

IN THE MATTER OF AN APPLICATION TO
AN BORD PLEANÁLA

FOR APPROVAL OF THE FOYNES TO LIMERICK ROAD (INCLUDING
ADARE BYPASS) COMPRISING:

- (I) FOYNES TO RATHKEALE PROTECTED ROAD SCHEME,
2019;
- (II) RATHKEALE TO ATTYFLIN MOTORWAY SCHEME, 2019;
- (III) FOYNES SERVICE AREA SCHEME, 2019.

ABP Ref. ABP-306146-19 and ABP-306199-19

ORAL HEARING

Brief of Evidence
Biodiversity – Bats

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1. QUALIFICATIONS AND EXPERIENCE

- 1.1 My name is Dr Tina Aughney, of Bat Eco Services, and I am a consultant ecologist specialising in bats and bat ecology. I hold a Ph.D. in Agri-Environmental Policy and Entomology. After finishing my research I branched into the area of bats and have worked as a Bat Specialist since 2000. I have undertaken extensive training and survey work for all Irish bat species and have undertaken a wide array of bat related projects including those required for river management schemes, cycle greenways, urban developments and large road schemes. I also manage national and all-island monitoring programmes on behalf of Bat Conservation Ireland for the NPWS in the Republic of Ireland and NIEA in Northern Ireland. Management responsibilities include administration of the monitoring schemes, volunteer recruitment and training, information validation and management, data analysis and mapping and reporting.
- 1.2 I am also a member of The Heritage Council Bat Panel and was awarded “Distinguished Recorder of the Year, 2011” by the National Biodiversity Data Centre. I am a co-author of the publication on bats in Ireland titled “Irish Bats in the 21st Century” and a contributing author for the “*Atlas of Mammals in Ireland 2010-2015*”. I have also made numerous presentations on bat ecology, monitoring and mitigation at Irish, British and European conferences and symposiums.

2. ROLE IN PROPOSED ROAD DEVELOPMENT

- 2.1 In this project I was the Bat Specialist contracted as part of the project from 2018 onwards and, during this contract, I undertook the Winter and Spring bat survey elements of the Four Season Bat Survey. The Summer and Autumn bat surveys were completed by Aardwolf Wildlife Surveys prior to 2018. A Four Season Bat Survey is comprised of different survey elements (e.g. dusk emergence surveys of potential roost sites or walking transects to document commuting and foraging bats) designed to accumulate information on the different bat species present in the landscape, their roosting sites, commuting routes and foraging habitats. Due to the different hunting strategies of bat species, different surveys will yield better results for some bat species compared to other survey elements. The Four Season Bat Survey was completed according to best practice guidelines.

3. EXECUTIVE SUMMARY

- 3.1 The Four Season Bat Survey Report is listed as Appendix 7.1 in Volume 4A of the EIAR. To assist the Board in its consideration of the application, and to put the response to the submissions made to the Board in context, some of the key issues pertaining to lesser horseshoe bats and the other bat species which were encountered are summarised briefly in the following.
- 3.2 The lesser horseshoe bat is mainly found in counties on Ireland's western seaboard of Mayo, Galway, Clare, Limerick, Kerry and Cork and its strongholds are found in Kerry / west Cork and Clare. The lesser horseshoe bat is Ireland's only Annex II-listed bat species (as per EU Habitats Directive 92/43/EU). This means that its populations require special protection measures, including designation as Qualifying Interests of relevant Special Areas of Conservation (SACs) within the Natura 2000 network.
- 3.3 In Roche *et al.* (2015), the status of the roosting resource of the lesser horseshoe bat was closely examined and the results highlighted a number of locations in Ireland where clusters of roosts or hibernacula appear to have declined, including in parts of Co. Limerick. The Vincent Wildlife Trust (VWT) (McAney *et al.*, 2013) reported that a gap of over 45km has opened up between the roosts at Rathkeale in Co. Limerick and those at Castleisland and Tralee in north Co. Kerry. A distance of over 70km was measured between roosts that are used by more than 25 bats. While the lesser horseshoe bat population for the county is only several hundred and is confined to a small number of sites, Co. Limerick is key to ensuring connectivity between populations in the north and south of its range. As a consequence, the VWT has concerns about this phenomenon, which they describe as the 'Limerick Gap', which is likely to have arisen as a result of habitat fragmentation and roost loss. Information on where to focus future conservation actions to enable the species to recolonise this area is essential if future range decline is to be prevented.
- 3.4 The detection of bats is generally undertaken via the use of devices that pick up the echolocation of hunting calls of bats. Each bat species has a characteristic echolocation call which provides the surveyor with essential information to determine the species recorded. Due to the highly directional and high frequency echolocation calls produced by lesser horseshoe bats, which is extremely difficult to detect, the number of bat encounters of this species during routine bat detector surveys (i.e. dusk and dawn surveys completed by an surveyor using a bat detector) completed tends to be low, especially so in areas where the population is low.
- 3.5 The only observation of lesser horseshoe bat during the Autumn and Summer surveys completed by Aardwolf Wildlife Surveys in the vicinity of the alignment of the proposed road development was of one commuting / hunting specimen at Clonshire Beg, west of Adare, in August 2016. It was deemed that it was likely that this species is more widespread in the local landscape than these surveys would indicate, however, as is known from prior local studies, this species' numbers are greater north of the proposed road development at Curraghchase, where the species is a Qualifying Interest of the Curraghchase Woods SAC.

- 3.6 As a consequence, a passive static bat survey was deployed by Bat Eco Services for the Spring bat surveys, in addition to routine bat surveys, as this tends to yield more results in relation to this bat species. A passive static bat survey involves leaving a static recording unit (with ultrasonic microphone) to record in a specific location for a specified period of time. There is no observer present during the survey. The bat detector is effectively used as a bat activity data logger. Calls of bats which pass near enough to the monitoring unit are recorded. Analysis of recorded calls is carried out afterwards (i.e. post surveys). This results in a far greater sampling effort over a shorter period of time than the equivalent survey with observer present (e.g. walking transects).
- 3.7 Nineteen locations were surveyed by static units as part of the Spring survey and this accumulated a total of 400 hours of recordings. Table 8, in the Four Season Bat Survey Report, summarises the results at each of the static stations in relation to the number of species detected at each location. This element of the bat survey provides essential information in relation to the presence of lesser horseshoe bats, as this species was not detected during the walking transects of the Spring surveys. As illustrated in Figure 15 of the Four Season Bat Survey Report (replicated as Figure 1 below), Lesser horseshoe bats were detected at 12 of the 19 static stations (63%) and this information was used to inform the bat mitigation measures for this bat species. The static stations where this species was recorded emphasise the importance of the disused railway line, rivers and woodland in the immediate landscape of the proposed road development for this species.

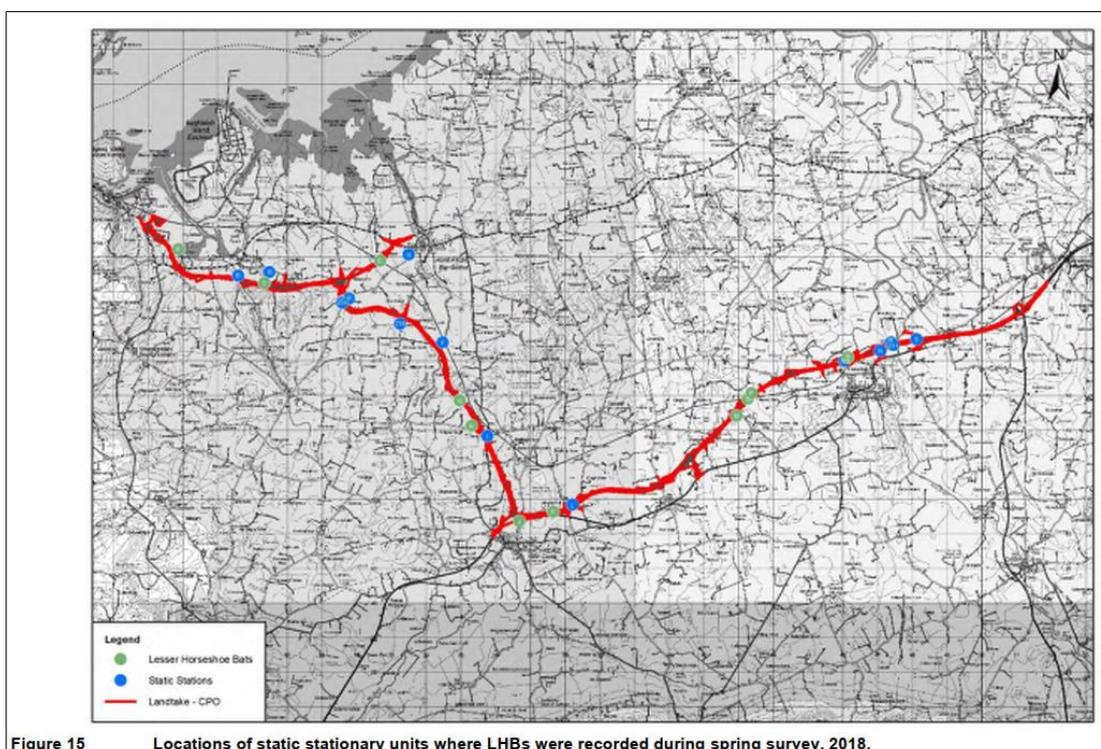


Figure 1

- 3.8 One of the principal issues for lesser horseshoe bats commuting in the landscape is the need for continuous linear habitats to fly along (i.e. flight corridors). Section 5.3 of the Four Season Bat Survey Report listed those areas considered to be important for

commuting bats, including lesser horseshoe bats while Section 5.4 listed those areas considered important for foraging bats. These were informed by the bat survey results and, as such, informed the bat mitigation measures required and the location of such bat mitigation measures.

- 3.9 An additional seven bat species were recorded during the Four Season Bat Survey: Leisler's bat, brown long-eared bat, Natterer's bat, Nathusius' pipistrelle, Daubenton's bat, common pipistrelle and soprano pipistrelle. Figure 8 in the Four Season bat Survey Report, see Figure 2 below, presents an overview of the location of bat encounters along the proposed road development route. Individual bat encounters location maps are also presented for individual bat species listed below (Figures 9-13, Four Season Bat Survey Report, replicated as Figure 2 below).

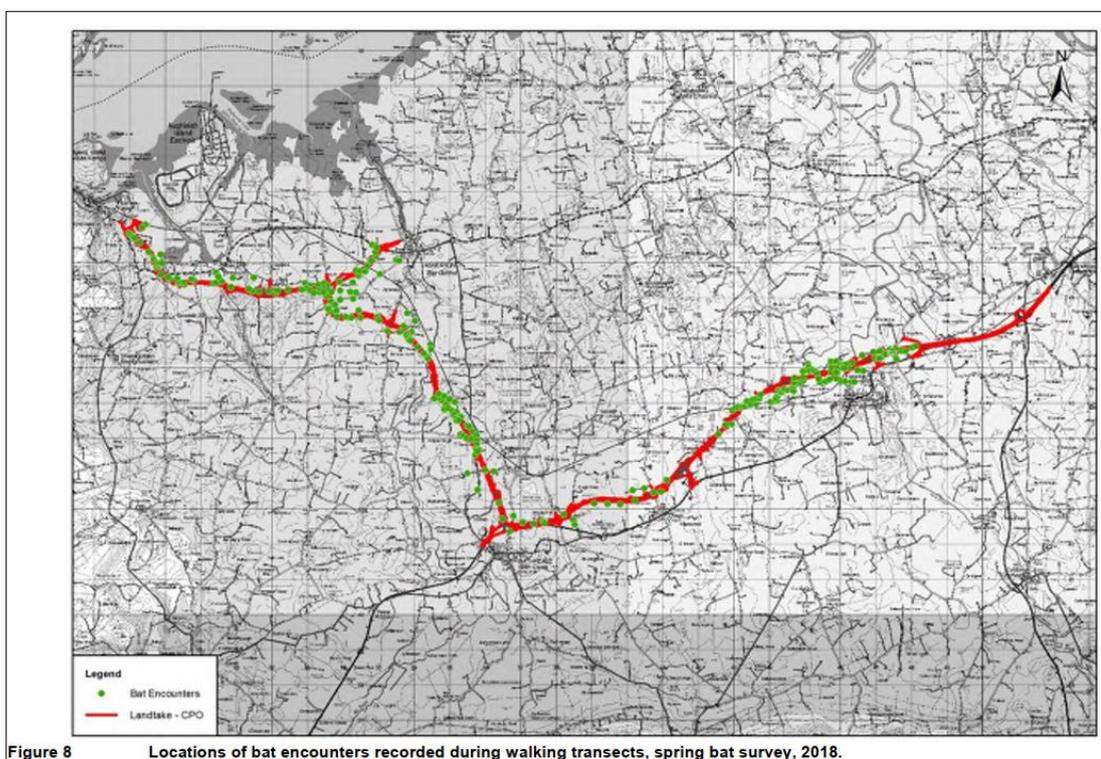


Figure 2

Leisler's Bat

This species was recorded along much of the length of the proposed road route on static recording units and during the walking transects. Ireland's population is deemed of international importance and the paucity of knowledge of roosting sites, makes this species vulnerable. However, it is considered to be widespread across the island.

Brown Long-eared Bat

This species was only occasionally encountered along the length of the proposed road route. However this may be due to its quiet echolocation calls which make detection difficult. This species is generally considered to be widespread across the island, but only a few records are known for County Limerick.

Natterer's Bat

This species was rarely encountered along the length of the proposed road route. However, *Myotis* species echolocation calls were regularly recorded on the static units, many of which are likely to be this species, especially in relation to the static units located away from waterbodies.

Nathusius' Pipistrelle

This species was only encountered once during the Four Season Bat Survey. There is also only one record on the Bat Conservation Ireland database for the searched area.

Daubenton's Bat

This species was recorded along waterbodies within the survey area, which is the typical habitat for foraging Daubenton's bats. Daubenton's bat is widespread throughout the country.

Common Pipistrelle

This species was the most recorded species along the proposed road route and it generally considered to be the most common bat species in Ireland. The species is widespread and is found in all provinces.

Soprano Pipistrelle

This species was the second most recorded species along the proposed road route and it generally considered to be the second most common bat species in Ireland. The species is widespread and is found in all provinces, with particular concentration along the western seaboard.

- 3.10 An large array of mitigation measures are proposed within the Four Season Bat Survey Report to avoid or reduce the degree of likely negative impacts on local bat populations. Additionally, measures are proposed with a view to enhancing the landscape for bats. Proposed mitigation measures for bats comprise general mitigation measures with regard to construction stage, while specific mitigation measures including the provision of alternative roosting sites, underpasses and landscaping are set out in Table 22 of the Report and are illustrated in Figures 7.25 – 7.47 of Volume 3 of the EIAR for the proposed development.
- 3.11 Table 22 of the Four Season Bat Survey lists 35 locations where bat mitigation measures are proposed to be implemented. This includes 47 structures (e.g. underpasses) that will provide safe passage for lesser horseshoe bat under the proposed road development. Many of these structures will cater for other bat species recorded during the Four Season Bat Survey.
- 3.12 An essential component of mitigation measures for lesser horseshoe bats to increase the successful use of mammal and bat underpasses is the planting of treelines and hedgerows to provide commuting habitat for this species to the location of the mammal and bat underpasses. As a consequence, the bat mitigation measures include extensive planting along the boundary of the proposed road development. These are linked with existing linear habitat features in the landscape and will link in with

proposed habitat protection areas and other proposed bat mitigation measures. Linear habitat planting is proposed in the vicinity of the structures (e.g. underpasses) listed in Table 22 of the Four Season Bat Survey Report to provide safe passage for this species of bat, in particular, under the proposed road development. The large amount of planting will also provide commuting and foraging habitat for other bat species recorded during the Four Season Bat Survey.

- 3.13 Section 8 of the Four Season Bat Report concludes a large array of bat mitigation measures have been incorporated into the proposed road development, including additional enhancement works such as provision of alternative roosting sites, underpasses and landscaping. These measures are essential to ensure that the connectivity of the landscape is retained for local bat populations particularly lesser horseshoe bats. Assuming the correct implementation of the prescribed mitigation measures, the nature of the impact of the proposed development on bats is likely to be reduced to Minor Negative.
- 3.14 Examples of successful bat mitigation measures are presented below and such measures are proposed for this road development.

Example 1: Alternative Bat Roosts – Habitat Rocket Bat Boxes



Plate 1: Example of Habitat Rocket bat box erected in Thurles, Co. Tipperary as part of bat mitigation measures for a proposed development.

Example 2: Alternative Bat Roosts – Schwegler Woodcrete Summer Bat Boxes



Plate 2a: Example of woodcrete summer bat boxes suitable for erecting on trees.



Plate 2b: Leisler's bats roosting in a woodcrete summer bat box (Bat Box Scheme in woodland, Ballina, Co. Mayo).

Example 3: Alternative Bat Roosts – Bat Tubes



Plate 3a: Example of inserted of bat tubes into parapet walls of Kilmore Bridge, Moynalty, Co. Meath as part of bat mitigation measures.



Plate 3b: Example of inserted of bat tubes into parapet walls of Ross Bridge, Feakle, Co. Clare as part of bat mitigation measures.

Example 4: Tree Felling Procedure – Dismantling



Plate 4: Example of slow dismantling of a tree identified to have Potential Bat Roost (PBR) value (completed under the supervision of a bat specialist).

4. RESPONSES TO SUBMISSIONS

4.1 Overview

4.1.1 There has only been one submission / objection received which raises the topic of bats, and in particular lesser horseshoe bats. This submission focuses on the mitigation measures proposed for lesser horseshoe bats and is responded to in the following paragraphs.

4.2 Lesser Horseshoe Bats – Mitigation Measures

Issues raised in Submission / Objection

4.2.1 Submission / Objection SCH- 30 raises the issue of mitigation measures for lesser horseshoe bats and states the following: – *“measures should not be conditional and should be integrated into the overall design of the scheme”*. It is also stated that *“limited underpass facilities are proposed and given their effectiveness (Davies 2019), these should be used far more frequently in the scheme and designed into it.”*

Response

4.2.2 The bat mitigation measures are not conditional and have been built into the design of the proposed road development. The bat mitigation measures have been included in Chapter 7 Biodiversity of the EIAR and therefore they will be included in the Schedule of Commitments to be implemented by the main contractor as per the design.

4.2.3 The bat mitigation measures for bats principally comprise:

- Provision of underpasses (both specific for bats and shared mammal passages);
- Habitat Protection;
- Provision of alternative foraging, commuting and roosting areas (including Bat Boxes and Tubes) with specific landscaping measures to link in with the location of bat underpasses.

4.2.4 The bat mitigation measures are designed to cater for all bat species, where possible, recorded during the Four Season Bat Survey. Due to the flight pattern of lesser horseshoe bats, this species can avail of small mammal passages compared to other bat species (e.g. *Pipistrellus* spp.). The dimensions of the underpasses have been designed for brown long-eared bats and *Myotis* spp. insofar as possible, which are more than suitable dimensions for lesser horseshoe bats. As a consequence, the array of mammal and bat passages proposed as part of the bat mitigation measures are suitable to provide safe passage for lesser horseshoe bats under the proposed road development.

4.2.5 The location of bat underpasses have been informed by the results of the Four Season Bat Survey in order to locate such mitigation measures in known bat commuting and foraging habitats.

4.2.6 Table 22 of the Four Season Bat Survey Report lists 47 structures along the proposed road development that will provide safe passage for a range of bat species, including lesser horseshoe bats under the proposed road development. Linear habitat planting

is also proposed in the vicinity of the structures listed in Table 22 of the Four Season Bat Survey Report. Landscape planting requirements were included in the landscape mitigation measures within Chapter 11 Landscape of the EIAR and are illustrated in Figures 11.1 - 11.23 of Volume 3. There is also a significant amount of planting proposed for mitigating other biodiversity sensitivities including Barn Owl, and which overlap with the commuting routes of bats. These planting measures will act as mitigation measures for bats also, creating new foraging routes and linking up to underpasses. These measures are essential to ensure that the connectivity of the landscape is retained and further enhanced for local bat populations, particularly lesser horseshoe bats.

5. CONCLUSION

- 5.1 It is acknowledged that the main impact on bats arises through the loss of hedgerows and treelines along the route of the proposed road development, which are widely used by commuting pipistrelles, *Myotis* species and lesser horseshoe bats. The construction of the proposed realignment will result in the loss of several commuting routes along hedgerows and treelines.
- 5.2 As a consequence, extensive bat mitigation measures have been proposed to avoid or lessen the degree of likely negative impacts on local bat populations, particularly lesser horseshoe bats. Additionally, mitigation measures are included in the EIAR with a view to enhancing the landscape for bats post construction of the proposed road development.
- 5.3 The content of the submission received has been considered and it is confirmed that the assessment undertaken in the Four Season Bat Survey Report (Appendix 7.1 of the EIAR), the effective mitigation measures proposed and the conclusion stated in Section 8 of the Report remains valid.

Appendix 1

The following submissions have been responded to in this Brief of Evidence:

Submissions Responded to in the Brief of Evidence	
SCH-	30