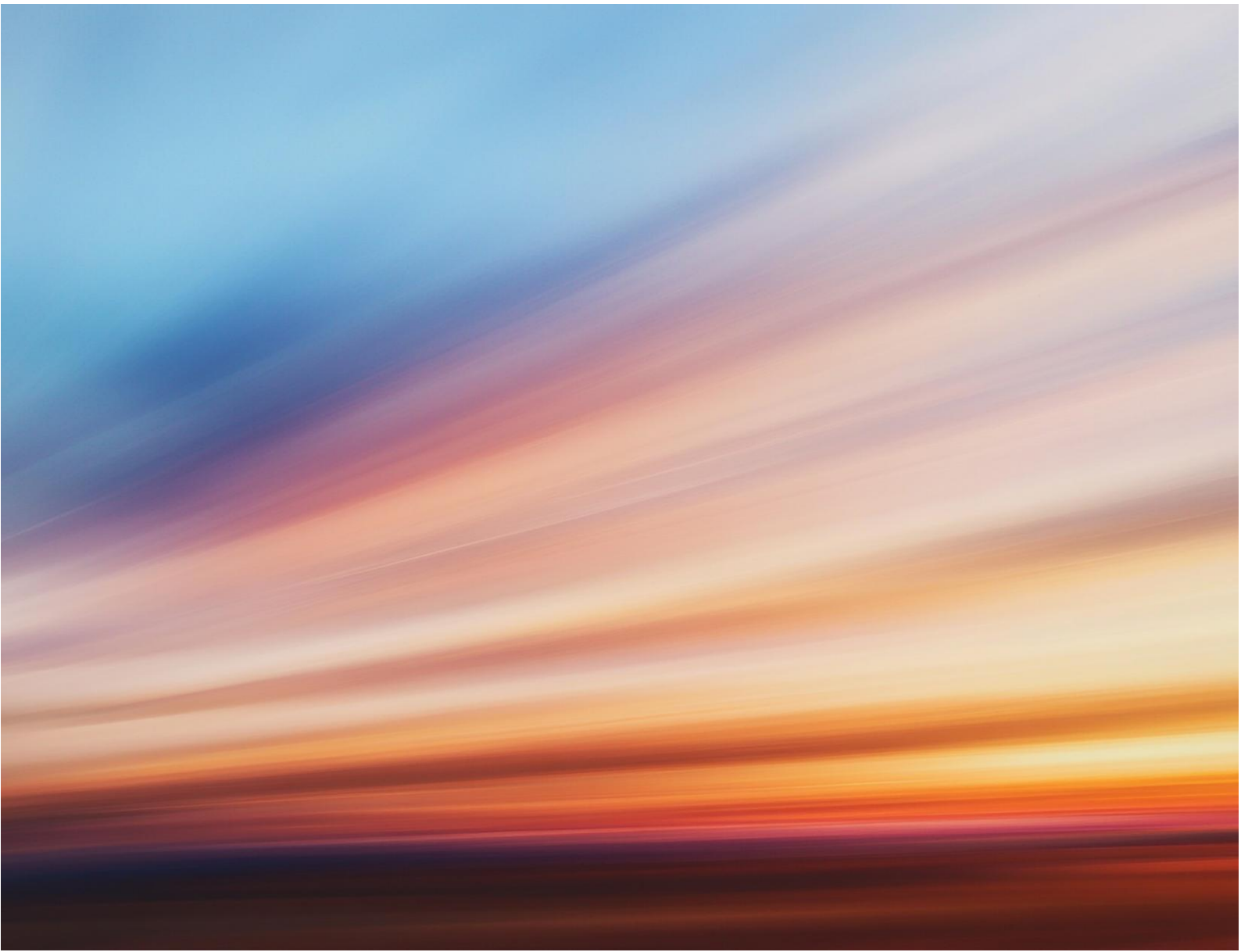
Mylen Leah Solar Farm

Preliminary Environmental Information Report (PEIR)

Volume 3

Appendix 7.7: Bat Survey Report

April 2026



Contents

1. Introduction

1.1 Purpose of this report

1.1.1 This report describes the results of bat activity surveys, using static bat detectors and night-time bat walkover surveys, undertaken to obtain baseline ecological information to inform the Development Consent Order (DCO) for the proposed Mylen Leah Solar Farm on land south of Melbourne, Yorkshire. The Site is shown in **Figure 7.2: Biodiversity Zone of Influences** in **Volume 2**.

1.1.2 This report includes the assessment of the solar photovoltaic (PV) development area, referred to as the 'Site' within this report. The underground grid connection corridor and interconnecting underground cables are not included in this assessment.

1.1.3 RSK was commissioned by Statkraft UK to carry out the bat surveys of the solar PV development area associated with Mylen Leah Solar Farm. The report presents the methods, results and evaluation of the bat activity surveys undertaken between May and September 2024, inclusive. The aims of the surveys were to:

- identify the bat species present;
- assess relative activity levels;
- identify any important features or habitats for bats on the Site; and,
- provide recommendations for any further surveys.

1.2 Landscape context

1.2.1 The solar PV development area comprises predominately arable and pasture farmland south of Melbourne, Yorkshire, within the administrative area of East Riding of Yorkshire Council. The immediate surrounding area comprises arable and pasture fields, divided by a network of tree lines, hedgerows and watercourses. There are also several small pockets of woodland within the Site and within the immediate surrounding area.

1.2.2 In the wider surrounding area, the habitats are similar in composition. The landscape is predominantly agricultural, interspersed with small villages which are connected by unlit country lanes. There are pockets of higher quality habitat, particularly within the Lower Derwent Valley, which is located to the west of the Site. The Lower Derwent Valley is a network of floodplain meadows, fens, swamps, woodlands, and other freshwater habitats.

1.3 Development proposals

1.3.1 RSK Biocensus (RSK) was commissioned to undertake an assessment for bats within the solar PV development area associated with Mylen Leah Solar Farm. The development comprises the construction, operation and decommissioning of a solar PV generating station and grid connection infrastructure to allow export to the National Grid Thornton Substation. The approximate grid reference of the centre of the Site is 475391, 441654 (British National Grid). The bat surveys focussed on the solar PV

development area.The surveys did not include the underground grid connection corridor or interconnecting underground cables as any impacts are anticipated to be temporary.

1.3.2 The Scoping Report for Mylen Leah Solar Farm was submitted to the Secretary of State on 8 January 2025.[1] The Scoping Opinion was adopted by the Secretary of State on 18 February 2025.[2] The Scoping Report recommended consultation with relevant consultation bodies (including Natural England) to agree the scope of assessment for trees and structures and potential impacts relating to bats. An assessment of the potential impact on roosting bats, justification for current survey effort and recommendations for roosting bats (in trees/structures) has been included within this report.

1.3.3 Additionally, the Scoping Opinion recommended justification for assessment of the Site as low, rather than moderate or high, which has now been updated within this report.

1.4 Legislation

1.4.1 This section briefly describes the legal protection afforded to the protected species referred to in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice or the text of the legislation.

Wildlife and Countryside Act 1981 (as amended)

1.4.2 All species of bats in England and Wales are protected by The Wildlife and Countryside Act 1981 (as amended).[3] Under Section 9 of the Wildlife and Countryside Act 1981, for 'European Protected Species' (defined under the Habitats Regulations, see below) listed on Schedule 5, which includes bats, it is an offence to:

- intentionally or recklessly obstruct any place that a wild bat uses for shelter or protection;
- intentionally or recklessly disturb any wild bat while it is occupying a structure or place that it uses for shelter or protection; or
- publish, or cause to be published, any advertisement likely to be understood as conveying that they buy or sell, or intend to buy or sell, any live or dead wild bat or any part of, or anything derived from a wild bat.

The Conservation of Habitats and Species Regulations (Habitats Regulations) 2017

1.4.3 Bats are also European Protected Species listed on The Habitats Regulations 2017 (as amended).[4] This legislation makes it an offence to:

- deliberately capture, injure or kill such a bat;
- deliberately disturb bats, including in particular any disturbance which is likely (a) to impair their ability – (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong;

- damage or destroy a breeding site or resting place of a bat; or
- possess, control, transport, sell, exchange, or offer for sale or exchange any live or dead bat or part of a bat or anything derived from a bat or any part of a bat.

1.4.4 Additionally, certain species are afforded additional protection as an Annex II species (under the Habitats Directive) for which Special Areas of Conservation may be designated.[5] None of the four bat species listed on Annex II are known to be present in Yorkshire.

Natural Environment and Rural Communities Act 2006

1.4.5 The Natural Environment and Rural Communities (NERC) Act 2006 requires local and governmental authorities and departments to have regard to the conservation of biodiversity and measures associated with public rights of way and other rural affairs.[6] The Environment Act 2021 extended that duty to not only conserve (as previously) but also enhance biodiversity.[7]

1.4.6 Six bat species are listed as being Species of Principal Importance for conservation in England under Section 41 (S41) and as such, they are a material consideration during the planning process.[8] Four of these species (noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared bat (*Plecotus auritus*)) are present in Yorkshire.

1.5 Guidance

National Planning Policy Framework (NPPF)

1.5.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied.[9] This includes requirements for the contribution to and enhancement of the natural environment, including habitats and biodiversity. The NPPF specifies the obligations that local authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation and how these are to be delivered in the planning system.

Local biodiversity strategy

1.5.2 The East Riding of Yorkshire Biodiversity Action Plan Strategy document identifies common pipistrelle (*Pipistrellus pipistrellus*), and Natterer's bat (*Myotis nattereri*) as priority species.[10] East Riding of Yorkshire is expected to publish their biodiversity duty report in 2026, but a draft document is currently unavailable.

1.6 Solar farms and potential impacts and benefits to bats

1.6.1 There is on-going research into the impact of solar schemes on bats, with mixed results. Some studies suggest a potential negative impact; however, variables such as the habitat to be impacted and the geographic distribution of species in relation to a specific solar scheme should be considered when using case studies and research papers. Some of the studies which show negative impacts on bats may be less relevant to the Site due to its northern location within an open agricultural environment. However, studies which show a positive biodiversity impact may be relevant as the Site offers greater opportunities for enhancement.

1.6.2 A recent study, was conducted at 19 solar PV developments in south-west England to identify potential impacts on bat species in the UK.[11] The study found the activity of six of eight species/species groups analysed, to be negatively affected by solar PV panels. In particular, common pipistrelle and *Nyctalus* spp. (noctule and Leisler's bat (*Nyctlus leisleri*)) activity was lower at solar PV sites regardless of the habitat type. Activity at sites with solar PV panels was lower for *Myotis* spp. and serotine (*Cnephaeus serotinus*) along field boundaries. Activity was lower for soprano pipistrelle and *Plecotus* spp. (brown and grey long-eared bats) in open fields. However, this study was only carried out between July and October 2019 and 2020 and the survey methodology used explored the differences between existing solar farms and control sites, rather than the same site pre-development and post-development of a solar farm. Whilst differences in activity may be attributable to solar panels , they could also be influenced by highly localised variations (for example, proximity to roosts).

1.6.3 Solar panels can horizontally polarize light and reflect sound in a similar way to water; this may lead to bats mistaking panels for waterbodies when using their visual system or echolocating, encouraging them to attempt to drink from the panel surfaces. Fortunately, studies have found that bats tend to land on the panels to drink rather than colliding (i.e. non-fatal interaction), they also show signs of learnt behaviour by eventually avoiding the panels following several unsuccessful drinking attempts.[12] [13]

1.6.4 Collisions between bats and solar panels may occur for other reasons. Vertically aligned plates can induce higher collision risk during flight as the smooth vertical surfaces can be interpreted as open flight paths due to acoustic mirror properties interfering with echolocation (echoes not returned to the bat but reflected between the panels). There is a possibility that bats could learn to navigate these 'holes' in the landscape; however, tilting the panels may provide a more effective preventative measure.[14] [15] [16]

1.6.5 The horizontal polarization of light by solar panels could also impact the bats' insect prey as several aquatic insect species show strong attraction to panels and subsequently lay eggs on the surfaces, leading to inviable offspring and increasing predation risk.[17] [18] [19] [20] The population-level effects of solar farms on aquatic insects are currently unknown; if they do prove to lead to population declines, then UK bats could be at risk as several species are highly reliant on aquatic insects as a food source (e.g. *Myotis* spp., *Pipistrellus* spp. and Leisler's bat.[21] [22] However, there are other, likely more widespread and damaging factors contributing to insect declines, such as habitat change, artificial light and pesticide use (particularly given the low percentage of land that could become covered by solar farms).

1.6.6 Other potential impacts of solar farms on bats include disturbance during construction and operation of solar farms due to noise and light pollution; habitat degradation and fragmentation as a result of water and soil pollution; tall panels interrupting flight paths; and vegetation clearance and water body drainage, which can reduce bat insect prey availability, drinking water sources and bat socialising and commuting habitat. There may also be indirect effects to bats through environmental change over the long-term; for

example, the formation of microclimates; reductions in plant biomass (particularly under the panels); and topsoil destabilisation.[23] [24]

1.6.7 Cumulative impacts, due to any number of the above reasons, may have the potential to impact an individual's ability to survive or breed in the long term, and could be significant to the local and regional populations. This is because bats are long-lived, and their reproductive rate is low. However, solar schemes also have the potential to improve an area's biodiversity value when appropriate wildlife enhancement measures are incorporated into a site's layout.

1.6.8 Birds and invertebrates appear to respond favourably to biodiversity-focused management practices at solar farms. For instance, recent reports from Downing Renewable Developments and Endurance Energy have shown 176% and 62% net gains in biodiversity, respectively, in their planning applications for 50MW solar sites.[25]

1.6.9 An unpublished study by Parker and McQueen at four solar farms in southern England revealed that all four exhibited increased biodiversity compared to control plots. The wildflower meadow sites showed significant increases in bumblebees, butterflies, and plant species, while pasture sites exhibited less pronounced effects.[26]

1.6.10 A recent study by Szoldatits et al. (2025)[27] at 12 solar farms in Midwestern US revealed that overall bat activity was approximately 50% higher within ecovoltaic sites compared to paired references sites (agricultural fields). The study also found species-specific differences in bat responses to ecovoltaic sites, with hoary bats (Lasiurus cinereus) showing higher activity on ecovoltaic sites throughout most of the monitoring season, big brown bats (*Eptesicus* fuscus) showing higher activity on ecovoltaic sites during the first one-third of the monitoring season, and silver-haired bats (*Lasionycteris noctivagans*) showing no difference in activity between ecovoltaic sites and reference sites. Whilst undertaken on a different continent and so not directly transferable, the seasonal variation shows the importance of multi-season surveys (and conversely, the limited inference that can be taken from short-term single-season studies).

2. Methods

2.1 General

2.1.1 The work described below was undertaken in line with current best practice guidance with justification for where methodologies slightly deviate from the guidelines detailed below.[28]

2.2 Background data search

2.2.1 A desk-based review, using the Multi-Agency Geographic Information for the Countryside (MAGIC) website and North and East Yorkshire Ecological Data Centre, was undertaken to identify any international statutory designated sites (e.g. Special Areas of Conservation (SACs) within 10km of the draft Order Limits, and any relevant national statutory and non-statutory designated sites (e.g. Sites of Special Scientific Interest and Local Wildlife Sites within 2km of the draft Order Limits.[29]

2.2.2 The MAGIC database was also checked to identify any licence applications for bats granted within 10km of the draft Order Limits.

2.2.3 To provide supplementary data on bat species known to be present in the vicinity, bat species and roost records from the Site and at least a 1km buffer around it were obtained from the North and East Yorkshire Ecological Data Centre in 2024. This search area was updated to 10km from the draft Order Limits in December 2025.

2.3 Habitat suitability for bats

2.3.1 A habitat assessment of the Site was undertaken during May 2024 by an experienced ecologist with a Natural England Level 2 bat licence. Habitats were assessed for their suitability for foraging, commuting and roosting bats. Habitat suitability, as defined in Table 4.1 in the Bat Survey Guidelines, is used to determine the appropriate level of survey effort. A habitat with 'low' potential suitability for flight-paths and foraging habitats is a "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 habitats". Also, "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".

2.3.2 A habitat with 'moderate' potential suitability is described as a '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 gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.'

2.3.3 The solar PV development area was considered to comprise habitat of low to moderate suitability, but, taking into account the likely species assemblage and likely impacts of the Mylen Leah Solar Farm, three seasonal surveys (spring, summer and autumn) were considered to be proportionate to inform the impact assessment.

2.4 Tree assessments for bats

2.4.1 Due to the scale of the Site and likely effects of Mylen Leah Solar Farm, a ground level tree assessment of every tree within and overhanging the Site was not considered necessary or proportionate. However, a daytime bat walkover of whether a tree was likely to be suitable for roosting and/or hibernating bats was completed and the results are shown in **Figure 3**.

2.4.2 Individual trees and tree lines were assessed during a daytime bat walkover survey in May 2024, while woodlands were excluded as they are not anticipated to be directly or indirectly impacted by Mylen Leah Solar Farm. The survey is intended to be a rapid assessment, and trees or tree lines were categorised as defined in Table 4.2 of the Bat Conservation Trust Survey Guidelines (Collins, 2023) based on their potential for roosting bats, see **Table 2.1**. A ground level tree assessment was not completed, however, where potential roost features (PRFs) were recorded, if they were considered suitable to support multiple bats / maternity roost, they were classified as potential roost feature multiple (PRF-M) and have been mapped.

Table 2.1: Tree suitability for bats

Suitability	Description
None	Either no PRFs in the tree or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present in the tree.
PRF	A tree with at least one PRF, but the PRF(s) have not been/cannot be assessed for their suitability from ground level.

2.4.3 The survey evaluates tree characteristics such as; age, size, species, site and geographic location and clear PRFs which are visible for ground level. The daytime bat walkover was undertaken by a Natural England Level 2 bat licenced ecologist with over 13 years' experience of bat surveys.

2.5 Static detector surveys

2.5.1 Twenty static detectors were strategically positioned throughout the survey areas. Locations used in Spring and Summer are shown in **Figure 1a.**

2.5.2 The static detector locations deployed during Autumn are shown in **Figure 1b**. The static detector locations are referred to as monitoring points within the results and evaluation sections of this report.

2.5.3 Bat survey guidelines stipulate that bat activity data on sites with habitats of low suitability for bats should be recorded over five consecutive nights in appropriate weather conditions in spring (April to May), summer (June to August) and autumn (September to October) with at least three weeks between survey visits. The number of detector locations should provide a representative sample of all the habitats in the Site that could be affected by the proposed activities. Appropriate weather conditions are considered to be sunset temperatures of 10°C or above with no heavy rain or strong winds.

2.5.4 Bat activity surveys were undertaken over at least five consecutive nights undertaken in May, July and September 2024. The majority of static detectors were placed in monitoring points located along boundary habitats

rather than within the centre of fields due to risk of damage to equipment from farm practices and potential impact to and from livestock. However, given the most favourable bat habitat is present along the Site's boundary habitats, the survey results provide a representation of the habitat most likely to be used by bats rather than less favourable areas such as within the centre of fields. This may have over-emphasised the value of those parts of the Site which are less likely to experience direct impacts; however, they are also the areas which may be of increased importance once the solar form is operational. This has been taken into account during the assessment of the site's importance for bats. Each detector recorded bats from 30 minutes before dusk to 30 minutes after dawn.

2.5.5 The locations of the majority of the monitoring points (with exception of L12) were changed during the September detector deployment, with the purpose of collecting additional information.

2.5.6 Full spectrum Wildlife Acoustics SM4BAT static bat detectors with omnidirectional microphones were used. Each had a microphone mounted at a minimum height of 1m to maximise the probability of recording bat calls in addition to reducing the likelihood of noise interference from insects and moving vegetation.

2.5.7 Detectors were deployed when the weather forecast indicated suitable weather conditions for foraging and commuting bats (**Appendix A**).

2.6 Night-time bat walkover survey methodology

2.6.1 A limitation of data from static bat detectors is that there is no observational context; therefore 12 night-time bat walkovers of different areas of the Site were undertaken between Spring and Autumn 2024. The surveys commenced at sunset and involved two surveyors using Elekon Batlogger M handheld bat detectors (with inbuilt Global Positioning System) and walking a pre-determined route from around 30 minutes after sunset. The surveyors were at liberty to change their pre-determined walkover route to follow-up any bat sightings (such as indications of higher levels of activity). The surveyors aimed to cover a variety of habitat types, walking at a slow pace, and complete the surveys within two hours after sunset.

2.6.2 A total of seven routes were covered over the three seasons of spring, summer and autumn to provide additional information about bat species and activity levels, identifying important areas for commuting and foraging that the static surveys results may or may not have shown. The survey dates, routes and weather conditions can be seen in **Appendix B.**

2.6.3 The night time bat walkover routes surveyed during spring 2024 were pre-determined by a review of available habitats with the aim of including habitat with particular value for bats, such as hedgerows and woodland edges/tree lines and waterbodies. During the spring night-time bat walkovers, the surveyors remained in the pre-determined starting position for a minimum of 30 minutes after sunset.

2.6.4 The night time bat walkover routes surveyed during summer and autumn 2025 also took into consideration earlier static detector results. Determining the night time bat walkover routes informed by both the habitat and static

detector results enabled the night time bat walkover surveys to concentrate on areas with the greatest number of bat species and contribute to the evaluation of bats use of the Site.

2.7 Sound analysis

Sound analysis software use – static deployments

2.7.1 The British Trust for Ornithology's Acoustic Pipeline auto-identification software was used with additional manual auditing applied as necessary. This software is highly efficient at identifying bat calls due to the extensive library of bat calls stored within the software. It is also currently the only system that considers the sound identification of bat social calls, bat feeding buzzes, and many bird, mammal and insect calls reducing the risk of misidentification.

2.7.2 The British Trust for Ornithology's Acoustic Pipeline auto-identification software recommends that recordings with probabilities lower than 0.5, as discussed by (Barré et al., 2019)[30] are discarded and such calls are therefore not included within this report. Manual quality assurance was undertaken on a percentage of all calls that were auto-identified as shown in **Table 2.2** and **Table 2.3** below. In addition, 5% of files which were auto-identified as noise were reviewed. The purpose of the quality assurance of the noise files was to look for hidden registrations of rare species and any other obvious omissions or peculiarities and none were noted.

2.7.3 Social registrations and feeding buzzes were not included in registration totals and not audited because not all bat species have these classifiers on the British Trust for Ornithology's Acoustic Pipeline auto-identification software so comparisons would not be equal; only echolocation registrations were assessed.

2.7.4 The British Trust for Ornithology notes that identifying social registrations can be useful for distinguishing some bat species, where the echolocation registrations are very similar, e.g. identifying *Myotis* to species level. However, this was not considered necessary for the species considered likely to be present on this Site.

2.7.5 Furthermore, British Trust for Ornithology considered that social registrations can also provide useful information on the proximity to a roost, and/or mating behaviour. However, this was not considered necessary to review at this stage of the development and current survey data gathered.

2.7.6 Non-bat animal classifiers are applied in addition to, not instead of, bat species classifications. Such registrations were not used for registration totals (nor audited) to avoid any double-counting of registrations.

Table 2.2: Percentage of High Confidence Calls QA.

Species	Percentage of High Confidence Calls QA		
	5%	10%	100%
Common pipistrelle	✓		
Soprano pipistrelle	✓		
Myotis		✓	

Species	Percentage of High Confidence Calls QA		
	5%	10%	100%
Big bats		✓	
Brown long-eared bat		✓	
Nathusius' pipistrelle (Pipistrellus nathusii)			✓

Table 2.3: No Identification Recordings (weak bat recordings, other animal species including birds, insects and rodents, and mechanical noise).

Season	Percentage of QA
	5%
May (490)	✓
July (2,278)	✓
September (1,608)	✓
Total (4,376)	✓

Sound analysis software use – night-time bat walkovers

2.7.7 Kaleidoscope Lite software was used for the manual identification of all recordings. The recordings were made with a 5-second limit to recording length and allowed for Global Positioning System readings of locations.

Species identification – static deployments

2.7.8 The British Trust for Ornithology's Acoustic Pipeline auto-identification software auto-identification software provided a species identification for each echolocation call. However, it is not always possible to reliably identify bats belonging to the *Myotis* genus to species level. For this reason, registrations flagged as *Myotis* have not been separated to species i.e. the individual species output from British Trust for Ornithology's Acoustic Pipeline auto-identification software has been disregarded. For the purposes of the quality assurance, the registrations were checked to confirm they were from the *Myotis* genus, rather than determining the accuracy of the British Trust for Ornithology's Acoustic Pipeline auto-identification software assigned species.

2.7.9 It can also be difficult to distinguish between *Nyctalus* species and those of serotine. Some registrations of common pipistrelle also overlap with either Nathusius' pipistrelle or soprano pipistrelle. Analysis of cryptic registrations is more difficult with faint or poor-quality recordings. Where these cryptic registrations are manually audited, those which could be reliably identified in line with the species assigned by the British Trust for Ornithology's Acoustic Pipeline auto-identification software were included. Species which could not be identified as *Myotis* spp. manually were discarded. However, records which could not be identified to species level manually, but were confidently identified as *Myotis* sp, were included.

2.7.10 There are a number of variables that affect the 'detectability' of a bat call, ranging from their biology and ecology to the environmental conditions and condition of the equipment. There are therefore limitations in drawing certain conclusions about bat activity on a site from the use of bat detectors and

sound analysis alone. Given the different detectability between different species of bats i.e. from a few metres (for the quietest species such as brown long-eared bats up to 200m (for noctule), the percentage distributions of registrations detected should not be extrapolated to estimate abundance or compare levels of relative activity between species groups.

2.8 Data evaluation methodology

Static detector data evaluation

2.8.1 The bat call registrations have been normalised into registrations per night. registrations per night is calculated by dividing the total number of registrations per species by the number of nights the static detector functioned correctly per deployment. For example, the total registrations for one static detector deployed for five nights which functioned correctly every night would be divided by five. However, if the same detector failed during one night, the total number of registrations would be divided by four. This method accounts for detector failures but also averages out per-night differences arising from e.g. weather.

2.8.2 To calculate the total average call registrations at each monitoring point for each deployment (spring, summer and autumn), the total number of call registrations has similarly been divided by the number of successful nights of recording (see **Appendix C,** Table 15).

2.8.3 **Appendix D** details the methods used for data analysis.

Night-time walkover data evaluation

2.8.4 The night time bat walkover data was extracted as a comma separated values file and then the associated spatial metadata used to plot the data.

Bat species assemblage – assessing importance

2.8.5 The importance of the bat species assemblage was assessed in the context of relative geographic variations in species distributions using the methodology outlined in the Bat Mitigation Guidelines (2025). The maximum possible score for a site located in northern England is considered to be 22. To determine the score for the Site, a score was assigned to each species that has been identified as likely to be present on the Site, based on desk study and survey data, (as set out in Table 3.1 in the Bat Mitigation Guidelines (2025)), where:

- Species considered to be widespread in (almost) all geographies [score 1];
- Species considered to be widespread in many geographies, but not as abundant in all [score 2];
- Species considered to be rare or restricted distribution [score 3]; and,
- Species which are Annex II species and very rare [score 4].

2.8.6 Once the score for the site has been calculated, it is cross referenced with the threshold score needed to meet each geographic level of importance. For sites in northern England this is as follows:

- Assemblage score meets or exceeds 10 (45% of 22): County importance;
- Assemblage score meets or exceeds 12 (55% of 22): Regional importance; and,
- Assemblage score meets or exceeds 15 (70% of 22): National importance.

2.8.7 It is important to note that this should not be treated as simply a mathematical exercise. Context and the relative activity of each species need to be taken into consideration within the assessment.

Bat foraging and commuting habitat

2.8.8 As outlined within the Bat Mitigation Guidelines (2025), a matrix approach has not been adopted to value commuting routes (flightlines) and foraging areas. As such, the following was considered when assigning a geographical level of importance to the Site for foraging and commuting bats:

- Levels of bat activity indicating reliance (or otherwise) on specific habitats/features as determined by surveys (relative bat activity across the features being surveyed);
- Landscape context: distribution and abundance of suitable foraging habitats, flight-lines and overall connectivity;
- The species assemblage using a feature and their conservation status;
- Whether any species present are edge-of-range;
- Proximity/connectivity to roosts (species and roost type influence value too); and,
- A species' habitat preferences and landscape context.

2.9 Validity of data

2.9.1 Data collected to provide evidence that is material to the planning determination is usually valid for two years following the field survey. Should consent not be awarded within two years of the completed surveys, then it may be necessary to confirm if there have been any material changes to the Site before consent is determined.

2.10 Constraints and limitations

2.10.1 Data was lost due to deployed equipment malfunctioning throughout the surveying period (Monitoring Point (MP)1 failed during the spring deployment and MP10 and MP14 failed during the summer deployment). This loss of data is not considered to have affected the overall assessment and conclusion of this report due to the large number of monitoring points spread across the survey area in addition to the night-time walkover surveys.

2.10.2 Static detectors cannot distinguish between large numbers of bats and small numbers of bats making repeated registrations. Therefore, high levels of bat activity can be generated by a large number of commuting bats, a small number of foraging bats flying past the detector on multiple occasions, or

individual bats flying close to a detector. This constraint was factored into the interpretation of the survey results.

2.10.3 For *Myotis sp*. calls registered during the static detector surveys, it was only possible to reliably identify the call to genus level. It is possible that these recordings could represent *Myotis sp.* not identified in the analysis of the recorded data. However, the species assemblage evaluation has considered up to four Myotis species which, given the low value habitat and limited bat records within the background data search, is more likely to be an over-representation of species diversity at this location.

2.10.4 Due to passive (static) 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 (*Plecotus auritus*), potentially being under-recorded.

2.10.5 The majority of static detectors were placed along boundary habitats rather than within the centre of fields due to risk of damage to equipment from farm practices and potential impact to and from livestock. However, given the most favourable bat habitat is present along the Site's boundary habitats, the survey results provide a representation of the habitat most likely to be used by bats rather than unfavourable areas such as within the centre of fields. This may have over-emphasised the value of those parts of the Site which are less likely to experience direct impacts; however, they are also the areas which may be of increased importance once the Mylen Leah Solar Farm is operational.

2.10.6 The weather conditions during some survey dates were outside the optimal threshold of suitable bat survey conditions (10°C sunset temperature with no strong wind or heavy rain) as stated within the previous and Current Bat Survey Guidance. However, the weather conditions were not consistently sub-optimal throughout the night for any of the deployment dates, even when light rainfall occurred and temperatures fell below 10°C. This is confirmed by bats being recorded during every evening. Weather conditions are not considered to have affected the overall assessment and conclusion of this report.

2.10.7 MP29 shown in **Figure 1b** has been removed from the draft Order Limits, therefore is not included within this report.

2.10.8 Although the night-time bat walkover method is included in the Bat Survey Guidelines, night-time bat walkovers only provide a brief snapshot of activity levels at any one time and are not quantitative nor comparable; thus, they can give a misleading impression. Where there are differences between the conclusions that could be drawn from the different methods, the static detector survey results take precedence (being more reliable).

2.10.9 Limited construction methodology in relation to vegetation removal and impact to existing structures has been provided at the time of writing this report; therefore, it has been assumed that all trees lines, individual trees and structures will not be directly impacted by Mylen Leah Solar Farm.

2.10.10 Detailed ground level tree assessment or tree aerial inspections have not been undertaken, in relation to bats. Trees with bat roosting and/or hibernating suitability may have been missed as the survey was conducted

when trees were in leaf and therefore visibility to the higher sections of the trees was limited.

2.10.11 This report does not consider the effects of the interconnecting underground cables or underground grid connection corridor. An assessment for bats for the draft Order Limits will be provided with the Environmental Statement submitted in support of the DCO.

3. Results

3.1 Designated sites

3.1.1 Four statutory designated sites of international/European importance lie within 10km of the draft Order Limits. Following consultation with Natural England (as part of the Scoping Opinion adopted by the Planning Inspectorate (on behalf of the Secretary of State) on 18 February 2025), the Humber Estuary Special Protection Area (SPA) and Ramsar site (which lie approximately 11.2km from the draft Order Limits) have also been included within this preliminary assessment. However, no International/European sites within 10km of the Site are designated for bats.

3.1.2 The is one statutory designated site of national importance within the draft Order Limits; Pocklington Canal Site of Special Scientific Interest (SSSI). A further six national statutory designated sites are located within 5km of the draft Order Limits. The East Riding of Yorkshire Biodiversity Action Plan Strategy document (2010) identifies common pipistrelle and Natterer's bat as a priority species.

3.1.3 Furthermore, There are three non-statutory designated sites located within the draft Order Limits, and a further 14 sites have been identified within 1km of the draft Order Limits. However, bats are not listed as a reason for designation for any of the non-statutory sites within 1km of the draft Order Limits.

Bat records

3.1.4 The background data search returned records of eight bat species within 10km of the draft Order Limits, including Brandt's bat, whiskered bat, Daubenton's bat, Natterer's bat, noctule, common pipistrelle, soprano pipistrelle, and brown long-eared bat.

3.1.5 The background data search records show at least six species of bat have been recorded within 500m of the draft Order Limits, including whiskered bat, Daubenton's bat, noctule, common pipistrelle, soprano pipistrelle and brown long-eared bat. Of the 30 records within 500m of the draft Order Limits, 11 are field observations recorded between 2018 and 2021, four are grounded bats recorded between 1996 and 2009 and 16 are for roosts recorded between 2013 and 2023.

3.1.6 The roost records included 11 day roosts (six common pipistrelle, three brown long-eared bat, two whiskered bat, one *Myotis* species) and one brown long-eared maternity roost (located 400m from the draft Order Limits). The roosts are located between 250m and 480m from the draft Order Limits.

3.1.7 In addition, the MAGIC search returned 24 granted licence applications for bats within 10km of the draft Order Limits, 17 of which covered multiple species. This included the destruction of up to five brown long-eared bat and common pipistrelle breeding roosts and three Natterer's bat breeding roosts. The remaining granted licences were for the destruction of resting sites for Brandt's bat (one licence), Daubenton's bat (two licences), Natterer's bat, (five licences), common pipistrelle (11 licences), soprano pipistrelle (two licences) and brown long-eared bat (12 licences). All licences were granted between 2013 and 2020 and the closest licence was 200m west of the draft

Order Limits, for the destruction of a common pipistrelle and brown long-eared bat resting site, but the closest licence for a breeding site was within 250m of the draft Order Limits and was for the destruction of breeding and resting sites for Natterer's bat, common pipistrelle and brown long-eared bat.

Habitat suitability for bats

3.1.8 The majority of the habitat within the Site comprised open arable crop fields and modified grassland which provide low value habitats for bats; however, woodlands, areas of scrub, neutral grassland, hedgerow and watercourses provided habitat of higher value. There are a number of ponds scattered across the Site, five of which were dry during other species-specific surveys undertaken during 2025. The hedgerows and watercourses also provided good connectivity throughout. The Site had a number of habitats of principal importance that included arable margins, lowland deciduous woodland, ponds and native hedgerows.

3.1.9 The Site was considered to comprise habitat of low to moderate suitability but, taking into account the likely species assemblage and likely impacts of the proposed development, three seasonal surveys (spring, summer and autumn) were considered to be proportionate to inform the impact assessment.

3.2 Quality assurance results

3.2.1 Where rarer species may be present on a site, it is important to check additional no id/noise files for missed bats. However, given this Site's geographical location and the low proportion of mis-identified bat registrations by British Trust for Ornithology pipeline, this was not deemed to be necessary.

3.2.2 From registrations with Identification assigned by the British Trust for Ornithology's Acoustic Pipeline:

- The soprano pipistrelle classifications considered to be incorrect, were typically corrected to common pipistrelle and vice versa (though there is overlap between the two species' calls, and this is to be expected);
- The Nathusius' pipistrelle classifications considered to be incorrect were typically common pipistrelle; again, there is overlap between the two species;
- The brown long-eared classifications considered to be incorrect were typically Myotis calls; and,
- The only noctule classification considered to be incorrect was a noise file.

3.2.3 'No identification' files are those deemed by the software to not be of good enough quality for a species to be accurately assigned.

3.2.4 The British Trust for Ornithology's Acoustic Pipeline results classified a small number of files as Leisler's bat (7) or serotine (2). During manual quality assurance, most of these were ruled out as more likely to be from noctule. Only two of the files were deemed to contain calls that could be from Leisler's bat. Leisler's bat are considered to be at the edge of range in Yorkshire and

no records were returned for Leisler during the background data search.[31] As such, given the lack of conclusive species identification (which would require trapping), the site's geographic location and absence of background data search records, registrations of Leisler's bat were not considered within the valuation

3.2.5 There were no concerns arising from the quality assurance that misclassification could affect the overall survey interpretation.

3.3 Static deployment - bat activity level results

3.3.1 A summary of the results for each monitoring point is provided in **Appendix C**. A total of 169,159 bat registrations were recorded across all monitoring points during the survey (276 nights of data across 40 locations, with 20 detectors deployed per season), equivalent to 4,229 registrations per night (registrations per night). There were, of course, variations in activity between the monitoring points due to season and location/adjacent habitat.

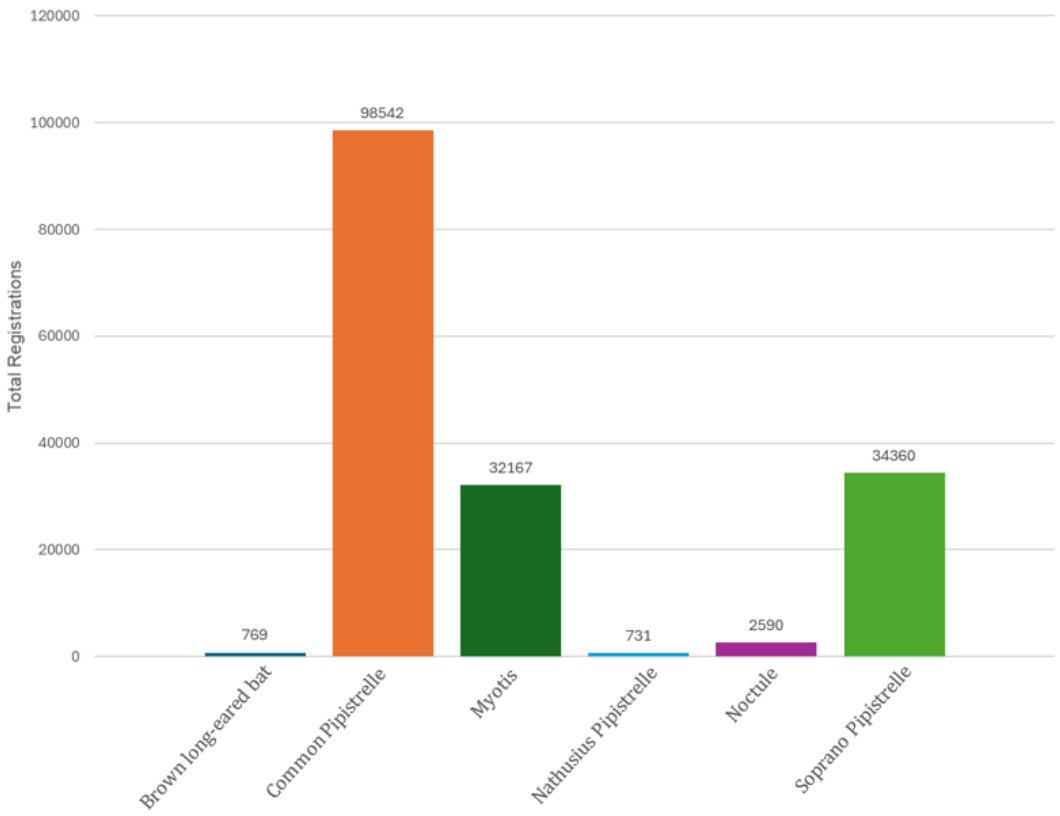
3.3.2 At least six different species of bat were recorded. Pipistrelles bats were the most frequently recorded genus (Pipistrellus), accounting for 79% of all registrations, across all monitoring points (see **Table 3.1**). Common pipistrelle was the most frequently recorded pipistrelle bat species, accounting for 58% of all registrations, while soprano pipistrelle was the second most frequently recorded bat species, accounting for 20% of all registrations, across all monitoring points. This is not unusual and would be expected. Nathusius' pipistrelle, a much rarer species, accounting for just 0.43% of all registrations.

3.3.3 Species other than pipistrelles accounted for 21% of all registrations, of which 19% were of Myotis (likely comprising more than one species); see **Table 3.1** and **Graph 3.1**.

3.3.4 It is important to reiterate that the percentage distribution of registrations per night does not reflect abundance and quieter species are likely to be under recorded (e.g. brown long-eared bat). However, for louder species, low registrations per night such as those seen for noctule and Nathusius' pipistrelle, are likely to be reflective of lower abundance.

Table 3.1: Total Registrations Per Species Over the Entire Survey Period.

Species	Total registrations	Registrations Per Night	Percentage of total registrations
Common pipistrelle	98,542	19,953	58%
Soprano pipistrelle	34,360	7,286	20%
Myotis spp.	32,167	6,572	19%
Noctule	2,590	526	2%
Brown long-eared bat	769	160	0.5%
Nathusius' pipistrelle	731	147	0.4%
Total Calls	**169,159**	**34,647**	**100%**



Graph 3.1: Total Bat Registrations for All Species on Site (not adjusted for the number of nights of recording).

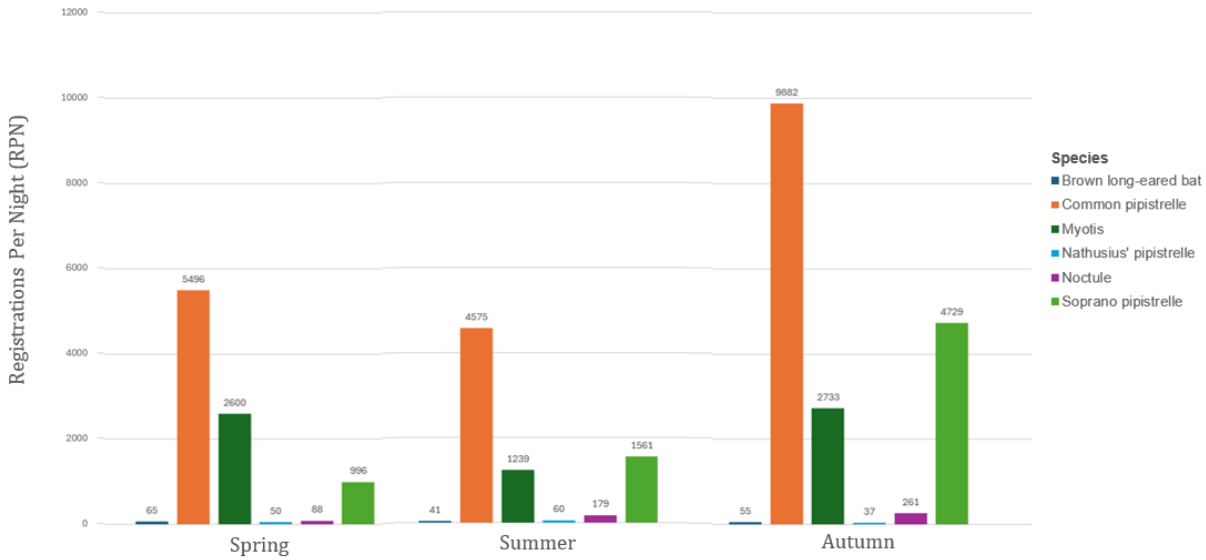
Seasonal variation

3.3.5 The data was reviewed across all monitoring points to determine potential seasonal variation by foraging and commuting bats.

3.3.6 The bat activity for most species peaked in autumn (September) and was lowest in the summer. Activity peaked in autumn for common pipistrelle, *Myotis spp.,* noctule and soprano pipistrelle, as shown in **Graph 3.2**.

Typically, registrations would be expected to peak in the summer months and subsequently decrease in autumn, due to the addition of independently flying young. However, the pattern observed at the Site, with lowest registrations recorded in summer, indicates that that perhaps most species used an alternative site in summer for foraging and commuting (and were potentially roosting further away), but with the current data, it is not possible to determine the reasons for this.

3.3.7 The lower number of registrations per season for Nathusius' pipistrelle and brown long-eared bat mean that no conclusions on seasonal variation can be made



Graph 3.2: Registrations per night by month for all species

Monitoring Point Variation

3.3.8 Overall, the highest levels of activity were recorded at monitoring points in the northern-central section of the Site, see **Figures 1a** and **1b** and **Graph 3.3.**

3.3.9 MP23, which recorded the highest number of registrations per night (5,478), was located along a tree line with numerous mature trees, adjacent to a deciduous woodland, within the northern-central section of the Site. MP23 also recorded the highest number of registrations per night for Myotis spp (1456 registrations per night), which is significantly higher registrations per night than any other monitoring point for Myotis spp (for example, MP13 recorded the second highest registrations per night for Myotis spp. with 661 registrations per night). MP23 recorded the second highest registrations per night for soprano pipistrelle, with 1182 registrations per night and the second highest registrations per night for common pipistrelle, with 2814 registrations per night. It should be noted that MP23 was only deployed in August so comparisons across seasons cannot be made. However, this location provides important habitat for pipistrelles and *Myotis*.

3.3.10 MP26, which recorded the second highest number of registrations per night (4086), is along a line of trees separating an arable and a pasture field, within

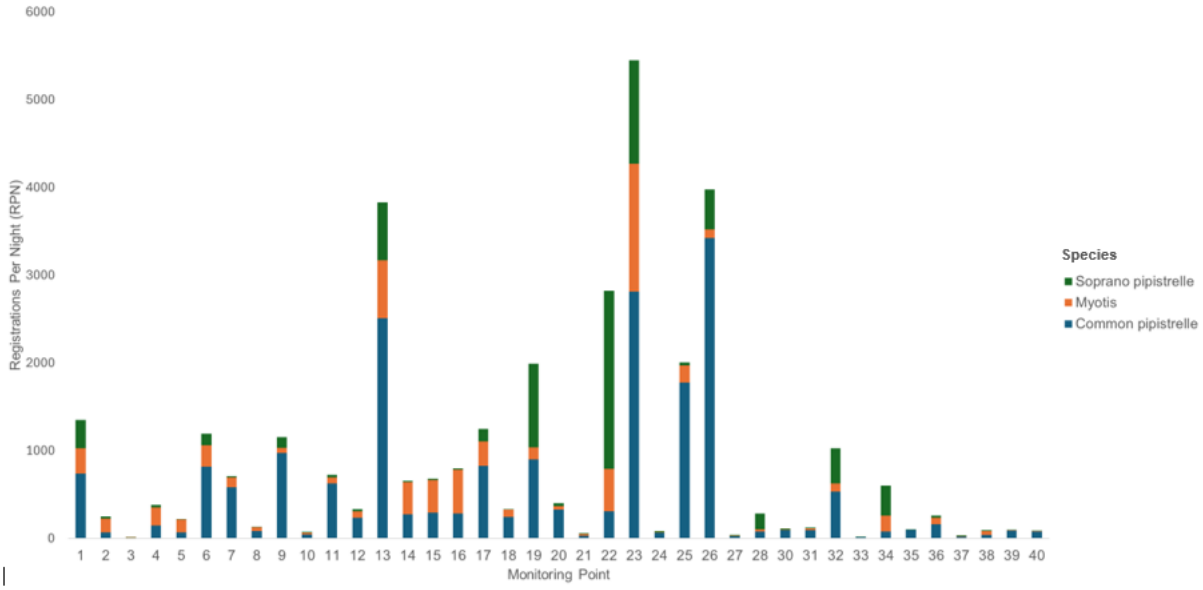
the central section of the Site. The tree line is connected to one nearby block of woodland, which may provide suitable roosting habitat for bats. The majority of the registrations per night for MP26 were from common pipistrelle, which accounted for 3427 of registrations per night (the highest registrations per night for common pipistrelle).

3.3.11 MP13 which recorded the third highest registrations per night (3842) is located in the central section of the site along a hedgerow between pasture and arable fields. This feature connects to nearby buildings (which may support roosts) and woodland.

3.3.12 The lowest number of registrations were recorded at MP3 and MP33, with 13 and 24 registrations per night recorded respectively. MP3 is located in the northern section of the Site, along a hedgerow within between arable fields while MP33 is located in southern-central section of the site, along a mature tree line between an arable and pasture field, that is connected to a woodland, linked to deciduous woodland.

3.3.13 It should also be noted that Myotis accounted for more of the registrations per night than common or soprano pipistrelle for MPs 2, 4, 5, 14, 15, 16, which is unusual and indicates that the site is relatively important for Myotis bats.

3.3.14 A summary of the full data set including registrations per night per species and per season is provided within **Appendix C.**



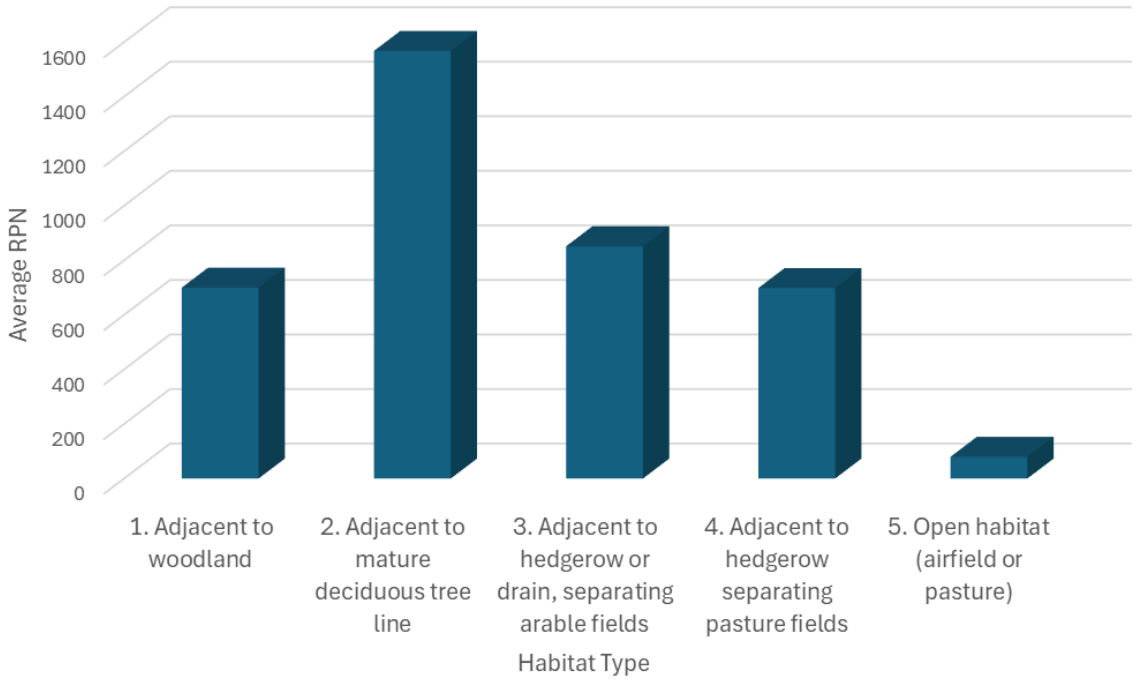
Graph 3.3: Registrations per night by monitoring point for Common Pipistrelle, Soprano Pipistrelle and Myotis.

Habitat variation

3.3.15 The habitat where monitoring points were installed was reviewed to assess variation in registrations per night depending on habitat location. The habitat types were split into five broad location types: adjacent to woodland; adjacent to a mature deciduous tree line; adjacent to hedgerow or drain; feature separating arable fields; adjacent to hedgerow separating pasture fields; and

open habitat (airfield or pasture). Across the 40 monitoring points, nine were located adjacent to woodland, eight were located adjacent to mature deciduous tree line, 15 were located adjacent to hedgerow or drain; separating arable fields, four were located adjacent to hedgerow separating pasture fields and three were located in open habitat (airfield or pasture), see **Table 3.2** for further details. It should be noted that the registrations per night was adjusted to account for the variation in number of monitoring points at each habitat type.

3.3.16 The monitoring points which were located adjacent to mature deciduous tree lines recorded the highest registrations per night. Monitoring points adjacent to a hedgerow or drain separating arable fields recorded the second highest registrations per night (see **Table 3.2** and **Graph 3.4** for further details). While it is expected that monitoring points located adjacent to mature tree lines would record a high number of registrations, it is less usual for monitoring points adjacent to arable fields to record the second highest number of registrations. Furthermore, it is less usual that this habitat recorded a higher number of registrations than monitoring points located adjacent to woodland (though the activity levels are not dissimilar). It perhaps reflects the fact that bats are concentrated along such linear features where the adjacent habitat is less favourable.



Graph 1.4: Registrations Per Night (registrations per night) at Each Habitat Type Across the Survey Seasons.

Table 2.2: Total registrations per night and registrations per night per species by habitat type

Habitat type	Number of Monitoring Point's (MPs) included	MP included	Registrations Per Night (NPN) (all species)	Average registrations per night (registrations per night / # of MPs per habitat)	Common pipistrelle registrations per night	Soprano pipistrelle registrations per night	Myotis spp. registrations per night	Brown long-eared bat registrations per night	Nathusius pipistrelle registrations per night
Adjacent to woodland	9	1, 4, 5, 7, 8, 14, 19, 34, 37	6297.8	699.8	323.4	187.5	165.7	4.6	1.7
Adjacent to a mature deciduous tree line	8	6, 13, 17, 20, 21, 23, 35, 39	12544.2	1568.0	940.2	270.2	338.6	3.5	9.3
Adjacent to hedgerow or drain; feature separating arable fields	15	3, 9, 10, 11, 12, 15, 16, 22, 24, 26, 28, 30, 32, 33, 36),	12773.1	851.5	478.3	222.4	125.1	5.2	3.3
Adjacent to hedgerow separating pasture fields	4	2, 18, 25, 31	2792.9	698.2	548.2	19.8	111.9	3.0	1.0
Open habitat (airfield or pasture).	**3**	MP 27, 38, 40	238.8	79.6	51.2	7.3	16.0	0.5	1.3

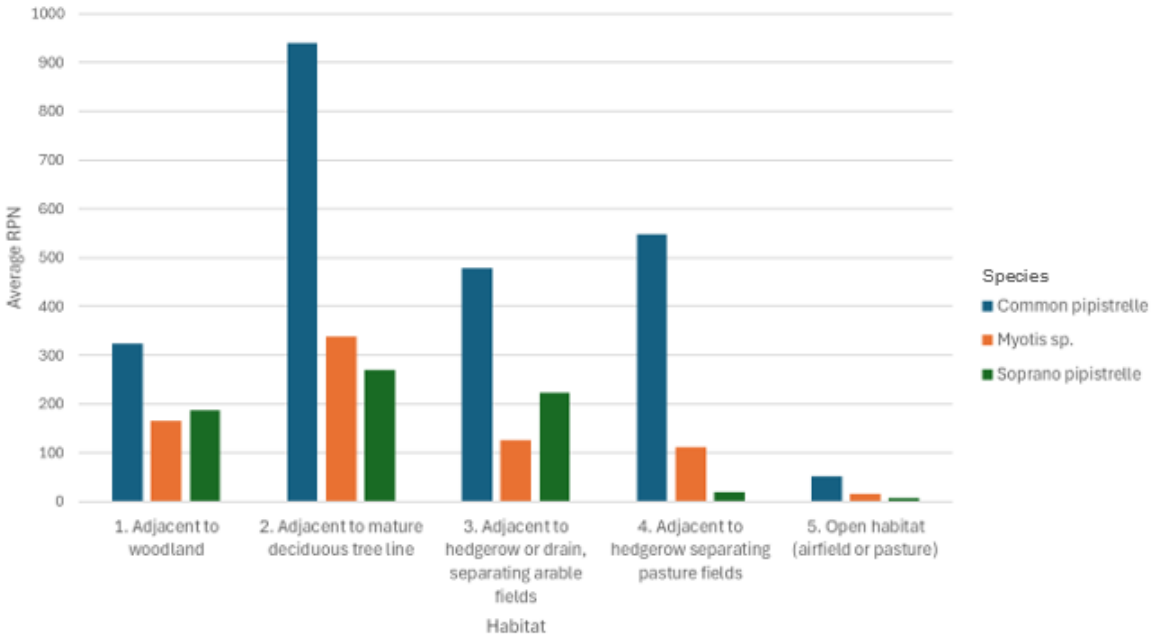
3.3.17 The UKHAB survey identified 12 woodlands within the Site. Two woodlands are considered to be in good condition, seven woodlands are in moderate condition, and three woodlands are in poor condition. Woodlands assessed as moderate and poor condition support a lower diversity of tree species, a lower number of tree age classes, do not contain many veteran trees (if any) or deadwood, do not have a varied vertical structure and do not support a ancient woodland ground flora. As such, woodlands assessed as moderate or low condition are likely to provide a lower number of roosting or foraging opportunities for bats. The potential lack of roosting opportunities within woodlands on site may also have contributed to the lower number of registrations recorded in summer, indicating that species are using alternative sites in summer for roosting and as a consequence, for a reduction in foraging and commuting behaviour.

3.3.18 Bats are known to roost, forage and commute in / near woodland and along mature tree lines, and as such would expect a high number of registrations; whereas arable fields typically support a lower diversity and abundance of invertebrate species on which bats can forage and as such would expect to record a lower number of registrations. However, a number of the *arable field margins* were mapped as 'arable field margins – *pollen and nectar'* during the habitat survey; such grass margins have been sown with wildflowers that are of particular value for nectar-feeding insects and thus may be providing a higher biomass of insects on which bats can forage.

3.3.19 Monitoring points associated with the lowest number of registration were associated with habitats adjacent to hedgerows separating pasture fields or in airfields between open arable fields; this is in line with expectations as these habitats typically support lower abundance and diversity of insects on which bats can forage. Furthermore, these habitats do not provide any roosting opportunities for bats.

3.3.20 The species variation per habitat type was also reviewed. Common pipistrelle and soprano pipistrelle bats followed the pattern outlined above, recording the highest registrations per night at monitoring points located adjacent to mature deciduous tree-lines and the second-highest registrations per night at monitoring points located adjacent to hedgerows or drains, separating arable fields. However, for *Myotis spp*., the second highest registrations per night was recorded at monitoring points adjacent to woodland. This is unsurprising given that Brant's, whiskered and Natterer's bats are considered to be woodland bats. However, the relatively low number of registrations per night recorded at monitoring points located at woodlands, compared to registrations per night recorded at monitoring points located adjacent to mature deciduous tree lines, further indicates that bats are not regularly/frequently using the site for roosting.

3.3.21 The average registrations per night for noctule, brown long-eared and Nathusius' pipistrelle were too small to draw any meaningful conclusions so are not discussed within this section or included within the graph below.



Graph 3.5: Registrations per night for common pipistrelle, soprano pipistrelle and Myotis sp. at each habitat type across the survey season.

3.4 Night-time bat walkover results

3.4.1 **Table 3.3** below provides a summary of the night-time bat walkover results. The night-time bat walkover which recorded the highest number of registrations were undertaken in summer while the night-time bat walkover which recorded the lowest number of registrations were undertaken in autumn. The lowest number of registrations were recorded during Route 2 and 5 (39 registrations each during Autumn) while Route 3 recorded the highest number of registrations during summer.

3.4.2 Although the night-time bat walkover results differ to the static results (which observed highest number of registrations in Autumn), night-time bat walkover s only provide a brief snapshot of activity levels at any one time and are not quantitative nor comparable; thus they are unlikely to be representative of the activity/species assemblage within the Site.

3.4.3 As expected, common and soprano pipistrelle were the most frequently recorded species; these were recorded during all night-time bat walkovers. *Myotis spp*. were also recorded regularly (10 out of 12 night-time bat walkovers), while noctule was only recorded during six night-time bat walkovers. Brown long-eared bat (a quiet and under-recorded species) was only recorded once along Route 3 in spring.

3.4.4 No significant levels of activity, or areas of interest in relation to commuting and foraging were observed by the surveyors during the surveys.

3.4.5 The Site predominately comprises remote agricultural fields with few areas exposed to direct lighting. Furthermore, the roads surrounding and within the Site are also predominately unlit. Some light spill is caused by the adjacent farm, industrial and residential buildings but given the likely design of Mylen Leah Solar Farm there is unlikely to be significant effects caused by lighting.

Table 3.3: Results of the night-time bat walkovers.

Spring 2024	Common pipistrelle	Soprano pipistrelle	*Myotis* sp.	Noctule	Brown long-eared	Nathusius' pipistrelle	Total Registrations (All species)
Route 7	12	10	1	-	-	-	**23**
Route 4	45	9	35	27	-	-	**126**
Route 6	15	-	-	-	-	-	**15**
Route 3	60	7	7	-	1	-	**75**
Total Registrations	**132**	**26**	**43**	**27**	**1**	**0**	**239**
Summer 2024	**Common pipistrelle**	**Soprano pipistrelle**	***Myotis* sp.**	**Noctule**	**Brown long-eared**	**Nathusius' pipistrelle**	**Total Registrations (All species)**
Route 7	24	41	6	-	-	-	**71**
Route 4	33	8	20	-	-	-	**61**
Route 5	19	34	2	23	-	-	**78**
Route 3	154	65	13	5	-	-	**237**
Total Registration	**230**	**169**	**41**	**28**	**0**	**0**	**447**
Autumn 2024	**Common pipistrelle**	**Soprano pipistrelle**	***Myotis* sp.**	**Noctule**	**Brown long-eared**	**Nathusius' pipistrelle**	**Total Registrations (All species)**
Route 6	6	11	3	2	-	-	**22**

Route 1	38	15	14	3	-	-	**70**
Route 2	35	-	4	-	-	-	**39**
Route 5	30	8	-	1	-	-	**39**
Total Registration	**79**	**34**	**20**	**6**	**0**	**0**	**170**

3.5 Daytime bat walkover

3.5.1 A total of 124 trees and 125 tree lines were recorded during the daytime bat walkover. Of those, 74 trees were assessed as having PRF-M; 51 tree lines also contain trees with potential roost features identified as PRF-M. Further detailed are provided in **Table 3.4** below. It is recommended that the development avoids impacts to any trees/tree lines identified as suitable for roosting and or hibernating bats as part of the final design review. Once the detailed design has been finalised, any tree which will be directly or indirectly impacted by the development should be subject to a detailed ground level tree assessment which will inform the number and type of further surveys required.

Table 3.4: Daytime Bat Walkover Results

	Individual trees	Tree lines	Total
Further assessment required (FAR)	37	65	102
Potential roost feature (PRF)	13	9	22
Multiple potential roost features (PRF-M)	74	51	125

3.5.2 **Figure 4** shows the results of the daytime bat walkover survey.

4. Evaluation and recommendations

4.1 Contextual information

4.1.1 Lower Derwent Valley National Nature Reserve (NNR) is located 295m northwest of the draft Order Limits and includes local Biodiversity Action Plan bat species as a designated feature. There are various statutory and non-statutory designated sites within 10km of the draft Order Limits but none, apart from the Lower Derwent Valley NNR, include bats within their citations. However, a number of the statutory and non-statutory designated sites are designated for habitats and invertebrates which are likely to provide roosting habitat and a foraging resource for bats.

4.1.2 The Site is dominated by large arable fields; however, these are surrounded/divided by woodland patches, tree-lines, ditches, drains and hedgerows. Furthermore, a number of the arable field margins have been sown with wildflowers that are of particular value for nectar-feeding insects. These habitats increase the value of the Site, but these habitats will largely remain unaffected by Mylen Leah Solar Farm.

4.1.3 These predominantly remote agricultural fields include few areas exposed to direct lighting. Furthermore, the roads surrounding and within the Site are also predominately unlit. Some light spill is caused by the adjacent farm and residential buildings but, given the design of Mylen Leah Solar Farm the lighting is unlikely to affect how bats use the majority of the Site.

4.1.4 The background data search returned records of eight bat species within 10km of the draft Order Limits, including Brandt's bat, whiskered bat, Daubenton's bat, Natterer's bat, noctule, common pipistrelle, soprano pipistrelle, and brown long-eared bat.

4.1.5 Of the 30 records of bats within 500m of the draft Order Limits, 11 were field observations recorded between 2018 and 2021, four were grounded bats recorded between 1996 and 2009 and 16 were for roosts recorded between 2013 and 2023.

4.1.6 The roost records included 11 day roosts (six common pipistrelle, three brown long-eared bat, two whiskered bat, one Myotis species) and one brown long-eared maternity roost (located 400m from the draft Order Limits). Those roosts were located between 250m and 480m from the draft Order Limits.

4.2 Evaluation of survey data

Species Assemblage

4.2.1 At least six different species of bat were recorded; *Myotis* (see below), noctule, Nathusius' pipistrelle, common pipistrelle, soprano pipistrelle and brown long-eared bat.

4.2.2 As is the case for almost every site, registrations were dominated by those of common pipistrelle and soprano pipistrelle, as these widespread and common species are both easy to detect and identify. However, *Myotis* accounted for a similar percentage of total registrations (19%) as soprano pipistrelle (20%).

4.2.3 *Myotis* spp. were grouped due to the challenges of identifying *Myotis* bats to species level using sound analysis alone; however, based on the background data search records, up to four species could be present, including Brandt's, Daubenton's, Natterer's and whiskered bats. Furthermore, the auto identification provided by the British Trust for Ornithology pipeline analysis software identified registrations (1000s) from all four of these Myotis species, with 'confidence' above 0.9 probability that this identification was correct.

4.2.4 No other species/species group was prominent, though it is important to caveat that some species such as brown long-eared bat are almost always under-recorded as their registrations are quiet. Nathusius' pipistrelles are similar to common and soprano pipistrelle but were far less recorded, indicating lower numbers are likely to be present. Although their registrations can be confused with those of common pipistrelle, lower prevalence is considered likely. Noctules call loudly, and the relatively low number of registrations is similarly likely to be an accurate reflection of low incidence.

Distribution of species recorded

4.2.5 Eight species of bat have populations across England and have been previously recorded within East Riding of Lincolnshire (North and East Yorkshire Ecological Data Centre 2025); Brandt's, whiskered, Daubenton's and Natterer's bats, noctule, common pipistrelle, soprano pipistrelle, and brown long-eared bat.

4.2.6 Common pipistrelle, soprano pipistrelle and brown long-eared bat are widespread in all regions of England. Nathusius' pipistrelle is much rarer than other pipistrelle species in the UK; though records have increased in recent years, they have a restricted distribution within northern England.[32] [33] Based on the known current range of Nathusius pipistrelle, Nathusius' pipistrelle is not thought to be breeding in East Riding of Yorkshire.

4.2.7 Noctule are considered to be widespread but not as abundant in all areas of their range. More detailed information on their status in East Riding of Yorkshire was not available; however, due to the relatively low number of noctule bat registrations recorded on Site, caution should be taken when determining the importance of the Site to this species and their contribution to the assemblage.

4.2.8 There are four *Myotis* species which are considered likely to be present, based on the background data search results and the British Trust for Ornithology Acoustic Pipeline identifications: Brandt's bats, Daubenton's bat, Natterer's bats and Whiskered bat. Brandt's and whiskered bats are more difficult to separate and are considered to be uncommon in East Riding of Yorkshire. However, given the desk-study results, the number of registrations per night recorded for this site, and the confidence level given by the British Trust for Ornithology Acoustic Pipeline for all four species, it is considered reasonably likely that all four are present on site.

4.2.9 Alcathoe bat (*Myotis alcathoe*) and Bechstein's bat (*Myotis bechsteinii*) are unlikely to be present. Alcathoe bat has only been recorded from areas of Herefordshire, Kent, North Yorkshire, Sussex, Surrey and Wiltshire so is considered likely to be absent from this area of Yorkshire. Bechstein's bats

are rare and are restricted to southern England and southern Wales and considered to be absent from Yorkshire.

Conservation status of species (potentially) recorded

4.2.10 Common pipistrelle, soprano pipistrelle, Daubenton's bat, noctule and brown long-eared bats are considered to have a favourable conservation status in England under Article 17 of the Habitats Directive and are listed as Least Concern under the International Union for Conservation of Nature Red List criteria[34].

4.2.11 Population estimates for Natterer's bat from 1995 are considered to be unreliable, so it is not currently possible to determine population trends. However, Natterer's bat is listed as Least Concern under the International Union for Conservation of Nature Red List criteria.

4.2.12 The conservation status of Brandt's and whiskered bats is unknown, because much of the information collected does not distinguish between the two species so they are listed as 'data deficient' on the International Union for Conservation of Nature Red List.

4.2.13 The conservation status of Nathusius' pipistrelle is unknown, due to a lack of data on the species but it is listed as Near Threated under the International Union for Conservation of Nature Red List.

Assessment of the Site's geographic importance for bats

4.2.14 The method of assessing the Site's geographic level of importance for bat assemblage is provided within para 2.8.5 *et seq* of this report and is based on the latest Bat Mitigation Guidelines. The assessment is based on the species/genera recorded during the bat static detector surveys, local species distribution (background data search) and regional distributions. The assessment uses a rarity classification for each species of bat found within the UK, reflecting their abundance and distribution in different regions.

4.2.15 The Site is located in northern England, and the maximum possible score which can be achieved for northern England is 22. A reasonable species assemblage score for the Site is considered to be 11, see **Table 4.1** below.

4.2.16 A score of 11 does exceed 45% of the maximum score (22), but does not exceed 55% of the maximum score, and is therefore assessed as having county importance.

4.2.17 This score is higher than might be anticipated from the relatively low-quality habitats present on site and species assemblage recorded, which are mostly common and widespread species, but reflects the relatively high number and likely diversity of *Myotis* registrations observed

Table 4.1: Ecological Value of the Survey Area (In accordance with Table 3.3: Assessing the importance of a bat assemblage from (Reason and Wray, 2023)

Rarity category and geographic score	Species	Species	Site score
Widespread all geographies [score 1]	Brown long-eared bat	Recorded during static detector surveys, Brown long-eared bat showed low relative activity but is very likely to have been under-recorded due to its quiet registrations.	1
	Common pipistrelle		1
	Soprano pipistrelle		1
Widespread in many geographies, but not as abundant in all. [score 2]	Daubenton's bat	*Myotis* species were recorded during static detector surveys but have not been identified to species level. Daubenton's bat records were returned in the BDS.	2
	Natterer's bat	*Myotis* species were recorded during static detector surveys but have not been identified to species level. Natterer's bat records were returned in the BDS.	2
	Brandt's	*Myotis* species were recorded on static detector surveys but have not been identified to species level. Only a small number of whiskered/Brandt's records were returned in the BDS, but this included roost records nearby. Furthermore, numerous registrations were recorded during the static levels, which were identified to species level at a high level of confidence (0.9%). Therefore, it is considered reasonable that both Brants and whiskered bats form part of the site's assemblage.	2
	Whiskered bat		2
	Noctule	Recorded during static detector surveys but with low relative activity; unlikely to be a significant part of the assemblage. As such it is not assigned a score.	0

Rarity category and geographic score	Species	Species	Site score
Rarer or restricted distribution [score 3]	Alcathoe	Alcathoe bat has only been recorded from areas of Herefordshire, Kent, North Yorkshire, Sussex, Surrey and Wiltshire so is considered likely to be absent from Yorkshire (NBMP 2023)	0
	Leisler's bat	Based on very small number of potential registrations recorded (2) and absence of records returned in the BDS, Leisler's bat is not considered be present on site. As such it is not assigned a score.	0
	Nathusius' pipistrelle	Recorded during static detector surveys but with low relative activity; unlikely to be a significant part of the assemblage. As such it is not assigned a score.	0
Total score		Realistic score: 11; 11/22 = 50% This equates to the Site being of County importance.	

Roosting potential

4.2.18 During the daytime bat walkover, 74 trees were assessed as having PRF-M; 51 tree lines also contain trees with potential roost features identified as PRF-M. Most of the woodland and most trees are unlikely to be affected. However, if any trees are to be directly or indirectly impacted by the development, a targeted ground level tree assessment should be undertaken which will inform the number and type of further surveys required.

4.2.19 In addition, there are a number of structures within the Site boundary, such as bridges and culverts, which are also likely to provide suitable habitat for roosting and/or hibernating bats. A preliminary roost assessment of structures within the draft Order Limits has not been undertaken at this stage; however given the number of potential structures, and the activity levels recorded, it is likely they have the potential to support roosts for a variety of species.

Foraging and commuting habitat

4.2.20 The Site was considered to comprise habitat of low to moderate value as defined by Collins (2023). There were moderate levels of bat activity in several areas of the Site, indicating bats are using these regularly as a foraging and commuting corridor, as follows:

- The Site is considered to provide foraging and commuting habitat for bats throughout the year, particularly in the vicinity of MP23, MP26 and MP13. MP23 is located within the northern-central section, located along a tree line with numerous mature trees, while MP26 and MP13 are located in the central section of the site, near hedgerows and areas of woodland;
- The areas of woodland and mature trees within and adjacent to the Site may provide roosting habitat. However, it should be noted that summer recorded the lowest number of registrations, indicating that that perhaps most species used an alternative site in summer for foraging and commuting (and were potentially roosting further away);
- The hedgerows and ditches/drains within the central section of the Site are an important commuting corridor for bats and therefore should be retained/protected;
- Comparatively, the northern and southern section of the Site (near MP3 and MP33) is less important for foraging and commuting bats and recorded the lowest number of registrations throughout the year. These monitoring points do not have any direct connectivity to nearby woodland and are located near arable fields.
- The data indicated that hedgerows or drains separating arable fields (whose margins are sown with wildflowers) provide an important foraging and commuting habitat for bats.

5. Conclusion

5.1.1 In summary, at least six different species of bat were recorded (and likely nine): noctule, Nathusius' pipistrelle, common pipistrelle, soprano pipistrelle and brown long-eared bat and up to four species of Myotis (based on desk-study records, acoustic data and location). The number of Myotis registrations recorded was higher than might be expected for a site of this nature, indicating that the Site may be important to the Myotis genus.

5.1.2 The Site is considered to be of 'County' importance, based on analysis of the static bat detectors. The Site is considered to provide foraging and commuting habitat for bats throughout the year, but in particular in autumn, in the northern-central section of the Site, in the vicinity of MP23, MP26 and MP13. Comparatively, the northern and southern-central section of the Site (near MP3 and MP33) appears less important for foraging and commuting bats, recording the lowest number of registrations throughout the season. This information should be used to inform site layout, including areas for protection and enhancement.

5.1.3 Due to the scale of the Site and likely effects of Mylen Leah Solar Farm, a ground level tree assessment of every tree within and overhanging the Site was not considered necessary or proportionate. However, a daytime bat walkover identified 74 trees as supporting multiple PRFs and 51 tree lines also containing such trees, which are of higher value to bats. However, the activity patterns observed, with lowest registrations recorded in summer, indicates that that perhaps most species used an alternative site in summer for foraging and commuting (and were potentially roosting further away).It is recommended that the development avoids impacts to any trees / tree lines identified as potentially suitable for roosting and/or hibernating bats.

5.1.4 Once the detailed design has been finalised, any tree which will be directly or indirectly impacted by the development should be subject to a detailed ground level tree assessment which will inform the number and type of further surveys required. Furthermore, where structures or buildings may be directly or indirectly affected, preliminary roost assessment or other surveys may be required to inform the DCO planning process.

Figures

N

Draft Order Limits

Survey area - Land parcels (19/11/2024)

Monitoring Points (MPs)

Registrations Per Night

- 0 - 500
- 500 - 1000
- 1000 - 4000

0 0.75 1.5 Km 1:26,000 on A3

Figure 1a: Bat Monitoring Point Locations - Spring and Summer

Project Name: Mylen Leah Solar Farm

Drawn By:	Checked By:
RS	MS

Page centre:	Revision no.	Date:
X: 475414 Y: 441046	R2	03/02/2026

Figure 1b: Bat Monitoring Point Locations – Autumn

N

Draft Order Limits

Survey area - Land parcels (19/11/2024)

Monitoring Points (MPs)

Registrations Per Night

- 0 - 500
- 500 - 1000
- 1000 - 4000

Figure 1b: Bat Monitoring Point Locations - Autumn

Project Name: Mylen Leah Solar Farm

Drawn By:	Checked By:
RS	MS

Page centre:	Revision no.	Date:
X: 475447 Y: 441067	R2	03/02/2026

0 0.75 1.5 Km 1:26,000 on A3

Figure 2a: Night-time Walkover Results - Spring

N

Draft Order Limits

Survey area - Land parcels (19/11/2024)

Transect Route

- 3
- 4
- 6
- 7

Bat Species

- Brown long-eared bat (Plecotus auritus)
- Common pipistrelle (Pipistrellus pipistrellus)
- Noctule (Nyctalus noctula)
- Soprano pipistrelle (Pipistrellus pygmaeus)
- Myotis species

Figure 2a: Night-time Walkover Results - Spring

Project Name: Mylen Leah Solar Farm

Drawn By:	Checked By:	
RS	MS	
Page centre: X: 475444 Y: 441080	Revision no. R2	Date: 03/02/2026

0 0.75 1.5 Km 1:26,000 on A3

Figure 2b: Night-time Walkover Results – Summer

N

Draft Order Limits

Survey area - Land parcels (19/11/2024)

Transect Route

- 3
- 4
- 5
- 7

Bat Species

- Common pipistrelle (Pipistrellus pipistrellus)
- Noctule (Nyctalus noctula)
- Soprano pipistrelle (Pipistrellus pygmaeus)
- Myotis species

Figure 2b: Night-time Walkover Results - Summer

Project Name: Mylen Leah Solar Farm

Drawn By:	Checked By:
RS	MS

Page centre:	Revision no.	Date:
X: 475345 Y: 441011	R2	03/02/2026

0 0.75 1.5 Km

1:26,000 on A3

Figure 2c: Night-time Walkover Results – Autumn

N

Draft Order Limits

Survey area - Land parcels (19/11/2024)

Transect Route

1

2

5

6

Bat Species

Common pipistrelle (Pipistrellus pipistrellus)

Noctule (Nyctalus noctula)

Soprano pipistrelle (Pipistrellus pygmaeus)

Myotis species

0 0.75 1.5 Km 1:26,000 on A3

Figure 2c: Night-time Walkover Results - Autumn

Project Name: Mylen Leah Solar Farm

Drawn By: RS		Checked By: MS
Page centre: X: 475517 Y: 441034	Revision no. R2	Date: 03/02/2026

Figure 3: Daytime Bat Walkover Survey Results

N

Draft Order Limits

Survey area - Land parcels

Retained woodland

Potential Roost Feature (PRF) Assessment

Trees

- PRF-Multiple
- PRF
- Further assessment required

Tree Lines

- PRF-Multiple
- PRF
- Further assessment required

0 0.75 1.5 Km

1:25,000 on A3

Figure 3: Daytime Bat Walkover Survey Results

Project Name: Mylen Leah Solar Farm

Drawn By:	Checked By:	
RS	MS	
Page centre: X: 475125 Y: 441208	Revision no. R2	Date: 31/03/2026

Appendix A: Dates and Weather During Static Bat Detector Surveys

Table A1: Deployment Dates – Static Bat Detector Deployments.

Station detector locations are shown in **Figures 1a** and **1b.**

Static Location	Season	Start date	End date	Nights deployed	Five consecutive nights used	Notes
Location 1-10	Spring	29/04/2024	06/05/2024	7	02/05/2024 - 06/05/2024	No data L1
Location 11-20	Spring	07/05/2024	13/05/2024	6	08/05/2024 - 12/05/2024	N/A
Location 1-10	Summer	16/07/2024	21/07/2024	6	16/07/2024 - 20/07/2024	N/A
Location 11-20	Summer	22/07/2024	28/07/2024	7	22/07/2024 - 26/07/2024	No data L10 and L14
Locations 12, 21-28, and 30	Autumn	03/09/2024	08/09/2024	6	04/09/2024 - 08/09/2024	N/A
Location 31-40	Autumn	09/09/2024	15/09/2024	7	09/09/2024 - 13/09/2024	N/A

Table A2: Weather Conditions Static Bat Detector Deployments – May 2024.

Date	Sunset and Sunrise	Temperature (oC)	Wind speed (miles per hour)	Humidity (%)	General weather
02/05/2024	20:38 – 05:23	9 - 10°C	13 – 20 mph	88 - 94%	Fog 21:20-03:20.
03/05/2024	20:40 – 05:21	10 - 11 °C	1 – 12 mph	88 - 100%	Rain 20:50-00:20.
04/05/2024	20:42 – 05:19	9 - 11 °C	3 – 7 mph	88 - 100%	Rain 04:20-04:50.
05/05/2024	20:43 – 05:17	10 - 12 °C	0 – 6 mph	82 - 94%	No overnight rain

Date	Sunset and Sunrise	Temperature (oC)	Wind speed (miles per hour)	Humidity (%)	General weather
06/05/2024	20:45 – 05:15	11 - 13 °C	8 – 9 mph	88 - 100%	Fog 22:50 - 04:50.
08/05/2024	20:49 – 05:11	9 - 14 °C	1 – 8 mph	77 - 100%	Fog 03:20 – 04:20.
09/05/2024	20:51 – 05:09	11 - 17 °C	0 – 6 mph	82 - 100%	Fog 01:50 – 05:20.
10/05/2024	20:52 – 05:07	9 - 15 °C	3 – 10 mph	82 – 100%	Fog 03:50 – 04:50.
11/05/2024	20:54 – 05:06	8 - 11 °C	3 – 12 mph	88 - 100%	Fog 02:20 – 04:50.
12/05/2024	20:56 – 05:04	10 - 15 °C	1 – 6 mph	77 - 100%	Rain 22:50-23:50.

Table A3: Weather Conditions Static Bat Detector Deployments – July 2024.

Date	Sunset and Sunrise	Temperature (oC)	Wind speed (miles per hour)	Humidity (%)	General weather
16/07/2024	21:26 – 04:55	13 - 17°C	3 – 9 mph	88 - 88%	No overnight rain.
17/07/2024	21:25 – 04:56	14 - 18 °C	3 – 8 mph	78 - 94%	No overnight rain.
18/07/2024	21:23 – 04:57	14 - 20 °C	0 – 5 mph	73 - 100%	No overnight rain.
19/07/2024	21:22 – 04:59	18 - 12 °C	0 – 8 mph	69 - 83%	No overnight rain
20/07/2024	21:21 – 05:00	14 - 20 °C	5 – 12 mph	82 - 88%	Rain 23:20 - 23:50.
22/07/2024	21:19 – 05:03	14 - 17 °C	3 – 12 mph	77 - 94%	No overnight rain
23/07/2024	21:16 – 05:05	11 - 16 °C	5 – 8 mph	77 - 94%	No overnight rain
24/07/2024	21:15 – 05:07	16 - 18 °C	7 – 13 mph	73 – 88%	No overnight rain
25/07/2024	21:13 – 05:08	12 - 17 °C	6 – 10 mph	73 - 100%	No overnight rain

26/07/2024	21:11 – 05:10	9 - 15 °C	1 – 7 mph	72 - 100%	No overnight rain

Table A4: Weather Conditions Static Bat Detector Deployments – September 2024.

Date	Sunset and Sunrise	Temperature (oC)	Wind speed (miles per hour)	Humidity (%)	General weather
04/09/2024	19:46 – 06:20	7 - 13 °C	7 – 13 mph	82 - 100%	Light rain 22:50 – 23:20. 02:50 - 05:50.
05/09/2024	19:44 – 06:22	15 - 15 °C	14 – 24 mph	100 - 100%	Drizzle 19:50-23:50.
06/09/2024	19:41 – 06:24	15 - 16 °C	3 – 13 mph	94 - 100%	Fog 00:20 – 05:20
07/09/2024	19:39 – 06:25	15 - 18 °C	3 – 12 mph	83 - 100%	Fog 21:20 - 23:50
08/09/2024	19:36 – 06:27	12 - 14 °C	8 – 15 mph	94 – 100%	Rain 05:20 – 06:20.
09/09/2024	19:34 – 06:29	13 - 14 °C	7 – 15 mph	63 - 100%	No overnight rain
10/09/2024	19:31 – 06:31	7 - 12 °C	1 – 8 mph	71 - 87%	No overnight rain
11/09/2024	19:29 – 06:32	1 - 12 °C	1 – 12 mph	58 – 93%	No overnight rain
12/09/2024	19:26 – 06:34	0 - 9 °C	6 – 10 mph	82 - 100%	No overnight rain
13/09/2024	19:24 – 06:18	6 - 13 °C	2 – 8 mph	59 - 93%	No overnight rain

Appendix B: Dates and Weather Night-Time Bat Walkover

Table B1: Dates, Routes and Areas of The Night-Time Bat Walkover Surveys. Figures 2a to **2c** show the night-time bat walkover routes.

Date	Season	Route	Area
16/05/2024	Spring	Route 3	Area 18
18/07/2024	Summer	Route 7	Area 2-3
17/07/2024	Summer	Route 4	Area 12,13,5
17/07/2024	Summer	Route 5	Area 13
16/07/2024	Summer	Route 3	Area 18
04/09/2024	Autumn	Route 6	Area 2 (b,c) and 17 (f,i,j)
03/09/2024	Autumn	Route 1	Area 9 (b,c,d), 10 (e)
03/09/2024	Autumn	Route 2	Route B orange
03/09/2024	Autumn	Route 5	Route D yellow

Table B2: Weather conditions Night-time Bat Walkover surveys.

Date	Survey start	Survey end	Temperature (°C)	Wind speed (miles per hour)	Humidity (%)	General weather
15/05/2024	21:01	23:01	12 - 13°C	2 – 5 mph	83 -94%	No rain
16/05/2024	21:02	23:02	12 - 13 °C	9 – 14 mph	88 - 94%	No rain
16/07/2024	21:26	23:26	16 - 17 °C	5 – 7 mph	88%	No rain
17/07/2024	21:25	23:25	15 - 18 °C	6 – 8 mph	78 - 88%	No rain
18/07/2024	21:23	23:23	19 °C	2 – 5 mph	78 - 83%	No rain
03/09/2024	19:48	21:48	12 - 16 °C	1 – 8 mph	68 – 82%	No rain
04/09/2024	19:45	21:45	12 °C	8 – 10 mph	82 - 94%	No rain

Appendix C: Static Bat Detector Data

Table C1: Static Bat Detector Data.

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
1	Spring	Static failed	Static failed	Static failed	Static failed	Static failed
1	Summer	*Myotis* spp.	*Myotis* spp.	1439	5	287.8
1	Summer	*Nyctalus noctula*	Noctule	87	5	17.4
1	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	10	5	2.0
1	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	3711	5	742.2
1	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	1601	5	320.2
1	Summer	*Plecotus auritus*	Brown long-eared bat	13	5	2.6
2	Spring	*Myotis* spp.	*Myotis* spp.	617	5	123.4
2	Spring	*Nyctalus noctula*	Noctule	45	5	9
2	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	141	5	28.2
2	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	54	5	10.8
2	Spring	*Plecotus auritus*	Brown long-eared bat	15	5	3
2	Summer	*Myotis* spp.	*Myotis* spp.	150	5	30
2	Summer	*Nyctalus noctula*	Noctule	157	5	31.4
2	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	222	5	44.4
2	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	77	5	15.4
2	Summer	*Plecotus auritus*	Brown long-eared bat	14	5	2.8
3	Spring	*Myotis spp*	*Myotis* spp.	3	4	0.75
3	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	17	4	4.25

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
3	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	1	4	0.25
3	Summer	*Myotis* spp.	*Myotis* spp.	18	5	3.6
3	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	16	5	3.2
3	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	4	5	0.8
4	Spring	*Myotis* spp.	*Myotis* spp.	249	4	62.25
4	Spring	*Nyctalus noctula*	Noctule	8	4	2
4	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	220	4	55
4	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	25	4	6.25
4	Spring	*Plecotus auritus*	Brown long-eared bat	38	4	9.5
4	Summer	*Myotis* spp.	*Myotis* spp.	723	5	144.6
4	Summer	*Nyctalus noctula*	Noctule	54	5	10.8
4	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	4	5	0.8
4	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	474	5	94.8
4	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	93	5	18.6
4	Summer	*Plecotus auritus*	Brown long-eared bat	29	5	5.8
5	Spring	*Myotis* spp.	*Myotis* spp.	52	5	10.4
5	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	75	5	15
5	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	9	5	1.8
5	Summer	*Myotis* spp.	*Myotis* spp.	671	5	134.2
5	Summer	*Nyctalus noctula*	Noctule	2	5	0.4
5	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	8	5	1.6
5	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	282	5	56.4

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
5	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	32	5	6.4
6	Spring	*Myotis* spp.	*Myotis* spp.	741	5	148.2
6	Spring	*Nyctalus noctula*	Noctule	16	5	3.2
6	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	6	5	1.2
6	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	1273	5	254.6
6	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	485	5	97
6	Spring	*Plecotus auritus*	Brown long-eared bat	7	5	1.4
6	Summer	*Myotis* spp.	*Myotis* spp.	476	5	95.2
6	Summer	*Nyctalus noctula*	Noctule	74	5	14.8
6	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	36	5	7.2
6	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	2821	5	564.2
6	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	185	5	37
6	Summer	*Plecotus auritus*	Brown long-eared bat	49	5	9.8
7	Spring	*Myotis* spp.	*Myotis* spp.	234	5	46.8
7	Spring	*Nyctalus noctula*	Noctule	73	5	14.6
7	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	2196	5	439.2
7	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	23	5	4.6
7	Spring	*Plecotus auritus*	Brown long-eared bat	1	5	0.2
7	Summer	*Myotis* spp.	*Myotis* spp.	336	5	67.2
7	Summer	*Nyctalus noctula*	Noctule	254	5	50.8
7	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	10	5	2
7	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	723	5	144.6

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
7	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	46	5	9.2
7	Summer	*Plecotus auritus*	Brown long-eared bat	3	5	0.6
8	Spring	*Myotis* spp.	*Myotis* spp.	88	5	17.6
8	Spring	*Nyctalus noctula*	Noctule	10	5	2
8	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	5	5	1
8	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	212	5	42.4
8	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	14	5	2.8
8	Spring	*Plecotus auritus*	Brown long-eared bat	7	5	1.4
8	Summer	*Myotis* spp.	*Myotis* spp.	129	5	25.8
8	Summer	*Nyctalus noctula*	Noctule	51	5	10.2
8	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	210	5	42
8	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	7	5	1.4
8	Summer	*Plecotus auritus*	Brown long-eared bat	7	5	1.4
9	Spring	*Myotis* spp.	*Myotis* spp.	161	5	32.2
9	Spring	*Nyctalus noctula*	Noctule	25	5	5
9	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	4	5	0.8
9	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	1026	5	205.2
9	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	79	5	15.8
9	Spring	*Plecotus auritus*	Brown long-eared bat	31	5	6.2
9	Summer	*Myotis* spp.	*Myotis* spp.	127	5	25.4
9	Summer	*Nyctalus noctula*	Noctule	51	5	10.2
9	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	69	5	13.8

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
9	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	3862	5	772.4
9	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	534	5	106.8
9	Summer	*Plecotus auritus*	Brown long-eared bat	15	5	3
10	Spring	*Myotis* spp.	*Myotis* spp.	105	5	21
10	Spring	*Nyctalus noctula*	Noctule	9	5	1.8
10	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	232	5	46.4
10	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	52	5	10.4
10	Spring	*Plecotus auritus*	Brown long-eared bat	3	5	0.6
10	Summer	Static failed	Static failed	Static failed	Static failed	Static failed
11	Spring	*Myotis* spp.	*Myotis* spp.	34	5	6.8
11	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	127	5	25.4
11	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	13	5	2.6
11	Summer	*Myotis* spp.	*Myotis* spp.	288	5	57.6
11	Summer	*Nyctalus noctula*	Noctule	95	5	19
11	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	3	5	0.6
11	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	3025	5	605
11	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	148	5	29.6
11	Summer	*Plecotus auritus*	Brown long-eared bat	23	5	4.6
12	Autumn	*Myotis* spp.	*Myotis* spp.	95	5	19
12	Autumn	*Nyctalus noctula*	Noctule	27	5	5.4
12	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	112	5	22.4
12	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	21	5	4.2

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
12	Autumn	*Plecotus auritus*	Brown long-eared bat	17	5	3.4
12	Spring	*Myotis* spp.	*Myotis* spp.	113	5	22.6
12	Spring	*Nyctalus noctula*	Noctule	21	5	4.2
12	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	32	5	6.4
12	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	789	5	157.8
12	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	55	5	11
12	Spring	*Plecotus auritus*	Brown long-eared bat	51	5	10.2
12	Summer	*Myotis* spp.	*Myotis* spp.	176	5	35.2
12	Summer	*Nyctalus noctula*	Noctule	18	5	3.6
12	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	273	5	54.6
12	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	48	5	9.6
12	Summer	*Plecotus auritus*	Brown long-eared bat	4	5	0.8
13	Spring	*Myotis* spp.	*Myotis* spp.	3216	5	643.2
13	Spring	*Nyctalus noctula*	Noctule	6	5	1.2
13	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	40	5	8
13	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	10420	5	2084
13	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	2136	5	427.2
13	Spring	*Plecotus auritus*	Brown long-eared bat	8	5	1.6
13	Summer	*Myotis* spp.	*Myotis* spp.	104	6	17.3333333
13	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	2567	6	427.8333333
13	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	1387	6	231.1666667
13	Summer	*Plecotus auritus*	Brown long-eared bat	1	6	0.1666667

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
14	Spring	*Myotis* spp.	*Myotis* spp.	1843	5	368.6
14	Spring	*Nyctalus noctula*	Noctule	47	5	9.4
14	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	19	5	3.8
14	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	1379	5	275.8
14	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	60	5	12
14	Spring	*Plecotus auritus*	Brown long-eared bat	51	5	10.2
14	Summer	Static failed	Static failed	Static failed	Static failed	Static failed
15	Spring	*Myotis* spp.	*Myotis* spp.	1842	5	368.4
15	Spring	*Nyctalus noctula*	Noctule	46	5	9.2
15	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	19	5	3.8
15	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	1424	5	284.8
15	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	65	5	13
15	Spring	*Plecotus auritus*	Brown long-eared bat	51	5	10.2
15	Summer	*Myotis* spp.	*Myotis* spp.	16	5	3.2
15	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	59	5	11.8
15	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	4	5	0.8
16	Spring	*Myotis* spp.	*Myotis* spp.	1826	5	365.2
16	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	402	5	80.4
16	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	29	5	5.8
16	Spring	*Plecotus auritus*	Brown long-eared bat	3	5	0.6
16	Summer	*Myotis* spp.	*Myotis* spp.	656	5	131.2
16	Summer	*Nyctalus noctula*	Noctule	7	5	1.4

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
16	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	1028	5	205.6
16	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	50	5	10
16	Summer	*Plecotus auritus*	Brown long-eared bat	14	5	2.8
17	Spring	*Myotis* spp.	*Myotis* spp.	1019	5	203.8
17	Spring	*Nyctalus noctula*	Noctule	2	5	0.4
17	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	98	5	19.6
17	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	2785	5	557
17	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	623	5	124.6
17	Spring	*Plecotus auritus*	Brown long-eared bat	8	5	1.6
17	Summer	*Myotis* spp.	*Myotis* spp.	376	5	75.2
17	Summer	*Nyctalus noctula*	Noctule	11	5	2.2
17	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	157	5	31.4
17	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	1358	5	271.6
17	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	96	5	19.2
17	Summer	*Plecotus auritus*	Brown long-eared bat	6	5	1.2
18	Spring	*Myotis* spp.	*Myotis* spp.	75	4	18.75
18	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	6	4	1.5
18	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	250	4	62.5
18	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	12	4	3
18	Spring	*Plecotus auritus*	Brown long-eared bat	3	4	0.75
18	Summer	*Myotis* spp.	*Myotis* spp.	325	5	65
18	Summer	*Nyctalus noctula*	Noctule	4	5	0.8

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
18	Summer	*Pipistrellus nathusii*	Nathusius' pipistrelle	4	5	0.8
18	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	915	5	183
18	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	20	5	4
18	Summer	*Plecotus auritus*	Brown long-eared bat	9	5	1.8
19	Spring	*Myotis* spp.	*Myotis* spp.	471	4	117.75
19	Spring	*Nyctalus noctula*	Noctule	65	4	16.25
19	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	11	4	2.75
19	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	2948	4	737
19	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	878	4	219.5
19	Spring	*Plecotus auritus*	Brown long-eared bat	27	4	6.75
19	Summer	*Myotis* spp.	*Myotis* spp.	105	5	21
19	Summer	*Nyctalus noctula*	Noctule	16	5	3.2
19	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	820	5	164
19	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	3675	5	735
19	Summer	*Plecotus auritus*	Brown long-eared bat	6	5	1.2
20	Spring	*Myotis* spp.	*Myotis* spp.	113	5	22.6
20	Spring	*Nyctalus noctula*	Noctule	48	5	9.6
20	Spring	*Pipistrellus nathusii*	Nathusius' pipistrelle	7	5	1.4
20	Spring	*Pipistrellus pipistrellus*	Common pipistrelle	707	5	141.4
20	Spring	*Pipistrellus pygmaeus*	Soprano pipistrelle	137	5	27.4
20	Spring	*Plecotus auritus*	Brown long-eared bat	3	5	0.6
20	Summer	*Myotis* spp.	*Myotis* spp.	95	5	19

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
20	Summer	*Nyctalus noctula*	Noctule	13	5	2.6
20	Summer	*Pipistrellus pipistrellus*	Common pipistrelle	936	5	187.2
20	Summer	*Pipistrellus pygmaeus*	Soprano pipistrelle	31	5	6.2
20	Summer	*Plecotus auritus*	Brown long-eared bat	12	5	2.4
21	Autumn	*Myotis* spp.	*Myotis* spp.	103	5	20.6
21	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	159	5	31.8
21	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	40	5	8
22	Autumn	*Myotis* spp.	*Myotis* spp.	1936	4	484
22	Autumn	*Nyctalus noctula*	Noctule	72	4	18
22	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	5	4	1.25
22	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	1250	4	312.5
22	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	8110	4	2027.5
22	Autumn	*Plecotus auritus*	Brown long-eared bat	64	4	16
23	Autumn	*Myotis* spp.	*Myotis* spp.	7280	5	1456
23	Autumn	*Nyctalus noctula*	Noctule	62	5	12.4
23	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	26	5	5.2
23	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	14069	5	2813.8
23	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	5909	5	1181.8
23	Autumn	*Plecotus auritus*	Brown long-eared bat	42	5	8.4
24	Autumn	*Myotis* spp.	*Myotis* spp.	41	5	8.2
24	Autumn	*Nyctalus noctula*	Noctule	64	5	12.8
24	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	12	5	2.4

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
24	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	319	5	63.8
24	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	63	5	12.6
24	Autumn	*Plecotus auritus*	Brown long-eared bat	12	5	2.4
25	Autumn	*Myotis* spp.	*Myotis* spp.	964	5	192.8
25	Autumn	*Nyctalus noctula*	Noctule	66	5	13.2
25	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	9	5	1.8
25	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	8899	5	1779.8
25	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	164	5	32.8
25	Autumn	*Plecotus auritus*	Brown long-eared bat	14	5	2.8
26	Autumn	*Myotis* spp.	*Myotis* spp.	491	5	98.2
26	Autumn	*Nyctalus noctula*	Noctule	494	5	98.8
26	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	29	5	5.8
26	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	17133	5	3426.6
26	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	2258	5	451.6
26	Autumn	*Plecotus auritus*	Brown long-eared bat	25	5	5
27	Autumn	*Myotis* spp.	*Myotis* spp.	17	5	3.4
27	Autumn	*Nyctalus noctula*	Noctule	38	5	7.6
27	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	145	5	29
27	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	39	5	7.8
28	Autumn	*Myotis* spp.	*Myotis* spp.	114	5	22.8
28	Autumn	*Nyctalus noctula*	Noctule	179	5	35.8
28	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	407	5	81.4

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
28	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	907	5	181.4
28	Autumn	*Plecotus auritus*	Brown long-eared bat	18	5	3.6
30	Autumn	*Myotis* spp.	*Myotis* spp.	6	1	6
30	Autumn	*Nyctalus noctula*	Noctule	3	1	3
30	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	96	1	96
30	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	11	1	11
31	Autumn	*Myotis* spp.	*Myotis* spp.	88	5	17.6
31	Autumn	*Nyctalus noctula*	Noctule	16	5	3.2
31	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	474	5	94.8
31	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	65	5	13
31	Autumn	*Plecotus auritus*	Brown long-eared bat	4	5	0.8
32	Autumn	*Myotis* spp.	*Myotis* spp.	455	5	91
32	Autumn	*Nyctalus noctula*	Noctule	131	5	26.2
32	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	72	5	14.4
32	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	2676	5	535.2
32	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	2018	5	403.6
32	Autumn	*Plecotus auritus*	Brown long-eared bat	34	5	6.8
33	Autumn	*Myotis* spp.	*Myotis* spp.	7	5	1.4
33	Autumn	*Nyctalus noctula*	Noctule	15	5	3
33	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	1	5	0.2
33	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	79	5	15.8
33	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	14	5	2.8

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
33	Autumn	*Plecotus auritus*	Brown long-eared bat	3	5	0.6
34	Autumn	*Myotis* spp.	*Myotis* spp.	903	5	180.6
34	Autumn	*Nyctalus noctula*	Noctule	69	5	13.8
34	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	7	5	1.4
34	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	413	5	82.6
34	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	1707	5	341.4
34	Autumn	*Plecotus auritus*	Brown long-eared bat	1	5	0.2
35	Autumn	*Myotis* spp.	*Myotis* spp.	9	4	2.25
35	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	391	4	97.75
35	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	6	4	1.5
36	Autumn	*Myotis* spp.	*Myotis* spp.	364	5	72.8
36	Autumn	*Nyctalus noctula*	Noctule	6	5	1.2
36	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	821	5	164.2
36	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	126	5	25.2
36	Autumn	*Plecotus auritus*	Brown long-eared bat	3	5	0.6
37	Autumn	*Myotis* spp.	*Myotis* spp.	32	5	6.4
37	Autumn	*Nyctalus noctula*	Noctule	8	5	1.6
37	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	97	5	19.4
37	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	42	5	8.4
37	Autumn	*Plecotus auritus*	Brown long-eared bat	6	5	1.2
38	Autumn	*Myotis* spp.	*Myotis* spp.	206	5	41.2
38	Autumn	*Nyctalus noctula*	Noctule	4	5	0.8

Monitoring Point	Season	*Scientific name*	Common name	Total Registrations	Functional detector nights	Registration's per night
38	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	18	5	3.6
38	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	209	5	41.8
38	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	53	5	10.6
38	Autumn	*Plecotus auritus*	Brown long-eared bat	5	5	1
39	Autumn	*Myotis* spp.	*Myotis* spp.	27	5	5.4
39	Autumn	*Nyctalus noctula*	Noctule	13	5	2.6
39	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	3	5	0.6
39	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	454	5	90.8
39	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	2	5	0.4
39	Autumn	*Plecotus auritus*	Brown long-eared bat	6	5	1.2
40	Autumn	*Myotis* spp.	*Myotis* spp.	17	5	3.4
40	Autumn	*Nyctalus noctula*	Noctule	8	5	1.6
40	Autumn	*Pipistrellus nathusii*	Nathusius' pipistrelle	1	5	0.2
40	Autumn	*Pipistrellus pipistrellus*	Common pipistrelle	414	5	82.8
40	Autumn	*Pipistrellus pygmaeus*	Soprano pipistrelle	17	5	3.4
40	Autumn	*Plecotus auritus*	Brown long-eared bat	3	5	0.6

Appendix D: Data Analysis Methodology

Data analysis was conducted using R and a suite of supporting packages. Data cleaning and pre-processing were undertaken using the janitor dplyr, tidyr, and tibble packages. Date and time data were managed using lubridate and categorical variables were handled using focats Wickham H. String operations were performed with stringr and functional programming techniques were applied using purrr. Data import was facilitated via readr and visualisations were produced using ggplot2. Fonts in graphics were customised using the extrafont package. The analysis was carried out within the tidyverse framework, which integrates many of these tools under a consistent design philosophy.

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