

**From:** John Hodnett [REDACTED]  
**Sent:** Thursday 29 December 2022 21:35  
**To:** Development Plan  
**Subject:** Proposed Amendments to the Draft Clare Draft Development Plan 2023-2029  
**Attachments:** Map of drumbiggle area.png; Veon Bats Report.pdf

Dear Sir Madam

I wish to lodge a submission against the zoning for residential purposes of the land referenced shown on the map attached. This is a mature habitat with thousands of wildlife living within. I specifically created my website <https://www.enniswildlife.com/> to protect this important area for the town. I ask you to include the website as part of my submission.

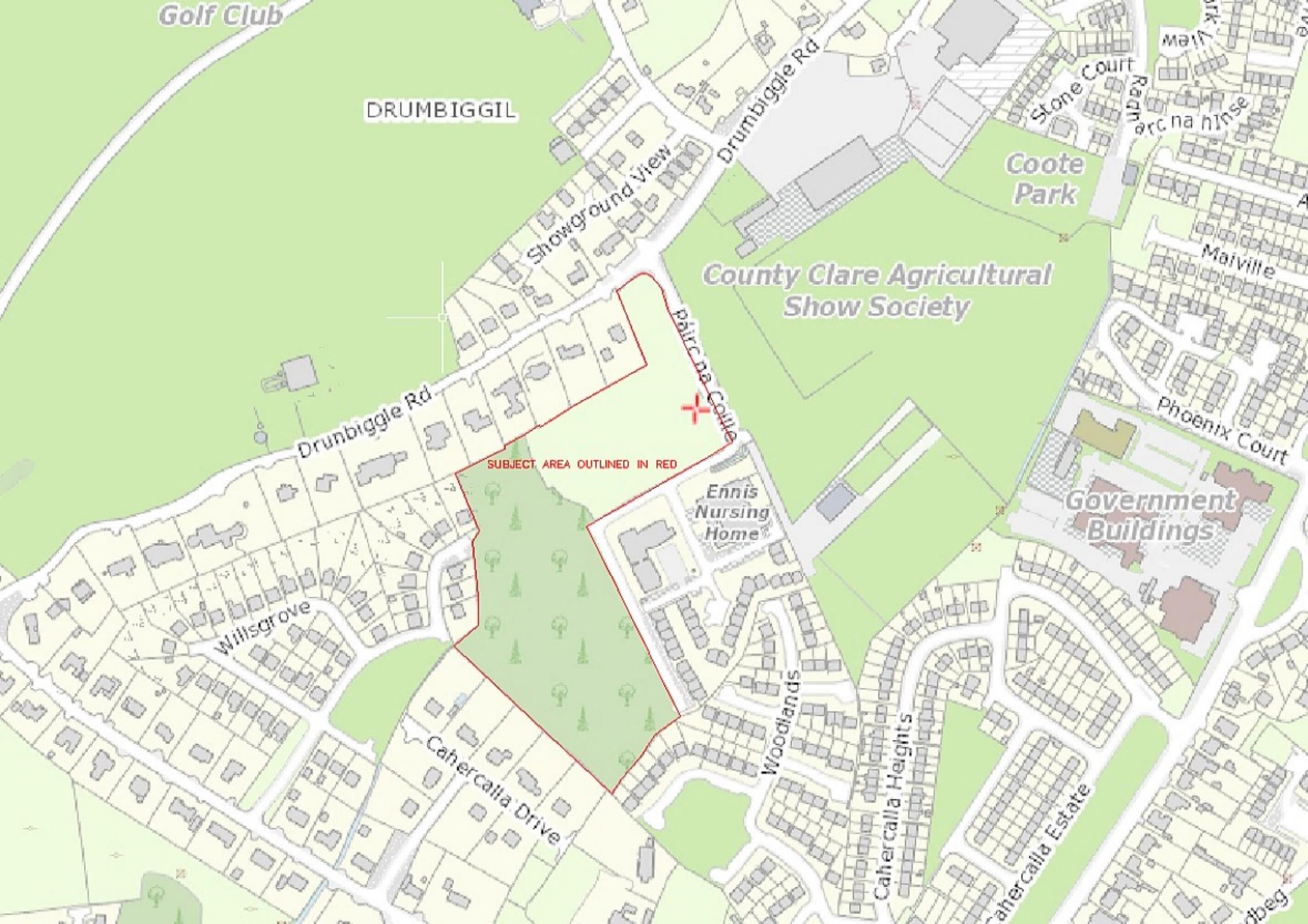
Also see attached bat survey report from Veon Ecologists. Both Newhall and Edenvale Complex SAC and Pouladatig Cave SAC contain Lesser horseshoe bat populations of international importance. The proposed site is located within the accepted 2.5km foraging range of Lesser Horseshoe Bat

I am baffled how the local authority instructs fines on farmers in rural Clare for removing habitat hedgerows and trees, which in the present climate change environment we find ourselves in. This policy I fully agree with

Then how can the same county council instruct the destruction of this large area of woodland where it is most needed with all the unique benefits it has for the town?

Due to serious errors in the existing planning application documentation for part of the site it was not made clear how this area plays a large part in keeping additional flood water speeding towards the centre of the town. And significantly lowers the possibility of flooding at Willsgrove, and the retirement village at Pairc na Coille

I respectfully ask common sense to prevail that this land is zoned properly as habitat and left to mature further naturally.





# Review of Bat Survey conducted at a proposed development site at Drumbiggle, Co. Clare.

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**Compiled Daniel Connell, Senior  
Ecologist, Veon Ecology.**

**Completion date: 5<sup>th</sup> April 2022**

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## Introduction

### Remit:

Veon Ecology were requested to “conduct analysis of the sections of the Environmental Impact Statement, The Natura Impact Statement, and Planners Report relating to Bats included in the recent planning application granted by Clare County Council for the construction of 58 residential units, alteration and upgrade to existing access roads and other associated infrastructure works at the lands to the west of Páirc na Coille Retirement Village, in the townland of Drumbiggle, Ennis, Co Clare.”

The request was made by Seán Connolly, acting on behalf of John Hodnett.

Specifically, the documents under review were the Revised Natura Impact Statement (NIS) Revised; Ecological Impact Assessment (EIA); Revised Art 6(3) Appropriate Assessment Screening - (all dated 21.12.2021); and Planners Report 2 (dated 13.04.22). Scanned files of which were accessed via the Clare County Council online portal in the tab titled:

<https://www.eplanning.ie/ClareCC/AppFileRefDetails/21599/0>

Other pertinent documentation relating to the application were also reviewed, where referenced in the above-named documents and/or when relevant to the bat survey works. These included:

- Outdoor Lighting Report and Light Specs – received by Clare County Council on 23.12.2021
- Arboricultural Impact Assessment – received by Clare County Council on 23.12.2021
- Further Information (FI) Request Letter dated 03.08.21 and
- Further Information (FI) Response Report dated 23.12.21

### Veon Ecology's understanding of the project:

The Revised Natura Impact Statement; Ecological Impact Assessment (EIA); and Art 6(3) Appropriate Assessment Screening under analysis were in response to a seven-point Further Information Request from Clare County Council (dated 03.08.21) and Planning Ref P21/599.

With regards to Bats – Sections 1a and 1b are of relevance. Namely:

1. With regard to the protection of the Newhall Edenvale Complex SAC and the Poulnacarron Cave SAC, based on the information received with the application to date the Planning Authority considers that, in view of their conservation objectives for the Lesser Horseshoe Bat species, it cannot be concluded that the proposed development will not have significant effects on these sites. It is considered that the proposal may result in losses and fragmentation of the network of hedgerows and of commuting and foraging habitat for bats. Therefore, in light of these concerns and in order to proceed with this application you are requested to submit the following:

(a) The proposed mitigation outlined in the Natura Impact Statement received with the application includes the retention of the trees and vegetation along the eastern boundary of the site and the inclusion of supplementary planting. However, the landscaping plan is not consistent with this and instead proposes the retention and supplementation of the existing sites south western boundary. Therefore, in light of the inconsistencies in the information received you are requested to submit a tree survey of the site which outlines the location, number and types of trees to be retained and/or removed within the site, the nature of the supplementary landscaping throughout the site and how this will achieve connectivity with the network of hedgerows and treelines which provide commuting routes to/through the site.

(b) The proposed development requires the clearance of some trees, hedgerows and wooded and scrub areas of bat foraging habitat from the site. In light of this you are requested to submit details in a revised Natura Impact Statement which demonstrates the proposals compliance with Clare County Development Plan 2017-2023 (as varied) Objective CDP14.11(c) "to ensure that there is no net loss of potential Lesser Horseshoe Bat feeding habitats, treelines and hedgerows within 3km of known roosts".

Figure 1: Section FIR dated 03.08.21

The sections relating to bats within the collective EcIA, AA-Screening, NIS, Planners Report, and associated documentation (as detailed above) were analysed as part of the assessment of the overall appropriateness and thoroughness of the Bat survey conducted at Drumbiggle, Ennis, Co. Clare; both as a stand-alone scientific study piece and within the context of the Further Information Request (FIR) considerations posed above and its satisfactory address of the same.

The observations, recommendations, and considerations that follow have, where possible, been formulated by Veon Ecology, at a Senior level, by members of our Qualified Bat Specialist Team to address the main concerns of the Tender request received from Seán Connolly (acting on behalf of John Hodnett) dated 24<sup>th</sup> March 2022.

Specifically:

1. Methodology used to ascertain suitability for Bat roosts
2. Methodologies used to survey for Bat activity – including Static detector survey limitations
3. Shortcomings in Planner's report
4. Absence of flight path surveys
5. No Derogation licence application

The Bat Survey under analysis was conducted by Ecologists from McCarthy Keville O'Sullivan (MKO) Planning & Environmental Consultants in April and May 2021 on-site at the proposed development site in Drumbiggle, Ennis, Co. Clare.

## AA Screening:

It is the opinion of Veon Ecology that the initial AA-Screening itself was conducted correctly, regarding the screening in/out of SACs with Lesser horseshoe bat (*Rhinolophus hipposideros*) (LHB) as a Qualifying Interest (QI) located within the accepted precautionary zone of 15km radius of the proposed development site.

Veon Ecology agree with the rationale(s) to screen-out the following sites with regards to 'Direct' effects:

- Toonagh Estate SAC 002247
- Knockanira House SAC 002318
- Dromore Woods and Loughs SAC 000032
- Old Domestic Building (Keevagh) SAC 002010
- Ballycullinan, Old Domestic Building SAC 002246
- Poulnagordon Cave (Quin) SAC 000064
- Old Farm Buildings, Ballymacrogan SAC 002245
- East Burren Complex SAC 001926
- Moyree River System SAC 000057
- Old Domestic Buildings, Rylane SAC 002314
- Newgrove House SAC 002157

based on:

- the footprint of the project being located entirely outside the designated sites herein named
- the project site being located outside the recognised 2.5km foraging range of the respective SACs' Lesser horseshoe bat populations
- No potential for direct impacts on the SACs' respective roosts existing
- No pathway for effect identified and
- the respective sites not being within the Likely Zone

Veon Ecology also agree with the Screening-in of:

- Newhall and Edenvale Complex SAC 002091
- Pouladatig Cave SAC 000037

based on:

- the project site being located within the recognised 2.5km foraging range of the respective SACs' Lesser horseshoe populations
- both sites being within the Likely Zone of Impacts and
- potential pathways for effect having been identified in relation to both SACs

Veon Ecology agrees that, as stated in the rationale(s), "Further Assessment is required with regards to the above listed QIs of the SACS".

In this specific case, Lesser horseshoe bat (*Rhinolophus hipposideros*) [1303], as Veon Ecology similarly agrees with the statement in the rationale(s) that - due to the distance and nature of the proposed works – "there is no potential for indirect effects to the Terrestrial QI for which the SACs have been designated", namely Caves not open to the public [8310].

However, with regards to these two screened-in SACs, Veon Ecology does not wholly-agree with the assertion that the potential for both Direct effects and Indirect Effects can be entirely ruled out at this stage (for QIs Lesser horseshoe Bats [1303]), at least not without adequate and thorough investigation of the site – hence the requirements for this review.

*It should be noted that Veon Ecology fully acknowledges that this generic statement within the respective rationale(s) was likely formulated retrospectively, based on the published findings of the Dedicated Bat Survey (under analysis and to be discussed in-depth below) and Multi-disciplinary Ecological Walkover conducted at the site on which the Appropriate Assessment Screening was based.*

The reasons Veon Ecology are not in agreement with this generic statement are:

1. As the Bat Survey conducted on-site showed, Lesser horseshoe Bats were/are present within the footprint of the works, having been recorded by Static bat detectors during the survey period.
2. Both Newhall and Edenvale Complex SAC and Pouladatig Cave SAC contain Lesser horseshoe bat populations of international importance.
3. The proposed site is located within the accepted 2.5km foraging range of Lesser Horseshoe bat populations at both SAC sites; Newhall and Edenvale Complex SAC being the closest of the two geographically at approximately 1.8km from the project. While Pouladatig Cave SAC is approximately 2.4km from the project, at the furthest extent of the accepted 2.5km foraging range, it nevertheless remains within it.
4. Consideration must also be given to the possible presence of hitherto unknown or unmapped roost sites, especially any transitional sites, potentially located within the 2.5km from the site before this statement can be satisfactorily declared.

While Veon Ecology acknowledges that the considerations listed above cannot always be conclusively established and/or proved, in the strictest sense, through the dedicated surveying of elusive species such as bats, it is our professional opinion that the likelihood of achieving any scientifically robust determinations of any of the above considerations can be significantly augmented through the practice of appropriately conducted bat surveys and bat surveying techniques which not only account for, but also encompass, site-specific and species-specific considerations and conditions pertinent to the nature of the development works and the lands in which they are proposed to occur.

Similarly, it is our professional opinion that the likelihood of reaching any scientifically robust determinations of any of the above considerations can just as equally be diminished when appropriately conducted bat surveys and bat surveying techniques do not occur.

On review of the published findings of the bat survey, as it has been submitted across the respective EClA, AA-Screening, and NIS Reports currently under analysis, it is Veon Ecology's professional opinion that in the case of the proposed development site at Drumbiggle, Co. Clare, that the latter scenario is the more probable of outcomes in this regard, and it is our overall recommendation that the site should be resurveyed at a scientifically appropriate level before any further planning decisions are made regarding the project.

The reasons for Veon Ecology reaching this opinion are detailed in the following sections.

## Bat Survey (AA- Screening, NIS, and EclA)

### Methodology:

The initial ‘Dedicated Bat Survey’ was conducted at AA-Screening stage on 23<sup>rd</sup> April 2021. The same survey results, combined with those taken on 12<sup>th</sup> May 2021 and those recorded by the static detectors during the 19-day interval between these dates have been used across the AA-Screening, NIS, and EclA reports.

While the Methodology of the Bat survey is scientifically sound in theory – as in conducting Desktop Surveys, Dusk & Dawn surveys, Roost assessments, etc. to establish bat activity within the footprint of the development– this review has revealed that, in practice, there are some outstanding concerns that should be addressed by MKO, the Consultancy that formulated the report(s).

Notably in the following sections:

### Desktop Survey

The Desktop Research (DTR) conducted in advance of the field surveys would have benefitted from a more thorough investigation of the suitability/favourability of the site for Bats.

While the National Biodiversity Database Centre (NBDC) public records (Hectad R37) were consulted in the EclA with regards to National Designated Sites, the same NBDC sources can also provide data on the Bat Suitability Index (BSI) for the area also.

The NBDC online map viewer includes an interactive layer which displays geographical areas in terms of a ‘habitat suitability’ index for bats. The bat suitability index ranges from 0 to 100, with 0 indicating areas considered least favourable for bats and 100 indicating areas considered most favourable for bats, in terms of habitats present. Several factors are incorporated into the model to give an overall estimate of the suitability of an area for bats, including landcover, topography, climate, soil pH and riparian habitat (Lundy, et al., 2011). The suitability index is presented for all bat species overall, as well as by individual species.

There is no evidence in any report that this resource was consulted. As part of this review, this resource was consulted, and the following data was noted:

All Bats	56.4
Soprano Pipistrelle ( <i>Pipistrellus pygmaeus</i> )	57
Brown Long-eared Bat ( <i>Plecotus auritus</i> )	79
Common Pipistrelle ( <i>Pipistrellus pipistrellus</i> )	61
Lesser horseshoe bat ( <i>Rhinolophus hipposideros</i> )	51
Lesser Noctule ( <i>Nyctalus leisleri</i> )	68
Whiskered Bat ( <i>Myotis mystacinus</i> )	64
Daubenton's Bat ( <i>Myotis daubentonii</i> )	53
Nathusius's Pipistrelle ( <i>Pipistrellus nathusii</i> )	13
Natterer's Bat ( <i>Myotis nattereri</i> )	62

Figure 2: NBDC Bat Suitability Index (BSI) for proposed development site

BSI for all bat species within the footprint of the site is 56.4. For Lesser horseshoe bats the BSI for the proposed site is 51, which indicates a favourable habitat for the species.

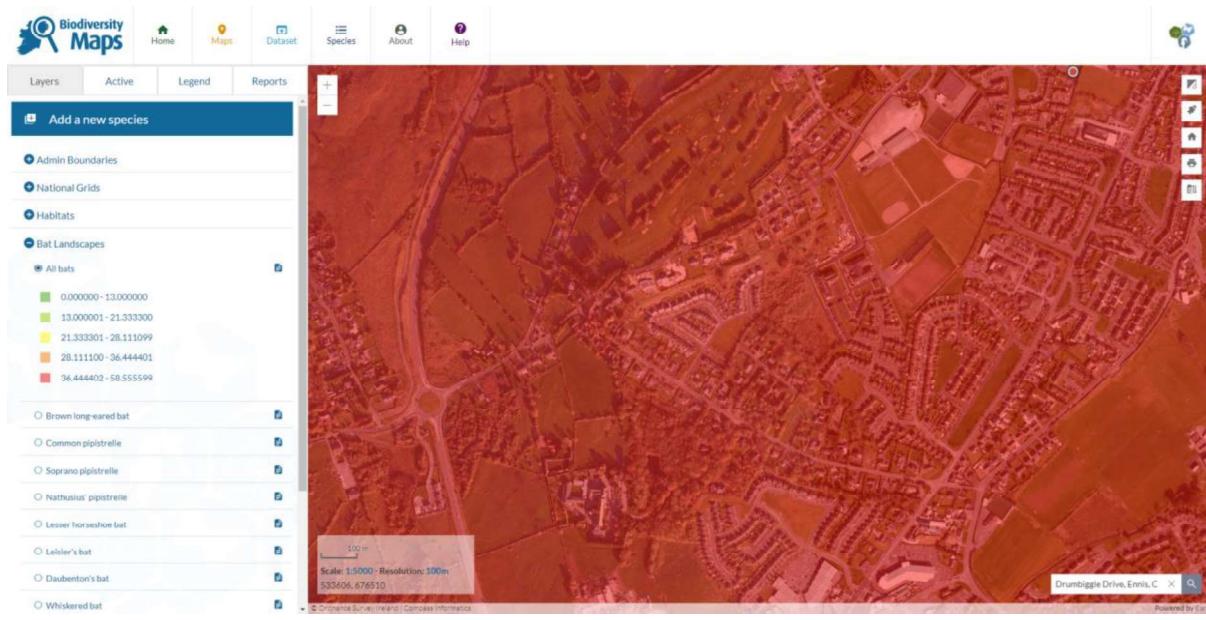


Figure 3: NBDC BSI levels for all Bat Species within area of proposed development site

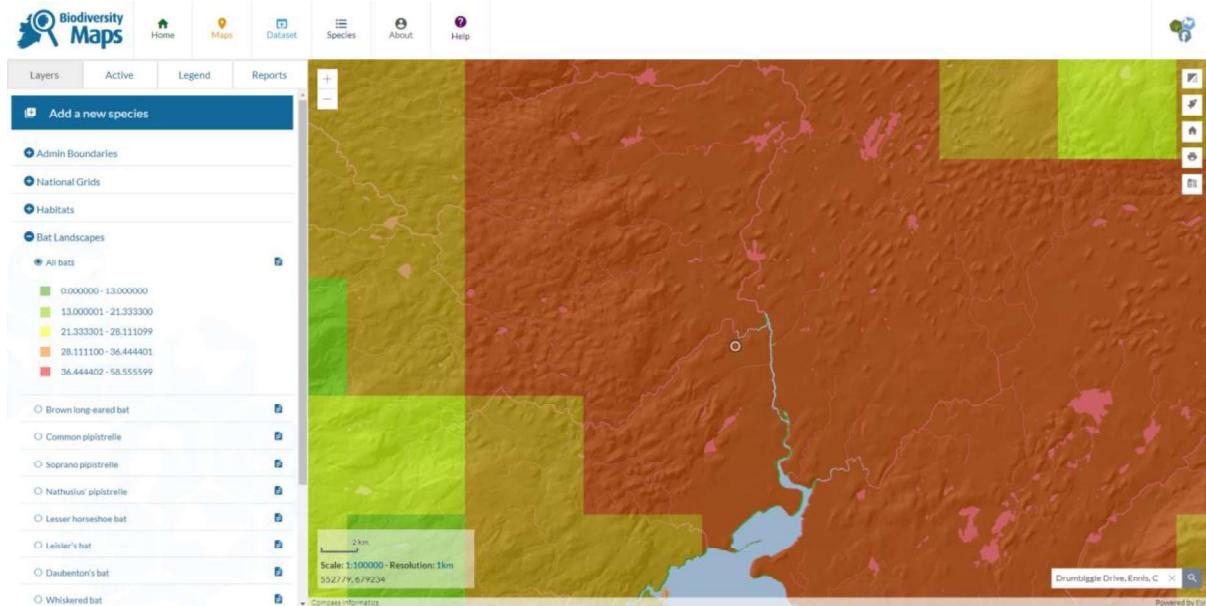


Figure 4: NBDC BSI levels for all Bat Species within wider area of proposed development site

**Figure 4** and **Figure 5** also show that the both the immediate and wider areas surrounding the proposed development site are highly favourable for bats, based on the NBDC BSI.

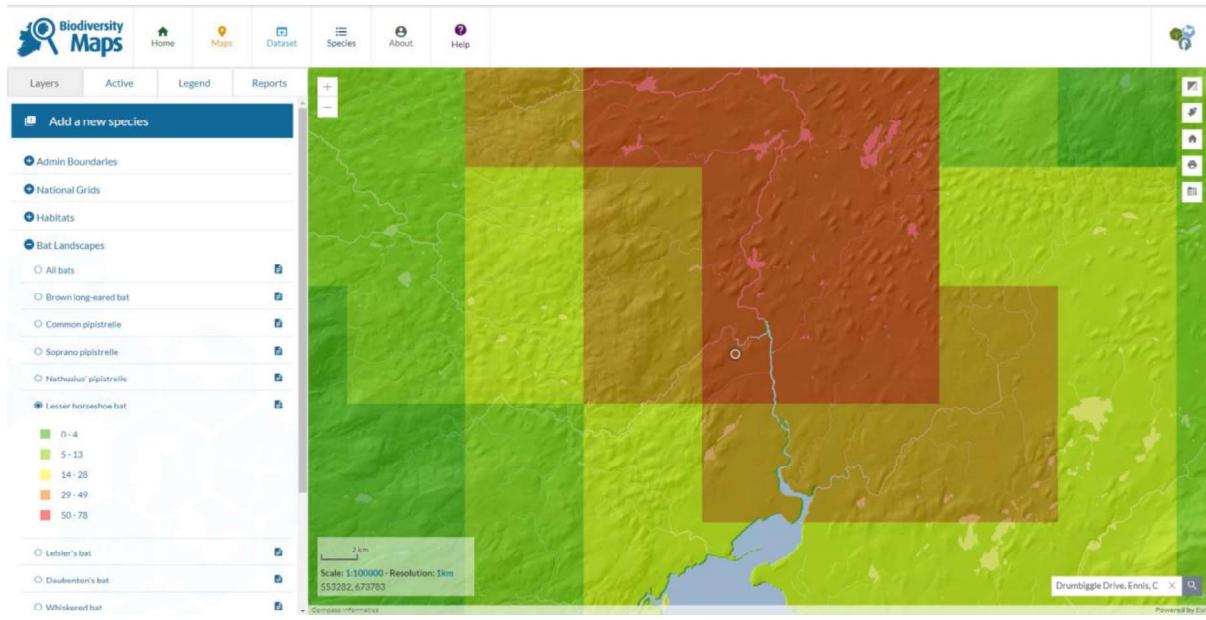


Figure 5: NBDC BSI levels for Lesser horseshoe bats within wider area of proposed development site

When looking at the BSI for Lesser horseshoe bats specifically, records show that the area of the proposed development site is located well within a highly favourable area for the species.

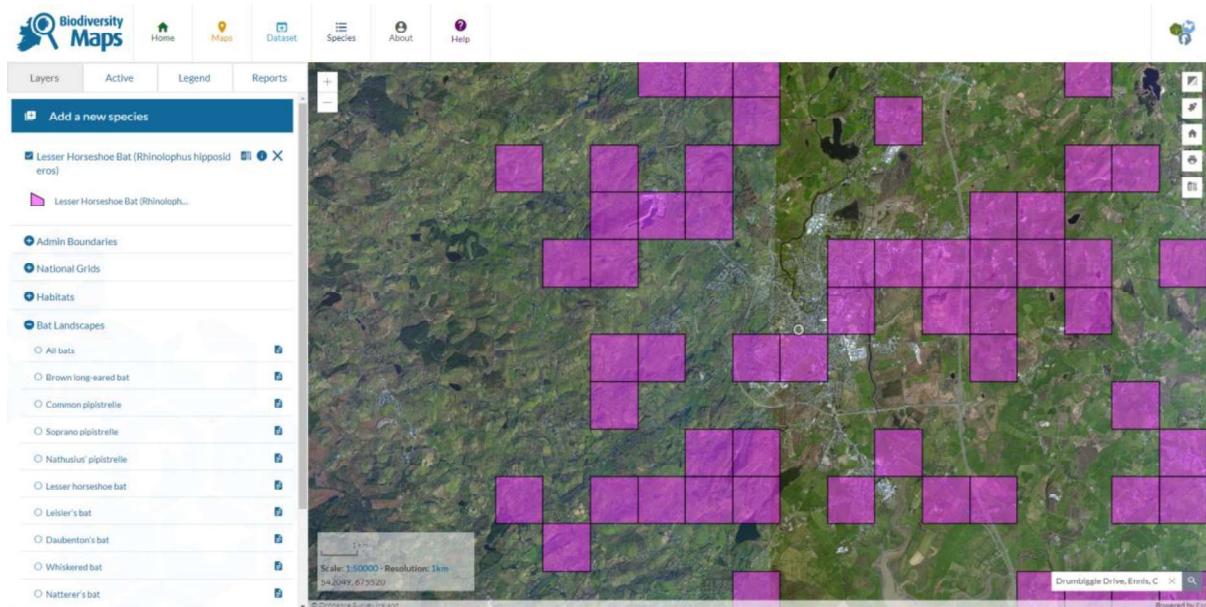


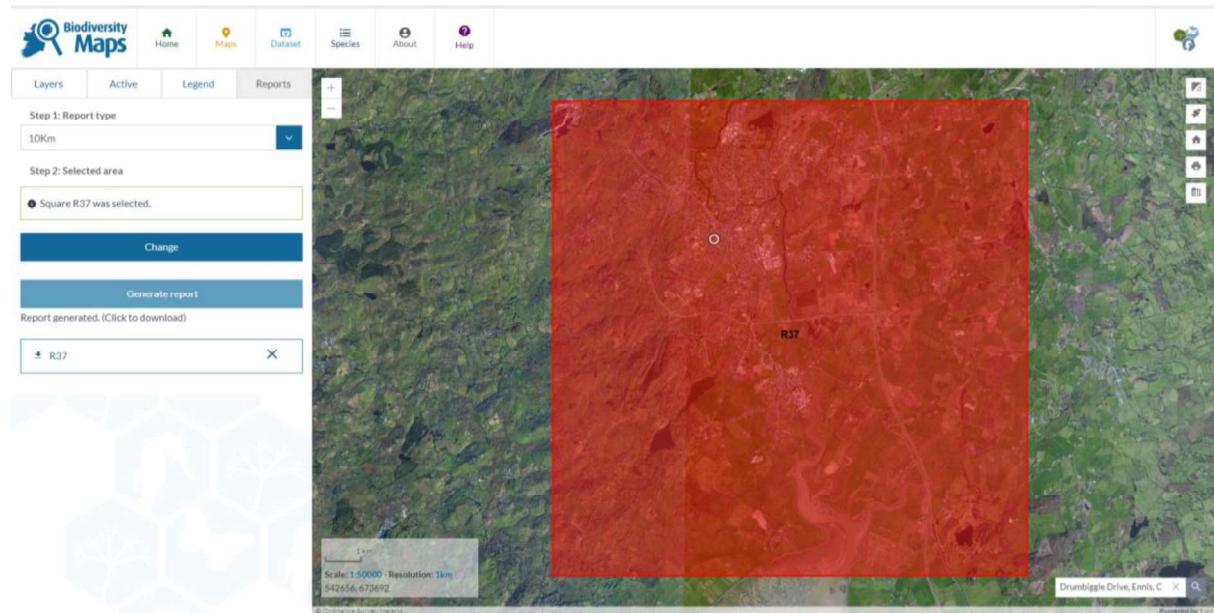
Figure 6: NBDC Observation records of Lesser horseshoe bats within wider area of proposed development site

Observational records for LHBs within the immediate area support this finding also.

NBDC Grid squares contains the data on numerous species records within  $10\text{km}^2 - 100\text{m}^2$  depending on what information is required.

Hectad 37, which was used in the formulation of the EcIA is a  $10\text{km}^2$ . While this is the most appropriate NBDC Grid square for the proposed site, it should be worth noting that the location of

the site within the R37 Hectad (see **Figure 7** below) means that some of the records were captured <10km from the site.



**Figure 7:** NBDC Hectad R37 10km<sup>2</sup> Grid Square in relation to proposed development site

Within the same records used in the DTR, the following historic records can be found on Bat Species recorded in the area historically, including counts (See **Table 1**)

Within 10km<sup>2</sup> of the proposed site, LHB was recorded (historically) significantly more frequently than other bat species in the area – with 378 counts.

**Table 1:** NBDC Hectad R37 10km<sup>2</sup> Grid Square Bat Records

Species name	Record count	Date of last record	Title of dataset	Designation
Brown Long-eared Bat ( <i>Plecotus auritus</i> )	13	21/09/2010	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Daubenton's Bat ( <i>Myotis daubentonii</i> )	50	12/08/2014	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> )	378	21/01/2015	National Lesser Horseshoe Bat Database	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex II    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Lesser Noctule ( <i>Nyctalus leisleri</i> )	11	09/08/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Pipistrelle ( <i>Pipistrellus pipistrellus sensu lato</i> )	13	09/08/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Soprano Pipistrelle ( <i>Pipistrellus pygmaeus</i> )	17	21/09/2010	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts

R37 covers most of the area south-west of the site, where both Newhall and Edenvale Complex SAC 002091 and Pouladatig Cave SAC 000037 are located, which could account for the higher LHB counts overall, as there are known roosts of International Importance in the area.

This data area can be narrowed further to 1km<sup>2</sup> Grid squares. R3276 (see **Figure 8** below) contains the following record:

Table 2: NBDC Hectad R3276 1km<sup>2</sup> Grid Square Bat Records

Species name	Record count	Date of last record	Title of dataset	Designation
Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> )	3	25/08/1998	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex II    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts

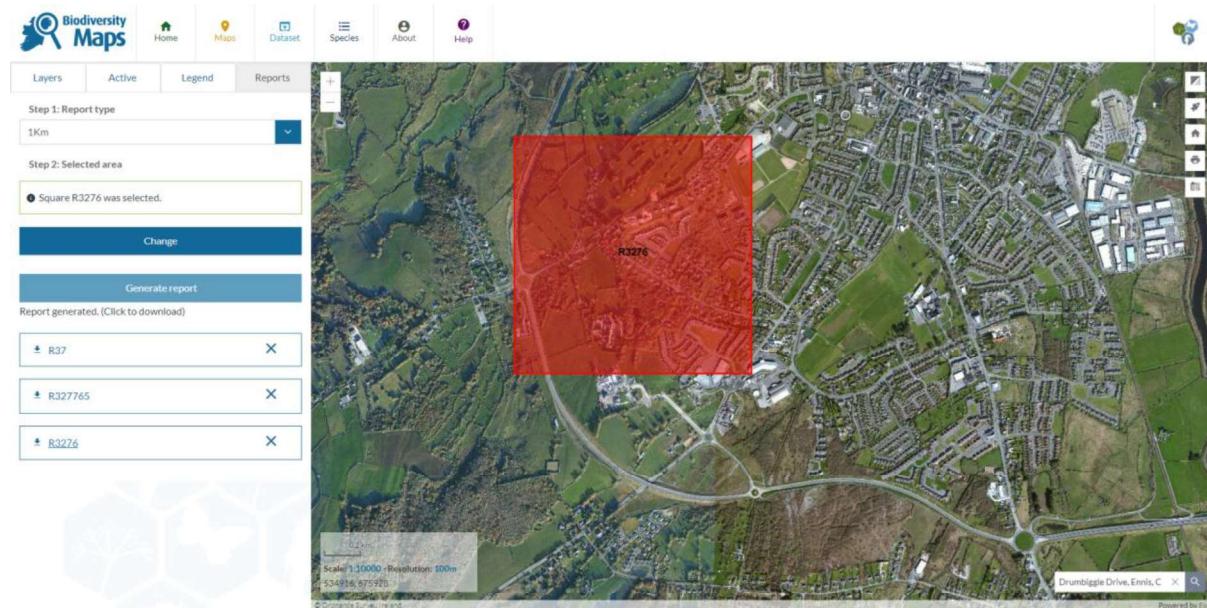


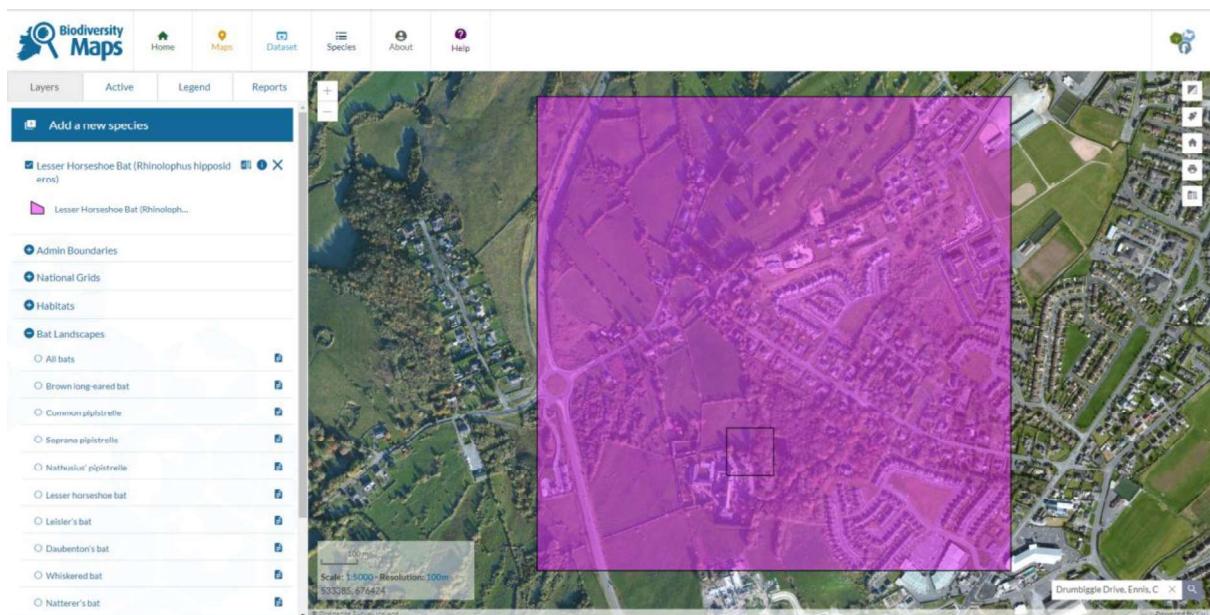
Figure 8: NBDC Hectad R37 1km<sup>2</sup> Grid Square in relation to proposed development site

Within a 10km<sup>2</sup> area, Lesser horseshoe bat is the only species (historically) recorded within this 1km<sup>2</sup> area around the proposed development site.

Indeed, the same records also show that a Lesser horseshoe bat roost was recorded in 1998 in a building located within 500m of the proposed site (accurate to around 100m\* according to NBDC) (see Table 3 and Figure 9 below).

Table 3: NBDC record of LHB roost (Historic) within 500m of proposed development site

Name	Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> )
Grid Resolution	100
Grid	R324762
Site	Undisclosed
Dataset	National Bat Database of Ireland
Survey	NPWS roosts
Precision	100m
Recorder	Ciara O Mahoney
Determiner	
Taxon	<i>Rhinolophus hipposideros</i>
Common Name	Lesser Horseshoe Bat
Date	25/08/1998
<b>Additional Attributes:</b>	
Determiner name	Ciara O Mahoney
Survey name	NPWS roosts
Type of roost	Building
Type of sighting	Field Observation



*Figure 9: NBDC record of LHB roost (Historic) within 500m of proposed development site*

Although these records are historic, from a bat survey perspective, the persistence of LHB in the immediate area and the knowledge of a previous roost within 500m of the proposed development site should have informed how the survey was conducted.

Of particular importance should be the LHB roost survey element, especially as within the surrounding area there are known populations of LHB from Newhall and Edenvale Complex pNHA (which forms part of the Newhall and Edenvale SAC, and is designated for LHBs) within 1.8km, Poulnabrone Cave pNHA within 2.4km and Newpark House (Ennis) pNHA within 3.1km in addition to EU sites Newhall and Edenvale Complex SAC 002091 and Poulnabrone Cave SAC 000037, from which, as noted, the proposed development site is within both the 2.5km foraging range(s) of the respective resident LHB populations.

From a precautionary perspective, pathways for indirect and Direct effects could be identified as a result of disturbance, as the proposed development site is considered to be within the Likely Zone of Impact. As such, in Veon Ecology's professional opinion, further assessment than is currently published in the reports under review is/was required in relation to the bat survey conducted on site.

## Fieldwork

Several minor issues (most likely human error) were noted in the bat survey report and ecological walkover write-up. Not all have been highlighted in this review, but certain discrepancies in data were noted during the review that held some pertinence in the context of evaluating the overall scientific merit of the bat survey.

These are as follows:

## Dates

### AA-Screening:

- Site visits – 23<sup>rd</sup> April, 12th May, and 24<sup>th</sup> May 2021.
  - Bat Survey – 23<sup>rd</sup> April and 12<sup>th</sup> May. Static Detector active on-site for 19 days.
  - Ecological Multi-Disciplinary Walkover Survey 24<sup>th</sup> May 2021

### Revised NIS:

- Site visits – 23<sup>rd</sup> April, 12th May, and 25<sup>th</sup> May 2021.
  - Bat Survey – 23<sup>rd</sup> April and 12<sup>th</sup> May. Static Detector active on-site for 19 days.
  - Ecological Multi-Disciplinary Walkover Survey 25<sup>th</sup> May 2021 (**NB. Discrepancy**)

### EcIA:

- Site visits – 23<sup>rd</sup> April, 12th May, and 24<sup>th</sup> May 2021.
  - Bat Survey – 23<sup>rd</sup> April and 12<sup>th</sup> May. Static Detector active on-site for 19 days.
  - Ecological Multi-Disciplinary Walkover Survey 24<sup>th</sup> May 2021

There are inconsistencies between dates of the Ecological Multi-Disciplinary Walkover Survey, but this could be human error. Bat Survey dates of 23<sup>rd</sup> April and 12<sup>th</sup> May are consistent.

## Survey Times

Exact start and end times of the Dusk (and Dawn) surveying were not detailed – other than “The Dusk Survey commenced 30 minutes before sunset and was completed within 3 hours after sunset” – on the days the surveys were conducted.

Ambient light conditions can vary and affect bat activity, this should be accounted for when analysing bat activity and behaviour.

It is also Good Practice to record and publish this data.

## Weather

Weather conditions during the survey were not detailed – specifically, temperature, wind factor, cloud cover, precipitation levels, etc.

These factors can also vary and subsequently affect bat activity, this should be accounted for when analysing bat activity and behaviour.

It is also Good Practice to record and publish this data.

## Roost survey(s)

According to the Bat Survey results, Trees and prefabricated buildings on-site were ‘assessed’ for Roost potential. It is not clear if they were appropriately surveyed however.

## Buildings

It is noted that the ecologists used the *Grading Protocol For Roosting Habitats*, Collins. J. (ed.) (2016), which is an accepted industry standard. However, other than statements ruling out the prefabricated buildings on site, no further information on these structures is available in the report.

There are no records as to whether an appropriate Day survey of the buildings was conducted. No photographic evidence or detailed descriptions of the exterior/interior of the buildings are given. This information could have been provided in an Appendix and would have added significant weight to the assessments made.

Curiously there is no detail on whether roosts of other bat species were surveyed for, as the DTR (both conducted and contained in this report, see above) contains historic records for 6 bat species in the area, the majority of which are also known to either occasionally or routinely prefer buildings as roost sites transitionally throughout the respective seasons.

#### **Roosting Habitat Suitability Assessment**

Trees and the prefabricated buildings within the site were assessed for their suitability to support roosting bats. The trees within the site comprised mainly of native and naturalised species which range from semi-mature to mature in nature. The majority of the tree within the accessible sections of the site were assessed as being of *Negligible* to *Low* suitability for roosting bats. One mature beech tree was identified as having *Moderate* suitability for roosting bats (Grid Ref: 52.83873, -8.99663). Features present include lifted bark and broken limbs. Three other mature trees were highlighted during the walkover survey as potentially suitable for bats. There were prefabricated buildings present within the northern section of the site. These buildings were accessed for their suitability for roosting Lesser horseshoe bats. The building within the site were assessed as having *Negligible* suitability for roosting bats.

The Roost survey section in the report states that buildings within the site were checked but makes no mention of buildings outside the site. Whereas this is not always an option in private residential and/or commercial properties, had the historic record of an LHB roost within 500m of the site been known, this should have informed greater efforts to be made when conducting the roost survey in general.

Following Best Practice, Roost Surveys of structures should be designed to answer specific questions, such as:

- Are actual or potential roosts present (and if so, where)?
- Which bat species use the site for roosting?
- How many bats do these roost support?
- Where are the bat roost access points?
- What is the current arrangement of vegetation and lighting in relation to access points?
- At what times of the year are bats present? How does use change seasonally?
- What types of bat roost are present (if any)?

Roost surveys of structures generally take a staged approach with the first step being a preliminary roost assessment (often preceded by a preliminary ecology appraisal, such as was conducted on-site on 24<sup>th</sup>/25<sup>th</sup> May after the Bat Survey).

Depending on the initial results, this may then be followed up by winter hibernation, presence/absence and or roost characterisation surveys, as required and appropriate.

The *Grading Protocol For Roosting Habitats*, while accurate is not always infallible, so the buildings should still have been actively inspected for roosts, regardless of the roost potential.

There is no evidence in the published Bat Survey which clarifies whether this step was fully conducted, and results were negligible to nil (in which case, as Best Practice, this data should have

been supplied) or whether this step was missed out entirely and only the *Grading Protocol* used from an exterior perspective. This should be clarified by MKO.

There is also a lack of evidence that these buildings were checked at night to see if they are used as night roosts by Lesser horseshoe bats.

Access to night roosts is critical to female LHB bats during summer, and there is a known maternity colony at Newhall and Edenvale Complex pNHA (which forms part of the Newhall and Edenvale SAC and is designated for LHBs) within 1.8km of the proposed development site.

### Trees

On the subject of potential roosts in trees, the Bat Survey states that “Trees are not typically used by LHB as roost with the species favouring buildings and underground structures (K&M 2006).”

While Lesser horseshoe bats do tend to roost more often in old buildings, there have been recorded cases of them being found roosting in trees and under-passages. Despite this, the other bat species recorded on the site are also likely to be roosting in the woodland, and as such, the wooded area should have been appropriately surveyed to accurately determine this.

Bats are transient in nature, and it can be very difficult to identify their presence in trees.

Roost Surveys of trees also generally stage a staged approach. The first step being a preliminary ground level roost assessment (again possibly preceded by a preliminary ecology appraisal, such as was conducted on-site on 24<sup>th</sup>/25<sup>th</sup> May after the Bat Survey). This may be followed up by PRF inspections, presence/absence and or roost characterisation surveys, as required and appropriate.

Some level of assessment was evident, again using the *Grading Protocol*, with the majority of the trees assessed as Negligible to Low suitability.

However, according to the bat survey report, one mature Beech Tree was identified as having Moderate Suitability for Roosting Bats (Grid ref: 52.83873, -8.99663) – this was not mapped, and no images were taken. According to the Grid reference, the tree is in most northern region of the site (see **Figure 10** below). This area is scheduled for clearance, according to the project works.



Figure 10: Location of Tree with Moderate Suitability for Roosting Bats

Three other mature trees were highlighted during the walkover survey as potentially suitable for bats – These were similarly not mapped. No images were taken, and no grid references were given.

It is unclear whether these are the same four trees identified in the Arboricultural Impact Assessment (AIA) as “trees of significance” – which states there are four mature trees (B2) in North to be removed, however these are identified as being two Sycamore and two Ash trees.

The ecologists identified the tree with Moderate Suitability for Roosting Bats mature as Beech, but still within the north of the site. It is unclear why the Arboricultural Impact Assessment (AIA) would not also record this tree as a “tree of significance”. It could again down to human error and mis-identification of the trees by one party or another. Either way this is an inconsistency that needs further clarification.

There are no further details in any of the reports as to whether any of these trees were adequately surveyed, and/or used as a station point on the Dusk and Dawn surveys.

As with looking for roosts in buildings, there is no evidence in the published Bat Survey which clarifies whether this step with the trees was also conducted, and results were negligible to nil (in which case, as Best Practice, this data should also have been supplied) or whether this step was missed out entirely and only the *Grading Protocol* used from an exterior perspective. This should be clarified by MKO.

It is understood from ‘Limitations’ in the Bat Survey report that this level of surveying may not have been possible to conduct due to the inaccessibility of the site. Without an actual site visit by ourselves, Veon Ecology cannot comment on this, and it is for MKO to clarify this.

#### Dusk and Dawn Surveys vs Emergence and Re-entry Surveys

Adequate determination of potential roosts can (and should) inform the frequency of Dawn and Dusk Surveys.

*Table 4: Bat Conservation Trust (UK) – Recommended minimum number of survey visits for presence/absence to give confidence in a negative result for structures*

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey <sup>a</sup> (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. <sup>b</sup>	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. <sup>b</sup>

It is unclear whether the ‘transect survey’ conducted formed part of a Dusk and Dawn (or rather an Emergence and Re-emergence survey) of potential bat roosts, or whether these investigations were solely reliant on the passive Songmeter SM4BAT static detectors – This will be discussed further in the **Transect Survey** section below.

The number of Bat Activity Surveys required depends on the level of potential the site has been assigned with regards to roosts. Based on the BCT recommend minimum number of visits for presence/absence to give confidence in a negative result for structures (see **Table 4** above), it can only be assumed that the surveyors followed a Low roost Suitability approach.

It is unknown whether this decision was based on an adequate assessment of the buildings within the site footprint or not, as the report does not contain any confirmation of the full extent to which this occurred. Again, MKO will need to clarify this.

What is known from this review is that this approach is incongruous with the ecologists’ own identification of a mature Beech Tree on site as having Moderate Suitability for Roosting Bats. This alone would predicate the requirement of at least two separate surveys visits.

It is not clear whether the documented visit on 12<sup>th</sup> May was a second Dawn survey visit or a return to the site to collect the Songmeter SM4BAT static detectors.

If we assume that it was also a second visit to conduct a second observed/active dusk survey, it is usual for activity surveys to be conducted approximately two weeks apart, to gain enough information to determine the status of the building, so a period of 19 days between visits, while not uncommon, is a slightly longer period to leave between visits. Clarification on this should again be sought from MKO.

Bearing in mind the additional DTR records found by Veon Ecology during this review via the NBDC concerning LHB and actual roosts in the area (albeit historic), it is Veon Ecology’s professional opinion that at least three visits (one dusk, one dawn and a third of either dawn or dusk) should have been conducted on the proposed development site, for more certain results. Dusk and Dawn surveys can be conducted anytime from April to September, so there would have been scope for this. According to the report the Multidisciplinary ecological walkover was conducted on 24<sup>th</sup>/25<sup>th</sup> May, which could have provided an opportunity to conduct a dawn survey for bats.

Additionally, the surveys should have ideally been conducted when weather conditions were dry and above 7 degrees Celsius. No specific weather conditions were detailed in this regard within the reports under review.

As previously noted, exact start and end times of any surveying (active and Passive) where also not detailed in the any of the reports – other than the statement that “The Dusk Survey commenced 30 minutes before sunset and was completed within 3 hours after sunset” – on the days the surveys were conducted.

As such, in Veon Ecology's professional opinion, there remains some doubts over the efficacy of the approach taken by MKO in this regard.

## Dawn & Dusk Results

### Dusk and Dawn Activity Surveys

Numerous foraging and commuting bats were recorded during the dusk bat activity survey. Activity was dominated by Soprano pipistrelle (*Pipistrellus pygmaeus*) n=50, followed by Common pipistrelle (*Pipistrellus pipistrellus*) n=3. These species are common and widespread across Ireland. Activity levels were concentrated along the field boundary and along one transect route through the northern end of the site traveling east to west (Figure 5-2). Habitats within the proposed site were also assessed for foraging and commuting potential. Bat activity was low with a total of 53 bat passes recorded at dusk and 0 bat passes recorded at dawn. Figure 5-3 below shows species composition across the site.

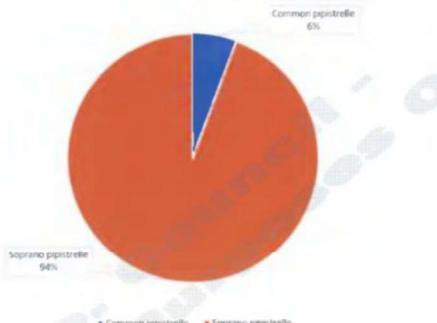


Figure 5-3 Bat Species Composition - Dusk activity survey.

The results in the Bat Survey mentions Transect routes were used in northern end – but as noted already in this review, these transects were not mapped – neither start or end points nor distances covered, only that they travelled from east to west.

It also states that habitats within the proposed site were assessed for Foraging and Commuting potential – however, there are no specific details in the published Bat Survey report regarding flight paths, no evidence of species-specific feeding buzzes either having been identified or recorded, no commuting routes, and no mapping of the same.

This information is critical to know what habitat features must be retained or where mitigation measures must be located. The loss of commuting routes is a major factor in the isolation of horseshoe colonies throughout their Irish distribution.

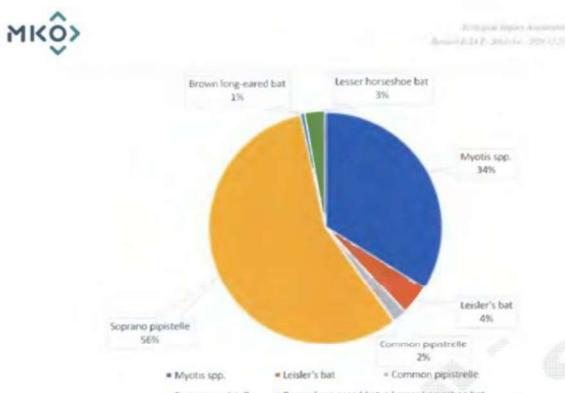


Figure 5-4 Bat Species Composition

Analysis of the detector recordings also highlighted the total bat passes per night. Showing relatively high levels of activity during nights 1 to 4 at the beginning of the survey. This could be attributed to the slight increase in air temperature at sunset during these nights, which is more favourable for commuting/foraging bat species. The average number of bat passes per night was 382.8 over the 19 nights surveyed (Figure 5-5).

When summarising the static detector recordings, the Bat survey states that, in relation to notably higher activity at the start of the survey period than in later stages, that "...this could be attributed to the slight increase in air temperature at sunset" – No daily temperature details have been provided in the reports for any of 19 nights surveyed by the passive detectors.

However, this data must exist for the ecologists to make this reasoning. MKO should clarify what this data is and why it was not included in the published results.

In the absence of this data, it should not be taken at face-value that this is the actual cause for the decline in activity. The reasons could be numerous, from poorly positioned locations of the passive detectors (this point is discussed further below) to a potential cases of power loss or technical faults during the 19 days survey time.

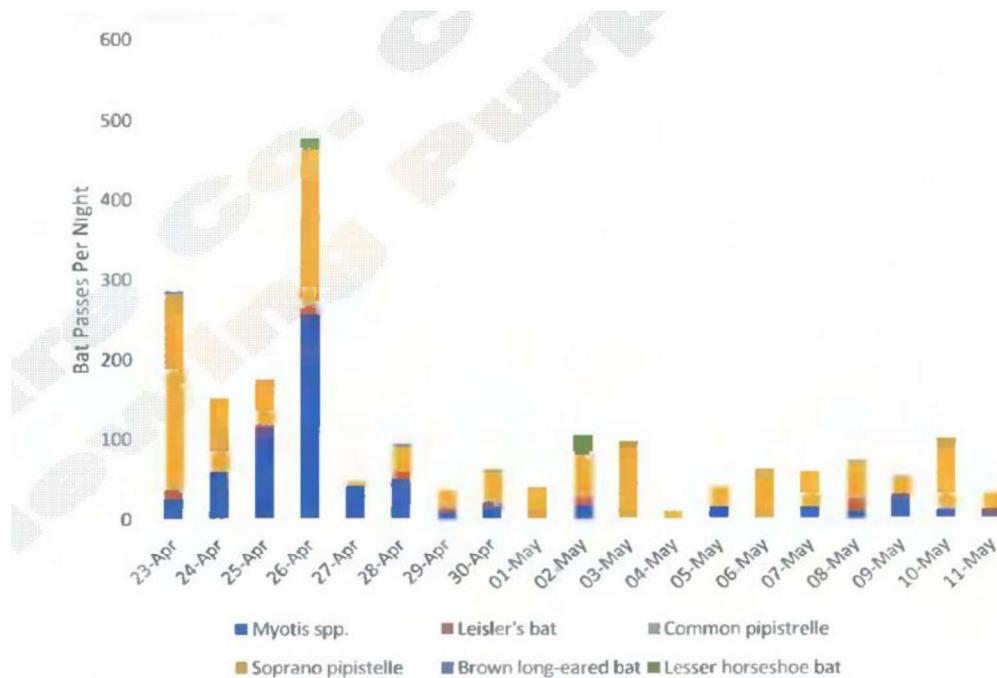


Figure 5.5 Bat Passes Per Night

There is no evidence in the reports to confirm whether the passive devices were checked for continued operation during the survey period to ensure consistency of recordings. It could be that the detectors were routinely checked, but this should be clarified by MKO to ensure confidence in the reader that none of the data captures (or rather more so the interpretation of that data) is compromised in any way.

### Transects/Bat walks (D&D)

According to the Bat Survey, Dawn surveys were conducted by two ecologists, using Batlogger M detectors on 23<sup>rd</sup> April and 12<sup>th</sup> May.

As previously stated, any transect routes taken on-site remain unclear. Neither start or end points nor distances covered are detailed, only that they travelled from east to west.

Ideally these transect routes should be shown on a map and species plotted to indicate species passes.

No start/finish times was provided for the transects, and what (if any) precautions were taken to avoid any double counting.

Appropriate transect routes should be determined during the fieldwork carried out as part of the preliminary ecological appraisal (which, as noted, according to the report occurred on 24<sup>th</sup>/25<sup>th</sup> May - after the bat surveys).

The extent and arrangement of the different habitats on site should inform the number and arrangement of transects required to complete the survey. As no transect routes were mapped, it is difficult to determine whether this occurred or not. This should be clarified by MKO.

Ideally, the ecologist should have taken the opportunity to walk transects during the daytime for practicality, risk assessment, and health and safety reasons alone – but no information as to whether this occurred was evident in the report. This should be clarified by MKO.

During the transect walks, the following observations should typically be recorded and detailed in the final report:

- Number of Bats
- Flight direction
- Flight height
- Behaviour (commuting or foraging – the later of which can be identified through hearing feeding buzzes)

There is also no information on whether the same transects were walked on each visit or additional areas were covered.

If the Dawn and Dusk surveys conduct were also meant to serve as Emergence and Re-entry surveys to identify potential roost sites, this approach would essentially be problematic, as the very nature of transect surveys pre-supposes that the surveyor is moving from one location to another at any given time, in which case it is likely that total bat activity at a specific point could be missed or under recorded.

It could be that the transects were incorporated to allow stationary time (Vantage points) at certain points along the transects, but in the absence of any transect locations, distances, timings, and/or mapped results made available in the reports, this can neither be assumed nor assessed for efficacy in either approach or the reliability of any subsequent results. This should again be clarified by MKO.

With the deployment of passive detectors on-site over 19 days, it could be assumed that rather than being conducted actively by the ecologists, any identified ‘vantage’ points were covered remotely.

#### *Locations of Static Detectors*

According to the report, the locations of the two passive Songmeter SM4BAT static detectors were “selected to represent the range of habitats present within the site, including favourable bat habitats as well as open spaces within the site.”

The report also stated that these detectors “allowed a specified look into species composition, commuting, and foraging areas within the site.”

The passive detectors were deployed in April 2021 at two fixed locations on site for 19 days. DRUMB-7304 (*North-west*) Grid ref: R 32780 76609. According to the Bat survey, this area “has linear features and provides suitable commuting and foraging opportunities for bats”.

DRUMB-7306 (*Centre/Eastern Bound*) Grid Ref: R 32854 76605. The report states that this location was “surrounded by scrub habitat approx. 20m from the tree line in more open scrub space.”

All recordings from both devices were later analysed using bat call analysis software Kaleidoscope Pro v5.1.9.

Criticisms on the positioning of the passive detectors on-site have been raised by third parties in submissions included in the Planners Report – these include observations that the two locations chosen were in areas that bats would naturally avoid “due to the prevalence of anthropogenic noise and lighting, namely street-lights and traffic.”

Without conducting a site visit ourselves, Veon Ecology cannot accurately determine whether these areas were truly representative of the range of habitats present within the site and/or whether the locations were knowingly/unknowingly unduly compromised with respect to interference on bat activity due to “anthropogenic noise and lighting namely street-lights and traffic”. Although Grid References are provided, without ground-truthing, it is challenging to properly assess the validity of these positions.

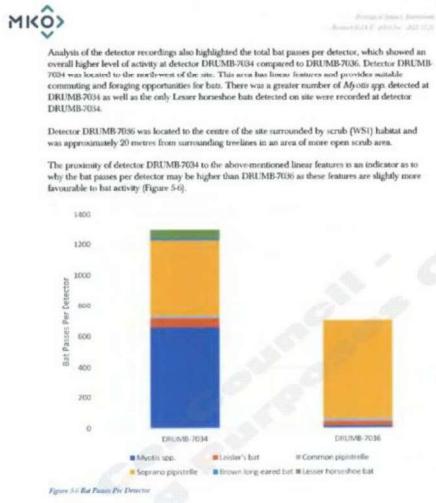
What Veon Ecology can state, is that in our profession opinion, to gain a more comprehensive picture of bat activity on any site, it is essential to survey more than two specific locations in such a large area. Whether the positions were ineffective or not, detectors should have been placed in other areas on the site, particularly in the south, which appears to have not be surveyed efficiently.

While allowing for the limited access issues acknowledged by MKO, this decision to not adequately survey the southern aspect of the site is questionable, considering that both LHB designated SACs are located to the west and south-west of the development site, and as such the southern end of the site would likely see more Lesser horseshoe bat activity due to its closer proximity in terms of flight path to the two SACs, both of which are of significant international importance for this particular species of bat.

Additionally, Cahercalla Woods is located approximately 1.1km south-west of the site and has been mapped as a feeding ground for LHB by NPWS.

Similarly, the caves at Newhall and Edenvale are hibernation sites, and it could be that the areas surrounding the proposed development site could be critical to the LHB populations resident at these caves.

Consideration should have been given to undertaking detector studies during the hibernation period also to see access how/if the habitats within the footprint of the development are used by the Lesser horseshoe bats, as this species known to forage in mild winters, such as was enjoyed during 2021-2022.



The Bat survey states that Lesser horseshoe bats were only recorded by detector DRUMB-7304 (North-west).

This is to be expected (to some degree) as Lesser horseshoe bats normally forage in woodlands/scrub within 2.5km of their roosts (Schofield, 2008). The species is known to follow commuting routes from its roost to its foraging grounds and prefers not to cross open ground. Linear features such as hedgerows, treelines, and stone walls provide vital connectivity for this species.

Despite the geographic location of the named (and screened-in) protected areas in relation to the proposed development site, of the reported 1997 bat passes recorded in the north-west over the 19 days, approximately 60 were accounted for by the Lesser horseshoe Bat.

This is not only a significant finding in itself, considering the debated placement of the static detectors at the north end and central areas of the site, but as the wooded areas in the north of the site are scheduled for clearance as part of the project works, it is difficult to see how clearance of the same will not have a direct permanent negative effect on Lesser horseshoe bats resident in the area, as a result of this potential habitat defragmentation.

Indeed, the arboriculture report (AIA) states that "*the arboricultural impact of the proposed development on the site will be high, as the majority of the vegetation on the site will be removed to facilitate the development.*"

## Pressure and Threats

Veon Ecology would like to make observed statements and comments on the following sections, some of which are specific to the NIS, EclA, and Planners Reports, other that feature collectively across the documentation reviewed within the scanned documents available online:

## Key Ecological Receptors

Bat species	Habitats within the proposed site were assessed as offering <i>Moderate-high</i> potential foraging and commuting habitat for bats and provide connectivity to the wider landscape.	Yes
Local populations are considered as Local importance (higher value).	The overall site was assessed as <i>Low</i> value for roosting bats. There were a limited number of trees which had some suitability for roosting bats located within the proposed site boundary.	
Populations of lesser horseshoe bats are considered as International Important.	Local bat populations have been identified as of local importance (higher value) due to the suitability of the feeding and commuting habitat available for locally important populations of the species in the area. Populations of Lesser horseshoe bats which were recorded within the site were considered to be of International Importance due to the proximity of the Special Areas of Conservation designated for the species.	

Habitats within the proposed site were assessed as offering “Moderate to High potential foraging and commuting habitats for bats and provide connectivity to the wider landscape” – It is Veon Ecology’s opinion that clearance of the same will have a high impact on all the bat species present on site, but in particular the Lesser horseshoe bats.

The overall site was assessed as Low value for Roosting bats – See NBDC records detailed in this report concerning an actual roost site, albeit historic, within 500m of the proposed development site.

It is Veon Ecology’s professional opinion that the site should be viewed as having moderate-to high value for Roosting bats, based on this information alone – either that or MKO should be requested to provide further clarification on how they have determined this lower status, based on the full-suite of surveying techniques and scientific research they employed in this survey.

The results as published in the reports under review are not, in Veon Ecology’s opinion sufficient for purpose, and we acknowledge that there are sufficient grounds for the findings of this bat survey to be challenged.

## Impacts on Habitats of Local Importance Higher Value

These habitats of local importance (higher value) have been identified as Key Ecological Receptors (KERs) as the loss of habitat has been identified as a long-term negative impact at a local geographic scale in the absence of mitigation.

The development footprint will result in the loss of Woodland and Scrub (WS1) habitat of *local importance (higher value)*. The proposed works will not result in land-take from the watercourse within the site which is located within an existing culvert. However, any construction works adjacent to the watercourse have the potential to cause indirect impacts on the watercourse and downstream aquatic fauna. Potential for impact on these habitats is considered further in the following subsections.

### Assessment of Potential Impacts on Woodland and Scrub Habitat

Table 6.1. Assessment of Impact on woodland and scrub habitat

Description of Effect	The proposed development will result in the loss of some pioneer woodland and scrub habitat.
Characterisation of unmitigated effect	The loss of these habitats will occur throughout the proposed development site and has been assessed as a permanent negative effect.
Assessment of Significance prior to mitigation	The unmitigated impact resulting in the loss of this habitat is a permanent negative impact and is considered to be a slight-moderate negative effect at a local geographic scale.

EcIA Report also states the development footprint will result in the loss of Woodland and Scrub (WS1) habitat of Local Importance (High Value).

It was noted that between the AA-Screening and the NIS Report the habitat classification of WN2 was applied to the woodland area. In the AA-Screening the area was described as “closely resembling Oak ash woodland” but no Fossitt Classification was given at the time, although scrub (WS1) and transitional woodland (WS2) were identified. WN2 was attributed to photographs in the AA-Screening but not in the main text – again, Veon Ecology acknowledges that this could be a result of human error, as the same classification was present in the NIS and EcIA reports.



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Mitigation	Linear boundary features will be retained along the south-western boundary of the proposed development footprint and prior to the commencement of site works within the site, these areas of habitats will be fenced off and the roots of the trees will be adequately protected to prevent loss/damage.  There will be supplementary planting along the retained boundaries as per the Landscape plan associated with the proposed site (Figure 2.3). Planting within the site will be of native species which are indigenous to the local area.  The removal of vegetation within the proposed development site will comply with the requirements of the Wildlife Act 1976-2021.
Residual Effect	Linear landscape feature will be retained within the proposed development site and there will be supplementary planting of native species to enhance these linear features as per the landscape plan prepared for the proposed development. It is anticipated that a slight negative effect will remain at a local scale due to the loss of a proportion of the woodland and scrub habitat from the proposed site due to the nature of the habitats and location of the proposed development site.

Linear Boundary figures will be retained along the south-western boundary – Both Screened-in SACs are located to south and south-west of the site, but as noted, there has been no evidence of what, if any, bat surveying was conducted in this aspect of the site, either static (passive) or handheld (active).

Most activity was recorded in the north and central areas. Whether this was down to limited position of the passive detectors or due to access limitation on active surveyors remains conjecture, what is known is that this area has been designated in the scheduled works as to be cleared, which should be a concern, based on the levels of bat activity recorded here.

The reports make no specific reference to the identification of flight paths or commuting routes by any of the five species the survey identified on the site, not just Lesser horseshoe bats. Without this information is remains unknown which habitat features on the site must be retained or where appropriate mitigation measures should be located on site.

The loss of commuting routes is a major factor in the isolation of Lesser horseshoe colonies throughout their Irish distribution. It is Veon Ecology's opinion that clearance of vegetation as planned on the site will have a high impact on all the bat species present on site, not just the Lesser horseshoe bats.

### Assessment of Potential Impacts on Bats

#### *Construction phase*

Assessment of Potential Impacts on Bats	
Table 6-4: Assessment of Potential Impacts on Bats	
Description of Effect	Habitat Loss/Alteration
<p>The proposed development will result in the loss of woodland and scrub habitat. These habitats are of moderate-high value to commuting and foraging bat species. The proposed development will retain landscape connectivity via the retention of linear landscape features as detailed in the site-specific landscape plan (Figure 2.3).</p>	

Woodland and scrub habitats are of Moderate-high value to commuting and foraging bat species.

"The proposed development will retain connectivity via the retention of linear features as detailed in the site-specific landscape " – As above, the reports make no specific reference to the identification of flight paths or commuting routes by any of the five species identified on the site, not just the Lesser horseshoe bats.

Without this information is remains unknown which habitat features must be retained or where mitigation measures must be located on site.

Characterisation of unmitigated effect	Habitat Loss/Alteration
	<p>There were no signs of roosting bats recorded on during the site survey, however it was noted that up to four mature trees have potential of roosting bats.</p> <p>The loss of woodland and scrub habitat which provide moderate-high value to commuting/foraging bats is considered to be a permanent negative impact and it is considered to be a negative effect at a local geographic scale as this type of habitat is not widespread in the areas around Ennis town.</p>

"There were no signs of roosting bats recorded on during the site survey" – As noted in this review, it is Veon Ecology's opinion that this statement is lacking in confidence, if it is based solely on how the bat survey has been conducted at this site and the results contained in the published reports under analysis.

It was stated in the survey that up to four mature trees have "some potential of roosting bats" – but no further details are provided on what appears to be a purely visual assessment at this junction.

"Loss of Woodland and scrub habitat considered to be a permanent negative impact and it is considered to be negative effect as a local geographic scale as this type of habitat is not widespread in the areas around Ennis Town."

It is Veon Ecology's opinion that the current mitigation measures proposed in the reports under review are not sufficiently researched or appropriate to prevent potential habitat defragmentation occurring on this site, which will have a direct impact on all the bat species present in the area.

Assessment of Significance prior to mitigation	Habitat Loss/Alteration
	<p>The unmitigated impact resulting in the loss of commuting and foraging habitat is a permanent negative impact and is considered to be an effect at a local geographic scale as this type of habitat is not widespread in the areas around Ennis town.</p>

Mitigation	Habitat Loss/Alteration
	<p>The proposed development has been designed in line with a landscape management plan (Figure 2-3)</p> <p>The south-western boundary of the proposed development site will be retained and there will be additional planting of native species. The retention of the linear boundary and supplementary planting will maintain the connectivity of the proposed site to the wider area.</p> <p>While there was no evidence of roosting activity recorded during the bat survey, in line with best practice guidance (i.e., NRA bat guidance) a pre-commencement survey will be conducted to determine if bats have taken up residence within the development footprint. The pre-commence survey should include an inspection of the identified trees which have potential suitability for roosting bat species within the proposed development boundary. Tree inspection should be conducted at a time outside of the vegetation growing season to allow of access to all areas of the site.</p> <p>If roosting bats are recorded during this survey trees will be felled under licence for the NPWS and under supervision of a qualified ecologist. Felled trees will be left in situ for 24 hours to allow any bats to escape.</p> <p>Vegetation removal will comply with the requirements of the Wildlife Act 1976-2021 and any lighting associated with the proposed development will be directional and focused away from any potential roosting/commuting paths, see Section 2.</p>

Residual Effect following Mitigation	<b>Habitat Loss/Alteration</b>
	<p>Following the incorporation of mitigation measures described above, no significant loss of bat roosting habitat is anticipated.</p> <p>The loss of woodland and scrub habitat will be mitigated by retaining existing vegetation along the south-western boundary and by additional replanting of native species within the proposed development site, such that there will be no net loss of linear landscape features used for commuting as a result of the proposed development.</p>
	<p>Once mitigation measures have been applied, there will be significant negative effect, at any geographic scale, on commuting or foraging bat species.</p>

“No significant loss of roosting habitats” – Veon Ecology’s professional opinion is that this has not been properly assessed in the Bat surveying conducted by MKO (as published).

“Once mitigation measures have been applied, there will be significant negative effect, at any geographic scale, on commuting or foraging bat species.”

Veon Ecology assumes that this statement was meant to state that there “...will not...” be significant negative effects, but this should certainly be clarified by MKO, as this contradicts all other statements made across the reports.

#### *Operational Phase*

### **Impacts on Bat Species**

The operation of the proposed development will be permanent and will not result in any additional loss of habitat. Therefore, no significant effects in terms of habitat loss and fragmentation are anticipated. There is potential for disturbance effects on bat species as a result of the operation phase of the development. These are assessed in Table 6-6.

*Table 6-6. Assessment of Impact on Bat Species*

Description of Effect	<b>Disturbance</b>
	Any lighting associated with the proposed development has the potential to result in disturbance effects locally on bat species that use the proposed site.
Characterisation of unmitigated effect	<b>Disturbance</b>
	Any external lighting which might be associated with the proposed development has the potential to cause, in the absence of mitigation, a long-term slight disturbance of bat species.
Assessment of Significance prior to Omitigation	<b>Disturbance</b>
	In the absence of mitigation, the potential disturbance would result in a permanent slight negative impact.
Mitigation	<b>Disturbance</b>

#### *Lighting*

“Any external lighting which might be associated with the proposed development has the potential to cause, in the absence of mitigation, a long-term disturbance of Bat species”.

Despite the inclusion of a Lighting report, there remains a distinct lack of investigation and assessment in relation to lighting and its longer term impact on the local bat populations, and the proven appropriateness and efficacy of the mitigations suggested.

The Lesser horseshoe bat is the most photophobic of all the Irish species. The artificial illumination that will be generated by 58 houses and associated street lighting and vehicular traffic will have a major negative impact on the Lesser horseshoe bats that were recorded in this area. This should have been investigated more thoroughly.

#### *Decommissioning Phase*

No Decommission works – but any demolition or maintenance works on site will have similar disturbances to those associated with construction phase

#### Traffic

Potential impacts arising from increase traffic, either during the construction and operational phase, or from subsequent occupation of the residential dwellings on completion of the project, have not properly been addressed.

Although no research has been conducted on the effect of road traffic noise on the lesser horseshoe bat, it has been done on its close relative, the greater horseshoe bat, and it is negative.

This also should have been investigated more thoroughly.

## Impacts on Nationally Designated Sites

Impacts on nationally designated sites including NHAs and pNHAs are considered in this section of the report. Where such sites are also designated as SACs or SPAs (European Sites) they have also been assessed and considered under that designation. From a precautionary perspective, Fergus Estuary and Inner Shannon, North Shore [002048] pNHA Pouladatig Cave pNHA [000037], Newpark House (Ennis) pNHA [00061] and Newhall and Edenvale Complex pNHA [002091] were identified in Section 4.1.2 as within the likely zone of impact for further consideration. This site will be subject to mitigation measures outlined in section 2, which will prevent deterioration of water quality and disturbance as a result of the proposed development.

The bat surveys conducted within the site recorded relatively low levels of bat activity within the proposed site. However, there were relatively high levels of bats recorded by the static detector over a 19-day period. Lesser horseshoe activity was recorded within the site over this period with 56 passes detected. This represented 3% of the overall bat activity. There was no evidence of bat roosting activity within the proposed site. The proposed development site will be subject to mitigation measures to prevent disturbance of fauna including bats. Lighting within the proposed site will be directional and will illuminate only the infrastructure within the proposed site. A landscape plan details the retention of linear features along the south-western site boundary and will include supplementary planting of native species along these boundaries. These linear features will provide connectivity to the wider area. There were no other pNHAs or NHAs identified within the ZOI and therefore, no potential for significant effect on such Nationally designated sites.

- Cahercalla Woods pNHA (1.1km)
- Newhall and Edenvale Complex pNHA (1.8km)
- Pouldatig Cave pNHA (2.4km)
- Newpark House (Ennis) pNHA (3.1km)

The footprint of the proposed development lies within the Core foraging range(s) of Lesser horseshoe bats for which these pNHAs themselves have been designated.

Newpark House (Ennis) pNHA is slightly outside the Core foraging range, but still potentially within commuting flight range.

Without more accurate and robust survey data from MKO, it is Veon Ecology's professional opinion that, from a precautionary perspective, potential pathways for both direct and indirect effects are identified in this project as a result of disturbance and have not been appropriately assessed in the survey and final reports.

The proposed development site in Drumbiggle should be considered to be within the Likely Zone of Impact for several protected LHB sites and further assessment beyond that presently submitted by MKO is required before it can be a considered scientifically sound appraisal of the site.

### County Development Plan

Veon Ecology would like to make observations on the following and how they may relate to the Clare County Development Plans:

Plans	Key Policies/Issues/Objectives Directly Related To European Sites, Biodiversity and Sustainable Development In The Zone of Influence	Assessment of development compliance with policy
	<p>Objective CDP 14.1</p> <p>a). To implement the County Clare Heritage Plan 2011-2017 and the Clare Biodiversity Action Plan 2014-2017, or any subsequent plans, in partnership with all relevant stakeholders,</p> <p>d). To ensure that features of importance to local biodiversity are retained as part of developments and projects being undertaken in the County,</p> <p>e). To identify ecological buffer spaces/zones, where appropriate, in the Plan area</p>	<p>The proposed development is result in the loss of some pioneer woodland and scrub habitat from the development site. However, linear landscape features within the proposed site will be retained. The proposed project has been designed to avoid significant effects on biodiversity and water quality as set out in Section 2 of this EcIA.</p> <p>No significant effects have been identified as a result of the proposed project.</p>

Are these linear habitats to be retained in the right place? - It is Veon Ecology's opinion that MKO's Bat Survey has not proved this convincingly.

The reports make no specific reference to the identification of flight paths or commuting routes by any of the five species identified on the site, not just the Lesser horseshoe bats.

Without this information remains unknown which habitat features must be retained or where mitigation measures must be located on site.

Without further clarification for MKO, this project as it currently is, risks being in contravention of CDP 14.1

<p><b>Objective CDP 14.11</b></p> <ul style="list-style-type: none"> <li>a). To protect and promote the sustainable management of the natural heritage, flora and fauna of the County through the promotion of biodiversity, the conservation of natural habitats and the enhancement of new and existing habitats.</li> <li>b) To promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between the designated sites and the wider Plan area;</li> <li>c). To ensure that there is no net loss of potential Lesser Horseshoe Bat feeding habitats, treelines and hedgerows within 3km of known roosts</li> </ul>	<p>The proposed development site is located within the 2.5km foraging range of the SAC populations of Lesser horseshoe bats but it is not identified as a potential foraging ground for the species (See map X of CO document)</p> <p>The project will result in some vegetation clearance but no identified potential foraging grounds (as identified in the CO document) will be impacted. Wider landscape connectivity will be retained by the retention of linear features within the site as per the landscape plan prepared for the proposed development (Figure 2.3)</p> <p>The proposed project has been designed to avoid significant effects on biodiversity as set out in Section 2 of this ECIAs.</p>
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**"The proposed development site is within 2.5km foraging range of the SAC Populations of LHB but is not identified as a potential foraging ground for the species"**

Two LHB SACs and several LHB designated pNHAs are within core foraging range of the development site. There is a history of LHB Root in surrounding area within 500m of the project. NBDC BSI shows the area is highly favourable for LHB.

It is Veon Ecology's opinion that the proposed development site cannot be adequately and scientifically discounted as a potential foraging site for LHBs based on the current standard of the Bat Survey submitted by MKO.

**"This project will result in some vegetation clearance, but no identified potential foraging grounds will be impacted"**

It is Veon Ecology's opinion that the proposed development site cannot be adequately and scientifically discounted as a potential foraging site for LHBs based on the current standard of the bat survey submitted by MKO.

The AIA has also stated that "*the arboricultural impact of the proposed development on the site will be high, as the majority of the vegetation on the site will be removed to facilitate the development.*"

It should also be noted, with regard to the Planners decision that there seems to be some difference between various parties over the interpretation and use of the phrases 'Trees of significance' and 'Significant trees'; the two are mutually distinctive, and some clarification on this terminology and its implications in the context of the clearance plans should be sought.

**"The project has been designed to avoid significant effects on biodiversity".**

It is Veon Ecology's opinion that the current mitigation measures proposed in the reports under review are not sufficiently researched or appropriate to prevent potential habitat defragmentation occurring on this site, which will have a direct impact on all the bat species present in the area.

Without further clarification for MKO, this project as it currently is, risks being in contravention of CDP 14.11

**Objective CDP14.17**

- a). To preserve and conserve individual or groups of trees identified in Volume 2 of this Plan as 'Trees for Preservation' which will enhance the character and appearance of an area;
- b). To carry out tree survey work during the lifetime of this Plan to identify future trees of importance in the County and facilitate their future protection.
- c). To protect individual or groups of trees within the Plan area which are important for environmental, recreational, historical, biodiversity and/or aesthetic reasons or by reason of contribution to sense of place, including groups of trees which correspond with protected habitats, or which support protected species, under the Habitats Directive.
- d). To work with landowners, local communities and other relevant groups to promote the retention and conservation of existing trees and hedgerows and encourage development proposals that enhance the landscape through positive management and additional planting/ sensitive replanting of native tree species.
- e). To protect woodlands and hedgerows from damage and/or degradation and to prevent disruption of the connectivity of woodlands and hedgerows of the County.
- f). To ensure, where required, applications for development include proposals for planting / leave a suitable ecological buffer zone, between the development works and areas/ features of ecological importance.
- g). Where hedgerows are required to be removed in the interests of traffic safety or where breaches to hedgerows occur due to river drainage/maintenance works and flood repair, to require the applicant/developer to replace the hedgerows with suitable native species to the satisfaction of the Council.

The proposed development is result in the loss of some pioneer woodland and scrub habitat from the development site. However, linear landscape features within the proposed site will be retained. The proposed project has been designed to avoid significant effects on biodiversity and water quality as set out in Section 2 of this EIA

No significant effects have been identified as a result of the proposed project

"The proposed development is result in the loss of some pioneer woodland and scrub habitat – of local importance previously identified"

Based on the AIA statement that "*the arboricultural impact of the proposed development on the site will be high, as the majority of the vegetation on the site will be removed to facilitate the development,*" it is Veon Ecology's belief that this statement does not accurately quantify the potential negative impacts to local and internationally important bat species which could arise from this disturbance.

"Linear features will be retained" – There are no specific details in the published bat survey report regarding flight paths, evidence of species-specific feeding buzzes either having been identified or recorded, commuting routes, and no mapping of the same.

This information is critical to know what habitat features must be retained or where mitigation measures must be located.

The loss of commuting routes is a major factor in the isolation of horseshoe colonies throughout their Irish distribution.

Without further clarification for MKO, this project as it currently is, risks being in contravention of CDP 14.17

<p>Regional Spatial and Economic Strategy for the Southern Region 2020-2032</p>	<p><b>RPO 1 - Environmental Assessment</b></p> <p>a. Any reference to support for all plans, projects, activities and development in the RSES should be considered to refer to 'environmentally sustainable development' that has no adverse effects on the integrity of European sites and no net loss of biodiversity, that shall be subject to appropriate feasibility studies, best practice site/route selection (to consider environmental constraints such as landscape, cultural heritage, the protection of water quality, flood risks and biodiversity as a minimum), environmental assessment including EcIA to support development management and where required, the completion of statutory SEA, EIA and AA processes as appropriate.</p> <p>b. The RSES seeks to protect, manage, and through enhanced ecological connectivity, improve the coherence of the Natura 2000 Network in the Southern Region.</p> <p>c. RSES support for other plans/programmes (and initiatives arising) is on the basis of appropriate SEA, SFRAs, EIA and AA processes being undertaken in order to ensure the avoidance of adverse effects on European Sites and ensure implementation of mitigation measures where required.</p> <p>d. Development Plans shall include an objective for the protection of European sites and Natural Heritage Areas (designated and notified proposed NHAs).</p>	<p>The proposed development is small in nature and there will be no significant impacts on European sites, wetland sites or protected flora or fauna given the nature, scale and design of the proposal. The proposed project has been designed to avoid significant effects on biodiversity and water quality as set out in Section 2 of this EcIA.</p> <p>No significant effects have been identified as a result of the proposed project.</p>
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#### "Protection of European sites and Natural Heritage Areas (designated and proposed NHAs) –

- Cahercalla Woods pNHA (1.1km)
- Newhall and Edenvale Complex pNHA (1.8km)
- Poulnabrone Cave pNHA (2.4km)
- Newpark House (Ennis) pNHA (3.1km)

The footprint of the development site lies within the Core foraging range of Lesser horseshoe bats for which the pNHAs have been designated.

Newpark House (Ennis) pNHA is slightly outside the Core foraging range, but still potentially within commuting flight range.

Without more accurate and robust survey data from MKO, it is Veon Ecology's professional opinion that, from a precautionary perspective, potential pathways for both direct and indirect effects exist in this project as a result of disturbance and that current mitigation proposed do not adequately address these impacts.

The proposed development site in Drumbiggle should be considered as within the Likely Zone of Impact for several protected sites and further assessment beyond that presently submitted by MKO is required.

Without further clarification for MKO, this project risks being in contravention of RSES (for the Southern Region) RPO 1 - Environment Assessment

#### Additional Considerations

##### *Derogation Licence from NPWS*

Veon Ecology believe that as a precautionary measure, derogation licences should have been sought for this project from NPWS.

In cases where the proposed activity can be timed, organised, and carried out so as to avoid committing offences under Irish wildlife legislation and the EU Habitats Regulations, then in some cases no derogation is required.

However if the work cannot be carried out without affecting the bats or their roost, a derogation licence is required.

Based on the review of the NIS, EIS, and Planners Report, and in particular the Bat Survey submitted by MKO, Veon Ecology cannot state with professional confidence that while the project remains as is that this will not lead to negative impacts on local and internationally important bat species, including the Lesser horseshoe bat.

#### *Bat Box schemes*

As five different species have been identified on site, Veon Ecology believe that as part of mitigation measures and to reduce the potential impact of probable habitat fragmentation resulting from disturbance from vegetation clearance proposed with this project, consideration should have been given to the creation of a Bat Box Scheme.

As the consultancy that carried out the surveying, MKO should provide sufficient data from the Bat Survey conducted on the site (albeit published or unpublished) that can facilitate this to be implemented effectively.

#### *Complementary survey techniques*

The bat survey could have utilised other standard bat surveying techniques on the site, such as night vision/infrared/thermal imaging cameras. The use of Thermal camera can increase precision in presence/absence surveying as bats are less likely to be missed if the camera is pointed at the relevant access point.

This complementary approach is also useful when access issues are a limiting factor.

## Conclusion

In summation, based on the review of the Bat Survey conducted by MKO for the Drumbiggle housing project, in the absence of further clarification and/or assessment from MKO, Veon Ecology is of the opinion that:

1. Methodology used to ascertain suitability for Bat roosts - **Insufficient**
2. Methodologies used to survey for Bat activity- **Insufficient**
3. Shortcomings in Planner's report – **Decision has been reached based on insufficient and incomplete data**
4. Absence of flight path surveys – **Unexplainable and a critical oversight on the part of MKO's bat surveyors**
5. No Derogation licence application – **A critical oversight on the part of MKO's bat surveyors  
Advisable to apply for Derogation licence.**

## Statement of Authority

Daniel Connell, Senior Ecologist, Veon Ecology

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MSc Biodiversity, Wildlife & Ecosystem health, University of Edinburgh (*Ongoing*)

2013-2017 BSc (Hons): Natural Sciences, NUI Galway

Member of CIEEM.

### Ecology Career Timeline

October 2020 – Present	Veon Ecology, Senior Ecologist
October 2016 – Oct 2020	Freelance Ecologist & Environmental Correspondent
June 2016 – Sept 2016	Ryan Institute, NUIG, Researcher – Wild Bee Project (Internship)
September 2015 - Ongoing	Irish Wildlife Trust Galway, Chairman and Field Ecologist
August 2015 – June 2016	Carna Research Station, Aquaculture Supervisor
June 2015 – August 2015	The Marine Institute, Marine Communications
June 2012 – Sept 2015	Galway Atlantaquaria, Aquarist

Daniel Connell is Senior Ecologist with Veon Ecology, the ecology and environmental services division of Veon Ltd. He has a comprehensive understanding of environmental law and an in-depth knowledge of woodland, wetlands, freshwater, coastal and marine ecosystems, and the respective botanical, avian, invertebrate, and mammal species which inhabit them.

Prior to joining Veon Ecology, Daniel worked for many years as a Freelance Ecologist and Environmental Correspondent. He has experience working on large infrastructural projects including forestry, flood relief schemes, road projects and oil & gas exploration, where he has overseen various projects as Ecological Clerk of Works and has carried out extensive terrestrial, freshwater, and marine ecology fieldwork.

Daniel has conducted Bat Surveys for large infrastructure programmes within Ireland, as well as targeted species-specific and protect species surveys on behalf of private clients and ENGOs; from NIS and EIIs ecology reports for construction, infrastructure, forestry, and windfarm projects, to conservation initiatives for National Wildlife Groups and individual clients.

Most recently, Daniel conducted the Pre-construction Bat Survey (2021) for N59 Moycullen Bypass, on behalf of Wills Bros., including applying for Bat Derogation licences with NPWS Wildlife Licence Unit. Daniel also conducted the Pre-construction Bat Survey (2021) for N17-R320 Junction Upgrade Lisduff, Claremorris, Co. Mayo on behalf of BAM Ireland.

He has also volunteered with Bat Conservation Ireland and the Vincent Wildlife Trust, respectively, on a variety of Bat Conservation initiatives, and has advised local ENGOs and Citizen Scientists on appropriate Bat Box Schemes and mitigation measures.