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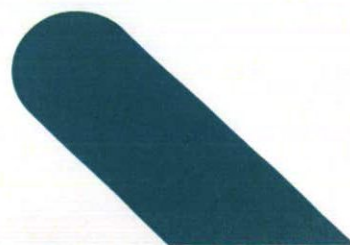
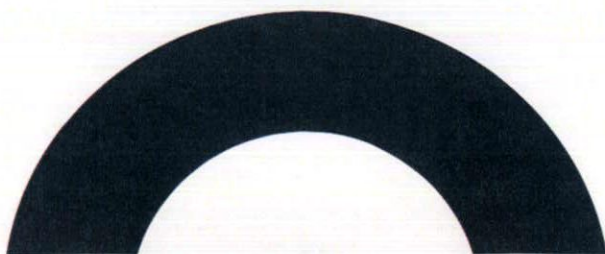
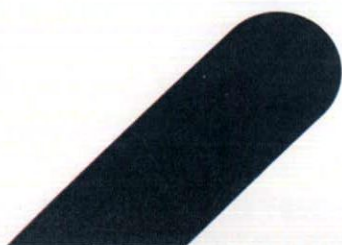
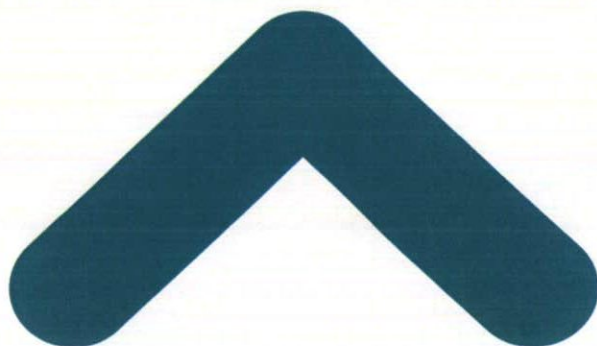
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Planning & Development Section  
Galway County Council

## **Bat Report**

Proposed Derryclare Wild  
Western Peatlands Project  
– Response to Further  
Information Request



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Planning & Development Section  
Galway County Council



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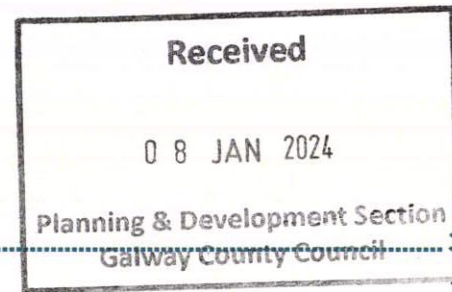
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Rev	Status	Date	Author(s)	Approved By
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# INTRODUCTION

MKO was commissioned to undertake bat surveys in response to the Requests for Further Information (RFI) received from Galway County Council on the 19<sup>th</sup> of April 2023. The Proposed Project will include the felling of approx. 343 hectares of conifer plantation within 20 harvest blocks, habitat restoration and enhancement, upgrading of existing road and construction of new temporary access roads, temporary water crossings, the resurfacing of an existing carpark and fencing in Derryclare Nature Reserve, Co. Galway (IG Ref: L 83927 50924).

Bat surveys were carried out in accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd edn.). The optimum survey period for ground level bat activity (transects and static detector) surveys is April - October inclusive (Collins, 2016) provided weather conditions are suitable at the time of the survey.

Bat surveys employed a combination of methods, including desktop study, habitat and landscape assessment, and manual activity surveys. The aim was to assess usage of the site by roosting, foraging and commuting bats to inform the ecological impact assessment. MKO completed dusk bat activity surveys and deployed static bat detectors throughout each season (Spring, Summer and Autumn). Surveys were undertaken by two licenced ecologists during suitable weather for bats.

The bat surveys and verification were informed by a desk study and with reference to the following guidelines:

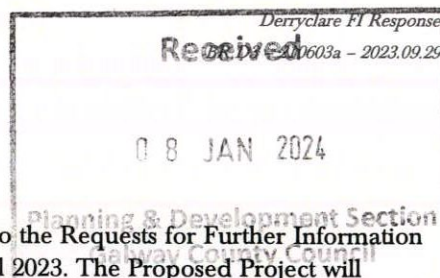
- *Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd edn.) (Collins, 2016)*
- *Bat Roosts in Trees (Andrews, 2018)*
- *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2006a)*
- *Guidelines for the Treatment of Bats during the 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)*
- *Guidance Note 08/23: Bats and Artificial Lighting in the UK (ILP, 2023)*

A fourth edition of Collins' Good Practice Guidelines was published by Bat Conservation Trust in September 2023, following completion of the survey and analysis effort for this project. While survey scope and recommendations were guided by the Guidelines' 3rd edition, amongst others as above, they are believed to also be in line with the newly published edition.

## 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.

In addition, Irish species are further protected by national legislation (Wildlife Acts 1976-2019). Under this legislation, it is an offence to intentionally disturb, injure or kill a bat or disturb its roost. Any work

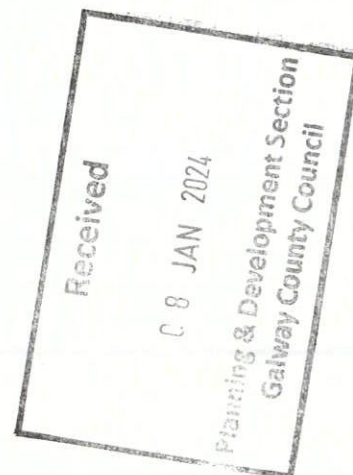


at a roost site must be carried out with the agreement of the National Parks and Wildlife Service (NPWS) and a derogation licence must be granted before works commence.

1.2

## Statement of Authority

Survey scope and design was prepared by Pat Roberts (BSc., MSc., MCIEEM), Principal Ecologist at MKO, and Sara Fissolo (BSc.), a Project Ecologist who has over 4 years' experience in ecological assessment specialising in bat impacts and mitigations. The bat surveys were undertaken by MKO Ecologist Kate Greaney (BSc., MSc.) and Seasonal Bat Ecologist David Culleton (BSc., MSc.). Kate has two years' experience in ecological assessments with a focus on bats. All MKO ecologists hold a licence to disturb bats from NPWS, are professionally trained in bat survey techniques and in undertaking surveys to this level, and in analysing data using Kaleidoscope Pro software (Wildlife Acoustics). This report was prepared by Kate Greaney and David Culleton, was reviewed by Sara Fissolo, and was approved by Pat Roberts.





2.

## CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The Proposed Project will include the felling of approx. 343 hectares of conifer plantation within 20 harvest blocks, habitat restoration and enhancement, upgrading of existing road and construction of new temporary access roads, temporary water crossings, the resurfacing of an existing carpark and fencing.

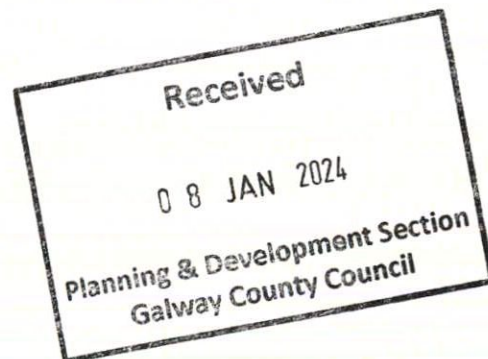
The survey study area included the Proposed Project footprint within the EIAR Study Area, which were dominated by Conifer plantation (WD4), Low-lying blanket bog (PB3), and recently felled woodland (WS5), with smaller sections of Wet heath (HH3), Exposed siliceous rock (ER1), Other artificial lakes and ponds (FL8), Non-calcareous spring (FP2), and Eroding upland river (FW1).

The RFI from Galway County Council (Planning ref: 23/60) stated:

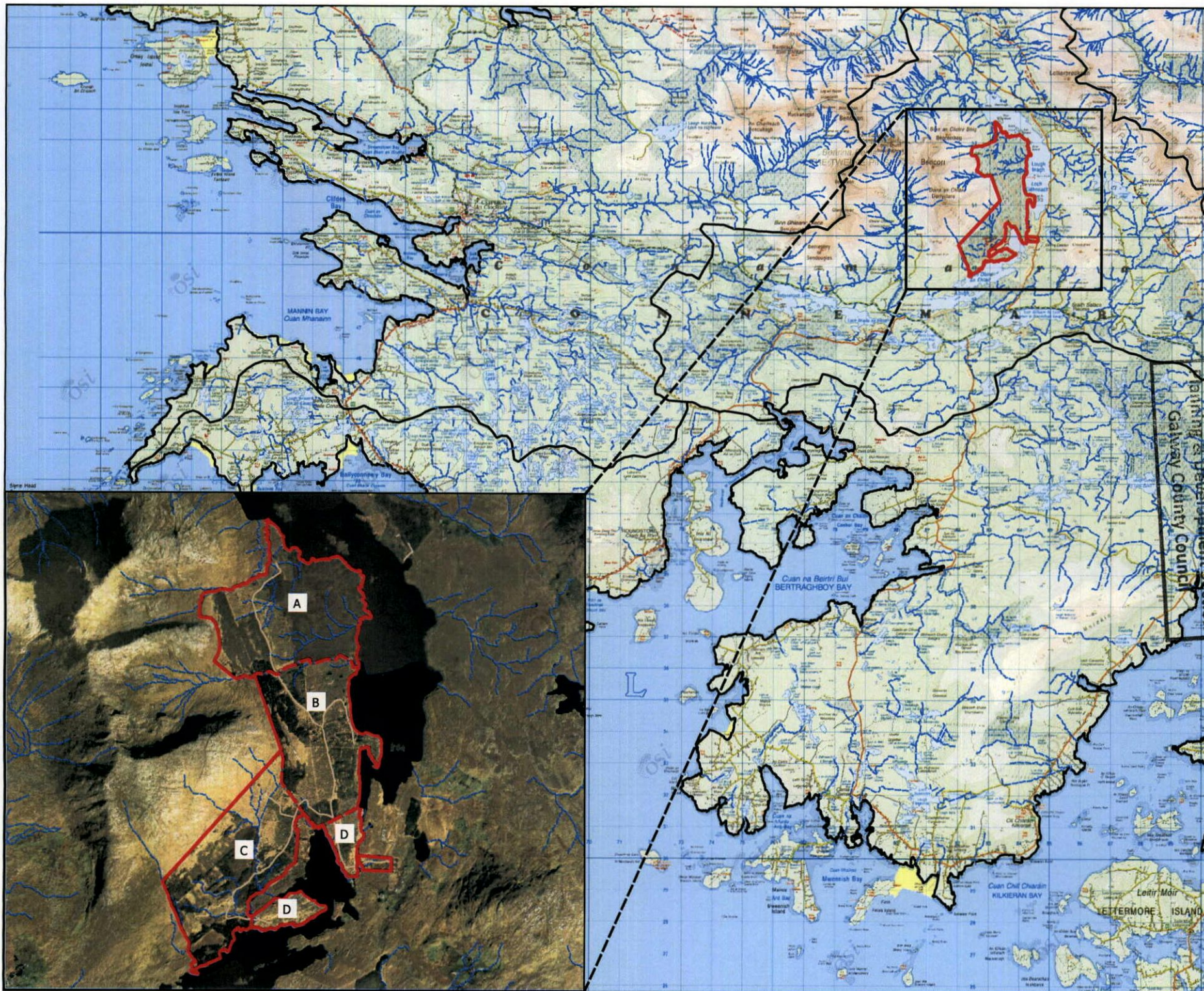
*The Planning Authority requires the applicant to provide and update the submitted NIS accordingly including the following required information:*

*b. Bat Survey Report, including the use of transect surveys and static detectors, any required mitigation measures identified for bat species.*

A site location map is presented in Figure 2-1.







# Map Legend

- Site Boundary
- WFD Watercourses
- WATER Catchments

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Drawing Title

## Site Location

Project Title Proposed Derrylclare Wild Western Peatlands Project	
Drawn By PD	Checked By SM
Project No. 210603	Drawing No. 2-1
Scale 1:160000	Date 24.10.2022



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3.

## METHODS

3.1

### 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.

3.1.1

#### National Bat Database of Ireland

The National Bat Database of Ireland 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. A search was undertaken, on 20<sup>th</sup> September 2023, for bat presence within a 10km hectad of the development site.

In addition, information on species' range and distribution, available in the 2019 Article 17 Reports (NPWS, 2019), was reviewed in relation to the location of the development. 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.

3.1.2

#### National Parks and Wildlife Service Records

The National Parks and Wildlife Service (NPWS) map viewer and website provides information on rare and protected species, sites designated for nature conservation and their conservation objectives. A search was undertaken, on 20<sup>th</sup> September 2023, of sites designated for the conservation of bats within a 10 km radius of the development (BCI 2012, Hundt, 2012, SNH 2019). This included European designated sites, i.e. SACs, and nationally designated sites, i.e. NHAs and pNHAs.

3.2

### Habitat Suitability Assessment

A walkover survey of the study area was carried out during daylight hours on the 25<sup>th</sup> May 2023. During the walkover, habitat types were recorded and assessed for their suitability to support bats. Suitability was assessed according to Collins (2016) which provides a grading protocol for roosting habitats and for commuting and foraging areas. Suitability categories are divided into *High*, *Moderate*, *Low* and *Negligible*. New guidance (2023) has since introduced a *None* category to refer to trees and structures with no potential roost features (PRFs) present and no level of uncertainty, however the assessment was carried out prior to this change.

3.3

### Roost Assessment

A search for roosts was undertaken within the proposed development site by licenced ecologists. A walkover was carried out and any structures and trees were assessed for their potential to support roosting bats. The aim was to determine the presence of roosting bats and the need for further survey work or mitigation.

No structures were identified within the site.

Trees within the site were visually assessed from ground level using binoculars, for natural features of high value to roosting bats including knot holes, trunk hollows, splits/cracks in branches and areas of flaking bark and also for signs indicating possible bat use including droppings, staining and scratching of bark and any other potential roost features (i.e. PRFs) identified by Andrews (2018).

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25<sup>th</sup> May 2023  
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3.4

## Dusk Transect Surveys

A dusk survey was carried out in each season (Spring, Summer, Autumn). The aim of the surveys was to identify if there are bats present at the proposed development site, what bat species were present and to gather any information on bat roosting, foraging and commuting behaviour. As no potential roosting features were identified, the activity surveys consisted of walked transects across the extent of the proposed development site. Figure 3-1 shows the routes walked during the surveys, which generally followed existing roads and tracks.

Two surveyors were equipped with an active full spectrum bat detector, a Batlogger M (Elekon, 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.

The dusk transect surveys commenced at sunset and were completed for approximately 3 hours after sunset. Conditions were suitable for all bat surveys completed at the site. Table 3-1 shows the survey effort across each of the dusk surveys. 5-minute point counts were performed during the survey at locations considered characteristic of different habitats throughout the site.

Table 3-1 Dusk Bat Activity Survey Effort

Date	Surveyor	Season	Sunrise/Sunset	Weather
25 <sup>th</sup> May 2023	Kate Greaney and David Culleton	Spring	21:48	14-15°C, Dry, Calm - 20% Cloud
4 <sup>th</sup> July 2023	Kate Greaney and David Culleton	Summer	22:05	15-17°C, Dry, Light Breeze, 30% Cloud
14 <sup>th</sup> August 2023	Kate Greaney and David Culleton	Autumn	21:11	14-16°C, Dry, Calm, 80% Cloud

3.5

## Static Detectors Surveys

Full spectrum SM4 bat detectors (Wildlife Acoustics, Maynard, MA, USA), were deployed during static surveys to record bat activity at five fixed locations over a 10-night period across each season Spring, Summer, and Autumn 2023. 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.

The survey was designed to utilise static detectors to monitor bat activity. SM4 detectors were deployed in the same locations on site in May, July, and August, to capture bat activity in each season. Static detector locations can be found in Figure 3-1.

3.6

## Analysis of Detector Results

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



Plate 3-1 below shows a typical sonogram of echolocation pulses for Common Pipistrelle recorded with a SM4BAT bioacoustic static bat recording device. The recorded file is illustrated using Wildlife Acoustics Kaleidoscope software (version 5.6.3).

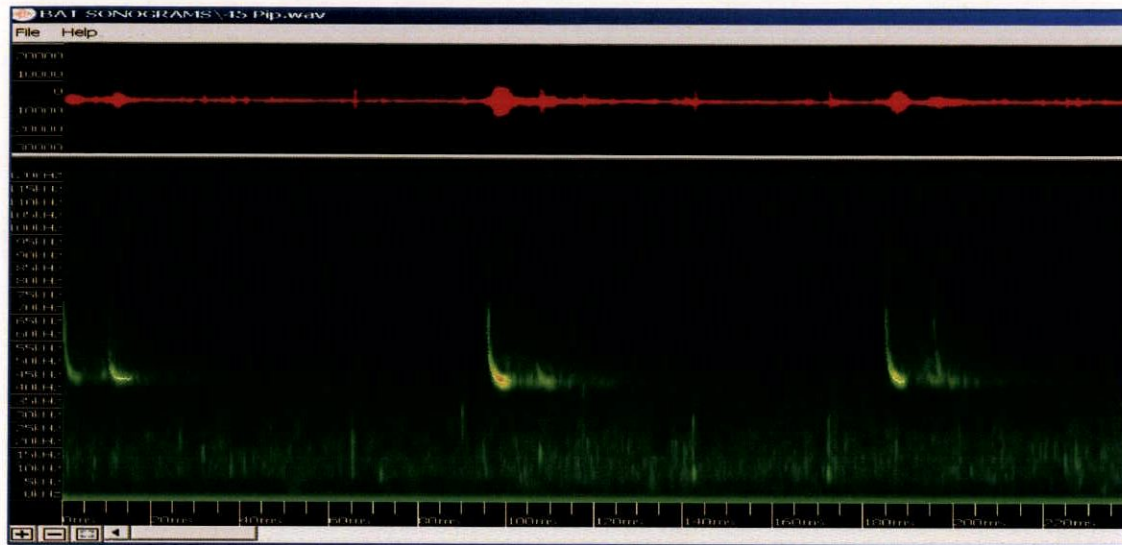


Plate 3-1 Sonogram of echolocation pulses of Common pipistrelle (Peak Frequency 45kHz)

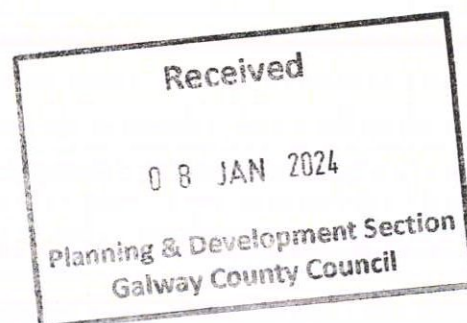
Individual bats of the same species cannot be distinguished by their echolocation alone. Thus, 'bat passes' was used as a measure of activity (Collins, 2016). For the purposes of this survey, a bat pass was defined as a recording of an individual species/species group's echolocation containing at least two echolocation pulses and of maximum 15 seconds length.

3.7

## Survey Limitations

Survey design and effort was created in accordance with the most current best practice guidelines for surveying bats (Collins, 2016). Bats use different roosts, commuting routes and foraging areas throughout their annual life cycle and depending on the availability of insect prey. Therefore, all surveys are subject to seasonal and meteorological constraints. May, July and August are within the optimal survey period for bat activity surveys (Collins, 2016). In addition, there were no limitations associated with weather conditions. Therefore, a full and comprehensive survey was achieved.

One of five detectors failed to record data during the Spring deployment, however the lack of data at one location during one season is not considered to incur in significant limitations in the scope, scale or context of the assessment.







## Map Legend

-  Site Boundary
-  Detector Locations
-  Spring Transect 25.05.2023
-  Summer Transect 04.07.2023
-  Autumn Transect 14.08.2023

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Drawing Title

Dusk Survey Routes

Project Title

Coillte Derryclare Wild Western  
Peatlands-FI

Drawn By

DC

Checked By

KG

Project No.

210603-a

Drawing No.

3.1

Scale

1:20,000

Date

25.09.2023



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4.

## RESULTS

4.1

### Desktop Study

4.1.1

#### National Bat Database of Ireland

A last review of the National Bat Database of Ireland on the 20<sup>th</sup> September 2023 yielded results of bats within a 10km hectad of the proposed development site. The search yielded 3 bat species records within 10km. Table 4-1 lists the bat species recorded within the hectads which pertain to the current study area (L84, L85).

Table 4-1 NBDC Bat Records

Hectad	Species	Date (Most Recent)	Database	Status
L84, L85	Soprano Pipistrelle ( <i>Pipistrellus pygmaeus</i> )	28/07/2014	National Bat Database of Ireland	Annex IV
L84, L85	Leisler's bat ( <i>Nyctalus leisleri</i> )	10/08/2012	National Bat Database of Ireland	Annex IV
L84, L85	Daubenton's Bat ( <i>Myotis daubentonii</i> )	20/09/2009	National Bat Database of Ireland	Annex IV

Information on species' range and distribution, available in the 2019 Article 17 Reports (NPWS, 2019), was reviewed in relation to the location of the development. Other than the species identified within the relevant hectads via the National Bat Database of Ireland, the proposed development is located within the current range for three other bat species: Common pipistrelle (*Pipistrellus pipistrellus*), Natterer's Bat (*Myotis nattereri*) and Brown long-eared Bat (*Plecotus auritus*). The development is located outside the known range for Lesser horseshoe Bat (*Rhinolophus hipposideros*), Whiskered Bat (*Myotis mystacinus*) and Nathusius' pipistrelle (*Pipistrellus nathusii*).

4.1.2

#### National Parks and Wildlife Service Records

Within Ireland, the lesser horseshoe bat is the only bat species requiring the designation of Special Areas of Conservation (SACs) and the site is situated within the known range of this species.

A search of all SACs within a 2.5km radius of the site found no sites designated for the conservation of bats. There are no Special Areas of Conservation located within 10km of the proposed development site.

There are no National or Proposed National Heritage Areas designated for the protection of bats within 10km of the proposed development site.

4.2

### Bat Habitat Appraisal

A dedicated habitat survey of the area within and in the vicinity of the proposed development was undertaken on the 25<sup>th</sup> May 2023. Table 4-2 provides a summary of the habitats identified within the proposed development site. A full description is provided within Chapter 6 of the EIAR.

Table 4-2 Habitats recorded within the proposed development site

Habitat Name	Fossitt Code
Wet grassland	GS4
Upland blanket bog	PB2



Lowland blanket bog	PB3
Wet heath	HH3
Conifer plantation	WD4
Recently felled woodland	WS5
Wet willow alder ash	WN6
Exposed siliceous rock	ER1
Non calcareous spring	FP2
Other artificial lakes and ponds	FL8
Upland/Eroding River	FW1
Acid oligotrophic lake	FL2

With regard to foraging and commuting bats, wet grassland, upland blanket bog, lowland blanket bog, wet heath, recently felled woodland and exposed siliceous were identified as having *Negligible-Low* suitability, i.e. habitat that could be used by no or small numbers of commuting or foraging bats (Collins, 2016). Conifer plantation, wet willow alder ash, non-calcareous spring, acid oligotrophic lake upland/eroding river and other artificial lakes and ponds provide good connectivity to the surrounding landscape, particularly to the east and south. As such, they were assessed as having *Moderate* suitability i.e., continuous habitat connected to the wider landscape that could be used by bats for commuting (Collins, 2016).

No evidence of roosting bats was identified during the daytime inspections. There were no buildings or structures within the proposed development site. The site primarily consists of plantation forestry, with the majority of trees within the site being conifers and lacking features that would support roosting bats, including cracks, hazard beams, cankers, rot holes, and fissures in the bark etc. A pocket of wet willow alder ash woodland located to the east of the access road into the site was also inspected, but these trees also lacked features with potential to support roosting bats.

The site was assigned *Negligible* potential for roosting bats.

## 4.3 Bat Activity Surveys Results

### 4.3.1 Dusk Activity Surveys

Low levels of foraging and commuting bat activity were recorded during the dusk activity surveys carried out throughout 2023. In total, 79 bat passes were recorded. Activity was dominated by soprano pipistrelle (*Pipistrellus pygmaeus*) n=48. This was followed by *Myotis spp.* n=28 and common pipistrelle (*Pipistrellus pipistrellus*) n=3. These species are common and widespread across Ireland. Activity levels were concentrated along the treeline edge habitats and lake edge within the site. Plate 4-1 shows total bat species composition. Table 4-3 presents the results per survey. Figures 4-1 – 4-3 show the manual results per survey.



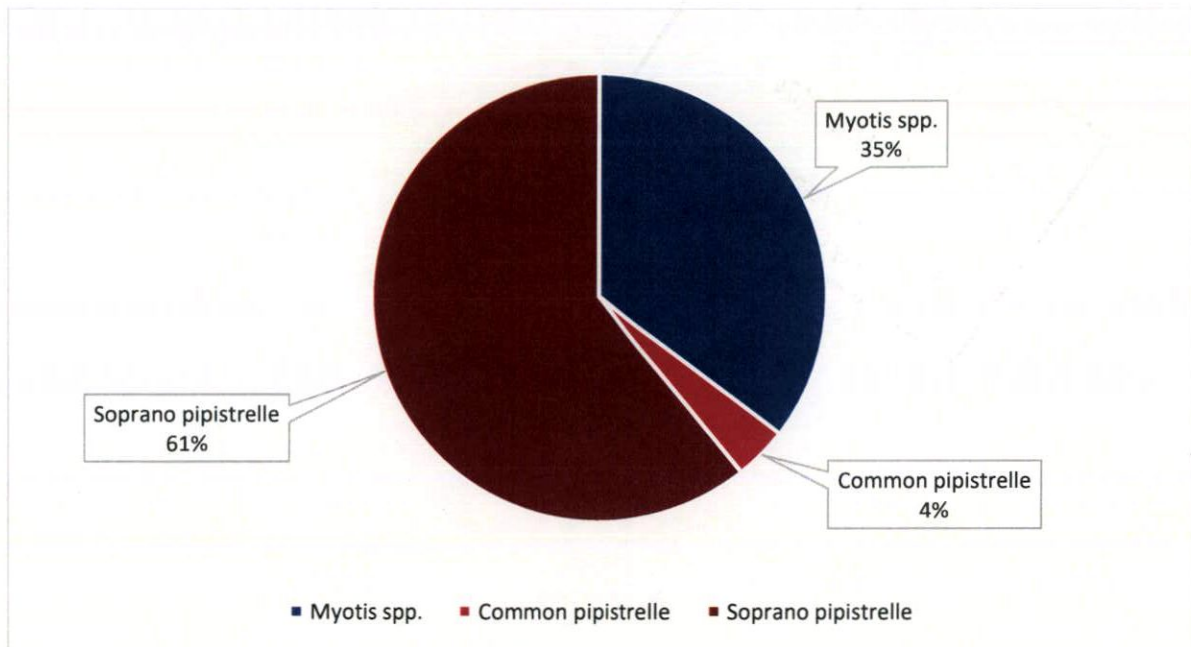


Plate 4-1 Dusk Activity Surveys, Total Species Composition.

Table 4-3 Manual Transect Bat Pass Results Per Survey

Species	Dusk 25 <sup>th</sup> May (Spring)	Dusk 4 <sup>th</sup> July (Summer)	Dusk 14 <sup>th</sup> August (Autumn)	Total
Myotis Spp.	7	8	13	28
Common pipistrelle	1	1	1	3
Soprano pipistrelle	5	16	27	48
Grand Total	13	25	41	79

### 4.3.2 Static Detector Survey Results

Five static detectors were deployed on the site at different locations (Figure 3-1), based on likely areas of bat activity, for minimum of 10 nights of good weather each season. 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 and to cover different habitats across the site.

All recordings were later analysed using bat call analysis software Kaleidoscope Pro v.5.6.2 (Wildlife Acoustics, MA, USA). Bat species were identified using established call parameters, to create site-specific custom classifiers. All identified calls were also manually verified. In total 11,133 bat passes were recorded.

Analysis of the detector recordings positively identified five bats to species level with *Myotis* genus also present. Soprano pipistrelle (*Pipistrellus pygmaeus*) (n=5,083) and *Myotis Spp.* (n=2,889) were the most common species encountered closely followed by Common pipistrelle (*Pipistrellus pipistrellus*) (n=2,464). Brown long-eared bat (*Plecotus auritus*) (n=350), and Leisler's bat (*Nyctalus leisleri*) (n=349) were encountered less frequently. Plate 4-2 shows species composition recorded across all seasons by static detectors.

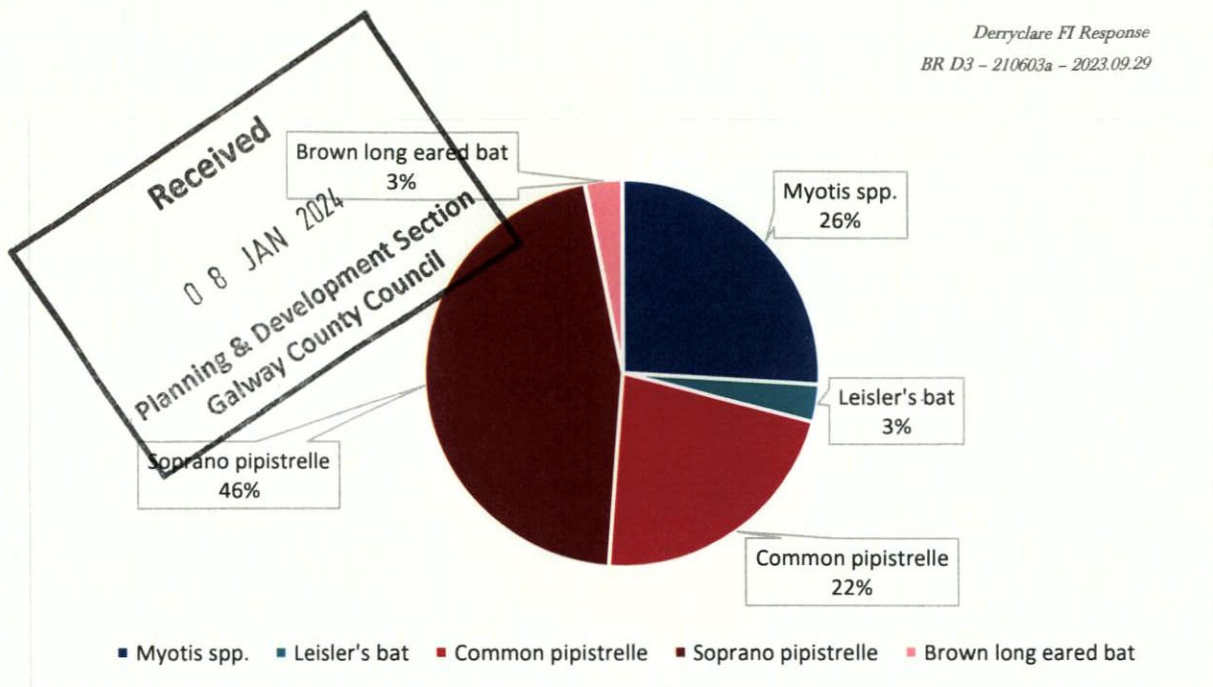


Plate 4-2 Bat Species Composition Recorded by Static Detectors.

Plate 4-3 shows total bat passes per detector across each season. D03 was deployed along the water edge east of the site and recorded the highest activity. D05 was located south of the site, in proximity of Derryclare Nature Reserve and the water edge, and also recorded high activity. D01 and D04 at the edge of the conifer forestry and recorded lower amounts of activity and D02 was located in more open habitat near the western boundary of the site. D03 failed to record any data during the spring deployment. Figure 3-1 shows the detector locations, these stayed the same each season. Seasonal patterns varied between seasons, with spring and autumn recording more activity than summer at detectors deployed inland from the Lough, and more activity recorded in summer by detectors at the water edge.

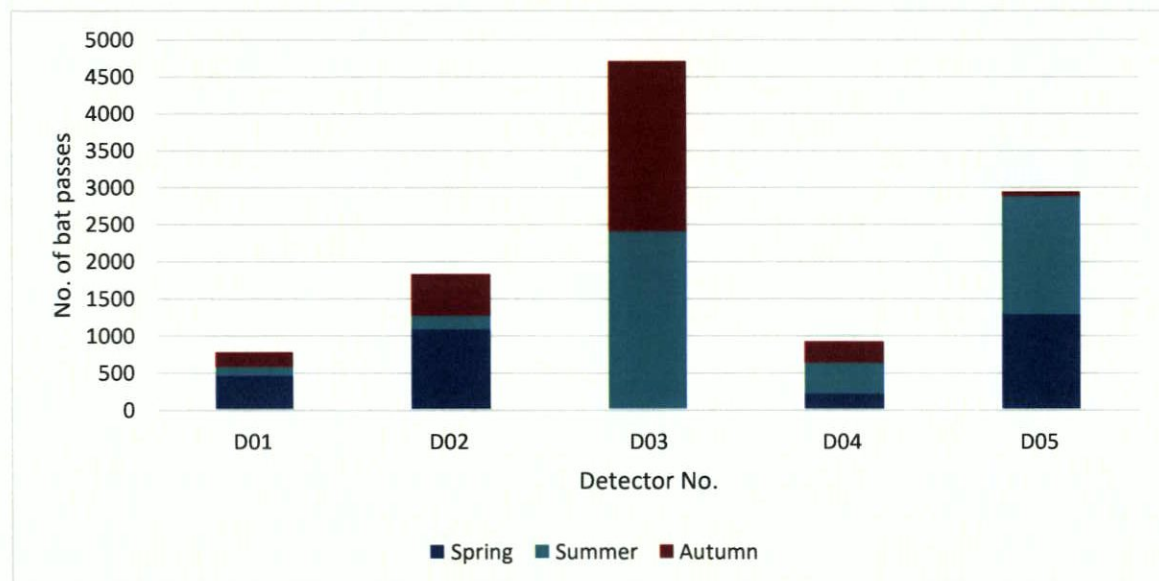


Plate 4-3 Total Bat Passes Per Detector Per Season

Analysis of the detector recordings shows the species composition per detector, per season (Plate 4-4). The summer deployment showed a significant increase in the number of Common pipistrelles utilising the site, which dropped off again during the autumn deployment. The activity by this species was particularly high at D03 and D05. While *Myotis* and Soprano pipistrelle presence within the site remained consistent, although with variations across detectors, Brown long-eared bats were recorded more during transitional periods of Spring and Autumn. Leisler's bat activity peaked in Spring at detector D05 and remained low across detectors during all seasons.



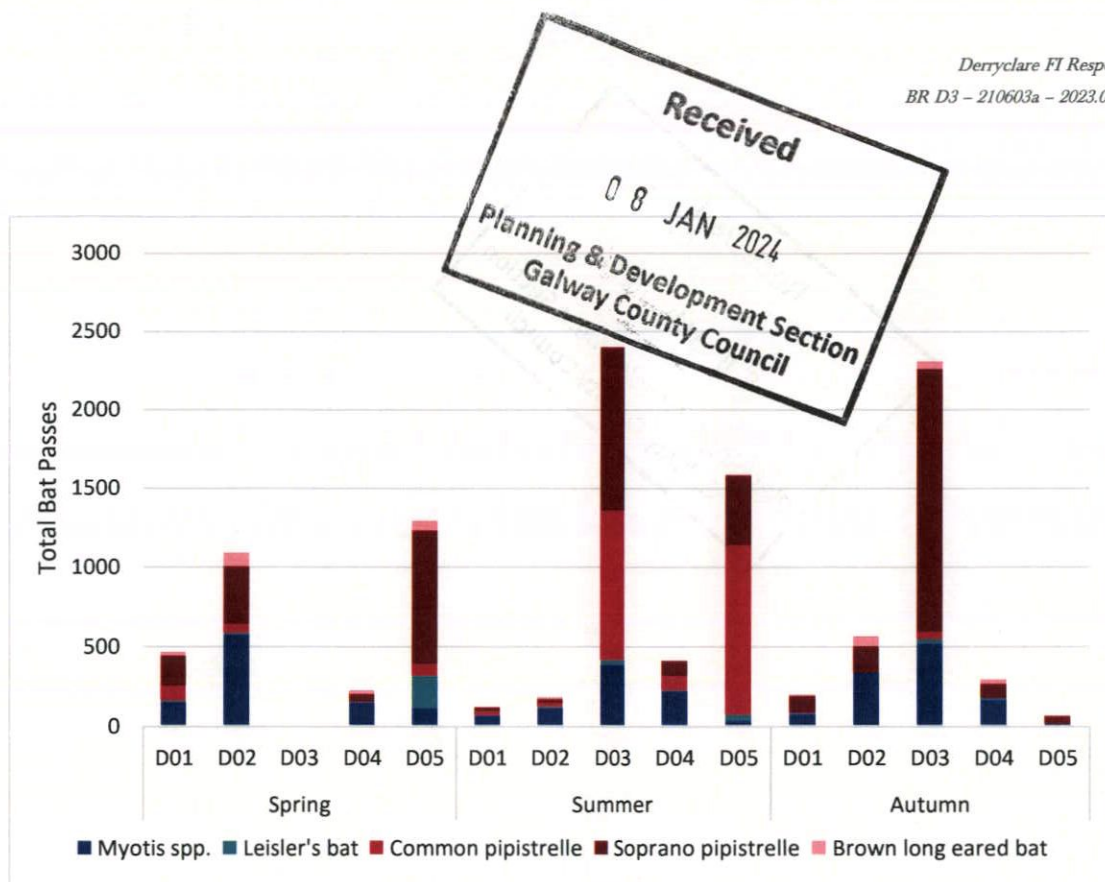


Plate 4-4 Species composition per detector per season

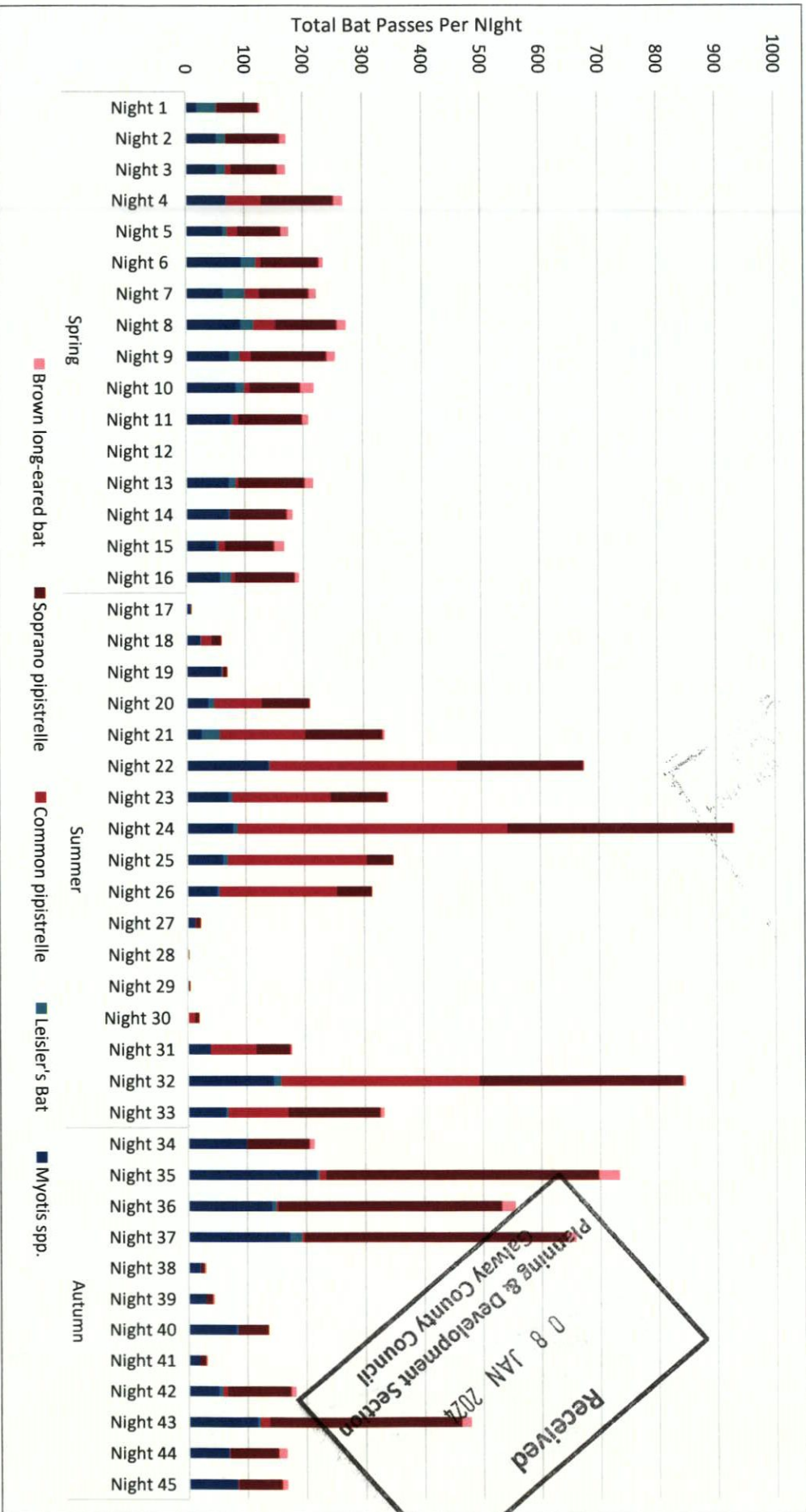
Finally, analysis of the detector recordings also highlighted the total bat passes per night per season. Species composition per night is shown in Plate 4-5. Nights 1-16 are associated with the Spring deployment, nights 17-33 are associated with the Summer deployment and Nights 34-45 represent the Autumn deployment. Some nights in both Summer and Autumn showed very little activity, this was likely due to inclement weather on those specific nights.

In general, species composition remained consistent throughout each season, showing the site is served by regularly occurring populations of each species and genus, pipistrelles in particular. Leisler's bat activity seemed less regular throughout and between seasons, with the majority of passes occurring in Spring by a single detector, as noted in Plate 4-4 above.

Low regular activity was recorded in Spring, low activity with Moderate peaks occurring on certain nights was recorded in Summer and Autumn.

Analysis of passes times showed little to no activity occurring within species' known emergence times, with the majority of activity being recorded in the middle of the night.









### Map Legend

- Site Boundary
- Detector Locations
- Spring Transect 25.05.2023

### Species

- Myotis spp.
- Common pipistrelle
- Soprano pipistrelle

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Drawing Title

Spring Transect Results

Project Title

Coillte Derryclare Wild Western  
Peatlands-FI

Drawn By

DC

Checked By

KG

Project No.

210603-a

Drawing No.

4.1

Scale

1:20,000

Date

25.09.2023



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**Map Legend**

Site Boundary

Detector Locations

Summer Transect 04.07.2023

**Species**

Myotis spp.

Common pipistrelle

Soprano pipistrelle

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Drawing Title	
Summer Transect Results	
Project Title	
Coillte Derryclare Wild Western Peatlands-FI	
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# Map Legend

- Site Boundary
- Detector Locations
- Autumn Transect 14.08.2023

## Species

- Myotis spp.
- Common pipistrelle
- Soprano pipistrelle

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Drawing Title

Autumn Transect Results

Project Title

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4.4

## Importance of Bat Population Recorded at the Site

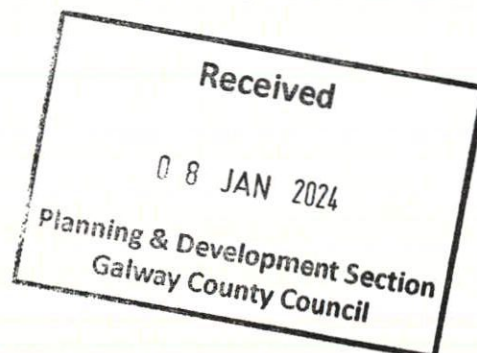
Ecological evaluation within this section follows a methodology that is set out in Chapter three of the 'Guidelines for Assessment of Ecological Impacts of National Roads Schemes' (NRA, 2009).

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

Bats as an Ecological Receptor have been assigned *Local Importance (Higher value)* on the basis that the habitats within the proposed development site are utilized by a regularly occurring bat population of Local Importance.

No roosting bats were identified within the proposed development site. While the habitats within the site were assigned *Negligible* suitability for roosting, for commuting and foraging bats the habitats the site presents good connectivity with the wider environment and suitable foraging areas for bats, with the forestry likely providing sheltered foraging grounds within the surrounding peatland landscape.

Low activity recorded during the manual surveys was explained by static activity surveys, which recorded Moderate activity, but limited to the middle of the night, with little to no activity recorded during known roost emergence times, or close to sunset and/or sunrise. The data supports the lack of suitability for roosting, with bats likely moving into the site for foraging and commuting following emergence from roosts in the surrounding landscape.





5.

## ASSESSMENT OF LIKELY IMPACTS

The impact assessment provided below is based on site visits carried out throughout 2023. The surveys were carried out during suitable weather conditions for bats. Sections 5-1 and 5-2 discuss the assessment of potential impacts on bats in relation to loss of roosting, commuting and foraging habitat and potential disturbance as a result of the proposed development.

5.1

### Loss of Roosting, Commuting and Foraging Habitat

No evidence of bat roosts and no potential roost features were identified during the walkovers and activity surveys. Overall, the site is not considered to provide significant suitable roosting habitat for bat species and trees/vegetation were assessed as having *Negligible* suitability for roosting bats. Given that no potential for impact on roosting bats exists there is no requirement for mitigation. No potential for significant impacts on roosting bats was identified.

Habitat features within the site were assessed as being of *Moderate* suitability for commuting and foraging bats, and Moderate peak activity levels were recorded during activity surveys for all species. The majority of foraging and commuting bat activity was recorded in proximity to the water bodies adjacent to the site. In particular, pipistrelles and *Myotis* spp. activity was recorded. Of these, *Myotis* spp. are generally associated with woodland habitats, broadleaved in particular.

The Proposed Project aims to restore approximately 62.26 ha of native woodland within the site boundary which will provide suitable foraging habitat for bats and retain habitat for forest-dwelling species. In order to facilitate the proposed restoration project, the Proposed Project will involve the felling/clearance of approximately 343 ha of conifer plantation/recently felled conifer woodland habitats. This will consist in a phased felling, and woodland availability will be retained throughout the duration of the project, with connectivity to the south, and Derryclare Nature Reserve in particular, being maintained.

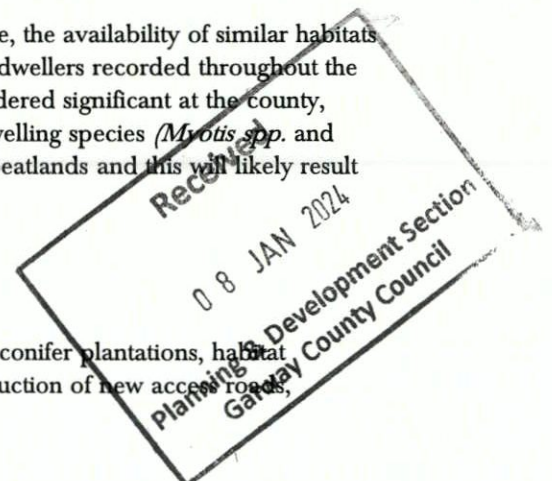
While the net loss of approximately 280 hectares of conifer forest habitat is substantial within a landscape primarily characterised by peatlands, the loss of forestry will be carried out in a phased manner over five years and in conjunction with peatland restoration practices. Pipistrelle bats are expected to continue utilising the water edge habitats within the site for foraging and commuting, and will have availability of newly planted and retained broadleaved woodland and conifer plantations within the site and in the surrounding habitats. Forest-dwelling species like *Myotis* bats and Brown long-eared bats will see a reduction of foraging habitats. A recent study has shown no difference in habitat preference by *Myotis* spp. between coniferous and broadleaves forests (Wegiel *et al.*, 2023), however no similar study was found for Ireland. The phased nature of the felling processes will avoid abrupt habitat loss and provide habituation to landscape changes, nonetheless, some residual impacts are anticipated on these woodland-dependent species due to the nature and scale of the project.

Due to the retention and recreation of suitable habitats within the site, the availability of similar habitats within the surrounding areas, and the typical numbers of woodland dwellers recorded throughout the deployment of static detectors, the impacts anticipated are not considered significant at the county, national or international scale. The local population of woodland dwelling species (*Myotis* spp. and brown long eared bats) will likely no longer forage on the restored peatlands and this will likely result in a moderate effect on these species at the local scale.

5.2

### Disturbance

Activities associated with the Proposed Project include the felling of conifer plantations, habitat restoration and enhancement, upgrading of existing road and construction of new access roads,





temporary water crossings, the resurfacing of an existing carpark and fencing. These activities all require the use of heavy machinery and increased anthropogenic activity. There is, therefore, potential for the Proposed Project to result in disturbance to commuting and foraging bats. No bat roosts or significant roosting habitat was identified on the site and therefore there is no potential for significant effects on roosting bats as a result of disturbance.

In the absence of appropriate design, the potential for disturbance to bats as a result of felling and construction activities is assessed as a slight short-term negative effect and the effect is reversible given the temporary nature of the works.

Disturbance limitation measures will be adhered to, which include the following:

- > All plant and equipment for use will comply with Statutory Instrument No 359 of 1996 "European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1996".
- > Plant machinery will be turned off when not in use.
- > Operating machinery will be restricted to the proposed works site area.
- > Reduced illumination of the site will be used where possible to prevent disturbance to bats that may potentially occur in the wider area. Where lighting is unavoidable during felling operations, low-intensity lighting and motion sensors will be used to limit illumination.

Following the implementation of the mitigation measures as described above, there will be no significant residual effect on bats as a result of disturbance.





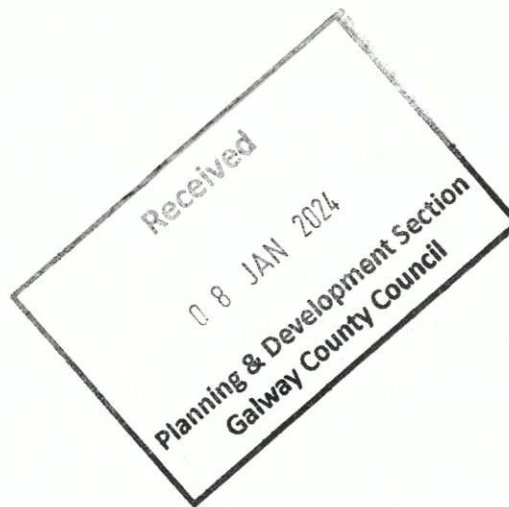
6.

## CONCLUSION

In total, four species of bat and the *Myotis* genus were recorded across the proposed development site. No bat roosts were identified, and the site does not support potential for bat roosts. No significant direct or indirect impacts on roosting bat species are anticipated.

A moderate effect is anticipated on woodland-dwellers as a result of the loss of forest habitat, which is mitigated by the phased nature of the felling operations and the retention/recreation of forest habitat within the Proposed Project site and its surroundings.

This report provides a full and comprehensive assessment of the potential for impact on bat populations within the site boundary. The surveys and assessment provided in this report are in accordance with the relevant industry guidance. Provided that the Proposed Project is carried out in accordance with the design, best practice and mitigation that is described within this report and accompanying Chapter, significant effects on bats are not anticipated at the county, national and international scales.

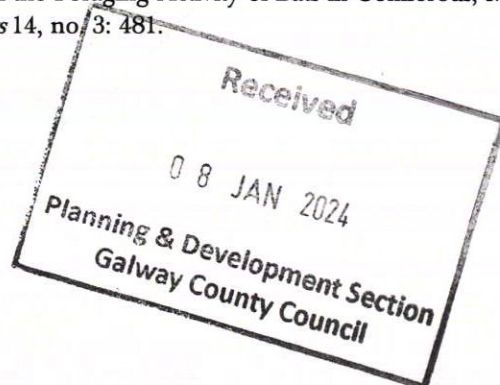




7.

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