APPENDIX 6

BASELINE BAT REPORT

Planning and Environmental Consultants

Appendix 6 - Baseline Bat Report

Kingston Park and Millers Lane - Public Park and Urban Realm Project

DOCUMENT DETAILS

Client:	**Galway City Council (GCC)**
Project Title:	**Kingston Park and Millers Lane - Public Park and Urban Realm Project**
Project Number:	**240298-i**
Document Title:	**Appendix 6 - Baseline Bat Report**
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Prepared By:	**MKO** **Tuam Road** **Galway** **Ireland** **H91 VW84**

Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
01	Draft	14/10/2025	SFitzs	AJ
F	Final	24/10/2025	SFitzs	AJ

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1. INTRODUCTION

1.1 Purpose of this Report

MKO was commissioned by Galway City Council to complete a comprehensive assessment of the potential effects on bats, as part of an Ecological Impact Assessment (EcIA) for an application for planning permission of a proposed development, at Knocknacarra, Co. Galway. This report provides details of the bat surveys undertaken, including survey design, methods and results, and recommendations to safeguard bats. An impact assessment based on the information contained in this report is presented within the accompanying EcIA.

The report presents the ecological baseline recorded within the proposed development site in relation to bats. The main objective of the surveys was to assess the site for its suitability for foraging and commuting bats, as well as assess and inspect any structures for potential roosts, including maternity roosts. The bat surveys were designed to establish the nature, scale and locations of potential bat activity within the site.

The bat survey and assessment were informed by a desk study and were scoped with reference to the following guidelines:

- *Bat Survey Guidelines: Traditional Farm Buildings Scheme. The Heritage Council, Áras na hOidhreachta, Church Lane, Kilkenny (Aughney, T., Kelleher, C. & Mullen, D., 2008).*
- *'Bat Workers' Manual' (3rd edn). JNCC, Peterborough (Mitchell-Jones, A.J. & McLeish, A.P. (eds) 2004).*
- *The Lesser Horseshoe Bat Conservation Handbook, Vincent Wildlife Trust (Schofield, HW., 2008).*
- *Bat Surveys for Professional Ecologists – Good Practice Guidelines (4th edn.) (Collins, 2023)*
- *Bat Roosts in Trees (Andrews, 2018)*
- *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2006a)*
- CIEEM (2013) *Competencies for Species Surveys: Bats.* Chartered Institute of Ecology and Environmental Management, Winchester.
- *Guidelines for the Treatment of Bats during the Construction of National Road Schemes (NRA, 2006b)*
- *British Bat Calls: A Guide to Species Identification (Russ, 2012)*
- *Bat Mitigation Guidelines for Ireland – V2. Irish Wildlife Manuals, No. 134. (Marnell, Kelleher & Mullen 2022)*
- *UK Bat Mitigation Guidelines, (Reason, P. F. and Wray, S. V1.2, 2025)*
- *Guidance Note 08/23: Bats and Artificial Lighting at Night (ILP, 2023)*
- *Lesser Horseshoe Bat Species Action Plan 2022-2026 (NPWS & VWT, 2022)*

1.2 Site and Project Descriptions

The Proposed Development site is located in Knocknacarra, Co. Galway. The site comprises two areas of land, Kingston Park (Irish Grid Ref: M 26525 24723) and Millers Lane (Irish Grid Ref: M 27062 25240). The Kingston Park site is located approximately 518m southwest of the Millers Lane site. The proposed site lies approx. 2.75km west of Galway City Centre at its closest point. The site is accessed via Western Distributor Road. The main site entrance to the Kingston Park lands is accessed through Altan via Western Distributor Road. The main site entrance for Millers Lane is accessed through Gort Na Bro via Western Distributor Road. The land within Millers Lane is currently used for recreational sports and the land within Kingston Park is currently unused, consisting of a mix of grassland and scattered trees/treelines.

The proposed development consists of:

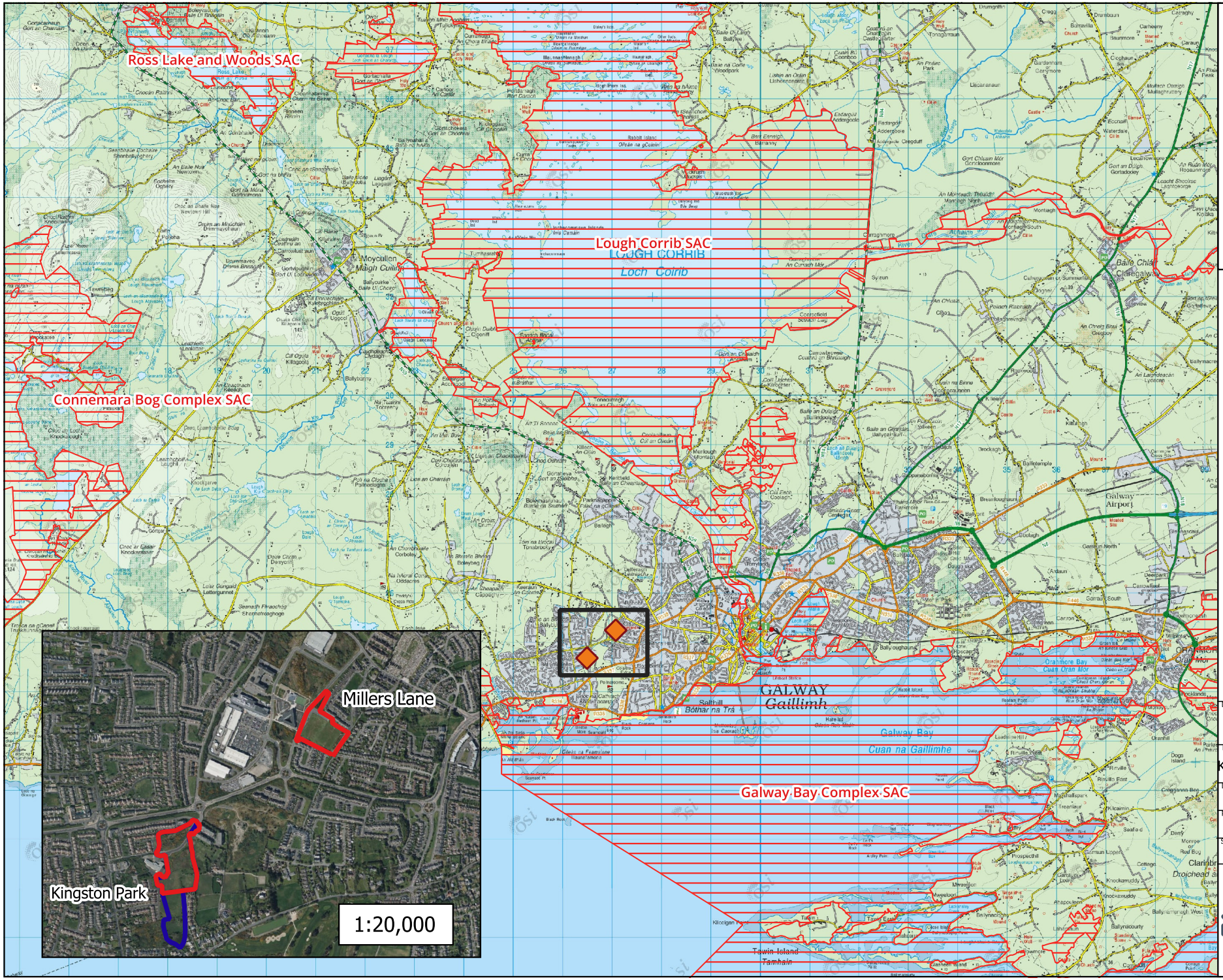
The refurbishment and expansion of the existing park (site area 2.44Ha) located on Millers Lane, including:

I. Relocation and replacement of the 2 no. existing football pitches with: 1 no. new 4G synthetic turf multi-sport pitch (designed to soccer pitch dimensions) with associated fencing and 6 no. floodlights; and 1 no. new 2G sand-filled synthetic multi-sport pitch (designed to hockey pitch dimensions) with associated fencing and 6 no. floodlights.
II. New two-storey, multi-functional building which includes public and sports team changing rooms, showers and toilets; multi-purpose sports hall; multi-purpose activity rooms; kitchenette; 2 no. viewing terraces; first-aid room; store rooms; plant rooms; reception area; and roof-mounted solar panels.
III. New public spaces and amenities including fenced children's play areas; internal paths; multi-use games area; climbing wall; calisthenics area; public plaza; pitch spectator areas; equipment storage shed; green space for passive recreation; public lighting; and public seating.
IV. Extensive native landscaping and nature-based drainage measures including pollinator-friendly raingarden/ bioretention areas and reinforced grass paving, as well as planting areas with typologies including native woodland, avenue tree planting, clipped hedges, short-flowering meadow, and pollinator-friendly perennials.
V. Relocated vehicular access on the L-5000 Road; 2 no. new active travel accesses from the L-5000 Road; and enhanced pedestrian / cyclist access from Millers Lane.
VI. 27 no. car parking spaces (2 no. standard EV charging spaces, 1 no. accessible space, 1 no. combined EV and accessible space, 1 no. family space, and 1 no. age-friendly space), 2 no. coach drop-off spaces with automated access control, 3 no. motorcycle spaces, and 64 no. cycle spaces (40 no. standard short-term spaces, 2 no. short term cargo-bike spaces, and a secure bike shed with 20 no. standard and 2 no. cargo-bike spaces).

The development of the northern half of the proposed Kingston Park (site area 3.43Ha), including:

I. The development of 1 no. 4G synthetic turf multi-sport pitch (designed to rugby pitch dimensions) with associated fencing and 6 no. floodlights.
II. New two-storey, multi-functional building which includes public and sports team changing rooms, toilets, and showers (standard and accessible); double-height general purpose community hall including retractable bleacher seating; multi-purpose activity rooms (including 3 no. rooms offering direct views onto the playing pitch); commentary booth; café and servery; sensory room; first-aid room; store room; plant room; reception area; and roof-mounted solar panels.
III. New public spaces and amenities including all-ages play area, outdoor classroom / amphitheatre; internal paths; multi-functional gaming area; informal games lawn; boules pitch; calisthenics area; performance space; pedestrian gateway plaza; parks department staff kiosk; refuse store; sports equipment sheds; public lighting; and public seating.
IV. Extensive native landscaping and nature-based drainage measures including pollinator-friendly raingarden/ bioretention areas; reinforced grass paving; native hedgerows; short- and long-flowering meadows; wildflower gardens; native woodland; and pollinator-friendly perennials and shrubs.
V. Replacement of the existing vehicular site access / junction on the Altan Road, and modification of the new access road approved under permitted Aquatic Centre Development (Pln. Ref. 24/60370) to account for the layout of this proposed development.
VI. Improvement of existing active travel entrance from Doire Gheal, improved links to the St. John the Apostle, Knocknacarra National School (via a Safe Routes to School), new active travel accesses from the Altan Road, and provision for 2 no. potential future accesses to lands to the east (northeast of Kingston Gardens).

A location map of the Proposed Development site is provided in Figure 1-1.



Map Legend

- Site Locations
- Red Line Boundary
- Kingston Masterplan Boundary
- SACs

Drawing Title: Site Location

Project Title: Kingston Park and Millers Lane

Drawn By	Checked By
SF	AJ
Project No.	Drawing No.
240298	Figure 1-1
Scale	Date
1:100,000	16.09.2025

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1.3 Policy and Legislation

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) and a derogation licence must be granted before works commence.

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 2019. 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, 2019). Pressures and Threats are ranked from medium importance (M) to high importance (H) in the 2019 Article 17 report.

Bat Species	Conservation Status	Principal Pressurs/Threats
Common pipistrelle *Pipistrellus pipistrellus*	Favourable	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of anti-helminthic dosing on dung fauna] (M) **B09** Clear--cutting, removal of all trees (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M) **H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving) (M) **L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) **D01** Wind, wave and tidal power, including infrastructure (M)
Soprano pipistrelle *Pipistrellus pygmaeus*	Favourable	
Nathusius' pipistrelle *Pipistrellus nathusii*	Unknown	
Leisler's bat *Nyctalus leisleri*	Favourable	
Daubenton's bat *Myotis daubentoni*	Favourable	
Natterer's bat *Myotis nattereri*	Favourable	
Whiskered bat *Myotis mystacinus*	Favourable	
Brown long-eared bat *Plecotus auritus*	Favourable	
Lesser horseshoe bat *Rhinolophus hipposideros*	Inadequate	

1.4 Bat Roosting Behaviour

Bats use a variety of natural and manmade structures as roosting or resting places. The type of roost and its level of use is determined by its function in the bat life cycle. Table 1-2 provides a summary of different types of bat roosts (Collins, 2023).

Table 1-2 Bat Roost Types and Definitions

Roost Type	Definition
Day	Where individuals or small groups, rest/shelter in the day but are rarely found by night in summer.
Night	Where bats rest/shelter at night but are rarely found in the day.
Feeding	Where individuals, or a few individuals, rest/feed for short periods during the night but are not present by day.
Transitional	Used by a few individuals for short periods of time prior to or following hibernation.
Maternity	Where females give birth and raise their young.
Hibernation	Where bats are found during winter (constant cool temperature and high humidity).
Satellite	An alternative roost found in close proximity to the main nursery colony used throughout the breeding season.
Swarming Site	Where large numbers gather in late summer to autumn. Important mating sites. Roosting may occur alongside swarming.
Mating Site	Where mating takes place in late summer to winter.

The likelihood of detecting active roosts is determined by the timing of the roost survey. In general:

- April surveys may detect transitional roosts used by bats following hibernation and prior to summer roosting.
- May-August surveys may detect maternity colonies and male/non-breeding female summer roosts.
- August surveys are best to determine maximum counts of adult and juvenile bats.
- August – October surveys may detect swarming and mating bats.
- September and October surveys may detect transitional roosts used by bats following the dispersal of maternity colonies and prior to hibernation.
- Day, night, feeding and satellite roosts may be found anytime between April and October.
- November – March surveys may detect hibernacula.

1.4.1 Bat Roost Significance

There are no formal Irish guidelines for assessing bat roost significance, but it should be evaluated at an appropriate spatial scale considering species distribution, conservation status, population trends, site functionality, and the project's Zone of Influence (ZoI) on bats (Reason and Wray, 2023).

Roost significance depends on species rarity and roost function as described in Table 1-2. Table 1-3, adapted from CIEEM guidelines (Reason and Wray, 2023), provides a framework for geographic assessment, using professional judgment alongside baseline and desktop data.

Table 1-3 Roost importance at various geographic levels, adapted to Ireland from Table 3.2 of CIEEM guidelines (Reason and Wray, 2023)

Conservation status/ distribution	Individual or very small occasional/ transitional/ opportunistic roosts	Non-breeding day roosts (small numbers of species)	Mating sites, small numbers of hibernating bats	Larger transitional roosts	Hibernation sites	Autumn swarming sites	Maternity sites
Widespread all geographies	Site	Site	Site	Site/Local	Local/County [Larger hibernation sites rare in the UK]	Local/County [Very large pipistrelle swarming sites appear uncommon in the Ireland]	Unlikely to exceed Local/County importance unless colonies are atypically large; importance increased for assemblages.
Widespread in many geographies, but not as abundant in all	Site	Site	Site, dependent on local distribution [For *Myotis*, see swarming site column]	Local/County	Local/County importance dependent on size and number of species	County/National importance dependent on size; importance increased for larger sites that serve larger numbers/species	Unlikely to exceed County importance unless colonies are atypically large; importance increased for assemblages.
Rarer or restricted distribution	Site (very well-used night roosts may be of County importance for some species)	Site/Local/County, dependent on local distribution	Site/Local/County dependent on local distribution	Local/County	Local/County importance dependent on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages.
Rarest Annex II species and very rare	Site (very well-used night roosts may be of Local/County importance for some species)	Site/Local/County, dependent on local distribution	Site/ Local/County, dependent on local distribution	Local/County	County/Regional importance on size and local distribution; increased value for assemblages	County/National importance on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages

All the largest roosts of Lesser horseshoe bat (LHB) in Ireland are of international importance, and it is anticipated that all large Leisler's bat roosts (>100) would also have international significance (NRA, 2006) due to the limited distribution of this species in other European countries. Table 1-4 provides some criteria for determining the significance of different building roosts, as determined by the Bat Expert Panel of the Heritage Council in 2003 (NRA, 2006). Geographic criteria will be applied to these values.

Table 1-4 Level of Importance of Various Roosts in Ireland

Species	Indicator	Significance
Lesser horseshoe bat	Special Area of Conservation	Very significant
	If present	Significant
Whiskered bat	>10	Very significant
	If present	Significant
Natterer's bat	>10	Very significant
	If present	Significant
Daubenton's bat	Maternity roost	Significant
Leisler's bat	Maternity roost	Significant
Common pipistrelle	Maternity roost	Significant
Soprano pipistrelle	Maternity roost	Significant
Brown long-eared bat	Maternity roost	Significant

1.5 Statement of Authority

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

Survey scoping was prepared by Saoirse Fitzsimons. The daytime walkover survey and inspections were carried out by Saoirse Fitzsimons and Marie Greaney. Manual activity surveys were carried out by Saoirse Fitzsimons, Marie Greaney, Noel Fahy and Emma Fitzgerald. Data manual ID were carried out by Marie Greaney and Noel Fahy. This report was prepared by Saoirse Fitzsimons, was reviewed and approved by Aoife Joyce. Staff's roles and relevant training are presented in Table 1-5 below.

Table 1-5 Project team qualifications and training.

Staff	Role	Qualifications and Training
Aoife Joyce (B.Sc., M.Sc.)	Project Director	B.Sc. (Hons) Environmental Science, University of Galway, Ireland. M.Sc. (Hons) Agribioscience, University of Galway, Ireland. Advanced Bat Survey Techniques – Trapping, biometrics, handling (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), Bat roost disturbance licence (DAU).
Saoirse Fitzsimons (B.A, M.Sc)	Bat Ecologist	MSc. (Hons) Coastal and Marine Environments; Physical Processes, Policy & Practice, National University of Ireland Galway BA 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).
Marie Greaney (B.Sc., M.Sc.)	Seasonal Bat Ecologist	B.Sc. (Hons) Zoology, University of Galway, Ireland. M.Sc. (Hons) Conservation Behaviour, Atlantic Technological University, Galway, Ireland. Kaleidoscope Pro Analysis (Wildlife Acoustics), Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal). Introduction to Bats and Using Detectors (BCI).
Noel Fahy (B.Sc.)	Seasonal Bat Ecologist	BSc (Hons) in Zoology from University of Galway 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).
Emma Fitzgerald (B.Sc.)	Bat Ecologist	B.Sc (Hons) Zoology, University College Cork, Ireland. Kaleidoscope Pro Analysis (Wildlife Acoustics), Structure & Tree Inspection (Internal), Manual Transect Survey (Internal), Bat Habitat Appraisal (Internal), Emergence and Re-Entry Surveys (Internal), Introduction to Bats and Using Detectors (BCI).

2. METHODOLOGY

2.1 Desktop Study

A desktop review of published material was undertaken to inform all subsequent field studies and assessments. The aim of the desktop review was to identify the presence of species of interest within the site and surrounding region.

The following list describes the sources of data consulted:

- *Review of online web-mappers: National Parks and Wildlife Service (NPWS) mapping.*
- *Review of NPWS Article 17 Report.*
- *Review of the publicly available National Biodiversity Data Centre (NBDC) web-mapper.*
- *Galway City Development Plan 2023-2029*
- *Galway County Development Plan 2022-2028*
- *Review of NPWS Lesser Horseshoe Bat national dataset*
- *Review of MKO data from other projects*
- Geological Survey Ireland (GSI) online mapping tool
- University of Bristol Spelaeological Society (UBSS) Cave Database for the Republic of Ireland

2.1.1 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 April 2019, Ireland submitted the third assessment of conservation status for Annex-listed habitats and species, including all species of bats (NPWS, 2019).

The 2019 Article 17 Reports were reviewed for information on bat species' range and distribution in relation to the location of the proposed development. Note, the 2025 reports had not been released at the time this report was prepared.

2.1.2 National Bat Database of Ireland

The National Bat Database of Ireland and Lesser horseshoe Bat Database holds records of bat observations received and maintained by Bat Conservation Ireland. These records include results of national monitoring schemes, roost records as well as ad-hoc observations. The database was searched for bat presence and roost records within a 10km radius of the proposed development site, as well as general landscape suitability for bats.

2.1.3 Designated Sites

The potential for the proposed development to impact on sites that are designated for nature conservation is considered in separate Ecological Impact Assessment (EcIA) and Appropriate Assessment Screening (AASR) reports. Special Areas of Conservation (SACs) are designated under EU Habitats Directive. The European Sites that are within the Zone of Likely Impact, with bats identified as Qualifying Interests, are listed in Section 3.1.3 below.

Natural Heritage Areas (NHAs) are designated under the Wildlife (Amendment) Act 2000 and their management and protection is provided by this legislation and planning policy. Proposed Natural Heritage Areas (pNHAs) were designated on a non-statutory basis in 1995 but have not since been statutorily proposed or designated. Any identified NHAs and pNHAs designated for the protection of bats are presented in Section 3.1.3 and potential for impacts was fully considered in the EcIA.

2.1.4 Habitat and Landscape

2.1.4.1 Ordnance Survey Mapping

Ordnance survey maps (OSI 1:5,000 and 1: 50,000) and aerial imagery (ortho-based maps) were reviewed to identify any habitats and features likely to be used by bats. Maps and images of the site and general landscape were examined for suitable foraging, commuting or roosting habitats including woodlands and forestry, hedgerows, tree lines and watercourses.

2.1.4.2 Geological Survey Ireland

The Geological Survey Ireland (GSI) online mapping tool and University of Bristol Spelaeological Society (UBSS) Cave Database for the Republic of Ireland were consulted for any indication of natural subterranean bat sites, such as caves, within 10km of the proposed development site (BCI, 2012) (last searched on the 10th of October 2025). Furthermore, the archaeological database of national monuments was reviewed for any evidence of manmade underground structures, e.g. souterrains, that may be used by bats (last searched on the 10th of October 2025).

2.1.4.3 National Monuments

The archaeological database of national monuments was reviewed for any evidence of manmade underground structures, e.g. souterrains, that may be used by bats (last searched on the 10th of October 2025).

2.1.5 Previous Reports

The Kingston Park site is adjacent to a large area which is zoned for commercial and residential development. A masterplan design exercise was carried out in consultation with relevant landowners and Galway City Council to meet the zoning objectives.

Bat surveys to inform the design exercise were conducted in 2024 and act as a baseline for any application for development which may be brought forward on the wider lands. A summary of relevant published results from previous surveys carried out by MKO is provided in Section 3.1.5.

2.2 Field Study

2.2.1 Bat Habitat Appraisal

A walkover survey of the Study Areas was carried out during daylight hours on the 15th May 2025. The landscape features on the site were visually assessed for potential use as bat roosting habitats and commuting/foraging habitats using a protocol set out in Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn.) (Collins, 2023). The aim of the survey was to identify suitable bat habitats within the site for roosting, foraging and commuting bats to guide further survey efforts.

Table 4.1 of the 2023 BCT Guidelines identifies a grading protocol for assessing structures, as well as commuting/foraging habitat for bats, which is summarised in Table 2-1. The protocol is divided into five Suitability Categories: *High, Moderate, Low*, *Negligible and None*. Table 4.2 of the 2023 BCT Guidelines identifies a grading protocol to assess trees, which is divided into three Suitability Categories: No suitability (NONE), Further Assessment Required (FAR), and Potential Roosting Feature present (PRF). This initial tree grading protocol can inform a preliminary roost assessment (PRA) to determine the available tree-roosting resource within the proposed development site,

depending on whether a PRF could accommodate a small number of bats (PRF-I) or a larger roost, including maternity roosts (PRF-M). More information on PRAs is provided below.

Table 2-1 BCT protocol for bat habitat appraisals (Collins, 2023)

Assessment	Rationale
High	Structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat. Continuous, high-quality, well-connected habitats, connected to known roosts.
Moderate	A structure used by bats due to their size, shelter, protection, conditions and surrounding habitat, but are unlikely to support a roost of high conservation status, and suitable, connected habitats.
Low	Structures with one or more potential roost sites that could be used by an individual bat opportunistically, and suitable but isolated habitats that could be used by a small number of bats.
Negligible	No obvious features present, but a level of uncertainty remains.
None	No habitat features likely to be used by roosting, foraging or commuting bats.

2.2.1.1 Roost Assessment

A search for roosts was undertaken within the boundary of the proposed sites by two ecologists to identify any potential roost features (PRFs). The aim of the survey was to determine the presence of roosting bats, potential access points, roosting locations and the potential need for further survey work or mitigation.

The site was visited on the 15th of May, 3rd June, 15th July and 9th of September 2025.

No buildings or structures were identified within the Kingston Park site. Two shipping container structures within the site at Millers Lane were assessed for their potential to support roosting bats. A systematic search of all accessible interiors, including all attic spaces, was undertaken. The exterior of each building was inspected first from ground level and included all accessible windowsills, walls, eaves, roof ridge and roof slates. Inspections were carried out with the aid of torches, an endoscope, a thermal camera and binoculars, and searched for evidence of bat use, including live and dead specimens, droppings, feeding remains, urine splashes, fur oil staining and noises, as well as potential access points into the structures.

Trees present within the site/within the proposed development footprint were examined from ground level for the presence of rot holes, hazard beams, cracks and splits, partially detached bark, knot holes, gaps between overlapping branches and any other PRFs identified by Andrews (2018).

Two container structures and 42 trees were assessed and are described in Section 3.2.1 below.

2.2.2 Bat Activity Surveys

2.2.2.1 Night-time Bat Walkover Surveys

Night-time bat walkovers (NBW) were carried out by two surveyors, recording bats in real time. For each of the surveys, surveyors were equipped with active full spectrum bat detectors, Batlogger M (Elekon AG, Lucerne, Switzerland). Where possible, species identification was made in the field and any other relevant information was also noted, e.g., numbers, behaviour, features used, etc. All bat echolocation was recorded for subsequent analysis to confirm species identifications, as detailed in Section 2.2.3.

The aim of this survey was to observe bat species using the site and visually assess bat behaviour and important features used by bats within the site. The transect route was prepared with reference to the proposed layout, desktop and walkover survey results, as well as any health and safety considerations and access limitations. As such, it generally followed existing roads and tracks. Five-minute point counts were performed along the route to sample different habitats for the presence of bats. The transect route is presented in Figure 2-1 and 2-2.

Night-time bat walkover surveys were primarily focused on Kingston Park and were carried out seasonally (i.e. spring, summer, autumn). Millers Lane was surveyed twice within the main bat activity period in June and September.

Table 2-2 Bat Activity survey effort

Date	Surveyors (initials)	Survey Type	Sunset	Start	End	Weather
03/06/2025	SF, MG	NBW	21:56	21:40	00:33	10-11°C, Dry, Calm-Gentle Breeze
15/07/2025	SF, NF	NBW	21:56	21:43	00:00	14-15°C, Dry, Light Breeze
09/09/2025	SF, EF	NBW	20:05	20:00	22:04	14-16°C, Dry, Calm

2.2.2.2 Static Detector Surveys

Five full spectrum SM4 bat detectors (Wildlife Acoustics, Maynard, MA, USA), were deployed during static surveys to record bat activity seasonally (spring, summer and autumn). The five locations of static detectors were selected to represent the range of habitats present within the site, including favourable bat habitats.

Settings used were those recommended by the manufacturer 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. Static detector locations are shown in Figure 2-1 and 2-2 and presented in Table 2-3.

Table 2-3 Static Detector Location

Detector ID	IG Reference	Nearest Habitat Feature
D01	M 27086 25155	Treeline
D02	M 27135 25289	Hedgerow
D03	M 26452 24850	Treeline
D04	M 26420 24590	Treeline
D05	M 26512 24767	Hedgerow

2.2.3 Bat Call Analysis

All acoustic recordings were analysed using Kaleidoscope Pro v.5.7.0 (Wildlife Acoustics, MA, USA) to determine the bat species or species groups present at the proposed development site. Initial species identification was carried out using Kaleidoscope's automated classifier, after which all identifications were manually verified.

Manual verification involved comparing echolocation call characteristics—such as signal shape, peak frequency of maximum energy, slope, pulse duration, start and end frequencies, bandwidth, inter-pulse interval, and power spectrum—to published reference data for Irish bat species (Russ, 2012). Due to the similarity in their echolocation calls, Myotis species (e.g., Daubenton's bat (*Myotis daubentonii*, Whiskered bat (*Myotis mystacinus)*, and Natterer's bat (*Myotis nattereri*)) were grouped together and reported as *Myotis spp.*.

Common pipistrelle (*Pipistrellus pipistrellus*) and Soprano pipistrelle (*Pipistrellus pygmaeus*) were distinguished primarily by their peak frequencies in search-phase calls (~46 kHz and ~55 kHz respectively; Jones & van Parijs, 1993). In instances where species-level identification was not confidently possible due to call overlap or low quality, calls were assigned at the genus level.

Brown long-eared bat (*Plecotus auritus*) produces very quiet echolocation calls that are often not detected by static detectors. As such, all recordings—including those labelled as 'noise' by the software—were manually checked to ensure potential *Plecotus* calls were not overlooked.

Individual bats cannot be distinguished by echolocation alone; therefore, bat activity was measured using the number of 'bat passes.' A bat pass was defined as a recording containing at least two echolocation pulses of a single species or species group, within a maximum 15-second window (Collins, 2023).

To ensure consistency and allow for valid comparisons across datasets, each registration (i.e., continuous audio file) was treated as a single bat pass event. Where more than one species was detected within the same registration, the rarer or more conservation-significant species was assigned. This approach reduces the risk of overestimating bat activity while ensuring that important records of less common species are captured—particularly in periods of high activity where call overlap is common.

Following manual verification of species identifications, bat activity data were compiled by species, detector location, date, and time. Microsoft Excel was used to summarise this information using pivot tables, allowing for analysis of species composition both across the entire site and at individual detector locations. Charts and graphs were generated to visualise patterns in bat activity over time and space.

Map Legend

- Kingston Park Red Line Boundary
- Kingston Park Masterplan Boundary
- Static Detector Locations

Transect Routes

- Spring
- Summer
- Autumn

N

Drawing Title

Kingston Park Survey Effort

Project Title

Kingston Park and Millers Lane

Drawn By	Checked By
SF	AJ
Project No.	Drawing No.
240298	Figure 2-1
Scale	Date
1:1,550	16.09.2025

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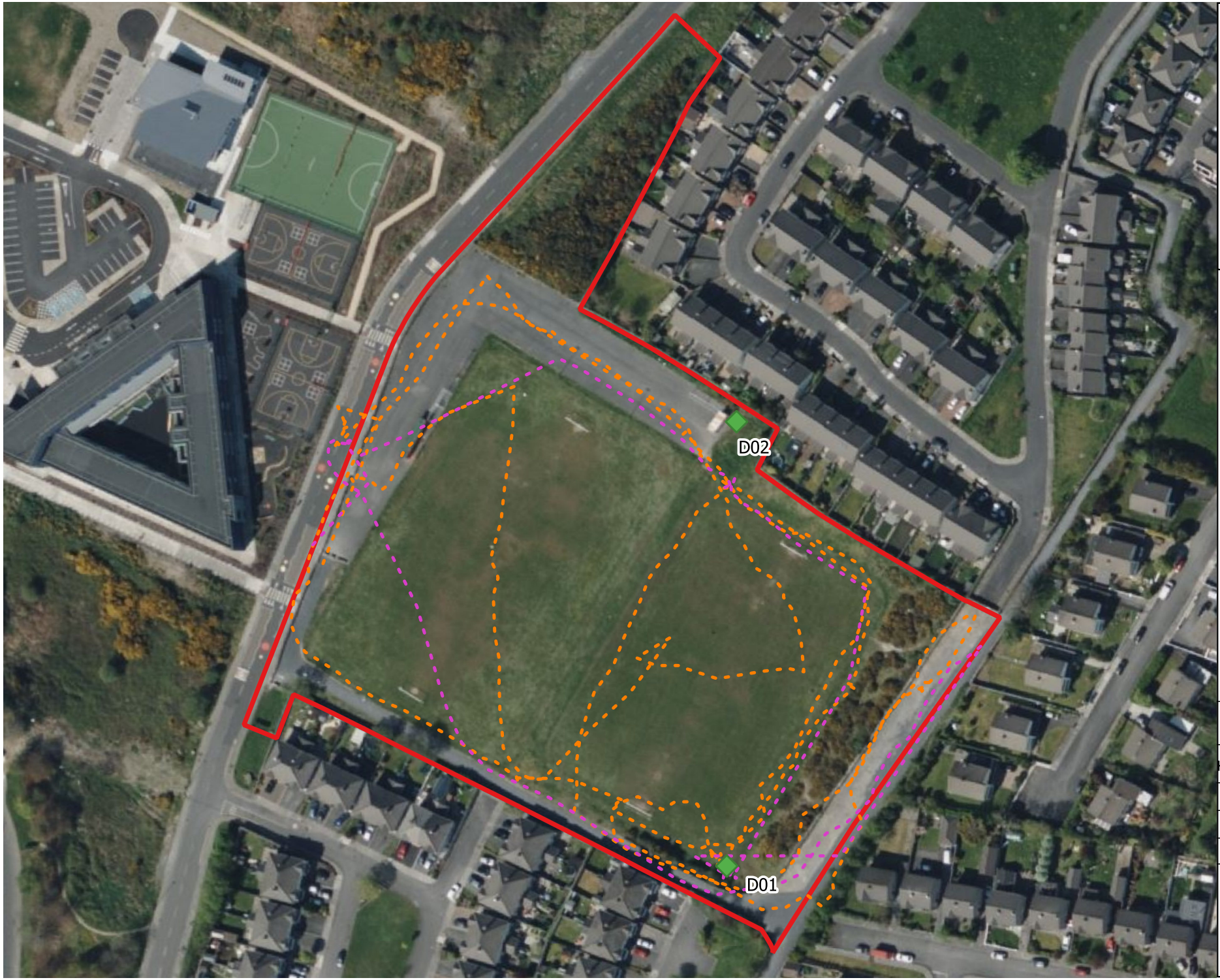

Map Legend

- Millers Lane Red Line Boundary
- Static Detector Locations

Transect Routes

- Spring
- Autumn

N

Drawing Title

Millers Lane Survey Effort

Project Title

Kingston Park and Millers Lane

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2.2.4 Survey limitations

A comprehensive suite of bat surveys were undertaken at the proposed development site. The surveys undertaken with reference to BCT Guidance, provide the information necessary to allow a complete, comprehensive and robust assessment of the potential impacts of the proposed development on bats receptors.

Access limitations can relate to static deployments and roost inspections:

- No significant access issues were encountered with the sites during static deployments, as the detectors were deployed where intended.

Survey limitations can relate to deployment coverage, data storage, equipment failure or deployment-related incidents:

- Good seasonal survey coverage of the site has been achieved, with five detectors (2no. in Miller's Lane and 3no. in Kingston Park) being deployed across the site covering the range of habitats present at the site.
- MKO employs data storage redundancy methods to ensure no data is lost from the field to final analysis - no data was lost.
- SD card corruption or fill-up can prevent data from being collected during deployments – no issues with data on-site data storage were encountered.
- Bat detector's microphones are checked before every season to ensure they have good sensitivity for data collection, and detectors' software updates are installed as soon as they become available - no issues related to equipment were encountered during the surveys.
- Incidents during deployments, such as tampering or livestock interference, can prevent data from being collected effectively - no incidents were reported during the surveys.

Activity assessment limitations can relate to data analysis procedures and a lack of standardised and Ireland-based assessment methods:

- MKO's data analysis methods include manually checking of 100% of bat passes identified by Auto ID Software, as well as noise and no ID files. Where multiple species, or multiple individuals of the same species, are identified within the same call, only one is reported, prioritising hard to detect species. This is due to the large volumes of data collected. While this method is likely to introduce a bias, it is not believed to affect the overall conclusions of the assessment, as only commonly recorded species might be underreported.
- No activity threshold currently exists for Irish bat species to objectively assess bat activity within a certain habitat, and no standardised assessment method has been proposed across the country. MKO experience surveying habitats similar to those present within the site aided with the assessment.

No limitations in the scope, scale or context of the assessment have been identified. Overall, a comprehensive evidence base to inform the ecological impact assessment has been achieved.

3. RESULTS

3.1 Desktop Study

3.1.1 Bat Species Range

Range maps from the **Article 17 Reports (NPWS, 2019)** were reviewed in relation to the proposed development location. The site lies within the known range of all nine resident Irish bat species:

- *Pipistrellus pipistrellus* (Common pipistrelle)
- *Pipistrellus pygmaeus* (Soprano pipistrelle)
- *Pipistrellus nathusii* (Nathusius' pipistrelle*)*
- *Nyctalus leisleri* (Leisler's bat)
- *Plecotus auritus* (Brown long-eared bat)
- *Myotis daubentonii* (Daubenton's bat)
- *Myotis nattereri* (Natterer's bat)
- *Myotis daubentonii (Daubenton's bat)*
- *Rhinolophus hipposideros (Lesser horseshoe bat)*

3.1.2 National Biodiversity Data Centre

A review of the National Bat Database of Ireland on the 21/10/2025 yielded results of bats within a 10km hectad of the proposed development sites. The search yielded 8 bat species within 10km. Table 3-1 lists the bat species recorded within the hectad which pertains to the proposed works site (M22).

A review of the NBDC bat landscape map provided a habitat suitability index of 37.44 (red). This indicates that the proposed development areas have high habitat suitability for bat species.

Table 3-1 NBDC Bat Records

Hectad	Species	Date	Database	Status
M22	*Brown Long-eared Bat (Plecotus auritus)*	14/08/2021	National Bat Database of Ireland	Annex IV
M22	Common Pipistrelle *(Pipistrellus pipistrellus sensu stricto)*	14/08/2021	National Bat Database of Ireland	Annex IV
M22	Soprano pipistrelle *(Pipistrellus pygmaeus)*	20/09/2022	National Bat Database of Ireland	Annex IV
M22	Pipistrelle (Pipistrellus pipistrellus sensu lato)	15/09/2021	National Bat Database of Ireland	Annex IV
M22	Nathusius's Pipistrelle (Pipistrellus nathusii)	30/05/2021	National Bat Database of Ireland	Annex IV
M22	*Lesser Noctule (Nyctalus leisleri)*	20/09/2022	National Bat Database of Ireland	Annex IV
M22	*Daubenton's Bat (Myotis daubentonii)*	23/08/2021	National Bat Database of Ireland	Annex IV
M22	*Natterer's Bat (Myotis nattereri)*	11/08/2021	National Bat Database of Ireland	Annex IV
M22	*Lesser Horseshoe Bat (Rhinolophus hipposideros)*	02/06/2021	National Lesser Horseshoe Bat Database	Annex II, Annex IV

3.1.3 Designated Sites

Within Ireland, the Lesser horseshoe bat is the only bat species requiring the designation of Special Areas of Conservation (SACs). National designation for the protection of bats can be assigned to all Irish bat species, via Natural Heritage Areas (NHAs), or proposed NHAs.

A search of all SACs within a 10km radius of the sites found one site designated for the conservation of bats. One Nationally Designated Site has also been identified, which overlaps with the SACs found. Table 3-2 presents all national and international sites designated for the protection of bats located within 10km of the proposed development sites. It is noted that the proposed development sites are significantly outside (approx. 33.5km) the core foraging range (2.5km) of the lesser horseshoe bat roost for which the SAC is designated.

Table 3-2 European and National and proposed National Sites Designated to Bats

Designated Site	Distance to Site Boundary of SAC	Species	Roost Type
Lough Corrib SAC (000297)	Approx. 2.3km from the Millers Lane Site Approx. 3km from the Kingston Park Site	Lesser Horseshoe Bat *(Rhinolophus hipposideros)*	Summer roost located approx. 33.5km from proposed development site.
Lough Corrib pNHA (000297)	Approx. 2.3km from the Millers Lane Site Approx. 3km from the Kingston Park Site	Lesser Horseshoe Bat *(Rhinolophus hipposideros)*	Summer roost located approx. 33.5km from proposed development site.

3.1.4 Habitat and Landscape

A review of mapping and photographs provided insight into the habitats and landscape features present at the proposed development. The proposed development is split between two sites, Kingston Park and Millers Lane. Kingston Park is a greenfield site that consists of two parcels of undeveloped land. Some of this land is subjected to grazing by horses and the remainder was subjected to recent scrub clearance. The site is bisected by a local access road, known as Altan Road that connects the adjacent school and residential areas to the western distributor road.

Millers' lane consists of two sports pitches that are currently in use as well as an adjacent area of unmanaged scrub located north of the pitches. Landscaping and other infrastructure, including public paths and a planted treeline are also present within the site.

The primary use of the surrounding areas is residential.

A review of the GSI online karst mapper did not indicate the possible presence of any subterranean sites within the proposed development site and a search of the National Monuments Database did not reveal the presence of any manmade subterranean sites within the site. The GSI mapper showed one cave within 10km of the sites.

A search of the UBSS Cave Database found no caves within the proposed site, but two caves were noted within 10 km of the study areas. Table 3-3 presents caves within 10km of the site.

Table 3-3 Caves within 10km of the proposed development site

Cave	Distance from Site	Description
Terryland/Cooley's Cave	3.0km	10m passage to collapsed chamber
Cooper's Cave (GSI)	5km	Cave. Used by several bat species including lesser horseshoe bat
Newry Hole	6.9km	Chamber with calcite and pool

3.1.5 Previous Reports

Musgraves Knocknacarra

In 2024, MKO carried out bat surveys on lands adjacent to the proposed development site. The survey effort included a night-time bat walkover (NBW) at dusk on 24th April 2024, as well as the deployment of two SM4 static detectors for a 27-night period at two locations selected to capture areas of likely bat activity. A total of 3,752 bat passes were recorded, with four species identified from the detector data. The results of the 2024 survey effort are presented in Table 3-4 below.

Table 3-4 2024 Activity survey results

Static Detector Surveys				
Detector ID	Common pipistrelle	Soprano pipistrelle	Leisler's bat	Brown long-eared bat
D01	799	935	118	3
D02	1,031	600	266	-

Night Bat Walkover Survey				
Date	Km	Common pipistrelle	Soprano pipistrelle	Leisler's bat
24/04/2024	3.1km	39	64	4

3.1.6 N6 Galway City Transport Project (2018)

A series of bat surveys were carried out in relation to the N6 Galway City Transport Project and are described in full within the EIAR for the project (www.n6galwaycity.ie). During field surveys between 2014 – 2018, the following bat species were recorded along the entire route of the proposed road: lesser horseshoe bat, Leisler's bat, common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, brown long-eared bat, Daubenton's bat, Natterer's bat and whiskered bat. A total of 88 roost sites were recorded during these field surveys of the entire proposed road.

Lesser Horseshoe Bat

The nearest recorded roosts to the proposed development were recorded in the Cappagh/Barna area (PBR116 & PBR124) to the south-west of the proposed development over 1.7km away.

PBR116 saw ultrasound recordings within a night roost; however, number of bats recorded was unknown. A day/night roost with droppings associated with a single bat in an alcove was confirmed at PBR124.

A maternity/hibernation roost for lesser horseshoe bat was identified within the ruined castle at Menlo which is approximately 2.7km from the proposed development. This roost, along with a roost at Cooper's Cave (5km away) in Castlegar, were identified as key sites for the Menlo lesser horseshoe bat population, which are also supported by a network of smaller day/night roost sites across the local area. Radio-tracking studies, undertaken in 2014 and 2015, established an important link between the roosts at Menlo Castle and Cooper's Cave.

Menlo Castle has been identified as a key maternity colony for the area since it was found in August 2000 and has since been monitored annually by the NPWS. An assessment of the relative importance of the Menlo Castle roost, determined the maternity roost constitutes approx. 0.6% of the summer population of lesser horseshoe bats for the national population and approx. 6% of the Co. Galway summer population. Although it did not meet the threshold of 1% of national population, the authors considered the Menlo Castle maternity roost as being of national importance as its situation provides an important stepping-stone for long-term movements and gene flow between populations in North Galway and Mayo and populations in South Galway and Clare.

In addition, surveys of potential hibernation sites indicated that Menlo Castle provides winter hibernation conditions for several individuals.

Other Bat Species

No other bat roosts were identified in the immediate vicinity of the proposed development during the surveys. There are however a number of confirmed roosts of varying species across the city, including brown long-eared bat, common pipstrelle, soprano pipistrelle, Daubenton's bat, Natterer's bat, Leisler's bat and Whiskered bat.

Menlo Castle

Menlo Castle is a protected structure located approximately 2.8km from the proposed development site, in the outskirts of Galway City. Regular monitoring has been conducted on Menlo Castle to record the number of roosting bats since the discovery of a lesser horseshoe bat maternity roost in 2000. Surveys have been conducted by consultants (including MKO) and the NPWS. A summary of results of previous surveys MKO conducted, along with surveys outlined in public reports are shown in Table 3-5 below.

The site is not located within the core foraging range of the lesser horseshoe bat populations recorded at Menlo castle. Menlo castle not designated as an SAC; however, the population of lesser horseshoe bats associated with this roost are considered of National Importance.

Table 3-5 Number of species recorded roosting in Menlo Castle per survey year.

Year	Maximum count of roosting bats
2025	33 Lesser horseshoe bat
2024	13 Lesser horseshoe bat
2023	6 Lesser horseshoe bat
2022	37 Lesser horseshoe bat 4 Soprano pipistrelles
2021	34 Lesser horseshoe bat
2018	20 Lesser horseshoe bat
2017	43 Lesser horseshoe bat
2016	35 Lesser horseshoe bat
2015	32 Lesser horseshoe bat
2014	35 Lesser horseshoe bat
2012	27 Lesser horseshoe bat
2009	38 Lesser horseshoe bat
2006	2 Lesser horseshoe bat
2005	5 – 10 Lesser horseshoe bat
2000	12+ Lesser horseshoe bat, 20 Daubenton's bat, 20+ Brown long-eared bat, <30 Natterer's bat, 1 Soprano pipistrelle

3.1.7 Galway County Development Plan 2022-2028

The Galway County Development Plan (2022-2028) was searched for references specific to the protection of bats. The following objective was found:

NHB 9 Protection of Bats and Bats Habitats
Seek to protect bats and their roosts, their feeding areas, flight paths and commuting routes. Ensure that development proposals in areas which are potentially important for bats, including areas of woodland, linear features such as hedgerows, stonewalls, watercourses and associated riparian vegetation which may provide migratory/foraging uses shall be subject to suitable assessment for potential impacts on bats. This will include an assessment of the cumulative loss of habitat or the impact on bat populations and activity in the area and may include a specific bat survey. Assessments shall be carried out by a suitably qualified professional and where development is likely to result in significant adverse effects on bat populations or activity in the area, development will be prohibited or require mitigation and/or compensatory measures, as appropriate. The impact of lighting on bats and their roosts and the lighting up of objects of cultural heritage must be adequately assessed in relation to new developments and the upgrading of existing lighting systems.

3.1.8 Galway City Development Plan 2023-2029 – Appropriate Assessment

The Galway City development plan was searched for references specific to the protection of bats. The objective in the following Table 3-6 was found:

Table 3-6 Extract from Table 5-3 Galway City Development plan 2023 – 2029 – Appropriate Assessment

Policies and Objectives	Background recommendation	Recommendation
Policy 9.7.1 - Light Pollution	Lighting: Ensure that new developments meet the most up-to-date standards provided for lighting measures, including inclusion of dark zones, and sensor lighting and warmer spectrum lights. Bats and Lighting: Guidance Notes for: Planners, engineers, architects and developers (Bat Conservation Ireland, 2010) incorporates details of suitable lighting designs. Lighting on linear infrastructures can lead to disturbance or disruption along the route of an important ecological corridors, such as hedgerows and watercourses. Greenways and blue spaces often make amenity use of such linear features, and as such lighting should be carefully managed to ensure coherence of the supporting habitats of European sites, as outlined in Article 10 of the Habitats Directive.	Recommendation: Ensure the design of **external lighting minimises the incidence of light pollution, glare and spillage into the surrounding environment** and has due regard to the visual and residential amenities of surrounding areas and is so designed to mitigate adverse impacts on wildlife and ecosystems. Inclusion of **dark zones and sensor lighting** should be included where feasible. Lighting on linear infrastructures, including greenways and blueways, should be carefully managed to ensure the ecological coherence of the Natura 2000 network in accordance with Article 10 of the Habitats Directive.

3.2 Field Study

3.2.1 Bat Habitat Appraisal

A detailed description of the habitats located onsite are presented in the accompanying Ecological Impact Assessment (EcIA). A bat habitat appraisal walkover and inspection survey was conducted at both sites on the 15th May 2025. During this survey, habitats within the study areas were assessed for their suitability for bats to roost, forage and commute. Connectivity with the wider landscape was also considered to determine habitat suitability.

Recolonising bare ground (ED3) is the dominant habitat within the Kingston Park site, primarily in the northern portion. In the centre of the site, dry calcareous and neutral grassland (GS1) occurred across three fields, though it was in poor condition due to overgrazing and disturbance by horses. Small areas of scrub (WS1) were found along the western boundary and treelines, dominated by gorse, bramble, and willow, while a small patch of dense bracken (HD1) occurred near the eastern boundary. Buildings and artificial surfaces (BL3), including a tarmacked road and footpaths, were present along the Altan Road. Hedgerows (WL1) were scattered throughout the site along old field boundaries, composed mainly of hawthorn, holly, and willow with bramble and ivy understory, some associated with low drystone walls (BL1). Two treelines (WL2) were recorded—one along the western boundary adjoining school grounds, featuring willow, ash, alder, and copper beech, and a second along the northwestern edge consisting of sparsely planted birch trees. Scattered semi-mature trees, both naturally regenerated and planted, occurred throughout the recolonised ground, forming areas of immature woodland (WS2) dominated by alder, sycamore, birch, and willow species.

With regard to foraging and commuting bats, the Kingston Park Lands are considered of *Moderate* suitability due to the scrub habitat and network of hedgerow and treelines.

Millers Lane is primarily composed of two football pitches classified as Amenity Grassland (GA2). Scrub (WS1) dominates the sloped bank along the northeastern boundary. North of the pitches, a mosaic of scrub and Dry Meadows and Grassy Verges (GS2). A planted treeline (WL1) of birch and willow bordered the southern edge, accompanied by a poorly maintained strip of Flower Beds and Borders (BC4) containing a mix of native and non-native species. Along the eastern boundary, a grassy verge with public seating. The remainder of the site comprised hardstanding areas, walkways, and boundary walls classified as Buildings and Artificial Surfaces (BL3).

The Miller's Lane site is considered *Low* foraging and commuting suitability, due to the small size of the site within an urban setting and the large managed grassland and sports pitch. While suitable commuting and foraging habitat in the form of scrub (Plate 3-2) and linear features to the southwest and northwest are present within the Millers Lane site (Plate 3-1), the *Low* assessment relates to the location of the site and the absence of other suitable and diverse habitats in its immediate vicinity.

No suitable features for roosting bats were found within either of the sites.

Plate 3-1 south view of sports pitches on the Millers Lane site

Plate 3-2 Hedgerow and treeline to the south of Millers Lane

Plate 3-3 Treeline and hedgerow to the south of the Kingston Park site

Plate 3-4 North view over Kingston Park of dry calcareous and neutral grassland, with scrub, bordered by hedgerows and treelines

Plate 3-5 Cluster of trees to the north of the Kingston Park site (image captured from the west)

3.2.1.1 Roost Assessment - Structures

Two storage container structures were identified within the Millers Lane site (Irish Grid Ref: M 27109 25288 & M 27022 25282) and inspected as part of the roost assessment effort. No evidence of roosting bats was found during the inspections and the structures lacked suitable crevices and access points. As such, both were assigned *Negligible* roosting potential.

Plate 3-6 Storage Shed no. 1 – Miller's Lane

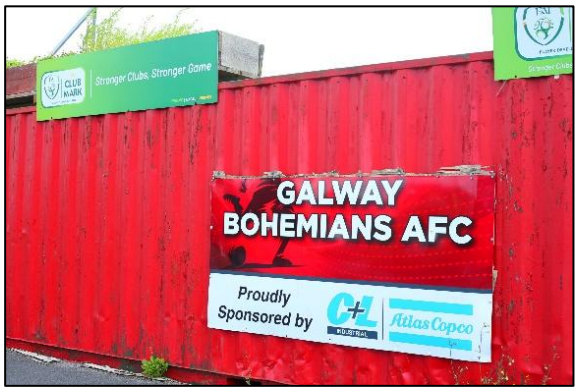

Plate 3-7 Storage Shed no. 2 – Miller's Lane

3.2.1.2 Roost Assessment - Trees

The sites comprised a network of treelines and hedgerows bordering existing tracks and roads, as well as agricultural and amenity grasslands. Deciduous trees identified throughout the site were assessed for their potential to host roosting bats. The majority of linear features comprised hedgerows with sparse, immature trees with no potential roosting features. Plates 3-8 to 3-11 display a representative sample of the trees found on both the Kingston Park and Millers Lane sites.

A total of 42 trees were assessed for their potential to support roosting bats. No roosting features were found within any of the trees on either of the sites.

Plate 3-8 Mix of immature Italian alder, willow spp., sycamore and silver birch to the north of Kingston Park (image captured to the east) – no potential roosting features

Plate 3-9 Semi-mature willow spp. to the north of the Kingston Park site - No PRFs

Plate 3-10 Immature willow spp. to the north of the Kingston Park site - No PRFs

Plate 3-11 A planted treeline (WL1) of immature birch and willow bordered the southern edge – no potential roosting features

3.2.2 Bat Activity Surveys

3.2.2.1 Night-time Bat Walkover Surveys

Dusk night walkover surveys took place on the 3rd June, 15th July and 9th September 2025. Bat activity was recorded on all surveys, with a total of 65 bat passes (Table 3-7).

Table 3-7 Night Walkover Survey Results

Date	Km walked	Common pipistrelle	Soprano pipistrelle	Leisler's bat
Kingston Park				
03/06/2025	1.45km	2	0	0
15/07/2025	1km	4	0	1
09/09/2025	2km	47	7	1
Millers Lane				
03/06/2025	750m	0	1	0
09/09/2025	1.7km	2	0	0
Total	6.9km	55	8	2

The surveys were designed to assess the use of linear features and associated habitats for foraging and commuting bats. Bat activity was dominated by Common pipistrelle. Soprano pipistrelle were also recorded to a lesser extent, and Leisler's bat were recorded infrequently.

The majority of bat passes were recorded along linear habitat features such as hedgerows and treelines along the perimeter of the Kingston Park site or throughout the cluster of trees to the north of the Kingston Park site. The Autumn walkover recorded the highest levels of bat activity across all survey periods.

Activity at Millers Lane was considered low, with only 3 bat passes recorded during the walked transect. One Soprano pipistrelle was recorded in June and two Common pipistrelles were recorded in September. Overall, activity at Kingston Park was higher.

Figures 3-1 and 3-2 presents the spatial distribution of bat activity across the night walkover surveys.

Drawing Title
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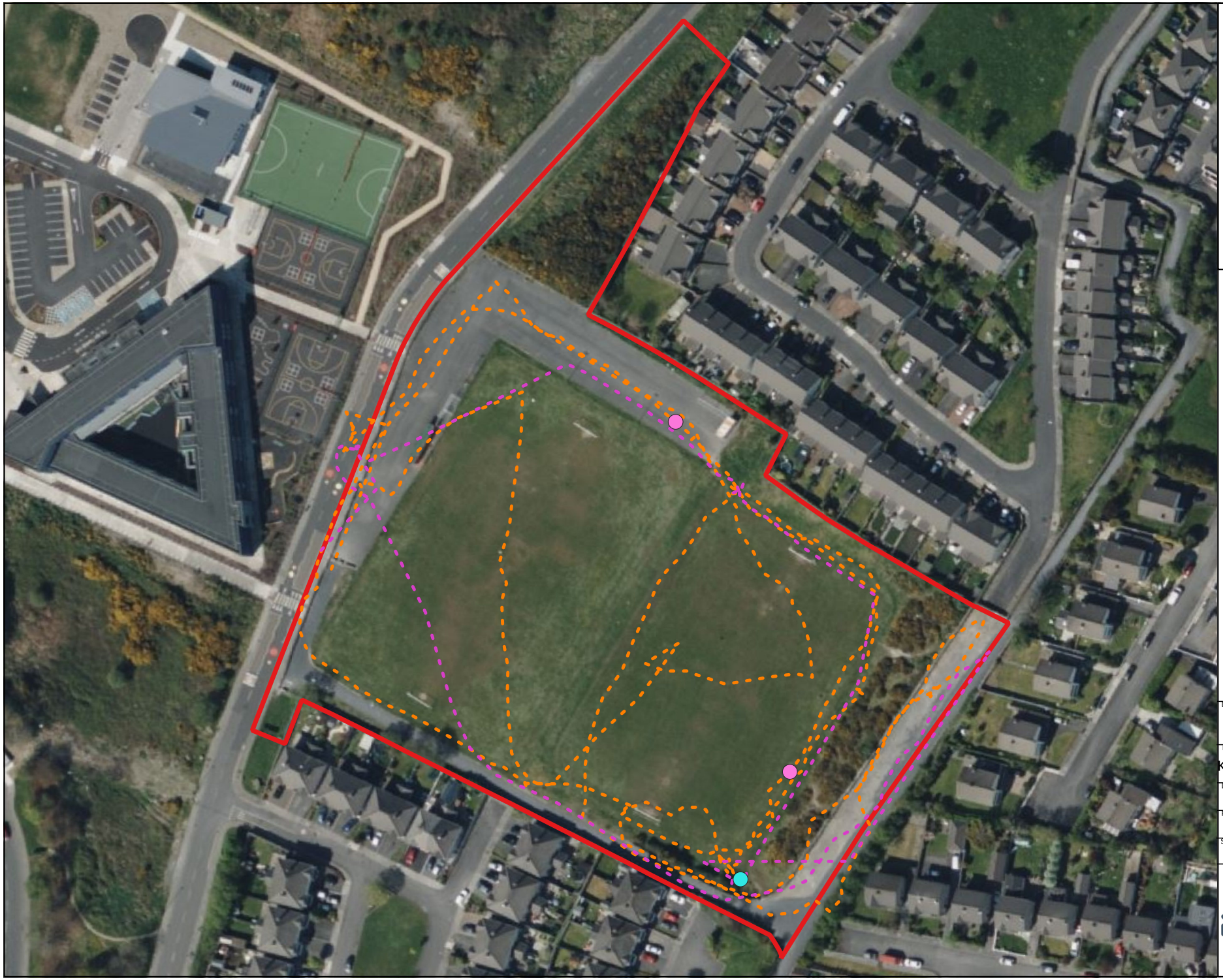

Drawing Title
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3.2.2.2 Static Detector Surveys

Five SM4 static detectors were deployed on the site for a period of two weeks seasonally at five different locations (D01 to D05). The five detectors were deployed on the 15th of May 2025 and collected on the 3rd June 2025. They were deployed in the same five locations on the 26th June 2025 and collected on the 15th July 2025. Finally, they were deployed in the same five locations on 9th September and collected on the 26th September. These detectors allowed a specified look into species composition, commuting and foraging activities within the site. Locations were chosen to represent areas of likely bat activity. The location of the static detectors is shown in Figure 2-1 and 2-2.

In total 27,986 bat passes were recorded across both sites. Analysis of the detector recordings positively identified six bats to species level with *Myotis* genus also present. Soprano pipistrelle (*Pipistrellus pygmaeus*) made up the vast majority of the activity recorded within the site (n=16,579), followed by common pipistrelle (n=9,548) and then Leisler's bat *(Nyctalus leisleri*) (n=1,673). Brown long-eared bats (n=150) were less frequently recorded, followed by *Myotis* spp. (n=32) and Nathusius' pipistrelles (n=4). No instances of lesser horseshoe bat were recorded at the site. Plate 3-12 shows total bat species composition recorded across both sites.

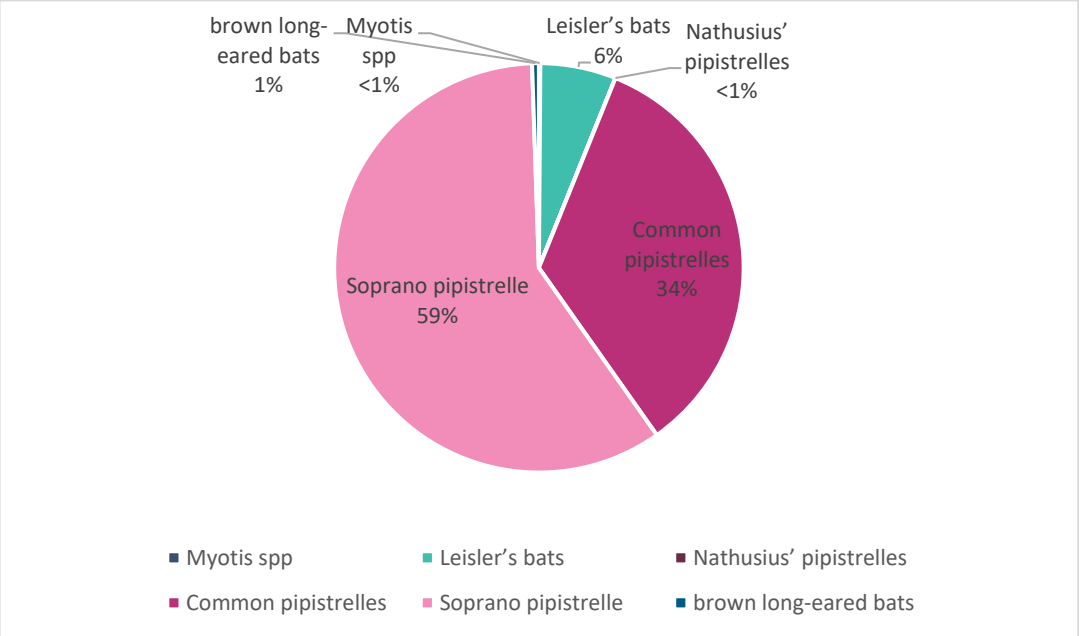

Plate 3-12 Total bat species composition.

The total bat passes per detector are summarised in Table 3-8.

Table 3-8 Static detector results, total bat passes.

Detector	Common Pipistrelle	Soprano Pipistrelle	Leisler's Bat	Nathusius' pipistrelle	Brown Long-eared Bat	*Myotis* spp.	Total
Miller's Lane – Total bat passes 9,525							
D01	1,125	5,007	318	1	4	9	**6,464**
D02	536	2,244	275	1	1	4	**3,061**
Kingston Park – Total bat passes 18,461							
D03	1,515	2,416	271	1	23	1	**4,227**

Detector	Common Pipistrelle	Soprano Pipistrelle	Leisler's Bat	Nathusius' pipistrelle	Brown Long-eared Bat	*Myotis* spp.	Total
D04	3,777	3,328	206	1	59	8	**7,379**
D05	2,595	3,584	603	0	63	10	**6,855**

Species composition was similar at all detectors. Nathusius' pipistrelle was recorded only once at each detector except D05, with single detections at D01, D02, and D03 on the morning of the 22nd of May, and one at D04 on the evening of the 23rd of September. Overall, bat activity varies between seasons and detectors, with summer consistently showing the highest levels of activity across most detectors, except for D02 where Spring showed the highest number of bat passes.

Kingston Park

Detectors D04 and D05 (within Kingston Park) recorded the highest levels of bat activity across the two sites. These detectors were positioned along treelines and hedgerows, further away from artificial lighting and road networks, which likely contributed to the increased activity. Soprano pipistrelle was the most frequently recorded species across most locations, with the exception of D04, where Common pipistrelle dominated. As seen on Plate 3-17 below, at D04, Common pipistrelle activity peaked on the 31st of May, with 295 bat passes, and again on the 9th and 10th of September, with 288 and 285 passes respectively. The highest level of Soprano pipistrelle activity occurred on the 8th of July at D05, with 406 bat passes recorded that night.

Millers Lane

Detector D02, located to the north of Miller's Lane, recorded the least activity throughout both sites, which may be attributed to the reduced vegetation cover and proximity to residential areas. In contrast to Kingston Park, where Common and Soprano Pipistrelles were recorded in roughly equal numbers, Soprano Pipistrelles were notably more dominant at Miller's Lane, with D01 recording the highest number of passes than any other detector.

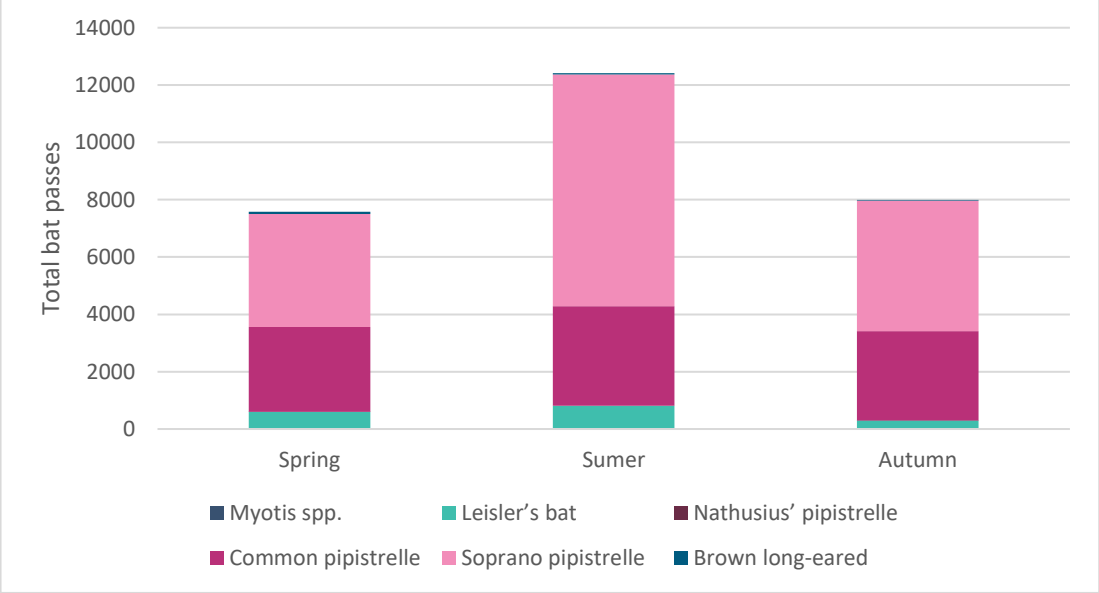

Plate 3-13 Species composition per season

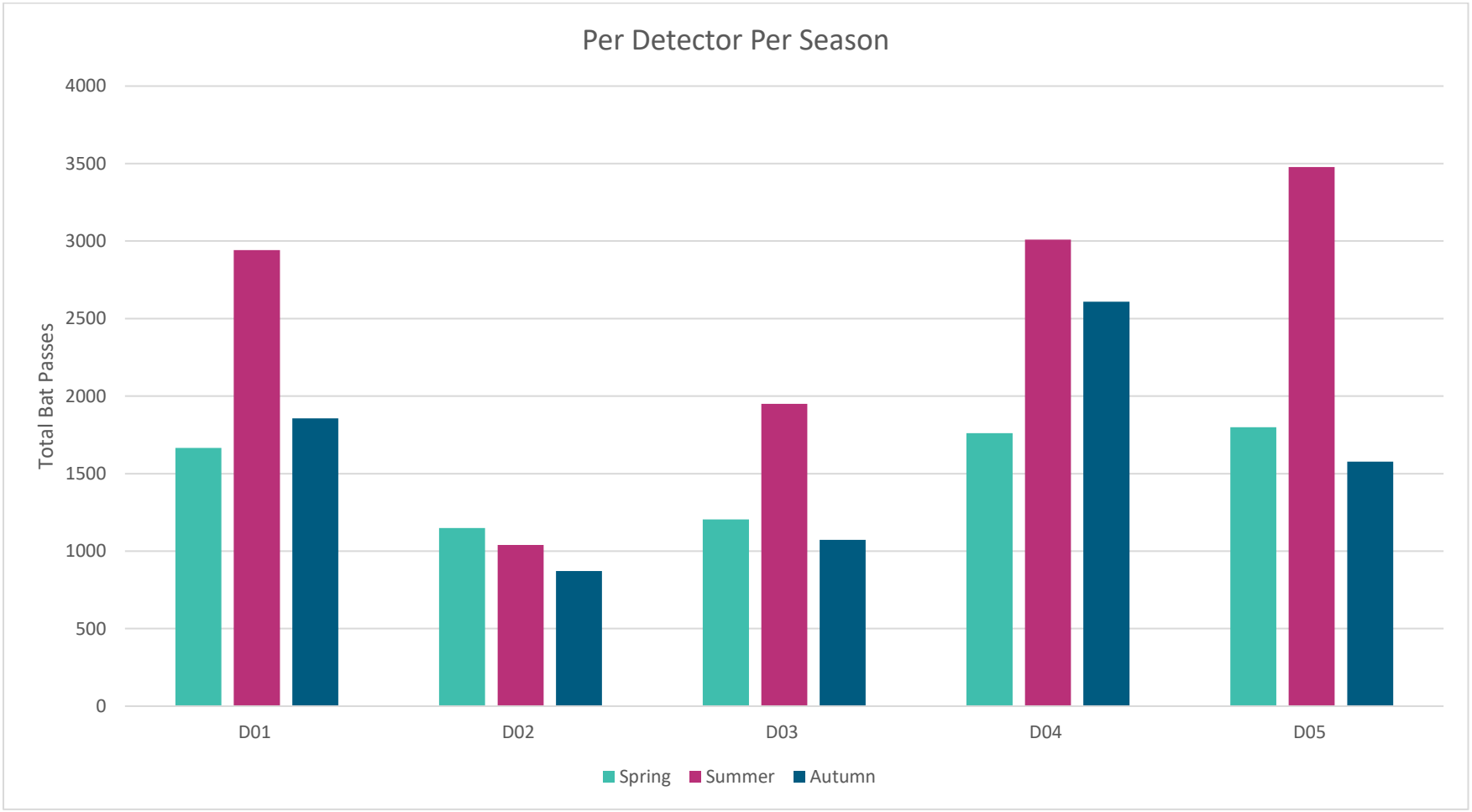

Plate 3-14 Bat passes, per detector, per season

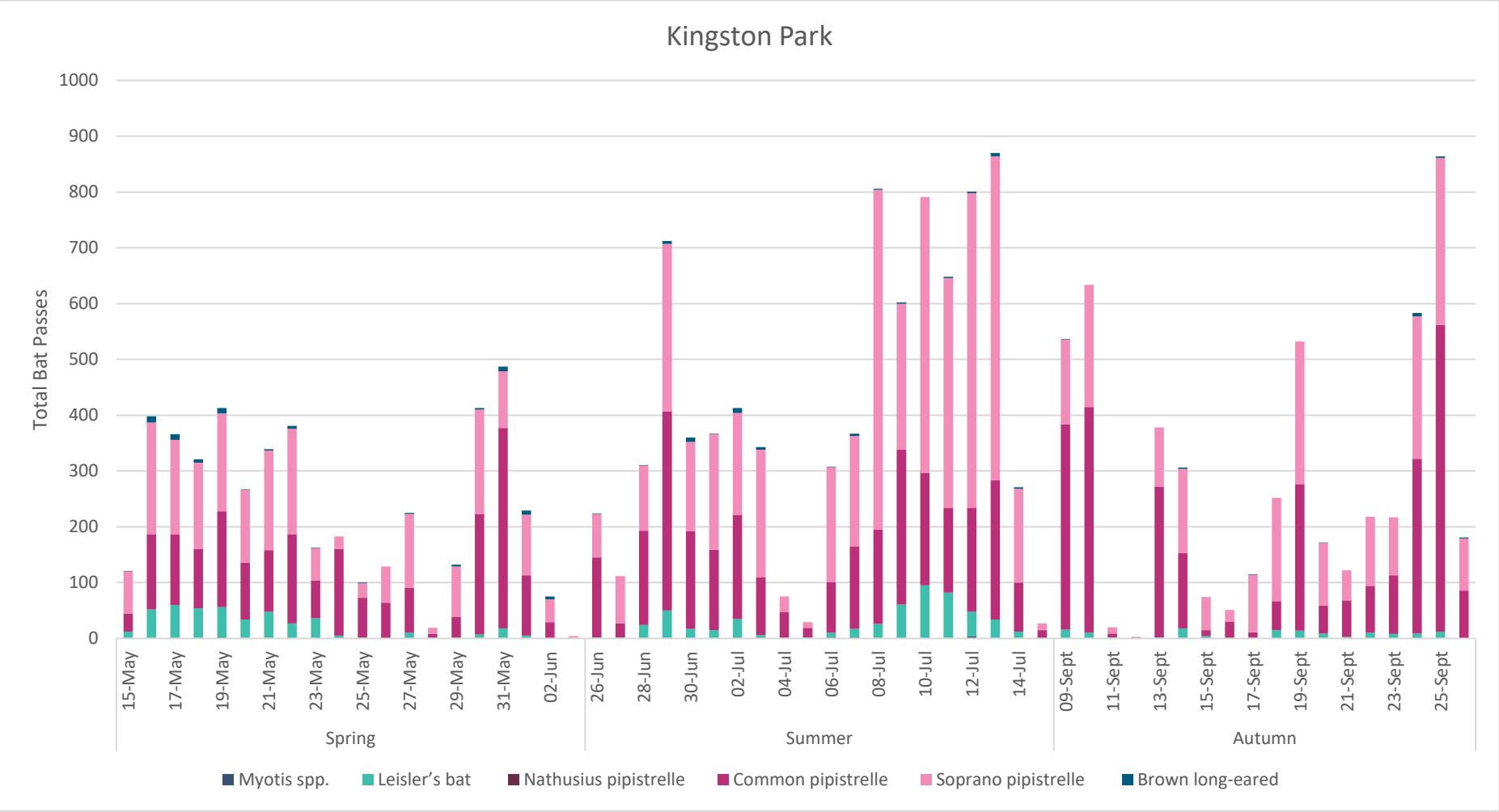

Plate 3-15 Bat passes per species, per night, per season in Kingston Park

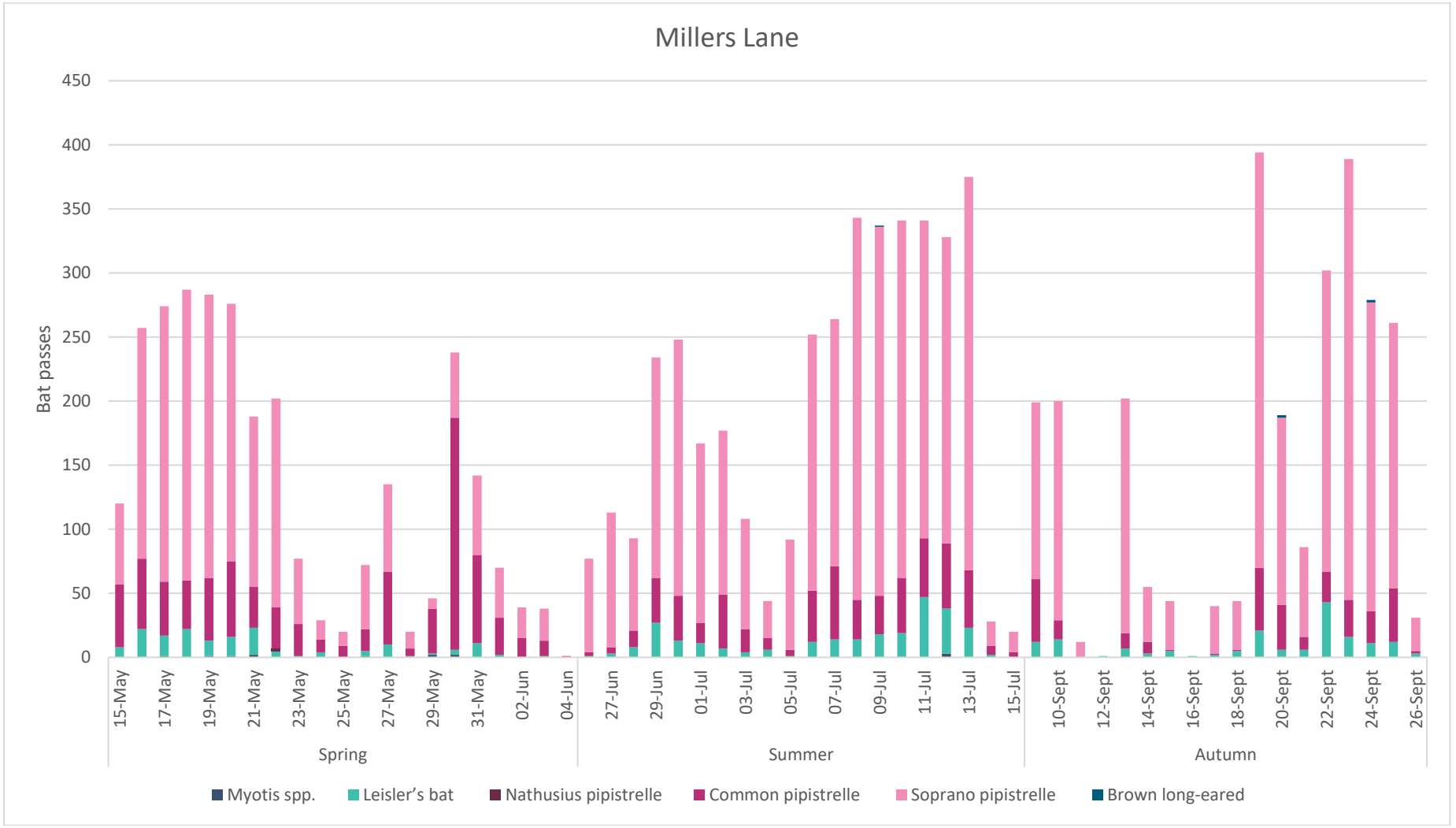

Plate 3-16 Bat passes per species, per night, per season in Millers Lane

4. INTERPRETATION AND EVALUATION

4.1.1 Ecological Function of the Site

The proposed development is located within the known range of all species of Irish bats. Bats were recorded using the site during every night of static detector deployment and during manual surveys.

Kingston Park

The Kingston Park site supports a typical bat assemblage for a semi-rural landscape, surrounded by urban environment in the west of Ireland, with species-specific patterns of use that reflect the ecological role of the site within the wider environment. **A total of 18,461 bat passes** were recorded across the three detectors (D03–D05). *Pipistrellus pygmaeus* (soprano pipistrelle) was the most active species overall, with **9,328 passes**, followed by *Pipistrellus pipistrellus* (common pipistrelle) with **7,887 passes**. Leisler's bat (*Nyctalus leisleri*) was recorded on all detectors, though at lower levels (**1,080 passes** in total), while *Myotis spp.* and brown long-eared bat (*Plecotus auritus*) were detected infrequently (**19 and 145 passes**, respectively). A single Nathusius' pipistrelle (*Pipistrellus nathusii*) call was also recorded.

Activity was highest at D04 (**7,379 passes**) and D05 (**6,855 passes**), corresponding to the more well-connected treelines and hedgerows along the western and southern boundaries of the Kingston site, which serve as commuting and foraging corridors. Activity levels were slightly lower at D03 (**4,227 passes**), likely reflecting increased proximity to light sources and open ground.

Nyctalus leisleri and *Plecotus auritus* were recorded in smaller numbers within the site, suggesting the site contributes to some movement and foraging for these species, likely in connection with adjacent treelines and open habitats. The presence of early-emerging individuals of *P. pygmaeus,* and *N. leisleri* further supports the likelihood of roosts in the nearby wider area. Myotis species were recorded at very low levels, indicating occasional use of the site for commuting and concentrated foraging periods.

During manual surveys, common pipistrelle activity were recorded along the hedgerows to the south, while soprano pipistrelles were observed foraging along the northern treeline. This treeline represents the most suitable on-site habitat for bats, providing foraging and commuting potential.

Overall, the Kingston Park site provides suitable ecological function for bats, acting as a local commuting corridor and foraging resource. Activity is closely associated with linear features such as treelines and hedgerows, highlighting their importance in maintaining habitat connectivity and supporting the broader bat population in the landscape.

Millers Lane

The Millers Lane site supports a similar bat assemblage. Across both detectors (D01 and D02), **a total of 9,525 bat passes** were recorded. Soprano pipistrelle (*Pipistrellus pygmaeus*) was again the most active species, accounting for **7,251 passes**, followed by common pipistrelle (P. pipistrellus) with **1,661 passes**. Leisler's bat activity was lower (**593 passes**), and very few calls of *Myotis spp.* (13 passes), brown long-eared bat (5 passes), or Nathusius' pipistrelle (2 passes), were recorded.

Activity was highest at D01 (**6,464 passes**), which is located near denser vegetation and treelines to the south, while D02 (**3,061 passes**) recorded less activity, likely due to its proximity to residential lighting and reduced vegetation cover to the north.

During the first nighttime bat walkover survey in June, only one Soprano pipistrelle was recorded within Millers Lane. The second survey in September also recorded very low levels of bat activity with

only two Common pipistrelles recorded. Overall, bat activity at Miller's Lane was dominated by soprano pipistrelles, with fewer records of other species, indicating that the site functions as a potential secondary foraging area and commuting corridor.

4.1.2 Bat Habitat Suitability

• **Roosting:** No roosts or potential roosting features were found within the trees or structures on either of the Kingston Park or Millers Lane sites.

• **Commuting:** Elevated activity levels along hedgerows and treelines, particularly in the southern section of the Kingston Park site, in comparison to open grassland habitats indicate regular use of linear features by multiple bat species. These linear features contribute significantly to landscape-scale connectivity and should be retained where possible.

• **Foraging:** Foraging activity was focused along edge habitats and semi-natural features, highlighting their value for common and generalist species. While not optimal for more specialist or rarer bats, the habitat supports a representative bat assemblage for this part of west Ireland.

4.1.3 Importance of Bat Population Recorded at the Sites

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 evidence of roosts was found within the sites during the surveys and the site does not support a significant roost of ecological value. However, bats as an Ecological Receptor have been assigned ***Local Importance (Higher value)*** on the basis that the habitats within the study area are utilized by a regularly occurring bat population of Local Importance.

5. CONCLUSION & RECOMMENDATIONS

5.1 Summary of Key Findings

The following points set out the main conclusions following the completion of the surveys described above:

- Six bat species were recorded commuting and foraging across the proposed development site (Kingston Park & Miller's Lane) during the bat surveys carried out between May and September 2025, including soprano pipistrelle, common pipistrelle, Leisler's bat, brown long-eared bat, *Myotis* spp. and Nathusius' pipistrelle.
- No roosts were recorded during the 2025 seasonal surveys, and the sites do not present suitable roosting features for bats.
- The existing landscape occurring within the Kingston Park site boundary provides *Moderate* quality habitats for commuting and foraging bats, especially along the linear features bordering the site. Whilst the Millers Lane site provides relatively *Low* quality habitats for commuting and foraging bats, the most suitable being in the south of the site. The Key Bat Habitats are mapped in Figure 5-1 and 5-2 below.
- No Lesser horseshoe bats were recorded throughout any of the survey periods.

5.2 Recommendations

A full assessment of the potential impacts on bats as a result of the proposed development is presented in the EcIA which will accompany the planning application. To ensure that bats are appropriately considered during the design and construction phases, the following recommendations are made:

1. **Retain and protect treelines and hedgerows**, particularly the important boundary features, which serve as key commuting and foraging corridors for bats (see Figures 5-1 and 5-2 below). Sections of the existing treelines and hedgerows to the east, south, and west of the sites will be retained and protected, as they provide key commuting and foraging corridors for bats.
2. **Enhance site connectivity through targeted planting.** The landscape plan includes new tree and hedgerow planting is proposed along internal paths and boundaries to strengthen ecological connectivity throughout the site. This approach will link existing habitat features and create additional foraging and commuting routes, supporting long-term biodiversity enhancement and aligning with best practice for habitat retention and ecological design. As stated within the proposed development description the following will be included, with further details outlined in the accompanying EcIA:
    a. ***Kingston Park***
    Extensive native landscaping and nature-based drainage measures including pollinator-friendly raingarden/ bioretention areas; reinforced grass paving; native hedgerows; short- and long-flowering meadows; wildflower gardens; native woodland; and pollinator-friendly perennials and shrubs.
    b. ***Millers Lane***
    Extensive native landscaping and nature-based drainage measures including pollinator-friendly raingarden/ bioretention areas and reinforced grass paving, as well as planting areas with typologies including native woodland, avenue tree planting, clipped hedges, short-flowering meadow, and pollinator-friendly perennials.
3. **Implement bat-sensitive lighting design.** Existing floodlighting is present at Millers Lane for the existing sports pitches. There are 1m high bollard light fittings also running along the east and south of the Millers Lane site. No artificial light fittings currently occur at Kingston Park. The proposed new lighting scheme for both areas includes low-spill, energy-efficient LED lights with a warm 2700K-3000K colour temperature, mounted on 4-4.5 m poles. Lighting layout has been designed to avoid direct illumination of key ecological features such as linear features to the east, west and

south. Lights throughout the site are positioned to face inward toward the development, and existing or proposed vegetation will further screen lighting from sensitive habitats. These design choices are in line with ILP Guidance (E3 Environmental Zone) and help to minimise light spill, sky glow, and glare. Further details of lighting proposed can be found in Lighting Design Pack, provided by Moloney Fox Consulting. The following recommendations were taken into consideration with the design of the proposed development:

- Floodlighting will only be used between September and April (ie. Outside the main bat activity period) and must be turned off within one hour after matches or training sessions, controlled either by a timer or under strict caretaker management. The colour temperature will be no more than 3000K.
- All other column and bollard lighting throughout the sites will be 2700k and no light is emitted into the upper half-space of the luminaire
- Dark zones will be maintained to the south, east and west of Kingston Park (as seen within Landscape plan in Drawing P612-KIN-LD-GA-101) with full cut-off, baffles & tight spill controls, no column lighting and ≤ 0.5-1 lux at the edge with 0 lux in core dark areas.

4. **Maintain flexibility in construction** to adapt to ecological findings. If a bat roost is discovered during construction that may be affected by site activities, a derogation licence from the National Parks and Wildlife Service (NPWS) must be obtained prior to any disturbance.
5. **Enhance roosting opportunities** through the installation of 2no. Bat boxes within the Kingston Park site. Bat boxes will have a southerly orientation and be positioned at least 3m from the ground, away from artificial lighting. They will be placed adjacent to retained vegetation features such as treelines and hedgerows to ensure they are close to existing flight paths and can avoid wide open spaces (Collins, 2023). The boxes are proposed to be located to the southeast and west of the site, however, their exact location will be determined by a qualified ecologist prior to works commencing.

Map Legend

- Kingston Red Line Boundary
- Kingston Masterplan Boundary
- Key bat habitats -Commuting corridors

N

Drawing Title
Kingston Park Key Bat Habitats

Project Title
Kingston Park and Millers Lane

Drawn By	Checked By
SF	AJ
Project No.	Drawing No.
240298	Figure 5-1
Scale	Date
1:1,550	10.09.2025

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Map Legend

- Millers Lane Red Line Boundary
- Key bat habitats -Commuting corridors

N

Drawing Title

Millers Lane Key Bat Habitats

Project Title

Kingston Park and Millers Lane

Drawn By	Checked By
SF	AJ
Project No.	Drawing No.
240298	Figure 5-2
Scale	Date
1:1,400	10.09.2025

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5.2.1.1 Conclusion and EcIA Input

This baseline bat assessment provides a robust evidence base to inform the Ecological Impact Assessment (EcIA) for the proposed development. The surveys have identified:

- Key habitat features that require protection or mitigation;
- Bat species and activity levels to assess the likely significance of impacts;
- Areas of elevated ecological function within the site;
- Species importance levels that inform proportionate mitigation.

The findings support the application of the mitigation hierarchy during project design and assessment, in order to avoid, minimise, and, where necessary, compensate for impacts on bats in accordance with national legislation and good practice guidance.

In line with Policy NHB 9 *Protection of Bats and Bat Habitats* of the Galway City Development plan the proposed development incorporates targeted mitigation and enhancement measures to protect bat populations and their habitats. While the project involves the removal of certain trees (primarily immature or scrub), this loss will be compensated by new tree planting across the site, ensuring the continuation of suitable foraging and commuting features for bats. Importantly, existing hedgerows to the south, west and east of Kingston Park, where these areas are identified as having high bat activity will be retained and protected throughout the works. These linear features provide essential dark corridors and navigation routes for bats and will help maintain ecological connectivity across the landscape. Two bat boxes have also been proposed in these areas.

The proposed development aligns with this Policy 9.7.1 of the Galway County Development Plan through the incorporation of sensitive lighting design and the deliberate retention of dark zones across the site. Specifically, dark areas will be maintained to the west, east, and south of the Kingston Park site, where key hedgerows and commuting routes for bats are located. Lighting will be designed and installed in accordance with *Bats and Lighting: Guidance Notes for Planners, Engineers, Architects and Developers* (Bat Conservation Ireland, 2010), using directional, low-intensity, and warm-spectrum fittings to minimise light spill and disturbance. Additionally, lighting controls will be implemented across both sites.

Key measures, such as the retention of hedgerows, the management of lighting impacts, and enhancement actions (such as bat boxes and native tree planting), will help support the principles of no net biodiversity loss and ensure compliance with national legislation protecting bat species and their habitats.

Overall, the survey results provide a clear understanding of how bats use the site and its surroundings, and the report outlines proportionate, evidence-based recommendations to safeguard bats throughout the planning and development process.

6. BIBLIOGRAPHY

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APPENDIX 7

WINTERING BIRD SURVEY RESULTS

WINTERING BIRD SURVEY DATA

Project Reference	240298- Kingston Park and Millars Lane Parks Project
Date	20/10/2025
Subject	Wintering Bird Survey Data
Author(s)	Mairead Kavanagh

Kingston Park

Date	VP	Species	Number of individuals	Notes
28/03/2025	3	Jackdaw	2	In tree (possible breeding pair)
	3	Goldfinch	2	In tree
	3	Magpie	1	In tree
	3	Woodpigeon	1	Flying over site
	4	Blackbird	1	Foraging
	4	Herring Gull	2	Flying over site
	5	Song Thrush	1	In tree
	5	Feral Pigeon	1	Flying over site
	5	Rook	1	Flying overhead
	5	Dunnock	1	Flying over site
	5	Magpie	3	Flying over site (2), one additional
	5	Bullfinch	1	In tree
	5	Robin	1	Foraging on ground
	5	Great Tit	1	Flying over site
	5	Herring Gull	3	Flying over site
	6	Jackdaw	1	Flying over site
	6	Blackbird	2	Foraging in grass
	6	Dunnock	4	In scrub (3), on tree (1)
	6	Starling	3	Flying over site (2), on wire (1)
	6	Song Thrush	1	-
	6	Wren	2	In tree (1), in scrub (1)
	6	Robin	1	On wire
	7	Blackbird	1	In scrub
	7	Rook	3	Flying over site (2), one additional
	7	Herring Gull	1	Flying over site
	7	Starling	2	Flying over site (1), on wire (1)
	7	Magpie	1	Flying over site
19/02/2025	7	Rook	5	Foraging in southern field
	7	Hooded Crow	1	Foraging in southern field
	7	Dunnock	1	In tree
	7	Song Thrush	1	In tree

	7	Robin	5	In scrub (4), in tree (1)
	7	Blackbird	5	North flying, in hedge, in scrub (2), in tree
	6	House Sparrow	1	In scrub
	6	Dunnock	1	In scrub
	6	Blackbird	4	In scrub (3), in tree (1)
	6	Rook	6	Flying east (2), flying NW (4)
	6	Woodpigeon	3	Flying NW (3), flying SW (1)
	6	Wren	3	In scrub (2), flying SE (1)
	6	Black-headed Gull	8	Flying NW (2), East (4), Over site (2)
	6	Herring Gull	2	Flying north
	6	Goldfinch	2	In scrub
	6	Blue Tit	1	In scrub
	6	Common Gull	2	Flying north
	6	Bullfinch	1	In scrub
	5	Blackbird	6	In hedge, in scrub (3), flying east, in tree
	5	Magpie	3	In scrub
	5	Robin	3	In scrub
	5	House Sparrow	2	Flying north
	5	Rook	6	Flying NE (3), NW (2), towards school (1)
	5	Herring Gull	2	Flying east, north
	5	Black-headed Gull	3	Flying NE (2), SW (1)
	5	Common Gull	3	Flying SW (2), NW (1)
	5	Jackdaw	2	On telegraph wire, towards school
	5	Hooded Crow	1	In tree
	5	Woodpigeon	2	In tree, flying across site
22/01/2025	3	rooks	3	flying north west
	3	black bird	1	on tree
	3	Common gull	1	flying
	3	blackbird	1	perched
	3	goldfinch	1	perched
	3	common gull	1	flying south east
	3	Common gull	1	flying north east
	3	Robin	1	perched in gorse
	3	Wren	1	on tree
	3	blackbirds	2	flying south west
	3	black bird	1	on tree
	3	rook	1	flying north east
	3	Common gull	1	flying
	3	Rook	1	flying
	4	robin	1	tree
	4	blackbird	1	ground
	4	Robins	2	on hedgerow
	4	dunnock	1	in hedgerow
	4	herring gulls	2	flying

	4	common gulls	2	flying
	4	robin	1	flying
	4	pied wagtail	2	flying
	4	common gull	1	flying
	4	blackbird	1	in tree
	5	jackdaw	1	flying
	5	blackbird	1	in Tree
	5	magpie	1	flying
	5	blackbird	1	in hedgerow
	5	Blue tit	1	in hedgerow
	5	Dove	1	flying into hedgerow
	5	dunnock	1	in hedgerow
	5	blackbird	2	on hedgerow
	5	rook	2	flying north
	6	Hooded crow	1	in tree
	6	common gull	1	flying
	6	Magpie	1	flying
	6	Linnet	1	on line
	6	common gull	1	flying
	6	hooded crow	1	on line
	6	rook	1	on line
	6	robin	1	in scrub
	6	wood pigeon	1	flying
	6	robin	1	Flying
	7	song thrush	1	flying
	7	blue tits	3	perched
	7	linnets	20	flying
	7	rook	1	on tree
	7	blackbird	2	flying
	7	blackbird	1	on tree
	7	rooks	3	flying east
	7	blackbirds	3	in hedgerow
	7	song thrush	1	flying
	7	blackbirds	2	flying
	7	pied wagtails	3	flying
	7	goldfinch	1	flying
11/12/2024	3	Herring Gull	3	Flyover
	3	Magpie	2	Flyover
	3	Black Headed Gull	1	Flyover
	3	Rook	3	Flyover
	3	Wren	1	in tree within site
	3	Robin	2	in tree within site
	3	Rook	5	Flyover
	3	rook	4	flyover (flying SE)

	3	blue tit	1	in scrub
	3	Black Headed Gull	9	flyover
	3	robin	1	in scrub
	3	great tit	1	in scrub
	3	herring gull	1	flyover
	3	ferral Pigeon	2	Flyover
	3	rook	1	flyover
	3	Wren	1	in tree
	3	rook	1	Flyover
	3	ferral Pigeon	1	Flyover
	4	Coal tit	1	HNS
	4	Common Gull	1	Flyover
	4	Magpie	1	Flyover
	4	Wren	2	Flyover
	4	Robin	1	in tree
	4	Rook	2	Flyover
	4	Rook	5	Flyover
	4	Magpie	1	Flyover
	4	Black Headed Gull	1	Flyover
	4	Herring Gull	1	Flyover
	4	Wood Pigeon	1	Flyover
	4	Black Headed Gull	2	in scrub
	4	Blackbird	2	Flyover
	4	Rook	1	Flyover
	4	Common Gull	1	Flyover
	4	Rook	1	Flyover
	4	Black Headed Gull	2	Flyover
	4	Common Gull	1	Flyover
	4	Herring Gull	1	Flyover
	4	Herring Gull	1	Flyover
	4	Magpie	1	Flyover
	4	Common Gull	1	Flyover
	5	rook	1	Flyover
	5	Wren	1	in scrub
	5	Rook	6	in tree
	5	Song Thrush	1	Flyover
	5	Magpie	3	Flyover
	5	Black Headed Gull	1	Flyover
	5	Common Gull	1	Flyover
	5	Herring Gull	1	Flyover
	5	Rooks	2	Flyover
	5	feral Pigeon	1	Flyover
	5	Magpie	1	in scrub
	5	Starling	1	HNS

	5	Rook	1	Flyover
	5	Pied wagtail	1	in tree
	5	Jackdaw	1	in tree
	5	Black Headed Gull	1	Flyover
	5	Blackbird	1	flyover
	6	Magpie	1	Flying overhead
	6	Song Thrush	1	Flying through site
	6	Wren	2	Flying through site
	6	Jackdaw	2	Perched in tree
	6	Wren	1	Flying in scrub
	6	Magpie	1	In tree
	6	Common Gull	1	Flying over site
	6	Rook	1	(Activity not specified)
	6	Rook	1	Foraging in grass
	6	Blackbird	1	Flying through site
	6	Linnet	6	Flying over site
	6	Magpie	2	In tree along boundary
	6	Goldfinch	2	(Activity not specified)
	6	Rook	9	Foraging in agricultural grassland
	7	Wren	1	In scrub
	7	Common Gull	1	Flying SW over site
	7	Woodpigeon	1	Flying W over site
	7	Herring Gull	2	Flying SW over site
	7	Rook	4	Flying over site
	7	Song Thrush	1	In tree
	7	Wren	1	In scrub
	7	Herring Gull	1	Flying over site
	7	Goldfinch	3	On telegraph pole
	7	Robin	1	In tree
	7	Blue Tit	1	On power line
	7	Song Thrush	1	In scrub
	7	Robin	2	Foraging in scrub
	7	Rock Pipit	1	In scrub
	7	Magpie	1	Flying NE over site
	7	Rook	4	Flying over site
	7	Goldfinch	1	In tree
	7	Wren	1	In tree
	7	Pied Wagtail	1	In tree
	7	Rook	1	In tree
14/11/2024	Transect	Robin	1	
	Transect	Blackbird	4	-
	Transect	Feral Pigeon	6	On apartments
	Transect	Feral Pigeon	15	Flying over site
	Transect	Black-headed Gull	1	On apartments

	Transect	Magpie	3	On apartments (2) / telephone wire (1) / heard
	Transect	Jackdaw	1	Flying over site
	Transect	Wagtail (species not specified)	2	-
	Transect	Goldcrest	3	In tree on site (1), in trees (2)
	Transect	Goldfinch	8	In alder
	Transect	Wren	1	Heard
	Transect	Robin	1	Heard (in addition to visual?)
	Transect	Common Gull	1	Flying over site
	Transect	Great Tit	1	Heard
	Transect	Starling	1	Flying outside site
	Transect	Rook	1	Flying over site
	Transect	Song Thrush	1	In willow on site
	Transect	Chaffinch	1	Heard
	Transect	Blue Tit	1	In trees
	Transect	Goldfinch	20	Foraging on knapweed and hedgerow in site
	Transect	Magpie	7	On wire and in trees
	Transect	Blackbird	5	On site (2 + 3 combined)
	Transect	Chaffinch	1	On site
	Transect	Robin	6	On site
	Transect	Blue Tit	2	On site
	Transect	Great Tit	1	On site

Millers Lane

Date	VP	Species	Number of Individuals	Notes
23/10/2024	–	Black-headed Gull	50–60	Feeding between both pitches
	–	Common Gull	10–15	Feeding between both pitches
	–	Herring Gull	3	Feeding between both pitches
	–	Lesser Black-backed Gull	1	Feeding between both pitches
	–	Magpie	1	Perched on site
	–	Rook	11	Flying over site and feeding on grass pitch
	–	Wood Pigeon	20	Flying over site
	–	Robin	4	Heard and seen foraging in scrub to east of pitches and feeding on pitches
	–	Greenfinch	–	Heard
	–	Hooded Crow	3	–
	–	Blackbird	5	Heard and seen in scrub adjacent to Gaelscoil
	–	Starling	16	Perched on houses south of pitches
	–	Goldfinch	6	In scrub to east and south-east
	–	Pied Wagtail	2	Feeding on pitches
	–	Jackdaw	2	Feeding on pitch
	–	House Sparrow	4 (2 male, 2 juvenile)	Perched on apple tree in south-east
14/11/2024	–	Black-headed Gull	20	Feeding on pitch

	–	Common Gull	5	Feeding on pitch
	–	Herring Gull	2	Feeding on pitch
	–	Wren	–	Heard and seen
	–	Robin	–	Heard and seen
	–	Pied Wagtail	2	On pitch
	–	Starling	5	On houses
	–	Rook	5	Feeding on pitch
	–	Curlew	1	Flew over site
	–	Feral Pigeon	3	Flew over site
	–	Blackbird	1	General observation
	–	Herring Gull	1	Flying over site
	–	House Sparrow	3	In scrub
	–	Starling	3	On roof of house
	–	Magpie	1	On house roof
	–	Hooded Crow	1	On house roof
	–	Blackbird	2	On net on pitch
	–	Great Tit	1	Seen in treeline south of site
04/12/2024	1	Rook	1	Foraging in grassland
	1	Jackdaw	2	Foraging on bank between pitches
	1	Pied Wagtail	2	On path
	1	Blackbird	2	Foraging on pitch
	1	Blackbird	3	On path and foraging in grass
	1	Starling	6	Foraging on pitch
	1	Rook	1	Foraging
	1	Black-headed Gull	1	Flying overhead
	1	Rook	1	On ground foraging
	1	Jackdaw	2	Flying overhead and foraging on bank
	1	Rook	3	Flying overhead
	1	Jackdaw	1	On top of netting
	1	Rook	1	Foraging
	1	Oystercatcher	1	Foraging in grass
	1	Black-headed Gull	8	Foraging in grass
	1	Common Gull	2	Foraging in grass
	1	Rook & Black-headed Gull	2 Rooks, 1 BHG	Flying overhead
	1	Jackdaw	5	Flying overhead
	1	Song Thrush	1	Flying over site
	1	House Sparrow	1	Foraging
	1	Blackbird	1	In tree to side of path
	1	–	–	Loose dog disturbed all birds across both pitches
	1	Song Thrush	1	Foraging
	2	Song Thrush	1	Foraging
	2	Black-headed Gull	5	Foraging
	2	Common Gull	1	Foraging

	2	Black-headed Gull	1	Flying overhead
	2	Blackbird	1	On wall
	2	Starling	1	General observation
	2	Robin	2	In scrub to the side of the pitch
	2	Blackbird	1	Flying overhead
	2	Herring Gull	2	Flying overhead
	2	Blackbird	1	Foraging in grass
	2	Wren	1	In scrub
	2	Jackdaw	2	Foraging on bank beside pitch
	—	Rook	2	Flying overhead
	—	Blackbird	2	Foraging on pitch
	—	Rook	2	Flying overhead
	—	Jackdaw	1	Flying overhead
	—	Black-headed Gull	1	Foraging in grass
	—	Rook	2	Foraging
	—	Blackbird	1	Foraging
	—	Starling	2	Flying overhead
	—	Song Thrush	1	General observation
	—	Starling	2	Flying across pitch
	—	Black-headed Gull	1	Flying overhead
	—	Starling	9	Flying across pitch
	—	Rook	2	Foraging
	—	Rook	2	Flying overhead
	—	Blue Tit	1	In scrub
	—	Starling	1	In tree beside wall
	—	Common Gull	4	Foraging
	—	Rook	3	Foraging
	—	Song Thrush	2	Flying overhead
	—	Starling	1	Flying across pitch
	—	Starling	1	Flying across pitch
	—	Starling	—	Flock moved to pitch to forage (already counted)
	—	Common Gull	1	Foraging in grass
	—	Herring Gull	1	Foraging in grass
	—	Rook	1	Flying overhead
	—	Wood Pigeon	1	Flying overhead
	—	Starling	1	Perched on top of light
24/01/2025	1	Black-headed Gull (Chroicocephalus ridibundus)	6	Flying
	1	Common Gull (Larus canus)	7	Feeding
	1	Rook (Corvus frugilegus)	3	Feeding
	1	Hooded Crow (Corvus cornix)	2	Feeding

	1	Black-headed Gull (Chroicocephalus ridibundus)	6	On ground
	1	Common Gull (Larus canus)	6	On ground
	1	Pied Wagtail (Motacilla alba)	1	On ground
	1	Blackbird (Turdus merula)	5	On ground
	1	Robin (Erithacus rubecula)	1	On ground
	1	Song Thrush (Turdus philomelos)	2	On ground
14/02/2025	1	Jackdaw (Corvus monedula)	2	On pole
	1	Jackdaw (Corvus monedula)	1	Flying over site
	1	Herring Gull (Larus argentatus)	1	Flying over site
	1	Starling (Sturnus vulgaris)	2	In tree
	1	Black-headed Gull (Chroicocephalus ridibundus)	1	Flying over site
	1	Rook (Corvus frugilegus)	2	Foraging
	1	Redwing (Turdus iliacus)	1	In trees along wall
	1	Herring Gull (Larus argentatus)	1	Flying over site
	2	Magpie (Pica pica)	2	Flying over
	2	Blackbird (Turdus merula)	2	Male-female pair
	2	Magpie (Pica pica)	1	Flying across site
	2	Herring Gull (Larus argentatus)	1	Flying over site
	2	Robin (Erithacus rubecula)	1	Heard, not seen (HNS)
	2	Magpie (Pica pica)	1	Foraging in grass
	in Scrub	Goldfinch (Carduelis carduelis)	5	In sycamore tree
	in Scrub	Wren (Troglodytes troglodytes)	1	In tree along wall
	in Scrub	Wren (Troglodytes troglodytes)	1	On wall
	in Scrub	Wren (Troglodytes troglodytes)	1	Heard not seen (HNS)
26/03/2025	1	Grey Heron (*Ardea cinerea*)	1	Flying over site
	1	Rook (*Corvus frugilegus*)	2	Flying over site
	1	Rook (*Corvus frugilegus*)	1	Foraging in grass

	1	Rook (*Corvus frugilegus*)	1	On pole
	1	Rook (*Corvus frugilegus*)	1	Flying over site
	1	Wood Pigeon (*Columba palumbus*)	1	Flying over site
	1	Magpie (*Pica pica*)	1	Foraging in grass
	1	Blackbird (*Turdus merula*)	1	Foraging
	1	Great Tit (*Parus major*)	1	In tree along wall
	2	Starling (Sturnus vulgaris)	2	On pole
	2	Starling (Sturnus vulgaris)	1	Flying over site with nest material
	2	Herring Gull (Larus argentatus)	1	Flying over site
	2	Feral Pigeon (Columba livia)	2	Flying over site
	2	Starling (Sturnus vulgaris)	7	Foraging in grass
	2	Jackdaw (Corvus monedula)	1	Flying over site
	2	Jackdaw (Corvus monedula)	2	On pole
	2	Herring Gull (Larus argentatus)	1	Flying over site
	2	Jackdaw (Corvus monedula)	1	Flying over site
	2	Rook (Corvus frugilegus)	1	Flying over site
	Walked transect in scrub	Robin (Erithacus rubecula)	1	In tree
	Walked transect in scrub	Magpie (Pica pica)	1	Flying over scrub
	Walked transect in scrub	Dunnock (Prunella modularis)	1	In scrub
	Walked transect in scrub	Song Thrush (Turdus philomelos)	1	In tree
	Walked transect in scrub	Wren (Troglodytes troglodytes)	1	Heard, not seen (HNS)

APPENDIX 8

BREEDING BIRD SURVEY RESULTS

BREEDING BIRD SURVEY DATA

Project Reference	240298- Kingston Park and Millars Lane Parks Project
Date	20/10/2025
Subject	Breeding Bird Survey Data
Author(s)	Mairead Kavanagh

Kingston Park

Date	VP	Species	Number of individuals	Notes
13/6/2025	VP 3	3	Rook	Foraging in site
	VP 3	2	Magpie	Perched in site
	VP 4	1	Wren	In hedge
	VP 4	1	Starling	HNS
	VP 4	1	Wren	In willows, HNS
	VP 4	2	Blue Tit (fledglings)	In tree
	VP 4	2	Dunnock (pair)	In willow
	VP 5	1	Herring Gull	Flying over site
	VP 5	1	Wren	In Hawthorn
	VP 5	1	Magpie	Flying over site
	VP 5	1	Woodpigeon	Flying over site
	VP 5	1	Dunnock	HNS
	VP 5	3	Feral Pigeon	Flying over site
	VP 5	1	Magpie	Flying over site
	VP 5	1	Wren	In Hawthorn, HNS
	VP 6	1	Jackdaw	Flying over
	VP 6	1	Wren	In Hawthorn, HNS
	VP 6	1	Goldfinch	In scrub
	VP 6	1	Blue Tit	HNS
	VP 6	1	Blackbird	Foraging in grass
	VP 6	1	Herring Gull	Flying over
	VP 6	3	Blue Tit	In scrub
	VP 6	1	Jackdaw	Flying over site
	VP 6	1	Goldfinch	Flying over site
	VP 7	1	Blackbird (fledgling)	In Hawthorn
	VP 7	1	Rook	In Ash tree
	VP 7	1	Jackdaw	In Ash tree
	VP 7	1	Blackbird (adult)	In scrub
	VP 7	2	Magpie	In tree
	VP 7	1	Blackbird	Foraging in grass
	VP 7	1	Wren	In scrub, HNS

	VP 7	2	Greenfinch (pair)	Fighting/mating in scrub
	VP 7	1	Woodpigeon	Perched on wire
	VP 7	1	Goldfinch	Flying within site
13/5/2025	VP 3	1	Starling	Foraging in grass
	VP 3	1	Magpie	HNS
	VP 4	1	Wren	Singing in trees, HNS
	VP 4	1	Hooded Crow	Flying over site
	VP 4	2	Woodpigeon	Foraging in grass
	VP 4	1	Jackdaw	Flying over site
	VP 4	1	Great Tit	HNS
	VP 5	1	Jackdaw	Flying over site
	VP 5	1	Dunnock	In hedge
	VP 5	1	Wren	HNS
	VP 5	2	Thrush (juvenile pair)	In hedge
	VP 5	1	Wren	In Hawthorn
	VP 5	1	Jackdaw	Flying over site
	VP 5	1	Woodpigeon	Flushed from Hawthorn
	VP 5	1	Goldcrest	In hedge
	VP 5	1	Woodpigeon	On line
	VP 5	1	Magpie	HNS
	VP 6	2	Swallow	Flying over site
	VP 6	2	Blackbird	On wire
	VP 6	4	Cormorant	Flying NW over site
	VP 6	1	Wren	In hedge, HNS
	VP 6	1	Rook	Flying over site
	VP 6	1	Blackbird (female)	In Hawthorn
	VP 6	1	Magpie	On line
	VP 6	2	Dunnock (pair)	Displaying courtship behaviour
	VP 6	2	Starling	Foraging in grass
	VP 6	1	Dunnock	Foraging in grass
	VP 6	1	Thrush	Foraging in grass
	VP 6	1	Hooded Crow	On line
	VP 6	1	Robin	In scrub
	VP 6	1	Jackdaw	Flying over site
	VP 6	1	Blackbird	Foraging in grass
	VP 6	1	Wren	In hedge
	VP 7	2	Blackbird	Foraging in grass
	VP 7	1	Pheasant	Foraging in grass
	VP 7	3	Goldfinch	In hedge
	VP 7	1	Magpie	Flying over site
	VP 7	1	Wren	On wall and in hedge
	VP 7	1	Jackdaw	In tree
	VP 7	1	Willow Warbler	On line
	VP 7	1	Blackbird (female)	In hedge

	VP 7	1	Thrush	In hedge
	VP 7	1	Magpie	Flying over site
	VP 7	1	Dunnock	On line
	VP 7	2	Blackbird	Flying over site
	VP 7	1	Jackdaw	Flying over site
	VP 7	1	Starling	Flying over site
	VP 7	1	Linnet	In hedgerow
	VP 7	1	Blackcap	HNS in hedge
	VP 7	1	Dunnock	In hedge
17/04/2025	VP 3	1	Starling	Flying across site
	VP 3	1	Jackdaw	On lamp post
	VP 3	1	Blackbird	Foraging in trees
	VP 3	1	Jackdaw	Flying over site
	VP 3	1	Herring Gull	Flying over site
	VP 3	1	Jackdaw	Flying over site
	VP 3	1	Woodpigeon	Flying over site
	VP 3	3	Blackbird	Flying in site
	VP 3	3	Blue Tit	Flying over site
	VP 3	1	Jackdaw	Flying over site
	VP 3	1	Magpie	In tree and foraging
	VP 3	1	Herring Gull	Flying over site
	VP 4	2	Blue Tit	In tree
	VP 4	1	Blackbird	Foraging in grass
	VP 4	2	Blackbird	In tree
	VP 5	2	Blackbird	In grass
	VP 5	1	Blackbird	On fence
	VP 5	1	Jackdaw	Flying over site
	VP 5	1	Jackdaw	Flying over site
	VP 5	1	Blackbird	In tree
	VP 6	1	Song Thrush	Foraging in grass
	VP 6	1	Robin	In scrub
	VP 6	1	Gull	Flying over site
	VP 6	1	Wren	In treeline
	VP 6	1	Blackbird	Sitting on telegraph line
	VP 6	1	Rook	Flying over site
	VP 6	1	Blackbird	Foraging in grass
	VP 6	1	Wren	Singing on top of tree
	VP 6	1	Blackbird	Foraging in grass
	VP 6	1	Song Thrush	With nesting material
	VP 6	1	Pheasant	HNS
	VP 6	1	Thrush	Sitting in bush
	VP 6	1	Dunnock	On top of scrub
	VP 6	1	Woodpigeon	Flying over site
	VP 7	1	Robin	In scrub

	VP 7	2	Blackbird	In scrub
	VP 7	1	Robin	Foraging in grass
	VP 7	1	Blackbird	On telegraph line
	VP 7	1	Rook	Flying over site
	VP 7	1	Robin	In scrub
	VP 7	1	Dunnock	In hedgerow
	VP 7	1	Chaffinch	In tree
	VP 7	1	Magpie	In tree
	VP 7	2	Jackdaw	Flying over site

Millers Lane

Date	VP	Species	Number of Individuals	Notes
13/06/2025	VP1	1	Wren	In tree on side of path
	VP1	1	Magpie	HNS
	VP1	1	Pied Wagtail	Flying within site
	VP1	1	Rook	Flying over site
	VP1	1	Herring Gull	Flying over site
	VP 2	1	Blackbird	Foraging in grass
	VP 2	1	Feral Pigeon	Foraging
	Transect	2	Goldfinch	Flying over site
	Transect	1	Wren	In willow
	Transect	1	Feral Pigeon	Flying over site
	Transect	1	Goldfinch	Flying over site
	Transect	2	Black-headed Gull	Flying over site
	Transect	1	Wren	In gorse, HNS
13/05/2025	VP 1	2	Woodpigeon	Foraging in grass
	VP 1	1	Rook	Flying over site
	VP 2	1	Pied Wagtail	Foraging in grass
	VP 2	1	Starling	Flying over site
	VP 2	1	Wren	In scrub, HNS
	VP 2	1	Rook	Flying over site
	Transect	1	Wren	In scrub, HNS
	Transect	1	Goldfinch	In scrub and flying within site
	Transect	1	Wren	In scrub
	Transect	1	Jackdaw	Flying over site
	Transect	1	Woodpigeon	Flying over site
	Transect	2	Goldfinch	In tree
	Transect	2	Starling	Flying over site
	Transect	1	Wagtail	In road
	Transect	1	Jackdaw	In road
17/04/2025	VP1	1	Robin	In tree
	VP1	3	Starling	Foraging in grass
	VP1	1	Magpie	Foraging in grass
	VP1	1	Great Tit	In tree
	VP2	2	Blackbird (pair)	Foraging in grass
	VP 2	1	Rook	Flying over site
	VP 2	1	Jackdaw	Flying over site
	VP 2	1	Feral Pigeon	Flying over site
	VP 2	1	Starling	Flying over site
	VP 2	1	Starling	Foraging in grass
	VP 2	1	Wren	In scrub
	VP 2	1	Starling	Flying over site
	Transect	1	Song Thrush	In tree

	Transect	1	Starling	Flying over site
	Transect	1	Starling	In tree
	Transect	1	Blackbird	In tree
	Transect	1	Blackbird	On wall
	Transect	1	Great Tit	With nesting material