4.3.4 Step 4: Potential Vulnerability of Bat Populations

Table 4-4 below, sourced from NatureScot *et al.* (2021), uses the measure of collision risk, in combination with population relative abundance, to indicate the potential vulnerability of

populations of British bat species. The overall potential vulnerability of bat populations is identified as: low (yellow), medium (orange), high (red).

Table 4-4: Level of Potential Vulnerability of Populations of British Bat Species

Relative Abundance of Bats in Scotland		Collision Risk		
		Low collision risk	**Medium collision risk**	**High collision risk**
	Common species			Common pipistrelle Soprano pipistrelle
	Rarer species	Brown long-eared bat Daubenton's bat Natterer's bat		
	Rarest species	Whiskered bat Brandt's bat		Nathusius' pipistrelle Noctule bat Leisler's bat

4.3.5 Step 5: Categorise the Site Risk Level

The Site risk level is categorised through a combination of habitat risk and project size which is then entered into the table matrix as shown below in **Table 4-5**, to calculate the overall Site risk level. The full matrix table, as provided within NatureScot *et al.* (2021), is shown in **Annex C** of this report which includes descriptions on how to determine the habitat risk and project size for the Proposed Development.

Table 4-5: Initial Site Risk Level (1-5) Assessment

Habitat Risk	Project Size		
	Small	Medium	Large
Low	1	2	3
Moderate	2	3	4
High	3	4	5
Key: Green (1-2) – low/lowest site risk; Amber (3) – medium site risk; Red (4-5) – high/highest site risk[8]			

4.3.6 Step 6: Risk Assessment

The overall risk assessment is undertaken for high collision risk species identified onsite and involves combining Site risk level (**Table 4-5**) with the Ecobat activity level (**Table 4-1**). The overall risk assessment matrix is shown in **Table 4-6** below where 'Low' Site risk level (green) is 0-4, 'Medium' Site risk level (amber) is 5-12, and 'High' Site risk level (red) is 15-25.

[8] Some sites could conceivably be assessed as being of no (0) risk to bats. This assessment is only likely to be valid in more extreme environments, such as above the known altitudinal range of bats, or outside the known geographical distribution of any resident British species.

Table 4-6: Overall Risk Assessment

Ecobat activity category (or equivalent justified categorisation)						
Site Risk Level	Nil (0)	Low (1)	Low-Moderate (2)	Moderate (3)	Moderate-High (4)	High (5)
Lowest (1)	0	1	2	3	4	5
Low (2)	0	2	4	6	8	10
Medium (3)	0	3	6	9	12	15
High (4)	0	4	8	12	15	18
Highest (5)	0	5	10	15	20	25

4.3.7 Step 7: Assessment of Significance and Mitigation

The outputs of the risk assessment detailed in Step 6 are then used to assess the significance of effect within the EIA. At this stage, other Proposed Development-specific factors should be considered such as habitat characteristics (and how they may change), behaviour of species at the Proposed Development, and location of the Proposed Development regarding the natural range of the species, and how this could affect favourable conservation status.

Mitigation measures as detailed within NatureScot *et al.* (2021) are then considered where appropriate.

5 BAT SURVEY LIMITATIONS

The NatureScot *et al.* (2021) guidance recommends the minimum level of pre-application survey required for ground level static detectors to be ten nights of recordings in each of spring (April - May), summer (June to mid-August) and autumn (mid-August - October). Ground-level static surveys commenced in May and were completed in September during 2020. For 2021, static surveys commenced in May and were completed in October. For 2025, static surveys commenced in late April and were completed in September.

Automated activity surveys should capture a sufficient number of nights (minimum of ten nights) with appropriate weather conditions for bat activity (i.e., temperatures at or above 8 °C in Scotland at dusk, maximum ground level wind speed of 5 m/s and no, or only very light, rainfall) (NatureScot *et al.*, 2021).

The Ecobat analysis automatically analyses data per month and not per season. The results are presented based on this analysis per month.

Some temporal calls were assigned an unknown value (NoID), due to the recording of a very faint call or an incomplete call that could not be identified to species level on the spectrogram. These were not considered further in the analysis.

For *Nyctalus* spp. calls, it was only possible to identify the call to genus level. Some *Myotis* spp. calls, it was only possible to identify the call to genus level.

Due to unforeseen errors with the detectors, microphones or batteries, it was not always possible to achieve 14 consecutive nights of recordings. In 2020, no detectors failed to record for the minimum ten nights during a deployment period. Location 5 in the August deployment had a broken microphone, but had recorded for 15 nights. In 2021, three detectors failed to record data for the minimum ten nights during a deployment period (Location 4 in May and Location 3 and 8a in September), with these locations recording one, zero and eight nights respectively. At Location 9a, the detector had fallen over during the deployment period, but it had recorded for 12 nights. In 2025, one detector failed to record data for the minimum ten nights during a deployment period (Location 4 in June), with this location recording zero nights. As the majority of locations recorded for more than ten nights, with a total of 389 complete nights recorded in 2020, a total of 469 complete nights recorded in 2021 and a total of 193 complete nights recorded in 2025 which is beyond the minimum number of nights (9 Anabats*10 nights*3 seasonal deployments = 270 nights of data / 12 Anabats*10 nights*3 seasonal deployments = 360 nights of data / 5 Anabats*10 nights*3 seasonal deployments = 150 nights of data) required for a Proposed Development of this size, the small loss of data is not considered to have affected the overall assessment of risk. The survey timings can be seen in **Annex B, Table B-1, B-2 and B-3**.

Anabat detectors are a commonly used bat detector for acoustic monitoring at wind farm sites, however all bat detectors have limitations and will only monitor bat activity within a limited area, which for Anabats is usually around 30 m, depending on a variety of environmental factors. Furthermore, due to passive monitoring methodologies depending on sound reaching the microphone, the detection rate of bat calls varies with a bias towards loud bat calls with quieter calls, namely brown long-eared bats (low collision risk species), potentially being under-recorded.

6 SURVEY RESULTS & ANALYSIS

6.1 Desk-Based Assessment

The NBN Atlas data search returned records of the following bat species within 10 km of the Proposed Development between 2010 – 2025 inclusive:

- Daubenton's;
- Common pipistrelle;
- Soprano pipistrelle;
- Brown long-eared bat;
- Natterer's;
- Leisler's; and
- Noctule.

Details regarding licences and data providers for these records are included in **Table 6-1** below.

Table 6-1 Data Providers for NBN Atlas Scotland Records Used

Species	Data Provider	Licence
Daubenton's	Bat Conservation Trust (BCT) and Scottish Natural Heritage (SNH)/British Trust for Ornithology (BTO) (Southern Scotland Bat Survey)	OGL[9]
Common pipistrelle	Wild Surveys ltd NatureScot (Garry Nixon), BCT (Iian Brown) and SNH/BTO (Southern Scotland Bat Survey)	CC-BY[10] OGL[9]
Soprano pipistrelle	Wild Surveys ltd NatureScot (Tom Hastings & Garry Nixon), BCT and SNH/BTO (Southern Scotland Bat Survey)	CC-BY[10] OGL[9]
Brown long-eared bat	Wild Surveys ltd SNH/BTO (Southern Scotland Bat Survey)	CC-BY[10] OGL[9]
Natterer's	SNH/BTO (Southern Scotland Bat Survey)	OGL[9]
Leisler's	SNH/BTO (Southern Scotland Bat Survey)	OGL[9]
Noctule	BCT and SNH/BTO (Southern Scotland Bat Survey)	OGL[9]

6.2 Preliminary Bat Roost Assessment

The PRA survey for the Proposed Development was undertaken by MacArthur Green in July and August 2024. No features considered suitable for roosting bats were recorded. As such, no further surveys were required as no features were recorded within 200 m plus rotor radius of a proposed turbine.

6.3 Automated Activity Surveys

In 2020, MacArthur Green deployed detectors at nine locations at the Site from May to September over a total period of 43 days and collected 389 complete recording nights of data, see **Table B-1** of **Annex B** and **Figure 6.6** (**EIA Report Volume 2a**).

A total of four bat species and two bat genus were recorded at these locations. The total number of bat passes recorded for each species across all nine locations within the Site in 2020 are shown below in **Table 6-2**.

Table 6-2 Total Number of Bat Passes for Each Species Across all Locations 2020

Species/Species Group	No of Registrations	Percentage of total (%)
Soprano pipistrelle	7,193	49.5
Common pipistrelle	6,591	45.4
Daubenton's	70	0.5

[9] Open Government Licence (OGL) https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/.
[10] Creative Commons with Attribution 4.0 (CC-BY) https://creativecommons.org/licenses/by/4.0/.

Species/Species Group	No of Registrations	Percentage of total (%)
Nyctalus spp.	606	4.2
Myotis spp.	53	0.4
Natterer's	6	<0.01
Total	**14,519**[11]	**100**

In 2021, MacArthur Green deployed detectors at 12 locations at the Site from May to October over a total period of 42 days and collected 469 complete recording nights of data, see **Table B-2** of **Annex B** and **Figure 6.6** (EIA Report Volume 2a).

A total of five bat species and one bat genus were recorded at these locations. The total number of bat passes recorded for each species across all 12 locations within the Site are shown below in **Table 6-3**.

Table 6-3: Total Number of Bat Passes for Each Species Across all Locations 2021

Species/Species Group	No of Registrations	Percentage of total (%)
Soprano pipistrelle	1,328	25.7
Common pipistrelle	3,465	67.2
Daubenton's	112	2.2
Nyctalus spp.	188	3.6
Brown long-eared	46	0.9
Natterer's	19	0.04
Total	**5,158**[11]	**100**

In 2025, MacArthur Green / SLR[1] deployed detectors at 5 locations at the Site from April to September over a total period of 42 days and collected 193 complete recording nights of data, see **Table B-3** of **Annex B** and **Figure 6.6** (**EIA Report Volume 2a**).

A total of six bat species and one bat genus were recorded at these locations. The total number of bat passes recorded for each species across all five locations within the Site are shown below in **Table 6-4**.

Table 6-4: Total Number of Bat Passes for Each Species Across all Locations 2025

Species/Species Group	No of Registrations	Percentage of total (%)
Soprano pipistrelle	1,114	29.0
Common pipistrelle	1,986	51.7
Nathusius' pipistrelle	1[12]	0.0

[11] NoID call registrations were not considered for analysis.
[12] Only one Nathusius' pipistrelle bat was detected across three years of monitoring, and no other calls from the species have been recorded within the region or within the month; therefore this record should be interpreted cautiously and is likely an isolated anomaly.

Species/Species Group	No of Registrations	Percentage of total (%)
Daubenton's	148	3.9
Nyctalus spp.	534	13.9
Brown long-eared	21	0.5
Natterer's	29	1.0
Total	**3,843**	**100**

The survey results were processed using the Ecobat tool[6] to gain a measure of relative bat activity at the Proposed Development, the full Ecobat Report is appended in **Annex F**. The summarised results and analysis are presented in Steps 1 – 6 below.

6.3.1 Step 1: Bat Activity Levels

Average Annual Site Activity Levels

Table 6-5 and **Chart 6-1** detail the average annual Site activity levels calculated using the Ecobat tool (Mammal Society, 2017) for 2020.

Table 6-6 and **Chart 6-2** detail the average annual Site activity levels calculated using the Ecobat tool (Mammal Society, 2017) for 2021.

Table 6-7 and **Chart 6-3** detail the average annual Site activity levels calculated using the Ecobat tool[6] for 2025.

The median percentile represents the most frequent activity category and the 'typical' bat activity levels in the site, the maximum percentile can be used to help interpret if there are unusually high levels or important peaks of bat activity. The reference range is the number of nights for each species that the data was compared to (a reference range of 200+ is recommended to be confident in the relative activity level).

Table 6-5: Average Annual Site Activity Levels 2020 (taken from Ecobat Analysis[13])

Species/ Group	Median Percentile	Activity Level	95% CIs*	Max Percentile	Activity Level	Reference Range	Nights Recorded
Myotis spp.	39	Low - Moderate	39 - 39	71	Moderate - High	4,394	25
Daubenton's	2	Low	67 - 67	71	Moderate - High	498	41
Natterer's	2	Low	2 - 2	2	Low	256	6
Nyctalus spp.	54	Moderate	46.5 - 66.5	93	High	2,991	95
Common pipistrelle	67	Moderate - High	67 - 95	100	High	8,956	180

[13] Taken from Ecobat analysis report created on the 05/08/2021 from static activity data of the Proposed Development in 2020.

Species/ Group	Median Percentile	Activity Level	95% CIs*	Max Percentile	Activity Level	Reference Range	Nights Recorded
Soprano pipistrelle	67	Moderate - High	79.5 - 98	100	High	13,312	165

* CIs: confidence intervals

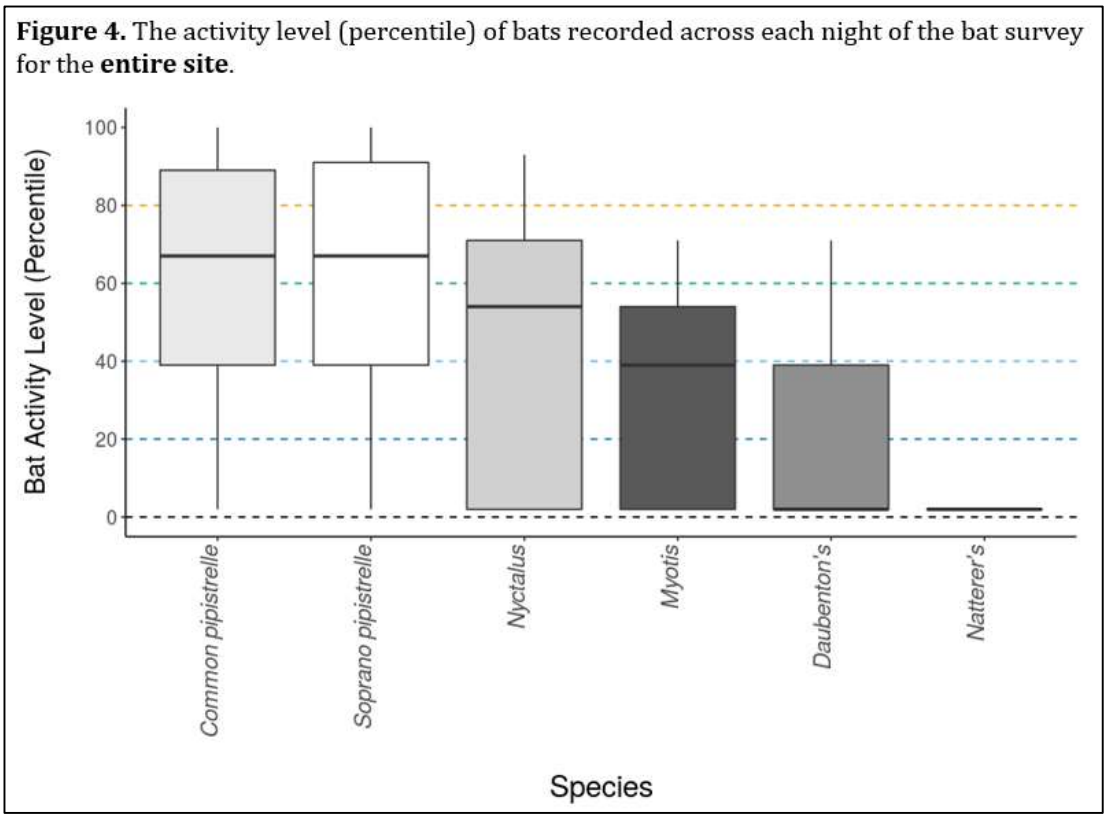

Chart 6-1: Average Annual Site Activity Levels 2020

Table 6-6: Average Annual Site Activity Levels 2021 (taken from Ecobat Analysis)

Species/ Group	Median Percentile	Activity Level	95% CIs*	Max Percentile	Activity Level	Reference Range	Nights Recorded
Daubenton's	2	Low	39 - 39	68	Moderate - High	567	71
Natterer's	2	Low	2 - 2	39	Low - Moderate	282	18
Nyctalus spp.	39	Low - Moderate	51 - 51	87	High	3,465	74
Common pipistrelle	39	Low - Moderate	61 - 90	100	High	10,617	140
Soprano pipistrelle	39	Low - Moderate	61.5 - 93	98	High	15,511	122

Species/ Group	Median Percentile	Activity Level	95% CIs*	Max Percentile	Activity Level	Reference Range	Nights Recorded
Brown long-eared	2	Low	39 - 39	54	Moderate	720	31

Figure 4. The activity level (percentile) of bats recorded across each night of the bat survey for the **entire site**.

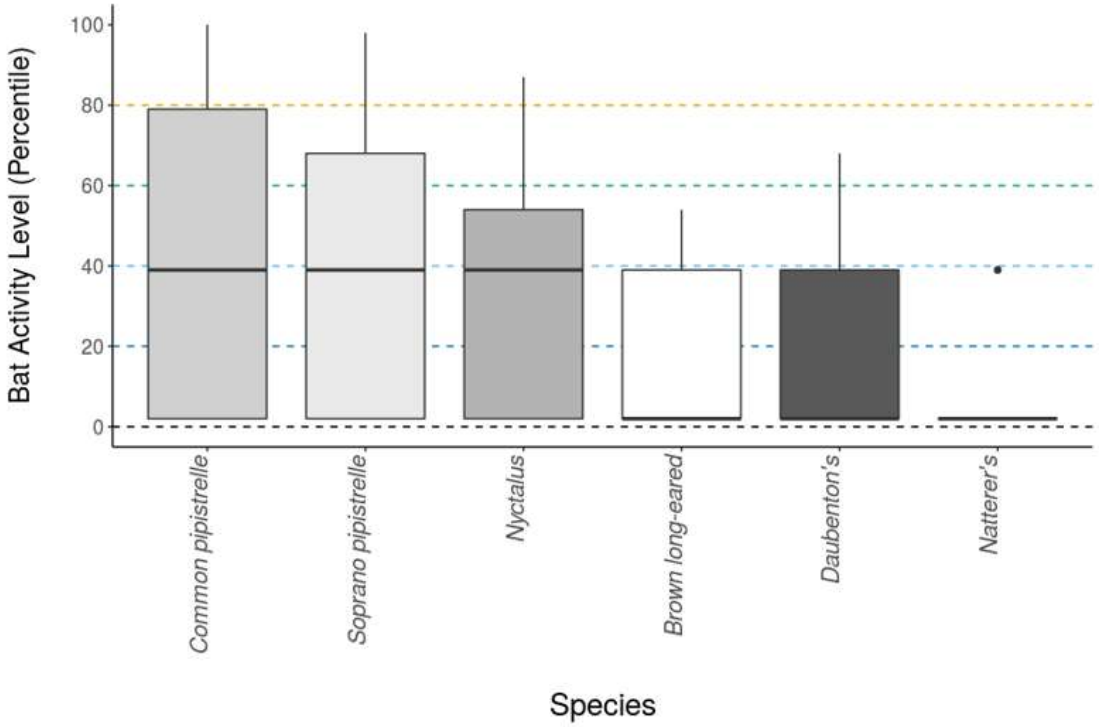

Chart 6-2: Average Annual Site Activity Levels 2021

Table 6-7: Average Annual Site Activity Levels 2025 (taken from Ecobat Analysis)

Species/ Group	Median Percentile	Activity Level	95% CIs*	Max Percentile	Activity Level	Reference Range	Nights Recorded
Daubenton's	20	Low	6 - 37	58	Moderate	834	78
Natterer's	23	Low - Moderate	36 – 36	58	Moderate	233	29
Nyctalus spp.	5	Low	9.5 – 34	85	High	4,235	64
Nathusius' pipistrelle	100	High	0	100	High	1	1
Common pipistrelle	1	Low	4.5 – 9.5	17	Low	39,556	124

Species/ Group	Median Percentile	Activity Level	95% CIs*	Max Percentile	Activity Level	Reference Range	Nights Recorded
Soprano pipistrelle	1	Low	3.5 – 7.5	21	Low - Moderate	41,573	107
Brown long-eared	52	Moderate	84.5 – 84.5	100	High	136	15

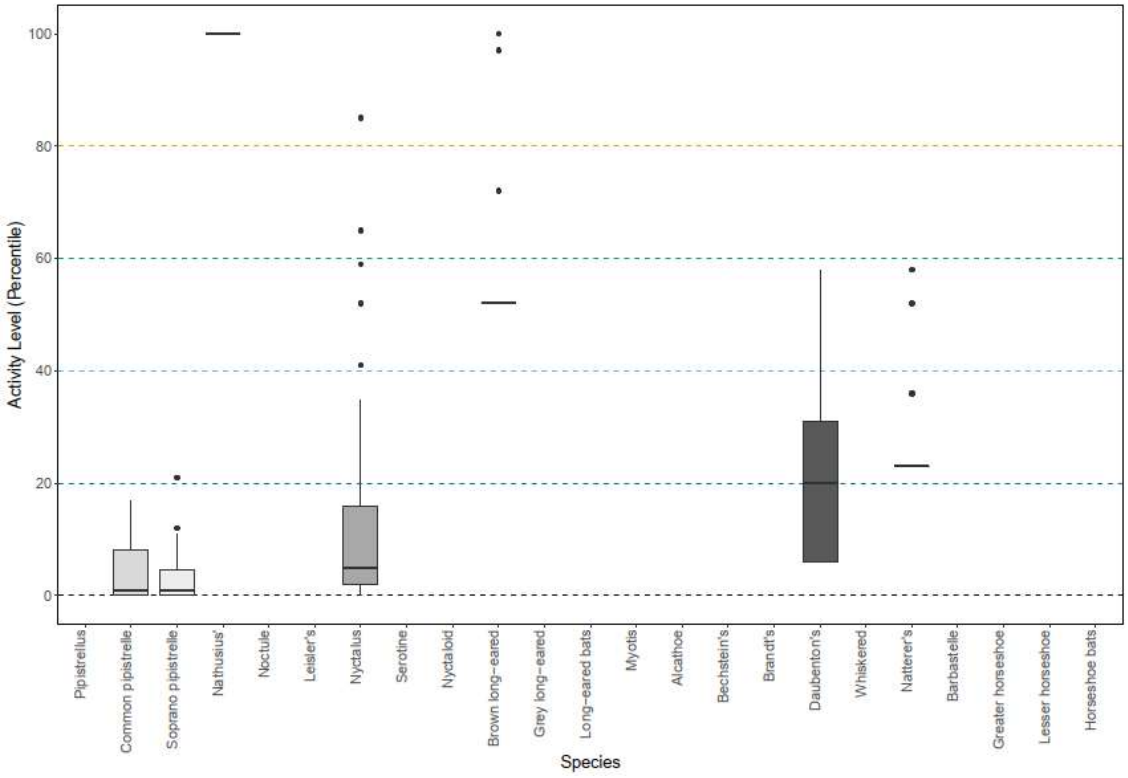

Chart 6-3: Average Annual Site Activity Levels 2025

Monthly Location Specific Activity Levels

Data on the monthly activity levels per location is provided in **Table D-1, D-2 and D-3** of **Annex D.**

6.3.2 Step 2, 3 and 4: Collision Risk, Population Relative Abundance and Potential Vulnerability

Table 6-8 details the collision risk, population relative abundance and potential vulnerability of the bat species recorded at the Proposed Development.

Table 6-8: Collision Risk, Population Relative Abundance and Potential Vulnerability

Bat Species	Collision Risk	Population Relative Abundance	Potential Vulnerability
Soprano pipistrelle	High	Common	Medium
Common pipistrelle	High	Common	Medium

Bat Species	Collision Risk	Population Relative Abundance	Potential Vulnerability
Nathusius' pipistrelle	High	Rarest	High
Daubenton's	Low	Rarer	Low
Nyctalus spp.	High	Rarest	High
Myotis spp.	Low	Rarer	Low
Natterer's	Low	Rarer	Low
Brown long-eared	Low	Rarer	Low

6.3.3 Step 5: Categorising Site Risk Level

The Site risk level is determined by project size and habitat risk (see **Table 4-5**). The Proposed Development consists of up to 20 turbines that are over 50 m in height, and so the Proposed Development is considered to fall within the 'Medium' project size, as shown in **Table 4-5** and **Table C-1** of **Annex C**.

In terms of habitat risk for bats, there are no buildings, structures, or trees with moderate and/or high bat roosting potential within 200 m plus the rotor radius of turbines. Foraging habitat quality and connectivity within this buffer area is moderate with a small open watercourse and conifer plantation edges, resulting in a habitat risk classification of '**Moderate**' as shown in **Table 4-5** and **Table C-1** of **Annex C**.

According to **Table 4-5** above, the **'Medium'** project size combined with a '**Moderate**' habitat risk level results in an overall Site risk assessment of '**Medium' (3)**.

6.3.4 Step 6: Risk Assessment – High Collision Risk Species Only

The overall risk assessment is undertaken for high collision risk species which were identified at the Site. Low-risk species have a low risk of collision with a turbine blade, so the impact of the Proposed Development on the local bat population would likely be negligible (*Myotis* spp.).

The overall risk assessment involves multiplying the Site's risk level (**Table 4-5**) with the median and the maximum Ecobat activity levels (**Table 4-1**) to calculate both the typical (median) Site risk level, and the maximum Site risk level.

Table 6-9 combines the 2020 seasonal data and summarises the overall risk assessment score for high-risk species, based on the median and maximum percentiles for the Site. The overall Site risk scores for all high collision risk species based on the median percentiles was 'Medium' (9 - 12) and based on the maximum percentiles was 'High' (15).

Table 6-9: Risk Assessment Scores Based on Median and Maximum Percentiles for High Collision Risk Species 2020

Species	Risk Assessment Score based on Median Percentile	Risk Assessment Score based on Max. Percentile
Common pipistrelle	Medium (12)	High (15)

Species	Risk Assessment Score based on Median Percentile	Risk Assessment Score based on Max. Percentile
Soprano pipistrelle	Medium (12)	High (15)
Nyctalus spp.	Medium (9)	High (15)

Table 6-10 combines the 2021 seasonal data and summarises the overall risk assessment score for high-risk species based on the median and maximum percentiles for the Site. The overall Site risk scores for all high collision risk species based on the median percentiles was 'Medium' (6) and based on the maximum percentiles was 'High' (15).

Table 6-10: Risk Assessment Scores Based on Median and Maximum Percentiles for High Collision Risk Species 2021

Species	Risk Assessment Score based on Median Percentile	Risk Assessment Score based on Max. Percentile
Common pipistrelle	Medium (6)	High (15)
Soprano pipistrelle	Medium (6)	High (15)
Nyctalus spp.	Medium (6)	High (15)

Table 6-11 combines the 2025 seasonal data and summarises the overall risk assessment score for high-risk species based on the median and maximum percentiles for the Site.

Table 6-11: Risk Assessment Scores Based on Median and Maximum Percentiles for High Collision Risk Species 2025

Species	Risk Assessment Score based on Median Percentile	Risk Assessment Score based on Max. Percentile
Common pipistrelle	Low (3)	Low (3)
Soprano pipistrelle	Low (3)	Medium (6)
Nathusius' pipistrelle[12]	High (15)	High (15)
Nyctalus spp.	Low (3)	High (15)

Figures 6.7 to **6.16** (**EIA Report Volume 2a**) illustrate the results of the median monthly risk assessment scores for high collision risk bat species recorded at the Site at each survey location in 2020, 2021 and 2025, illustrating how bat activity and risk levels vary within the Site across the years and by species. This data is also presented in **Table D-1, D-2 and D-3** of **Annex D** which includes all

the median and maximum monthly risk assessment scores. Further Site-specific discussion regarding each high-risk species is provided below.

6.3.4.1 *Common pipistrelle*

As shown in **Figure 6.7**, analysis of the risk assessment scores for common pipistrelle in 2020, when based on the median percentile, indicate varied levels of activity across the majority of survey locations throughout the year. Peaks in bat activity in May with risk assessment score of 15 at Location 6, indicating High risk. Peaks in bat activity in June with risk assessment scores of 15 at Locations 6 and 7, indicating High risk. Peaks in bat activity in July with risk assessment score of 15 at Location 4, indicating High risk. Peaks in bat activity in August with risk assessment scores of 15 at Locations 1, 2, 6, 7, 8 and 9, indicating High risk. Other locations across the months have a risk assessment score between 3 (Low overall risk) and 12 (Medium overall risk), or no activity. The closest high risk assessment score for common pipistrelle to a wind turbine was recorded at Location 4 in July (High risk (15)). This location was situated roughly 150 m from T5.

Location 4 was situated in a location where higher bat activity would be expected, situated along a commuting plantation edge and near a watercourse with foraging resources. Bats are known to use woodland edges as commuting corridors, and the watercourse provides foraging opportunities.

As shown in **Figure 6.10**, analysis of the risk assessment scores for common pipistrelle in 2021, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations 3, 5, 10, 11 and 12 all having a risk assessment score of either 3 (Low overall risk) or 6 (Medium overall risk) in May, July and August. Location 4 recorded no data in May and Location 3 in September and October[15]. Peaks in bat activity in July and August[14] with risk assessment scores of 15 at Location 6, 7, 8 and 9 indicating High risk. The closest high risk assessment score for common pipistrelle to a wind turbine was recorded at Location 7 in July and August (High risk (15)). This location was situated roughly 187 m from T20.

Location 7 was situated in a location where higher bat activity would be expected, also situated along a commuting plantation edge and near a watercourse with foraging resources.

As shown in **Figure 6.13**, analysis of the risk assessment scores for common pipistrelle in 2025, when based on the median percentile, indicate consistent levels of activity across the majority of survey locations throughout the year, with all Locations having a risk assessment score of 3 (Low overall risk) in each survey Visit, with the exception of Location 4 in June that recorded no data. No High or Medium overall risk scores were recorded.

6.3.4.2 *Soprano pipistrelle*

As shown in **Figure 6.8**, analysis of the risk assessment scores for soprano pipistrelle in 2020, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations generally having a risk assessment score of 3 (Low overall risk) to 12 (Medium overall risk) in each survey Visit. Peaks in bat activity in April with risk assessment score of 15 at Location 6 indicating High risk and peaks in bat activity in August

[14] Visit 2 in summer was deployed over July and August.

with risk assessment scores of 15 at Locations 6, 7, 8 and 9 indicating High risk. The closest high risk assessment score for soprano pipistrelle to a wind turbine was recorded at Location 7 in August (High risk (15)). This location was situated roughly 176 m from T11.

Location 7 was situated in a location where higher bat activity would be expected, also situated along a commuting plantation edge.

As shown in **Figure 6.11**, analysis of the risk assessment scores for soprano pipistrelle in 2021, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations generally having a risk assessment score of 3 (Low overall risk) to 12 (Medium overall risk) in each survey Visit. Location 4 recorded no data in May and Location 3 in September and October[15]. Peaks in bat activity in July and August with risk assessment scores of 15 at Location 9, Location 6 in July, Location 9a in September and October[15], indicating High risk. The closest high risk assessment score for soprano pipistrelle to a wind turbine was recorded at Location 9 in July and August[14] (High risk (15)). This location was situated roughly 256 m from T13.

Location 9 was situated in a location where higher bat activity would be expected, also situated along a commuting plantation edge and near a watercourse with foraging resources.

As shown in **Figure 6.14**, analysis of the risk assessment scores for soprano pipistrelle in 2025, when based on the median percentile, indicate consistent levels of activity across the majority of survey locations throughout the year, with all Locations having a risk assessment score of 3 (Low overall risk) in each survey Visit, with the exception of Location 4 in June that recorded no data in June. No High or Medium overall risk scores were recorded. Location 4 in June recorded no data, with the other months recording a risk assessment score of 3 (Low overall risk).

6.3.4.3 Nyctalus spp.

As shown in **Figure 6.9**, analysis of the risk assessment scores for *Nyctalus* spp. in 2020, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations generally having a risk assessment score of 3 (Low overall risk) to 12 (Medium overall risk), or no data, in each survey Visit. Peaks in bat activity in May with risk assessment score of 15 at Location 1, June at Locations 5 and 8 and July at Location 7 indicating High risk. The closest high risk assessment score for *Nyctalus* spp. to a wind turbine was recorded at Location 5 in August (High risk (15)). This location was situated roughly 52 m from T4.

Location 5 was situated in a location where higher bat activity would be expected, also situated along a commuting plantation edge and near a watercourse with foraging resources.

As shown in **Figure 6.12**, analysis of the risk assessment scores for *Nyctalus* spp. in 2021, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations generally having a risk assessment score of 3 (Low overall risk) to 12 (Medium overall risk) in each survey Visit. Location 4 recorded no data in May and Location 3 in September and October[15]. No High risk bat activity was recorded across the season

[15] Visit 3 in autumn was deployed over September and October.

with peaks in bat activity in July with risk assessment scores of 12 at Locations 6, 9 and 12 and Location 9 in August, indicating Medium risk. The closest high risk assessment score for *Nyctalus* spp. to a wind turbine was recorded at Location 9 in July and August[14] (Medium risk (12)). This location was situated roughly 256 m from T13.

As shown in **Figure 6.16**, analysis of the risk assessment scores for *Nyctalus* spp. in 2025, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations 3, 4 and 5 all having a risk assessment score of 3 (Low overall risk) or no activity in each survey Visit, with the exception of Location 4 in June that recorded no data. Peaks in bat activity in June with risk assessment scores of 6 and 9 at Locations 1 and 2 indicating Medium risk. The highest risk assessment score for *Nyctalus* spp. was recorded at Location 2 in June (Medium risk (9)). This location was situated roughly 155 m from T2.

Location 2 was situated in a location where higher bat activity would be expected, situated along a commuting plantation edge and near a watercourse with foraging resources.

6.3.4.4 *Nathusius' pipistrelle*

As previously noted, only one Nathusius' pipistrelle bat was detected across three years of monitoring, and no other calls from the species have been recorded within the region or within the month; therefore this record should be interpreted cautiously and is likely an isolated anomaly and potentially a misinterpretation of a call from a different pipistrelle species, from which its calls are similar. Furthermore, the individual call was recorded in May, and Nathusisus' pipistrelle are generally a migratory species, with most bats encountered in autumn, although some do remain all year and breed in the UK[16].

As shown in **Figure 6.15**, the individual call was recorded in 2025, at Location 5 in May. Location 5 was situated roughly 115 m from the nearest turbine (T10) and in a location where higher bat activity would be expected, along a commuting plantation edge and near a watercourse with foraging resources.

6.3.4.5 *Summary*

In summary, the Site risk level for the high collision risk species recorded is generally Low, especially in 2025 (as per **Figures 6.13 – 6.16**). Medium and High risk assessment scores were scattered throughout 2020 and 2021 (**Figures 6.7 – 6.12**), with High risk scores in 2020 mostly being recorded in August and in July and August[14] in 2021. The only High risk score in 2025 was attributable to Nathusius' pipistrelle; however, as noted in **Section 6.3.4.4** this High risk score has a low level of confidence.

[16] https://www.bats.org.uk/about-bats/what-are-bats/uk-bats/nathusius-pipistrelle

7 REFERENCES

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ANNEX A. BATS LEGAL STATUS

The information contained in this Annex is a summarised version of the legislation and should be read in conjunction with the appropriate legislation.

All bat species receive protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)[17].

For any wild bat species, it is an offence to deliberately or recklessly:

- capture, injure or kill a bat;
- harass a bat or group of bats;
- disturb a bat in a roost (any structure or place it uses for shelter or protection);
- disturb a bat while it is rearing or otherwise caring for its young;
- obstruct access to a bat roost or otherwise deny an animal use of a roost;
- disturb a bat in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species;
- disturb a bat in a manner or in circumstances likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young; and
- disturb a bat while it is migrating or hibernating.

It's also an offence to:

- damage or destroy a breeding site or resting place of such an animal (whether or not deliberately or recklessly); and
- keep, transport, sell or exchange, or offer for sale or exchange any wild bat (or any part or derivative of one) obtained after 10 June 1994[18].

[17] Sections 39(1) – (3).
[18] Available online: https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species/protected-species-z-guide/protected-species-bats [Accessed November 2023].

Table A-1 Legal and Conservation Status of all UK Bats[19]

Species	Legislation / Convention													
	Bern Convention Appendix II	Bonn Convention Appendix II	WCA	Habitats Directive Annex IV	Habitats Directive Annex II	Habs Regs 1994 (as amended) *Scotland*	Conservation of Habs & Species Regs 2010	Conservation Regs (N Ireland) 1995	CROW Act 2000	NERC Act 2006	Wild Mammals Protection Act	UK BAP Priority species	IUCN Red List*	EUROBATS Agreement
Greater horseshoe bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Lesser horseshoe bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Daubenton's bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Natterer's bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Whiskered bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Brandt's bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Bechstein's bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NT	✓
Alcathoe bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		DD	✓
Noctule	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	LC	✓
Leisler's bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Serotine	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Common pipistrelle	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Soprano pipistrelle	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	LC	✓
Nathusius' pipistrelle	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Brown long-eared bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	LC	✓
Grey long-eared bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓
Barbastelle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NT	✓
Greater mouse-eared bat	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		LC	✓

*IUCN categories: LC is Least Concern, NT is Near Threatened, DD is Data deficient; see www.iucnredlist.org for more details.

[19] Source: Bat Conservation Trust. Available online: http://www.bats.org.uk/pages/bats_and_the_law.html

ANNEX B. SURVEY TIMINGS & ANABAT LOCATIONS

Table B-1 Description of Anabat Locations and Summary of Temporal Survey Effort in 2020

Location	Easting	Northing	Bearing	Habitat	Total Number of Complete Recording Nights		
					Visit 1 13/05/2020 – 26/05/2020	Visit 2 30/06/2020 – 13/07/2020	Visit 3 24/08/2020 – 08/09/2020
1	248980	612459	120	Within plantation ride.	14	14	15
2	248781	613021	60	Within clearfell.	14	14	15
3	248497	613315	346	Within plantation ride.	14	14	15
4	248259	613646	18	Within plantation ride.	13	14	15
5	247624	613693	266	Within clearfell and 97 m of tributary to Water of Coyle.	14	14	15
6	247849	613217	318	Within plantation ride.	14	14	15
7	247996	612735	176	Within plantation ride.	14	14	15
8	247950	612340	44	Within clearfell.	14	14	15
9	248544	611796	284	Within plantation ride.	14	14	15
Total					**389**		

Table B-2 Description of Anabat Locations and Summary of Temporal Survey Effort in 2021

Location	Easting	Northing	Bearing	Habitat	Total Number of Complete Recording Nights		
					Visit 1 17/05/2021– 31/05/2021	Visit 2 30/07/2021 – 13/08/2021	Visit 3 24/09/2021 – 08/10/2021
1	248537	609177	95	Within young plantation and 112 m from ponds.	14	14	14
2	248022	609868	350	Open ground and within 56 m of Black Water.	14	14	14
3	247527	610826	290	Within young plantation.	14	14	0
4	248007	611295	115	Clearfell	1	14	14
5	247493	611263	240	Within plantation ride.	14	14	14
6	246375	611436	92	Within plantation ride.	14	14	-
6a	246616	611475	92	Within plantation ride.	-	-	14
7	247223	611661	45	Along plantation edge and 95 m from Shield Burn.	14	14	14
8	246825	611880	230	Within clearfell.	14	14	-
8a	247146	611758	300	Along plantation edge.	-	-	8
9	246540	612230	4	Along plantation edge and 40 m from Hawford Burn.	14	14	-
9a	246539	612379	100	Along plantation edge and adjacent to Hawford Burn.	-	-	12
10	247626	612242	348	Within clearfell.	14	14	14
11	247240	612447	20	Within clearfell and 57 m form Shield Burn.	14	14	14
12	247010	612689	100	Within clearfell and 113 m form Shield Burn.	14	14	14
Total					**469**		

Table B-3 Description of Anabat Locations and Summary of Temporal Survey Effort in 2021

Location	Easting	Northing	Bearing	Habitat	Total Number of Complete Recording Nights		
					Visit 1 25/04/2025 - 08/05/2025	Visit 2 05/06/2025 - 19/06/2025	Visit 3 29/08/2025 - 12/09/2025
1	247355	614450	340	Adjacent to plantation.	14	14	14
2	247676	614144	115	Adjacent to plantation.	14	14	11
3	247279	613943	120	Adjacent to plantation.	14	14	14
4	247138	613051	275	Within plantation ride.	14	0	14
5	247574	612812	2175	Adjacent to plantation.	14	14	14
Total					**193**		

ANNEX C. INITIAL SITE RISK ASSESSMENT

Table C-1 Initial Site Risk Assessment[20].

Site Risk Level (1-5)21	Project Size			
Habitat Risk		Small	Medium	Large
	Low	1	2	3
	Moderate	2	3	4
	High	3	4	5
Key: Green (1-2) – low/lowest site risk; Amber (3) – medium site risk; Red (4-5) – high/highest site risk				

Habitat Risk	Description
Low	Small number of potential roost features, of low quality. Low-quality foraging habitats that could be used by small numbers of foraging bats. Isolated site not connected to the wider landscape by prominent linear features.
Moderate	Buildings, trees or other structures with moderate-high potential as roost sites on or near the site. Habitat could be used extensively by foraging bats. Site is connected to the wider landscape by linear features such as scrub, tree lines and streams.
High	Numerous suitable buildings, trees (particularly mature ancient woodland) or other structures with moderate-high potential as roost sites on or near the site, and/or confirmed roosts present close to or on the site. Extensive and diverse habitat mosaic of high quality for foraging bats. Site is connected to the wider landscape by a network of strong linear features such as rivers, blocks of woodland and mature hedgerows. At/near edge of range and or an important flyway. Close to key roost and /or swarming.
Project Size	**Description**
Small	Small scale development (<10 turbines). No other wind energy developments within 10 km. Comprising turbines <50 m in height.
Medium	Larger developments (between 10 and 40). May have some other wind development within 5 km. Comprising turbines 50 – 100 m in height.
Large	Largest developments (>40 turbines) with other wind energy developments within 5 km. Comprising turbines >100 m in height.

[20] Sourced from: NatureScot, Natural England, Natural Resources Wales, Renewable UK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter & Bat Conservation Trust (BCT). (2021). *Bats and Onshore Wind Turbines: Survey Assessment and Mitigation*.

[21] Some sites could conceivably be assessed as being of no (0) risk to bats. This assessment is only likely to be valid in more extreme environments, such as above the known altitudinal range of bats, or outside the known geographical distribution of any resident British species.

ANNEX D. MONTHLY LOCATION SPECIFIC DATA

Table D-1 2020 Monthly Location Specific Data for High Collision Risk Species

Location ID	Species	Month	Median Percentile	Median Activity Category[22]	Maximum Percentile	Maximum Activity Category[22]	Site Risk[23]	Overall Median Category Score[24]	Overall Median Category	Overall Maximum Category Score[24]	Overall Maximum Category
loc1	*Nyctalus* spp.	May	85	High	93	High	3	15	**High**	15	**High**
loc1	*Nyctalus* spp.	Jun	54	Moderate	54	Moderate	3	9	**Medium**	9	**Medium**
loc1	*Nyctalus* spp.	Jul	2	Low	2	Low	3	3	**Low**	3	**Low**
loc1	Common pipistrelle	Jun	74	Moderate-High	74	Moderate-High	3	12	**Medium**	12	**Medium**
loc1	Common pipistrelle	Jul	62	Moderate-High	74	Moderate-High	3	12	**Medium**	12	**Medium**
loc1	Common pipistrelle	Aug	82	High	89	High	3	15	**High**	15	**High**
loc1	Common pipistrelle	Sep	80	Moderate-High	80	Moderate-High	3	12	**Medium**	12	**Medium**
loc1	Soprano pipistrelle	May	21	Low-Moderate	39	Low-Moderate	3	6	**Medium**	6	**Medium**
loc1	Soprano pipistrelle	Jun	67	Moderate-High	67	Moderate-High	3	12	**Medium**	12	**Medium**
loc1	Soprano pipistrelle	Jul	39	Low-Moderate	67	Moderate-High	3	6	**Medium**	12	**Medium**
loc1	Soprano pipistrelle	Aug	84	High	95	High	3	15	**High**	15	**High**
loc1	Soprano pipistrelle	Sep	39	Low-Moderate	74	Moderate-High	3	6	**Medium**	12	**Medium**
loc2	*Nyctalus* spp.	Jun	2	Low	2	Low	3	3	**Low**	3	**Low**
loc2	*Nyctalus* spp.	Aug	28	Low-Moderate	54	Moderate	3	6	**Medium**	9	**Medium**
loc2	Common pipistrelle	Aug	95	High	97	High	3	15	**High**	15	**High**
loc2	Common pipistrelle	Sep	71	Moderate-High	86	High	3	12	**Medium**	15	**High**
loc2	Soprano pipistrelle	Aug	99	High	100	High	3	15	**High**	15	**High**
loc2	Soprano pipistrelle	Sep	62	Moderate-High	80	Moderate-High	3	12	**Medium**	12	**Medium**
loc3	*Nyctalus* spp.	Aug	2	Low	39	Low-Moderate	3	3	**Low**	6	**Medium**

[22] Taken from **Table 4-1**
[23] Taken from **Table 4-5**
[24] Taken from **Table 4-6**

Location ID	Species	Month	Median Percentile	Median Activity Category[22]	Maximum Percentile	Maximum Activity Category[22]	Site Risk[23]	Overall Median Category Score[24]	Overall Median Category	Overall Maximum Category Score[24]	Overall Maximum Category
loc3	Common pipistrelle	May	2	Low	2	Low	3	3	Low	3	Low
loc3	Common pipistrelle	Jul	2	Low	2	Low	3	3	Low	3	Low
loc3	Common pipistrelle	Aug	67	Moderate-High	81	High	3	12	Medium	15	High
loc3	Common pipistrelle	Sep	96	High	98	High	3	15	High	15	High
loc3	Soprano pipistrelle	May	2	Low	2	Low	3	3	Low	3	Low
loc3	Soprano pipistrelle	Jun	67	Moderate-High	67	Moderate-High	3	12	Medium	12	Medium
loc3	Soprano pipistrelle	Jul	54	Moderate	67	Moderate-High	3	9	Medium	12	Medium
loc3	Soprano pipistrelle	Aug	79	Moderate-High	82	High	3	12	Medium	15	High
loc3	Soprano pipistrelle	Sep	2	Low	54	Moderate	3	3	Low	9	Medium
loc4	Common pipistrelle	May	47	Moderate	67	Moderate-High	3	9	Medium	12	Medium
loc4	Common pipistrelle	Jul	84	High	88	High	3	15	High	15	High
loc4	Common pipistrelle	Aug	2	Low	2	Low	3	3	Low	3	Low
loc4	Common pipistrelle	Sep	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc4	Soprano pipistrelle	May	2	Low	39	Low-Moderate	3	3	Low	6	Medium
loc4	Soprano pipistrelle	Jul	2	Low	2	Low	3	3	Low	3	Low
loc4	Soprano pipistrelle	Aug	58	Moderate	67	Moderate-High	3	9	Medium	12	Medium
loc4	Soprano pipistrelle	Sep	54	Moderate	54	Moderate	3	9	Medium	9	Medium
loc5	*Nyctalus* spp.	May	2	Low	2	Low	3	3	Low	3	Low
loc5	*Nyctalus* spp.	Jun	85	High	89	High	3	15	High	15	High
loc5	*Nyctalus* spp.	Jul	75	Moderate-High	89	High	3	12	Medium	15	High
loc5	*Nyctalus* spp.	Aug	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc5	Common pipistrelle	May	2	Low	2	Low	3	3	Low	3	Low
loc5	Common pipistrelle	Jun	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc5	Common pipistrelle	Jul	2	Low	2	Low	3	3	Low	3	Low
loc5	Common pipistrelle	Aug	39	Low-Moderate	74	Moderate-High	3	6	Medium	12	Medium

Location ID	Species	Month	Median Percentile	Median Activity Category[22]	Maximum Percentile	Maximum Activity Category[22]	Site Risk[23]	Overall Median Category Score[24]	Overall Median Category	Overall Maximum Category Score[24]	Overall Maximum Category
loc5	Soprano pipistrelle	Jun	2	Low	2	Low	3	3	Low	3	Low
loc5	Soprano pipistrelle	Jul	2	Low	2	Low	3	3	Low	3	Low
loc5	Soprano pipistrelle	Aug	54	Moderate	62	Moderate-High	3	9	Medium	12	Medium
loc6	*Nyctalus* spp.	Jun	71	Moderate-High	71	Moderate-High	3	12	Medium	12	Medium
loc6	*Nyctalus* spp.	Jul	51	Moderate	67	Moderate-High	3	9	Medium	12	Medium
loc6	*Nyctalus* spp.	Aug	67	Moderate-High	67	Moderate-High	3	12	Medium	12	Medium
loc6	Common pipistrelle	May	86	High	91	High	3	15	High	15	High
loc6	Common pipistrelle	Jun	91	High	91	High	3	15	High	15	High
loc6	Common pipistrelle	Jul	62	Moderate-High	91	High	3	12	Medium	15	High
loc6	Common pipistrelle	Aug	95	High	96	High	3	15	High	15	High
loc6	Common pipistrelle	Sep	79	Moderate-High	80	Moderate-High	3	12	Medium	12	Medium
loc6	Soprano pipistrelle	May	58	Moderate	62	Moderate-High	3	9	Medium	12	Medium
loc6	Soprano pipistrelle	Jun	89	High	89	High	3	15	High	15	High
loc6	Soprano pipistrelle	Jul	21	Low-Moderate	89	High	3	6	Medium	15	High
loc6	Soprano pipistrelle	Aug	97	High	99	High	3	15	High	15	High
loc6	Soprano pipistrelle	Sep	87	High	93	High	3	15	High	15	High
loc7	*Nyctalus* spp.	May	77	Moderate-High	77	Moderate-High	3	12	Medium	12	Medium
loc7	*Nyctalus* spp.	Jun	77	Moderate-High	83	High	3	12	Medium	15	High
loc7	*Nyctalus* spp.	Jul	83	High	83	High	3	15	High	15	High
loc7	*Nyctalus* spp.	Aug	39	Low-Moderate	54	Moderate	3	6	Medium	9	Medium
loc7	*Nyctalus* spp.	Sep	21	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc7	Common pipistrelle	May	28	Low-Moderate	54	Moderate	3	6	Medium	9	Medium
loc7	Common pipistrelle	Jun	88	High	88	High	3	15	High	15	High
loc7	Common pipistrelle	Jul	54	Moderate	88	High	3	9	Medium	15	High
loc7	Common pipistrelle	Aug	88	High	90	High	3	15	High	15	High

Location ID	Species	Month	Median Percentile	Median Activity Category[22]	Maximum Percentile	Maximum Activity Category[22]	Site Risk[23]	Overall Median Category Score[24]	Overall Median Category	Overall Maximum Category Score[24]	Overall Maximum Category
loc7	Common pipistrelle	Sep	51	Moderate	62	Moderate-High	3	9	**Medium**	12	**Medium**
loc7	Soprano pipistrelle	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc7	Soprano pipistrelle	Jul	32	Low-Moderate	62	Moderate-High	3	6	**Medium**	12	**Medium**
loc7	Soprano pipistrelle	Aug	92	High	96	High	3	15	**High**	15	**High**
loc7	Soprano pipistrelle	Sep	67	Moderate-High	67	Moderate-High	3	12	**Medium**	12	**Medium**
loc8	*Nyctalus* spp.	Jun	89	High	89	High	3	15	**High**	15	**High**
loc8	*Nyctalus* spp.	Jul	67	Moderate-High	83	High	3	12	**Medium**	15	**High**
loc8	*Nyctalus* spp.	Aug	39	Low-Moderate	39	Low-Moderate	3	6	**Medium**	6	**Medium**
loc8	*Nyctalus* spp.	Sep	2	Low	2	Low	3	3	**Low**	3	**Low**
loc8	Common pipistrelle	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc8	Common pipistrelle	Jun	47	Moderate	54	Moderate	3	9	**Medium**	9	**Medium**
loc8	Common pipistrelle	Jul	39	Low-Moderate	54	Moderate	3	6	**Medium**	9	**Medium**
loc8	Common pipistrelle	Aug	99	High	100	High	3	15	**High**	15	**High**
loc8	Common pipistrelle	Sep	95	High	96	High	3	15	**High**	15	**High**
loc8	Soprano pipistrelle	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc8	Soprano pipistrelle	Jun	21	Low-Moderate	39	Low-Moderate	3	6	**Medium**	6	**Medium**
loc8	Soprano pipistrelle	Jul	2	Low	2	Low	3	3	**Low**	3	**Low**
loc8	Soprano pipistrelle	Aug	99	High	99	High	3	15	**High**	15	**High**
loc8	Soprano pipistrelle	Sep	92	High	92	High	3	15	**High**	15	**High**
loc9	*Nyctalus* spp.	May	62	Moderate-High	90	High	3	12	**Medium**	15	**High**
loc9	*Nyctalus* spp.	Jun	79	Moderate-High	79	Moderate-High	3	12	**Medium**	12	**Medium**
loc9	*Nyctalus* spp.	Jul	47	Moderate	77	Moderate-High	3	9	**Medium**	12	**Medium**
loc9	*Nyctalus* spp.	Aug	47	Moderate	54	Moderate	3	9	**Medium**	9	**Medium**
loc9	Common pipistrelle	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc9	Common pipistrelle	Jun	42	Moderate	81	High	3	9	**Medium**	15	**High**

Location ID	Species	Month	Median Percentile	Median Activity Category[22]	Maximum Percentile	Maximum Activity Category[22]	Site Risk[23]	Overall Median Category Score[24]	Overall Median Category	Overall Maximum Category Score[24]	Overall Maximum Category
loc9	Common pipistrelle	Jul	77	Moderate-High	81	High	3	12	**Medium**	15	**High**
loc9	Common pipistrelle	Aug	90	High	99	High	3	15	**High**	15	**High**
loc9	Common pipistrelle	Sep	39	Low-Moderate	39	Low-Moderate	3	6	**Medium**	6	**Medium**
loc9	Soprano pipistrelle	May	39	Low-Moderate	39	Low-Moderate	3	6	**Medium**	6	**Medium**
loc9	Soprano pipistrelle	Jun	67	Moderate-High	67	Moderate-High	3	12	**Medium**	12	**Medium**
loc9	Soprano pipistrelle	Jul	39	Low-Moderate	67	Moderate-High	3	6	**Medium**	12	**Medium**
loc9	Soprano pipistrelle	Aug	95	High	97	High	3	15	**High**	15	**High**
loc9	Soprano pipistrelle	Sep	62	Moderate-High	77	Moderate-High	3	12	**Medium**	12	**Medium**

Table D-2 2021 Monthly Location Specific Data for High Collision Risk Species

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
loc1	*Nyctalus* spp.	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc1	*Nyctalus* spp.	Jul	2	Low	2	Low	3	3	**Low**	3	**Low**
loc1	*Nyctalus* spp.	Aug	2	Low	2	Low	3	3	**Low**	3	**Low**
loc1	Common pipistrelle	May	47	Moderate	68	Moderate-High	3	9	**Medium**	12	**Medium**
loc1	Common pipistrelle	Jul	39	Low-Moderate	39	Low-Moderate	3	6	**Medium**	6	**Medium**
loc1	Common pipistrelle	Aug	39	Low-Moderate	39	Low-Moderate	3	6	**Medium**	6	**Medium**
loc1	Soprano pipistrelle	May	47	Moderate	54	Moderate	3	9	**Medium**	9	**Medium**
loc1	Soprano pipistrelle	Aug	39	Low-Moderate	39	Low-Moderate	3	6	**Medium**	6	**Medium**
loc1	Soprano pipistrelle	Sep	21	Low-Moderate	54	Moderate	3	6	**Medium**	9	**Medium**
loc1	Soprano pipistrelle	Oct	2	Low	2	Low	3	3	**Low**	3	**Low**

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
loc10	*Nyctalus* spp.	Jul	51	Moderate	63	Moderate-High	3	9	Medium	12	Medium
loc10	*Nyctalus* spp.	Aug	39	Low-Moderate	72	Moderate-High	3	6	Medium	12	Medium
loc10	Common pipistrelle	May	2	Low	2	Low	3	3	Low	3	Low
loc10	Common pipistrelle	Jul	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc10	Common pipistrelle	Aug	39	Low-Moderate	83	High	3	6	Medium	15	High
loc10	Soprano pipistrelle	May	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc10	Soprano pipistrelle	Jul	54	Moderate	54	Moderate	3	9	Medium	9	Medium
loc10	Soprano pipistrelle	Aug	39	Low-Moderate	68	Moderate-High	3	6	Medium	12	Medium
loc10	Soprano pipistrelle	Sep	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc10	Soprano pipistrelle	Oct	2	Low	2	Low	3	3	Low	3	Low
loc11	*Nyctalus* spp.	Jul	28	Low-Moderate	54	Moderate	3	6	Medium	9	Medium
loc11	*Nyctalus* spp.	Aug	21	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc11	Common pipistrelle	May	2	Low	39	Low-Moderate	3	3	Low	6	Medium
loc11	Common pipistrelle	Jul	28	Low-Moderate	54	Moderate	3	6	Medium	9	Medium
loc11	Common pipistrelle	Aug	2	Low	2	Low	3	3	Low	3	Low
loc11	Soprano pipistrelle	May	47	Moderate	54	Moderate	3	9	Medium	9	Medium
loc11	Soprano pipistrelle	Jul	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc11	Soprano pipistrelle	Aug	47	Moderate	63	Moderate-High	3	9	Medium	12	Medium
loc11	Soprano pipistrelle	Sep	2	Low	39	Low-Moderate	3	3	Low	6	Medium
loc11	Soprano pipistrelle	Oct	2	Low	2	Low	3	3	Low	3	Low
loc12	*Nyctalus* spp.	May	2	Low	2	Low	3	3	Low	3	Low
loc12	*Nyctalus* spp.	Jul	79	Moderate-High	82	High	3	12	Medium	15	High
loc12	*Nyctalus* spp.	Aug	54	Moderate	68	Moderate-High	3	9	Medium	12	Medium
loc12	Common pipistrelle	May	2	Low	39	Low-Moderate	3	3	Low	6	Medium
loc12	Common pipistrelle	Jul	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc12	Common pipistrelle	Aug	39	Low-Moderate	54	Moderate	3	6	Medium	9	Medium
loc12	Soprano pipistrelle	May	2	Low	2	Low	3	3	Low	3	Low

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
loc12	Soprano pipistrelle	Jul	54	Moderate	54	Moderate	3	9	**Medium**	9	**Medium**
loc12	Soprano pipistrelle	Aug	2	Low	75	Moderate-High	3	3	**Low**	12	**Medium**
loc12	Soprano pipistrelle	Sep	63	Moderate-High	84	High	3	12	**Medium**	15	**High**
loc12	Soprano pipistrelle	Oct	63	Moderate-High	63	Moderate-High	3	12	**Medium**	12	**Medium**
loc2	*Nyctalus* spp.	Jul	33	Low-Moderate	63	Moderate-High	3	6	**Medium**	12	**Medium**
loc2	*Nyctalus* spp.	Aug	54	Moderate	63	Moderate-High	3	9	**Medium**	12	**Medium**
loc2	Common pipistrelle	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc2	Common pipistrelle	Jul	63	Moderate-High	63	Moderate-High	3	12	**Medium**	12	**Medium**
loc2	Common pipistrelle	Aug	47	Moderate	72	Moderate-High	3	9	**Medium**	12	**Medium**
loc2	Soprano pipistrelle	Jul	2	Low	2	Low	3	3	**Low**	3	**Low**
loc2	Soprano pipistrelle	Aug	2	Low	2	Low	3	3	**Low**	3	**Low**
loc2	Soprano pipistrelle	Sep	2	Low	2	Low	3	3	**Low**	3	**Low**
loc2	Soprano pipistrelle	Oct	28	Low-Moderate	54	Moderate	3	6	**Medium**	9	**Medium**
loc3	*Nyctalus* spp.	Jul	2	Low	2	Low	3	3	**Low**	3	**Low**
loc3	*Nyctalus* spp.	Aug	39	Low-Moderate	54	Moderate	3	6	**Medium**	9	**Medium**
loc3	Common pipistrelle	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc3	Common pipistrelle	Jul	2	Low	2	Low	3	3	**Low**	3	**Low**
loc3	Common pipistrelle	Aug	2	Low	39	Low-Moderate	3	3	**Low**	6	**Medium**
loc3	Soprano pipistrelle	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc4	*Nyctalus* spp.	Jul	2	Low	2	Low	3	3	**Low**	3	**Low**
loc4	*Nyctalus* spp.	Aug	39	Low-Moderate	54	Moderate	3	6	**Medium**	9	**Medium**
loc4	Common pipistrelle	Jul	2	Low	2	Low	3	3	**Low**	3	**Low**
loc4	Common pipistrelle	Aug	2	Low	39	Low-Moderate	3	3	**Low**	6	**Medium**
loc4	Soprano pipistrelle	Sep	2	Low	39	Low-Moderate	3	3	**Low**	6	**Medium**
loc4	Soprano pipistrelle	Oct	2	Low	39	Low-Moderate	3	3	**Low**	6	**Medium**
loc5	*Nyctalus* spp.	May	2	Low	2	Low	3	3	**Low**	3	**Low**
loc5	*Nyctalus* spp.	Jul	54	Moderate	54	Moderate	3	9	**Medium**	9	**Medium**

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
loc5	*Nyctalus* spp.	Aug	21	Low-Moderate	54	Moderate	3	6	Medium	9	Medium
loc5	Common pipistrelle	May	2	Low	2	Low	3	3	Low	3	Low
loc5	Common pipistrelle	Jul	37	Low-Moderate	72	Moderate-High	3	6	Medium	12	Medium
loc5	Common pipistrelle	Aug	39	Low-Moderate	54	Moderate	3	6	Medium	9	Medium
loc5	Soprano pipistrelle	May	2	Low	2	Low	3	3	Low	3	Low
loc5	Soprano pipistrelle	Aug	2	Low	2	Low	3	3	Low	3	Low
loc5	Soprano pipistrelle	Oct	2	Low	2	Low	3	3	Low	3	Low
loc6	*Nyctalus* spp.	Jul	68	Moderate-High	68	Moderate-High	3	12	Medium	12	Medium
loc6	Common pipistrelle	May	47	Moderate	80	Moderate-High	3	9	Medium	12	Medium
loc6	Common pipistrelle	Jul	96	High	100	High	3	15	High	15	High
loc6	Common pipistrelle	Aug	96	High	100	High	3	15	High	15	High
loc6	Soprano pipistrelle	May	54	Moderate	68	Moderate-High	3	9	Medium	12	Medium
loc6	Soprano pipistrelle	Jul	93	High	95	High	3	15	High	15	High
loc6A	*Nyctalus* spp.	Oct	51	Moderate	63	Moderate-High	3	9	Medium	12	Medium
loc6A	Common pipistrelle	Oct	2	Low	2	Low	3	3	Low	3	Low
loc6A	Soprano pipistrelle	Sep	54	Moderate	96	High	3	9	Medium	15	High
loc6A	Soprano pipistrelle	Oct	68	Moderate-High	79	Moderate-High	3	12	Medium	12	Medium
loc7	*Nyctalus* spp.	May	2	Low	2	Low	3	3	Low	3	Low
loc7	*Nyctalus* spp.	Sep	2	Low	2	Low	3	3	Low	3	Low
loc7	Common pipistrelle	May	39	Low-Moderate	54	Moderate	3	6	Medium	9	Medium
loc7	Common pipistrelle	Jul	88	High	88	High	3	15	High	15	High
loc7	Common pipistrelle	Aug	82	High	92	High	3	15	High	15	High
loc7	Common pipistrelle	Oct	2	Low	2	Low	3	3	Low	3	Low
loc7	Soprano pipistrelle	May	21	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc7	Soprano pipistrelle	Sep	2	Low	2	Low	3	3	Low	3	Low
loc7	Soprano pipistrelle	Oct	2	Low	2	Low	3	3	Low	3	Low
loc8	*Nyctalus* spp.	Aug	2	Low	54	Moderate	3	3	Low	9	Medium

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
loc8	Common pipistrelle	May	72	Moderate-High	88	High	3	12	Medium	15	High
loc8	Common pipistrelle	Jul	98	High	98	High	3	15	High	15	High
loc8	Common pipistrelle	Aug	83	High	97	High	3	15	High	15	High
loc8	Soprano pipistrelle	May	21	Low-Moderate	75	Moderate-High	3	6	Medium	12	Medium
loc8	Soprano pipistrelle	Aug	80	Moderate-High	92	High	3	12	Medium	15	High
loc8A	Common pipistrelle	Sep	2	Low	2	Low	3	3	Low	3	Low
loc9	*Nyctalus* spp.	May	39	Low-Moderate	39	Low-Moderate	3	6	Medium	6	Medium
loc9	*Nyctalus* spp.	Jul	63	Moderate-High	87	High	3	12	Medium	15	High
loc9	*Nyctalus* spp.	Aug	68	Moderate-High	72	Moderate-High	3	12	Medium	12	Medium
loc9	Common pipistrelle	May	39	Low-Moderate	77	Moderate-High	3	6	Medium	12	Medium
loc9	Common pipistrelle	Jul	93	High	94	High	3	15	High	15	High
loc9	Common pipistrelle	Aug	95	High	95	High	3	15	High	15	High
loc9	Soprano pipistrelle	May	39	Low-Moderate	68	Moderate-High	3	6	Medium	12	Medium
loc9	Soprano pipistrelle	Jul	88	High	92	High	3	15	High	15	High
loc9	Soprano pipistrelle	Aug	95	High	98	High	3	15	High	15	High
loc9A	Common pipistrelle	Sep	79	Moderate-High	79	Moderate-High	3	12	Medium	12	Medium
loc9A	Soprano pipistrelle	Sep	92	High	92	High	3	15	High	15	High

Table D-3 2025 Monthly Location Specific Data for High Collision Risk Species

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
l1	*Nyctalus* spp.	Apr	16	Low	16	Low	3	3	Low	3	Low

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
l1	*Nyctalus* spp.	May	3	Low	28	Low-Moderate	3	3	Low	6	Medium
l1	*Nyctalus* spp.	Jun	35	Low-Moderate	65	Moderate-High	3	6	Medium	12	Medium
l1	*Nyctalus* spp.	Aug	8	Low	8	Low	3	3	Low	3	Low
l1	*Nyctalus* spp.	Sep	6	Low	6	Low	3	3	Low	3	Low
l1	Common pipistrelle	Apr	13	Low	15	Low	3	3	Low	3	Low
l1	Common pipistrelle	May	1	Low	10	Low	3	3	Low	3	Low
l1	Common pipistrelle	Jun	7	Low	11	Low	3	3	Low	3	Low
l1	Common pipistrelle	Aug	1	Low	1	Low	3	3	Low	3	Low
l1	Common pipistrelle	Sep	1	Low	2	Low	3	3	Low	3	Low
l1	Soprano pipistrelle	Apr	10	Low	21	Low-Moderate	3	3	Low	6	Medium
l1	Soprano pipistrelle	May	0	Low	10	Low	3	3	Low	3	Low
l1	Soprano pipistrelle	Jun	1	Low	7	Low	3	3	Low	3	Low
l1	Soprano pipistrelle	Aug	0	Low	0	Low	3	3	Low	3	Low
l1	Soprano pipistrelle	Sep	1	Low	5	Low	3	3	Low	3	Low
l2	*Nyctalus* spp.	Apr	0	Low	0	Low	3	3	Low	3	Low
l2	*Nyctalus* spp.	May	3	Low	5	Low	3	3	Low	3	Low
l2	*Nyctalus* spp.	Jun	43	Moderate	85	High	3	9	Medium	15	High
l2	*Nyctalus* spp.	Aug	5	Low	5	Low	3	3	Low	3	Low
l2	*Nyctalus* spp.	Sep	2	Low	3	Low	3	3	Low	3	Low
l2	Common pipistrelle	Apr	11	Low	11	Low	3	3	Low	3	Low
l2	Common pipistrelle	May	0	Low	3	Low	3	3	Low	3	Low
l2	Common pipistrelle	Jun	4	Low	10	Low	3	3	Low	3	Low
l2	Common pipistrelle	Aug	0	Low	0	Low	3	3	Low	3	Low
l2	Common pipistrelle	Sep	6	Low	10	Low	3	3	Low	3	Low
l2	Soprano pipistrelle	Apr	8	Low	8	Low	3	3	Low	3	Low
l2	Soprano pipistrelle	May	0	Low	1	Low	3	3	Low	3	Low
l2	Soprano pipistrelle	Jun	0	Low	4	Low	3	3	Low	3	Low

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
l2	Soprano pipistrelle	Aug	0	Low	0	Low	3	3	Low	3	Low
l2	Soprano pipistrelle	Sep	2	Low	7	Low	3	3	Low	3	Low
l3	*Nyctalus* spp.	Apr	0	Low	0	Low	3	3	Low	3	Low
l3	*Nyctalus* spp.	May	5	Low	5	Low	3	3	Low	3	Low
l3	*Nyctalus* spp.	Jun	0	Low	8	Low	3	3	Low	3	Low
l3	*Nyctalus* spp.	Aug	0	Low	0	Low	3	3	Low	3	Low
l3	Common pipistrelle	Apr	4	Low	8	Low	3	3	Low	3	Low
l3	Common pipistrelle	May	0	Low	0	Low	3	3	Low	3	Low
l3	Common pipistrelle	Jun	10	Low	16	Low	3	3	Low	3	Low
l3	Common pipistrelle	Aug	1	Low	1	Low	3	3	Low	3	Low
l3	Common pipistrelle	Sep	1	Low	9	Low	3	3	Low	3	Low
l3	Soprano pipistrelle	Apr	6	Low	6	Low	3	3	Low	3	Low
l3	Soprano pipistrelle	May	0	Low	0	Low	3	3	Low	3	Low
l3	Soprano pipistrelle	Jun	3	Low	11	Low	3	3	Low	3	Low
l3	Soprano pipistrelle	Aug	6	Low	6	Low	3	3	Low	3	Low
l3	Soprano pipistrelle	Sep	4	Low	9	Low	3	3	Low	3	Low
l4	*Nyctalus* spp.	Apr	2	Low	2	Low	3	3	Low	3	Low
l4	*Nyctalus* spp.	Aug	5	Low	5	Low	3	3	Low	3	Low
l4	*Nyctalus* spp.	Sep	0	Low	6	Low	3	3	Low	3	Low
l4	Common pipistrelle	Apr	0	Low	0	Low	3	3	Low	3	Low
l4	Common pipistrelle	May	0	Low	0	Low	3	3	Low	3	Low
l4	Common pipistrelle	Aug	0	Low	0	Low	3	3	Low	3	Low
l4	Common pipistrelle	Sep	0	Low	3	Low	3	3	Low	3	Low
l4	Soprano pipistrelle	Apr	2	Low	2	Low	3	3	Low	3	Low
l4	Soprano pipistrelle	May	0	Low	0	Low	3	3	Low	3	Low
l4	Soprano pipistrelle	Aug	0	Low	0	Low	3	3	Low	3	Low
l4	Soprano pipistrelle	Sep	0	Low	6	Low	3	3	Low	3	Low

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Category Score	Overall Median Category	Overall Maximum Category Score	Overall Maximum Category
l5	*Nyctalus* spp.	Apr	0	Low	0	Low	3	3	Low	3	Low
l5	*Nyctalus* spp.	Jun	4	Low	28	Low-Moderate	3	3	Low	6	Medium
l5	*Nyctalus* spp.	Aug	5	Low	5	Low	3	3	Low	3	Low
l5	*Nyctalus* spp.	Sep	1	Low	3	Low	3	3	Low	3	Low
l5	Nathusius's pipistrelle	May	100	High	100	High	3	15	High	15	High
l5	Common pipistrelle	Apr	0	Low	0	Low	3	3	Low	3	Low
l5	Common pipistrelle	May	0	Low	0	Low	3	3	Low	3	Low
l5	Common pipistrelle	Jun	15	Low	17	Low	3	3	Low	3	Low
l5	Common pipistrelle	Aug	3	Low	3	Low	3	3	Low	3	Low
l5	Common pipistrelle	Sep	4	Low	10	Low	3	3	Low	3	Low
l5	Soprano pipistrelle	Apr	0	Low	0	Low	3	3	Low	3	Low
l5	Soprano pipistrelle	May	0	Low	0	Low	3	3	Low	3	Low
l5	Soprano pipistrelle	Jun	9	Low	12	Low	3	3	Low	3	Low
l5	Soprano pipistrelle	Aug	0	Low	0	Low	3	3	Low	3	Low
l5	Soprano pipistrelle	Sep	1	Low	6	Low	3	3	Low	3	Low

ANNEX E. ECOBAT REPORT

See separate Annex E for the 2020, 2021 and 2025 Ecobat reports.