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ENVIRONMENTAL CONSULTANTS

# Blessington Greenway

**An Bord Pleanála Response to Request  
for Further Information on Ecology**

**Bats Report**

## Document Details

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## 1 Introduction

The following report presents the findings of a comprehensive bat survey conducted to assess the possible ecological impacts of The Blessington eGreenway scheme is hereafter referred to as the 'Proposed Development' on local bat. These surveys were carried out in response to a Request for Further Information received by Wicklow County Council from An Bord Pleanála (ABP) on the 16th of March 2023.

The proposed Blessington eGreenway consists of 33km of walking and cycling paths that travel around the Poullapouca Reservoir/ Blessington Lake. This is an area of ecological significance, acknowledged through its designation as a Special Protection Area (SPA) and its inclusion in the Potential Natural Heritage Area (pNHA). The Greenway lies partly within the Poulaphouca Reservoir SPA (site code: 002122) and within 500m of the Wicklow Mountains Special Area of Conservation (SAC) (site code: 002122). The area is characterised by mature mixed conifer and broadleaved woodland with smaller areas of open grasslands and wetlands.

Bat Transect surveys were conducted by Aidan Murphy. Aidan holds a BSc (Hons) in Wildlife Biology and an MSc in Ecological Assessment (UCC). He is a Qualifying Member of CIEEM (Chartered Institute of Ecology and Environmental Management), the chief professional body for Ecologists in Ireland. As such, he is bound by their professional code of conduct. Aidan has worked for seven years as a freelance ecologist with survey experience including bats, birds, freshwater & terrestrial invertebrates, and botanical surveys.

Inspection and identification of Potential Roost Features (PRF's) was carried out by Flynn Furney Staff in November 2023.

### 1.1 Scope of Surveys

The completed bat surveys consisted of the following:

- A desktop study to gain an understanding of bat activity within the area and the suitability of the site for certain species.
- Bat activity surveys to determine the level of bat activity in the study area. The bat activity monitoring results were analysed to describe the bat activity at the site during the time of the survey.
- Bat surveys for potential roost features of importance to bats were also carried out by competent Flynn Furney Staff during the initial surveys forming part of the Ecological Impact assessment for the Proposed Development in 2021. Surveys were repeated between the 11<sup>th</sup> and the 22<sup>nd</sup> of November 2023. Assessment for roosting potential was carried out following Collins (2023).

## 1.2 Legislation Protecting Bats in Ireland

All bat species are protected by law in Ireland at a national and European level. Nationally, the Wildlife Act 1976 (amended 2000) makes it an offence to wilfully interfere with, or destroy, the resting or breeding place for bats. All species of Irish bats are listed under Schedule 5 of the Wildlife Act (1976) making it an offence to:

- Intentionally kill, injure, or take a bat
- Possess or control any live or dead specimen or anything derived from a bat
- Wilfully interfere with any structure or place used for breeding or resting by a bat
- Wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose.

The EU 'Habitats' Directive (92/43/EC; transposed into Irish law by EC Birds and Natural Habitats Regulations (S.I 477 of 2011) provides legal protection for bats and their roosts at a European Union level. Under the EU Habitats Directive, lesser horseshoe bats are listed as an Annex II species (afforded special protection). All other Irish bat species are listed in Annex IV (general protection) of this directive.

Regulation 51(2) of the Birds and Natural Habitats Regulations 2011 provides –“(2) *Notwithstanding any consent, statutory or otherwise, given to a person by a public authority or held by a person, except in accordance with a licence granted by the Minister under Regulation 54, a person who in respect of the species referred to in Part 1 of the First Schedule—(a) deliberately captures or kills any specimen of these species in the wild, (b) deliberately disturbs these species, particularly during the period of breeding, rearing, hibernation and migration, (c) deliberately takes or destroys eggs of those species from the wild, (d) damages or destroys a breeding site or resting place of such an animal, or (e) keeps, transports, sells, exchanges, offers for sale or offers for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Habitats Directive, shall be guilty of an offence.*” The grant of planning permission does not permit the commission of any of the above acts or render the requirement for a derogation licence unnecessary. In addition, the Irish government are signatories of the 1979 Bonn 'Convention on the Conservation of Migratory Species of Wild Animals' and the 1982 Convention on the 'Conservation of European Wildlife and Natural Habitats'. Ireland must also fulfil commitments under the 1991 'Eurobats Agreement' for the conservation of bats in Europe.

## 2 Site Location and Description

The Proposed Development is located adjacent to Blessington Lakes/Poulaphouca Reservoir SPA (site code: 002122) and within 500m of the Wicklow Mountains SAC (site code: 002122). The greenway route will pass through forest and woodlands adjacent to the shoreline of Blessington Lake. The development route is relatively well connected to the surrounding area with extensive hedgerow/treeline networks providing good commuting and foraging habitat for bats.

Sections of the route in the townlands of Blessington, Lacken, Vallemount and Baltyboys form the focus of the present bat survey.

## 3 Methodology

### 3.1 Desk Study

Records from the National Biodiversity Data Centre (NBDC) for the four hectads (10 x 10m square) within which the site is located (N91, O01, N90 & O00) were downloaded and reviewed for bat records (Downloaded on 01/10/2023). This information can be used to identify bat species that may occur within a proposed development site or in the surrounding areas. It should be noted that an absence of records is likely to reflect an absence of survey data and cannot be taken as confirmation that a particular species is not present in the site or the surrounding area.

The NBDC website also hosts the Model of Bat Landscapes for Ireland, which has assessed the relative importance of landscape and habitat associations for bat species across Ireland (see Lundy *et al.* 2011). Accessed 18/10/2023.

The desk study included a review of current species distribution mapping data included in 'The Status Of EU Protected Habitats And Species In Ireland (National Parks and Wildlife Service, 2019).

### 3.2 Field Surveys

The series of transect routes selected for these surveys were designed to be representative of the foraging and commuting habitats presented within the proposed development site, taking into account established trackways, lake water shores, treelines and woodland edges. Transect surveys were undertaken using an Anabat Scout full spectrum bat detector and an Echometer Touch 2 Pro bat detector.

The surveys were undertaken on 21<sup>st</sup> September 2023. Surveys began 33 minutes after sunset and finished four hours after sunset (20:01 – 23:28 (19:28)). Weather conditions were optimum for bat activity during the surveys with calm, dry and mild conditions (30% cloud, no rain, no wind) and optimal air temperatures (12°C). Transects were walked slowly while recording geopositioned bat registrations (recordings) and the same routes were followed in reverse to complete the transect walks. Recordings were observed live, as well as stored for later analysis.

Bat sonograms were manually analysed and identified to species level using specialist software, Wildlife Acoustics Kaleidoscope Viewer Pro. Activity analysis of recorded bat echolocation was defined as registrations/contacts per species within a 15 second (maximum) file. Multiple passes/calls/pulses of the same species within a (maximum) 15 s file count as a single registration. The echolocation pulses of *Myotis* sp. (Daubenton's, Natterer's & whiskered Bat) can be difficult to separate into species due to similarities in call types. Where uncertain, these are classified as *Myotis* sp. Pulses of pipistrelle calls which are similarly atypical are recorded as

*Pipistrellus* sp.

Signs of bats and bat roosting potential surveys were carried out following Collins (2023). An inspection of the external areas including man-made structures and trees within and surrounding the subject lands was conducted. Bat activity was evidenced by signs including; Dead specimens, Bat droppings, Urine splashes, Fur-oil staining, Squeaking noises, Feeding remains (moth wings), Bat-fly (Nycteribiid) pupal cases; and Odour. Possible roosts sites were identified by searching for holes, cracks and crevices old buildings and mature trees. The classification of PRF is detailed in table 1 below.

**Table 1: Collins (2016) roosting and foraging definitions**

Suitability	Description of roosting habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats in a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

## 4 Results

### 4.1 Desktop Study Results

#### 4.1.1 NBDC Bat Records

Records from the NBDC for hectads: N90, N91, O01 and O00, within which the site is located, were extracted and reviewed (accessed on 18/10/2023). Records within a 5 km radius of the site are presented in Table 2 below.

**Table 2: Bat records within 5 km of Proposed Development**

<b>No.</b>	<b>Grid reference/ distance from the site</b>	<b>Species</b>	<b>Recorder</b>	<b>Date of last record</b>	<b>Database</b>
1	N926097 3.3 km W. of lake	Common pipistrelle Soprano Pipistrelle Daubenton's Bat	Thomas Deegan	14/08/2013	National Bat Database of Ireland
2	N971145 1.6 km W. of lake	Common pipistrelle	Enda Mullen. NPWS Calls.	08/05/2008	National Bat Database of Ireland
3	N984151 0.9 km N. of lake	Common pipistrelle	Enda Mullen. NPWS Calls.	24/05/2004	National Bat Database of Ireland
4	N985144 0.2 km N. of lake	Soprano Pipistrelle	Enda Mullen. NPWS Calls.	01/08/2000	National Bat Database of Ireland
5	N998142 0.1 km E. of lake	Common pipistrelle Soprano pipistrelle Daubenton's bat Leisler's bat	Enda Mullen. NPWS Calls.	30/08/2008	National Bat Database of Ireland
6	O003076 On lake shore	Common pipistrelle Soprano pipistrelle Daubenton's bat	Enda Mullen. NPWS Calls.	17/09/2008	National Bat Database of Ireland
7	N979034 2.4 km S of lake	Common pipistrelle Natterer's Bat	Ruth Carden	28/07/2008	National Bat Database of Ireland

Figure 1: Transect locations

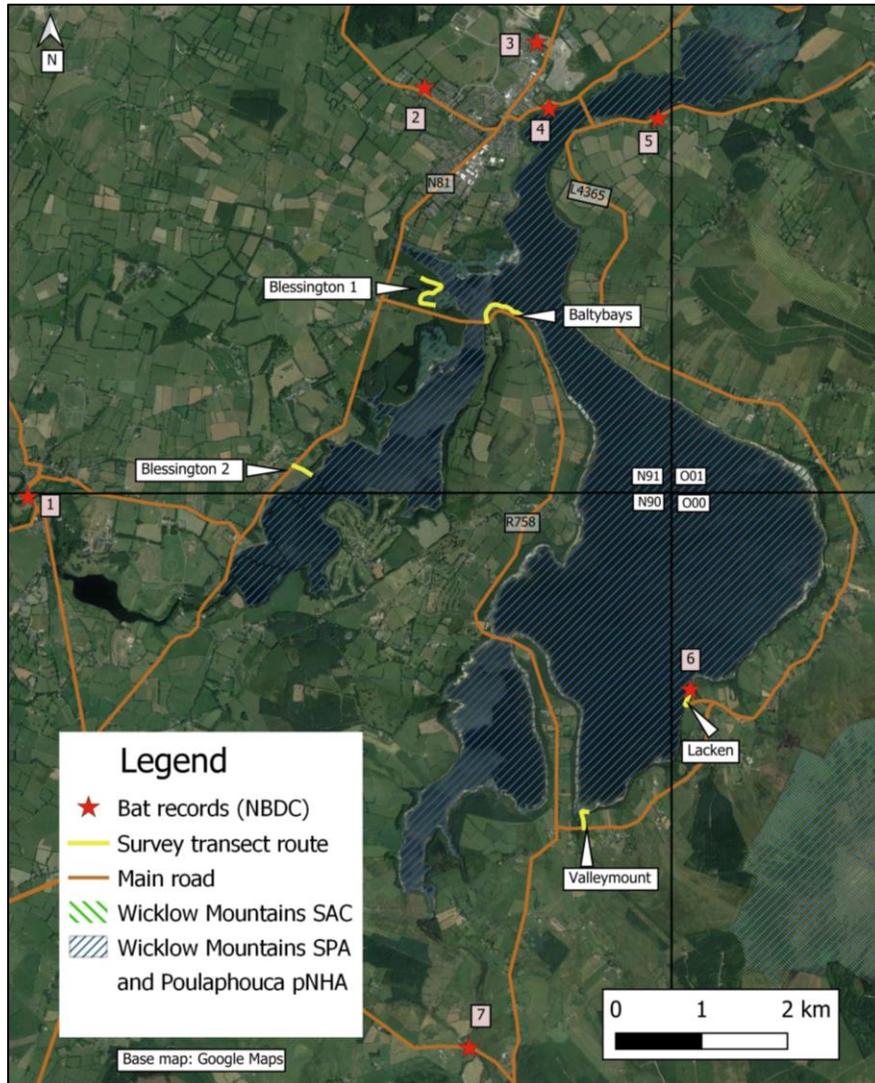


Figure 1 shows the five transect routes with locations of the following:

- NBDC records within 5 km of the Proposed Development
- Location and meeting point of 10 km grid squares (N91, N90, O01 & O00)
- Wicklow Mountain SAC (site code: 002122) and Wicklow Mountain SPA (Site code: 004040) and Poulaphouca Reservoir pNHA (Site code: 000731) share roughly the same footprint as Wicklow Mountain SPA. Neither the SPA nor the SAC have bats as a qualifying interest

### 4.1.2 NBDC Bat Habitat Suitability Index

Bat Conservation Ireland's habitat suitability index was used to classify the site. The index ranges from 0 to 100 with 0 being least favourable and 100 most favourable for bats. The northern half of the project site as having a Medium to High suitability for bats, with a score of 33.33 and the southern half with a medium suitability score of 26.67 (See Table 3 below). Soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*), brown long-eared bat (*Plecotus auratus*) and leisler's bat (*Nyctalus leisleri*) have the highest ratings, with lesser horseshoe bats *hinolophus hipposideros* having the lowest rating and the remaining four species with medium ratings.

**Table 3: Bat habitat suitability index ratings for the Blessington Site.**

Bat Species	Bat Suitability Index-Northern	Bat Suitability Index-Southern
All Bats	33.33	26.67
Soprano pipistrelle	39	37
Brown long-eared bat	48	35
Common pipistrelle	49	40
Lesser horseshoe bat	3	4
Whiskered bat	31	11
Daubenton's bat	22	24
Nathusius' pipistrelle	25	20
Natterer's bat	44	34

### 4.1.3 Current Species Distributions

The most recent species distribution mapping is included in 'The Status Of EU Protected Habitats And Species In Ireland' (NPWS 2019). The following table (Table 4) shows the current known or estimated distribution and range for bat species within the 10km OSI grid squares that include the Proposed Development. Nathusius' pipistrelle and the lesser horseshoe bat are not within the distribution range of the Proposed Development. All seven remaining species are within the distribution range; however, the whiskered bat is not recorded within grid square N91. The relevant grid squares meet near the centre of the site as shown in Figure 1.

**Table 4: Most recent bat species distributions within the relevant 10km grid squares encompassing the Blessington site (NPWS, 2019).**

Species	N91	N90	O01	O00
Common pipistrelle	✓	✓	✓	✓
Soprano pipistrelle	✓	✓	✓	✓
Leisler's bat	✓	✓	✓	✓
Daubenton's bat	✓	✓	✓	✓
Brown long eared bat	✓	✓	✓	✓
Natterer's bat	✓	✓	✓	✓
Whiskered bat	✓	X	✓	✓
Nathusius' pipistrelle	X	X	X	X
Lesser horseshoe bat	X	X	X	X

Based on the current known distribution/range of bat species (NPWS data), and the Bat Habitat Suitability Index, results indicate that the bats most likely to occur in the area are common pipistrelle, soprano pipistrelle, leisler's bat, daubenton's bat, brown long-eared bat, whiskered bat and Natterer's bat.

## 4.2 Transect Survey Results

Four species of bat were recorded foraging and commuting on or in close proximity to the transect routes. The following species have been identified:

- Common pipistrelle (*Pipistrellus pipistrellus*)
- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Daubenton's bat (*Myotis daubentonii*)
- Leisler's bat (*Nyctalus leisleri*)

Bat activity increased as hedgerow/tree lines became denser and taller, this was more evident with treelines composed of mature trees, especially where they connected to areas of woodland and hedgerows, which provide commuting corridors to the wider landscape. Four of the most

common bats in Ireland were recorded over the transect walks with bat pass counts in descending order: Daubenton's bat (48), common pipistrelle (45), soprano pipistrelle (43) and Leisler's bats (7). The locations of the transect routes can be viewed in Figure 1.

Bat activity encountered along each of the transect routes (bat passes/ registrations) can be found in Appendix 1

It must be noted that each bat recording and mark on the map does not correlate to an individual bat but is representative of bat activity levels/species present at locations surveyed. Bat activity was considered moderate during transect surveys in the study areas.

#### 4.2.1 Daubenton's bat

Daubenton's bat was observed and recorded foraging over the lake surface with moderate activity levels. Daubenton's bat was the dominant species overall and was recorded in four of the transects. The species was not recorded in the Blessington 1 transect; this is most likely due to the fact that the survey was undertaken before their emergence time 40-60 minutes after sunset and additionally, the survey route did not include a stretch of lake shore. However, the *Myotis* sp. recorded was likely to be Daubenton's bat.

#### 4.2.2 Common pipistrelles & Soprano pipistrelles

Overall foraging and commuting activity were seen to be moderate onsite for both species. Both species showing affinity to the well-developed treelines and hedgerows along the transect routes which often link to woodland. Both pipistrelle species were active in all the transects except for Valleymount where common pipistrelle was not recorded.

#### 4.2.3 Leisler's bat

Characteristically recorded intermittently commuting at height over all the transects with faint registrations. The calls recorded are considered to be from commuting bats passing over the site. They are not reliant on linear habitats to traverse through the landscape and their activity on site was considered low.

*Table 5: Summary of results from 5 bat activity transects from Blessington Lakes survey.*

Transect name	Length	Duration	Sop. pip	Com. pip	Daub.	Leis.	Myo sp.	Pip. sp.
Blessington 1	750 m	20:01-20:38	23	19	0	1	2	0
Blessington 2	220 m	21:01-21:09	4	0	2	1	0	0
Baltybays	560 m	21:28-	5	3	23	2	0	0

Transect name	Length	Duration	Sop. pip	Com. pip	Daub.	Leis.	Myo sp.	Pip. sp.
		21:56						
Valleymount	270 m	22:29-22:56	9	15	0	2	0	1
Lacken	170 m	23:08-23:28	2	8	7	1	0	0
<b>Total counts</b>			<b>43</b>	<b>45</b>	<b>48</b>	<b>7</b>	<b>2</b>	<b>1</b>

Maps of the transect locations and a full list of species results can be found in Appendix 1.

### 4.3 Bat Roost Suitability Assessment

The Proposed Development has been identified as containing varying degrees of suitable bat roosting habitat, ranging from low to highly suitability. Notably, large mature trees exhibiting high suitability are scarce along the planned route and should be approached with caution due to their importance as habitats not only for bats but also for other wildlife species, considering their age. Conversely, younger trees, while offering lower bat habitat suitability, are more prevalent. See Appendix 2 for the results of the bat habitat suitability assessment.

A total of 236 potential (bat) roost features (PRFs) were identified in the broad study area. Most features were mature trees with holes, cracks and crevices of varying suitability for bat roosting. No. 59 features recorded were inside the final eGreenway scheme corridor or areas where earthworks are planned. Of these 14 were noted as having high bat roosting potential, 33 had moderated potential and 12 had low potential.

## 5 Evaluation, Impact Assessment and Mitigation

The results of the surveys undertaken confirm four species of bats have been found to use the chosen site locations for foraging and commuting: soprano pipistrelle, common pipistrelle, Daubenton's bat and Leisler's bat. The two pipistrelle species that were recorded were mostly foraging/ commuting along treelines; Daubenton's bat for the most part was recorded foraging over water along the lake shores and Leisler's bats were considered to be commuting overhead and not foraging along the transect routes. The bat species recorded are of 'Least Concern' (Marnell *et al.*, 2022) and are of 'Favourable' conservation status (NPWS, 2019). It should be noted that the survey results (detections) are bat passes and are indicative of levels of activity, rather than an actual count of bats.

Seven bat species are listed in NPWS (2019) distribution and range data for the four grid squares surrounding the Blessington Lakes. However, the range of bat species recorded in the present survey roughly corresponds with NBDC species records for surveys undertaken in the same grid

squares from 2000 to 2013 except for a Natterer's bat record (2008) from 2.4 km south of the lakes.

The treelines, hedgerows and woodland, through which the transects run, are considered areas of Local Importance (Higher Value), in accordance with the ecological resource valuations presented in the NRA Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA/TII, 2009 (Revision 2)). The development site is evaluated as Local Importance (Higher Value) for bat species. Bat activity detected on site was overall considered to be moderate.

### **Foraging**

Numerous studies have demonstrated the importance of linear features in the landscape to many species of bats. Features such as hedges, treelines and waterways are used by bats to navigate between roosts and feeding areas and the continuity of such features is important to them. Most bats, other than high-flying species such as Leisler's, tend to fly close to linear features or close to a tree canopy, so the presence of protected flight routes around roosts is important (Kelleher, C. & Marnell, F. 2006). The proposed development will not result in habitat fragmentation within the retained habitats around the reservoir shoreline. As such the project is not expected to have any significant adverse effects upon bats foraging and navigation.

The following mitigation measures will be adhered to prevent and mitigate impacts on bat foraging and navigation

- Where removal of trees, shrubs or hedgerows is unavoidable, additional hedgerows or tree planting will be carried out using native species (i.e., there will be no net loss of linear habitat).
- Clearance will occur only during daylight hours between May and October.

### **Roosting**

In the absence of mitigation, the loss of potential bat roosting habitat is considered to be moderately significant. The following mitigation measures will be adhered to prevent impacts:

- Works should aim to avoid and retain all features noted with bat roosting potential. Detailed mitigation has been prepared and is presented in the EclA for the Proposed Development.
- If moderate to high potential roost features noted in this report are to be removed, follow up surveys including endoscope surveys and/or emergence/re-entry surveys will be undertaken. If a bat roost is identified, a bat derogation licence will be obtained from NPWS prior to felling and the felling activity will be supervised by a qualified ecologist.
- Where a tree marked as a mature specimen with low potential cannot be retained, trees must be felled appropriately and sensitively following NRA guidelines (2005) for the treatment of bats. Such tree-felling will be supervised by an ecologist where required.
- It is important that bat-friendly lighting design is incorporated into the design of the development to avoid cumulative lighting impacts on bat species; it should ensure that the

lighting on the route is designed so that the surrounding habitats are not impacted by light overspill. Bat friendly lighting can maintain the quality of these habitats for bat foraging and commuting bats, in particular for less light tolerant species such as the brown long-eared bat and Daubenton's bat.

- Bat boxes are proposed to be installed within trees to be retained along the route and reservoir shoreline. Bat boxes will be erected on existing trees within the proposed development site following best practice guidelines (Kelleher & Marnell 2006, NRA 2006). A minimum of 100 Schwegler Universal Bat Boxes (1FFH) bat boxes (or similar) will be installed during clearance works, 20 Flat Bat Colony Box 3FF should also be fixed to large trees in close proximity to any tree where High Roosting potential is removed.
- 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 vegetation features such as treelines to ensure they are close to existing flight paths and can avoid wide open spaces (Collins, 2016).
- All trees proposed for removal to facilitate the development will require an assessment for bat roosts prior to removal. If a bat roost is discovered during the clearance works all works should cease immediately and the ecologist and NPWS contacted for assistance.

## 6 Conclusion

This report provides an assessment of the potential for impact on bat populations within the Proposed Development site boundary. The surveys and assessments provided in this report are in accordance with the relevant industry guidance.

The following species were identified during bat transect surveys undertaken at the Proposed Development; common pipistrelle, soprano pipistrelle, Leisler's bat, and Daubenton's bat. All four species are common and have widespread distribution. The surveys did not identify any large populations of bats using the site. It should be noted that an absence of records cannot be taken as confirmation that a particular species is not present in the site or the surrounding area. Bat surveys merely serve as indicative of the potential bat activity within the area.

The site is evaluated as Local Importance (Higher Value) for bat species. Bat activity detected on site was overall considered to be moderate. The removal of tree and shrub species to facilitate the Proposed Development will result in the loss of foraging and commuting habitat for bats. As no loss of linear habitat will occur and the limited no long-term operational impacts no long-term adverse impacts are predicted to bats as a result of the proposed development.

Provided that the proposed development is constructed and operated in accordance with the design, best practice and mitigation that is described within this report and the project EclA's significant effects on bats are not anticipated at any geographic scale.

## References

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## Appendix 1: Transect Results

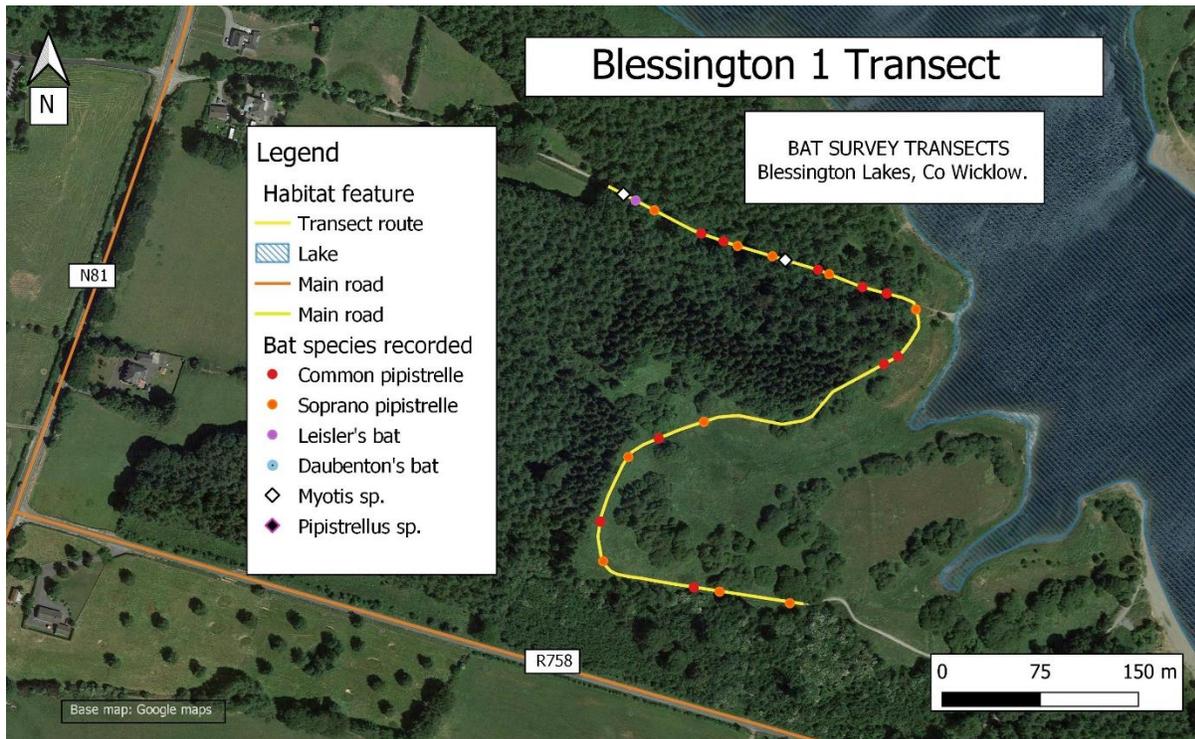


Figure: Blessington 1 bat transect location and results.

Table: Bat transect species results for Blessington.

Dusk survey 21/09/2023. Blessington 1. ITM: 697073 712414 - 697248 712093				
Time	Location	Species	Count	Comments
20:01	Southern section	Soprano pipistrelle	4	Foraging on treelines
20:08	Southern section	Soprano pipistrelle	1	Foraging on treelines
20:12	Northern section	Soprano pipistrelle	3	Foraging on treelines
20:13	Northern section	Common pipistrelle	3	Foraging on treelines
20:14	Northern section	Common pipistrelle	2	Foraging on treelines

Dusk survey 21/09/2023. Blessington 1. ITM: 697073 712414 - 697248 712093				
20:14	Northern section	Soprano pipistrelle	3	Foraging on treelines
20:15	Northern section	Common pipistrelle	2	Foraging on treelines
20:15	Northern section	Soprano pipistrelle	3	Foraging on treelines
20:16	Northern section	Soprano pipistrelle	2	Foraging on treelines
20:17	Northern section	Myotis sp.	1	Not seen
20:19	Northern section	Leisler's bat	1	Not seen
20:23	Northern section	Common pipistrelle	3	Not seen
20:25	Northern section	Myotis sp.	1	Not seen
20:25	Northern section	Soprano pipistrelle	2	Not seen
20:27	Northern section	Common pipistrelle	3	Foraging on treelines
20:30	Middle section	Common pipistrelle	3	Foraging on treelines
20:34	Middle section	Soprano pipistrelle	1	Foraging on treelines
20:35	Southern section	Soprano pipistrelle	3	Not seen
20:36	Southern section	Soprano pipistrelle	1	Not seen
20:36	Southern section	Common pipistrelle	2	Not seen
20:38	Southern section	Common pipistrelle	1	Not seen

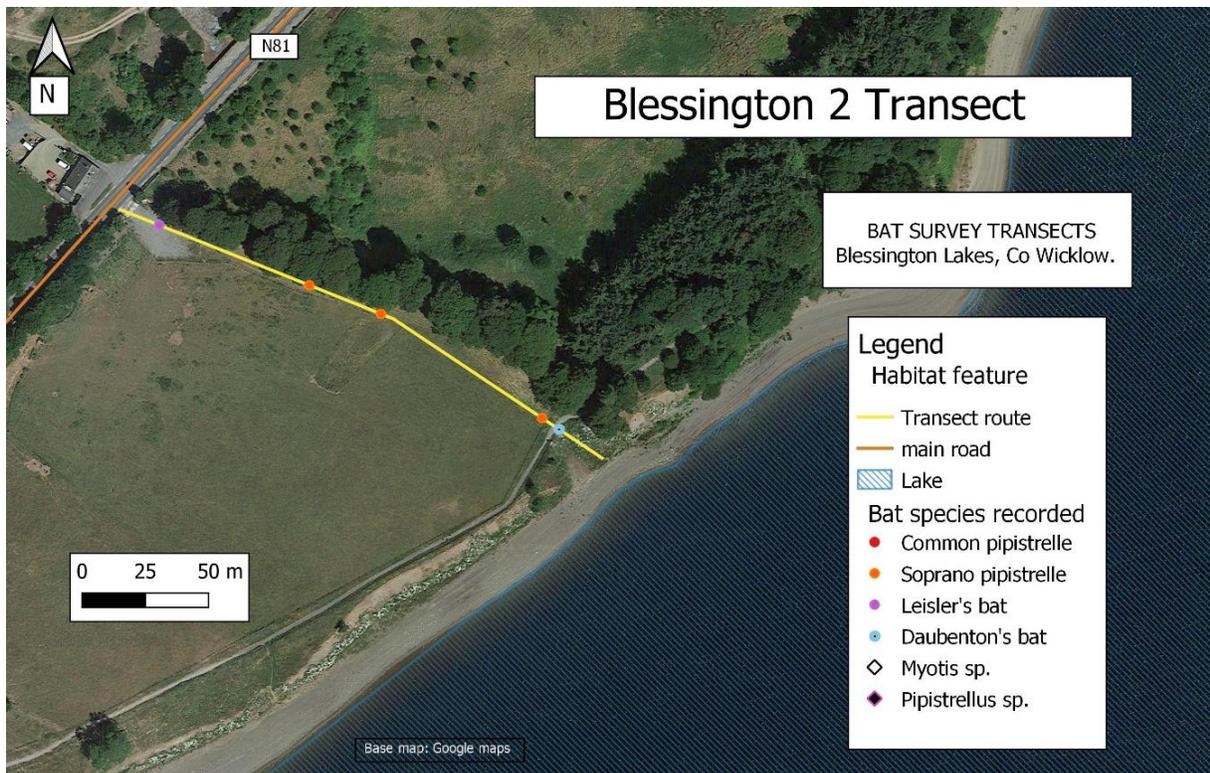


Figure: Blessington 2 bat transect location and results.

Table: Bat transect results for Blessington 2.

Dusk survey 21/09/2023. Blessington 2. ITM: 695652 710195 - 695862 710104				
Time	Location	Species	Count	Comments
21:01	West section	Leisler's bat	1	Not seen
21:02	West section	Soprano pipistrelle	2	Foraging on treeline
21:05	West section	Soprano pipistrelle	1	Very feint
21:08	East section, shore	Daubenton's bat	2	Not seen
21:09	East section, shore	Soprano pipistrelle	1	Not seen

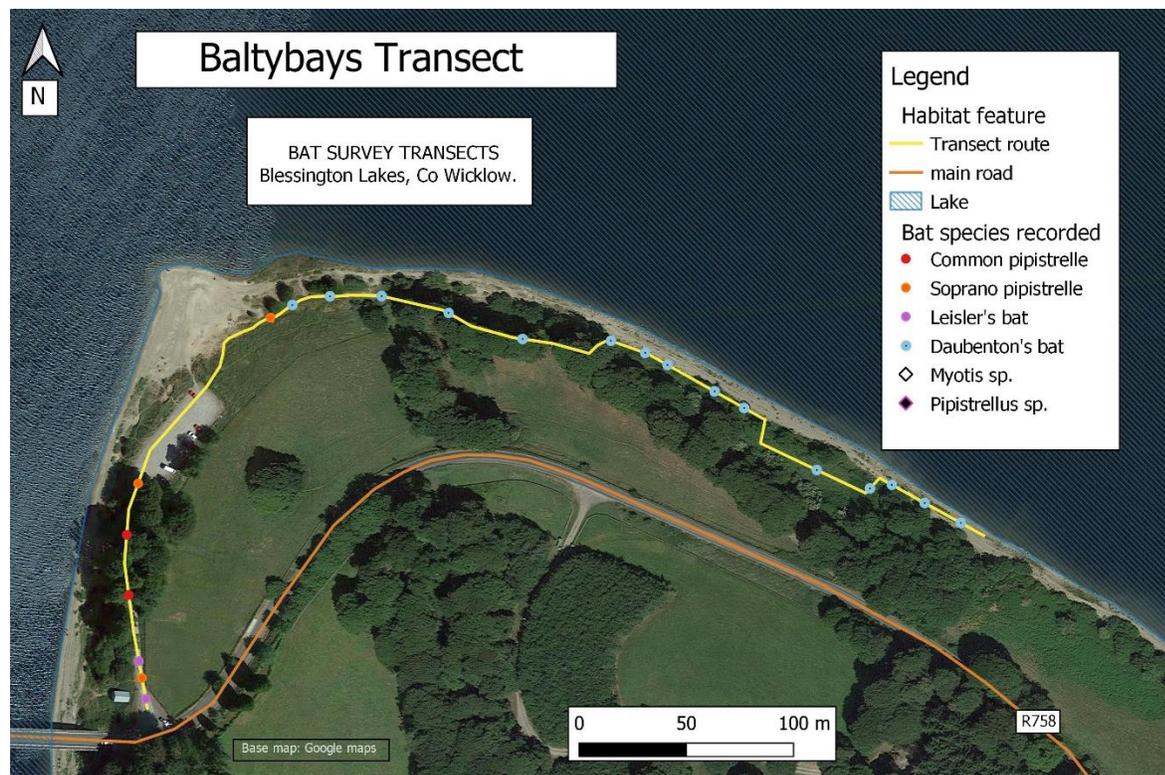


Figure: Baltyboys Transect location.

Table: Bat transect results for Baltyboys.

Dusk survey 21/09/2023. Baltybays. ITM: 697860 712050 - 698252 711997				
Time	Location	Species	Count	Comments
21:28	East section	Leisler's bat	1	Not seen. Feint call
21:31	East section	Soprano pipistrelle	3	Not seen
21:36	East section	Soprano pipistrelle	1	Not seen. Feint call
21:37	East section	Daubenton's bat	1	Observed foraging over water
21:38	East section	Daubenton's bat	1	Observed foraging over water
21:39	East section	Daubenton's bat	2	Observed foraging over water
21:40	East section	Daubenton's bat	1	Observed foraging over water
21:41	East section	Daubenton's bat	1	Observed foraging over water

Dusk survey 21/09/2023. Baltybays. ITM: 697860 712050 - 698252 711997				
21:42	West section	Daubenton's bat	1	Observed foraging over water
21:43	West section	Daubenton's bat	2	Observed foraging over water
21:44	West section	Daubenton's bat	1	Observed foraging over water
21:45	West section	Daubenton's bat	1	Observed foraging over water
21:46	West section	Daubenton's bat	1	Observed foraging over water
21:47	West section	Daubenton's bat	1	Observed foraging over water
21:48	West section	Daubenton's bat	3	Observed foraging over water
21:49	West section	Daubenton's bat	3	Observed foraging over water
21:50	West section	Daubenton's bat	1	Observed foraging over water
21:51	West section	Daubenton's bat	3	Observed foraging over water
21:52	West section	Soprano pipistrelle	1	Not seen
21:53	West section	Common pipistrelle	2	Foraging on treeline
21:54	West section	Common pipistrelle	1	Not seen
21:56	West section	Leisler's bat	1	Not seen. Feint call

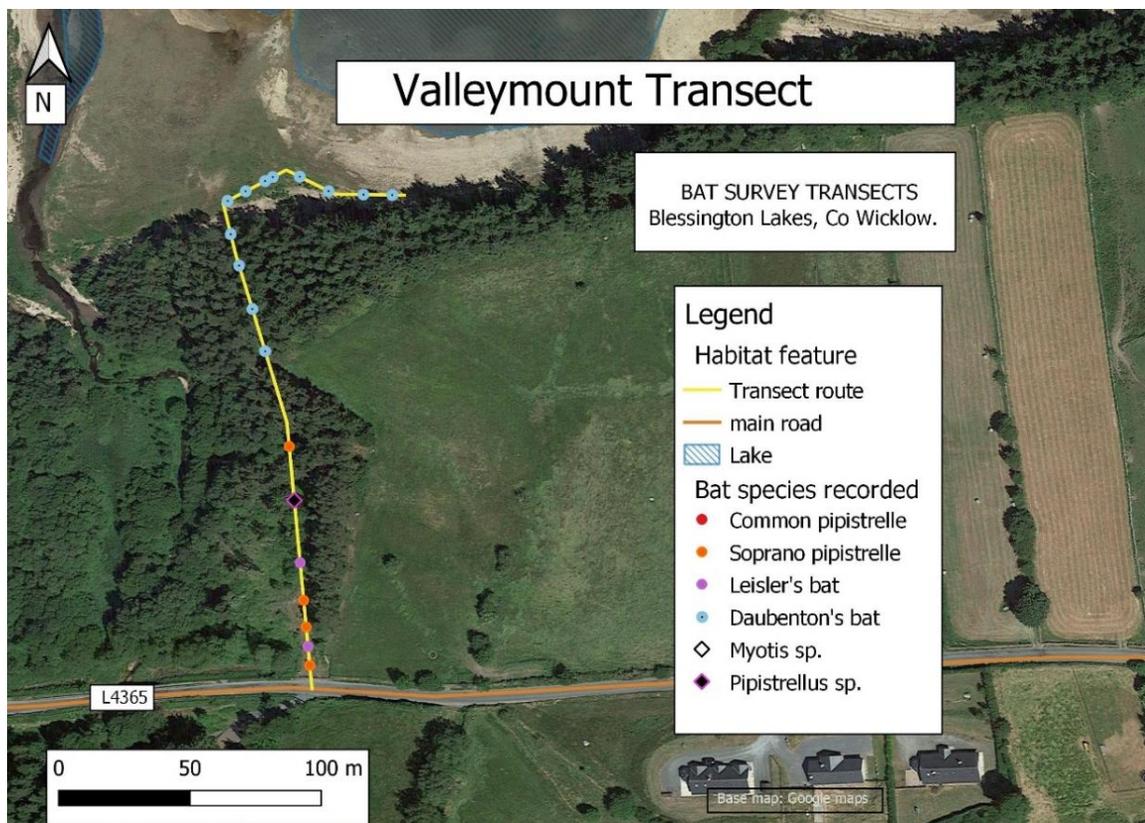


Figure: Valleymount bat transect location and results.

Table: Bat transect species results for Valleymount.

Dusk survey 21/09/2023. Valleymount. ITM: 699111 706055 - 699113 706253				
Time	Location	Species	Count	Comments
22:29	South section	Soprano pipistrelle	2	Not seen
22:30	South section	Soprano pipistrelle	2	Not seen
22:31	South section	Soprano pipistrelle	4	Foraging on treeline
22:36	South section	Soprano pipistrelle	1	Not seen
22:36	North section	Daubenton's bat	1	Not seen
22:37	North section	Daubenton's bat	1	Not seen
22:38	North section	Daubenton's bat	3	Not seen
22:39	North section	Daubenton's bat	1	Observed foraging over water
22:40	North section	Daubenton's bat	1	Observed foraging over water

Dusk survey 21/09/2023. Valleymount. ITM: 699111 706055 - 699113 706253				
22:41	North section	Daubenton's bat	1	Observed foraging over water
22:42	North section	Daubenton's bat	1	Observed foraging over water
22:47	North section	Daubenton's bat	1	Not seen
22:48	North section	Daubenton's bat	1	Not seen
22:49	North section	Daubenton's bat	2	Not seen
22:50	North section	Daubenton's bat	1	Not seen
22:51	North section	Daubenton's bat	1	Not seen
22:51	South section	Pipistellus sp.	1	Not seen. Feint call
22:53	South section	Leisler's bat	3	Not seen. Very feint
22:56	South section	Leisler's bat	1	Not seen. Very feint
22:29	South section	Soprano pipistrelle	2	Not seen
22:30	South section	Soprano pipistrelle	2	Not seen
22:31	South section	Soprano pipistrelle	4	Foraging on treeline
22:36	South section	Soprano pipistrelle	1	Not seen
22:36	North section	Daubenton's bat	1	Not seen
22:37	North section	Daubenton's bat	1	Not seen
22:38	North section	Daubenton's bat	3	Not seen
22:39	North section	Daubenton's bat	1	Observed foraging over water
22:40	North section	Daubenton's bat	1	Observed foraging over water
22:41	North section	Daubenton's bat	1	Observed foraging over water
22:42	North section	Daubenton's bat	1	Observed foraging over water
22:47	North section	Daubenton's bat	1	Not seen
22:48	North section	Daubenton's bat	1	Not seen
22:49	North section	Daubenton's bat	2	Not seen
22:50	North section	Daubenton's bat	1	Not seen

Dusk survey 21/09/2023. Valleymount. ITM: 699111 706055 - 699113 706253				
22:51	North section	Daubenton's bat	1	Not seen
22:51	South section	Pipistellus sp.	1	Not seen. Feint call
22:53	South section	Leisler's bat	3	Not seen. Very feint
22:56	South section	Leisler's bat	1	Not seen. Very feint

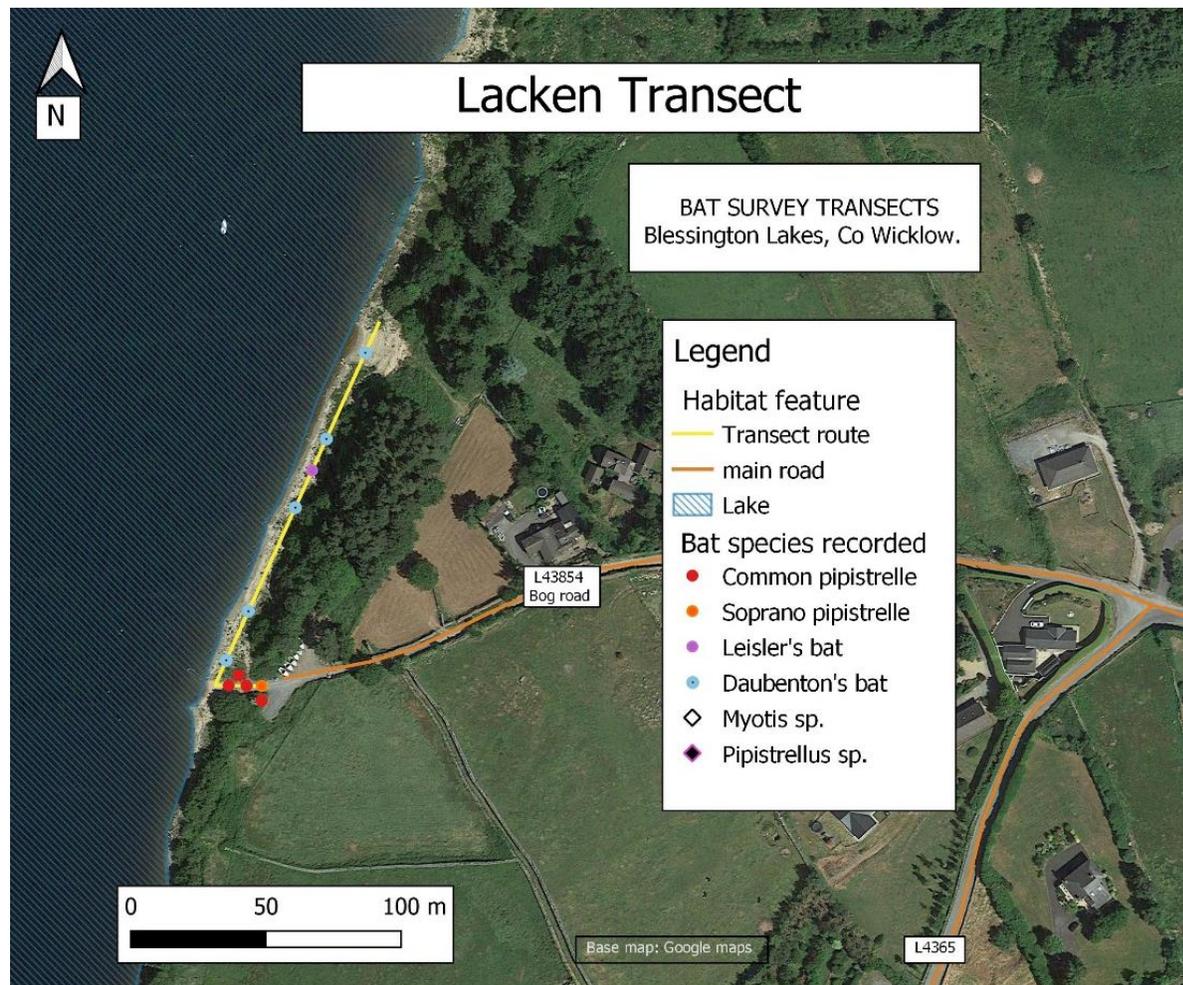


Figure: Lacken bat transect locations.

**Table 2: Lacken Transect survey results.**

Dusk survey 21/09/2023. Lacken. ITM: 700283 707510 - 700313 707637				
Time	Location	Species	Count	Comments
23:08	East section	Common pipistrelle	2	Not seen
23:09	East section	Common pipistrelle	3	Foraging over hedgerow
23:09	East section	Daubenton's bat	1	Observed foraging over water
23:10	South section	Daubenton's bat	2	Not seen
23:11	West section	Daubenton's bat	1	Not seen
23:13	North section	Daubenton's bat	2	Observed foraging over water
23:16	North section	Daubenton's bat	1	Observed foraging over water
23:22	North section	Soprano pipistrelle	1	Observed foraging over water
23:25	North section	Leisler's bat	1	Not seen. Feint call
23:26	East section	Common pipistrelle	3	Not seen
23:27	East section	Soprano pipistrelle	2	Not seen
23:28	East section	Common pipistrelle	1	Not seen
23:08	East section	Common pipistrelle	2	Not seen
23:09	East section	Common pipistrelle	3	Foraging over hedgerow
23:09	East section	Daubenton's bat	1	Observed foraging over water
23:10	South section	Daubenton's bat	2	Not seen
23:11	West section	Daubenton's bat	1	Not seen
23:13	North section	Daubenton's bat	2	Observed foraging over water
23:16	North section	Daubenton's bat	1	Observed foraging over water
23:22	North section	Soprano pipistrelle	1	Observed foraging over water
23:25	North section	Leisler's bat	1	Not seen. Feint call
23:26	East section	Common pipistrelle	3	Not seen
23:27	East section	Soprano pipistrelle	2	Not seen

Dusk survey 21/09/2023. Lacken. ITM: 700283 707510 - 700313 707637				
23:28	East section	Common pipistrelle	1	Not seen

## Appendix 2: Potential Roost Features Identified

- TbRWP: To be Retained Where Possible
- TbP: To be Protected
- LBP: Low Bat Potential Tree or Structure
- MBP: Moderate Bat Potential Tree or Structure
- HBP: High Bat Potential Tree or Structure

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
P117	Mature Ash	2021	TbRWP	698390.2	711895	MBP	Earthworks
P121	Mature Ash	2021	TbRWP	698918.8	712767.9	MBP	Earthworks
P131	Mature Treeline	2021	TbRWP	700393.8	710865.4	MBP	Earthworks
P134	Mature Willow	2021	TbRWP	698981.7	714249.7	MBP	Earthworks
P182	Mature Treeline	2021	TbRWP	697992.7	713054.3	HBP	Earthworks
P216	Mature Oak	16/11/2023	TbRWP	696286.2	710521.2	MBP	Earthworks
P288	ivy covered tree	16/11/2023	TbRWP	698503.9	711664.1	MBP	Earthworks
P289	Mature Ash	15/11/2023	TbRWP	698707.5	711268.5	MBP	Earthworks
P291	Mature Pines with dense ivy	16/11/2023	TbRWP	700310	707565.3	MBP	Earthworks
P299	Mature Ash with dense ivy	21/11/2023	TbRWP	700459.1	710821.8	MBP	Earthworks
P334	Mature Beech	21/11/2023	TbRWP	696046.1	710482.1	HBP	Earthworks
P335	Mature Beech x2	15/11/2023	TbRWP	696024.1	710484.5	MBP	Earthworks
P404	Mature Beech	29/11/2023	TbRWP	697363	711989.7	HBP	Earthworks
P503	Mature Ash	29/11/2023	TbRWP	698733.1	711183.2	MBP	Earthworks
P512	Mature Beech	29/11/2023	TbP	698127.3	712052.6	HBP	Earthworks
P521	Mature Oak	29/11/2023	TbRWP	698031.5	712090.9	MBP	Earthworks
P537	Mature Beech	2021	TbRWP	698693.5	711283.2	HBP	Earthworks
P118	Mature Ash	2021	TbRWP	698352.7	711925.6	MBP	Scheme
P119	Mature Ash	2021	TbRWP	698334.9	711942.2	MBP	Scheme
P124	Mature	2021	TbRWP	699294.9	711565.1	LBP	Scheme

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
	Hawthorn						
P127	Mature Oak	2021	TbRWP	697960.7	712103.5	MBP	Scheme
P129	Mature Rowan	2021	TbRWP	698372.7	711910.9	LBP	Scheme
P133	Mature Willow	2021	TbRWP	698286.9	711974.3	MBP	Scheme
P153	Mature Beech	2021	TbRWP	700223.3	707099.3	MBP	Scheme
P167	Mature Hazel	2021	TbRWP	700221.2	707064.8	LBP	Scheme
P212	Mature Elder	2021	TbRWP	696337.3	710531.9	LBP	Scheme
P213	Mature Elm	2021	TbRWP	696040.8	710487.5	LBP	Scheme
P218	Mature Oak	2021	TbRWP	696064.5	710486.2	MBP	Scheme
P220	Mature Scots Pine	21/11/2023	TbRWP	701848.2	709204.5	LBP	Scheme
P282	p high, around 350 years old	15/11/2023	TbP	696581.5	711308.8	HBP	Scheme
P283	Tree roosting potential moderate	15/11/2023	TbRWP	698586.2	714411.1	HBP	Scheme
P285	Mature tree	17/11/2023	TbRWP	698615.5	713324	MBP	Scheme
P300	Mature Ash	17/11/2023	TbRWP	700294.4	707549.3	MBP	Scheme
P306	Mature Alder	21/11/2023	TbRWP	699556.4	706366	LBP	Scheme
P341	Mature Lime	21/11/2023	TbRWP	696502.8	711193	HBP	Scheme
P343	Mature Beech	21/11/2023	TbRWP	696572.9	711284.5	MBP	Scheme
P344	Mature Beech	21/11/2023	TbRWP	696593.3	711321.9	LBP	Scheme
P345	Mature Beech	21/11/2023	TbRWP	696594.5	711327.7	HBP	Scheme
P348	Mature Beech	21/11/2023	TbRWP	697193.1	711867.3	HBP	Scheme
P354	Mature Beech x3	15/11/2023	TbRWP	697018.6	712437.3	MBP	Scheme
P360	Mature Pine	15/11/2023	TbRWP	700276.3	707524.5	LBP	Scheme
P405	Mature Beech	29/11/2023	TbRWP	698289.6	714331.7	HBP	Scheme
P498	Mature Willow	29/11/2023	TbRWP	698653.8	711384.4	LBP	Scheme
P499	Mature Ash	29/11/2023	TbRWP	698662.5	711358	MBP	Scheme
P501	mature Holly	29/11/2023	TbRWP	698711.7	711269.1	LBP	Scheme
P502	Mature Ash	29/11/2023	TbRWP	698734	711193.7	MBP	Scheme
P508	Mature Hawthorn	29/11/2023	TbRWP	698720	707680.9	LBP	Scheme
P509	Mature Beech	29/11/2023	TbRWP	698578.7	713713.4	MBP	Scheme
P510	high potential	29/11/2023	TbRWP	697988	712102.1	HBP	Scheme
P511	Mature Beech	29/11/2023	TbP	698055.6	712091.7	HBP	Scheme
P513	Mature Ash	29/11/2023	TbP	698417.2	711879.9	MBP	Scheme
P514	Mature Ash	29/11/2023	TbRWP	698677.2	711340.7	MBP	Scheme
P515	Mature Beech	29/11/2023	TbRWP	698727.6	711222.7	MBP	Scheme

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
P519	Mature Willow	29/11/2023	TbRWP	698638.6	711418.6	MBP	Scheme
P520	mature Sycamore	23/11/2023	TbRWP	698753.4	709316.1	MBP	Scheme
P523	Mature Oak	29/11/2023	TbP	696284.4	710523.8	HBP	Scheme
P533	Mature Willow	29/11/2023	TbRWP	698614.4	711463.9	MBP	Scheme
P534	Mature Willow	29/11/2023	TbRWP	698603.9	711479.3	MBP	Scheme
P536	Mature Willow	2021	TbRWP	698568.3	711540.5	MBP	Scheme
P111	Mature Alder	2021	TbRWP	699089.9	710447.7	LBP	Outside
P112	Mature Alder	2021	TbRWP	699047.4	710742.5	LBP	Outside
P113	Mature Alder	2021	TbRWP	699060.2	710751.4	LBP	Outside
P114	Mature Ash	2021	TbRWP	699091.8	710468.3	MBP	Outside
P115	Mature Ash	2021	TbRWP	698840.4	710980.8	MBP	Outside
P116	Mature Ash	2021	TbRWP	698849.7	710978	MBP	Outside
P120	Mature Ash	2021	TbRWP	698633.8	713334.7	MBP	Outside
P122	Mature Crab Apple	2021	TbRWP	698995	710816.7	LBP	Outside
P123	Mature Hawthorn	2021	TbRWP	698391.6	711881.9	LBP	Outside
P125	Mature Oak	2021	TbRWP	698972.2	710865.7	MBP	Outside
P126	Mature Oak	2021	TbRWP	698920.9	710914.8	MBP	Outside
P128	Mature Oak	2021	TbRWP	697974.8	712107.8	MBP	Outside
P130	Mature Stand of Trees	2021	TbRWP	698094.1	708881.9	MBP	Outside
P132	Mature Treeline	2021	TbRWP	700356.8	710898	MBP	Outside
P135	Mature Willows	2021	TbRWP	697950.3	708327.1	MBP	Outside
P140	Mature Ash	2021	TbRWP	697402.1	712740.3	MBP	Outside
P141	Mature Ash	2021	TbRWP	698975.3	706877	MBP	Outside
P142	Mature Ash	2021	TbRWP	697378.3	712042.3	MBP	Outside
P143	Mature Ash	2021	TbRWP	696844.7	709007.9	MBP	Outside
P144	Mature Beech	2021	TbRWP	697426.6	712727.1	MBP	Outside
P145	Mature Beech	2021	TbRWP	697013.9	712451.1	MBP	Outside
P146	Mature Beech	2021	TbRWP	697007.2	712428.9	MBP	Outside
P147	Mature Beech	2021	TbRWP	697392	712020.4	MBP	Outside
P148	Mature Beech	2021	TbRWP	697366.1	712006.6	MBP	Outside
P149	Mature Beech	2021	TbRWP	697349	711989.1	MBP	Outside
P150	Mature Beech	2021	TbRWP	697301.7	711953.3	MBP	Outside
P151	Mature Beech	2021	TbRWP	697237.2	711912.8	MBP	Outside
P152	Mature Beech	2021	TbRWP	697208.1	711893.2	MBP	Outside

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
P154	Mature Beech	2021	TbRWP	697266.3	712355.1	MBP	Outside
P155	Mature Beech	2021	TbRWP	698748.6	714482	MBP	Outside
P156	Mature Beech	2021	TbRWP	698714.9	714469	MBP	Outside
P157	Mature Beech	2021	TbRWP	698514.8	714494.2	MBP	Outside
P158	Mature Beech	2021	TbRWP	697587.7	709440.4	MBP	Outside
P159	Mature Beech treeline	2021	TbRWP	697445.7	709423.9	MBP	Outside
P160	Mature Beech treeline	2021	TbRWP	698578.2	714483	MBP	Outside
P161	Mature Beech treeline	2021	TbRWP	696805.4	708987.2	LBP	Outside
P162	Mature Birch	2021	TbRWP	700208.5	706964.2	LBP	Outside
P163	Mature Birch	2021	TbRWP	700252.2	707104	LBP	Outside
P164	Mature Chestnuts	2021	TbRWP	698502.5	714477.8	HBP	Outside
P165	Mature Crab Apple	2021	TbRWP	698980.2	706964.9	LBP	Outside
P166	Mature Elm	2021	TbRWP	697592.1	709453.7	LBP	Outside
P168	Mature Hazel	2021	TbRWP	698490.9	714460.9	LBP	Outside
P169	Mature Larch	2021	TbRWP	698002.7	713139.7	LBP	Outside
P171	Mature Lime tree	2021	TbRWP	698497	714468.4	HBP	Outside
P172	Mature Maritime Pine	2021	TbRWP	697643.7	711943.9	MBP	Outside
P173	Mature Oak	2021	TbRWP	700207.5	707122.9	MBP	Outside
P174	Mature Oak	2021	TbRWP	700207.8	707176.9	MBP	Outside
P175	Mature Oak	2021	TbRWP	698802.4	714512	MBP	Outside
P176	Mature Scots Pine Grove	2021	TbRWP	697273.8	712319.6	LBP	Outside
P177	Mature stand of Beech	2021	TbRWP	698781.7	714497.1	HBP	Outside
P178	Mature Sycamore	2021	TbRWP	697269.1	711936.1	HBP	Outside
P179	Mature Sycamores	2021	TbRWP	697985.1	713148.2	HBP	Outside
P181	Mature Treeline	2021	TbRWP	698073.4	713237.1	HBP	Outside
P183	Mature treeline	2021	TbRWP	697274.8	709294.6	HBP	Outside
P184	Mature Treeline	2021	TbRWP	696995.6	709118.2	MBP	Outside
P185	Mature	2021	TbRWP	697009.7	709117.2	MBP	Outside

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
	Treeline						
P186	Mature Treeline	2021	TbRWP	696924.4	709063.7	MBP	Outside
P187	Mature Treeline	2021	TbRWP	696865.3	709007.1	MBP	Outside
P188	Mature Treeline	2021	TbRWP	696865.3	709007.1	MBP	Outside
P189	Mature Willow	2021	TbRWP	697289.3	712258.6	LBP	Outside
P190	Mature Willow	2021	TbRWP	697131.7	712206.3	LBP	Outside
P191	Mature Willow Stand	2021	TbRWP	697112.5	712157.4	LBP	Outside
P192	Mature Willow Stand	2021	TbRWP	697383.2	712078.5	LBP	Outside
P193	Mature Willow Stand	2021	TbRWP	697218	712107.7	LBP	Outside
P194	Seasonally wet drain	2021	TbRWP	698599.2	707939.8		Outside
P195	Semi-mature Alder	2021	TbRWP	698811.2	714517.8	LBP	Outside
P196	Semi-mature Ash	2021	TbRWP	697826.8	709174.8	MBP	Outside
P197	Semi-mature Ash	2021	TbRWP	697558	709462	MBP	Outside
P198	Stonewall	2021	TbRWP	697379.4	709370.4	LBP	Outside
P199	Deciduous Trees	2021	TbRWP	701632	710334	MBP	Outside
P200	Mature Beech	2021	TbRWP	696288.9	710917.4	MBP	Outside
P201	Mature Beech	2021	TbRWP	696293.9	710869.4	MBP	Outside
P202	Mature Beech	2021	TbRWP	696320.6	710825	MBP	Outside
P203	Mature Beech	2021	TbRWP	696369.3	710774.9	MBP	Outside
P205	Mature Beech Treeline	2021	TbRWP	695715.9	710175.1	MBP	Outside
P206	Mature Beech	2021	TbRWP	696020.5	710477.2	MBP	Outside
P207	Mature Birch	2021	TbRWP	700990.6	708088.5	LBP	Outside
P208	Mature Birch	2021	TbRWP	700505	707790	LBP	Outside
P209	Mature Chestnut	2021	TbRWP	695969.4	710469.8	MBP	Outside
P210	Mature Conifer	2021	TbRWP	695971.1	710501.5	LBP	Outside
P211	Mature Conifer Woodland	2021	TbRWP	696389.3	710518.9	LBP	Outside

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
P214	Mature Hawthorn	2021	TbRWP	701894.2	709493	LBP	Outside
P215	Mature Hazel	2021	TbRWP	696017.1	710496.5	LBP	Outside
P217	Mature Oak	2021	TbRWP	696257.5	710492.8	LBP	Outside
P219	Mature Oak	2021	TbRWP	695951	710478.5	MBP	Outside
P221	Mature Sycamore	2021	TbRWP	696355.6	710538.2	MBP	Outside
P222	Mature Sycamore Treeline	2021	TbRWP	696376.6	710543.6	MBP	Outside
P223	Mature Sycamore Treeline	2021	TbRWP	696392.3	710547.6	MBP	Outside
P224	Mature Sycamores	2021	TbRWP	695508.2	709949	MBP	Outside
P225	Mature Treeline	2021	TbRWP	696334.6	711023.3	MBP	Outside
P226	Mature Treeline	2021	TbRWP	695351.5	709784.4	MBP	Outside
P227	Scots Pine Grove	2021	TbRWP	695462.1	709923.5	LBP	Outside
P228	Specimen Trees	2021	TbRWP	701618.2	710245.3	HBP	Outside
P230	Mature Beech	2021	TbRWP	697377.6	709728.2	HBP	Outside
P231	Mature Scots Pine	2021	TbRWP	697276	709680.2	MBP	Outside
P232	Mature Treeline	15/11/2023	TbRWP	700750.8	710657.9	MBP	Outside
P284	Mature tree	15/11/2023	TbRWP	698611.9	713351.5	LBP	Outside
P286	Mature tree	15/11/2023	TbRWP	698921.6	712765.1	MBP	Outside
P287	Mature tree	15/11/2023	TbRWP	698876.5	712697.5	LBP	Outside
P292	Mature deciduous	16/11/2023	TbRWP	700862.6	707776.5	MBP	Outside
P293	Mature Trees	16/11/2023	TbRWP	701697.7	710181.4	LBP	Outside
P294	Mature Willow	16/11/2023	TbRWP	701673.9	710188.2	LBP	Outside
P295	Mature Willow	16/11/2023	TbRWP	701652.7	710253.6	MBP	Outside
P296	Mature Pines with dense ivy	16/11/2023	TbRWP	701592.6	710359.6	LBP	Outside
P297	Mature Pines with dense ivy	16/11/2023	TbRWP	701312.8	710497.6	MBP	Outside
P298	Mature Ash	17/11/2023	TbRWP	700495	710805.7	MBP	Outside
P301	Mature Tree	17/11/2023	TbRWP	700218.9	707291.6	LBP	Outside

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
P302	Mature Oak	17/11/2023	TbRWP	700217	707186.5	MBP	Outside
P303	Mature Oak	17/11/2023	TbRWP	700209.5	707125.2	LBP	Outside
P304	Mature Willow	17/11/2023	TbRWP	700057.8	706801.9	LBP	Outside
P305	Mature Willow	17/11/2023	TbRWP	700036.4	706811.7	LBP	Outside
P307	Mature Willow	21/11/2023	TbRWP	699496.3	706349.5	LBP	Outside
P308	Dead mature Ash with dense ivy	21/11/2023	TbRWP	696877.6	709390.5	MBP	Outside
P309	Dead mature Ash with dense ivy	21/11/2023	TbRWP	696888	709397.8	MBP	Outside
P310	Dead mature Ash	21/11/2023	TbRWP	696899.5	709411.8	MBP	Outside
P311	Dead mature Ash	21/11/2023	TbRWP	696949.8	709473.3	LBP	Outside
P312	Mature Oak x3	21/11/2023	TbRWP	696926.4	709518.4	MBP	Outside
P313	Mature Beech x2	21/11/2023	TbRWP	696909.5	709532.2	MBP	Outside
P314	Mature Beech	21/11/2023	TbRWP	696894.5	709542.6	MBP	Outside
P315	Mature Pines with dense ivy	21/11/2023	TbRWP	697022	709560	MBP	Outside
P316	Mature Ash	21/11/2023	TbRWP	697391	709713.9	MBP	Outside
P317	Mature Beech	21/11/2023	TbRWP	697392.4	709719.1	MBP	Outside
P318	Mature Tree	21/11/2023	TbRWP	697392.3	709711.9	MBP	Outside
P319	Mature Beech Treeline	21/11/2023	TbRWP	697456.5	709637.3	MBP	Outside
P320	Mature Beech	21/11/2023	TbRWP	697496.1	709494.3	HBP	Outside
P321	Mature Ash with dense ivy	21/11/2023	TbRWP	697570.1	709468.9	MBP	Outside
P322	Mature Ash with dense ivy	21/11/2023	TbRWP	697587.1	709453.9	LBP	Outside
P323	Mature Beech	21/11/2023	TbRWP	697587.4	709445.9	LBP	Outside
P324	Mature Beech	21/11/2023	TbRWP	697660.8	709362.7	MBP	Outside
P325	Mature Ash	21/11/2023	TbRWP	697824.2	709172.2	MBP	Outside
P326	Mature Larch	21/11/2023	TbRWP	697857.6	709169.2	MBP	Outside
P327	Mature Ash	21/11/2023	TbRWP	697859.7	709155.3	MBP	Outside
P328	Mature Ash	21/11/2023	TbRWP	697936.6	708970.3	LBP	Outside
P329	Mature Ash	21/11/2023	TbRWP	697951.6	708961.6	MBP	Outside
P330	Mature Ash	21/11/2023	TbRWP	697953.2	708872.1	MBP	Outside
P331	Mature Sycamore	21/11/2023	TbRWP	696436	710555.1	MBP	Outside

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
P332	Mature Sycamore	21/11/2023	TbRWP	696396.7	710550.2	MBP	Outside
P333	Mature Beech	21/11/2023	TbRWP	696068.3	710479.6	LBP	Outside
P336	Mature Beech	21/11/2023	TbRWP	696022.3	710478.7	MBP	Outside
P337	Dead mature Ash	21/11/2023	TbRWP	695960.6	710458.2	MBP	Outside
P338	Mature Beech	21/11/2023	TbRWP	695980.6	710423.5	LBP	Outside
P339	Mature Horse Chestnut, and Ash	21/11/2023	TbRWP	695926.9	710470.7	MBP	Outside
P340	3 x bat boxes	21/11/2023	TbRWP	695732.6	710173	HBP	Outside
P342	Mature Beech	21/11/2023	TbRWP	696560.9	711273.6	HBP	Outside
P346	Mature Beech	21/11/2023	TbRWP	697114.5	711822.7	HBP	Outside
P347	Mature Lime	21/11/2023	TbRWP	697155.8	711844.3	HBP	Outside
P349	Mature Beech	21/11/2023	TbRWP	697219.1	711893.9	HBP	Outside
P350	Mature Beech	21/11/2023	TbRWP	697241.2	711909.4	HBP	Outside
P351	Mature Sycamore	21/11/2023	TbRWP	697305.5	711956.6	HBP	Outside
P352	Mature Beech Treeline	21/11/2023	TbRWP	697362.4	711999.2	HBP	Outside
P353	Mature Beech	15/11/2023	TbRWP	697261.3	712351.8	MBP	Outside
P355	Old ruined building	15/11/2023	TbRWP	698810.4	714251.4	LBP	Outside
P356	Dead mature Ash	16/11/2023	TbRWP	698720.5	713984.1	MBP	Outside
P357	Mature Beech x3	15/11/2023	TbRWP	698548.9	711519.7	HBP	Outside
P399	Mature Beech	15/11/2023	TbRWP	697463.5	709434.6	HBP	Outside
P400	Mature Beech	15/11/2023	TbRWP	697414.5	709400.1	HBP	Outside
P401	Mature Beech	15/11/2023	TbRWP	697049.4	709148.7	HBP	Outside
P402	Mature Beech	15/11/2023	TbRWP	697035.6	709138.9	HBP	Outside
P403	Mature Beech	15/11/2023	TbRWP	695923.9	710469.1	HBP	Outside
P406	Mature Beech	15/11/2023	TbRWP	697367.8	709366.9	HBP	Outside
P407	Mature Beech	15/11/2023	TbRWP	697440.7	709418.8	HBP	Outside
P408	Mature Willow	21/11/2023	TbRWP	701573.1	710341.1	MBP	Outside
P435	Mature Beech	29/11/2023	TbRWP	697392.1	712014.9	HBP	Outside
P497	Mature Birch	29/11/2023	TbRWP	698944.8	714229.1	MBP	Outside
P497	Mature Birch	29/11/2023	TbRWP	698944.8	714229.1	MBP	Outside
P500	Mature Ash	29/11/2023	TbRWP	698686.2	711295.1	MBP	Outside
P504	Mature Alder	29/11/2023	TbRWP	699091.1	710719.3	LBP	Outside
P505	Mature Sweet	29/11/2023	TbRWP	698907	709873.4	MBP	Outside

No	Features	Date	Treatment	X(ITM)	Y(ITM)	Bat Roosting Potential	Inside ZOI
	chestnut						
P506	Mature Willow	29/11/2023	TbRWP	698394.1	709293.9	LBP	Outside
P507	Mature Ash	29/11/2023	TbRWP	698592.8	707941.9	MBP	Outside
P516	Mature Oak	29/11/2023	TbP	698913.5	709876.3	MBP	Outside
P517	mature Birch	29/11/2023	TbRWP	698708.9	707741.9	LBP	Outside
P518	Mature Ash	23/11/2023	TbRWP	698948.4	706913.9	MBP	Outside
P524	Mature Oak	29/11/2023	TbP	696272.4	710497.5	HBP	Outside
P532	Mature Willow	29/11/2023	TbRWP	698625.3	711448.8	MBP	Outside
P535	Mature Willow	2021	TbRWP	698578.2	711526.7	MBP	Outside
P94	Mature Ash	2021	TbRWP	695316.4	709773.1	MBP	Outside