2025

Gamekeeper's Lodge, Ballynabrock, Wicklow Mountains National Park, Co. Wicklow – Derogation Licence Supporting Information Report

Bat Eco Services Limited

Bat Eco Services Limited, Ulex House, Drumheel, Lisduff, Virginia, Co. Cavan. A82 XW62.

Licensed Bat Specialist: Dr Tina Aughney [redacted]
NPWS licence C17/2023 (Licence to handle bats, expires 23rd January 2026);
NPWS licence 017/2025 (Licence to photograph/film bats, expires 31st December 2025);
NPWS licence DER/BAT 2025-171 (Survey licence, expires 31st December 2025).

Statement of Authority: Dr Aughney has worked as a Bat Specialist since 2000 and has undertaken extensive survey work for all Irish bat species including large scale development projects, road schemes, residential developments, wind farm developments and smaller projects in relation to building renovation or habitat enhancement. She was a monitoring co-ordinator and trainer for Bat Conservation Ireland for 20 years. She is a co-author of the 2014 publication *Irish Bats in the 21st Century.* This book received the 2015 CIEEM award for Information Sharing. Dr Aughney is a contributing author for the Atlas of Mammals in Ireland 2010-2015. She is a trained bat handler, bat ringer and radio-telemetry project manager. She is a member of the Nathusius' Pipistrelle Working Group and the Cavan Bat Group.

All analysis and reporting is completed by Dr Tina Aughney. Data collected and surveying is completed with the assistance of trained field assistants. Mr. Shaun Boyle (Field Assistant) NPWS licence DER/BAT 2025-172 (Survey licence, expires 31st December 2025). Ms. Eva Boyle (Field Assistant) NPWS licence DER/BAT 2025-173 (Survey licence, expires 31st December 2025). Both field assistants have received in-house training to undertake all elements of bat surveying according to Collins (2023).

Client: NPWS Wicklow Mountains National Park.

Project Name & Location: Gamekeeper's Lodge, Ballnabrock, WMNP, Co. Wicklow.

Report Revision History

Date of Issue	Draft Number	Issued To (process of issuing)
14th October 2025	Draft 1	By email to client
18th October 2025	Final	By email to NPWS

18th October 2025

To whom it may concern:

The following is a report is prepared to support the application for Derogation under the European Communities (Birds and Natural Habitats) Regulations 2011-2021.

On behalf of the client, NPWS Wicklow Mountains National Park, Bat Eco Services Limited are applying for a derogation to undertake renovation of a building recorded as a bat roost. The report was prepared, according to NPWS guidelines.

If you require any further information, please do not hesitate to contact me.

Yours sincerely,

Dr Tina Aughney

Contents

1. Introduction

1.1 Objective of Proposed Works

The following are the objectives of the proposed works:

- Preserve the original footprint of Gamekeeper's Lodge;
- Renovate the original footprint of Gamekeeper's Lodge into a functional space that is suitable for accommodation for NPWS staff;
- Construct additional spaces to support the future function of Gamekeeper's Lodge
- Conserve and increase the biodiversity function of Gamekeeper's Lodge.

1.2 Ecological Team

In preparation for this report, an array of surveys have been undertaken in 2025. These surveys were completed by Bat Eco Services Ltd., under the guidance of the principal bat specialist, Dr Tina Aughney.

Dr Aughney has worked as a Bat Specialist since 2000 and has undertaken extensive survey work for all Irish bat species including large scale development projects, road schemes, residential developments, wind farm developments and smaller projects in relation to building renovation or habitat enhancement. She was a monitoring co-ordinator and trainer for Bat Conservation Ireland for 20 years. She is a co-author of the 2014 publication *Irish Bats in the 21st Century.* This book received the 2015 CIEEM award for Information Sharing. Dr Aughney is a contributing author for the Atlas of Mammals in Ireland 2010-2015. She is a trained bat handler, bat ringer and radio-telemetry project manager. She is a member of the Nathusius' Pipistrelle Working Group and the Cavan Bat Group.

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2. Background Information

2.1 Location & Ownership

Gamekeeper's Lodge is managed by NPWS and it is located in Coronation Planation, a parkland habitat of primarily Scot's Pine trees. The River Liffey flows along the boundary of the site. While the landscape is an open woodland landscape, it is highly connected landscape to woodland and forestry plantation located north-west of the Lodge.

The building is a single storey structure with three extensions (added in the 1990s). There is a corrugated roof with attic spaces.

Plate 1a: View of front of Gamekeeper's Lodge, Co. Wicklow

Plate 1b: View of rear of Gamekeeper's Lodge, Co. Wicklow

2.2 Proposed Works

It is proposed to renovate Gamekeeper's Lodge to provide accommodation for regional NPWS staff. These works will involve the following:

- Retain original footprint of the Lodge;
- Demolishment of front porch, rear porch and freestanding stone walls form the side yard and roofless enclosures to the rear;
- Construction of gable shed;
- Reroofing of existing portion of the Lodge;
- Construction of new accommodation wing.

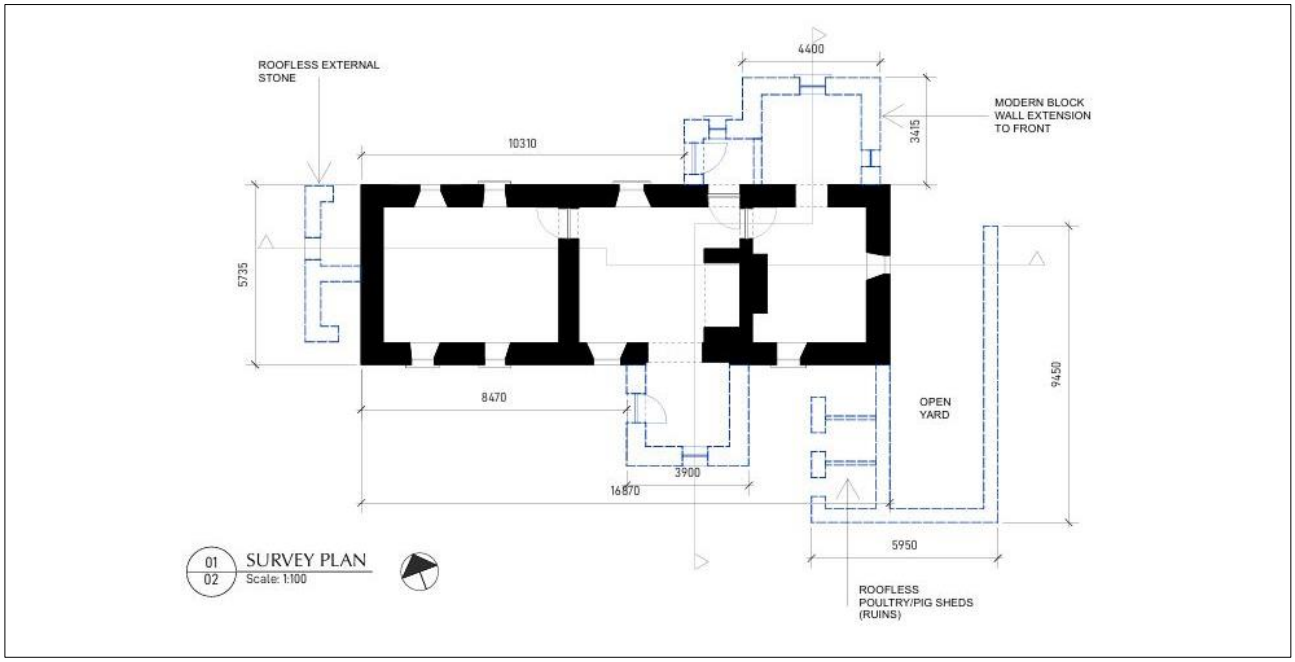

Figure 1a: Current layout of Gamekeeper's Lodge with sections proposed to be demolished shown in blue and original footprint of Lodge shown in black.

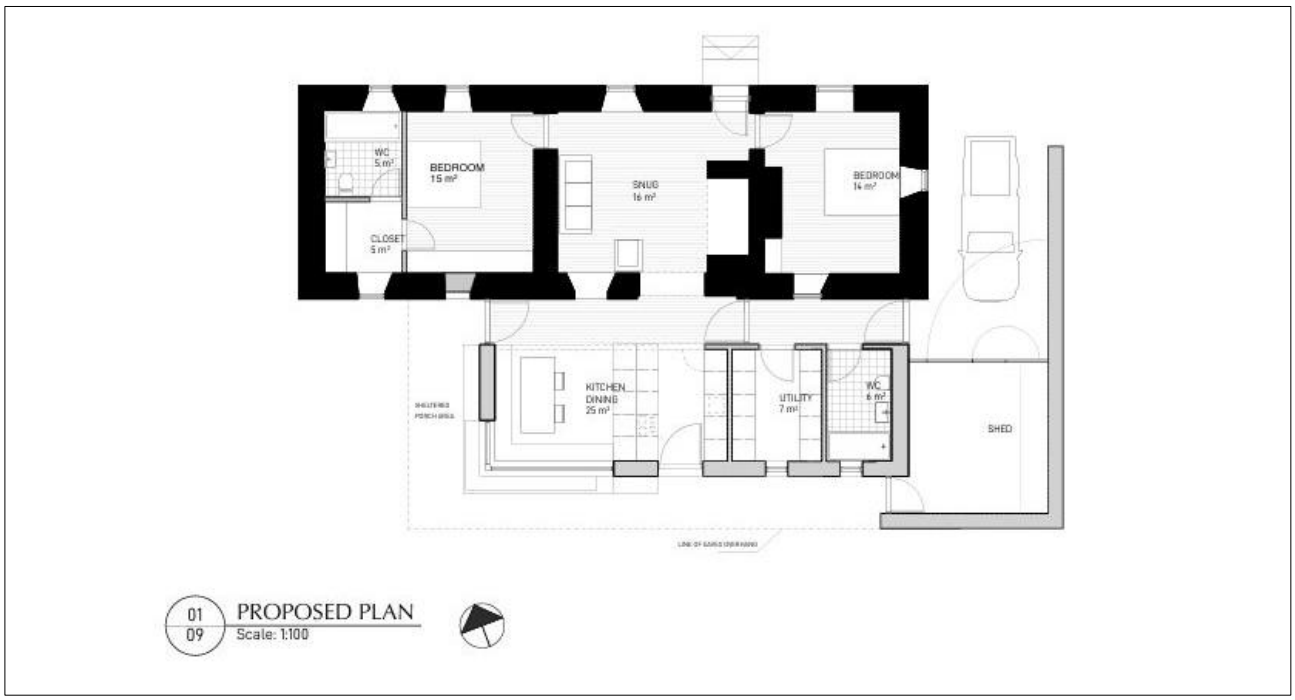

Figure 1b: Proposed layout of Gamekeeper's Lodge with original footprint of Lodge shown in black and new sections shown in grey.

3. Ecological Surveys

3.1 Pre-existing Information

This structure is monitored by NPWS for Bat Conservation Ireland under the Irish Bat Monitoring Programme (Brown Long-eared Bat Roost Monitoring Scheme, Site Code 2128) and has had annual surveys completed in the summer months since 2013. A total of 31 surveys have been completed and the results of these are presented below. The survey count is variable, ranging from 7 individuals to 42 individuals over the years.

Table 1: Total number of brown long-eared bats recorded by the Brown Long-eared Roost Monitoring Scheme (Source: BCIreland database and NPWS survey records).

BCIreland Site Code No.	Date	Count	Type of count
2128	14/05/2013	14	External
2128	19/06/2013	24	External
2128	13/05/2014	14	External
2128	02/07/2014	37	External
2128	25/05/2015	12	External
2128	02/07/2015	30	External
2128	20/08/2015	25	External
2128	22/06/2016	24	External
2128	13/08/2016	22	External
2128	16/05/2017	14	External
2128	31/08/2017	35	External
2128	31/05/2018	33	External
2128	26/07/2018	16	External
2128	20/08/2018	17	External
2128	20/05/2019	19	External
2128	27/06/2019	35	External
2128	23/08/2019	29	External
2128	13/06/2020	14	External
2128	28/07/2020	29	External
2128	22/08/2020	23	External
2128	25/05/2021	20	External
2128	13/07/2021	10	External
2128	23/08/2021	12	External
2128	09/06/2022	15	External
2128	27/07/2022	30	External
2128	24/08/2022	42	External
2128	25/05/2023	7	External
2128	11/07/2023	7	External
2128	11/06/2024	19	External
2128	30/07/2024	14	External
2128	31/08/2024	20	External

NPWS Regional staff undertake the annual roost counts and indicated that the exit point for the brown long-eared bat is a gap over a window of the front porch extension (Plates 2a, 2b).

Plate 2a: External view of record exit point for brown long-eared bats roosting Gamekeeper's Lodge, Co. Wicklow (Source: NPWS Regional Staff).

Plate 2b: Internal view of record exit point for brown long-eared bats roosting Gamekeeper's Lodge, Co. Wicklow (Source: NPWS Regional Staff) through gap above the window boards.

3.2 Status of bat species recorded

A brown long-eared bat roost was recorded in the structure during bat surveys completed (more information presented below). The conservation status of this species is as follows:

Brown long-eared bat

- Brown long-eared bat is an Annex IV bat species under the EU Habitats Directive. The status of this bat species is listed as Least Concern. The national brown long-eared bat population is considered to be stable (Aughney *et al.,* 2021).
- The modelled Core Area for brown long-eared bat is a relatively large area that covers much of the island of Ireland (49,929 km^2). The Bat Conservation Ireland Irish Landscape Model indicated that the brown long-eared bat habitat preference is for areas with broadleaf woodland and riparian habitats on a small scale of 0.5km emphasising the importance of local landscape features for this species (Roche *et al.,* 2014).
- The population estimates (2023 figures) indicates that population is between 65,200 and 102,000 individuals and this this represents a 5.18% increase compared to 2012 population estimates (Roche & Langton, 2024).

The overall trend for the national population of brown long-eared bat in Article 17 reporting (NPWS, 2019) is as follows:

- Range = Favourable
- Population = Favourable
- Habitat for species = Favourable
- Overall Assessment of Conservation Status = Favourable
- Overall trend in Conservation Status = Stable

Principal concerns for brown long-eared bats are poorly known in Ireland, but those that are relevant for this survey area are as follows:

- Selection of maternity sites is limited to specific habitats;
- Lack of knowledge of winter roosts;
- Loss of woodland, scrub and hedgerows;
- Tree surgery and felling;
- Increasing urbanisation; and
- Light pollution.

In County Wicklow, the following map presents the widespread distribution of known brown long-eared bat records. This species of bat is associated with woodland and parkland habitat. As a consequence, there is a large are in the centre of the figure where there are no brown long-eared bat records and this coincides with the uplands of Wicklow Mountains National Park.

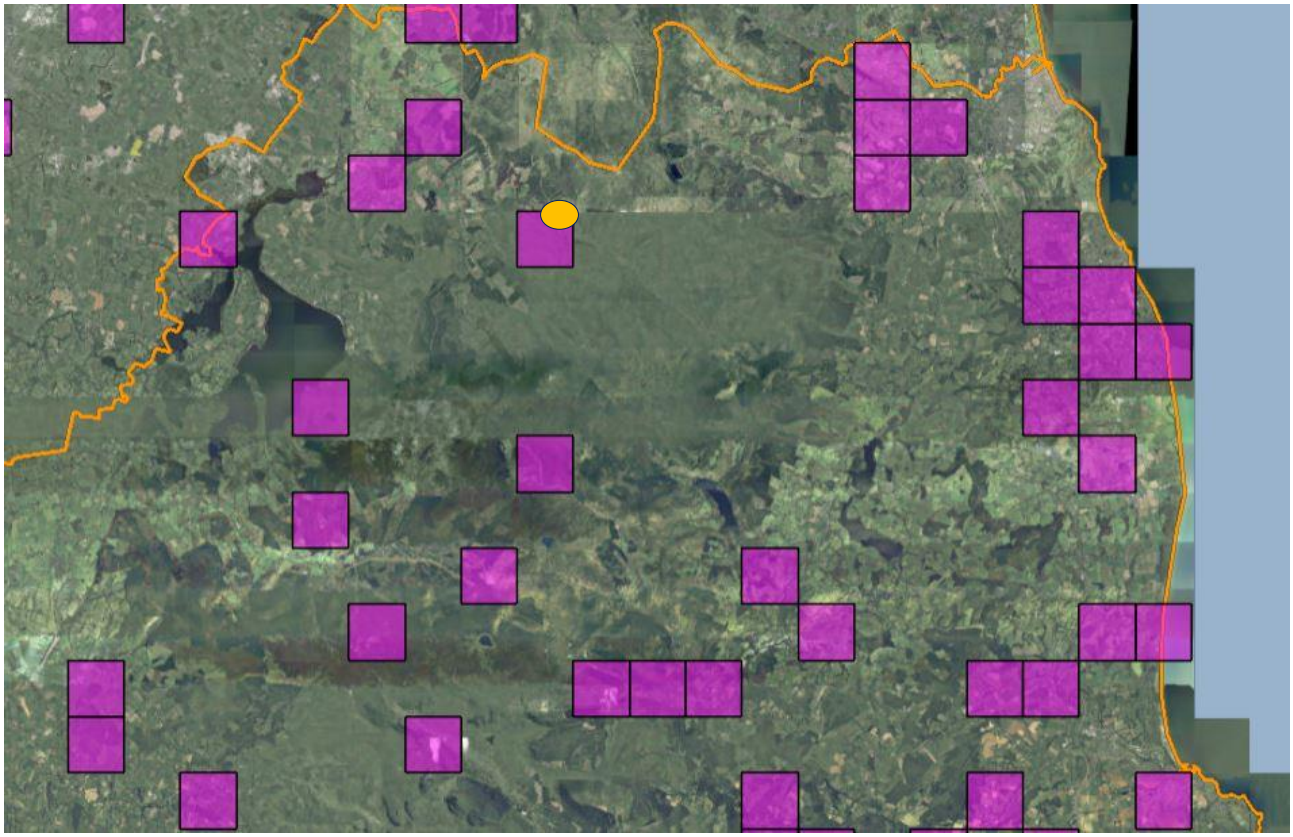

Figure 2: Distribution at the 1km level of known brown long-eared bat records for north County Wicklow (orange boundary line) Source: NBDC. Orange Circle – location of Gamekeeper's Lodge.

3.3 Description of Survey Area

Gamekeeper's Lodge is located in Coronation Planation, a parkland habitat of primarily Scot's Pine trees. The River Liffey flows along the boundary of the site. While the landscape is an open woodland landscape, it is highly connected landscape to woodland and forestry plantation located north-west and east of the Lodge.

3.4 Survey Methodology

The following handheld bat detectors were used:

Surveyor 1: Anabat Walkabout Full Spectrum Bat Detector
Surveyor 2: Anabat Scout Full Spectrum Bat Detector

The Night Vision Aids (NVAs) were used to support dusk and dawn surveys. The following NVAs were used (coupled with Anabat Scout Full Spectrum Bat Detector):

Guide TrackIR Pro25 thermal imagery scope
Flir Scion OTM255 thermal imaging scope
HikMicro thermal imagery scope

3.4.1 Dusk & Dawn Bat Surveys

Dusk surveys started by 15 minutes prior to sunset and were undertaken for a minimum of 2 hours of surveying. Dawn surveys were started 100 minutes prior to sunrise and for a minimum of 2 hours. Surveys were completed during mild and dry weather conditions with air temperature of >8oC.

All audio files recorded by full spectrum bat detectors were analysed using Wildlife Acoustics Kaleidoscope Pro and validation of bat records was completed by the principal bat surveyor prior to mapping. This data was then entered onto an Excel file for mapping.

All filming was watched post surveys and any emerging bats were noted and compared to audio recordings also recorded by surveyors. Surveying was completed according to Collins (2023).

3.4.2 Daytime Inspections

The internal ground floor space and accessible attic was inspected using a high-powered torch on the following dates: 20th February, 1st and 2nd July 2025.

3.4.3 Static Surveillance

Static bat surveys involved leaving a static bat detector unit (with ultrasonic microphone) in a specific location, set to record for a specified period of time (i.e. a bat detector is left in the field, there is no observer present and bats which pass near enough to the monitoring unit are recorded and their calls are stored for analysis post surveying). The bat detector was effectively used as a bat activity data logger. This results in a far greater sampling effort over a shorter period of time and increases the opportunity to record less common bat species as the units are set to continuously record ultrasonic noise, when triggered, from 30 minutes for sunset to 30 minutes after sunrise. Bat detectors with ultrasonic microphones were used as the ultrasonic calls produced by bats cannot be heard by human hearing.

The microphone of the unit was positioned horizontally to reduce potential damage from rain. The static units deployed use Real Time recording as a technique to record bat echolocation calls and using specific software, the recorded calls are identified. It is these sonograms (2-d sound pictures) that are digitally stored on the SD card (or micro SD cards depending on the model) and downloaded for analysis. These results are depicted on a graph showing the number of bat passes per species per night. Each bat pass does not correlate to an individual bat but is representative of bat activity levels. Some species such as the pipistrelles will continuously fly around a habitat and therefore it is likely that a series of bat passes within a similar time frame is one individual bat. On the other hand, Leisler's bats tend to travel through an area quickly and therefore an individual sequence or bat pass is more likely to be indicative of individual bats.

Recordings were analysed using Wildlife Acoustics Kaleidoscope Pro. Manual validation was undertaken by the principal bat specialist and the following rules were followed:

- Validation that the auto-id function was checked for at least 20% of *Pipistrellus* spp. and Leisler's bat calls apart from Nathusius' pipistrelle calls.
- All Nathusius' pipistrelles calls were manually verified. The reasoning for this is due to frequently misidentification of low 40kHz calls, by auto-id tools, as this species, which may in fact be low frequency common pipistrelle calls.
- All brown long-eared bat calls were manually verified. The reasoning for this due to frequently misidentification of social calls of *Pipistrellus* spp. frequently identified as this bat species.
- Manual verification of *Myotis* spp., where possible, to species level in order to increase the accuracy of the dataset. Where such calls cannot be identified to species level, they are reported as *Myotis* spp.
- Manual validation was undertaken for all "Unidentified" calls and for approximately 20% proportion of "Noise" calls.

Each audio file was noted as a bat pass to indicate level of bat activity for each species recorded. This was expressed as the average number of bat passes per survey night (no. of nights was the total number successful nights of deployment).

Table 2: Static Bat Detectors deployed during Static Bat Detector Surveys.

Static Unit Code	Bat Detector Type	Recording Function	Microphone
SM Mini Bat 1 Units	Wildlife Acoustics SongMeter Mini Bat 2 FS	Passive Full Spectrum	SMM-U2

Static surveillance consisted of static units deployed in Winter and Summer.

- Winter – 20th February to 7th March 2025 (3 units deployed inside Gamekeeper Lodge for 15 nights);
- Summer – 1st to 23rd July 2025 (2 units deployed, one unit in Gamekeeper Lodge (22 nights recording) and one unit in shed at St. Joseph's Lodge (8 24 hr period of recording).

3.5 Survey Results

3.5.1 Daytime Inspections

A single brown long-eared bat was recorded, in torpor, above the door frame during the February 2025 site visit. While there is evidence of an attic space for the entire main section of the building, only one attic space is accessible (farthest room to right when entering the building). In this section of the attic, the roof is felted but there is no insultation. This attic is shallow (approx. 1m from floor to ceiling). There is a wall that prevents access to other sections of the attic but there is a small gap around the rafters that would permit bat access (Plate 3c). Two additional rooms have access points that bats can use and bat droppings was evident below these points (Plates 3d & 3e).

Plate 3a: Single brown long-eared bat (in torpor) recorded during site visit (20/2/2025) to Gamekeeper's Lodge, Co. Wicklow

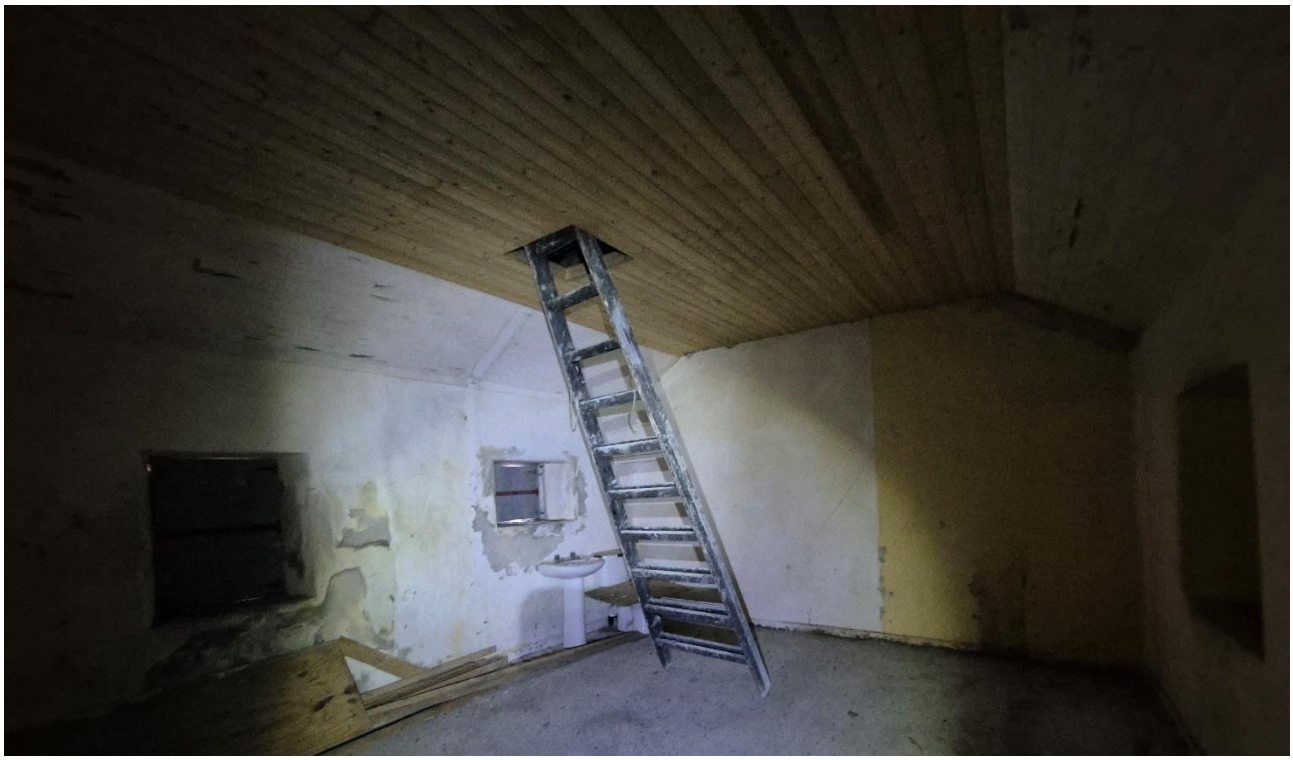

Plate 3b: Internal room of Gamekeeper's Lodge, Co. Wicklow with trap door access to attic (ladder in place during site visit).

Plate 3c: Accessible attic of Gamekeeper's Lodge, Co. Wicklow with internal wall and gap highlighted.

Plate 3d: Other potential bat access points to the attic of Gamekeeper's Lodge, Co. Wicklow with gap highlighted (room with fireplace).

Plate 3e: Other potential bat access points to the attic of Gamekeeper's Lodge, Co. Wicklow with gaps highlighted (room to left when first entering the building).

3.5.2 Dusk Survey 1st July 2025

The three thermal scopes were set up to cover the majority of the external walls of the building, while the two surveyors positioned themselves to cover the gaps in filming (weather conditions: Clear sky, dry, calm and 10oC). A single brown long-eared bat was recorded in a ground floor room prior to emergence. A second bat was recorded flying around the ground floor rooms during emergence and this bat emerged at 22:13 hrs. A third bat was then recorded preparing from emergence at 22:31 hrs. A total of six brown long-eared bats emerged during the dusk survey.

3.5.3 Dawn Survey 2nd July 2025

The three thermal scopes were set up inside the Lodge to record bat activity to determine potential roosting sites (weather conditions: Clear sky, dry, calm and 8oC). Two brown long-eared bats returned to the roost at 04:28 hrs while a third bat was already present in the roost space. Bats were recorded returning to the roost via the front porch window gaps, as shown in Plate 2a and 2b. No additional entry points were recording during the filming.

3.5.4 Static Surveillance Winter

During the site visit (20/2/2025), static bat detectors were deployed (coupled with trial cameras) to record any bat activity for a period of two weeks (collected on 7/3/2025).

One static unit (Static 35) was located in the room with fireplace. Three bat species was recorded on this under: brown long-eared bats, common pipistrelle and soprano pipistrelle (See Table A in Appendices). The time stamp indicates that a single brown long-eared bat was active on the night of 2/3/2025 and active prior to sunrise on 3/3/2025. This is likely to have been a single roosting individual recorded during the daytime inspection. The majority of the common pipistrelle bat passes recorded is likely to be a single bat that entered and explored the space on the 2/2/2025 but there is no corresponding morning activity until the 24/2/25. This species is likely to occasionally roost in the structure (i.e. Day roost). A single soprano pipistrelle briefly entered the space after midnight on the 7/3/2025 (i.e. Night Roost).

A static unit (Static 36) was placed in the accessible attic space. This recorded two species of bat: brown long-eared bat and common pipistrelle. A much greater level of brown long-eared bat was recorded and indicates that this is a roosting site for the species. Dusk and dawn activity for both species indicates roosting individual(s).

The third static unit (Static 39) was located in the room to the left hand side as you enter the building. This static recorded two bat species: common pipistrelle and soprano pipistrelle. The common pipistrelle activity is similar to that recorded on Static 35 while the single soprano pipistrelle call was recorded on the 20/2/2025 and may indicate that there was an individual roosting in the structure the night before and emerged at dusk on the date listed (Day Roost). No bat activity was captured on the trail cameras.

This winter survey was primarily to determine if bats use the building outside of the summer maternity season, which is well documented as a result of the annual monitoring surveys. While activity was recorded, as would be expected, a small number of bats roost in the structure during the winter months. The results confirm that the building is an occasional day roost for three species of bat: brown long-eared bat, common pipistrelle and soprano pipistrelle.

3.5.5 Static Surveillance Summer

During previous surveys of the Lodge with Enda Mullen (former NPWS), it was mentioned that brown long-eared bats regularly roost in the shed of St. Joseph's Cottage, a NPWS staff residence located 460m away. Therefore, as part of this survey, it was important to determine if this shed was potentially supporting the brown long-eared bat colony of the local area. This was also important in light of the low number of bats recorded in Gamekeeper's Lodge during the surveys and the fluctuating number of roosting bats recorded by the roost surveys for the Brown Long-eared Bat Roost Monitoring Survey. Static units were set up inside the lodge and inside the shed on the 1st July 2025. The unit in the lodge was set to record 30 minutes before sunset to 30 minutes after sunrise (21 nights) while the unit in the shed was set to 24 hr recording (8 nights). Both units were meant to be set to 24 hrs recording, therefore only brown long-eared calls recorded within 30 minutes before sunset to 30 minutes after sunrise are compared in the figure below.

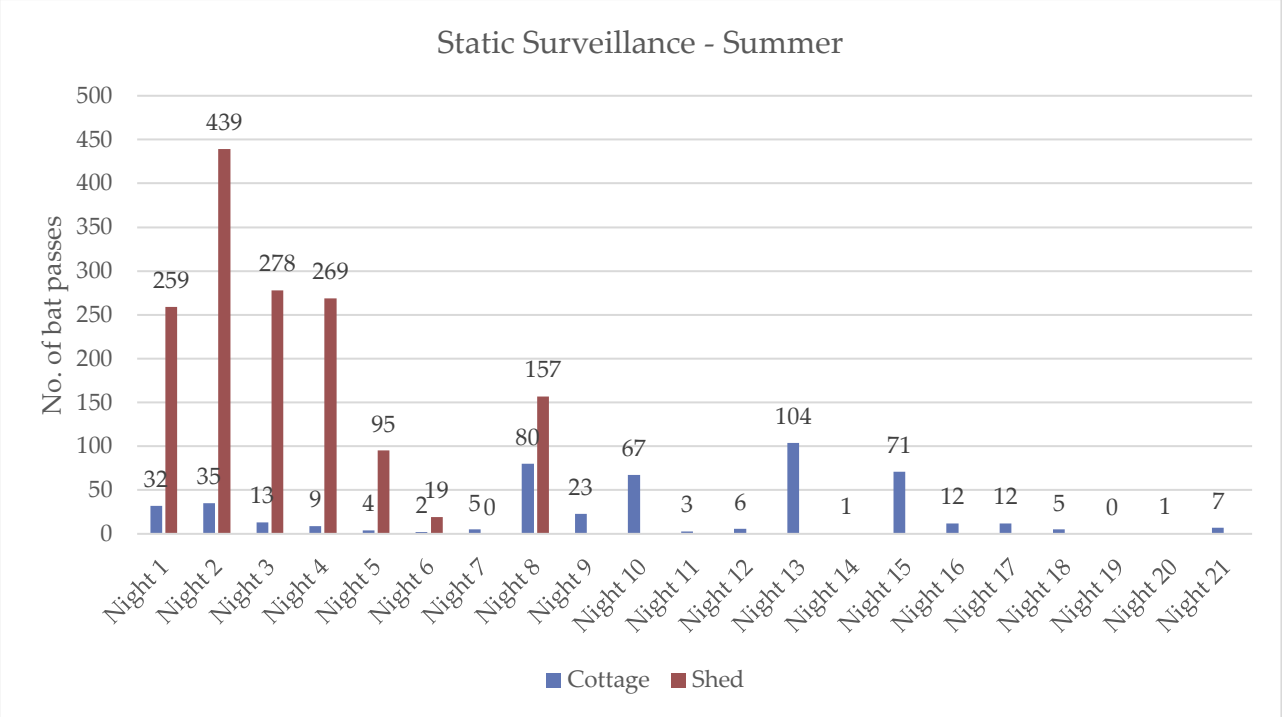

Figure 3: Number of brown long-eared bats recorded per night in Gamekeeper's Lodge and St. Joseph's Cottage shed.

The results of the static surveillance indicate that there is likely a greater number of brown long-eared bats roosting in the shed at St. Joseph's Lodge due to the much great number of bat passes recorded. While the bat passes is not indicative of individual bats it is a reflection of bat activity. But

the principal result of this static surveillance is that the shed is supporting the local brown long-eared bat population and therefore is an alternative roost during the proposed works for Gamekeeper's Lodge.

There was 183 bat passes on the static unit in the shed during the daytime recorded period may indicate active juvenile bats within the shed, supporting that the roost in the shed is an alternative roost supporting the local brown long-eared bat population.

The static surveillance of the lodge also recorded three additional bat species that occasionally roost in the lodge: common pipistrelle, soprano pipistrelle and Natterer's bat.

3.6 Population Size Class Assessment

Six brown long-eared bats were recorded emerging from Gamekeeper's Lodge. While this survey was undertaken in the summer months, the fluctuating number of bats passes recorded during the summer static surveillance recorded, it is considered that there is unlikely to have been a maternity roost this summer. But due to the annual records of brown long-eared bats roosting in the structure since 2013, the structure will be treated as a maternity roost for brown long-eared bats with a supporting alternative roost located in the shed at St. Joesph's Cottage. Gamekeeper's Lodge is also an occasional day roost for individuals of common pipistrelles, soprano pipistrelles and Natterer's bats.

4. Derogation Licence Application

Evidence to support the Derogation Tests

4.1 Test 1 – Reason for Derogation

In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.

REASON FOR DEROGATION – Imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment

The purpose of the proposed works are as follows:

- To preserve Gamekeeper's Lodge and to bring it back into use;
- To provide accommodation for NPWS regional staff;
- To increase the biodiveristy gains of the lodge.

These works will result in a temporary disturbance of brown long-eared bat colony roosting in the Lodge.

The proposed works will result in the following:

- Conservation and protection of Gamekeeper's Lodge for social gains as an example of built heritage;
- Increased biodiveristy conservation through the construction of a 'Bat Shed' and conservation of existing attic space as a bat roost, which will benefit the environment;
- Increased social benefit by providing much needed accommodation for NPWS staff within the WMNP.

The propsoed works will not result in the loss of the bat roost. Therefore it is considered that the Social, Economical and Biodiversity gains as a result of the proposed plans for Gamekeeper's Lodge are deemed important and out-weight the temporary distrubance of the exisiting bat roost.

To support the above statement, the following information was provided:

The following was provided by the architect team:

"A fundamental principle of good conservation to keep a building in use. The continued dereliction of this historic structure will only lead to further decay and its eventual loss. This will also mean that there is less habitat for bats.

Hunting and gamekeeper's lodges are found across Ireland and Britain on large landed estates. What is special about this lodge is that it belongs to the Devonshire estate belonging to the Earl of Blessington, where much of the built heritage has been lost. While at first glance it appears to be a traditional Irish or vernacular dwelling, closer inspection reveals finely dressed stone and an unusual corbelled chimney structure. The building is almost two hundred years old when traced through the Ordnance survey map series, but it is possibly older.

This historic dwelling requires conservation to prevent it from falling into further disrepair and needs refurbishment to make it habitable once more for the enjoyment of future generations£.

The following letter was provided by NPWS in relation to the rationale for the proposed works:

"Rationale for Gamekeepers Lodge project

The Gamekeeper's Lodge is situated in the Coronation Plantation, a Scot's Pine woodland, within the Wicklow Mountains National Park. The lodge was constructed as a dwelling house as part of extensive improvements to the expansive Downshire Estate in the late 18th or early 19th century. The building is annotated as the "Game Keeper's Lodge" on the 1st edition Ordnance Survey Ireland map. While we do not know who originally resided in the lodge, given the building's scale and formal entrance, visible from archival photographs, it would have been a building of some import. The Gamekeeper's Lodge is situated adjacent to the Coronation Plantation monument, a Protected Structure and distinctive granite obelisk, erected to commemorate the creation of the plantation in 1831.

The National Park is interested in protecting and celebrating its buildings of cultural and historical significance. Although the purpose of our National Parks is primarily to protect nature, in this instance, the physical and historical legacy of the estate lands are an integral part of the context and story of the Wicklow Uplands and the National Park.

While the main focus of the NPWS is on the natural heritage, the service also has responsibility for a large number of buildings, structures, gardens and sites, many of which are of historic interest and architectural heritage value. Some of these structures were previously associated with historic estates, a number of which have been incorporated into our National Parks. The buildings and structures are often located in areas of high ecological and scenic value and as such it is critically important that any repair or adaptation works on these places, or new structures emplaced at these sites, should be carried out to the highest conservation and design standards. Given the natural heritage focused work of the NPWS it is essential that all built heritage and new construction projects in the National Parks ensure that *all* aspects of the built and natural heritage are identified and sustained properly throughout every project.

It is the ambition of the NPWS that the refurbishment of its historic buildings should be carried out to the highest architectural conservation standards and will demonstrate how the conservation, adaptation and enhancement of our built heritage may be achieved with enhanced energy performance, carefully designed in the context of historic fabric. In tandem with realising ambitious climate action objectives, the NPWS is keen to demonstrate the role which high quality conservation-centred architectural design can have in transforming the condition, appearance, quality and living experience of these modestly scaled historic buildings, whilst simultaneously protecting the habitats of resident wildlife.

The State acquired the estate lands from the McEnery estate in the 1990's, this included several Lodges in various state of ruin. One of the Lodges, Joseph's Lodge, was restored by the OPW in the early 2000's. The Gamekeeper's Lodge was permanently inhabited until the mid-1980's and has since been maintained as a base for use by work crews and occasional overnight basic accommodation for Park staff. The architectural heritage value and quality of the building has been diminished by a series of poorly conceived alterations over many years. The current accommodation is of a very rudimentary standard, and the NPWS is concerned that leaving it in its current state will allow for further deterioration, impact adversely on the existing bat roost, eventually rendering it unusable. It is proposed therefore to refurbish and upgrade this building, making it fit for purpose, and in so doing conserve an important part of the Park's cultural heritage.

The desire to refurbish Gamekeepers lodge is primarily to protect it from further decline, however the building will be restored and adapted as a residence, primarily for much needed Ranger accommodation. NPWS has an urgent need for additional staff accommodation within the National Park. NPWS have several staff members who have joined in the last 18 months who are in tenuous rental agreements, some in sub-standard living conditions. NPWS has lost staff in the last year directly due to the lack of affordable housing in the area. Wicklow, by virtue of its location is in a prime city commuter location.

Rents here are extremely high, accommodation options are limited and mostly out of reach for NPWS staff on their current salaries. Having additional accommodation options in the Park would relieve some of the pressure, providing security to both staff and managers. Additionally having staff live in the Park is of extra benefit from a perspective of security and protection of the site.

The aspiration of this project is to sensitively restore a historic building to allow for comfortable, modern use whilst accommodating other species. It is intended that the repair and reimagining of the former Gamekeeper's Lodge should be a high quality model of how buildings such as these can be upgraded for contemporary living, while appropriately addressing the needs of resident wildlife including bats, thus allowing the space to be shared. The project will demonstrate that it is possible to live alongside nature without compromising the health and safety of the individuals residing there. The project is also intended to demonstrate the commitment of the NPWS to the sustainable management of its finite historic building stock.

The objective of this project is to conserve, repair and upgrade the historic Gamekeeper's Lodge using appropriate conservation repair techniques and materials, and applying appropriately considered environmentally sound technologies to improve its energy efficiency. A core ambition for the project is to develop a conservation-centred best practice case study for the conservation, thermal upgrade and sustainable adaptation of a modestly scaled vernacular type building. It is intended that the process of the design and specification of the works together with the implementation of the works on site, could be creatively utilised for educational purposes and dissemination."

4.2 Test 2 – Absence of Alternative Solutions

There are no other suitable alternatives to the proposed works.

Alternative Solution	Reasons for "Unsatisfactory"
Do-Nothing	This will cause the Lodge continuing to deteriorate, which will increase the health and safety concerns, reduce the suitability of the Lodge as a place of work support and reduce the suitability of the roof space as a bat roosting site.

There are no alternative solutions to the proposed works as the works proposed are required to ensure the safe stabilisation of the building, conservation of the building, continued use as a place of work to support local NPWS staff and to conserve the building as a bat roost.

4.3 Test 3 – Impact of a derogation on Conservation Status

4.3.1 Summary

Gamekeeper's Lodge was identified as a Maternity Roost for brown long-eared bats. The number of bats roosting in the Lodge is variable and therefore it is likely that the maternity status of the colony varies seasonally and maybe supported by the shed at St. Joseph's Cottage.

The proposed works may cause disturbance to roosting bats but it will not result in the loss of suitable roosting sites for bats as one of the primary considerations by NPWS is to ensure the bat roosting status of the lodge. Therefore, in consultation with the architect team and NPWS, an alternative roost will be constructed prior to renovation works, supervision of demolishment of the porches and walls will be undertaken and new bat access will be provided into the new roof space of the original section of the lodge post-works. In addition, the new slate roof coupled with bituminous felt, will provide a more stable roosting space in the attic for the local bat population.

The proposed works will be undertaken in three phases which will ensure that the alternative roost is constructed prior to roof works of the original footprint of the Lodge:

Phase 1 – construction of the New Shed, aka. “Bat Shed”, which will provide a roosting space for bats. The total volume of the “Bat Shed” is 48.7m^3 (roof space 19.2m^3 + ground space 29.5m^3). This phase will also include the demolition of the porches and walls.

Phase 2 - refurbishment of existing Lodge/lodge which will include a new slate roof, felt and attic space with bat access (Total Volume = 15m^3)

Phase 3 - extension to existing Lodge/lodge. This will not have alternative roosting space for bats as there will be no attic.

The proposed works will be timed to only cause a temporary disturbance for the brown long-eared bat colony and this disturbance will be during the autumn and spring months which are months when bats are moving from maternity sites to hibernation sites. Therefore, it is an ideal time of the bat annual season to undertake works when numbers roosting will be greatly reduced.

4.3.2 Conservation Status

The conservation status of this bat species is elaborated in Section 3.2. This species of bat is associated with woodland and treelined landscapes. It is a widespread bat species (Roche *et al.,* 2014). Therefore, the brown long-eared bat population is stable and widely distributed across County Wicklow.

The proposed works will ensure the long-term suitably of the building as a maternity colony for this species of bat and provide an alternative roosting space. The proposed works are temporary and therefore will have minimal disturbance for the bat colony. Therefore the proposed works will not impact on the national Conservation Status of this bat species.

4.3.3 Bat Mitigation Measures

The following work plan, with bat mitigation measures incorporated, will be followed under the supervision of Bat Eco Services Limited.

4.3.3.1 Phase 1 – Alternative Roosts

The Bat Shed will be constructed as part of Phase 1. This shed will incorporate a loft space suitable for brown long-eared bats and additional alternative roosting in the external walls in the form of bat tubes. The following drawing is a sketch of the proposed shed detailing the dimensions and loft space designed to provide a bat roost.

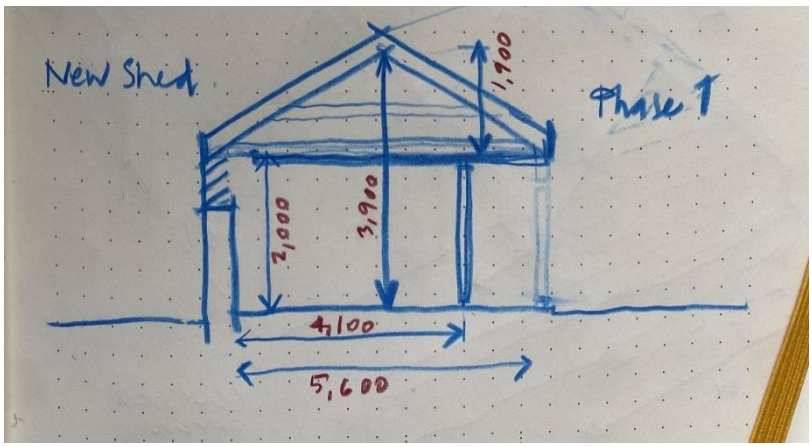

Figure 4: Architects sketch of proposed Bat Shed.

The Bat Shed will consist of a bat loft with bat access points. The Iron roof will be lined, underneath, with two layer of sarking board to ensure a stable temperature within the loft space. A open hatch (500mm x 500m) will be provided in the loft floor to allow bats to move between the loft and ground floor of the Bat Shed. The total volume of the "Bat Shed" is 48.7m^3 (roof space 19.2m^3 + ground space 29.5m^3) and this meets the recommended volume required by this species. Collins *et al.* (2020) investigated the implementation and effectiveness of bat roost mitigation in building developments completed between 2006 and 2014 in England and Wales. The bat species studied were: common and soprano pipistrelle, brown long-eared bat and *Myotis* species, all of which are present in Ireland. A summary of the main points relating to the construction of bat roosts was that the internal height and internal volume was important for bat occupancy. Lintott & Mathews (2018) reported that median internal volume of bat roosts used by brown long-eared bats was 37m^3, which the volume of the Bat Shed will meet. Once works are completed on the original footprint of the cottage, a further 15m^3 of attic space will also be available for the bat colony.

Evidence: Bat Eco Services Ltd. designed a bat house for whiskered bats and brown long-eared bats (i.e. Bective Bat House). Monitoring of this structure has shown that both species successfully roost in the structure. Please see Appendices for more details.

Additional roosting will be built into the external walls of the Bat Shed. These will be in the form of bat tubes with a total of eight bat tubes, four at the front and four to the rear of the shed.

Evidence: Bat Eco Services Ltd. has undertaken monitoring of bat houses (designed by Bat Eco Services Ltd.) with bat tubes inserted into the external walls and shown that such are successfully used be a number of bat species. Please see Appendices for more details.

A bat box scheme will also be erected and a total of 8 bat boxes (Schwegler woodcrete bat boxes, 4x 1FF and 4x 2F units). These will be erected by the Bat Eco Services Ltd. and will be undertaken 6 months prior to Phase 1 works.

Evidence: Bat Eco Services Ltd. has undertaken monitoring of bat box schemes and shown that such are successfully used be a number of bat species. Please see Appendices for more details.

4.3.3.2 Phase 1 - Demolition

The demolition of the front porch will result in the removal of existing exit point for bats. Therefore, an alternative exit point will be create by providing a opening, similar to what the bat currently use, in a rear ground floor window of the lodge.

Plate 1b: View of rear of Gamekeeper's Lodge, Co. Wicklow – rear window will be opened to provide an alternative access for bats during Phase 1 Works,

The following steps will also be undertaken:

- The current window used by the bats as an access point will be removed (i.e. the window, timber shutter and window frame will be removed) under supervision by a bat specialist.
- Bat access to the front porch will be blocked internally by erecting a sheet of plywood across the entrance from the main room of the house to the porch. This will also insulate any roosting bats, from noise disturbance, during demolition works.
- Plywood will also be erected, internally, at the entrance point to the rear porch to allow safe demolition of this structure.
- The corrugated roof will be removed in the presence of a bat specialist and any bats found roosting will be safely removed to the bat boxes.
- The bat specialist will check exposed walls with a high power torch and endoscope for any roosing bats prior to demolition. Amy bats encountered will be safely removed to the bat boxes.

4.3.3.3 Phase 2 – New Roof

Prior to Phase 2, a full bat survey will be conducted of the lodge to determine if there are any roosting bats. The new roof will be constructed to provide a more suitable roosting space for the local bat colony. This will be achieved by:

- Natural slate roof;
- Bitminous felt;
- Bat access slates (x4);
- Lining of attic floor insulation with plywood to allow easy management of bat droppings within the space;
- Removal of water tanks etc. to ensure that the attic is retained only as a bat roost space.

EVIDENCE:

A) Oldstreet Bat House

A purpose-built bat house for Common pipistrelles as part of bat mitigation work for the Oldstreet Substation. This bat house has two Bat Slates incorporated into the roof and, during monitoring surveys, have been documented to be used by roosting bats as an exit point. See Appendices for more information.

B) Coole Park Visitor Centre, Gort, Co. Galway

Derogation Licence (DER-BAT-2025-105)

The roof space of this building was identified as a maternity roost for brown long-eared bats. A new roof was installed in April 2025 with bat slates inserted as shown in the series of photographs below. These have provided new exit points for the brown long-eared bat colony. See Appendices for more information.

The following steps will also be undertaken:

- The corrugated roof will be removed in the presence of a bat specialist and any bats found roosting will be safely removed to the bat boxes.

- The bat specialist will check exposed walls, window frames etc. with a high power torch and endoscope for any roosing bats prior to demolition. Amy bats encountered will be safely removed to the bat boxes.

4.3.3.4 Reporting

Bat Eco Services will provide a full report on the bat mitigation measures undertaken and the monitoring results during the proposed works. A returns form will automatically be filed on completion of the works.

4.3.3.5 Future Surveys

Bat Eco Services will undertake monitoring surveys during and post each Phase of Works to determine presence of the brown long-eared bat colony and undertake surveys to document exit points. This information will be submitted to Bat Conservation Ireland for future monitoring as part of the Brown Long-eared Bat Roost Monitoring Programme.

Bat Eco Services Ltd. will monitor the bat boxes, and under licence, will ring bats to determine seasonal occupancy.

4.3.3.6 Evidence

Bat Eco Services Ltd. Have extensive experience in the implementation of bat mitigation measures. A CV is provided as part of the supporting document to accompany this application. This CV provides information on an array of projects completed to-date.

5. Bibliography

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6. Appendices

6.1 Static Surveillance Results – Winter 2025

Note: PIPPIP = common pipistrelle, PIPPYP = soprano pipistrelle. PLEAUR = brown long-eared bat

Table A: Bat species (time and date) recorded on Static 35 (Room with fireplace).

DATE	TIME	HOUR	AUTO ID*	MANUAL ID
21/02/2025	18:48:25	18	PIPPIP	PIPPIP
21/02/2025	18:48:40	18	PIPPIP	PIPPIP
21/02/2025	18:48:55	18	PIPPIP	PIPPIP
21/02/2025	18:49:19	18	PIPPIP	PIPPIP
21/02/2025	18:49:34	18	PIPPIP	PIPPIP
21/02/2025	18:49:49	18	PIPPIP	PIPPIP
21/02/2025	18:50:05	18	PIPPIP	PIPPIP
21/02/2025	18:50:19	18	PIPPIP	PIPPIP
21/02/2025	18:50:34	18	PIPPIP	PIPPIP
21/02/2025	18:50:49	18	PIPPIP	PIPPIP
21/02/2025	18:51:04	18	PIPPIP	PIPPIP
21/02/2025	18:51:19	18	PIPPIP	PIPPIP
21/02/2025	18:51:58	18	Noise	PIPPIP
21/02/2025	18:52:54	18	PIPPIP	PIPPIP
21/02/2025	18:53:09	18	PIPPIP	PIPPIP
21/02/2025	18:53:29	18	PIPPIP	PIPPIP
21/02/2025	18:54:47	18	PIPPIP	PIPPIP
21/02/2025	18:55:02	18	PIPPIP	PIPPIP
21/02/2025	18:55:18	18	PIPPIP	PIPPIP
21/02/2025	18:55:33	18	PIPPIP	PIPPIP
21/02/2025	18:55:48	18	PIPPIP	PIPPIP
21/02/2025	18:56:03	18	PIPPIP	PIPPIP
21/02/2025	18:56:19	18	PIPPIP	PIPPIP
21/02/2025	19:14:23	19	Noise	PIPPIP
21/02/2025	19:14:29	19	PIPPIP	PIPPIP
21/02/2025	19:14:44	19	NoID	PIPPIP
21/02/2025	19:15:09	19	PIPPIP	PIPPIP
24/02/2025	07:05:14	7	PIPPIP	PIPPIP
24/02/2025	07:05:21	7	PIPPIP	PIPPIP
24/02/2025	07:05:38	7	PIPPIP	PIPPIP
24/02/2025	07:05:45	7	PIPPIP	PIPPIP
02/03/2025	22:01:54	22	NoID	PLEAUR
03/03/2025	06:08:34	6	Noise	PLEAUR
06/03/2025	20:33:59	20	PIPPYG	PIPPYG
06/03/2025	20:35:59	20	NoID	PIPPIP
06/03/2025	20:36:08	20	Noise	PIPPIP
06/03/2025	20:36:17	20	Noise	PIPPIP
06/03/2025	20:39:03	20	Noise	PIPPIP
07/03/2025	00:04:18	0	Noise	PIPPIP
07/03/2025	00:06:32	0	Noise	PIPPIP
07/03/2025	00:06:47	0	PIPPYG	PIPPYG

Table B: Bat species (time and date) recorded on Static 36 (Accessible attic).

DATE	TIME	HOUR	AUTO ID*	MANUAL ID
02/03/2025	20:28:33	20	NoID	PLEAUR
02/03/2025	21:59:01	21	Noise	PLEAUR
02/03/2025	21:59:06	21	MYODAU	PLEAUR
02/03/2025	21:59:23	21	NoID	PLEAUR
02/03/2025	21:59:29	21	NoID	PLEAUR
02/03/2025	21:59:38	21	PLEAUR	PLEAUR
02/03/2025	21:59:51	21	PLEAUR	PLEAUR
02/03/2025	22:23:37	22	PIPPIP	PIPPIP
02/03/2025	23:04:25	23	PIPPIP	PIPPIP
02/03/2025	23:34:39	23	NoID	PLEAUR
02/03/2025	23:34:54	23	Noise	PLEAUR
02/03/2025	23:34:58	23	Noise	PLEAUR
02/03/2025	23:35:02	23	Noise	PLEAUR
03/03/2025	06:35:56	6	Noise	PLEAUR
03/03/2025	06:36:22	6	Noise	PLEAUR
03/03/2025	06:37:08	6	Noise	PLEAUR
03/03/2025	06:37:15	6	Noise	PLEAUR
03/03/2025	06:37:24	6	Noise	PLEAUR
03/03/2025	06:37:35	6	Noise	PLEAUR
03/03/2025	06:37:41	6	Noise	PLEAUR
03/03/2025	06:37:45	6	Noise	PLEAUR
03/03/2025	06:37:53	6	Noise	PLEAUR
03/03/2025	06:38:01	6	PIPPIP	PIPPIP
03/03/2025	06:38:11	6	NoID	PLEAUR
03/03/2025	06:38:21	6	Noise	PLEAUR
03/03/2025	06:38:30	6	Noise	PLEAUR
03/03/2025	06:38:34	6	NoID	PLEAUR
03/03/2025	07:39:56	7	Noise	PLEAUR
06/03/2025	18:22:55	18	PIPPIP	PIPPIP
06/03/2025	18:23:35	18	Noise	PIPPIP
06/03/2025	18:23:59	18	NoID	PIPPIP
06/03/2025	18:24:26	18	Noise	PIPPIP
06/03/2025	18:25:26	18	PIPPIP	PIPPIP
06/03/2025	18:26:25	18	PIPPIP	PIPPIP
06/03/2025	18:27:14	18	PIPPIP	PIPPIP
06/03/2025	18:27:38	18	PIPPIP	PIPPIP
06/03/2025	18:28:03	18	PIPPIP	PIPPIP
06/03/2025	18:28:24	18	PIPPIP	PIPPIP
06/03/2025	18:28:37	18	PIPPIP	PIPPIP
06/03/2025	18:30:25	18	PIPPIP	PIPPIP
06/03/2025	18:31:14	18	PIPPIP	PIPPIP
06/03/2025	18:32:14	18	NoID	PIPPIP
06/03/2025	18:32:24	18	PIPPIP	PIPPIP

Table C: Bat species (time and date) recorded on Static 39.

DATE	TIME	HOUR	AUTO ID*	MANUAL ID
20/02/2025	18:35:22	18	PIPPYG	PIPPYG
21/02/2025	18:46:59	18	NoID	PIPPIP
21/02/2025	18:47:46	18	PIPPIP	PIPPIP
21/02/2025	18:48:02	18	PIPPIP	PIPPIP
21/02/2025	18:48:17	18	PIPPIP	PIPPIP
21/02/2025	18:49:51	18	PIPPIP	PIPPIP
21/02/2025	19:14:46	19	PIPPIP	PIPPIP
21/02/2025	19:15:06	19	PIPPIP	PIPPIP
21/02/2025	19:15:16	19	PIPPIP	PIPPIP
21/02/2025	19:17:23	19	PIPPIP	PIPPIP
21/02/2025	19:17:38	19	PIPPIP	PIPPIP
21/02/2025	19:17:53	19	PIPPIP	PIPPIP
21/02/2025	19:18:02	19	PIPPIP	PIPPIP
21/02/2025	19:18:18	19	PIPPIP	PIPPIP
21/02/2025	19:18:37	19	PIPPIP	PIPPIP
22/02/2025	19:27:25	19	PIPPIP	PIPPIP
22/02/2025	19:27:41	19	PIPPIP	PIPPIP
22/02/2025	19:37:29	19	PIPPIP	PIPPIP
24/02/2025	07:05:09	7	PIPPIP	PIPPIP
24/02/2025	07:05:41	7	PIPPIP	PIPPIP

6.2 Evidence

6.2.1 Case Study 1 - Oldstreet Bat House

Year: 2024

Oldstreet Bat House was designed by Bat Eco Services Ltd. In brief, this project involved the construction of new bat house as part of bat mitigation measures for the demolition of a farmhouse recorded as common pipistrelle bat roost. The bat house consists of a loft space and a ground floor with open trap door access between floors. Woodcrete (summer and winter) bat tubes were integrated into the external walls of the bat house.

Target bat species: Common pipistrelles

1. Bat Tubes – inserted into the external fabric of the walls

Bat Tube 1FR and 2FR - Veldshop.nl – please see illustrations of bat tubes and there construction as a façade part of the wall.

Series of Bat Tubes inserted into the external wall of Oldstreet Substation Bat House, Co. Galway (pre-plaster).

Finished look - Oldstreet Bat House (external front view with 1FR bat tubes) with boundary hedge planting.

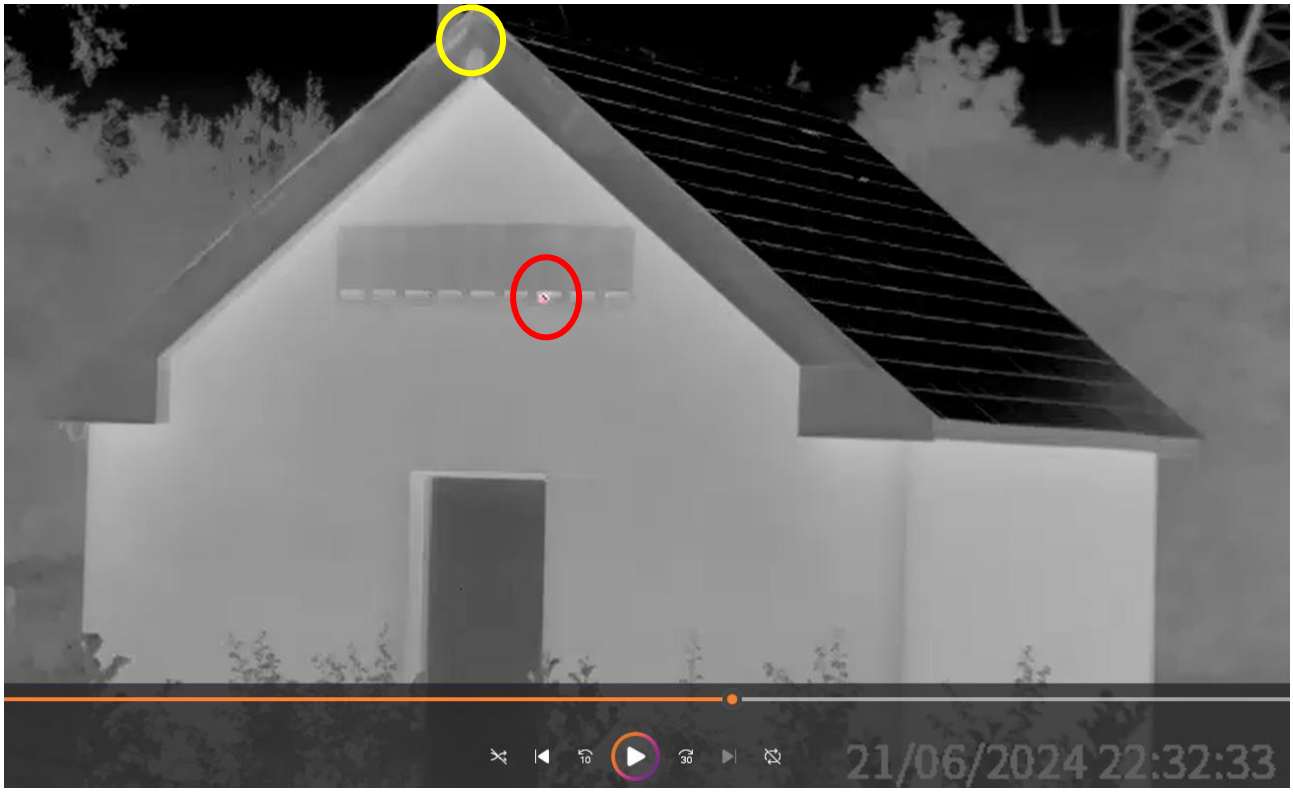
2. Open trap door access between floors

Open trap door and insulated ceiling (ground floor) of Oldstreet Substation Bat House, Co. Galway.

Plate 3: Bat slate (one of two inserted into roof space).

Monitoring is an essential component of constructing bat houses to ensure that they are working. A series of monitoring surveys were completed for Oldstreet bat House in 2024 and three species of bat were recorded roosting in the structure, including a successful replacement roost for common pipistrelles. The thermal imagery survey recorded bats emerging (common pipistrelles) from the roof space via the roof apex and bat slates while the bat tubes were occupied by Leisler's bats and soprano pipistrelles.

By 3rd September 2024, three bat species were recorded roosting in the bat house: common pipistrelle (in loft space – 6 individuals), Leisler's bat (bat tubes – 2 individuals) and soprano pipistrelles (bat tubes – 3 individuals). This was a highly successful occupation of the bat house within 6 months of the completion of the bat house.



Screenshot of thermal filming front of bat house (21st June 2024). Exit point is marked with a Yellow Circle while Bat Tube 7 is marked with a Red Circle with the emerging bat highlighted by the red heat signature.

Bat droppings at the entrance to Summer Bat Tube No. 9 (11th July 2024).

Bat droppings at the entrance to Summer Bat Tube No. 7 (11th July 2024).

6.2.2 Case Study 2 - Coole Park Interpretative Centre

The following are photographs of bat access slates constructed to provide new access points for brown long-eared bat colony roosting in the roof space of the centre.

Construction of bat slates for inspection by bat specialist at Coole Park Visitor Centre, Gort, Co. Galway.

Bat specialist marked up where bat slates (x5) are to be positioned in consultation with NPWS – Coole Park Visitor Centre, Gort Co. Galway.

Bat slate in new roof (29.4.2025) of Coole Park Visitor Centre, Gort, Co Galway.

6.2.3 Case Study 3 – Bective Bat House, Bective, Co. Meath

Year: 2021

Bective bat House was designed by Bat Eco Services Ltd. In brief, this project involved the construction of a new bat house as part of bat mitigation measures for proposed renovation of buildings recorded as bat roosts. The bat house consisted of a loft space designed for roosting requirements of Whiskered bat and brown long-eared bat and a ground floor with trap door access between floors. IFR Woodcrete bat tubes were integrated into the external walls of the bat house. The bat house was designed, supervised and monitored by Bat Eco Services.

Target bat species: Whiskered bat, brown long-eared bat

Bective Bat House (external view) inside deciduous woodland.

Results:

A total of three bat species were recorded roosting in the structure: three whiskered bats (roof space – between slate and felt), six brown long-eared bats (roof space – between slate and felt) and 11 soprano pipistrelles (bat tubes) (22nd August 2023).

6.2.4 Bat Box Schemes

6.2.5 Case Study 1 – Ramparts Bat Box Scheme

Ten bat boxes were erected on mature trees on 22nd April 2024. On the 12th September 2024, the bat boxes were inspected. A total of 11 Leisler's bats were recorded (1FF box – x6 Leisler's bats: 4 female, 2 male; 2FN box: x5 Leisler's bats: 4 female, 1 male). Two bat boxes also had roosting soprano pipistrelles (2F: x8 soprano pipistrelles; 2F x3 soprano pipistrelles) while a third bat box had evidence of *Pipistrellus* spp. bat droppings (1FF bat box). As the bat box scheme was only erected 4 months previously, this is an excellent example of a "quick" occupation of the a bat box scheme and is primarily due to the fact that the bat boxes were located in woodland adjacent to the River Boyne and Boyne Canal, which provides good habitat for commuting and foraging bats. This data was submitted to Bat Conservation Ireland to register on their database.

Location of bat boxes erected as part of bat box scheme.

No.	Bat Box No.	Type	Location	ITM Easting	ITM Northing
1	BB1	2F woodcrete	Andy Brennan Park, Navan, Co. Meath	687232	767746
2	BB2	2F woodcrete	Andy Brennan Park, Navan, Co. Meath	687230	767747
3	BB3	IFF woodcrete	Ramparts, Navan, Co. Meath	687450	767946
4	BB4	IFF woodcrete	Ramparts, Navan, Co. Meath	687458	767948
5	BB5	2F woodcrete	Ramparts, Navan, Co. Meath	687476	767948
6	BB6	2F woodcrete	Ramparts, Navan, Co. Meath	687408	767937
7	BB7	2F woodcrete	Ramparts, Navan, Co. Meath	687322	767934
8	BB8	IFF woodcrete	Ramparts, Navan, Co. Meath	687303	767929
9	BB9	IFF woodcrete	Ramparts, Navan, Co. Meath	687304	767908
10	BB10	IFF woodcrete	Ramparts, Navan, Co. Meath	687348	767930

Figure 4: Cluster of soprano pipistrelles in a 2F woodcrete bat box (12/9/2024).

Additional monitoring was undertaken in 2025. Leisler's bats and soprano pipistrelles continue to roost in the bat boxes.

6.2.6 Case Study 2 – Kilnacrott Bat Box Scheme

Twelve bat boxes were erected on mature trees in Kilnacrott, Ballyjamesduff, Co. Cavan on 7th September 2024. All bat boxes erected were inspected on 15th November 2024 and two soprano pipistrelles were recorded roosting individually in two of the bat boxes located in the woodland area (Area B). Again, this quick up-take of bat boxes demonstrates that woodcrete bat boxes are suitable for *Pipistrellus* spp. This data was submitted to Bat Conservation Ireland to register on their database.

Location of bat boxes erected as part of bat box scheme.

No.	Type of bat box	Location	ITM Gird Reference	Tree Species
5	1FF	Area B - woodland	650186,787740	Beech
6	2F	Area B - woodland	650186,787740	Beech
7	1FF	Area B - woodland	650189,787737	Beech
8	2F	Area B - woodland	650189,787737	Beech
9	1FF	Area B - woodland	650190,787745	Beech
10	2FN	Area B - woodland	650190,787745	Beech
11	2FN	Area B - woodland	650166,787721	Conifer
12	2F	Area B - woodland	650166,787721	Conifer

Plate 4a & b: Soprano pipistrelle (2F with timber partition) and bat droppings (2FN) in woodcrete bat boxes (15/11/2024).

Additional monitoring was undertaken in 2025 and new bat species was recorded roosting in the bat boxes: Leisler's bats while soprano pipistrelles continue to roost in the bat boxes.