



APPENDIX 6-2

BAT REPORT

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1.

INTRODUCTION

MKO was commissioned to complete bat surveys at the Application Site which is comprised of 5,448 hectares across 14 no. bogs located within counties Offaly and Kildare. The Application Site, forms part of the Allen Bog Group and is located north-east of Edenderry and surrounding townlands, counties Kildare and Offaly. The Application Site is located approximately 2.2km southeast of Edenderry, 3.3km west of Allenwood, 2.4km north of Rathangan and 1.7km east of Clonbullogue Village in Co. Offaly and Kildare.

This report provides details of the bat surveys undertaken in 2024 including survey design, methods and results. The 2024 surveys, carried out in accordance with NatureScot, 2021¹, are supplemented by data collected during surveys undertaken at the Application Site in 2020 and 2022 which were designed in accordance with SNH, 2019, NatureScot, 2021 and Collins, 2016. For the purpose of this rEIAR, the 2020 and 2022 data are presented as supplementary information to provide additional context on baseline conditions and to complement the 2024 survey results.

The purpose of this assessment is to characterise the current bat community within the Application Site and to assess potential impacts on bat species and their habitats in the context of the remedial Environmental Impact Assessment Report (rEIAR).

Bat surveys employed a combination of methods, including desktop study, habitat and landscape assessments, roost inspections, manual activity surveys and static detector surveys at ground level. Detector locations achieved a representative spatial spread and sampled the range of available habitats within the Application Site.

1.1

Irish Bats: Legislation, Policy, and Status

Ireland has nine resident bat species, comprising more than half of Ireland's native terrestrial mammals (Montgomery *et al.*, 2014). All Irish bats are protected under European legislation, namely the Habitats Directive (92/43/EEC). All Irish species are listed under Annex IV of the Directive, requiring strict protection for individuals, their breeding sites and resting places. The Lesser horseshoe bat (*Rhinolophus hipposideros*) is further listed under Annex II of the Directive, requiring the designation of conservation areas for the species. Under this Directive, Ireland is obliged to maintain the favourable conservation status of Annex-listed species. This Directive has been transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011, as amended).

In addition, Irish species are further protected by national legislation (Wildlife Acts 1976, as amended). Under this legislation, it is an offence to intentionally disturb, injure or kill a bat, or disturb its roost. Any work at a roost site must be carried out with the agreement of the National Parks and Wildlife Service (NPWS).

The NPWS monitors the conservation status of European protected habitats and species and reports their findings to the European Commission every 6 years in the form of an Article 17 Report. The most recent report for the Republic of Ireland was submitted in 2025. Table 1-1 summarises the current conservation status of Irish bat species and identified threats to Irish bat populations.

Table 1-1 Irish Bat Species Conservation Status and Threats (NPWS, 2025). The influence of Pressures and Threats for bats are ranked from Low to Medium for each species in the 2025 Article 17 report.

Bat Species	Conservation Status	Principal Threats
Common pipistrelle	Favourable	PX04 No pressures or threats

¹ NatureScot published *Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation*. Version: August 2021 (NatureScot, 2021).

Bat Species	Conservation Status	Principal Threats
<i>Pipistrellus pipistrellus</i>		
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	Favourable	PX04 No pressures or threats
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	Unknown	PD01 Wind, wave and tidal power (including infrastructure) (only in the future)
Leisler's bat <i>Nyctalus leisleri</i>	Favourable	PD01 Wind, wave and tidal power (Low) PF02 Construction or modification (e.g. of housing and settlements) in existing built-up areas (L)
Daubenton's bat <i>Myotis daubentoni</i>	Favourable	PA22 Drainage for use as agricultural land (Medium) PF12 Residential, commercial and industrial activities and structures generating noise, light, heat or other forms of pollution (M)
Natterer's bat <i>Myotis nattereri</i>	Favourable	PA04 Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (L) PB09 Clear-cutting, removal of all trees (L) PE01 Roads, paths, railroads and related infrastructure (L) PF01 Conversion from other land uses to built-up areas (L) PF02 Construction or modification (e.g. of housing and settlements) in existing built-up areas (L)
Whiskered bat <i>Myotis mystacinus</i>	Favourable	PA04 Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (L) PB09 Clear-cutting, removal of all trees (L) PE01 Roads, paths, railroads and related infrastructure (L) PF01 Conversion from other land uses to built-up areas (L) PF02 Construction or modification (e.g. of housing and settlements) in existing built-up areas (L)
Brown long-eared bat <i>Plecotus auritus</i>	Favourable	PX04 No pressures or threats
Lesser horseshoe bat <i>Rhinolophus hipposideros</i>	Inadequate	PA04 Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (M) PB09 Clear-cutting, removal of all trees (M) PE01 Roads, paths, railroads and related infrastructure (M) PF01 Conversion from other land uses to built-up areas (M) PF02 Construction or modification (e.g. of housing and settlements) in existing built-up areas (M) PA15 Use of other pest control methods in agriculture (excluding tillage) (M) PF13 Drainage, land reclamation and conversion of wetlands, marshes, bogs, etc. for built-up areas (L) PH04 Vandalism or arson (incl. human-introduced wildfire) (L) PJ01 Temperature changes and extremes due to climate change (L) PM07 Natural processes without direct or indirect influence from human activities or climate change (L)

1.2

Statement of Authority

MKO employs a dedicated bat unit within its Ecology team, who carry out scoping, surveys and reporting on bat surveys, as well as producing impact assessments in relation to bats. MKO ecologists have relevant academic qualifications, licences and are qualified in undertaking surveys to the levels required.

Survey scoping was prepared by Aoife Joyce. The daytime walkover survey and inspections were carried out by Ryan Connors, Fred Mosley, Kate Greaney and Charlie Meehan. Manual activity surveys were carried out by Ryan Connors, Fred Mosley, Kate Greaney, Charlie Meehan and Laura McEntegart. Data manual ID were carried out by Ryan Connors and Fred Mosley. This report was prepared by Saoirse Fitzsimons and Tim Murphy and was reviewed and approved by Aoife Joyce. Staff's roles, relevant ecological experience and training is presented in Table 1-2 below.

Table 1-2 Project team qualifications and training

Staff	Role	Training
Aoife Joyce (B.Sc., M.Sc., MCIEEM)	Project Director	B.Sc. (Hons) Environmental Science, University of Galway, Ireland. M.Sc. (Hons) Agribioscience, University of Galway, Ireland. Ecological Impact Assessments, Appropriate Assessment Screening Reports, Natura Impact Statements, Advanced Bat Survey Techniques (BCI), Bat Impacts and Mitigation (CIEEM), Bat Tree Roost Identification and Endoscope Training (BCI), Bats in Heritage Structures (BCI), Bats and Lighting (BCI), Kaleidoscope Pro Analysis (Wildlife Acoustics). Full member of Chartered Institute of Ecology and Environmental Management.
Ryan Connors (B.Sc., M.Sc.)	Bat Ecologist	B.Sc. (Hons) Zoology, University of Galway, Ireland. M.Sc. (Hons) Conservation Behaviour, Atlantic Technological University, Galway, Ireland. Surveying Trees for Bats (BRTS), Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal), Kaleidoscope Pro Analysis (Internal), Winter Tree Identification (Internal), Wintering Bird Surveying (Internal).
Frederick Mosley (B.A., M.Sc.)	Seasonal Bat Ecologist	B.A. (Hons) Biological and Biomedical Science Mod. Zoology, Trinity College, Dublin (2022) M.Sc. Marine Biology, University College Cork (2023) Kaleidoscope Pro Analysis (Wildlife Acoustics), Endoscope Training (Internal), Structure and Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal)
Charlie Meehan (B.A., M.Sc.)	Seasonal Bat Ecologist	B.A. History and Classical Studies, National University of Ireland, Galway M.Sc., Sustainable Environments, National University of Ireland, Galway Kaleidoscope Pro Analysis (Wildlife Acoustics), Endoscope Training (Internal), Structure and Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal)

Staff	Role	Training
Kate Greaney (B.Sc., M.Sc.)	Ecologist	B.Sc. (Hons) Botany and Plant Science National university of Ireland, Galway, M.Sc. (Hons) Climate Change, Agriculture, and Food Security (MScCCAFS) National university of Ireland, Galway, Kaleidoscope Pro Analysis (Wildlife Acoustics). Endoscope Training (Internal), Emergence and Re-Entry Surveys (Internal) Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal)
Laura McEntegart (B.Sc.)	Ecologist	B.Sc. (Hons) Botany and Plant Science, National university of Ireland, Galway Bat Handling Training Course (BCI), Bats: Assessing the Impact of Development on Bats, Mitigation & Enhancement - (CIEEM), Kaleidoscope Pro Analysis (Wildlife Acoustics). Endoscope Training (Internal), Emergence and Re-Entry Surveys (Internal) Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal).
Saoirse Fitzsimons (B.A, MSc)	Bat Ecologist	MSc. Coastal and Marine Environments; Physical Processes, Policy & Practice, National University of Ireland Galway BA (Hons) Geography, Sociology and Politics, National University of Ireland, Galway Drone Surveying - A1/A3 and A2 drone licence Bat Detector and Survey Training (BCI), Kaleidoscope Pro Analysis (Wildlife Acoustics), Endoscope Training (Internal), Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal).
Tim Murphy (B.Sc)	Project Bat Ecologist	B.Sc. (Hons) Environmental Biology, University College Dublin. Kaleidoscope Pro Analysis (Wildlife Acoustics), Endoscope Training (Internal), Structure and Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal), Kaleidoscope Pro Analysis for Birds and Land Animals (Wildlife Acoustics), Bat: Assessing the Impact of Development on Bats Mitigation & Enhancement (CIEEM Webinar)

2.

SITE DESCRIPTION

The Application Site, forms part of the Allen Bog Group and is located north-east of Edenderry and surrounding townlands, Counties Kildare and Offaly. The Application Site is located approximately 2.2km southeast of Edenderry, 3.3km west of Allenwood, 2.4km north of Rathangan and 1.7km east of Clonbullogue Village in Co. Offaly and Kildare.

The Application site comprises 14. No. bogs located on the Offaly-Kildare County border. The bogs include: Ticknevin, Glashabaun North, Glashabaun South, Codd 1, Codd 2, Ballydermot North, Ballydermot South, Blackriver, Lullymore, Lullybeg, Barnaran, Killina, Derrybrennan and Lodge. The Bog Group comprises a site area of 5,448 hectares (ha).

The Application Site is located in a low-lying landscape rural in character. The Application Site measures approximately 10 km in length from north to south, and approximately 10.7 km from east to west, at its widest point. The Grid Reference co-ordinates for the approximate centre of the Application Site (Irish Grid Ref: E 266159, N 225145). The Site location is detailed in Figure 2-1.

The land-use within the Application Site comprises bare cutaway peat, re-vegetation of bare peat, degraded blanket bog, scrub, low woodland, remnants of high bog and conifer plantation. The Application Site is surrounded by a mixture of forestry, agricultural land, cutover and cutaway peatland, one off rural housing and small village settlements.



Map Legend

Application Site Boundary



Drawing Title

Application Site Boundary

Project Title

Peat Extraction at Ballydermot, Co. Kildare and Co. Offaly

Drawn By	Checked By
TM	AJ
Project No.	Drawing No.
250709	Figure 2-1
Scale	Date
1:85,000	2026-08-13

MKO
Planning and
Environmental
Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email: info@mkofireland.ie
Website: ww.mkofireland.ie

3. METHODS

3.1 Desk Study

A desk study of published material was undertaken prior to conducting field surveys. The aim was to provide context to the Application Site in order to assist bat survey planning and assessment. This included the identification of designated sites, species of interest or any other potential risk factors within the Application Site and the surrounding region. The results of the desk study including sources of information utilised are provided below.

3.1.1 Previous Baseline Survey (2020 & 2022)

The Application Site was previously surveyed by MKO in 2020 and 2022 to establish baseline bat activity. These baseline surveys comprised a combination of static detector monitoring, manual walked transects, and roost inspections, undertaken in accordance with best-practice guidance available at that time, including NatureScot, 2021 and Collins, 2016. For the purpose of this rEIA, the data are presented as supplementary information to provide additional context on baseline conditions and to complement the 2024 survey. Results from the baseline surveys are summarised in Section 4.1 below.

For the purpose of this rEIA, the 2020 and 2022 data are presented as supplementary information to provide additional context on baseline conditions and to complement the 2024 survey results.

3.1.2 Bat Database Records

The National Bat Database of Ireland holds records of bat observations received and maintained by BCI. These records include results of national monitoring schemes, roost records as well as ad-hoc observations. The most recent search examined bat presence and roost records within a 10km radius of a central point within the Application Site (Irish Grid Ref: N 66655 25564) (BCI 2012, Hundt 2012, NatureScot, 2021). Available bat records were provided by Bat Conservation Ireland on 19/01/2026. Results from the National Biodiversity Data Centre were also reviewed for bat species present within the relevant 10km grid squares of the Application Site.

3.1.3 Bat Species' Range

EU member states are obliged to monitor the conservation status of natural habitats and species listed in the Annexes of the Habitats Directive. Under Article 17, they are required to report to the European Commission every six years. In August 2025, Ireland submitted the third assessment of conservation status for Annex-listed habitats and species, including all species of bats (NPWS, 2025).

The 2025 Article 17 Reports were reviewed for information on bat species' range and distribution in relation to the Application Site. The aim was to identify any high-risk species at the edge of their range.

3.1.4 Designated Sites

The National Parks and Wildlife Service (NPWS) map viewer and website provide information on rare and protected species, sites designated for nature conservation and their conservation objectives. A search was undertaken of sites designated for the conservation of bats within a 10 km radius of the Application Site (BCI 2012, Hundt, 2012, NatureScot 2021). This included European designated sites, i.e. SACs, and nationally designated sites, i.e. NHAs and pNHAs.

3.1.5 Landscape Features

3.1.5.1 Ordnance Survey Mapping

Ordnance survey maps (OSI 1:5,000 and 1:50,000) and aerial photographs were reviewed to identify any habitats and features likely to be used by bats. Maps and images of the study area and general landscape were examined for suitable foraging or commuting habitats including woodlands and forestry, hedgerows, treelines, and watercourses. In addition, any potential roost sites, such as buildings and bridges, were noted for further investigation.

3.1.5.2 Underground Sites

The University of Bristol Speleological Society (UBSS) Cave Database for the Republic of Ireland and the Geological Survey Ireland (GSI) Karst Database were consulted to identify any natural subterranean sites, such as caves, with potential to support roosting bats within 10 km of the Application Site (BCI, 2012). The database was last searched on 13th February 2026. In addition, the National Inventory of Architectural Heritage (NIAH) and the National Monuments Service (NMS) datasets were reviewed for records of manmade underground structures (e.g. souterrains) within 10km of the Application Site that may provide suitable potential bat roosting opportunities. These datasets were also last searched on 13th February 2026.

3.1.5.3 National Biodiversity Data Centre Bat Landscape Mapping

The National Biodiversity Data Centre (NBDC) map viewer provides “Bat Landscape” maps for individual species and for all species combined. These maps are based on modelling undertaken by Lundy *et al.* (2011), which used Maximum Entropy Models to assess the relative importance of landscape and habitat associations for bats in Ireland.

The resulting outputs present a five-point habitat suitability index ranging from *High* suitability (shown in red) to *Low* suitability (shown in green). It is noted that areas classified as *Lower* suitability may still support localised bat activity.

The Application Site was reviewed in the context of these habitat suitability indices to provide an indication of potential suitability for bat species. These outputs are based on predictive modelling rather than confirmed records; however, they provide useful contextual information on potential bat-habitat associations within the Application Site and the surrounding landscape.

3.2 Field Surveys

3.2.1 Roost Surveys

Daytime Roost Inspections

A search for roosts was undertaken throughout the Application Site in April, May, June, July, August and September 2024. The aim of these searches was to determine the presence of Potential Roost Features (PRFs) and the potential presence of roosting bats. A search for structures and likely suitable roosting features was first conducted during initial desktop studies of the Application Site. Walkover surveys were carried out and included a search for Potential Roosting Features (PRFs) in trees, buildings, and other structures where present.

Structures and other potential roost features were assessed for suitability to support roosting bats using the grading protocol outlined by Collins (2023). Structures with *High* roosting potential present one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more

regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat; structures with *Moderate* roosting potential could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but are unlikely to support a roost of high conservation status; structures with *Low* roosting potential present one or more potential roost sites that could be used by an individual bat opportunistically; structure with *Negligible* roosting potential present no obvious habitat features likely to be used by roosting bats; structures with *None* roosting potential present no habitat features on the Application Site likely to be used by any roosting bats at any time of the year.

Any potential tree roosts identified within the Application Site were examined for the presence of rot holes, hazard beams, cracks and splits, partially detached bark, knot holes, gaps between overlapping branches and any other potential roost features (i.e. PRFs) identified by the Bat Tree Habitat Key (BTHK, 2018). Where accessible, an endoscope was used to inspect PRFs in more detail to assess their suitability for roosting bats.

3.2.2 Night-time Bat Walkover

Manual activity surveys in 2024 comprised walked transects after dusk (night-time bat walkover). A series of representative transect routes were selected throughout the Application Site. The aim of these surveys was to identify bat species using the Application Site and gather any information on bat behaviour and important features used by bats. Transect routes were prepared with reference to the site characteristics identified through the desktop and walkover survey results as well as any health and safety considerations and access limitations. As such, transect routes generally followed existing roads and tracks. Transect routes undertaken in 2024 are presented in Figure 3-1.

Transects were walked in two groups of two surveyors each, recording bats in real time. Transects were completed for up to 3 hours after sunset. Surveyors were equipped with active full spectrum bat detectors, the Batlogger M bat detector (Elekon AG, Lucerne, Switzerland), and all bat activity was recorded for subsequent analysis to confirm species identifications. Transects surveys were undertaken in spring, summer and autumn 2024. Table 3-1 summarises survey effort in relation to manual transects.

Table 3-1 Survey Effort - Manual Transects

Date	Surveyors	Sunrise/ Sunset	Survey Type	Time	Weather	Transect (km)
16 th April 2024	Kate Greaney & Fred Mosley	20:31	Walked Transect	20:31 – 23:31	7-8 °C, dry, calm, 50 % visible, 0% cloud cover	12.1 km
16 th April 2024	Ryan Connors & Charlie Meehan	20:31	Walked Transect	20:31 – 23:31	7-8 °C, dry, calm, 50 % visible, 0% cloud cover	8.8 km
18 th June 2024	Kate Greaney & Ryan Connors	21:59	Walked Transect	21:59 – 00:59	15-11 °C, Dry, Calm, Moon not visible, 80-90% Cloud	14.4 km
18 th June 2024	Fred Mosley & Charlie Meehan	21:59	Walked Transect	21:59 – 00:59	13-11 °C, Dry, Calm, 90% visible, 70-40% cloud	12.1 km
12 th Septemb er 2024	Kate Greaney & Ryan Connors	19:50	Walked Transect	19:50 – 22:50	13-7 °C, Calm-Light Breeze, 60% Moon, 10-5% Cloud	11.3 km
12 th Septemb er 2024	Fred Mosley & Laura McEntegart	19:50	Walked Transect	19:50 – 22:50	13-7 °C, Calm-Light Breeze, 60% Moon, 10-5% Cloud	13.9 km

3.2.3 Ground-level Static Surveys

Full spectrum bat detectors, Song Meter SM4BAT (Wildlife Acoustics, Maynard, MA, USA), were employed using settings recommended for bats, with minor adjustments in gain settings and band pass filters to reduce background noise when recording. Detectors were set to record from 30 minutes before sunset until 30 minutes after sunrise. The Song Meter automatically adjusts sunset and sunrise times using the Solar Calculation Method when provided with GPS coordinates.

Onsite weather monitoring was undertaken concurrently with static detector deployments. One Vantage Pro 2 (Davis Instruments, CA, UCS) was deployed each season and night-time hourly data was tracked remotely to ensure a sufficient number of nights (i.e., minimum 10 no.) with appropriate weather conditions were captured (i.e., dusk temperatures above 8°C, wind speeds less than 5m/s and no or only very light rainfall). Table 3-2 summarises survey effort achieved in 2024 for each detector locations.

Table 3-2 Survey Effort - Ground-level Static Surveys 2024

Season	Survey Period	Total Survey Nights per Detector Location	Nights with Appropriate Weather
Spring 2024	16 th April – 30 st April 2024	15	14
Summer 2024*	18 th June – 14 th July 2024	27	26
Autumn 2024	12 th September – 22 nd October 2024	11	11
Total Survey Effort		53	51

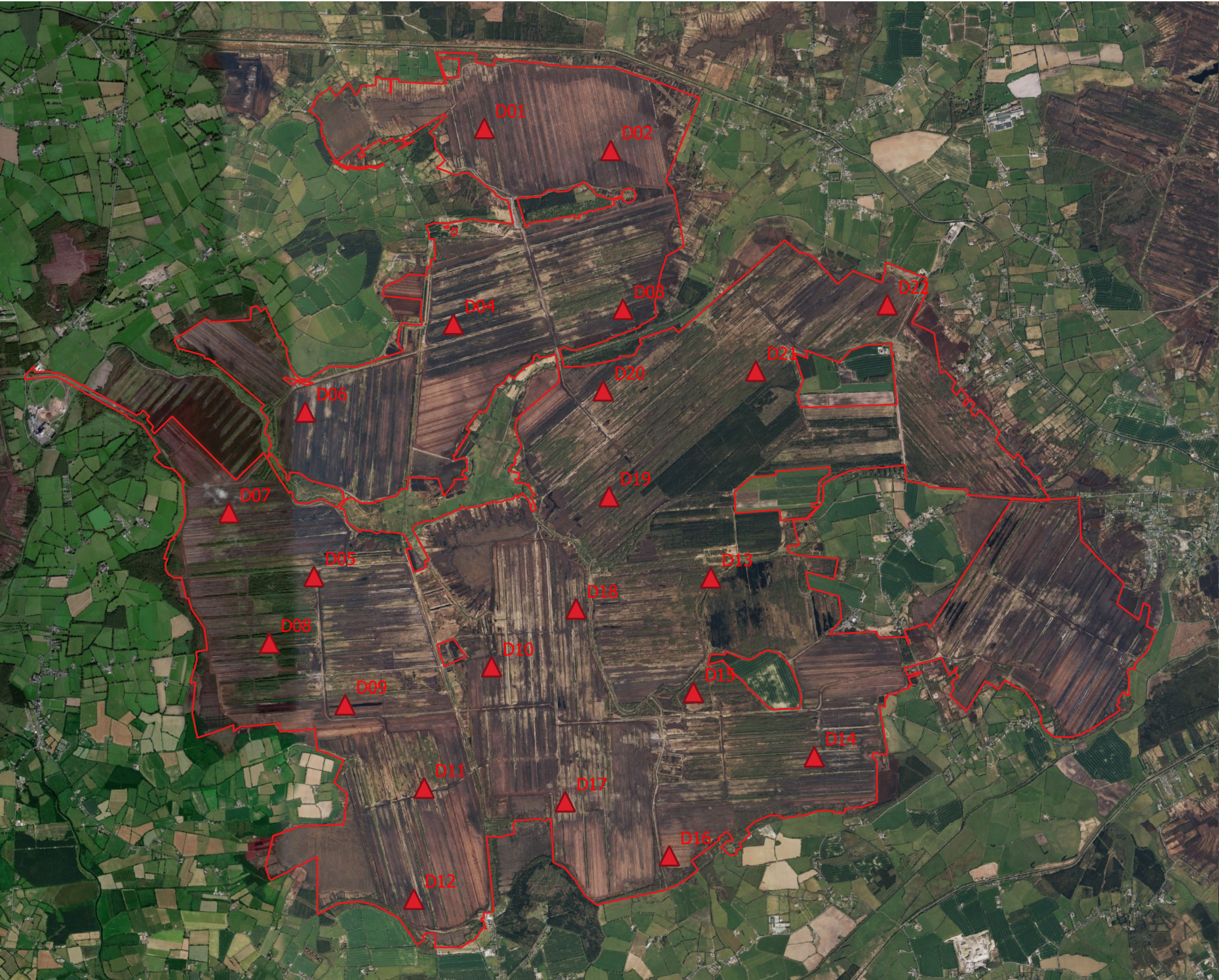
*In the Summer of 2024, D06 was redeployed from the 16th of July until the 7th of August (21 nights, all of which had appropriate weather)

Automated bat detectors were deployed at 22 no. locations for at least 10 nights in 2024 in spring (April-May), and at least 20 nights in summer (June-mid August) and autumn (mid-August-October) (NatureScot, 2021). Detector locations achieved a representative spatial spread of the study area and sampled the range of available habitats. Overall, 53 nights of surveying was carried out, 51 of which were in 'suitable' weather conditions (Table 3-2). Figure 3-1 presents static detector locations in relation to the Application Site. Static detector locations are described in Table 3-3.

Table 3-3 Ground-level Static Detector Locations

ID	Location (IG Ref)	Habitat	Linear Feature within 50m
D01	N 66018 30399	Cutover bog (PB4), Scrub (WS1)	Scrubby hedgerow and drainage ditch
D02	N 67354 30115	Cutover bog (PB4)	Drainage ditch
D03	N 67507 28373	Cutover bog (PB4), Scrub (WS1)	Row of Scrub
D04	N 65605 28222	Cutover bog (PB4)	None
D05	N 64078 25467	Cutover bog (PB4)	Scrub to the SW, immature treeline to north, drainage ditch
D06	N 63887 27343	Cutover bog (PB4), Scrub (WS1)	Scrub/small hedgerow to East, drainage ditches
D07	N 63059 26166	Cutover bog (PB4), Scrub (WS1)	Row of Scrub
D08	N 63570 24646	Cutover bog (PB4)	Edge of woodland
D09	N 64360 24053	Scrub (WS1)	Immature treeline, small hedgerow and drainage
D10	N 66066 24404	Cutover bog (PB4)	Drainage ditches
D11	N 65309 23028	Cutover bog (PB4), Scrub (WS1)	Edge of woodland
D12	N 65172 21805	Cutover bog (PB4)	Treeline and scrub, drainage ditch

ID	Location (IG Ref)	Habitat	Linear Feature within 50m
D13	N 68509 25390	Conifer plantation (WD4), Bog woodland (WN7)	Drainage, cutover bog
D14	N 69624 23386	Cutover bog (PB4)	Drainage, scrub, small hedgerow
D15	N 68292 24111	Cutover bog (PB4)	Drainage, scrub
D16	N 68010 22324	Cutover bog (PB4)	Cutover bog, treeline, artificial road surface
D17	N 66819 22894	Cutover bog (PB4)	Treeline and scrub, drainage ditch
D18	N 66983 25035	Cutover bog (PB4)	Drainage ditch, scrubby hedgerow to West
D19	N 67341 26284	Eroding blanket bog (PB5)	Scrub to East and SE, drainage ditches
D20	N 67260 27509	Treelines (WL2), Bog woodland (WN7)	Cutover bog, drainage, scrub
D21	N 68967 27677	Cutover bog (PB4)	Immature woodland/scrub, drainage
D22	N 70423 28418	Cutover bog (PB4)	Scrub and drainage ditches



Map Legend

- Application Site Boundary
- Static Detector Locations 2024



Drawing Title

Static Detector Locations

Project Title

Peat Extraction at Ballydermot, Co. Kildare and Co. Offaly

Drawn By

TM

Checked By

AJ

Project No.

250709

Drawing No.

Figure 3-1

Scale

1:55,000

Date

2026-08-13

MKO
Planning and
Environmental
Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email: info@mkofireland.ie
Website: ww.mkofireland.ie

3.3

Bat Call Analysis

All recordings from 2024 were later analysed using bat call analysis software Kaleidoscope Pro v.5.4.8 (Wildlife Acoustics, MA, USA), respectively. The aim of this was to identify, to a species or genus level, what bats were present at the Application Site. Bat species were identified using established call parameters, to create site-specific custom classifiers and were manually verified.

Echolocation signal characteristics (including signal shape, peak frequency of maximum energy, signal slope, pulse duration, start frequency, end frequency, pulse bandwidth, inter-pulse interval and power spectra) were compared to published signal characteristics for local bat species (Russ, 1999). Myotis species (potentially Daubenton's bat (*M. daubentonii*), Whiskered bat (*M. mystacinus*), Natterer's bat (*M. nattereri*) were considered as a single group, due to the difficulty in distinguishing them based on echolocation parameters alone (Russ, 1999). The echolocation of soprano pipistrelle (*P. pygmaeus*) and common pipistrelle (*P. pipistrellus*) are distinguished by having distinct frequencies (peak frequency of maximum energy in search flight) of ~55 kHz and ~46 kHz respectively (Jones & van Parijs, 1993).

Plate 3-1 below shows a typical sonogram of echolocation pulses for Common pipistrelle recorded with a SM4BAT bioacoustics static bat recording device. The recorded file is illustrated using Wildlife Acoustics Kaleidoscope software.

Individual bats of the same species cannot be distinguished by their echolocation alone. Thus, 'bat passes' was used as a measure of activity (Collins, 2023). A bat pass was defined as a recording of an individual species/species group's echolocation containing at least two echolocation pulses and of maximum 15s duration. All bat passes recorded in the course of this study follow these criteria, allowing comparison.

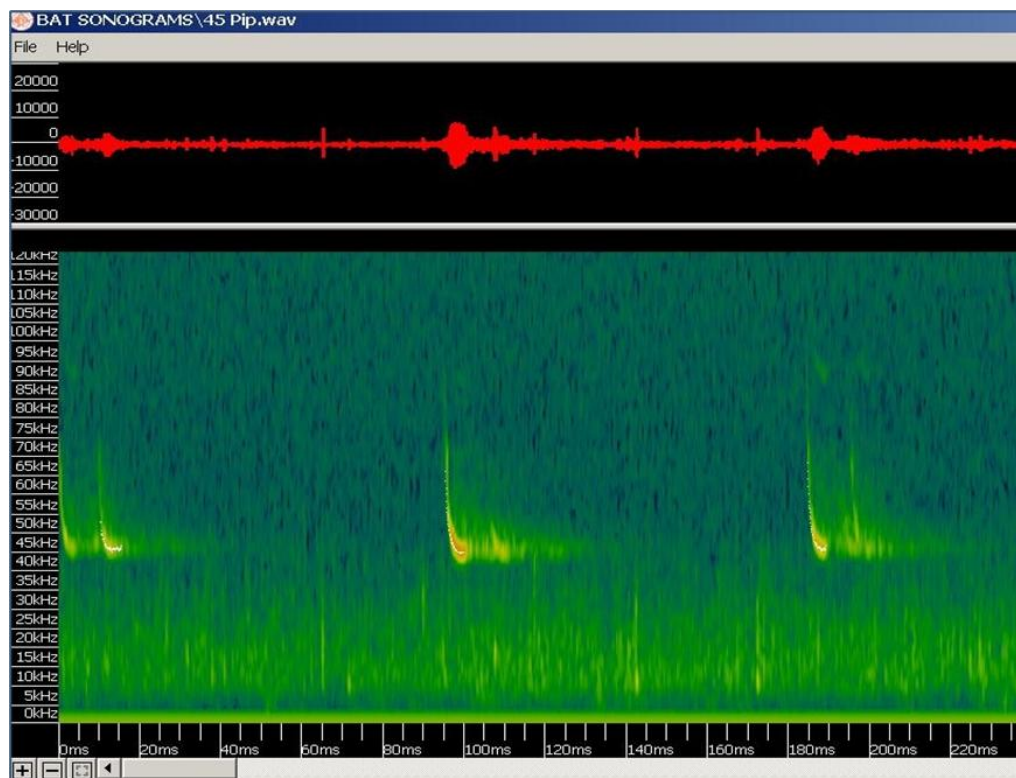


Plate 3-1 Sonogram of Echolocation Pulses of Common pipistrelle (Peak Frequency 45kHz)

4. RESULTS

4.1 Desk Study

4.1.1 Previous Baseline Surveys (2020 & 2022)

Preliminary Daytime Roost Assessment

Daytime inspections were undertaken across the Application Site in 2020 and 2022 to assess the potential for bat roosting habitat within trees, scrub, woodland and on-site structures. The majority of the Application Site comprised of open peatland habitats characterised as cutover raised bog or cutaway peat classified as Cutover bog (PB4) with recolonising vegetation, scrub, bog woodland and conifer plantation habitats. In general, these habitats lacked the structural maturity and features typically associated with bat roosting suitability, such as cavities, splits, lifted bark or dense ivy cover.

Scrub and woodland habitats within the Application Site were typically of young to moderate maturity and were dominated by regenerating birch and willow communities or commercial conifer plantation, which generally provided limited opportunities for roosting bats. Although some more established woodland and treeline habitats occurred locally along bog margins and drainage features, no Potential Roost Features (PRFs) or confirmed bat roosts were identified during surveys undertaken in 2020 and 2022.

Inspections of on-site structures similarly did not identify any evidence of current or historical bat usage.

Static Detector Surveys

No bat roosts were identified within the Application Site during the 2020 and 2022 surveys. Static detector results therefore reflect commuting and foraging activity across the wider landscape.

Overall bat activity recorded by was dominated by Common pipistrelle and Soprano pipistrelle, with clear seasonal variation in species dominance. In relation to within-species seasonal patterns, Common pipistrelle was most frequently recorded in spring and summer, while Soprano pipistrelle dominated in autumn. Leisler's bat was more common in spring, with *Myotis* spp. recorded at low levels throughout. *Nathusius'* pipistrelle and Brown long-eared bat were infrequent.

Activity was consistently higher at locations adjacent to linear and semi-natural habitat features such as hedgerows, scrub and woodland edges, indicating their importance as commuting and foraging corridors. Overall activity was lowest in autumn, with several detectors recording minimal or no bat activity.

Manual Transect Surveys

Manual transect surveys undertaken in spring, summer and autumn 2020 and 2022 confirmed a similar species assemblage to that recorded by static detectors.

Bat activity was dominated by Soprano pipistrelle, followed by Common pipistrelle. Leisler's bat and *Myotis* spp. were recorded at low frequency, primarily during summer surveys. Seasonal variation was evident, with Soprano pipistrelle more prevalent in spring and autumn, and Common pipistrelle more frequent in summer.

Bat activity during transects was concentrated along linear landscape features including woodland edge, drains, scrub, and track/road corridors, reflecting their role as commuting routes and foraging habitat within the wider landscape.

Overall Summary

The 2020 and 2022 baseline surveys indicate that bat activity was spread across the Application Site. Table 4-1 presents the species assemblage across 2020 and 2022 surveys. No evidence of roosting was recorded within the study area, and bat activity was largely associated with commuting and foraging along linear habitat features.

Table 4-1 Bat species assemblage in 2020 and 2022 survey periods

	2020 Survey	2022 Survey
Species Assemblage	• Myotis spp. • Leisler's bat • Nathusius' pipistrelle • Common pipistrelle • Soprano pipistrelle • Brown long-eared bat	• Myotis spp. • Leisler's bat • Nathusius' pipistrelle • Common pipistrelle • Soprano pipistrelle • Brown long-eared bat

4.1.2 Bat Records

National Biodiversity Data Centre

The National Bat Database of Ireland was searched for records of bat activity and roosts within a 10km radius of the Application Site centre (last search 19th January 2026). Hectads N52, N61, N62, N63 and N72 lie within 10km of the Application Site. Seven of Ireland's nine resident bat species were recorded within 10km of the Application Site. The results of the database search are provided in Table 4-2.

Table 4-2 NBDC Bat Records within 10km of the Application Site

Hectad	Species	Database	Designation
N52, N61, N62, N63, N72	Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	National Bat Database of Ireland	HD Annex IV, WA
N52, N61, N62, N63, N72	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	National Bat Database of Ireland	HD Annex IV, WA
N61, N62, N63, N72	Daubenton's bat (<i>Myotis daubentonii</i>)	National Bat Database of Ireland	HD Annex IV, WA
N52, N61, N62, N63, N72	Leisler's bat (<i>Nyctalus leisleri</i>)	National Bat Database of Ireland	HD Annex IV, WA
N61, N62, N63, N72	Brown Long-eared Bat (<i>Plecotus auritus</i>)	National Bat Database of Ireland	HD Annex IV, WA
N61, N72	Natterer's Bat (<i>Myotis nattereri</i>)	National Bat Database of Ireland	HD Annex IV, WA
N61, N62, N63	Whiskered Bat (<i>Myotis mystacinus</i>)	National Bat Database of Ireland	HD Annex IV, WA

4.1.3 Bat Species Range

The potential for negative impacts is likely to increase where there are high risk species at the edge of their range. Therefore, range maps presented in the 2025 Article 17 Reports (NPWS, 2025) were reviewed in relation to the location of the Application Site.

The Application Site is located outside the current known range for Lesser horseshoe bat and is within the range of all other species.

4.1.4 Designated Sites

Within Ireland, the Lesser horseshoe bat is the only bat species requiring the designation of Special Areas of Conservation (SACs). The Application Site is located outside the current known range of this species (NPWS, 2025) and is approximately 196 km away from the nearest designated SAC for the lesser horseshoe bat (Lough Corrib SAC).

Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) may be designated for any bat species. A search of NHAs and pNHAs within a 10km radius of the Application Site centre found 3no. pNHAs and 1no. NHA, however none of these sites are designated for the conservation of bats.

4.1.5 Landscape Features and Habitat Suitability

A review of mapping and photographs provided insight into the habitats and landscape features present at the Application Site. In summary, the primary land use within the Application Site comprises bare cutaway peat, re-vegetation of bare peat, degraded blanket bog, scrub, bog woodland, remnants of high bog and areas of conifer plantation.

A review of the GSI online karst landscape mapper did not indicate the possible presence of any subterranean sites within the Application Site and a search of the National Monuments Database did not reveal the presence of any manmade subterranean sites within the Application Site.

A search of the UBSS Cave Database for the Republic of Ireland found no caves within the Application Site and none within 10km of the Application Site centre.

A review of the NBDC bat landscape map provided a habitat suitability index of 21 (Green) to 31.89 (Orange). This indicates that the Application Site has Low to Moderate habitat suitability for bat species.

4.2 Field Surveys

4.2.1 Roost Surveys

4.2.1.1 Daytime Roost Inspections

Detailed roost inspections were conducted within the Application Site during 2024 to assess potential bat roosting features.

A total of 68 structures were recorded during the desktop study, historically associated with peat extraction and ancillary activities. These include former workshops, offices, welfare facilities, and railway infrastructure such as bridges and culverts. Of these, 38 structures remain present within the Application Site. These structures are outlined in further detail in Table 4-3 below. Representative sample photos of the structures outlined in Table 4-3 below are displayed in Plate 4-1 – Plate 4-4. No evidence of bat roosts was identified at any of the structures during the inspections.

Table 4-3 Structures and Bridges/Culverts within the Application Site

Location	Description/Materials used for Structure	Number of Structures	Roosting Potential
53.259102, -6.983305	20-foot Container	4	None
53.259102, -6.983305	20-foot Container	1	None
Ballydermot North	40-foot Container	1	None
53.265396, -7.040117	40-foot Container	1	None

Location	Description/Materials used for Structure	Number of Structures	Roosting Potential
53.265401, -7.040350	20-foot container	1	None
53.265366, -7.040413	3 m x 3 m container	1	None
53.264905, -7.042585	20-foot container	1	None
53.309725, -7.006241	20-foot container	2	None
53.310341, -7.005984	40-foot Container	1	None
53.300216, -7.021264	3 m x 3 m container	1	None
53.307238, -7.004834	20-foot container	1	None
53.270850, -7.010265	3 m x 3 m container	1	None
53.289123, -6.989822	20-foot container	1	None
53.290313, -6.992693	20-foot container	1	None
53.297211, -6.960214	20-foot container	1	None
53.310479, -7.006048	2 m long x 1.5 m wide Hand-washing station	1	None
53.310587, -7.006090	1.5 x 1.5 toilet cubicle	1	None
53.310578, -7.006138	A concrete blocked rectangular tank approx. 4m long X 1.5m wide X 2.5m deep.	1	None
53.295934, -6.942998	Welfare Facility	1	None
53.296828, -6.943161	Shed with rail tracks	1	None
53.295265, -6.942943	Bunded 46,000 Liter Fuel Tank Tank: Length 7.5m, Diameter 2.8m Bunded Wall: Length 8.5m, Width 6m	1	None
53.282153, -7.035793	Shed	1	None
53.296210, -6.999618	Steel beam with steal deck	1	None
53.296210, -6.999618	Steel beam with timber deck	1	None
53.304179, -6.937102	Concrete beam	1	None
53.304177, -6.937103	Concrete beam	1	None
53.295434, -7.087841	Concrete beam	1	None
53.294351, -7.078558	Steel beam	1	None
53.294467, -7.078430	Concrete beam	1	None
53.285831, -7.044933	Steel beam	1	None
53.287157, -7.047645	Concrete pipe	1	None
53.287533, -7.047023	Steel beam	1	None
53.294355, -7.042838	Concrete pipe	1	None
53.261623, -7.016527	Concrete beam	1	None



Plate 4-1 – Representative photo of structures within the Application Site – Hand-washing station



Plate 4-2 – Representative photos of containers present within the Application Site



Plate 4-3 - Representative photos of structures present within the Application Site



Plate 4-4 - Representative photos of containers present within the Application Site

4.2.1.2 Ground-Level Tree Assessments

The majority of the Application Site, with the exception of small remnant sections of raised bog, comprises cutover raised bog or cutaway peat classified as Cutover bog (PB4). Where commercial peat extraction has ceased, these areas have since undergone natural regeneration and now support scrub and developing woodland habitats.

Bog woodland (WN7) is common throughout the Application Site and is present in large areas particularly within Glashabaun North, Glashabaun South, Ballydermot North and Barnaran Bogs. These woodlands are commonly found growing in blocks separated by large drainage ditches (FW4) and rides usually dominated by grasses or bracken. This habitat also commonly occurs as narrow linear strips in association with drainage ditches. These linear habitats are >4m in width.

Bog woodland within the Application Site is dominated by downy birch (*Betula pubescens*) (Plate 4-6) with silver birch (*Betula pendula*) and grey willow (*Salix cinerea*) also abundant in some areas. Other occasional tree species include eared willow (*Salix aurita*), hawthorn (*Crataegus monogyna*), rowan (*Sorbus aucuparia*), Scots pine (*Pinus sylvestris*), lodgepole pine (*Pinus contorta*) and oak saplings (*Quercus* spp.).

A large area of Conifer plantation (WD4) managed by Coillte is located in the east and northeast of the Application Site, within Killina, Lullymore, Lullybeg and Glashabaun South. A number of forestry sub-compartments are present in this area, with the coniferous components of the plantations comprising mixes of sitka spruce (*Picea sitchensis*), Norway spruce (*Picea abies*), lodgepole pine (*Pinus contorta*), Corsican pine (*Pinus nigra*), and Monterey pine (*Pinus radiata*), with varying percentages of broadleaves including willows (*Salix* spp.), birches (*Betula* spp.), and oaks (*Quercus* spp.). These plantations are of mixed maturity, with planting dates between 1983 and 2019.

Hedgerow (WL1) and Treeline (WL2) habitats make up a very small proportion of the habitats within the Application Site. Short hedgerows of grey willow (*Salix cinerea*) are located in the west of the Application Site

Trees within these bog woodlands, conifer plantations and treelines were assessed for their potential to support roosting bats. These assessments considered key factors such as tree size, presence of cavities, cracks, or crevices, and other structural features typically associated with bat roosting. Although no confirmed roosts or Potential Roost Features (PRF) were identified within the Application Site during the 2024 survey, areas of more mature woodland at the bog margins and along established treelines are considered to provide comparatively greater potential for opportunistic roosting opportunities than the wider open bog landscape.

Based on these characteristics, the trees and associated woodland habitats at the Application Site were assessed as having *None* to *Low* suitability to host roosting bats. Representative examples of these woodlands and plantations are shown in Plates 4-5 to 4-8.



Plate 4-5 Area of downy birch (*Betula pubescens*)-dominated Scrub (WS1)



Plate 4-6 Linear areas of Bog woodland (WN7) located in Ballydermot South Bog



Plate 4-7 Short grey willow (*Salix cinerea*) Hedgerow (WL1) in the west of the Application Site



Plate 4-8 Areas of immature conifer plantation - Negligible

4.2.2 Night-time Bat Walkover

Night-time Bat Walkover surveys were undertaken in spring, summer and autumn 2024. Bat activity was recorded in all seasons. A total of 406 bat passes were recorded. In general, common pipistrelle (n=184), was recorded most frequently, followed by soprano pipistrelle (n=161) and Leisler's bat (n=59). *Myotis spp.* (n=1) and brown long-eared bat (n=1) were rare (Plate 4-9).

Species composition and activity levels varied between surveys. Transect survey results were calculated as bat passes per km surveyed (to account for differences in survey effort). Plate 4-10 presents the results for individual species per survey period. Figures 4-1 – 4-3 present the spatial distribution of bat activity across surveys. Soprano pipistrelle showed the highest levels of activity overall, particularly during the spring (2.1 passes/km) and summer (3.8 passes/km), with reduced activity in autumn (0.6 passes/km). Common pipistrelle activity peaked notably in summer (6.3 passes/km), with much lower activity in spring (0.7 passes/km) and autumn (0.04 passes/km). Leisler's bat activity was most prominent in summer (1.7 passes/km) compared to lower levels recorded in spring (0.4 passes/km) and autumn (0.2 passes/km). *Myotis spp.* and brown long-eared bat activity across the Application Site was minimal for all survey periods.

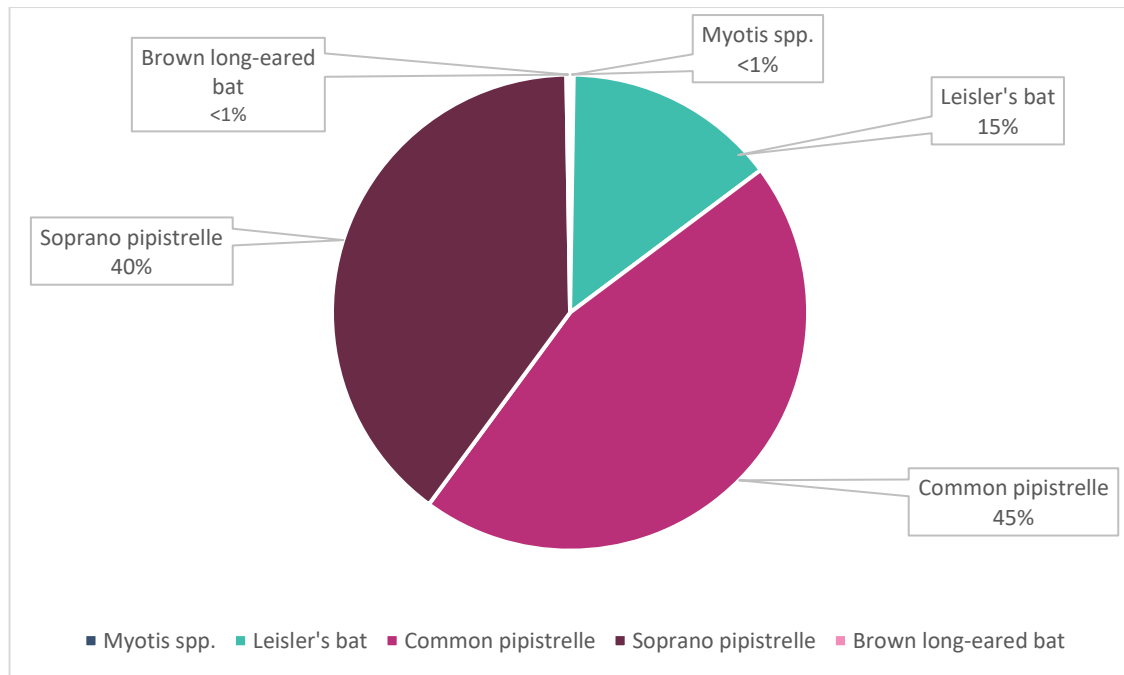


Plate 4-9 2024 Manual Activity Surveys (Total Species Composition)

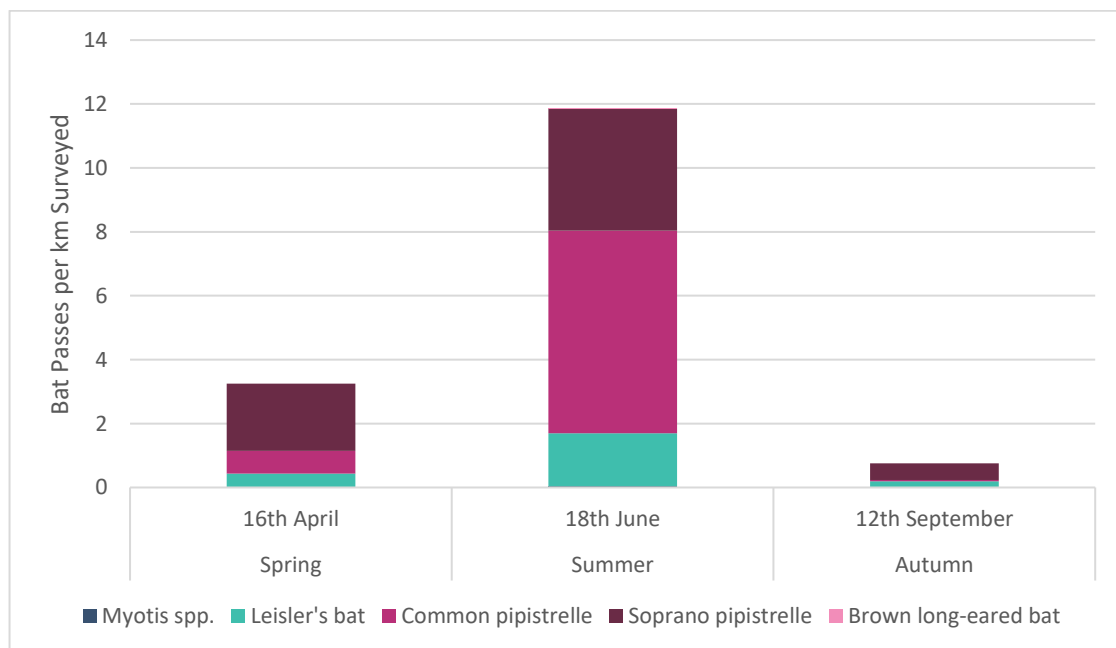
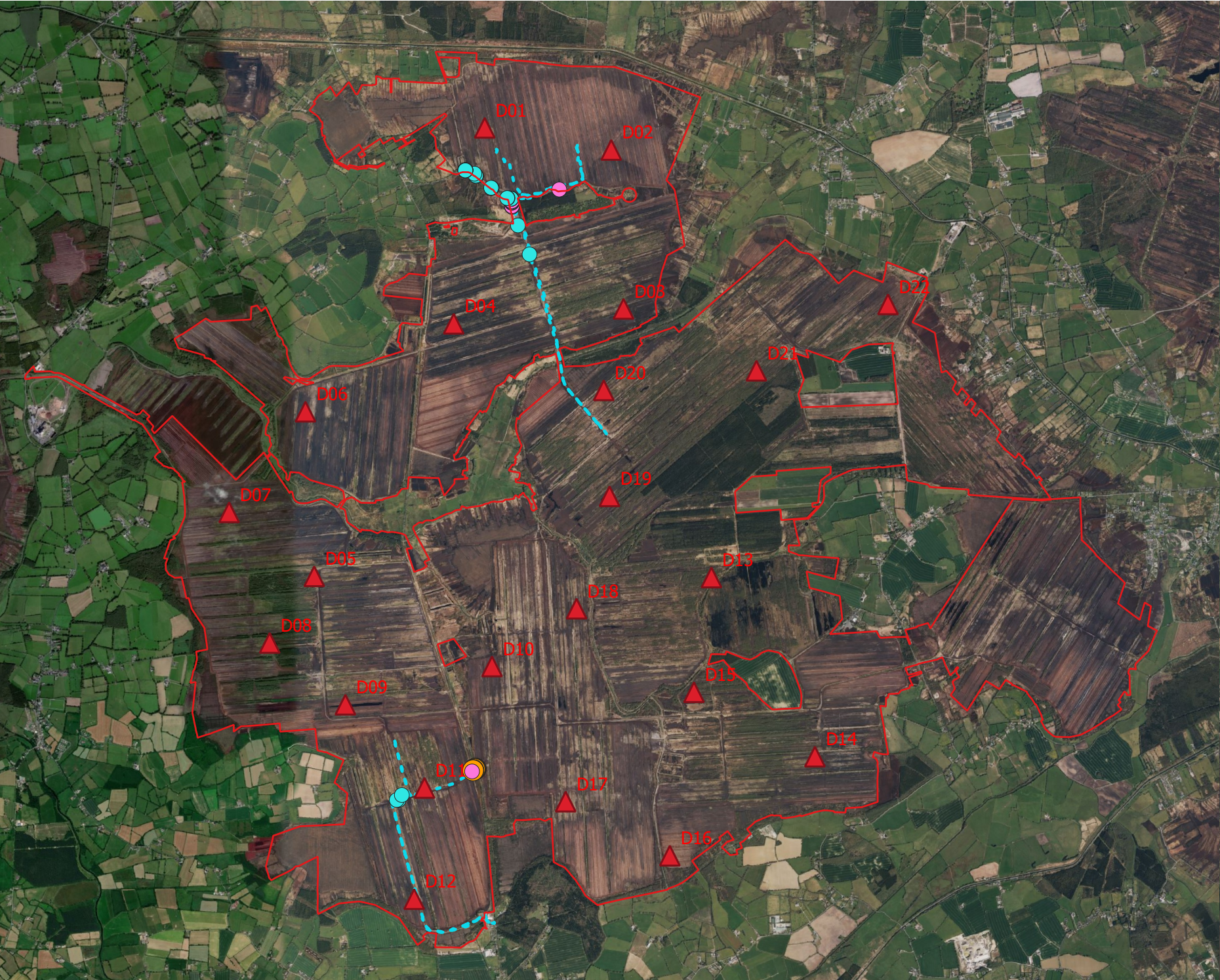


Plate 4-10 2024 Transect Results – Species Composition Per Survey Period



Map Legend

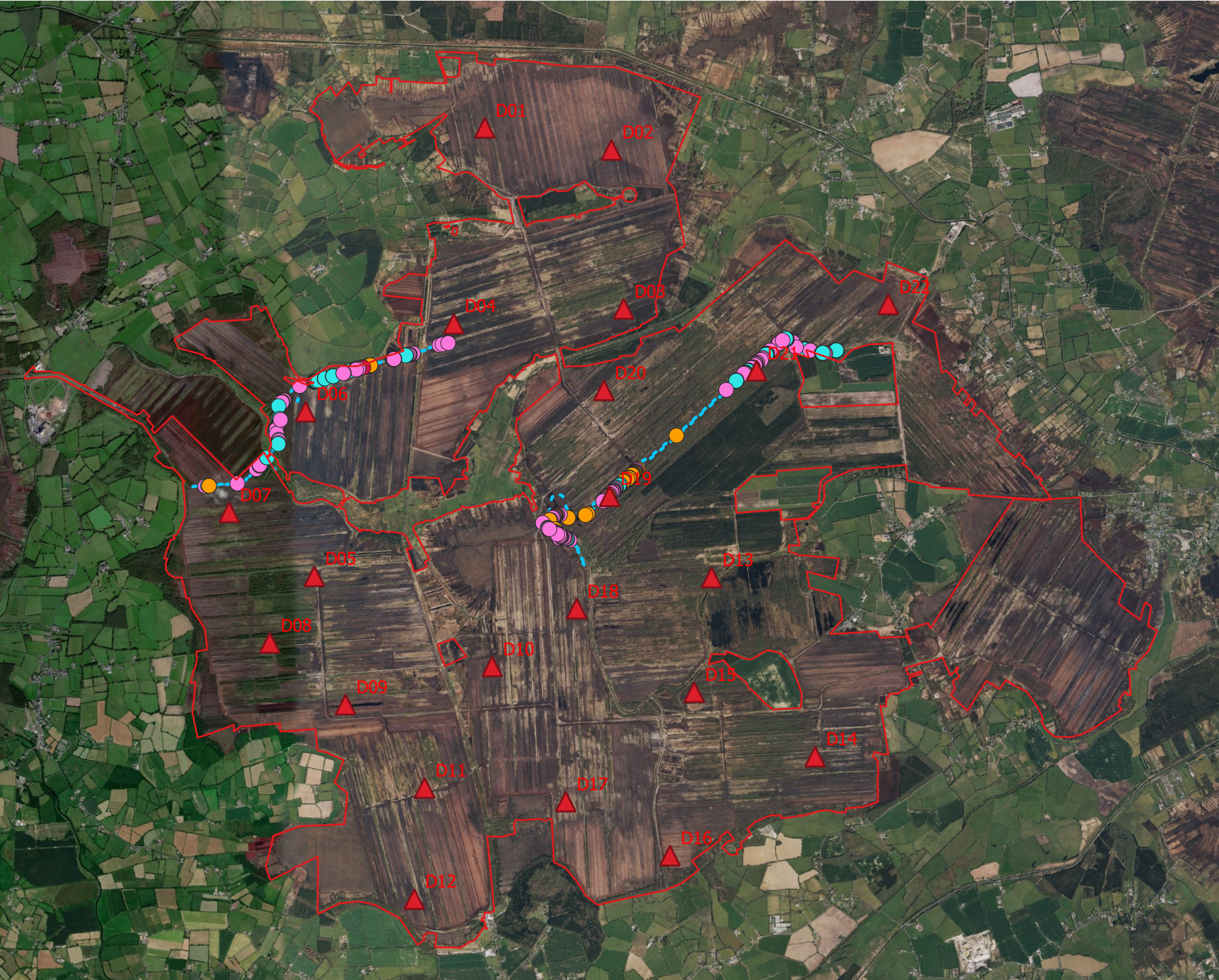
- Application Site Boundary
- Static Detector Locations 2024
- Dusk Transect Route

Species

- Myotis spp.
- Leisler's bat
- Common pipistrelle
- Soprano pipistrelle
- Brown long-eared bat


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Drawing Title	
Manual Results Spring 2024	
Project Title	
Peat Extraction at Ballydermot, Co. Kildare and Co. Offaly	
Drawn By	Checked By
TM	AJ
Project No.	Drawing No.
250709	Figure 4-1
Scale	Date
1:55,000	2026-08-13
MKO Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VW84 +353 (0) 91 735611 email: info@mkofireland.ie Website: ww.mkofireland.ie	



Map Legend

- Application Site Boundary
- Static Detector Locations 2024
- Dusk Transect Route

Species

- Myotis spp.
- Leisler's bat
- Common pipistrelle
- Soprano pipistrelle
- Brown long-eared bat



Drawing Title

Manual Results Summer 2024

Project Title

Peat Extraction at Ballydermot, Co. Kildare and Co. Offaly

Drawn By

TM

Checked By

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Project No.

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Drawing No.

Figure 4-2

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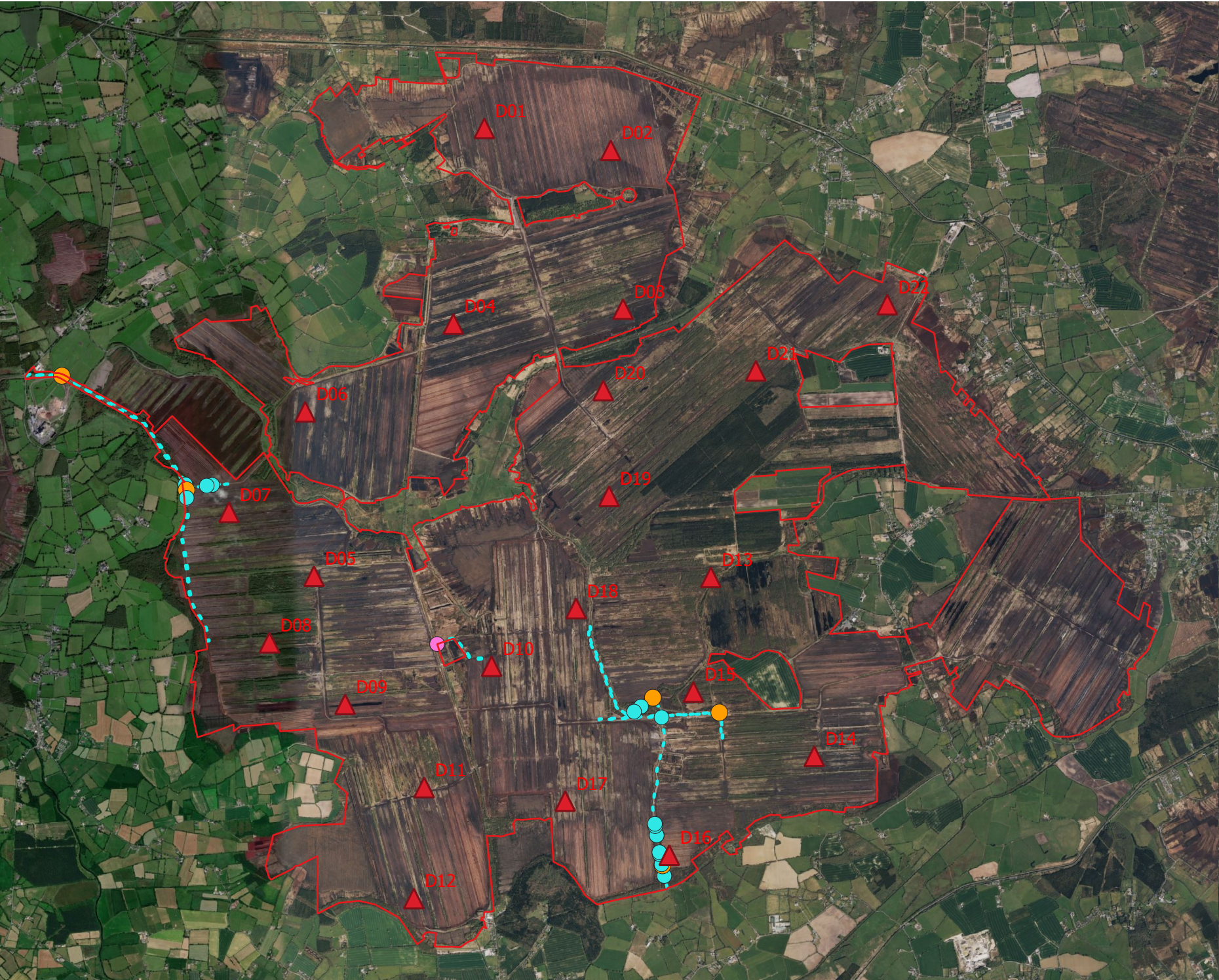
Date

2026-08-13

MKO

Planning and Environmental Consultants

Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email: info@mkofireland.ie
Website: ww.mkofireland.ie



Map Legend

- Application Site Boundary
- Static Detector Locations 2024
- Dusk Transect Route

Species

- Leisler's bat
- Common pipistrelle
- Soprano pipistrelle



Drawing Title	
Manual Results Autumn 2024	
Project Title	
Peat Extraction at Ballydermot, Co. Kildare and Co. Offaly	
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TM	AJ
Project No.	Drawing No.
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4.2.3 Ground-level Static Surveys

In total, 84,138 bat passes were recorded across all deployments in 2024. In general, common pipistrelle (n=39,702) occurred most frequently, followed by soprano pipistrelle (n=22,118) and Leisler's bat (n=20,428). Instances of *Myotis spp.* (n=1,192), brown long-eared bat (n=355) and Nathusius' pipistrelle (n=343) were recorded less frequently during the 2024 survey period. Plate 4-11 presents relative species composition across all ground-level static detector surveys.

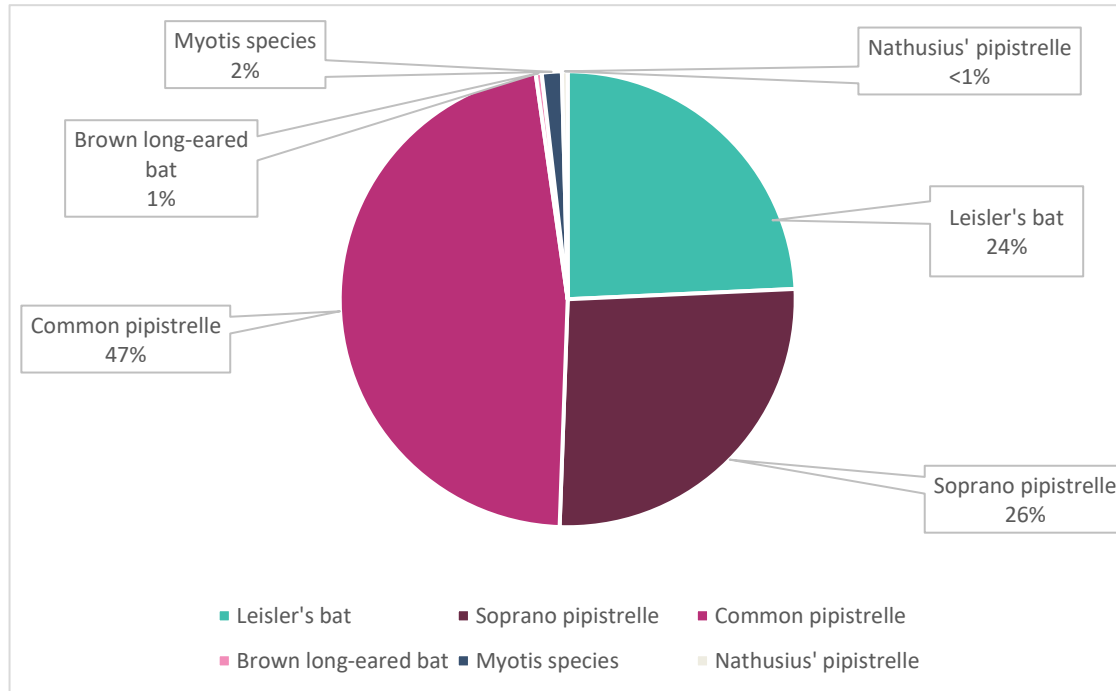


Plate 4-11 2024 Static Detector Surveys: Species Composition Across All Deployments (Total Bat Passes)

Bat activity was calculated as total bat passes per hour (bp/h) per season to account for any bias in survey effort, resulting from varying night lengths between seasons. Plates 4-12 and Table 4-4 presents these results for each species per season.

During spring, bat activity was dominated by common pipistrelle (42.4%) and soprano pipistrelle (33.2%), with notable contributions from Leisler's bat (22.7%). In summer, activity remained highest for common pipistrelle (43.8%), though soprano pipistrelle activity declined slightly (24.6%), and Leisler's bat activity increased to 29.3%. Autumn activity was predominantly led by common pipistrelle (56.8%), followed by soprano pipistrelle (24.4%) and Leisler's bat (16.1%). *Myotis spp.* exhibited modest increases across the seasons, while brown long-eared bat and Nathusius' pipistrelle were consistently recorded at low levels, representing only a small percentage of the activity in each season.

In relation to within-species seasonal patterns, abundance varied across seasons. Relative abundance of *Myotis spp.* was lowest during spring and highest during autumn. Relative abundance of Leisler's bat peaked in summer and was lowest in spring. Nathusius' pipistrelle showed very low relative abundance in spring, increased slightly during summer, and declined again in autumn. Common pipistrelle exhibited the highest relative abundance among the recorded species, with peak levels in autumn and lowest levels in spring. Soprano pipistrelle showed its highest relative abundance in summer and lowest in autumn, although seasonal variation was limited. Brown long-eared bat was recorded at comparatively low relative abundance across all seasons, with slightly higher levels in spring and autumn than in summer.

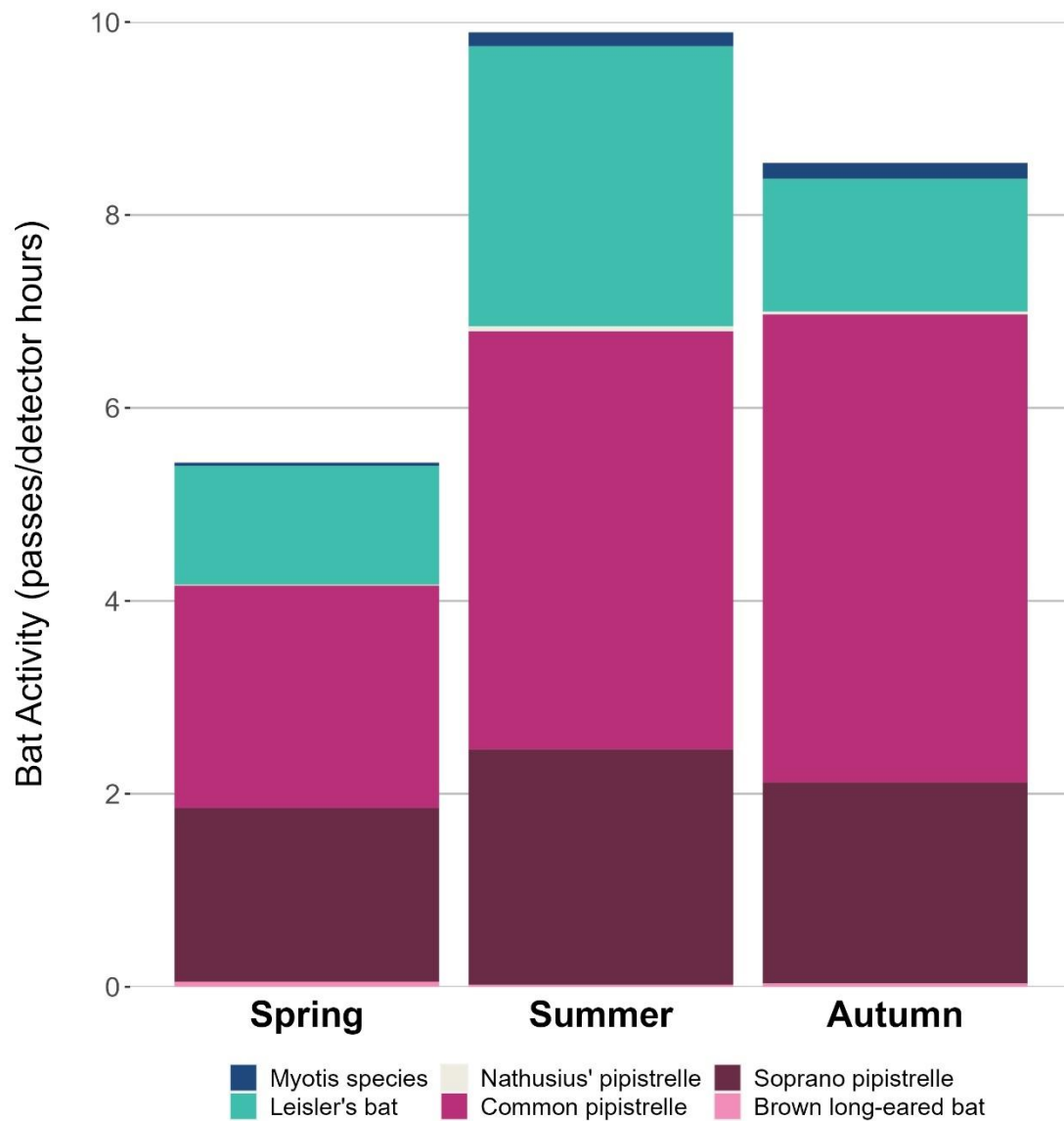


Plate 4-12 2024 Static Detector Surveys: Species Composition Across All Deployments (Total Bat Passes Per Hour, All Nights).

Table 4-4 Static Detector Surveys: Species Composition Across All Deployments (Total Bat Passes Per Hour, All Nights)

	Spring	Summer	Autumn
Total Survey Hours	161.9	385.2	126.1
<i>Myotis spp.</i>	0.034	0.144	0.164
Leisler's bat	1.233	2.902	1.377
Nathusius' pipistrelle	0.007	0.055	0.028
Common pipistrelle	2.305	4.332	4.852
Soprano pipistrelle	1.802	2.438	2.083
Brown long-eared bat	0.052	0.022	0.035

The Median Bat Pass Rate (bpph) per detector, per survey period, is presented in Plates 4-13 and 4-14 (with varied axis scales). Bat activity varied significantly across seasons and detector locations. Overall activity was highest during summer (153.75 bpph), followed by autumn (100.80 bpph) and spring (52.60 bpph). Detector D06 exhibited the highest median activity in all survey periods, with a spring activity of 5.8 bpph, a summer peak of 26.5 bpph, and an autumn activity of 17.1 bpph. The seasonal shifts in species composition were evident, with *Myotis spp.* and soprano pipistrelle contributing to the elevated summer activity at D06. Leisler's bat activity was prominent in spring, particularly at D06, while common pipistrelle dominated in autumn. Nathusius' pipistrelle and brown long-eared bat activity remained consistently low across all seasons. Species composition and activity patterns at other detectors showed considerable variation, influenced by their respective habitat contexts and seasonal dynamics.

The Median Nightly Pass Rate (i.e. total bat passes per hour, per night) was used to determine typical bat activity at the Application Site (Plate 4-15). Plates 4-16 to 4-18 (varied axis scales) illustrates the Median Nightly Pass Rate per species, per deployment. Therefore, the Median Nightly Pass Rate was used as the most appropriate measure of bat activity (Lintott & Mathews, 2018). Zero data, when a species was not detected on a night, was also included.

Bat activity levels varied significantly across seasons and individual nights, with certain periods showing particularly high levels of activity. Three nights in particular, 22nd of April, 8th of July, and 22nd of September, stood out for their higher peaks in bat activity, collectively contributing to 12.8% of the total recorded activity for 2024. On the 22nd of April, bat activity peaked at 406.8 bpph, largely driven by common and soprano pipistrelle. The highest single-night activity occurred on the 8th of July, at 555.7 bpph, dominated by Leisler's bat and common pipistrelle. Finally, on the 22nd of September, another notable spike of 357.9 bpph was observed, again led by common pipistrelle and Leisler's bat.

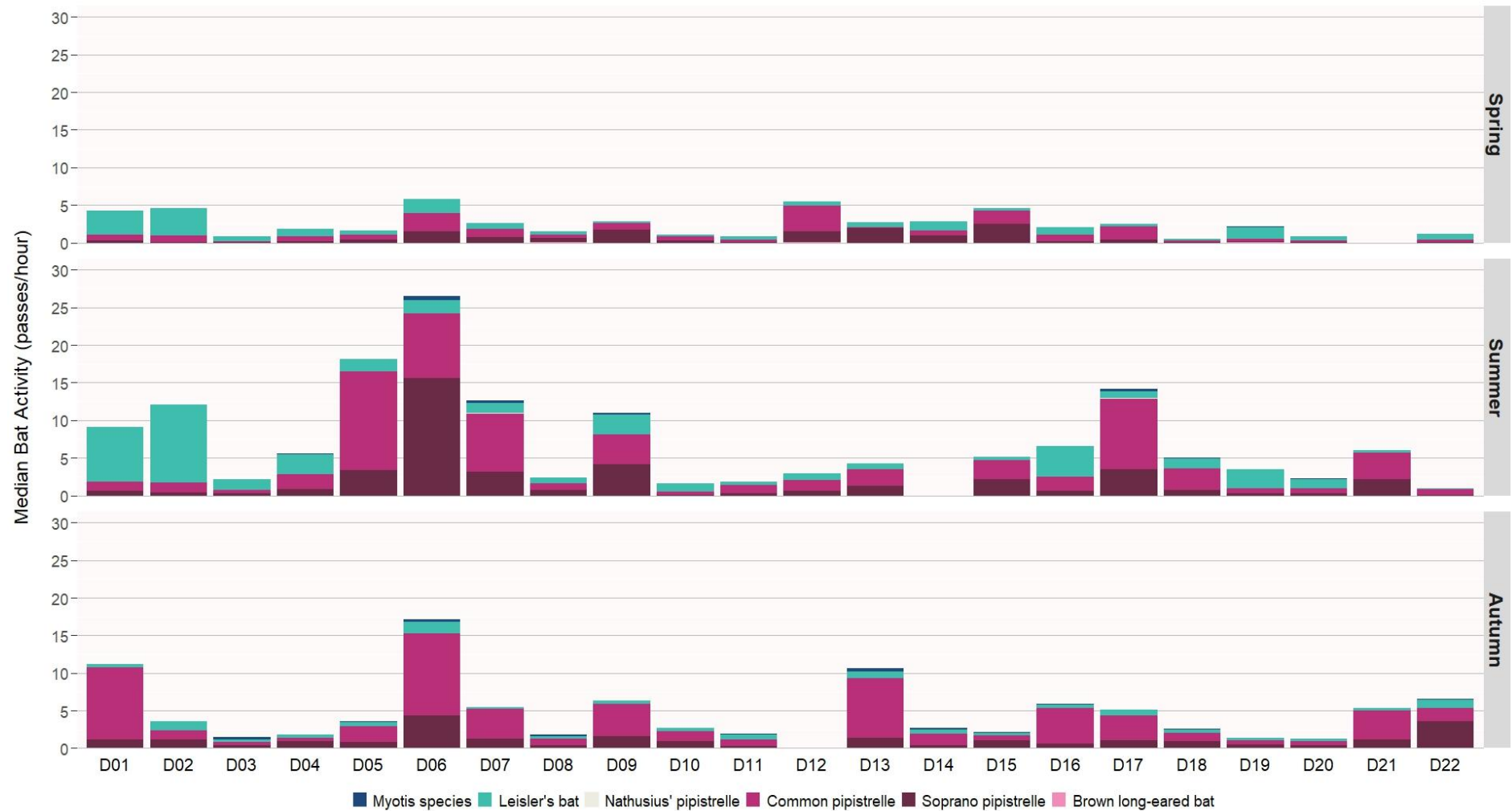


Plate 4-13 Static Detector Surveys: Median Bat Pass Rate (bp/h) Including Absences, Per Location Per Survey Period.

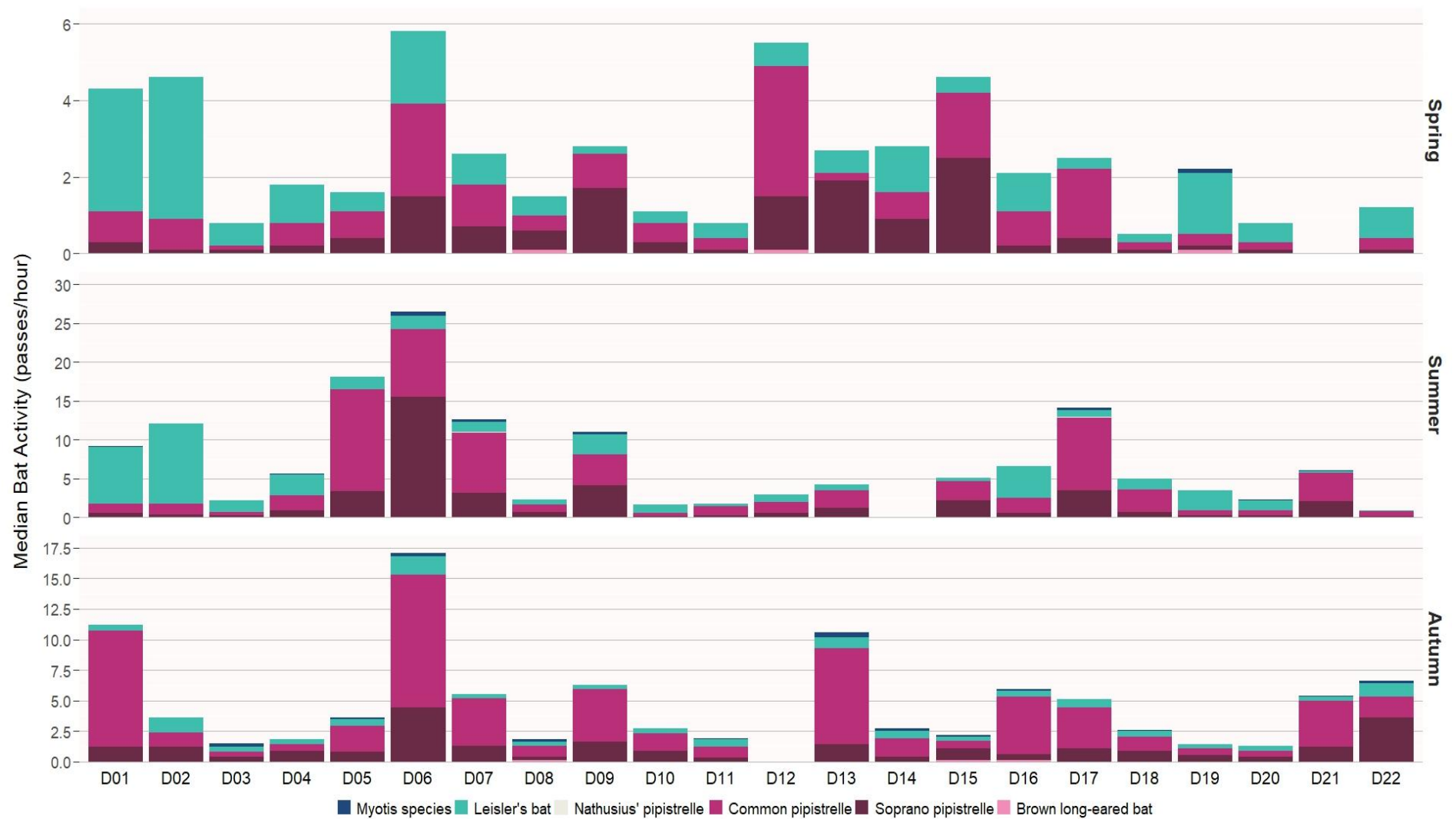


Plate 4-14 Static Detector Surveys: Median Bat Pass Rate (bp/h) Including Absences, Per Location Per Survey Period (Varied Axis Scale).

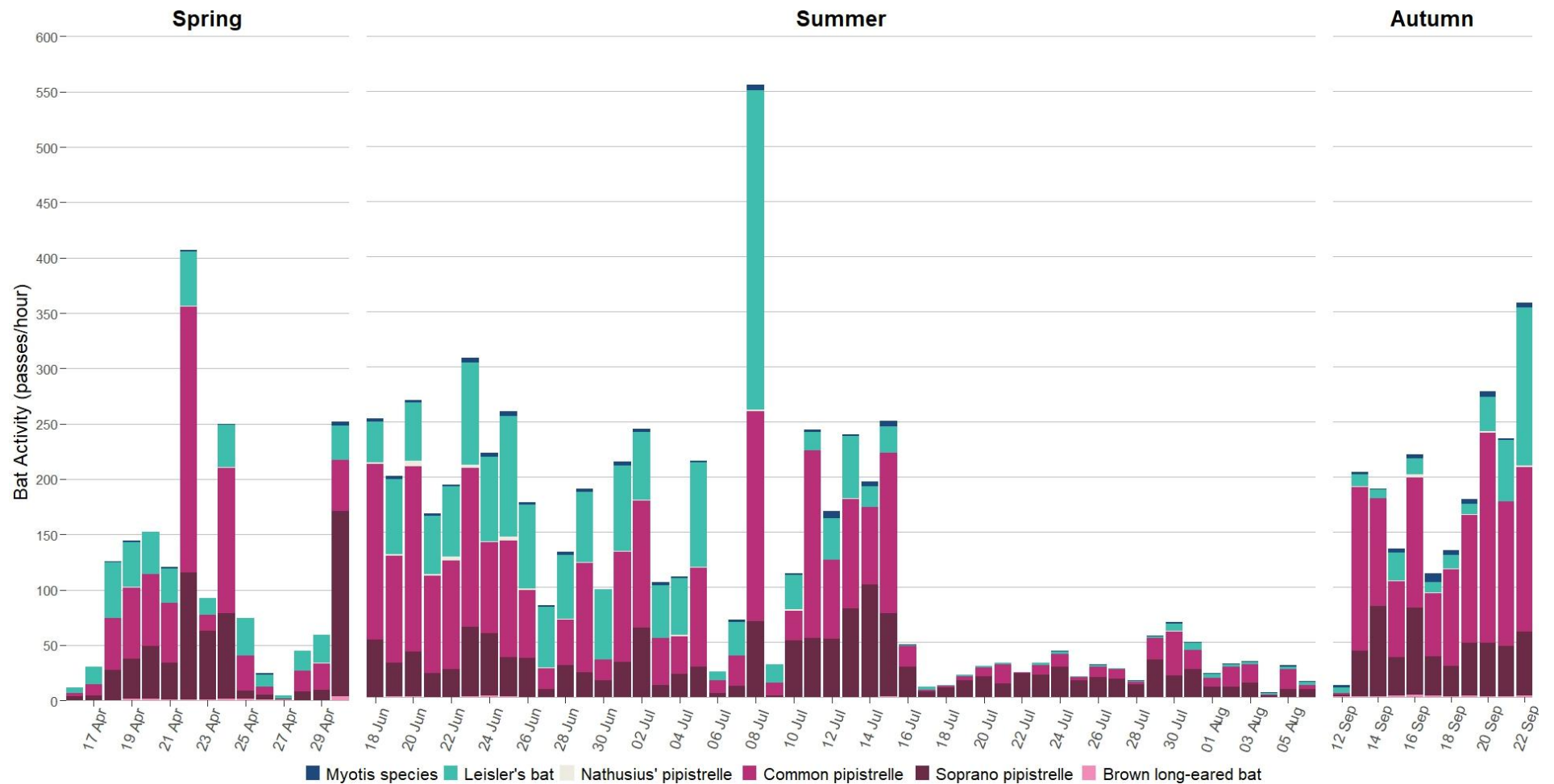


Plate 4-15 Static Detector Surveys: Median Bat Pass Rate (bpph) Including Absences, Per Season Per Night

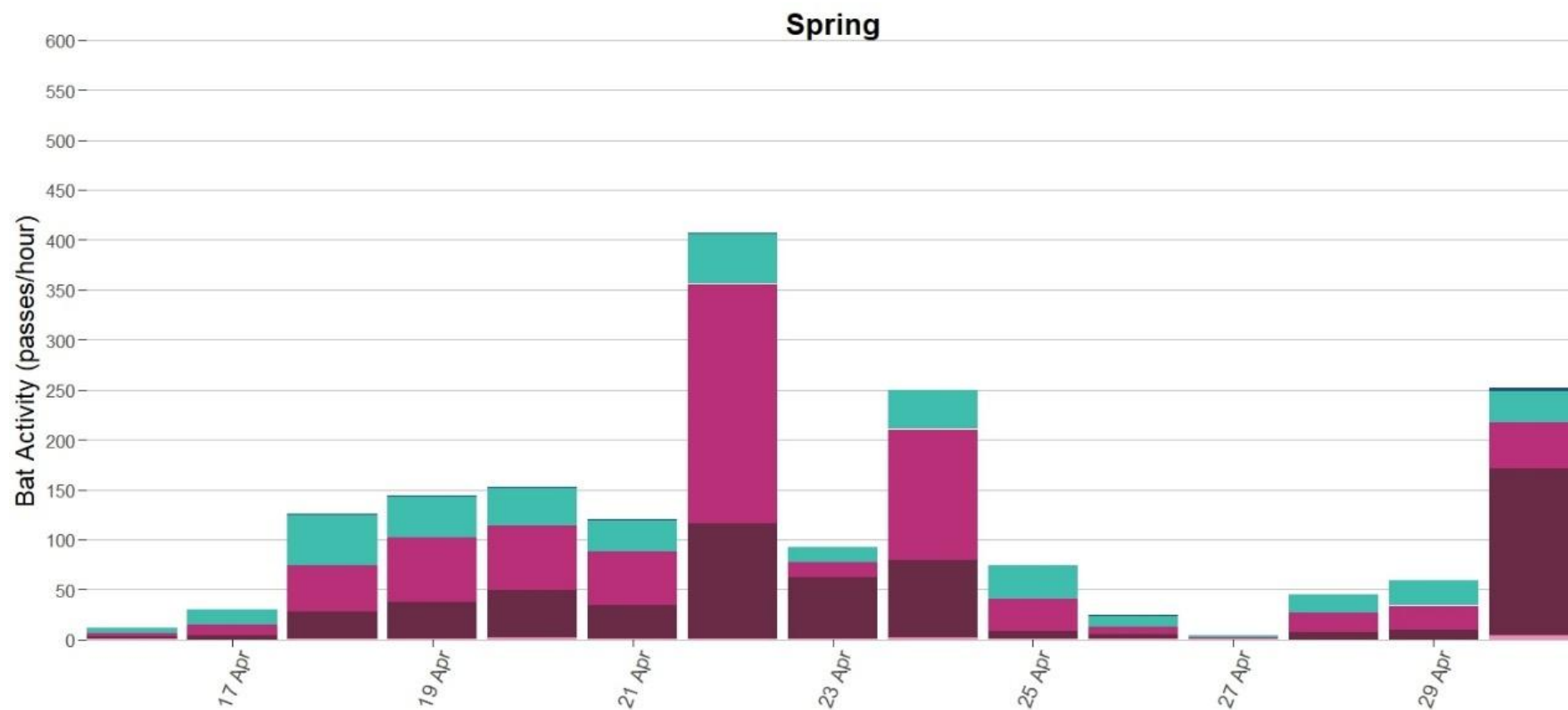


Plate 4-16 Static Detector Surveys: Spring Median Bat Pass Rate (bp/h) Including Absences, Per Night

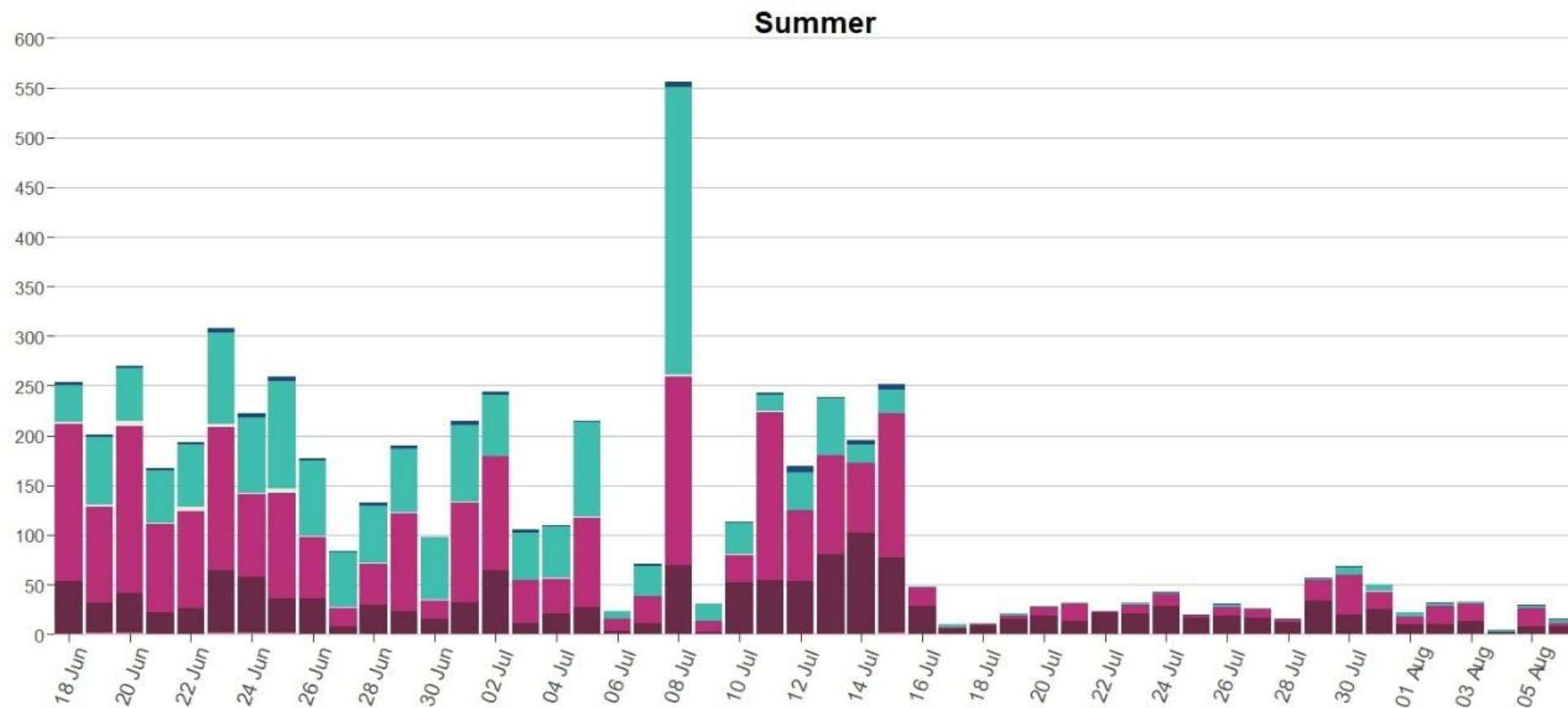


Plate 4-17 Static Detector Surveys: Summer Median Bat Pass Rate (bp/h) Including Absences, Per Night

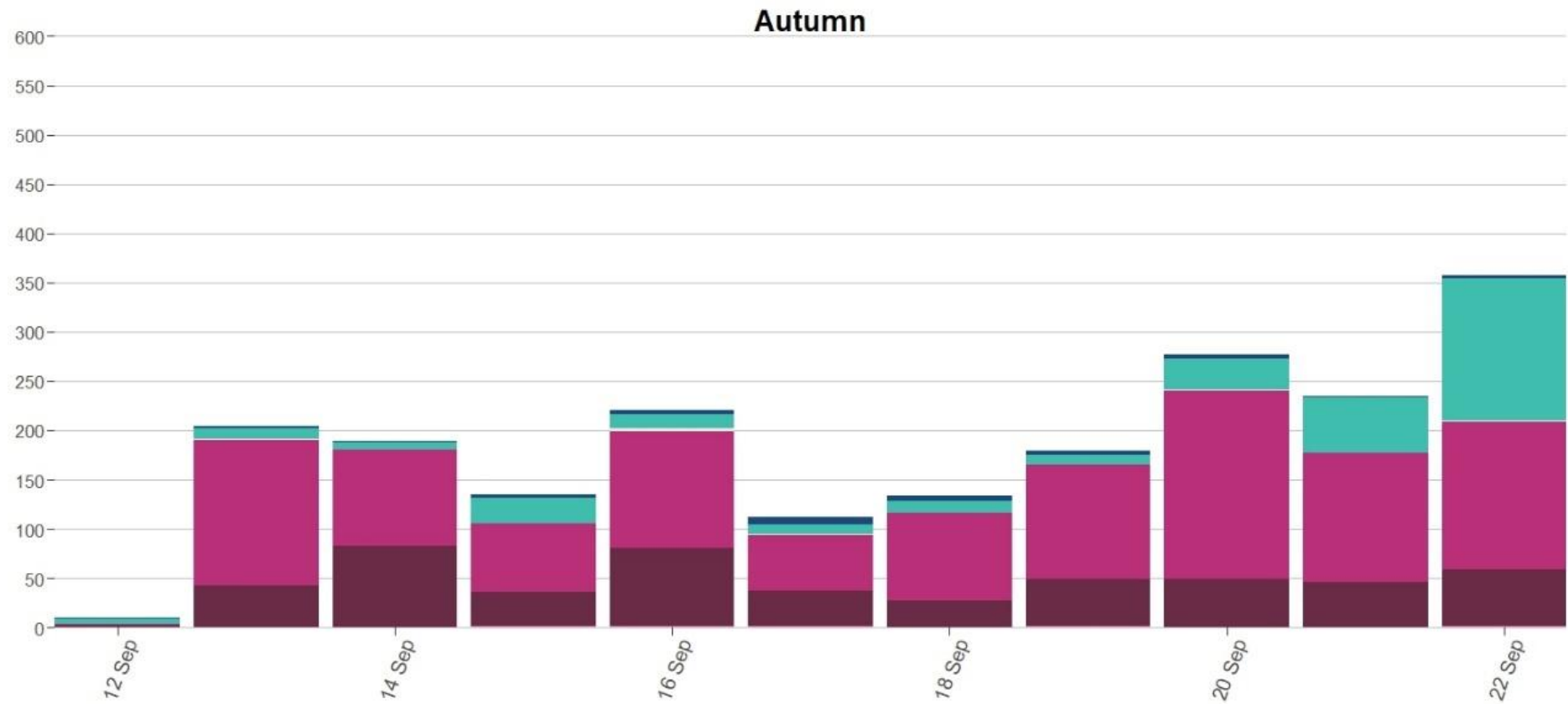


Plate 4-18 Static Detector Surveys: Autumn Median Bat Pass Rate (bpph) Including Absences, Per Night

4.3

Importance of Bat Population Recorded at the Site

Ecological evaluation within this section follows a methodology that is set out in Chapter three of the ‘*Guidelines for Assessment of Ecological Impacts of National Roads Schemes*’ (NRA, 2009).

All bat species in Ireland are protected under the Bonn Convention (1992), Bern Convention (1982) and the EU Habitats Directive (92/43/EEC). Additionally, in Ireland bat species are afforded further protection under the Birds and Natural Habitats Regulations (2011) and the Wildlife Acts 1976, as amended.

No bat roosts were identified within the Application Site during the 2020, 2022 and 2024 surveys, and all inspected structures and trees were assessed as offering *None* roosting potential. Consequently, no roosts of Local, County, Regional or National importance were recorded within the Application Site.

On this basis, bats are considered an Ecological Receptor of **Local Importance (Higher Value)**, reflecting the regular use of the Application Site by a locally occurring bat population for foraging and commuting, in combination with the strict legal protection afforded to all bat species, despite the absence of confirmed roosts within the Application Site.

4.4

Limitations

A comprehensive suite of baseline bat surveys has been undertaken at the Application Site in 2020, 2022 and 2024. The surveys provide the information necessary to determine what species of bats are present and how they are utilising the Application Site.

The information provided in this report accurately and comprehensively describes the baseline environment and bat populations at the Application Site. The specialist studies, analysis and reporting have been undertaken in accordance with the appropriate guidelines.

Surveys were carried out during suitable survey periods for bat activity surveys, (Collins, 2023) and weather conditions were suitable for carrying out all surveys.

No limitations in the scope, scale or context of the assessment have been identified. Overall, a comprehensive assessment has been achieved.

5. OVERALL FINDINGS

This report presents a comprehensive baseline characterisation of current bat usage within the Application Site.

Bat surveys undertaken in 2024 recorded a total of six species (including *Myotis spp.* as a genus) within the Application Site. The results indicate that the Application Site currently supports a bat assemblage of Local Importance (Higher Value), with activity associated primarily with commuting and foraging behaviour. The distribution of bat activity reflects the presence of linear and semi-natural habitats, including scrub, regenerating birch dominated woodland, and treelines, which provide connectivity and foraging opportunities across the Application Site.

No bat roosts were identified within the Application Site boundary during surveys undertaken in 2020, 2022 and 2024. Of the 38 surveyed structures that were assessed, all of these structures were assessed as having no (*None*) roosting potential.

The majority of trees within the Application Site were found to lack suitable potential roost features (PRFs), reflecting the predominance of relatively young, naturally regenerated habitats. While the Application Site is dominated by cutover bog and associated secondary habitats, small numbers of mature and established woodland, scrub and treeline habitats are present around sections of the Application Site periphery and along drainage corridors. These habitats include areas of birch-dominated bog woodland, hedgerows and treelines associated with drains, roads and former rail infrastructure. The areas of more mature woodland at the bog margins and along established treelines are considered to provide comparatively greater potential for opportunistic roosting opportunities than the wider open bog landscape.

The more established woodland and treeline habitats provide increased structural diversity and connectivity within the wider landscape and are considered to offer locally suitable commuting and foraging habitat for bats, particularly along sheltered linear features and woodland edges. Bat activity surveys confirmed use of these habitats by a range of species including Common pipistrelle, Soprano pipistrelle and Leisler's bat.

This report provides a full and comprehensive assessment of bat activity within the site in 2024. The surveys and results provided in this report are in accordance with the relevant industry guidance.

6.

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