



Land at Halsnead Garden Village Phase 3

Whiston, Knowsley

Appendix 7.4 - Bat Survey Report

Prepared For: Taylor Wimpey

Document Reference: 10586.007

January 2026 - Version: 2.0

TEP

401 Faraday Street, Birchwood, Warrington, England, WA3 6GA

Tel: 01925 844004

Email: tep@tep.uk.com

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

Project Name:	Land at Halsnead Garden Village Phase 3
Location:	Fox's Bank Ln, Whiston, Widnes L35 3SS
Document Title:	Appendix 7.4 - Bat Survey Report
Client:	Taylor Wimpey
Prepared by:	The Environment Partnership Ltd
Office:	Warrington
Document Ref:	10586.007

Document history and status:

Version	Date	Description of Issue	Author	Checked	Approved
1.0	Oct 24	First issue	EH	JC	JC
2.0	Jan 26	Amendments following progression of Phase 3 as separate application	JCh	EH	KSC

The Environment Partnership Ltd is a private limited company registered in England. Registered number 7745159. Registered office: 401 Faraday Street, Birchwood Park, Warrington, WA3 6GA

© Copyright 2026 The Environment Partnership Ltd. All Rights Reserved.

This document has been prepared by The Environment Partnership Ltd (“TEP”) for sole use of our Client in accordance with the provisions of the contract between TEP and the Client. No third party may use or rely upon this document or its content. TEP accepts no liability or responsibility for any such use or reliance thereon by any third party.



TEP is a is a Registered Practice of the Chartered Institute of Ecology and Environmental Management. The content of this document has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Code of Professional Conduct and is compliant with British Standard BS42020:2013 Biodiversity Code of Practice for Planning and Development.

The conclusions and recommendations contained in this document are based upon information gathered by TEP and provided by third parties. Information provided by third parties and referred to herein has not been independently verified by TEP, unless otherwise expressly stated in the document.

Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

CONTENTS

PAGE

1.0	INTRODUCTION	5
	Purpose of this Document.....	5
	Legislation	5
	Site Description & Context	6
2.0	METHODS	7
	Ecological Desk Study	7
	Nighttime Bat Walkover (NBW).....	7
	Survey Constraints	9
	Static Remote Monitoring.....	9
	Data Analysis and Species Identification	12
	Evaluation Method	13
3.0	RESULTS.....	17
	Ecological Desk Study	17
	Night-Time Bat Walkover	17
	Static Remote Monitoring.....	20
4.0	EVALUATION & CONCLUSIONS	23
	Species Rarity	23
	Commuting and Foraging Assessment	23
	Bat Assemblage.....	24
	Summary	24
	Impacts and Mitigation Approach.....	25
	Survey Validity	25

TABLES

Table 1: Survey conditions for NBW's	8
Table 2: Static locations and recording periods	10
Table 3: Weather conditions during recording periods	10
Table 4: Species rarity category in central England/midlands and Northern England (adapted from Table 3.1 of the CIEEM UK Bat Mitigation Guidelines, 2023)	14
Table 5: Species assemblage numerical scoring based on rarity (adapted from Table 3.3 of the CIEEM UK Bat Mitigation Guidelines, 2023)	15

Table 6: Natural England Mitigation Licences within 2km of the Site 17

FIGURES

Figure 1: Species assemblage recorded – % total registration and BAI 18

Figure 2: Relative activity levels recorded during NBW surveys 19

Figure 3: Species assemblage recorded during static remote monitoring20

Figure 4: Species assemblage by location.....21

Figure 5: Species assemblage by month22

DRAWINGS

Figure 7.3 NBW Route and Static Detector Locations

Figure 7.4 Night-time Bat Walkover - Visit 1

Figure 7.5 Night-time Bat Walkover - Visit 2

Figure 7.6 Night-time Bat Walkover - Visit 3

1.0 Introduction

- 1.1 TEP was commissioned by Taylor Wimpey in May 2024 to undertake bat activity surveys at the Site known as Land at Halsnead Garden Village.
- 1.2 This technical report includes details of the methods employed and any limitations of the surveys undertaken. Results are provided with supporting maps, together with an evaluation of bats within the Site. An assessment of the potential impacts associated with the development proposals and requirements for mitigation are presented within the main body of the Environmental Impact Assessment and Ecology Chapter within.
- 1.3 The 2024 survey covered two phases of the wider site (Phase 2A and 3). For the purposes of this report both phases are assessed and compared. However, amendments have been made to highlight the Phase 3 site, drawings have been amended to show only the bat activity recorded at Phase 3, and particular attention should be paid to static Location A results in the report as this is pertinent to the Phase 3 application for which this appendix has been produced for.

Purpose of this Document

- 1.4 This technical report has the following objectives:
- give an overview of the habitats present within the Site which could be used by bats for roosting, foraging and commuting;
 - identify how bats use the site for foraging and commuting; and
 - evaluate the value of the site for bats.

Legislation

- 1.5 All bat species and their roosts are legally protected in the UK. All bats are listed as European Protected Species (EPS) in Conservation of Natural Habitats and of Wild Fauna and Flora, better known as the Habitats Directive. There is also protection for bats and roosts in England and Wales under the Wildlife & Countryside Act 1981 (as amended).
- 1.6 It is a criminal offence if any persons:
- deliberately capture, injure or kill a bat;
 - intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;

- damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; or
- intentionally or recklessly obstruct access to a bat roost.

Site Description & Context

- 1.7 The Site is centred at National Grid reference 347329 (Easting), 389861 (Northing) and is within the administrative area of Knowsley Metropolitan Borough Council. It is bound to the north by Halsnead Caravan Park, beyond lies a field and the under construction Land south of Lickers Lane residential scheme (under planning application reference 20/00399/OUT). To the east, the Site is bound by the consented and under construction Fox's Lane residential scheme under planning application reference 20/00417/FUL, beyond which lies Fox's Bank Lane and Blundell's Hill Golf Club. The M62 Motorway bounds the south of the Site, beyond which lies Symmetry Park. To the west, the Site is bound by an area of woodland (with an associated pond known as 'Big Water'), beyond which lies the consented and under construction land north of M62 motorway residential scheme under planning application reference 18/00283/HYB, with Windy Arbor Road and the M62 Motorway further west.
- 1.8 The Site is a disused arable field, now consisting of tall ruderal growth and modified neutral grassland in the north. Treelines and scattered broadleaved trees are present along the south and western boundaries with an area of semi-natural broadleaved woodland present in the southwest of the site.
- 1.9 The wider area beyond the Site is predominantly residential in nature, further characterised by pockets of woodland, industrial development, the local and strategic road network, and open fields.

2.0 Methods

- 2.1 The following bat surveys were undertaken in accordance with the Bat Conservation Trust (BCT) Survey Guidelines (Collins, 2023¹).

Ecological Desk Study

- 2.2 In line with current best practice (CIEEM, 2016², 2017b³), information regarding designated sites, notable habitats and existing protected and notable species records of the past decade, within a minimum 2km radius of the Site, was collated and reviewed to inform the EclA reports. This included pre-existing records for bats. further details are presented within the Ecological Desk Study (**Appendix 7.1**).
- 2.3 Additional data searches using Natural England public sector information was undertaken for licences granted by Natural England for bats⁴.

Nighttime Bat Walkover (NBW)

- 2.4 The Site predominantly consists of mostly large arable fields, with some small areas of modified neutral grassland, woodland/scrub edge and tall ruderal habitat also present. There are also some treelines and scattered mature trees present on Site. The Site has low connectivity with the M62 to the south of the Site acting as a buffer due to being so well lit with fast flowing traffic. In the northeast, the Site has some connectivity to patches of open green space in the wider landscape such as Whiston Woods to the north.
- 2.5 The Site was therefore assessed as having low habitat suitability for commuting and foraging bats. Bat activity surveys were therefore undertaken seasonally throughout 2024, with three surveys undertaken in Spring (April/May), Summer (June-August) and Autumn (September/October), in line with the BCT 2023 Bat Survey Guidelines.
- 2.6 Three NBW's have been completed across the Site in Spring, Summer and Autumn. These comprised dusk visits. **Figure 7.3** illustrates the pre-defined walking routes walked on each survey visit.

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

² CIEEM (2016) Guidelines for Accessing and Using Biodiversity Data. Chartered Institute of Ecology & Environmental Management

³ CIEEM (2017b) Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology & Environmental Management

⁴ *Granted European Protected Species Applications*

2.7 Dusk surveys commenced at sunset and continued for approximately 2 hours. The surveyors assumed a static observation position from sunset, prior to beginning walking for 30 minutes. This position was chosen based on the potential roost sources on the Site (namely the beech tree line in the Phase 2A part of the site and the Old Wood woodland adjacent to the Phase 3 part of the site). The walking route was reversed on some visits to reduce sampling bias. Dates, times and start and end conditions for each of the walkovers completed are summarised in Table 11.

Table 1: Survey conditions for NBW's

Date	Start Time	End Time	Sunset	Weather at Start				Weather at End			
				Temp. °C	Rain	Wind ⁵	Cloud ⁶	Temp. °C	Rain	Wind	Cloud Cover
11/06/24	21:38	23:38	21:38	12	0	1	5	10	0	0	7
29/08/24	20:38	22:40	20:38	16	0	2	1	14	0	2	2
03/10/24	18:42	21:10	18:42	14	0	1	7	11	0	1	5

2.8 The NBW was walked at a slow steady pace. Surveyors carried a full spectrum detector (BatLogger M) supplemented by heterodyne detectors where required. Bat passes at each walked section and monitoring point were recorded, together with the maximum number of bats observed, the species identified, and any other contextual data such as flight direction, social calling or feeding buzzes.

2.9 The NBW route was designed to sample the range of habitats present across the Site, focussing on those most likely to be affected by the development proposals. The walkovers were completed by trained TEP surveyors.

2.10 Sonogram analysis was undertaken using Kaleidoscope software at TEP by appropriately trained consultants.

⁵ Wind strength is reported using the Beaufort Scale of Wind Force, this scale runs from 0 to 12, information on the conditions experienced during surveys are as follows: 0 – Calm (vertical smoke); 1 – Light Air (slight smoke drift); 2 – Light Breeze (leaves gently rustle).

⁶ Cloud cover is reported in oktas or eighths (i.e. 0 oktas represents the complete absence of cloud, 1 okta cloud cover of 1 eighth or less, and so on to 8 oktas which represents full cloud cover), with the additional convention that 9 oktas represents sky obscured by fog or mist.

Survey Constraints

- 2.11 The first survey was undertaken in early June, rather than May, due to access issues and late commissioning. However, it is assumed that the survey conditions are considered to be optimal and similar to those we would have expected in May (Spring), and therefore bat activity levels recorded during this survey was the same or similar to the expected activity levels during the correct season. Sampling therefore likely reflects typical bat activity, and the seasonality is therefore not considered a constraint to the survey.
- 2.12 Analysing bat sonograms using Kaleidoscope can clearly identify certain species. However, some genus groups (such as *Myotis* spp) can be difficult to determine the specific species due to their similar styles of calls. In addition, it can be difficult to determine species or even genus in some circumstances, due to partial calls being heard or due to distortion from, for example passing cars, rain or wind. If the genus can be identified but not the species, the call is labelled by the genus group only.

Static Remote Monitoring

- 2.13 Static remote monitoring bat detectors (Anabat Express, set to night mode) were deployed at two fixed locations within the site, commencing in May 2024. The locations are described at Table 6.
- 2.14 Static monitoring locations are illustrated at **Figure 7.3**. The static locations were non-random (as micro-siting was determined by habitat and/or potential impacts) and the spread of locations was designed to:
- confirm the species assemblage using the habitats within the Site;
 - determine the relative activity and spatial distribution of bats across the Site; and
 - identify potential commuting / dispersal corridors.
- 2.15 Each detector was deployed on a seasonal basis for a minimum of five consecutive nights. Detectors were deployed with standardised sensitivity settings. Further information regarding deployment locations, survey dates and survey conditions is provided in Table 2 and Table 3.

Table 2: Static locations and recording periods

Location	Survey Dates	Nr. Nights Deployed	Nr. Nights of Activity	Description of Location and Orientation of Microphone
A	11 th June – 18 th June	7	7	Located in the southwest corner of the Site, on the boundary with the M62 motorway, with microphone facing north into the Site covering the grassland and scrub habitats, as well as the adjacent woodland habitat
	1 st August – 8 th August	8	8	
	11 th October – 15 th October	5	0	
B	11 th June – 18 th June	7	7	Located in the northeast of the Site, within the beech tree line that runs through the Site. Microphone facing east into the Site, covering the treeline and neutral grassland habitat.
	1 st August – 8 th August	8	8	
	11 th October – 15 th October	5	4	

Table 3: Weather conditions during recording periods

Survey Date	Time of Sunset	Time of Sunrise	Recording Time (mins)	Sunset Temp °C	Midnight Temp °C	Sunrise Temp °C	Wind Speed (mph)	Wind Direction	Rain	Cloud	Moon Illuminance (%)
11 June	21:39	04:42	483	13.8	11.0	10.3	5.0	NW	0	Clear	25%
12 June	21:39	04:42	483	11.3	7.8	7.8	4.5	NW	1	Scattered	34%
13 June	21:40	04:42	482	12.3	12.3	12.3	8.5	S	1	Cloudy	43%
14 June	21:41	04:42	481	14.0	11.8	10.8	4.0	SW	2.5	Clear	53%
15 June	21:41	04:42	481	13.3	11.5	9.5	2.5	S	0	Scattered	62%
16 June	21:42	04:42	480	15.3	13.5	12.3	6.5	SW	2	Clear	71%
17 June	21:42	04:42	480	13.8	13.0	12.3	6.5	NW	0	Scattered	79%
01 Aug	21:06	05:29	563	22.0	17.5	15.3	6.0	SE	0	Clear	10%
02 Aug	21:04	05:31	567	19.5	18.5	16.0	6.0	N	2	Scattered	4%
03 Aug	21:02	05:32	570	18.0	15.8	14.8	6.0	SE	0	Clear	1%
04 Aug	21:00	05:34	574	18.8	17.8	18.0	7.0	N	0	Scattered	0%
05 Aug	20:58	05:36	578	22.0	20.0	16.5	6.0	N	2	Scattered	1%
06 Aug	20:56	05:37	581	18.3	15.5	15.0	6.0	N	0	Clear	4%

Survey Date	Time of Sunset	Time of Sunrise	Recording Time (mins)	Sunset Temp °C	Midnight Temp °C	Sunrise Temp °C	Wind Speed (mph)	Wind Direction	Rain	Cloud	Moon Illuminance (%)
07 Aug	20:54	05:39	585	18.0	16.5	15.5	7.0	N	0	Clear	9%
08 Aug	20:52	05:41	589	20.3	18.5	16.3	8.0	N	0	Clear	15%
11 Oct	18:23	07:33	850	9.5	4.0	4.0	2.0	N	0	Clear	72%
12 Oct	18:20	07:35	855	8.3	5.7	5.5	12.0	E	0	Clear	82%
13 Oct	18:18	07:36	858	10.8	9.3	9.3	2.0	S	0	Clear	90%
14 Oct	18:16	07:38	862	10.3	9.2	9.2	2.0	S	0	Scattered	96%
15 Oct	18:13	07:40	867	12.7	11.5	13.8	11.0	W	4	Overcast	100%

Survey Constraints

Seasonality

- 2.16 Similar to the NBW survey, the first static monitoring surveys were undertaken in early June instead of May. However, it is assumed that the survey conditions are considered to be optimal and similar to those we would have expected in May (Spring), and therefore bat activity levels recorded during this survey was the same or similar to the expected activity levels during the correct season. Sampling therefore likely reflects typical bat activity, and the seasonality is therefore not considered a constraint to the survey.

Weather Constraints

- 2.17 Temperatures were below 8°C on some of the static monitoring dates during the first visit (Spring) and third visit (Autumn). Survey conditions are considered to be optimal at temperatures above 10°C and so activity levels during these nights could be potentially influenced by the colder conditions. However, bat activity was still recorded during these nights at least one location on site (with the exception of night 2, visit 3), which likely reflects the fact that this is typical of weather conditions during spring and autumn, particularly in the north of England, and sampling therefore likely reflects typical bat activity on site during these colder months.
- 2.18 Prolonged rainfall was present during night 4 of visit 1 (Spring) and night 5 of visit 3 (Autumn). Generally, bats seek shelter during heavy rainfall and are less likely to be active, however this is not reflected in the survey results, as bat activity was still recorded

on these nights on at least one location and so therefore rainfall is not considered a constraint to the survey data.

Moon Illuminance

- 2.19 Moon illuminance was high during static monitoring visit 3 (Autumn). It is unclear whether moon illuminance has an effect on bat activity however, some bat species are light-phobic and therefore activity by these species could be reduced on nights with high moon illuminance.

Low Activity Levels

- 2.20 Absent bat activity was recorded during the third visit (Autumn) at Location A, where no activity was recorded during any of the survey nights, and at Location B where no bats were recorded during the night 2. No errors were recorded on the detector logs in these instances and therefore, it is assumed that recordings were limited as bat activity was absent or reduced during these nights, rather than being due to detector malfunction. Low or absent activity levels recorded are likely to reflect the use of the Site by bats within the locality across the active season, and therefore the absence of activity recordings does not impair confidence in the interpretation of the baseline data.
- 2.21 Foliage growth in trees throughout the survey period was overcome by the use of microphone extension cables, enabling deployment of the microphones at the edge of the canopy to avoid noise and deflection.
- 2.22 Overall, any data loss represents only a small proportion of the overall survey effort and does not significantly impair confidence in the interpretation of the baseline data.

Data Analysis and Species Identification

- 2.23 Recorded data was analysed by TEP following completion of the static recording periods using Kaleidoscope software. No automated filters or automated identification packages have been applied during sonogram analysis.
- 2.24 NBW survey data was automatically geo-referenced and digitally mapped using GIS. Each species is colour coded and flight directions are provided where behaviour was observed.
- 2.25 For the purposes of presentation, data have been transformed to calculate bat activity indices (BAI). For the majority of datasets and statistical analysis the BAI represents bat passes per hour (bph), to account for different night lengths throughout the recording period.

- 2.26 BAs quantify the amount of use bats make of an area i.e., activity levels, not abundance. Consistency has been achieved throughout the monitoring period in regard to detector model, sensitivity and calibration, position and orientation and also subsequent sonogram analysis. High confidence can therefore be placed in the relative activity levels presented.

Constraints

- 2.27 Analysing bat sonograms using Kaleidoscope software can clearly identify certain species however, bats vary their calls dependent on the habitats they fly in and on their activity (commuting, foraging, social interaction, etc.). It is not always possible to identify bat calls to species level owing to the overlap of call parameters between some species and/or poor-quality recordings (e.g., brief, and distant passes). In these cases, it is accepted that species are identified to genus level or group level (e.g., *Myotis* species, and *Nyctalus/Eptesicus*) (Russ, 2012⁷). Where call parameters are inconclusive the species has been labelled as 'unidentified'. This ensures the dataset is interpreted accurately and transparently.
- 2.28 The detectability of some bat species, such as *Plecotus* sp. is lower than that of, for example, *Nyctalus* sp. and *Pipistrellus* sp. The echolocation calls of *Plecotus* sp. are comparatively more difficult to detect with bat detectors, and their particular hunting strategies take them into less open habitats, where survey routes may not venture. Careful interpretation has been applied when comparing survey results across species to account for this limitation.
- 2.29 *Myotis* species have overlapping call characteristics and it is therefore not possible to identify these bats to species level with good confidence. *Myotis* data represent a small proportion of the activity recorded and therefore for the purposes of meaningful data presentation, *Myotis* species have been grouped.

Evaluation Method

- 2.30 For the purposes of this assessment and of assigning value to bats, the guidance set out in the Chartered Institute of Ecology and Environmental Management (CIEEM) UK Bat Mitigation Guidelines (Reason and Wray, 2023⁸) has been followed. While bats are nationally and internationally protected species, it does not follow that any ecological feature supporting bats is similarly of national or international importance. Importance should be assessed at an appropriate spatial scale, based on species distribution, conservation status, current population trends, functionality of the site and the zone of influence of the proposed development in relation to bats. This includes an assessment

⁷ Russ, J. (ed.), (2012). *British Bat Calls: A Guide to Species Identification*. Pelargic Publishing, Exeter

⁸ Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management, Ampfield.

of whether the Site supports habitats for bat roosting, foraging and/or commuting. The method for assessment of importance of a site with regard to bats, aims to provide consistency across evaluation of sites, whilst taking account of regional variations in bat distribution and rarity, roost status importance and the importance of bat commuting and foraging habitat in the context of the surrounding landscape.

- 2.31 The Guidance sets out a framework for evaluation of a site's importance to bats, based on assigning scores to each species within the assemblage according to the regional rarity of the species. This framework is set out at Table 3.3 of the Guidance and are summarised below.

Species Rarity

- 2.32 Conservation status varies between the different countries of the UK, based on current understanding of abundance and distribution. Within each county boundary there are also differences in bat species abundance and distribution. Consultation with statutory bodies and recognised regional experts has resulted in the categorisation of bat species as set out in Table 4 (adapted from Table 3.1 of the 2023 UK Bat Mitigation Guidelines), reflecting the relative abundance or 'rarity' of bat species across different areas of the UK.

Table 4: Species rarity category in central England/midlands and Northern England (adapted from Table 3.1 of the CIEEM UK Bat Mitigation Guidelines, 2023)

Rarity Category	Species in Central England/Midlands	Species in Northern England
Widespread	Common pipistrelle <i>Pipistrellus pipistrellus</i> Soprano pipistrelle <i>Pipistrellus pygmaeus</i> Brown long-eared <i>Plecotus auritus</i>	
Widespread in many geographies, but not as abundant in all	Brandt's <i>Myotis brandti</i> Daubenton's <i>Myotis daubentonii</i> Whiskered <i>Myotis mystacinus</i> Natterer's <i>Myotis nattereri</i> Noctule <i>Nyctalus noctula</i>	
Rarer or restricted distribution	Serotine <i>Eptesicus serotinus</i> Leisler's <i>Nyctalus leisleri</i> Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	Alcathoe <i>Myotis alcathoe</i> Leisler's <i>Nyctalus leisleri</i> Nathusius' pipistrelle <i>Pipistrellus nathusii</i>
Rarest Annex II species and very rare	Barbastelle <i>Barbastella barbastellus</i> Alcathoe <i>Myotis alcathoe</i>	-

- 2.33 The geographical variation set out in Table 5 underpins the subsequent assessment of the importance of roosts, commuting routes and foraging areas, and of the overall assemblage of bats present on site. The boundaries between categories are not absolute and require caution where species are at the edge of their range.

Commuting and Foraging Assessment

2.34 It is not possible to adopt the same matrix-based approach for valuing bat commuting routes/flight-lines and foraging areas as for roost importance, as assessment requires a higher degree of professional judgement. Geographical levels of importance are not defined by 'numbers of bats using a feature', because numbers of individuals can be difficult to determine, and colony sizes vary across species and region. The importance of bat commuting and foraging areas includes assessment of a variety of factors, for example:

- Levels of bat activity - indicating reliance (or otherwise) on specific habitats/features;
- Landscape context - distribution and abundance of suitable foraging habitats, flight-lines and overall connectivity;
- Species assemblage - consideration of bats using features, their conservation status and whether any species present are at the edge-of-range;
- Proximity/connectivity to roosts - review of species and roost type influence value; and
- Species' habitat preferences - the site context within the landscape and habitats present will vary the value of the site to different species.

Bat Species Assemblage Assessment

2.35 Table 5 outlines the numerical scoring system from the 2023 UK Bat Mitigation Guidelines designed to assess the importance of a bat assemblage within a site in consideration of species distribution. A score is assigned to each species that is present within a site.

Table 5: Species assemblage numerical scoring based on rarity (adapted from Table 3.3 of the CIEEM UK Bat Mitigation Guidelines, 2023)

Rarity Category (species in each category are determined by region)	Bat Assemblage Score
Widespread all geographies	1
Widespread in many geographies, but not as abundant in all	2
Rarer or restricted distribution	3
Rarest Annex II species and very rare	4

2.36 Once the score for each species has been calculated and summed to determine the maximum theoretical score, the threshold score needed for any assemblage to meet each geographic level of importance, can be calculated:

- Assemblage score meets or exceeds 45% of the maximum score - County importance;
- Assemblage score meets or exceeds 55% of the maximum score - Regional importance and
- Assemblage score meets or exceeds 70% of the maximum score - National importance.

Limitations

- 2.37 Conservation status varies between the different countries of the UK reflecting abundance and distribution. For example, there are seven priority species in England and Scotland, eight in Wales, and three in Northern Ireland, reflecting these differences. There are also differences in abundance and distribution within each country boundary. The absence of a species from an area does not mean that it never occurs in that region. When rarities do occur, their value therefore will be specifically assessed and counted as 'Rare' in that region. For example, lesser horseshoe bats *Rhinolophus hipposideros* are occasionally recorded in Northern England and should be treated in the 'Rarest Annex II Species and Very Rare' category where they do arise even though they are not on the list of species 'normally' encountered in that region.
- 2.38 A precautionary approach to assessing roost presence within the landscape has been taken when assessing proximity/connectivity to roosts based on activity levels noted within the site, suitable roost habitat within the locality and desk study data.

3.0 Results

Ecological Desk Study

- 3.1 Two Natural England Mitigation licences have been identified within 2km of the Site for bats. These are detailed in Table 6 below. The first lies to the south of the M62 approximately 700m southwest of the Site and the second lies beyond Blundells Hill Golf Club approximately 1.7km northeast of the Site.

Table 6: Natural England Mitigation Licences within 2km of the Site

Licence Number	Dates	Licensable Activities
EPSM2013-5867	03/12/2013 - 30/09/2014	Destruction of a resting place – <i>Common pipistrelle</i> <i>Soprano pipistrelle</i> <i>Brown long-eared bat</i> <i>Natterer's bat</i>
2018-38385-EPS-MIT	18/12/2018 - 30/09/2019	Destruction of a resting place – <i>Common pipistrelle</i>

- 3.2 A total of 42 records were returned for a variety of species within 2km of the site, including:

- Common pipistrelle *Pipistrellus pipistrellus* (including roosts);
- Daubenton's bat *Myotis daubentonii*;
- Leisler's bat *Nyctalus leisleri*;
- Noctule *Nyctalus noctule* (including roosts); and
- Soprano pipistrelle *Pipistrellus pygmaeus*.

Night-Time Bat Walkover

- 3.1 The results of the NBW surveys are illustrated on **Figures 7.4 – 7.6**.

Assemblage

- 3.2 Figure 1 summarises the composition of the species assemblage recorded over the three NBW surveys, at least five species were recorded. Soprano pipistrelle produced 50.3% of the contacts recorded during the surveys, with common pipistrelle producing 41.1% of the calls. Noctule produced 6.1% of the calls and myotis species 2%. Only one single brown-long eared bat was recorded during the NBW surveys (0.5%).

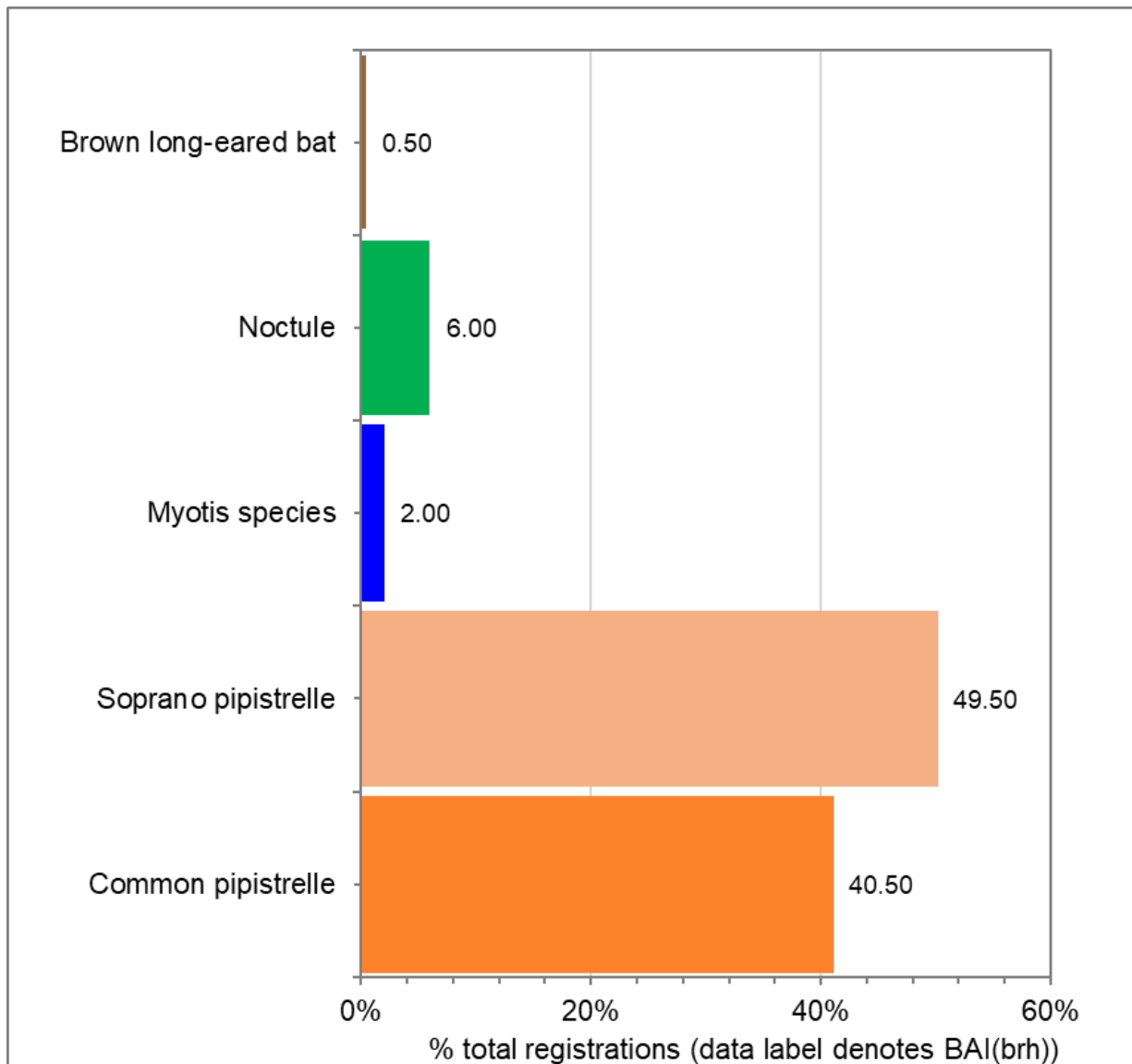


Figure 1: Species assemblage recorded – % total registration and BAI

Spatial Trends

- 3.3 Distribution is illustrated on **Figures 7.4 – 7.6**, which show that the majority of bats were recorded in the centre of the site, between the two phases, near to pond P18. Other hotspots were the treeline on the western boundary of the Site. The results indicate that these habitats on site are important features for commuting and foraging bats on the Site.

Seasonal Trends

- 3.4 Figure 2 illustrates the species assemblage BAI and species diversity by seasonal visit. This shows that there was a peak BAI in the Spring (44.50) and a low in the Autumn

(14.19). The negative distribution of the activity with activity levels declining throughout the year suggests that the importance of the Site for the local bat population varies throughout the year, with more overall activity recorded in Spring.

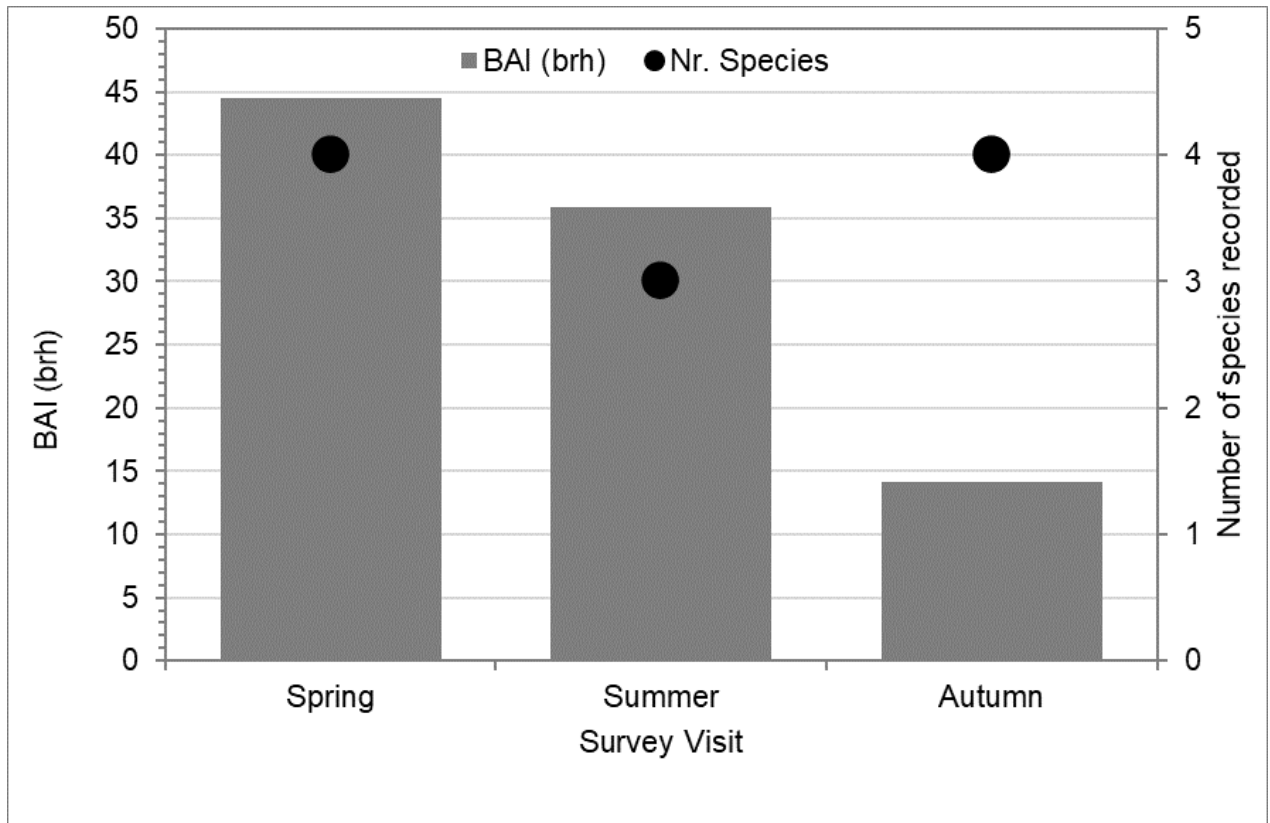


Figure 2: Relative activity levels recorded during NBW surveys

Foraging

- 3.3 Foraging activity is indicated by circular flight lines and feeding buzzes in **Figures 7.4 – Figure 7.6**. The key focal areas where foraging was recorded on Site was around the pond P18 to the northeast of the Site. Foraging activity on Site, peaked during the Spring visit and steadily declined over the following visits, similar to that of the overall activity on the Site. This suggest that the Site is mainly utilised by bats for foraging, as a feeding ground, and a peak in the Spring indicates that the Site is used by bats that have just emerged from hibernation and are looking to refuel after the winter.

Social Calls

- 3.4 Social calls are also shown in **Figures 7.4 – Figure 7.6**. Oppositely to foraging activity, no social calls were recorded during the Spring visit and there was a peak in social calling in the Autumn, with 8.5% of calls recorded as social calls. Pipistrelle bats are known to significantly increase their social calling within September/October. During the Autumn,

these calls are likely associated with male pipistrelle territorial advertisement calls and therefore the increase of social call registrations is expected within the Autumn visit.

Static Remote Monitoring

Assemblage

- 3.5 Figure 3 illustrates the overall bat assemblage recorded from data analysed. A total of 183 bat passes were recorded across all static locations and monitoring periods. An assemblage of at least five species was recorded, similar to that recorded during the NBW surveys, mostly soprano pipistrelles, with common pipistrelle and noctule also, as well as small numbers of myotis bats and brown long-eared.

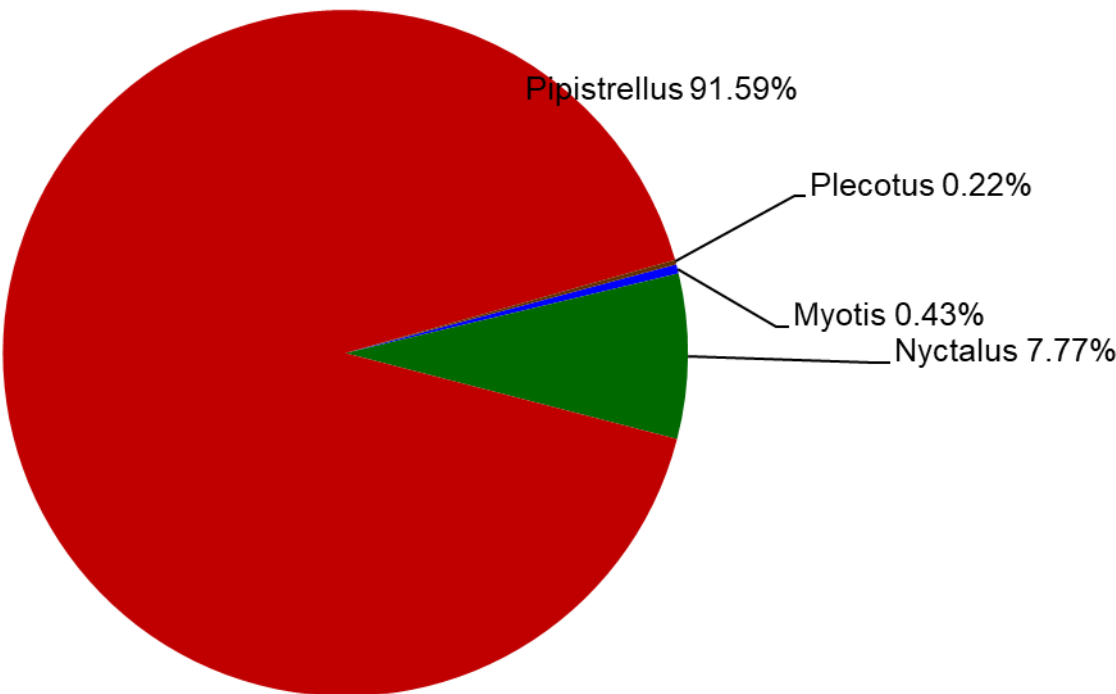


Figure 3: Species assemblage recorded during static remote monitoring

Spatial Trends

- 3.6 Figure 4 shows the species assemblage BAI and species diversity by location. There is variation in bat assemblage (BAI bats per hour). BAI at Locations A (4.07) was lower than that at Location B (4.80). With all five species recorded at both locations.
- 3.7 Although there is a difference, it is not significantly different, with an overall low bat activity level at each location. Location A is located in Phase 3, near to the Old Wood woodland,

the results of these surveys, being that there is low bat activity levels within the Site, could indicate the local bat populations are not using the Site but instead are using these adjacent features and more suitable habitats such as the woodland and the lake, Big Water. Similarly at Location B located in Phase 2A, which is situated in the northeast of the Phase 2A site, where woodland lies beyond the cemetery to the north where more suitable habitat is present. Local bat populations are likely to be using these habitats for foraging and commuting with only common more widespread species, such as pipistrelles, using the site for foraging and commuting.

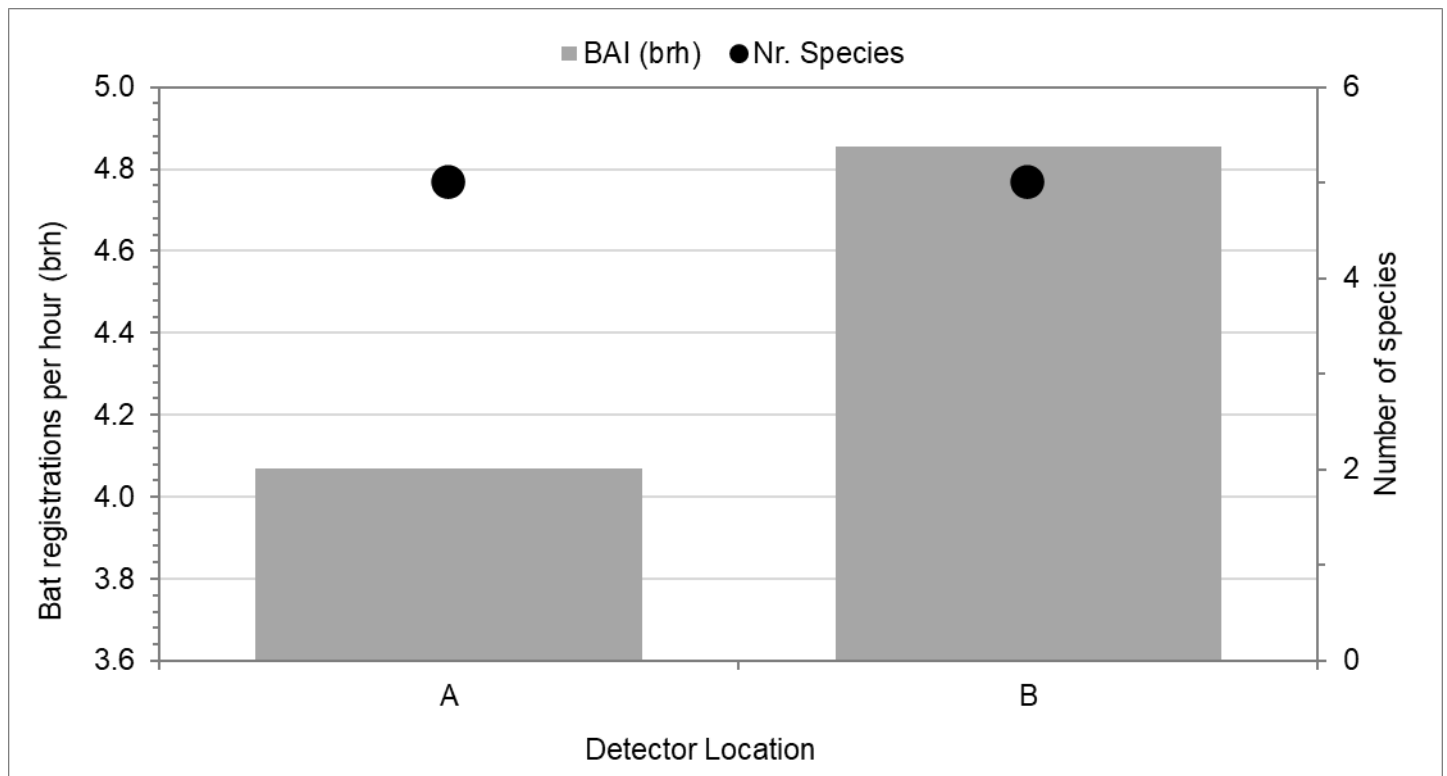


Figure 4: Species assemblage by location

Seasonal Trends

- 3.8 Figure 5 illustrates the species assemblage (BAI bats per hour) and species diversity by seasonal visit. There is variation in the bat assemblage BAI between survey visits with a peak of activity recorded during the Summer visit (7.95), different to that trend recorded during the NBW surveys. The Spring and Autumn visit were significantly lower with a BAI of 3.21 and 1.76, respectively. This suggests that the importance of the site for the local bat population varies through the seasons, with the most important being in the Summer. Generally this is to be expected, as bat activity levels are higher in the Summer mainly due to good weather, prey abundance, the presence of young bats and the dispersal of maternity roosts.

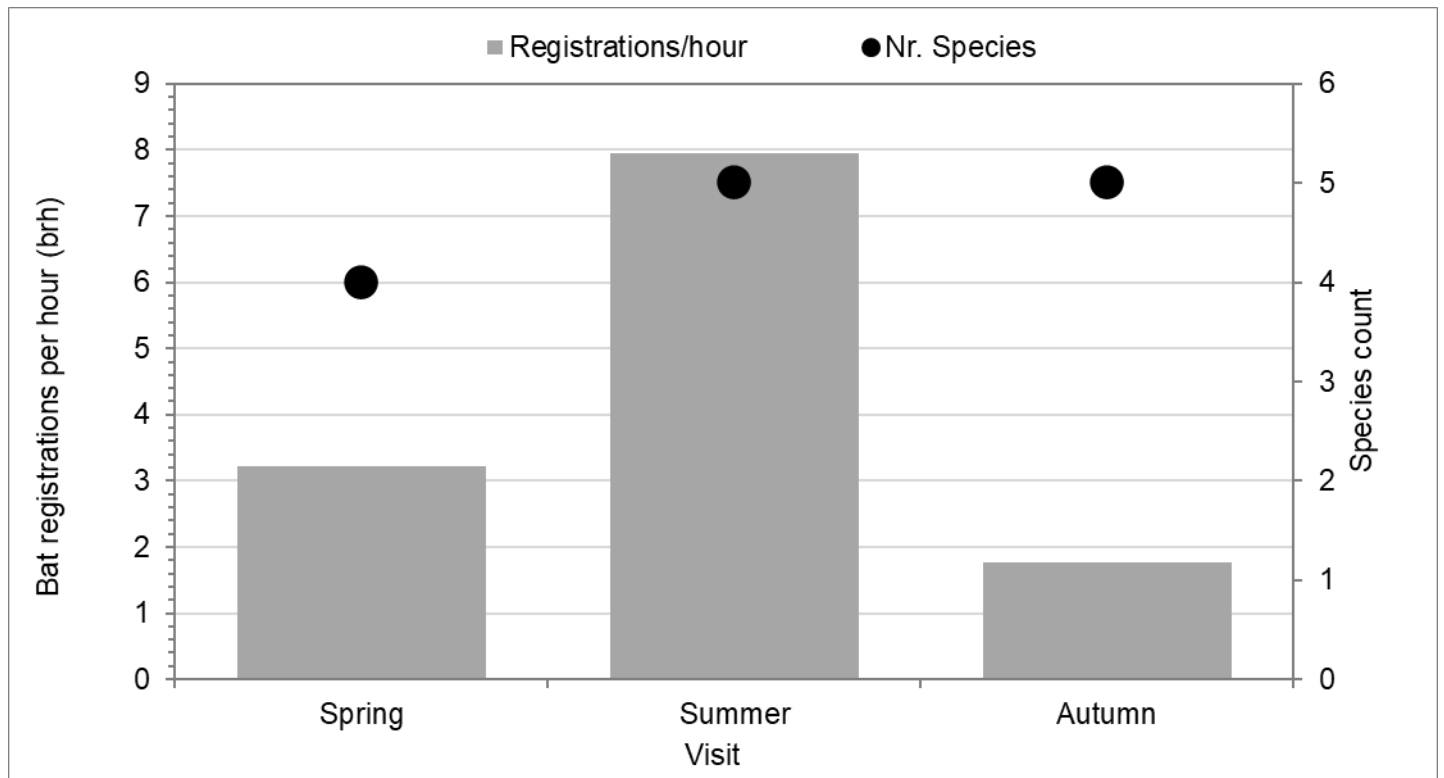


Figure 5: Species assemblage by month

4.0 Evaluation & Conclusions

- 4.1 Evaluation of the Site's importance for bats follows the UK Bat Mitigation Guidelines, applying the species rarity and assigned scores according to Table 3.3 in the Guidelines.

Species Rarity

- 4.2 Species identified within the locality from desk study records and during automated static monitoring surveys within the Site indicate that the Site supports a diverse range of species, including widespread species (*common pipistrelle*, *soprano pipistrelle* and *brown long-eared*) and occasional species that are widespread in many geographies but not abundant within all of these (*including; noctule and Myotis species i.e., Brandt's, Daubenton's, whiskered and Natterer's*).
- 4.3 Very few of these species have been recorded within the locality in desk study records, with only common and soprano pipistrelle, noctule and Daubenton's bats recorded; although this is likely to represent a lack of records in the area rather than an absence of these species within the wider landscape.
- 4.4 The limited recording of brown long-eared and *Myotis* species within the Site may reflect the difficulty of detectability of these 'quieter' species. However, more likely is that limited recording of brown long-eared and *Myotis* species is illustrative of their limited abundance within the Site, due to the lower suitability of habitats present for these species foraging preferences.

Commuting and Foraging Assessment

- 4.5 The Site comprises one field dominated by modified neutral grassland and tall ruderal herbs. It is bordered by treelines and scrub. Low activity levels recorded during NBW and automated static monitoring surveys were likely due to the dominance of poor quality habitats within the Site resulting in limited invertebrate prey diversity and abundance.
- 4.6 Surveys found notable variation in the BAI between the Spring survey visit and the final two visits suggesting that the value of the Site for local bat populations commuting and foraging, does vary throughout the year. Bat commuting and foraging activity recorded during activity transect surveys was highest during Visit 1, which correlates with bats emerging from hibernation and seeking feeding grounds to forage and recover from their winter torpor.
- 4.7 Greater use of the Site by commuting and foraging bats in the Spring may reflect the improved weather conditions and general invertebrate life cycles producing greater prey abundance even in less diverse habitats, such as those present on Site.

- 4.8 Commuting and foraging is more frequently associated with specific habitats on Site such as the pond adjacent and the treelines which provide higher quality habitat for foraging. These habitats support will support a diverse range of invertebrates, in comparison to the other arable and grassland habitats present on the rest of the Site.
- 4.9 During automated static detector monitoring surveys activity levels recorded at Location A and Location B, situated along linear features providing wildlife corridors, differed slightly. Location B is located in the Phase 2A site to the northeast of Phase 3, within a beech treeline present within the site boundary. Location A is located in the south of the Phase 3 site, located on the southern boundary, adjacent to the M62 motorway and Old Wood in the southwestern corner of the Site. This area is likely to be more well-lit with motorway lighting, and disturbed by noise, although the woodland adjacent is highly suitable for bat species. The treeline in the Phase 2A site is undisturbed and connects to further treelines and woodland to the north of the Site, beyond the cemetery.
- 4.10 Furthermore, activity at the Site overall was low, which is to be expected given there are more suitable habitats adjacent to the site and in the wider area, for example woodland areas, including Old Wood in the west, and waterbodies such as Big Water. The most common species found on Site, as is expected, were pipistrelles and noctule which are more common widespread species with less specific preferences foraging and commuting habitat.

Bat Assemblage

- 4.11 The bat assemblage recorded for the site, confirmed through a combination of static monitoring and manual activity surveys, comprises at least five species. Table 3 above sets out the scores assigned to the assemblage within the region of Northern England. A maximum possible score of 22 can be scored in Northern England.

Summary

- 4.12 The sum of the scores for each species (including three different species of *Myotis* sp. that may be present within the site locality) has been calculated as a maximum theoretical species assemblage score of 11 (three widespread species, four possible less-abundant species). A maximum theoretical species assemblage score of 11 would be considered to be within the % threshold for County importance in Northern England (up to score 12) following the guidance set out in the CIEEM UK Bat Mitigation Guidelines (Reason and Wray, 2023).
- 4.13 However, given this score is precautionary and based on the possible presence of all three *Myotis* species known to be present within the region; as bat activity levels recorded within the Site have been relatively low; and the habitats on site are generally poor

suitability for bats; the species assemblage and overall value of the Site for commuting and foraging bats can be assessed as being a of **less than County importance**.

Impacts and Mitigation Approach

- 4.14 Potential impacts will be assessed as part of a wider Environmental Impact Assessment. This will outline the mitigation approach, and any further actions recommended as a consequence of the potential impacts of the proposed development and will be provided within the Ecology ES Chapter.

Survey Validity

- 4.15 Bat surveys are generally valid for two survey seasons. Therefore, if a planning application has not been submitted prior to the 2026 bat survey season, bat surveys should be updated to support the application.

Drawings

Figure 7.3 NBW Route and Static Detector Locations

Figure 7.4 Night-time Bat Walkover - Visit 1

Figure 7.5 Night-time Bat Walkover - Visit 2

Figure 7.6 Night-time Bat Walkover - Visit 3



KEY

 Site boundary

 Static detector

 Transect route

Reproduced by permission of Ordnance Survey on behalf of HSMO
Contains OS data © Crown Copyright and database right 2026. All rights reserved.
Contains data from OS Zoomstack
Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.



Rev	Description	Drawn	Approved	Date



THE ENVIRONMENT PARTNERSHIP

401 Faraday Street, Birchwood Park, Warrington, WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Halsnead Phase 3

Title
Figure 7.3 Bat Transect Route and Static Detector Locations - Phase 3

Drawing Number
G10586.027

Drawn	Checked	Approved	Scale	Date
MW	OH	EH	1:2,000 @ A3	02/02/2026



KEY

- Site boundary
- Stationary observation point
- Common pipistrelle
- Soprano pipistrelle
- Soprano pipistrelle feeding buzz
- Myotis species
- Bat flightline (colour denotes bat species)

Stationary Observation Point Records

Common pipistrelle x1
Noctule x1

Note:
Multiple bat records in the same location may obscure some results from displaying on the map.

Reproduced by permission of Ordnance Survey on behalf of HMSO.
Contains OS data © Crown Copyright and database right 2026. All rights reserved.
Contains data from OS Zoomstack. Vantor, Microsoft.



Rev	Description	Drawn	Approved	Date



401 Faraday Street, Birchwood Park, Warrington, WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Halsnead Phase 3

Title
Figure 7.4 Bat Transect Results Visit 1 - Phase 3

Drawing Number
G10586.024

Drawn	Checked	Approved	Scale	Date
MW	OH	EH	1:2,300 @ A3	02/02/2026



KEY

Site boundary

Common pipistrelle

Common pipistrelle feeding buzz

Soprano pipistrelle

Noctule

Bat flightline (colour denotes bat species)

Note:
Multiple bat records in the same location may obscure some results from displaying on the map.

N

Reproduced by permission of Ordnance Survey on behalf of HMSO.
Contains OS data © Crown Copyright and database right 2026. All rights reserved.
Contains data from OS Zoomstack. Vantor, Microsoft.

Site Map

Rev	Description	Drawn	Approved	Date

TWP

THE ENVIRONMENT PARTNERSHIP

401 Faraday Street, Birchwood Park, Warrington, WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project

Halsnead Phase 3

Title

Figure 7.5 Bat Transect Results Visit 2 - Phase 3

Drawing Number

G10586.025

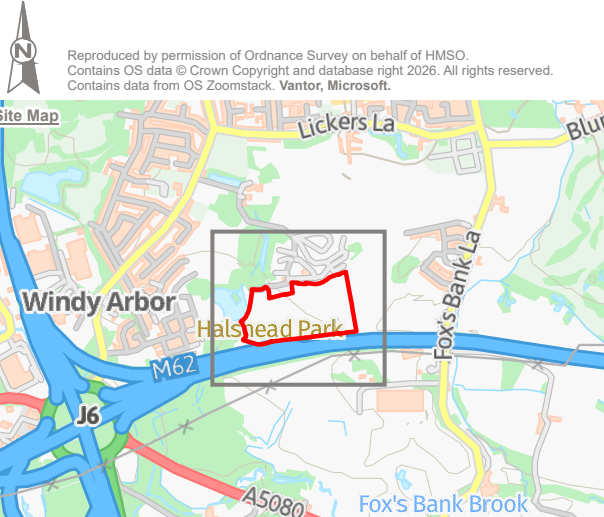
Drawn	Checked	Approved	Scale	Date
MW	OH	EH	1:2,300 @ A3	02/02/2026



KEY

- Site boundary
- Common pipistrelle
- Common pipistrelle social call
- Soprano pipistrelle
- Soprano pipistrelle social call
- Brown long-eared bat
- Bat flightline (colour denotes bat species)

Note:
Multiple bat records in the same location may obscure some results from displaying on the map.



Rev	Description	Drawn	Approved	Date



THE ENVIRONMENT PARTNERSHIP
401 Faraday Street, Birchwood Park, Warrington, WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Halsnead Phase 3

Title
Figure 7.6 Bat Transect Results Visit 3 - Phase 3

Drawing Number
G10586.026

Drawn	Checked	Approved	Scale	Date
MW	OH	EH	1:2,300 @ A3	02/02/2026



HEAD OFFICE

401 Faraday Street
Birchwood Park,
Warrington
WA3 6GA

Tel: 01925 844004

E-mail: tep@tep.uk.com

**MARKET
HARBOROUGH**

The Reynard Suite,
Bowden Business Village
Leicester Road,
Market Harborough
LE16 7SA

Tel: 01858 383120

E-mail: mh@tep.uk.com

GATESHEAD

Office 26, Gateshead
International Business
Centre,
Mulgrave Terrace,
Gateshead
NE8 1AN

Tel: 0191 605 3340

E-mail: gateshead@tep.uk.com

LONDON

8 Trinity Street,
London
SE1 1DB

Tel: 020 3096 6050

E-mail: london@tep.uk.com

CORNWALL

4 Park Noweth,
Churchtown,
Cury,
Helston
Cornwall
TR12 7BW

Tel: 01326 240081

E-mail: cornwall@tep.uk.com
