



11TH IRISH BAT CONFERENCE

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ORAL AND POSTER ABSTRACTS & SUNDAY WORKSHOPS



A CASE STUDY SHOWING THE IMPORTANCE OF TECHNOLOGY IN COMPLETING SUCCESSFUL SURVEYS, MITIGATION AND SURVEILLANCE OF LESSER HORSESHOE BAT ROOSTS.

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During an inspection of a basement in an unused warehouse, lesser horseshoe bats were discovered in torpor. This was the start of a two-year journey to determine how the bats utilised the building to facilitate works to secure it.

Step 1 – How do the bats utilise the building?

Due to the size of the structure, thermal imagery scopes were needed to map bat movement. This resulted in identifying the exit point from the main building and access points to summer and transitional roosting spaces. Extensive surveys showed that the building is used all year round by lesser horseshoe bats and in numbers >100 individuals in both winter (Basement) and summer (Substation) while the Transition Room is primarily used in the Spring and Autumn months.

Step 2 – Tools to ensure that mitigation measures are appropriate.

A series of steps were undertaken to secure the roosting spaces. One important step was providing an alternative route for the bats to access the basement directly from the Transition Room instead of travelling into the main space of the building and then into the basement. This new route required drilling a core through a concrete wall of the Transition Room. Since the bats roost all year round, mitigation included a temporary soundproofing of the work area and continuous monitoring by static detectors which ensured that bats were not disturbed during drilling.

Step 3 – The importance of temperature data loggers?

Temperature data loggers proved valuable for both the surveillance of the new bat loft in the substation and the surveillance of potential negative air flow from the core-hole access into the basement. Temperature monitoring provided evidence that a partition wall was required in the basement, adjacent to the core-hole, to ensure that the basement air temperature remains suitable for hibernating bats.

STANDARD ORAL PRESENTATION

ARE LESSER HORSESHOE BATS COMMUTING SUCCESSFULLY ACROSS IRELAND'S ONLY GREEN BRIDGE?

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The vicinity of the new road scheme of the N18 was recorded as important for lesser horseshoe bats. The N18 scheme was merged with two other schemes to form the M17/M18 Gort to Tuam PPP Scheme. This road was opened in September 2017. As part of the bat mitigation measures to facilitate the safe movement of this bat species across the motorway, a green bridge was constructed north of Gort, Co. Galway. The location of the green bridge was determined by radio tracking of lesser horseshoe bats between the Coole Park and Kiltartan Cave.

In 2025, static surveillance monitoring was set-up to determine if lesser horseshoe bats used the green bridge to commute between Coole Park and Kiltartan. Due to the high frequency echolocation calls of this bat species, a large number of static bat detectors were deployed on the green bridge. In addition, static bat detectors were fixed to fencing located along the motorway to determine if lesser horseshoe bats were crossing the road on either side of the green bridge.

Over the course of six separate nights of monitoring in March (Night 1), April (Night 2), June (Nights 3 & 4) and August (Night 5 & 6) a greater number of lesser horseshoe bat passes were recorded on green bridge static units compared to the static units located along the motorway. However, lesser horseshoe bat passes were recorded on the statics located along the motorway fencing indicating that there are likely individuals flying across the road surface. Therefore, this presentation will also look at potential recommendations to improve future green bridges in Ireland.

Additional static surveillance was undertaken in Coole Park and Garryland SAC in April and June 2025. The results indicate that lesser horseshoe bats that commuted across the green bridge foraged in the woodland of the SAC.

SPEED PRESENTATION

OPTIMISING BAT ROOSTING RESOURCES IN PURPOSE-BUILT BAT HOUSES

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The construction of bat houses is a bat mitigation measure increasingly implemented in Ireland. The majority of bat houses designed, supervised and monitored by Bat Eco Services Limited, to-date, were built to cater for lesser horseshoe bats. But in recent years, bat houses have been constructed for other Irish bat species. This provides an opportunity to incorporate additional roosting resources to cater for other bat species within the proposed development area, with the dual aim of increasing biodiversity value and optimising the cost-benefit of these structures. Roosting resources can be provided by incorporating bat tubes into the external walls of the bat house. Two bat houses, one constructed for whiskered bats (*Myotis mystacinus*) and brown long-eared bats (*Plecotus auritus*) and the second constructed for common pipistrelles (*Pipistrellus pipistrellus*) are two examples presented in this talk.

The bat tubes integrated into the two bat houses were Schwegler Bat Tube 1FR and Schwegler Bat Winter Roost 1WI designs. While the bat houses successfully provided roosting for the principal bat species they were designed to mitigate-for, the bat tubes were occupied by additional bat species. The Schwegler Bat Tube 1FR provided roosting for soprano pipistrelles (*P. pygmaeus*), common pipistrelles and Leisler's bats (*Nyctalus leisleri*) while the Schwegler Bat Winter Roost 1WI bat tube was used by common pipistrelles. Consequently, the bat tubes increased the number of bat species successfully roosting in the bat houses and increased their biodiversity value and cost effectiveness.

SPEED PRESENTATION

DO THE SAME BATS REGULARLY ROOST IN BAT BOXES?

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Bat Box Schemes are a fundamental component of bat mitigation measures and are widely erected across Ireland. However, it is important to determine the success of such mitigation, not only in relation to species composition but also seasonal occupancy. Therefore in 2025, three bat box schemes managed by Bat Eco Services Limited were investigated from July to October. Under licence (Section 32 Licence No. 004/2025), a total of 45 bats were ringed and this comprised of Daubenton's bats (*Myotis daubentonii*), soprano pipistrelles (*Pipistrellus pygmaeus*) and Leisler's bats (*Nyctalus leisleri*). Fourteen ringed bats were re-captured during subsequent bat box checks. The biometric data was recorded for all bats ringed and recaptured and this provided positive data in relation to the health of the individuals recaptured. This brief study successfully showed that the same bats will occupy bat boxes across the active season. This study will continue in 2026 and extended to include a total of six bat box schemes.

POSTER PRESENTATION

BAT MIGRATION AND OFFSHORE RENEWABLE ENERGY IN NORTHWESTERN EUROPE

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Offshore wind energy is rapidly increasing in Europe with high concentrations in North and Northwestern Europe (e.g. Baltic Sea, North Sea, Irish Sea). Although we know that bats cross large open waters while migrating, our knowledge about flyways and the impact of off-shore wind turbines is still lacking. Acoustic monitoring studies at buoys, offshore wind turbines, offshore platforms and lighthouses in several countries as The Netherlands, Belgium, UK, Denmark, Sweden and Germany show that bats regularly cross the Baltic Sea, North Sea and the English Channel, while for the Irish Sea it is supposed. These findings are supported by radiotracked bats from Helgoland and across the English Channel. Main migration time is between mid of April until beginning of June in spring and between mid/end of August until beginning/mid of October in autumn. Most bats migrate at wind speed below 6m/s (measured at 10m above sea level). Studies at offshore wind turbines and research platforms show that about 10% of the registered activity at these structures occurred at nacelle heights. Although there is a lack of fatality studies at offshore wind turbines, initial studies of bat behaviour (e.g. exploring behaviour at wind turbines) indicate growing evidence for an existing conflict.

Impact assessments including bat migration surveys are important and should be done in a larger area, e.g. as a national program, to identify important flyways (onshore and offshore). We developed a method to estimate the traffic rates of bats migrating across open waters that can be used for efficient mitigation measures at offshore wind turbines.

KEYNOTE PRESENTATION

GREENBAT: EXPLORING THE POTENTIAL FOR BAT MIGRATION IN IRELAND IN THE CONTEXT OF OFFSHORE WIND ENERGY

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Offshore wind energy production is an important component of the Irish renewable energy sector. However, there remains a paucity of information not just on the potential impacts of offshore windfarm development on Irish bats, but the extent to which bats migrate over open marine waters to and from Ireland. Focusing on two native Irish species that are known to be migratory elsewhere in Europe- Nathusius' pipistrelle and Leisler's bat- we aim to identify migratory patterns in Irish populations, which could expose these species to the impacts of future Irish offshore wind turbine developments.

Using tissue/mouth-swabs and fur samples from bats in Ireland, Britain and Europe, we aim to compare two different methods to infer if migration is occurring between these regions. For the first method, we will screen thousands of SNPs using ddRAD sequencing in individual bats to determine the extent of gene flow/migration between sampled populations/countries. Secondly, fur keratin samples will be subjected to stable isotope analysis for a comparison of the isoscape origins of bats between sampled regions. The application of these complementary methods should allow us to determine the extent of migration in these bat species and identify the potential impacts of offshore wind development in an Irish context.

SPEED PRESENTATION

INVESTIGATING TEMPORAL AND SPATIAL NICHE PARTITIONING BETWEEN SYMPATRIC BAT SPECIES IN AN URBAN LANDSCAPE

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As human populations and urban fabrics expand, understanding the effects of urbanisation on bats is crucial to facilitate sustainable city planning that provides for wildlife. Niche theory suggests that diverse species assemblages within heterogenous landscapes partition along multiple resource axes to maintain niche separation. Of these resource axes, temporal niche partitioning has not been investigated to the same degree as space and diet. There are even fewer studies examining these aspects in an urban context. We investigated spatial and temporal niche partitioning between *Pipistrellus pipistrellus*, *P. pygmaeus*, *Nyctalus leisleri* and *Myotis* spp. within an urban setting. We passively monitored bat activity across 13 sites in Cork city between 15th July and 16th September 2022. Kernel density functions were used to estimate species temporal niche overlap. Spatial activity patterns were modelled as responses to changes in tree cover, distance to water, and total lumens.

We found a high degree of temporal overlap between species. We observed species-specific variation in the importance of trees, water and light on spatial activity patterns. Tree cover was an important positive predictor of activity for all species. Light resulted in decreased activity for most species. The effect of distance to water was less clear but suggested a general negative association. Results suggest that temporal niche partitioning may not be a feasible strategy for insectivorous bats within the urban landscapes, while spatial niche partitioning may play an important role in predicting species-specific responses to changes in the landscape. Urban landscapes are typically homogenous with limited foraging habitat, insect prey resources, landscape connectivity and subject to pressures such as artificial light. Retaining and increasing tree cover, mediating artificial light and prioritising riparian corridors appear important aspects to consider for urban planners. Our study highlights the importance of understanding species-specific responses to urbanisation in order to sympathetically plan expansions of urban fabrics such as Cork City.

STANDARD ORAL PRESENTATION

THE UK'S NATIONAL BAT MONITORING PROGRAMME: LATEST DEVELOPMENTS AND OPPORTUNITIES FOR IMPROVING COVERAGE IN NORTHERN IRELAND

Philip Briggs: Bat Conservation Trust PBriggs@bats.org.uk

This talk will give a brief overview of the Bat Conservation Trusts' long-running National Bat Monitoring Programme. It will look at the latest developments in bat monitoring techniques, and address priorities and potential opportunities for filling gaps in species and geographic coverage in Northern Ireland.

STANDARD ORAL PRESENTATION

THE ALL-IRELAND WOODLAND BAT MONITORING SCHEME: AN INTRODUCTION TO A NEW ISLAND-WIDE BAT MONITORING SCHEME

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Since 2004, Bat Conservation Ireland has developed a number of schemes under the Irish Bat Monitoring Programme – these allow us to monitor annual trends in six of Ireland’s nine resident bat species. Natterer’s bat (*Myotis nattereri*) and whiskered bat (*Myotis mystacinus*) are two of the species not covered by the IBMP. These bats comprise an important portion of the Irish bat fauna, yet as they are mainly associated with woodlands and have similar echolocation calls, they are more difficult to survey than some of our other resident bat species.

After carrying out a successful pilot study in 2023 to test different survey methods, we settled on a volunteer-led walked transect approach to conduct surveys at selected woodlands. The All-Ireland Woodland Bat Monitoring Scheme aims to obtain more information on the distribution and activity patterns of these woodland bat species across the island of Ireland, and in time, annual trends in their populations.

We successfully completed the first survey season of an expanded monitoring scheme in 2024, surveying 26 woodland sites across the island of Ireland. In 2025 this was increased to 40 sites. The surveys to date have confirmed the presence of these woodland bats at the majority of surveyed sites. With two survey seasons now completed, we have a baseline of woodland bat survey data that we can build upon. Our vision is to expand the scheme to establish survey sites representing every county on the island which will be monitored annually. This will enable us to develop up to date population trends for our woodland bats which will ultimately help to inform efforts to conserve them.

STANDARD ORAL PRESENTATION

EXPANDING BAT HABITATS IN THE ACRES MUNSTER SOUTH CONNACHT (MSC) ZONE

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ACRES MSC is working on the conservation of lesser horseshoe bats (*Rhinolophus hipposideros*) in the Crusheen area of Co. Clare. The CP team are working with farmers to deliver actions that promote bat foraging areas and habitat/population connectivity, and providing education on bats. As part of the project, acoustic surveys were carried out on ACRES CP farms in the area and suitable foraging habitats present within their land were identified. Data from these surveys allowed the team to design actions and biodiversity plans for the farms which will improve habitat connectivity between known roost sites. This will be done in conjunction with the installation of Lesser Horseshoe Bat night roosts in strategic areas to allow populations to connect across the participating farms. These actions will be done in tandem with holding talks in local halls and education on a one to one basis with farmers on issues facing bats in the farming community.

This information filled an important data gap in the region and the CP team's work with farmers and the wider community has been important in improving awareness of the lesser horseshoe bat in the locality. An analysis of other gaps in the ACRES MSC area where this approach would be beneficial will be carried out later in 2026.

SPEED PRESENTATION

USING SPECIES DISTRIBUTION MODELS TO IDENTIFY POTENTIAL NEW ROOST SITES OF THE LESSER HORSESHOE BAT IN IRELAND

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Species distribution modelling was carried out on the known lesser horseshoe bat summer and winter roost network to create landcover favourability maps for the species across the Republic of Ireland, in both winter and summer.

The resulting maps indicate that there are some noticeable gaps in the species roost network - even within its core areas. It is possible that the species is already present in some of these areas but unrecorded, or that the creation of artificial roosts would benefit it and allow it to move into these locations. Some of these 'gaps' include in Cork - Baltimore, Dunmanway (for winter sites), Ballincollig and Blarney (summer), in Kerry - Kells Bay, Knockmanagh, Lacka and the western Iveragh Peninsula for winter sites. In Limerick the east of the county has high potential particularly around Glenstal, Clare Glens and Gortavalla with some additional, although limited, potential around Croom. In Clare there is a noticeable lack of summer sites in its core area in the Burren while in Galway some work to encourage the bat to roost in good habitat south of Galway City may help support the population and facilitate more movement there. Mayo has a lot of potential in the Pontoon area.

There are also reasonably extensive areas of highly suitable habitat for the species in west Waterford, and particularly large tracts of suitable land cover throughout Counties Sligo, Leitrim and north Roscommon.

Extensive areas of moderately suitable habitat are also found in west Limerick. We suggest that small pockets of native woodland, scrub and agroforestry may boost the habitat sufficiently there to facilitate movement of the species north/south through the county.

STANDARD ORAL PRESENTATION

MAKING BAT FATALITY SURVEYS MORE ROBUST: MEASURING DETECTION DOG TEAM EFFICIENCY, CARCASS PERSISTENCE BIAS, AND SURVEY DESIGN AT WIND TURBINES

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Wind energy development poses a significant risk to bats, making robust fatality monitoring essential for impact assessment and mitigation. Conservation detection dogs are increasingly used to locate bat carcasses around turbines due to their high sensitivity; however uncertainty remains around optimal survey design, efficiency trial and carcass persistence trial methods. This presentation integrates three complementary studies to improve evidence-based guidance for bat fatality monitoring.

First, field and experimental efficiency trials assessed the performance of dog–handler teams across habitats, testing variables including whether the dog was working on or off a leash, and blinding protocols. Mean sensitivity ranged from 83–100%, with significantly higher detection when dogs worked off-leash and differences observed among blinding treatments, highlighting the need for standardised efficiency trial methods in bat surveys. Second, controlled field trials examined detection of bat carcasses of varying sizes at 5 m and 10 m distances using three trained conservation detection dogs. Although detection generally declined with distance and varied among dogs, no overall significant effect of distance or carcass size was observed, suggesting that current transect recommendations may be conservative and warrant re-evaluation in future work. Third, carcass persistence trials across multiple sites investigated the influence of carcass size, placement, season, and scavenger activity on removal rates. Persistence did not differ significantly with carcass size or placement, but varied strongly among sites and seasons. Camera-trap data indicated that most carcasses were removed by nocturnal mammals at night and by birds during the day, with relatively few removals at dawn, which calls into question current guidance on optimal search timing for bat fatality surveys.

Together, these findings emphasise the importance of standardising conservation detection dog efficiency trials, incorporating site- and season-specific persistence data, and refining search design and timing to improve the accuracy of bat mortality estimates at turbine sites.

STANDARD ORAL PRESENTATION

EDUCATION, OUTREACH, AND COLLABORATION TO PROMOTE BAT CONSERVATION ON THE ISLAND OF IRELAND

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Bat Conservation Ireland developed an Education Strategy in 2024 to help create new methods and techniques to facilitate learning and promote the conservation and study of bats. An action that arose from this strategy - The Bat Panel - was rolled out as a pilot project in 2024. This initiative involved a recruitment drive followed by training for 40+ individuals to deliver bat events. This allows us to bring bat walks and talks to every county in Ireland. We currently have 33 active Bat Panel members. To reach wider audiences and make bat conservation more accessible and inclusive, we provide free events for community groups, eco clubs, and youth groups with an income less than €20,000 per year.

Bat Groups are an important link the chain of bat conservation in Ireland, and we are lucky to have 13 bat groups under our umbrella. Bat groups are made up of individuals from all walks of life with a common interest in bats, with members attending events, answering queries, taking part in volunteer surveys etc. For counties not currently host to a bat group, we can help interested individuals develop a plan to set up an affiliated bat group.

We have run two phases of a Gardening for Bats project (see gardeningforbats.com) in 2024 and 2025. As part of this we have developed videos, run workshops, designed a website which has a facility for individuals to log their actions for bats, and trialled GFB materials with garden centres. We hope to continue this work in 2026.

Over the past year we have been working closely with RSPB, Bat Conservation Trust, Northern Ireland Bat Group and nine other eNGO's to create concise species action plans for five target bat species as part of the Northern Ireland Species Recovery Partnership (NI SRP).

Thanks to funding from Olive Mount Trust, we will launch an exciting new schools 'Bat Champions' initiative in late 2026. 'Bat Champions' will bring nocturnal natural heritage into the classroom by promoting an action-based scheme and providing presentation materials, easy to follow infographics and curriculum linked activity sheets. This scheme will be based on real actions for bats. We will target schools in urban areas where children are not likely to have encountered bats before, and individuals who spend considerable time indoors and feel disconnected with nature.

We will also highlight some other outreach work of Bat Conservation Ireland including our Small Grants Scheme and Tidy Towns Awards.

STANDARD ORAL PRESENTATION

DIFFERENT BATS, DIFFERENT AGRICULTURAL PESTS: WHY BATS SPECIES DIVERSITY MATTERS?

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Insectivorous bats are widely recognised as potential regulators of arthropod pests, yet their contribution to pest suppression in pastureland systems remains poorly understood. In Ireland, pasture-based livestock farming dominates national agricultural production. Quantifying bat-mediated pest-control services is therefore essential to understand their ecological and economic relevance. We analysed prey data generated using next-generation sequencing and DNA metabarcoding from 1,944 faecal samples collected over three years from twelve maternity roosts of four Irish bat species: the Brown long-eared bat (*Plecotus auritus*), Soprano pipistrelle (*Pipistrellus pygmaeus*), Lesser horseshoe bat (*Rhinolophus hipposideros*) and Natterer's bat (*Myotis nattereri*). We focused specifically on identifying agricultural pest species relevant to Irish pasture farming. Across all bat species, 35 agricultural pest species were detected. Pest richness varied among bats, with *P. auritus* consuming 22 pest species, *P. pygmaeus* 13, *R. hipposideros* 9 and *M. nattereri* 7. Frequency of occurrence also differed, with *R. hipposideros* showing the highest proportion of pest detections across faecal samples (83%), followed by *P. auritus* (71%), *M. nattereri* (59%) and *P. pygmaeus* (32%). Key grassland pests, *Tipula oleracea* and *T. paludosa*, were consumed by all bat species and reached high frequencies of occurrence (up to 100%) at several roosts. Livestock-associated biting midges, *Culicoides scoticus* and *C. pulicaris*, were also detected. Notably, 26 of the 35 pest species (74%) were detected in the diet of only a single bat species, demonstrating that different bat species target different pests. These findings show that bats consume economically important pest species relevant to Irish agriculture. Moreover, bat species contribute to pest suppression in complementary ways, emphasising the importance of conserving diverse bat communities within agricultural landscapes. Protecting and enhancing roosting and foraging habitats for bats is therefore not only beneficial for biodiversity but also supports sustainable pest-management strategies in Irish farmland.

STANDARD ORAL PRESENTATION

LONG-TERM BAT CONSERVATION AND MULTI-PHASE MITIGATION AT MENLO CASTLE (2019–2026)

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Since 2019, MKO has provided ongoing ecological support for essential structural stabilisation works at the 16th century Menlo Castle, Co. Galway, an internationally significant site hosting an established lesser horseshoe bat maternity roost, small pipistrelle roosts and nesting kestrel and barn owl. Given the sensitivity of these species and the scale of the phased conservation works (Phases 1–6), a comprehensive mitigation strategy was required to protect the species and ensure full compliance with European and Irish wildlife legislation and best practice guidance.

Our role has included detailed pre-commencement bat surveys for each phase, consultation with the National Parks and Wildlife Service (NPWS), development of bespoke mitigation, phasing and timing of the works and securing the necessary derogation licences. We delivered tailored toolbox talks to contractors, provided on site supervision during high risk activities, and advised on positive design measures to safeguard this valuable habitat throughout construction and following completion.

Follow up monitoring has confirmed continued bat presence within the castle, successful retention of the lesser horseshoe roost, kestrel and barn owl nests and stable pipistrelle activity levels. This long-term project demonstrates how sensitive heritage works can proceed while maintaining strict protection for key bat species through proactive, phased mitigation and close inter disciplinary collaboration.

SPEED PRESENTATION

IF YOU CAN'T SEE IT, YOU STILL KILLED IT: HOW DETECTION DOGS REVEAL HIDDEN BAT FATALITIES AT WIND TURBINES

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Many bat carcasses at wind turbines are effectively invisible to human searchers. They are hidden in dense vegetation, buried in the ground by beetles, or reduced to small, fragmented remains. When these are missed, bat mortality is underestimated, and impacts can be downplayed. Conservation detection dogs change this by searching with their noses rather than their eyes.

This poster presents real examples of bat carcasses found by detection dogs from Conservation Detection Dogs NI, in places where human observers would be unlikely to succeed. From bats concealed in tall grass to remains buried in the ground, these finds show how habitat structure and carcass size combine to defeat visual searches, but not canine scent detection.

By visually comparing what humans struggle to see with what dogs reliably find, we highlight the hidden bias in human-only surveys and the practical value of detection dogs for bat conservation. The message is simple: if we want honest estimates of bat mortality at wind energy sites, we need the right noses on the ground.

POSTER PRESENTATION

SOLAR-POWERED DATA COLLECTION- REFINING LESSER HORSESHOE BAT MONITORING

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Kate McAney: Vincent Wildlife Trust Ireland, Kate.McAney@vwt.org.uk

Long-term monitoring of newly constructed bat roosts is essential to assess their effectiveness as conservation measures. Under the Mulkear Lesser Horseshoe Bat Conservation Project, six purpose-built bat towers were installed on farmland in east Limerick to help reduce genetic isolation and support the long-term survival of the lesser horseshoe bat (*Rhinolophus hipposideros*). As this species typically requires time to explore and adapt to new roosting structures, immediate occupancy was not expected, making sustained monitoring a critical component of the project.

The Solar-Powered Data Collection initiative aimed to refine long-term monitoring techniques by reducing battery use and minimising the frequency of site visits, thereby lowering potential disturbance to bats and reducing carbon emissions. The project investigated the effectiveness of weatherproof 10W solar panels used to power Song Meter 4 (SM4) passive bat detectors from Wildlife Acoustics under Irish field conditions.

Preliminary results demonstrated that the solar-powered SM4 system performed reliably across the monitoring period, providing a non-invasive, cost-effective, and environmentally sustainable method for monitoring bat activity at newly constructed roosts. This approach offers a replicable model for long-term monitoring of lesser horseshoe bat towers and supports the collection of robust data on bat occupancy to inform future conservation efforts. This work was made possible by a grant from Bat Conservation Ireland.

POSTER PRESENTATION

FARMYARD BIODIVERSITY ENHANCEMENT THROUGH ACRES LANDSCAPE ACTION RURAL RESTORATIVE LIGHTING

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Agricultural landscapes play an important role in supporting bat populations, particularly where farmyards provide roosting opportunities and foraging resources. Under the Agri-Climate Rural Environmental Scheme (ACRES) in the Republic of Ireland, targeted Landscape Actions relating to Rural Restorative Lighting and farmyard biodiversity offer opportunities to enhance habitats for nocturnal species, including bat species, particularly Lesser Horseshoe bat (*Rhinolophus hipposideros*). The ACRES scheme aimed to provide practical farmyard-based mitigation measures, with a focus on reducing the impacts of artificial lighting and improving biodiversity, roosting opportunities and enhancement of wildlife corridors.

The lighting mitigation measures involved the replacement of existing farmyard light fittings with reduced-light intensity fittings, mounted below five metres from the ground and angled downwards to minimise light spill into surrounding habitats. Over time, monitoring opportunities and farmer feedback will be undertaken to contribute to improved awareness of the impacts of inappropriate lighting on nocturnal species activity.

Farmyard-scale mitigation measures under ACRES can deliver meaningful biodiversity benefits when combined with practical guidance and information sharing. Rural Restorative Lighting represent effective, low-impact approaches to supporting nocturnal species in particular Lesser Horseshoe bat conservation within working agricultural landscapes.

SPEED PRESENTATION

TESTING CONSERVATION DETECTION DOGS IN BAT AND BIRD CARCASS SEARCHES AT IRISH WIND FARMS

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Carcass searching as part of post-construction monitoring at wind farms estimates bat and bird collision fatalities and helps guide any mitigation changes needed. Detection dogs can greatly improve carcass detection, but it remains unclear which factors affect dog search success, especially in Ireland's diverse habitats and strong seasonal change. We are running a 1.5-year study at seven wind farms across Ireland with 11 detection dogs and two handlers.

Each month, we measure detection rates by placing carcasses in predefined search areas and recording whether they are found. We compare detection across habitat types, seasons, and working conditions. In parallel, we are collecting routine fatality data to examine when and where collisions are most common.

Early results suggest that smaller carcasses are missed more often, and detection rates decrease when dogs are fatigued. Fatality monitoring to date also suggests bat fatalities are highest in autumn. These findings will help improve monitoring guidance by informing search planning (e.g., effort allocation and dog workload) and habitat management to increase carcass detection and support effective bat mitigation at wind farms.

SPEED PRESENTATION

LESSER HORSESHOE BAT SPECIES ACTION PLAN 2022-2026 - THE FINAL YEAR AND THE FUTURE

Kate McAney: Vincent Wildlife Trust, Kate.mcaney@vwt.org.uk

Ferdia Marnell: National Parks and Wildlife Service, Ferdia.marnell@npws.gov.ie

This is the first species action plan (SAP) for the lesser horseshoe bat and was written in consultation with a range of stakeholders (government departments, agencies, local authorities, NGOs) and launched in August 2022. The aim of the plan is to guide, inform and provide coordination and structure for the conservation of the species over a five-year period. The lesser horseshoe bat is the only Irish bat species listed under Annex II of the EU's Habitats Directive. There are 41 Special Areas of Conservation for which it is a Qualifying Interest. Despite steady population growth, and even some range expansion, the species remains in unfavourable conservation status in Ireland because of the gap in its range in west Limerick / north Kerry.

The core of the SAP is a section on practical conservation measures - both site specific and at landscape level - that were identified as necessary to restore the species to a Favourable Conservation Status. Every year since its launch, representatives of the eleven stakeholder groups have met twice a year to record progress and discuss conservation measures. A full evaluation of the plan will be undertaken in the latter part of 2026, with the intention to produce a second plan. This presentation will report on some of the actions that have been successfully achieved since 2022 and highlight areas that still need to be addressed.

STANDARD ORAL PRESENTATION

RE-ANALYSIS OF BAT ACTIVITY DATA USING REVISED ECOBAT OUTPUTS: IMPLICATIONS FOR WIND FARM CURTAILMENT

Fionn O’Neill: Eire Ecology, fionnoneill1@gmail.com

John Curtin: Eire Ecology, johncurtin10@gmail.com

Ecobat is widely used in Ireland and the United Kingdom to interpret bat activity data from wind farm surveys by assigning relative activity classifications based on a reference dataset. These classifications are commonly used to inform collision risk assessments and justify turbine curtailment for high-risk species, including pipistrelle (*Pipistrellus*) species and Leisler’s bat (*Nyctalus leisleri*). Following a period offline, a redeveloped version of Ecobat became operational in 2025.

This poster compares outputs from the former and current Ecobat versions using identical raw bat activity datasets from several Irish wind farm sites. Re-analysis indicates a consistent downward reclassification of activity for key collision-risk species. At a midlands windfarm, common and soprano pipistrelle activity decreased from moderate–high to low, and Leisler’s bat decreased from moderate to low, despite no changes to survey methodology, effort, or raw data. Using the original Ecobat outputs, curtailment was recommended at 23 of 28 turbines; under the revised version, curtailment was required at only eight turbines.

These findings suggest that changes to the Ecobat reference dataset or analytical framework may materially influence activity classifications. As a relative, percentile-based tool, such recalibration has significant implications when outputs are used as a proxy for collision risk and to guide turbine curtailment. Reduced relative activity does not necessarily indicate reduced collision risk, particularly for species known to forage at rotor-swept height.

In Ireland and the UK, the standard approach to assessing bat collision risk is informed by guidance recommending Ecobat to derive percentile-based activity levels. The revised platform may systematically lower risk categories, reducing mitigation requirements and potentially increasing bat fatalities if reclassified activity is interpreted as reduced ecological risk.

The poster highlights implications for planning consistency, application of the precautionary principle, and long-term bat conservation outcomes, and calls for transparent, cautious, and contextual interpretation of revised Ecobat outputs in wind energy assessments.

POSTER PRESENTATION

EFFECTS OF LED STREET LIGHTING ON AERIAL HAWKING BAT SPECIES IN IRELAND

Kevin O'Reilly - STUDENT PRESENTATION: Ulster University, Northern Ireland, caoimhino94@gmail.com

Niamh Roche: Bat Conservation Ireland, niamhr@batconservationireland.org

The global transition from traditional artificial lighting at night to light-emitting diode (LED) street lighting is driven by energy efficiency and cost-effectiveness, yet the ecological consequences for nocturnal wildlife remain understudied. Bats exhibit species-specific responses to artificial lighting, ranging from avoidance to exploitation for foraging. Current lighting guidelines often assume that LED technology reduces impacts on bats compared to older lighting types. This study aimed to assess whether LED street lighting influences bat activity differently from non-LED lighting, with a focus on light-tolerant bat species.

Bat activity data was collected across Ireland from Bat Conservation Ireland's car-based monitoring scheme. A total of 420 transects were surveyed twice annually between 2020 and 2023 using full-spectrum bat detectors. Streetlights were classified as LED or non-LED. A Generalized Linear Mixed Model was applied to examine relationships between bat activity, lighting type, environmental, and temporal variables. Spatial analysis was also conducted on a subset of transects to assess clustering of bat activity around streetlights.

Results showed significantly higher activity of *Nyctalus leisleri* along transects lit by LED streetlights compared to non-LED and unlit transects. In contrast, *Pipistrellus pipistrellus* and *Pipistrellus pygmaeus* showed no significant association with lighting type. Spatial analysis revealed clustering of bat activity around both lighting types, suggesting that insect attraction to artificial lighting influences foraging behaviour regardless of lighting type.

These findings indicate that LED street lighting does not necessarily reduce ecological impacts on bats and may influence activity levels similarly to, or to a greater degree than, traditional lighting technologies. Switching from older lighting types to LED alone may not be an effective form of lighting mitigation, and instead species-specific mitigation measures, including reduced light intensity and adaptive lighting strategies, are recommended to minimise impacts on bat populations.

STANDARD ORAL PRESENTATION

ESTIMATING AGE-RELATED DIFFERENCES IN REPRODUCTION IN GREATER HORSESHOE BATS

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Roger Ransome: University of Bristol, rogerransome@hotmail.com

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Age is a key factor shaping survival, reproduction, and population dynamics in bats, but estimating age in wild adult bats is difficult once they pass their first year. As a result, many ecological questions rely on minimum age or broad age categories, which can limit interpretation. Recently, new laboratory methods have been developed that allow biological age to be estimated from small tissue samples (e.g. wing biopsy punch). These methods provide an alternative way to assess ageing without relying solely on known birth dates.

In this study, we apply a biological ageing approach to a long-term monitored population of greater horseshoe bats (*Rhinolophus ferrumequinum*; Woodchester Mansion, UK), where the age and reproductive history of many individuals are already known. By comparing estimated biological age with known chronological age, we assess how well this approach reflects ageing across the greater horseshoe bat lifespan. We then examine whether females with different reproductive histories show differences in biological ageing.

Our results show that biological age closely matches known age across juveniles and adults, but that individuals of the same chronological age can differ in their rate of ageing. These differences were linked to reproductive history, suggesting that breeding effort and individual condition may influence how bats age.

This work demonstrates how biological ageing measures can complement long-term field data to improve understanding of age structure, reproduction, and individual variation in wild bat populations. Such approaches may help address ecological and conservation questions where age information is incomplete or uncertain.

STANDARD ORAL PRESENTATION

LONGITUDINAL STUDY OF WING MEMBRANE HEALING IN RESCUED IRISH BATS REVEALS THE HALTING EFFECT OF WINTER.

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The flight membranes of bats are essential for their extraordinary locomotion and their physiology, but are fragile organs subject to frequent tears due to predation, environmental hazard or flight accidents.

However, certain captive bats species showed the fascinating ability to heal their wings with time. Unfortunately, wing healing cases are insufficiently reported and detailed in the wild, leaving many questions unanswered: Is this phenomenon a scarring or is the perfect regeneration of tissues? Do all bat species can heal their wings? Can wild bats heal their wings too? What are the limits of the phenomenon? What are the factors influencing the progression of their healing?

To answer these questions, we collected longitudinal weekly pictures of holed and teared wings from 42 rescued bats at the “Bat Rehabilitation Ireland” clinic in Limerick (<https://batrehabilitationireland.ie/>), between 2023 and 2025.

The main species of bat rescued were *Pipistrellus pipistrellus* and *Pipistrellus pygmaeus* (31/42 patients), and cats were regularly being witnessed and suspected to be responsible for the wound (20/42 of cases).

We show that wild bats are able to heal wing membrane holes and tears of an extensive range of gravities, from small holes to extensive tears. Our main finding is the total arrest of the healing of all bats from October to February, independently of species, wound gravity, or healing status. However this arrest is not definitive : the wounds then restart to close from March until closed and flight restored.

This shows that extensive bat wing membrane wounds can still heal and wounded membranes are not reason for bat euthanasia. Bats rescued in Autumn should be kept during winter to heal during Spring and restore their flight ability.

STANDARD ORAL PRESENTATION

COMPARATIVE ANALYSIS OF BAT ACTIVITY AT PAVED AND UNPAVED ROADS IN FORESTED HABITAT

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Sandra Krzemińska: Student Mammal Society, Wrocław University of Environmental and Life Sciences, sandra.krzeminska@upwr.edu.pl

Andrew Carr: Forest Research Institute, a.carr@ibles.waw.pl

Increasingly, urban development is moving into natural spaces leading to habitat loss and fragmentation. Understanding and mitigating these anthropogenic pressures is a critical conservation priority. Road networks cause large-scale disturbance by fragmenting habitats to connect urban areas.

Previous research has indicated that bat activity along forest roads differs depending on road surface type, reporting higher bat activity over paved roads compared to unpaved ones. This paper suggests paved landscapes could be beneficial for bats.

Objectives:

- Test if there is a difference in relative bat abundance over paved vs unpaved roads
- Test the influence of surrounding habitat on relative bat abundance on total bat activity, species richness or foraging guild.

Our study explores the effect of forest road surface type (paved vs. unpaved) on bats in the Białowieża Forest, Poland. We acoustically sampled bat activity using static detectors at 16 sites, between June and July 2024.

We found no significant differences between paved and unpaved forest roads in total bat activity (based on combined call sequences), species richness or at any foraging guild level. Results from the habitat characteristics tested for in this study were not conclusive enough to explain bat abundance.

We conclude that road surface type is not a determining factor influencing bat activity in ecologically high-value forest habitats. Although the influence of surrounding habitat characteristics was not significant, their effects were variable; therefore, we recommend that future research incorporate a broader range of habitat variables at different spatial scales, as quality of surrounding habitat can greatly influence bat populations. We highlight the importance of taking a holistic approach when concluding species' preferences for certain environments (paved roads) and the conservation implications of such statements as they can influence future mitigation strategies.

POSTER PRESENTATION

STAYCATION OR VACATION? LOOKING FOR SIGNS OF MIGRATION IN LEISLER'S BATS IN IRELAND

Paul Scott: Nathusius' Pipistrelle Working Group, pscott60@gmail.com

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Caroline Shiel: Bat Conservation Ireland, carolines@batconservationireland.com

Anna Collins: Kildare Bat Group, kildarebatgroup@gmail.com

Research into bat migration routes in Europe has typically focused on three common migrating bats: Nathusius' pipistrelle, Noctule bat and Leisler's bat. Two of these species are resident bats in Ireland with the Irish Leisler's bat population considered to be of international importance.

Project Icarus Ireland was undertaken in 2024 to target the potential for migratory behaviour amongst Leisler's bats. Research undertaken previously in 2023 at the Max Planck Institute of Animal Behaviour involved tracking several individual Leisler's bats in continental Europe. These bats were caught and small "Tinyfoxbatt" transmitting tags attached to them to allow tracking using the passive Sigfox network. The results were groundbreaking in that they demonstrated transboundary scale movements across continental Europe.

The topic of offshore movements of bat species has become particularly pertinent in the light of several proposals for offshore wind energy development off the east and south coast of Ireland. Surveys undertaken to inform the environmental impacts of these proposed developments have recorded Leisler's bats several kilometres offshore.

A pilot project designed to replicate the European tracking surveys took place in Ireland in late summer 2024 and was followed up by tracking of more Leisler's bats captured on the east coast of Ireland in 2025. The result of the research showed no evidence for migration but did provide useful data on the scale of short-term migratory movements for this species. In both 2024 and 2025, a small number of the tagged bats undertook movements of a regional-scale across several counties in a short period of time. Other bats remained in small foraging areas. Whilst the results suggested that this species prefers an Irish 'staycation', it does not rule out foraging flights far out to sea.

SPEED PRESENTATION

ACHIEVING HARMONY IN THE SHADOWS: A FREE STANDING BAT TUNNEL TO PROTECT BATS FROM BARN OWLS

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Jessica Burkitt: National Parks and Wildlife Service, Killarney National Park, Jessica.Burkitt@npws.gov.ie

Bats such as lesser horseshoes (LHBs) have evolved to be wary of potential predators such as barn owls. Barn owls moved into a lesser horseshoe bat roost in a church in County Kerry in 2015 when the roof lost slates and LHB numbers started to decrease. Both species are protected. The building, constructed in the 1880s, is of regional interest for architectural, artistic, historical and social reasons.

Roof works were undertaken in 2020-21 to accommodate both species and, while the owls continued to rear owlets, LHB numbers did not recover to pre-2015 levels. Bats use the projecting porch on the north side and the sacristy projection at the south, while owls use altar and nave orientated from east to west.

With help from colleagues and the Vincent Wildlife Trust, we designed distinct areas for each species and installed a free-standing wooden tunnel through the nave to connect the north and south projections to separate owls from entering bat areas. This was put in place at the end of 2023.

During Summer 2024, 59 bats were recorded while 85 bats were recorded in 2025. The barn-owl family had 4 owlets in summer 2024 and 3 owlets in 2025.

POSTER PRESENTATION

DO CHRISTMAS CALORIES COUNT? INVESTIGATING THE WINTER AND SPRING DIET OF THE LESSER HORSESHOE BAT (RHINOLOPHUS HIPPOSIDEROS) ACROSS ITS CURRENT DISTRIBUTION IN IRELAND

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Allan McDevitt: Atlantic Technological University Galway Road, allan.mcdevitt@atu.ie

Across its distribution in Ireland, the Lesser Horseshoe Bat (LHS) can be active during the winter and spring. This may have a high energy cost versus longer periods of torpor/hibernation in colder months. Longer periods of activity may become more common as our climate changes. There remain gaps on the dietary and foraging preferences of LHS in these months.

This study looks to address these gaps by utilising genetic techniques to allow a comprehensive overview of prey selection by the species, generally classed as an opportunistic generalist. Using DNA extracted from faecal samples, dual primer metabarcoding allows for wider taxon detection and reduces biases associated with hard-part analyses.

Seven locations, totalling 10 roosts, were sampled over the periods of November/December 2024 and February/March 2025. This sampling encompasses the current distribution of the species in Ireland across different seasonal sampling periods. This allows for further analysis of data using seasonal and landscape variables to explain prey selection.

This data generated by this project will be discussed on how it can inform conservation plans and ecological works. It will be compared to recent international work, and future work will be discussed.

STANDARD ORAL PRESENTATION

DOES STATIC DETECTOR SETUP AFFECT DETECTION RATES OF LESSER HORSESHOE BATS ACROSS HABITAT TYPE?

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In recent years, the use of static detectors has become the standard technique for monitoring bat activity for industrial and academic work. Best practice has been developed for bat monitoring techniques, but personalised adaptations in setup and deployment for monitoring Lesser Horseshoe Bats (LHS) are common. Anecdotal reasons often cited include difficulty in detection, directionality of calls and behaviour of the species.

In 2024, 16 Wildlife Acoustic SM4 detectors were placed in a 4x4 grid at ~10m distance to ascertain capabilities of static detectors for recording LHS activity and assess effectiveness of detection of static detectors. Additionally, the study made use of the landscape to monitor LHS activity across an ecotone using static detectors to show LHS activity in different habitat types and optimal static detector setup for recording in each habitat type.

This talk will discuss data generated, further unsuccessful attempts at standardising deployment methodology for LHS monitoring and future work planned. Insights from this study will be shared, with some points for considerations when monitoring LHS activity in future.

SPEED PRESENTATION

ROOSTING IN A NOISY WORLD – DOES SOUND MATTER?

Christina R. Stanley: University of Chester, christina.stanley@chester.ac.uk

Could you sleep through a neighbour's house party? Some bats appear to manage just that, tolerating noisy neighbours and even choosing to raise their young in roosts we'd consider "disturbed". The potential impacts of noise on bats have received significantly less attention than that of artificial light at night, for example, especially in terms of its effects on roosting bats. We sometimes assume that if the bats choose to stay, the noise isn't an issue. But is that assumption valid?

My team and I have been exploring the effects of anthropogenic noise on lesser horseshoe bats *Rhinolophus hipposideros* in North Wales by studying ten maternity roosts across a gradient of disturbance levels. To do this, we deploy passive acoustic recorders both inside and outside roosts, also using camera traps to record bats' behaviour whilst in the roost. We concurrently sample roost-level stress hormones, allowing us to understand the impact of noise on physiology. Interesting patterns are emerging, for example unpredictable noise appears to be important, and we're seeing behaviours that haven't previously been described in this species.

My work on lesser horseshoes follows previous research on a very different bat – the Livingstone's fruit bat *Pteropus livingstonii* – in captivity. We used similar behavioural and physiological methods to study sociality in this species, demonstrating the value of their social bonds by showing that adults with high quality, positive relationships had lower stress levels than those who frequently moved between social groups. This work was carried out primarily to inform welfare-friendly captive management. But what about welfare in wild bats?

In this talk, I'll discuss the concept of wild bat welfare, informed by early results from our lesser horseshoe project. I'll also be asking for your input, as bat experts and enthusiasts, to help shape our ongoing work.

KEYNOTE PRESENTATION

COMPARATIVE ANALYSIS OF miRNAS AND THEIR ROLE IN LONGEVITY OF BATS

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Ageing is a major risk factor for cancer, neurodegeneration, and cardiovascular disorders, yet the molecular mechanisms that modulate healthy ageing remain poorly understood. Bats are exceptional among mammals because many species exhibit extended healthspans, limited senescence, and remarkably low tumorigenesis relative to their body size. MicroRNAs (miRNAs), key post-transcriptional regulators of gene expression, have been implicated in ageing and longevity in model organisms, but their role in the extreme longevity of bats has not been explored. Here, we present the first comparative analysis of age-associated miRNA expression in wild long-lived and short-lived bat species.

We sampled known-aged individuals from three phylogenetically distinct species (*Myotis myotis*, *Rhinolophus ferrumequinum*, and *Phyllostomus discolor*) selected to span a longevity spectrum. Non-lethal wing biopsy punches were collected from young, middle-aged, and old cohorts in each population, and miRNA profiles were generated using miRNA-seq. Within each species, we identified miRNAs whose expression changed significantly across ageing cohorts and evaluated their association with extended healthspan. We then compared miRNA trajectories across species to identify conserved and lineage-specific ageing signatures.

Preliminary analyses reveal shared age-associated shifts in several miRNA families across bats, alongside species-specific regulatory patterns that may reflect divergent life-history strategies. These findings highlight miRNA regulation as a potentially important component of bat longevity and provide a foundation for identifying bat-specific miRNA pathways that may contribute to their resistance to age-related decline. Ongoing work will integrate these results with genomic and comparative mammalian datasets to elucidate the evolutionary and functional significance of bat miRNA ageing signatures.

STANDARD ORAL PRESENTATION

THE LESSER HORSESHOE BAT - MAPPING LANDSCAPE CONNECTIVITY TO FACILITATE SPECIES RECOVERY AND EXPANSION IN IRELAND

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Niamh Roche: Bat Conservation Ireland, niamhr@batconservationireland.org

The lesser horseshoe bat is restricted to six western counties from Mayo to Cork on the island of Ireland and is the only Irish bat included under Annex II of the Habitats Directive. The species is particularly susceptible to changes in agricultural practices and the expansion of urbanisation. Genetic research has highlighted that the population now consists of four isolated sub-populations, and unless steps are taken to reverse or halt this isolation, the fragmentation of populations places this species at risk of localised decline and extinction.

Here, we present the results of a new study on landscape permeability for the lesser horseshoe bat throughout its range by identifying pathways that link known roosts with areas that may contribute towards the recovery and range expansion of the species. We used a two-scale approach for this study. First, a national scale approach based on habitat suitability models and roost locations providing a broad, big-picture perspective on lesser horseshoe bat conservation, followed by higher resolution models in localised key areas. These models were performed in two areas (central-north Galway and Kerry-Cork-Limerick) to assess connectivity between populations; and then two extra areas where we anticipated potential range expansion (south-central Mayo and east Clare/south Galway/north Tipperary).

Overall, the findings from these models can be used to prioritise locations for focused field surveys to confirm species presence and assess population status. The analysis also highlights landscapes where habitat enhancement—via suitable agri-environment, forestry schemes or natural succession—and the reduction of movement barriers would most effectively improve connectivity, while identifying areas where existing habitat may be insufficient.

STANDARD ORAL PRESENTATION

INTEGRATING ALAN IN LANDSCAPE SCALE CONSERVATION OF LESSER HORSESHOE BATS IN IRELAND

Patrick Wright: Wright Wildlife Consultancy. patrick@wrightwildlife.com

Kate McAney: Vincent Wildlife Trust. kate.mcaney@vwt.org.uk

Ensuring the ability of light sensitive species to move through a highly anthropomorphic modified landscape is critical for their long-term survival. The lesser horseshoe bat (*Rhinolophus hipposideros*) is restricted to six western counties from Mayo to Cork in the Republic of Ireland and is the only Annex II bat species in the country. It is extremely photophobic, but has strong positive associations with linear landscape features, broadleaf woodland and riparian vegetation. These characteristics make it particularly susceptible to the expansion of urbanisation and changes in agricultural practices.

Our study was commissioned by Galway City Council in 2022 who wished to identify potential wildlife pathways and barriers to movement within and around the city due to the extent of artificial light at night (ALAN) within this large urban area. We used high-resolution landscape modelling (15m) to identify the potential pathways and barriers to movement. For this, we used five environmental variables which were then combined into a single resistance surface with values corresponding to the impact the landscape has on movement of bats. We then used the software Circuitscape to examine functional connectivity. We also tested how removing specific streetlights affected functional connectivity.

Lesser horseshoe bat movement is likely to be restricted to a narrow pathway along the northern edge of Galway city. It is therefore critical that to retain it to allow connectivity between populations east and west of Lough Corrib. Street lighting had the strongest impact on the species' ability to move through the landscape, and the removal of targeted lights increased in connectivity.

POSTER PRESENTATION

WORKSHOPS SUNDAY MARCH 22ND 2026

DARK SKY FRIENDLY LIGHTING

Kerem Asfuroglu: Dark Source, kerem@dark-source.com

This workshop begins with a short presentation introducing dark sky–friendly lighting principles, supported by practical project precedents. The main workshop session will then explore both immediate, practical interventions and longer-term strategic approaches to reducing light pollution and protecting biodiversity. Participants will be empowered through exposure to a spectrum of solutions—from cutting-edge lighting technologies to simple, effective retrofitting methods—while also demonstrating how strategic planning and cross-disciplinary coordination can enable meaningful, lasting change.

OPTIMISING THE VALUE OF STATIC SURVEILLANCE FOR ROUTINE BAT SURVEYS.

Tina Aughney: Bat Eco Services Limited, tina@batecoservices.com

The deployment of static bat detectors is an integral part of data gathering for bat surveys. In the context of overall bat surveys – statics can help to “establish species richness, provide a measure of relative abundance and establish the importance of different landscape features to bats” Collins (2023). When designed carefully, static surveillance, can provide great insight into the composition of local bat populations.

There are many elements involved in a bat survey that all involve expensive equipment and precious time, particularly under the constraints of the survey season. Therefore, as bat ecologists, we need to ensure that every step of a bat survey, including deployment of static detectors, is optimised for time and cost.

This workshop aims to provide strategies on the deployment of static detectors and how to use statics detectors to provide greater insight into nightly activities of bats. This will be followed by guidance on the analysis and presentation of the data gathered to insure that the value of survey is fully represented in reports.

BATS AND TREES

David Clarke: Bat Conservation Ireland, davidc@batconservationireland.org

Surveying trees for bats is probably one of the trickier types of bats surveys there is. Trees are complex, difficult to see in their entirety and are full of nooks and crannies that bats can potentially use as roosts. When it comes to works around trees, it can be difficult to know where to start to ensure that adequate measures are being taken to uphold the legislation in relation to protecting bats and their roost spaces.

This workshop will explore how to deal with tree surveys for bats in line with the best guidelines and practices available. We will primarily focus on conducting ground level tree assessments, learning how to identify some of the most common potential roost features present in trees

including some of the more often overlooked features such as ivy cover. We will also cover other considerations including desktop surveys, equipment needed and more advanced survey techniques when it comes to monitoring bats in trees effectively and lawfully.

BATS & AERIAL THERMAL SURVEYS

Giles Coe: Co-ecology, giles@co-ecology.co.uk

Giles from Co-ecology will present an overview of their survey work involving the use of drone mounted thermal sensors to detect and monitor bat roosts. Eponymously titled Bats & Aerial Thermal Surveys, the workshop introduces a novel technique designed to improve both the accuracy and efficiency of bat surveys by using the unique aerial perspective of a drone to observe parts of a building that are not visible from the ground and to record more than one elevation at a time. Co ecology trialled this approach across a full survey season in 2024 before launching it as a commercial service in 2025.

The workshop will cover the operational requirements governed by the UK's Civil Aviation Authority, including pilot training, commercial authorisation, and the checks and balances needed when operating larger drones close to people and infrastructure. It will also briefly outline current drone operational requirements in the Republic of Ireland and upcoming Europe wide regulatory changes. Giles will provide an overview, supported by case studies, on how to design and undertake surveys using this technology, as well as the practicalities of conducting night flights for bat work.

An essential component of this technique is pairing drone use with automated analysis of the recorded thermal video. The workshop will explore the software and analysis provided by Wildlife Imaging Systems and the opportunities and constraints it presents. The session will include time for questions on any aspect of drone use and will invite participants to share feedback and their own experiences.

ENHANCING BAT ECOLOGY AND MONITORING WITH ECOLOGY DOGS: BEST PRACTICES AND GUIDANCE

Caroline Finlay: Board member of the Ecology Detection Dog Working Group, caroline@cddni.com

Cathal Bergin: Board member of the Ecology Detection Dog Working Group, info@ddci.ie

Ecology detection dogs are increasingly recognised as valuable resources in ecological research and wildlife conservation, particularly for locating bat carcasses beneath turbines. The effectiveness of detection dog teams hinges on sound methodology and well-informed decision-making during their deployment.

The Ecology Detection Dog Working Group was established in 2019 in response to the growing interest and application of detection dogs in ecology and conservation. It has since evolved into a thriving membership organisation comprising around 100 members. These members include professional handlers, dog trainers, ecologists, researchers, and individuals with a shared passion for conservation detection dogs. Our mission is to advance knowledge and raise awareness about the vital role detection dogs play in ecological and conservation efforts.

In this workshop, we will showcase recent advancements in the field, drawing on findings from two key publications from the research theme of the working group. The first, “Variables Affecting Conservation Detection Dog Efficacy: A Checklist for Methodologies” is based on a peer-reviewed paper and provides an evidence-based framework to optimise detection dog performance. It outlines crucial factors such as handler-dog training, environmental conditions, and study design considerations. The second, “Key Questions When Selecting a Conservation Detection Dog Team” will offer practical advice for researchers and practitioners to navigate the contracting process, ensuring alignment of project goals with team expertise. This workshop hopes to provide a solid baseline and skills to allow attendees to go forward and feel confident when engaging dog teams in the future.

WHAT’S NEW FROM WILDLIFE ACOUSTICS

Paul Howden-Leach: Wildlife Acoustics, paulhl@wildlifeacoustics.com

Introducing Wildlife Acoustic’s exciting new wildlife sound recorder, the SM5BAT, this session will cover hardware, accessories and configuration. The feature-packed SM5BAT is our most advanced recorder yet. We’ll talk about how it compares with the familiar SM4BAT, as well as the newer SMART System, an active curtailment system for bats at wind turbines and the Song Meter Mini2/Micro2 family. Plus there will be a preview of what else is in development at Wildlife Acoustics.

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Full details available at:
www.batconservationireland.org/event/11th-irish-bat-conference

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