# **Bat Mitigation Strategy**

Derelict Structures at Rathellen, Finisklin, Sligo

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# 1 Introduction

# 1.1 Location and description of structure

This application refers to Rathellen House and a number of associated outbuildings on the western outskirts of Sligo Town. The location of the site is shown in Figure 1.



Figure 1. Location of structures (red arrow) in Finisklin, Sligo

The site contains a derelict historical building known as Rathellen House. In the Landed Estates database it is described as follows: "*McTernan writes that Rathellen was built at the beginning of the nineteenth century as a dower house for the Wood of Woodville estate. It was purchased by Henry Lyons in 1860 and remained in the Lyons family until the 1940s"*. It is a large two-storey house with a slate roof, parts of which have collapsed, revealing rotting wooden joists. The exterior of the building is no longer weathertight, and the interior has been vandalised. Doors and windows have been boarded up to prevent further damage. The exterior of Rathellen House is shown in Figure 2.

A number of outbuildings are associated with Rathellen House (Figure 3), which may previously have been stables, storage buildings and / or servants' quarters. They are one or two storeys in height and of masonry construction. One structure has an intact roof of corrugated metal (Figure 4), but the roofs of all other structures have collapsed (Figure 5). There are trees growing through a number of the buildings (Figure 4).



Figure 2. Exterior of Rathellen House in May 2021



Figure 3. Layout of buildings

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Figure 4. Exterior of outbuildings, showing the only structure with an intact roof



Figure 5. Ruined outbuilding with collapsed roof

#### 1.2 Proposed works and rationale

Rathellen House and the surrounding land are owned by Sligo County Council (SCC). It is intended that the main house and adjoining outbuilding (located immediately to the west) will be restored / renovated in the future as part of a social housing development at the Site. However, the other outbuildings are in such poor condition that they cannot feasibly be retained, so they will be demolished.

#### **1.3** Statement of authority

#### Nick Marchant

The mitigation strategy has been prepared by Nick Marchant MCIEEM MSc, the principal ecologist of NM Ecology Ltd. He has sixteen years of professional experience, including thirteen years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

He regularly carries out bat surveys for projects throughout Ireland and Northern Ireland, and has completed training courses in *Bat Identification and Survey* (Bat Conservation Ireland, 2008), *Bat mitigation for construction projects* (Bat Conservation Trust, 2014) and *Bat handling, mist netting and harp trapping* (Bat Training UK, 2014). He holds a three-year bat disturbance licence (Sections 22 & 23) from National Parks and Wildlife Service.

# Dr Caroline Shiel

Dr Caroline Shiel carried out the bat surveys in 2021 and 2024, and she will implement the mitigation strategy. She has over 30 years' experience of bat surveys for academic and commercial purposes. She has a PhD in "*Diet, foraging and activity at the roosts of Leisler's bat*", awarded by NUI Galway. She is a founding member of Bat Conservation Ireland and is currently a director and vice-chair of the organisation. She is also a member of the Heritage Council's panel of bat experts.

She regularly carries out bat surveys throughout Ireland, particularly of masonry bridges and heritage buildings. She holds a five-year bat specialist's licence (Sections 22 & 23) from National Parks and Wildlife Service.

# 2 Bat Survey

#### 2.1 Methods

Survey methods were developed using *Bat Surveys for Professional Ecologists: Good Practice Guidelines.* The surveys in 2021 followed the 3<sup>rd</sup> edition of the guidelines (Collins et al. 2016<sup>1</sup>) and the surveys in 2024 followed the 4<sup>th</sup> edition (Collins et al. 2023<sup>2</sup>). At the outset of the project, a preliminary appraisal of all structures and trees was carried out to assess their suitability for roosting bats.

A series of emergence and re-entry surveys were carried out by Caroline Shiel and Maurice Connolly in the summer of 2021. The dates of survey were as follows: 25<sup>th</sup> May (emergence), 26<sup>th</sup> May (re-entry), 28<sup>th</sup> June (emergence), 17<sup>th</sup> May (emergence) and 18<sup>th</sup> May (re-entry).

As it has been three years since the baseline surveys were undertaken, a second series of surveys was undertaken in 2024. In accordance with the 4<sup>th</sup> edition guidance, all were emergence surveys. The survey dates were 19<sup>th</sup> June, 3<sup>rd</sup> July and 12<sup>th</sup> July.

Conditions were suitable for bats during all of these surveys, with no wind or rain.

#### 2.2 Appraisal of potential roost features

Rathellen House has many potential roosting sites, including the attic space, soffit / fascia panels and under roof tiles. The poor condition of the roof reduces its suitability somewhat, but there are several undamaged sections that remain suitable. In accordance with the roost evaluation categories in Collins *et al.* (2023), it was considered to have high suitability for roosting bats.

The walls of the outbuildings have a number of shallow cracks and crevices that would be suitable for small numbers of bats. The roofs of most buildings have collapsed, which reduces their suitability. One building still has a roof, but it is constructed of corrugated metal, a material which is typically avoided by bats. Therefore, the outbuildings are considered to have low to moderate roost suitability.

<sup>&</sup>lt;sup>1</sup> Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3<sup>rd</sup> edition). The Bat Conservation Trust, London. No longer available online

<sup>&</sup>lt;sup>2</sup> Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4<sup>th</sup> edition). The Bat Conservation Trust, London. Available online at https://www.bats.org.uk/resources/guidance-for-professionals/

# 2.3 Survey results (2021)

#### Emergence / re-entry survey (25<sup>th</sup> / 26<sup>th</sup> May 2021)

Conditions were dry and calm but relatively cold, with a minimum temperature of 6.5 °C; this was typical of the weather in May 2021, which was unseasonably cold. Two surveyors were present: one facing the northern side of the building, and a second covering the southern side.

No bats were recorded roosting within the building, and bat activity was low. At dusk a single soprano pipistrelle was detected foraging to the rear of the house around some old apple trees. A brief brown long-eared bat call was also detected around the apple trees. A single common pipistrelle was detected foraging on the drive at the front of the house. No other bat activity was recorded at dusk.

At dawn a single Soprano pipistrelle was detected to the rear of the house. No other activity was recorded at dawn.

An automated Songmeter SM4 detector was directed toward the outbuildings overnight. Intermittent calls of soprano pipistrelle and common pipistrelle were recorded, but no other species were detected.

#### Emergence survey (27<sup>th</sup> June 2021)

The focus of the survey was some mature trees in the west of the site, but Rathellen House and the associated outbuildings were also surveyed later in the survey period. Conditions were dry, calm and warm. Two surveyors were present, each covering a separate group of trees.

Bat activity was very low during the survey, with only two soprano pipistrelles and a single common pipistrelle detected. A whiskered bat was recorded feeding around the outbuildings from shortly after sunset, and remained in the area for a period of time. It was considered likely that the bat was roosting in one of the outbuildings.

# Emergence / re-entry survey (17th / 18th July 2021)

One surveyor focussed on the outbuildings and Rathellen House, while the second focussed on mature trees in the west of the site. Conditions were dry, calm and warm.

Activity at dusk was low, with one Leisler's bat and two soprano pipistrelles recorded foraging over the site. Approx. 40 minutes after sunset a whiskered bat was recorded flying along a wall at the rear of the outbuildings, and remained in the area for about 45 minutes.

At dawn two soprano pipistrelles were recorded foraging on the road to north and west of site. No whiskered bat activity was recorded.

# 2.4 Survey results (2024)

Two surveyors and a thermal imaging scope were used for all surveys.

#### Emergence survey (19<sup>th</sup> June 2024)

One soprano pipistrelle was recorded emerging from a crevice on the rear (southern) side of the building. The emergence point is shown in Figure 6.

Using the thermal imaging scope, four bats (likely brown long-eared bats) were observed in flight inside the building and leaving through the large gaps in the roof. It was not possible to access the interior of the building for safety reasons and no echolocation calls were heard so the roost location could not be ascertained, but it is considered likely that these bats were roosting somewhere within the derelict building.



Figure 6. A single soprano pipistrelle bat emerged from a dormer window on the southern side of Rathellen house

# Emergence survey (3rd July 2024)

A single whiskered bat was recorded emerging from a small stone outbuilding to the west of Rathellen House (Figure 7). It circled within the structure for approx. one minute before leaving to forage.



Figure 7. Location of outbuilding used by whiskered bat

# Emergence survey (12<sup>th</sup> July 2024)

The survey focussed on the mature trees around the boundaries of the Site. No bats were recorded emerging from any trees. Several soprano pipistrelles approached a standing dead stump but did not land in it.

The survey was carried out in mid-summer when trees were in full growth. Dense foliage obstructed views of the potential roost features on many of the trees, which hindered the ability to survey them. Additional surveys will be needed for these trees at the pre-construction stage.

# 2.5 Evaluation

The site was surveyed on a number of occasions during the peak period of bat activity, and in suitable weather conditions. The site contains woodland, scrub and dry meadow habitats, all of which are ideal foraging habitats.

Three separate roosts were identified:

• One soprano pipistrelle above the dormer window on the southern side of Rathellen House

- Approx. four brown long-eared bats roosting at an unknown location within Rathellen House
- A whiskered bat roosting within one of the outbuildings to the west of Rathellen House

There was no evidence that any bats were roosting in any of the mature trees. However, dense foliage hindered the view of potential roost features in some of the trees, so further surveying will be required at pre-construction stage.

# **3** Assessment of potential impacts

#### 3.1 Direct impacts on roosting bats

The rebuilding of Rathellen House and demolition of outbuildings could have direct impacts on three bat roosts, either by killing the bats during works or by causing them to take flight during the day and exposing them to predation. The killing of bats or destruction / disturbance of a roost would constitute an offence under the *European Communities (Birds and Natural Habitats) Regulations 2011 (as amended)* and the *Wildlife Act* 1976 (as amended).

There is currently no evidence that any bats are roosting in any of the trees, but dense foliage hindered the ability to survey all parts of all trees. In the absence of mitigation measures there is a risk that bat roosts in trees could be affected.

# **3.2** Potential to affect foraging areas or commuting routes

The surrounding farmland is used as a feeding area / commuting route by small numbers of bats. The development of the Site will introduce lighting to some areas and thus reduce their suitability for foraging bats, but landscaped areas of the development, as well as the surrounding farmland, will remain suitable foraging habitat.

# 4 **Proposed mitigation measures**

Impacts on roosting bats will be minimised through the timing of works, supervision by an ecologist, exclusion of roosting sites and (if required) manual removal of bats from the structure. Alternative roosting opportunities will be provided in a suitable area nearby, which will ensure that bats can continue to roost in the area.

#### Timing of works

The renovation / demolition of buildings will take place in spring (March or April) or autumn (September, October or November), as these are the periods in which bats are least sensitive to disturbance.

#### Provision of alternative roosting spaces

Prior to demolition, six bat boxes will be installed at a range of locations on the walls of Rathellen House and on mature trees within 50 m of the outbuildings. All boxes will be robust crevice-type models suitable for small bats, e.g. Schwegler 1FF models.

As the development progresses and lighting is introduced around houses, the bat boxes will be moved to retained mature trees around the margins of the Site, as these areas will have less artificial lighting.

# Pre-construction surveys of buildings

In the bat activity season (May – September, inclusive) prior to the commencement of construction work, an ecologist will be engaged to re-survey the buildings. This may involve a combination of bat detector surveys, night vision aids and / or endoscopes. The aim of the survey will be to identify the exact roosting locations within the structures.

This is particularly relevant for the brown long-eared bats, as their roosting location within Rathellen House could not be ascertained. It would be necessary to survey the interior of the structure to locate the roost. However, the structure was in an unsafe condition in 2024, so an internal survey was not possible. Some enabling works may be necessary to make the building safe before the internal survey can be carried out.

# Exclusion of bats

When the roosting location has been identified, measures will be taken to exclude bats from the structure, e.g. using a one-way exclusion tubs at the emergence point. Any crevices that do not contain bats (to be confirmed using an endoscope) will be blocked. The surveyor will then wait one night to allow bats to leave their roosts, and will resurvey the structure the following day.

# Supervised demolition of the house

When the exclusion process is complete, the ecologist will supervise the demolition of all structures, including the removal by hand of building materials around the roosting sites. If any bats are uncovered during this process they will be transferred to a cotton holding bag and placed in one of the bat boxes. Once all potential roost sites identified by the ecologist have been removed, the remainder of the structures can be demolished without further supervision.

#### Procedures for felling of trees

All mature trees proposed for felling will be inspected using an endoscope. This will require a Mobile Elevated Working Platform (MEWP) or other similar structure. If any bats are found to be roosting within a tree, the mitigation approach above will apply. If no bats are roosting within

a tree, it will be felled in sections and lowered to the ground for further inspection by the ecologist. The cut sections will be left on the ground overnight to allow any bats to escape.

# 5 Conclusion

The proposed mitigation measures will avoid or minimise impacts on any roosting bats during construction works. All work that will affect a known bat roost will be carried out under a derogation licence from the Department of Housing, Local Government and Heritage. As a result, there will not be a significant impact on roosting bats, and no legal offence under the Habitats Regulations 2011.

# 6 Details of proposed licence

# 6.1 Dates and persons responsible

It is intended that the licence would commence immediately, and be valid for a period of at least one year. The applicant is Sligo County Council. The lead scientific agent will be Dr Caroline Shiel ecological consultant, but we also ask that Nick Marchant of NM Ecology Ltd is included as scientific agent as a backup option.

# 6.2 Considerations relating to Regulation 54

Under Regulation 54 of the *EC (Birds and Natural Habitats) Directive* 2011 (as amended), a licence can only be granted for certain reasons, where there is no satisfactory alternative, and where the actions will not be detrimental to the conservation status of bats. The key considerations under this regulation are outlined below.

Regarding Regulation 54(2), the purpose of the licence would be under item (c), "*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*". Rathellen House and the associated buildings are derelict and in decline; in a do-nothing scenario they will continue to deteriorate into ruin. The proposed development will be used for social housing, which is clearly in the public interest.

This is considered to be the only option available and there is no satisfactory alternative. Some structures will be renovated and others will be demolished, all of which will affect their suitability for bats. It would not be possible to retain bat roosts in these buildings, as new artificial lighting for the development would displace any roosting bats from the buildings.

Finally, the actions outlined in this licence would not be detrimental to the maintenance of the populations of the species at a favourable conservation status. This mitigation strategy will prevent death or injury to any bats. Even if bats were harmed, it would not have a negative effect on their conservation status. In the current Red List of Terrestrial Mammals (Marnell et

al. 2019<sup>3</sup>), all Irish bat species are considered to be of good conservation status, and of 'least concern'. Even if any of the roosting bats were accidentally harmed (in a worst case scenario), it would not have a significant negative effect on the conservation status of the relevant species.

<sup>&</sup>lt;sup>3</sup> https://www.npws.ie/sites/default/files/publications/pdf/Red%20List%20No.%2012%20Mammals.pdf