



Environmental Consultants

Bat Survey Report

Tuam Townhall,

Co. Galway

DOCUMENT DETAILS

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1 INTRODUCTION

This report details the findings of a bat survey completed as part on the town hall building in the town of Tuam.

This report aims to;

- Identify species of bats using the site.
- Examine building for roosting potential.
- Examine potential feeding and commuting routes.
- Potential impacts of bats by the proposed development.

The surveys undertaken are in line with recommendations in Chapter 11 of the Bat Conservation Trust 'Good Practice Guidelines, 3rd edition, 2016' (BCT, 2016) and The Irish Wildlife Manual No. 25' (Kelleher, 2006). The survey was designed and carried out by John Curtin B.Sc. (Env.). John has been carrying out bat surveys since 2012 and has completed over 100 surveys during this time. John has also completed the Bat Conservation Ireland, Bat Detector Workshop and Bat Handling Workshop which are the standard training for the carrying out of bat surveys in Ireland. He follows the Bat Conservation Ireland 'Good Practice Guidelines' (Aughney *et al.*, 2008). In addition, John is an active member of Bat Conservation Ireland, which monitor bat populations in Ireland, and facilitate the education of bat communities to the public.

The site in question refers to a two-storey stone and slated building.

John holds the following licences.

Description	Licence No
Licence to capture protected wild animals for educational, scientific or other purposes (bats)	C231/2020
Roost disturbance (bats)	Der/Bat 2020-114
Licence to photograph / film wild animals (bats)	06/2021

In order to assess the presence and activity of bats within the proposed development grounds, a preliminary daylight site inspection was conducted on the 25th of August 2021. A full night-time detector survey was carried out on the same date consisting of a three hour dusk and two hour dawn survey.

Although a thorough examination of the building using ladder, high powered torch, a Seek Reveal XR FF thermal imaging device and an Ridgid CA-300 Inspection Camera revealed some roosting potential for bats, the site showed no signs of bat occupancy. The building is a plastered stone building with a slate roof. This roof space is suitable for roosting bats however the abundance of street lighting surrounding the building and lack of good connective features reduces the potential of the site considerably.

2 DESKTOP STUDY

2.1 BATS IN IRELAND – LEGISLATIVE PROTECTION

There are two main pieces of legislation which cover wildlife protection in Ireland – the Wildlife Act and the Habitats Regulations. These are outlined below, with particular reference to the protection afforded to bat species in Ireland.

The Wildlife Acts 1976 and 2000

The primary pieces of national legislation for the protection of wildlife in Ireland are the Wildlife Act (1976) and the Wildlife [Amendment] Act (2000). All species of bats in Ireland are listed on Schedule 5 of the 1976 Act, and are therefore subject to the provisions of Section 23, which make it an offence to:

- Intentionally kill, injure or take a bat
- Possess or control any live or dead specimen or anything derived from a bat
- Wilfully interfere with any structure or place used for breeding or resting by a bat
- Wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose

The Habitats Regulations 1997-2005

The EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) seeks to protect rare and vulnerable species and the habitats in which they are commonly found, and requires that appropriate monitoring of populations be undertaken. All bat species found in Ireland are listed under Annex IV of the Directive, while the lesser horseshoe bat is afforded further protection under Annex II. The Habitats Directive has been transposed into Irish law by the European Communities (Natural Habitats) Regulations 1997. All bat species are listed on the First Schedule and Section 23 of the regulations makes it an offence to:

- Deliberately capture or kill a bat
- Deliberately disturb a bat

- Damage or destroy a breeding site or resting place of a bat

Provision is made in the Regulations for the Environment Minister to grant, in strictly specified circumstances set out in that Regulation, a derogation license permitting any of the above activities “where there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range”.

2.2 SITE LOCATION

The proposed site lies in the town of Tuam (Grid Ref. 143576 251956). The site for the proposed development does not lie within a Lesser Horseshoe territory.



Figure 2-1: Location of proposed development (red outline)



Figure 2-2: Aerial of site and surroundings

2.3 BAT SPECIES RECORDED IN THE SURROUNDING AREA

The NBDC database was consulted for details on bat records held for the site and the surroundings. The database was consulted on the 25/11/2021 for details on historical records from the site, the surrounding 2km (M45F and M45G). Results are outlined in Table 2-2. While no species of bat has been recorded from the site three species have been recorded within 2km; the majority from the BCIreland Car Based Monitoring program.

Table 2-1: Irish bat species recorded in the M45F & M45G 2km grid

Scientific name	Common name	Date of last record	Designation	Location
<i>Nyctalus leisleri</i>	Leisler's Bat	27/09/2009	EU Habitats Directive >> Annex IV Wildlife Acts	570m south-west
<i>Pipistrellus pipistrellus sensu lato</i>	Pipistrelle	27/09/2009	EU Habitats Directive >> Annex IV Wildlife Acts	7570m south-west
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	27/09/2009	EU Habitats Directive >> Annex IV Wildlife Acts	470m north-east and 570m south-west

3 SURVEY FINDINGS

3.1 SURVEY METHODOLOGY

A detailed inspection of the building was undertaken during daylight hours on the 25th of August 2021. The aim was to compile information on actual and potential access points and roosting locations. This was done by searching for evidence of bats including live and dead specimens, droppings, feeding remains, urine splashes, fur oil staining and noises.

The exterior of the buildings were inspected first from ground level, with the aid of binoculars. The search included the ground, accessible windowsills, walls, eaves, roof slates, gutters, downspouts and the roof ridge. A systematic search of all accessible interiors was also undertaken. Searches were carried out with the aid of binoculars, torches, an endoscope, thermal imaging device and a ladder and focused on walls, floors, roof beams, windowsills, lintels, shelves, tops of large equipment and furniture, etc.

3.2 SURVEY CONSTRAINTS

The bat survey was undertaken in August within the main bat active season. All surveys were carried out during good weather conditions.

3.2.1 Habitats on site

The building is situated off Dublin Road and High Street which contains a mixture of residential and retail buildings. Street lighting can be found along both streets. The site or surroundings do not contain any treelines or good bat connective features.



Plate 3-1: Front face of building



Plate 3-2: View to north-east from roof



Plate 3-3: View to south-west from roof

3.2.2 Daylight inspection

Searches were completed using ladder, high powered torch and endoscope. The building was found to consist of stone walls with plastered finish and slated roof (See Plate 3-1). The building is occupied with office rooms downstairs and a meeting hall on the first floor. No evidence of bat occupancy was found within any downstairs room. Air vents top the top of the belfry to the north of the building showed some potential for bats.



Plate 3-4: Open windows



Plate 3-5: Belfry



Plate 3-6: Main first floor room



Plate 3-7: Attic space



Plate 3-8: Potential entrance point to attic

The attic space was also examined. The roof is slated and contained a layer of bitumen felt; a material favoured by bats. A vent hole in the gable wall provided potential bat access. The attic space also contained a roof window providing access to an outdoor roof ledge. Despite a thorough examination of the attic space no evidence of bat occupancy was found.

3.1 BAT DETECTOR SURVEYS

A dusk-dawn mobile detector survey was carried out both within and outside the building. Access to the roof was found both to the rear and the front of the building. The surveyor set a bat detector and night vision Canon XA10 to the rear of the building examining the belfry while the surveyor was positioned on the roof to the east by the velux window in order to examine for emerging bats on this side.

Surveys commenced at 20:11; half an hour before sunset and continued until 23:20. The survey then recommenced two hours before sunrise at 04:35 and continued until sunrise. Each contact with a bat was recorded. Where possible, a positive identification to species level was made. Information on the behavior was also recorded where available.

The bat detector used during the walked surveys was a Wildlife Acoustics Inc. (Massachusetts, USA) Echo Meter Touch Pro 2 bat detector and a Song meter mini which are triggered to record when a bat call is emitted louder than 18dB for 1sec. These detectors use full spectrum sampling; detecting all frequencies simultaneously, meaning that multiple bat calls can be recorded at the same time.

A contact as shown below describes a bat observed by the surveyor. This contact can range from a commuter passing quickly to a foraging bat circling a feature lasting for several minutes. Some observations contain multiple bats. When several bats of the same species are encountered together they are recorded under the one contact. A separate contact is recorded for each species. A contact finishes when the recorder assumes the bat is no longer present. It is likely that the same bat is recorded in several contacts throughout the night. This survey type cannot estimate abundance of bats, rather activity; the amount of use bats make of an area / feature. The survey followed the guidelines as set out in bat conservation Ireland's 'Bat Survey Guidelines'.

Sunset on the 25th of August occurred at 20:41 and sunrise on the 26th was at 06:35. A north-westerly wind 1.4m/s was recorded at 20:05 reducing to 0.3m/s by 23:30. During the dawn survey a wind speed of 1.1 m/s was recorded at 04:30 dropping to 0.4m/s by 06:40.

The air temperature varied during the night of the survey between 21.5 degrees at 20:05 to 15.5 degrees Celsius at 23:30. Temperatures during the dawn survey was recorded as 12

degrees at 04:30 and at 06:40. No rain fell during either survey. Overall, these conditions were ideal for bat survey work.

3.1.1 Results of dusk and dawn surveys

Three species of bat were recorded during the survey; Common and Soprano Pipistrelle and Leisler's bat. No bats were found to emerge from the subject building. The first bat recorded was a brief Soprano Pipistrelle at 21:10 some 31 minutes after sunset and again briefly at 21:13. These distant recordings were noted to the north-west. This species typically emerges 20 minutes after sunset. The next recorded bat was a common pipistrelle at 21:42. Again this species typically emerge 20 minutes after sunset. The first Leisler's bat was recorded at 22:08.

Sporadic activity continued from these three species throughout the survey. No bats were noted emerging from the building with bats occasionally observed flying over the roofs of buildings.

During the dawn survey activity was lower with all three bats again noted. Surveys at this time are particularly useful for observing roost entrances as bats repeated fly up to the roost entrance in looped flights prior to entering. No such behavior was found during the dawn survey.

4 DISCUSSION

Although three species of bat were noted during the survey no roosting behaviour was found. It should be noted that the survey occurred at the peak period for bat activity on a night with ideal weather conditions. During periods such as this both Common and Soprano Pipistrelle regularly emerge at or before sunset. Although the attic space provides some potential roosting spaces for bats it is the surveyors opinion that the abundance of street lighting and the lack of suitable dark zones or bat friendly landscape features (such as unlit treelines) lowers the potential of the site for these species.

5 CONCLUSION

This report details the findings of a bat survey completed for the Tuam town hall. The results of the surveys presented above show no evidence of bats roosting within the town hall.