



Environmental Consultants

Bat Survey Report

Portumna Community Hall

Portumna, Co. Galway

DOCUMENT DETAILS

Client: Portumna Town Hall Committee

Project Title: Roof repairs on the Portumna Community Hall

Document Title: Bat Survey Report

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Abstract: A bat survey was conducted as part of a grant application for the proposed reroofing of a building that forms part of the Portumna Community hall. A daylight and emergence survey was conducted. No evidence of roosting bats was found in the attic however two Pipistrelle bats were recorded emerging from above a top floor window and ground floor door frame. These appeared to emerge from crevices within the door and window structure rather than deeper into the building. The proposed development will not impact these roost locations. A derogation licence will be sought due to disturbance potential.

TABLE OF CONTENTS

1	INTRODUCTION.....	4
2	DESKTOP STUDY.....	5
2.1	BATS IN IRELAND – LEGISLATIVE PROTECTION	5
2.2	SITE LOCATION.....	6
2.3	BAT SPECIES RECORDED IN THE SURROUNDING AREA	6
3	SURVEY FINDINGS.....	8
3.1	SURVEY METHODOLOGY.....	8
3.2	SURVEY CONSTRAINTS.....	8
3.1	BAT DETECTOR SURVEYS.....	10
4	DISCUSSION.....	13
5	POTENTIAL IMPACTS.....	14
6	MITIGATION AND COMPENSATION.....	15
6.1	DEROGATION LICENCE.....	15
6.2	TIMING	15
6.3	OVERSIGHT OF ROOF REMOVAL.....	15
7	RESIDUAL IMPACTS AFTER MITIGATION	15
8	CONCLUSION.....	16
9	APPENDIX A – AUDIO CONTACTS, 7 TH AUGUST 2024.....	17

1 INTRODUCTION

This report details the findings of a bat survey completed as part of a planning application for the renovation of the courtroom building in the town of Portumna.

This report aims to;

- Identify species of bats using the site.
- Examine building for roosting potential.
- 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 with multiple types of mortar and stone used.

John holds the following licences.

Description	Licence No
Licence to capture protected wild animals for educational, scientific or other purposes (bats)	C160/2024
Roost disturbance (bats)	Der/Bat 2023-07
Licence to photograph / film wild animals (bats)	171-2024

In order to assess the presence and activity of bats within the proposed development grounds, a preliminary daylight site inspection was conducted on the 07/08/2021. An emergence night time detector survey was carried out on the same date consisting of a three hour dusk survey.

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
- Willfully interfere with any structure or place used for breeding or resting by a bat
- Willfully 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 Portumna (Grid Ref. 185399 204685). The site for the proposed development does **not** lie within any known Lesser Horseshoe territory. The site is adjacent to the Portumna Courthouse, a historic building in the town.

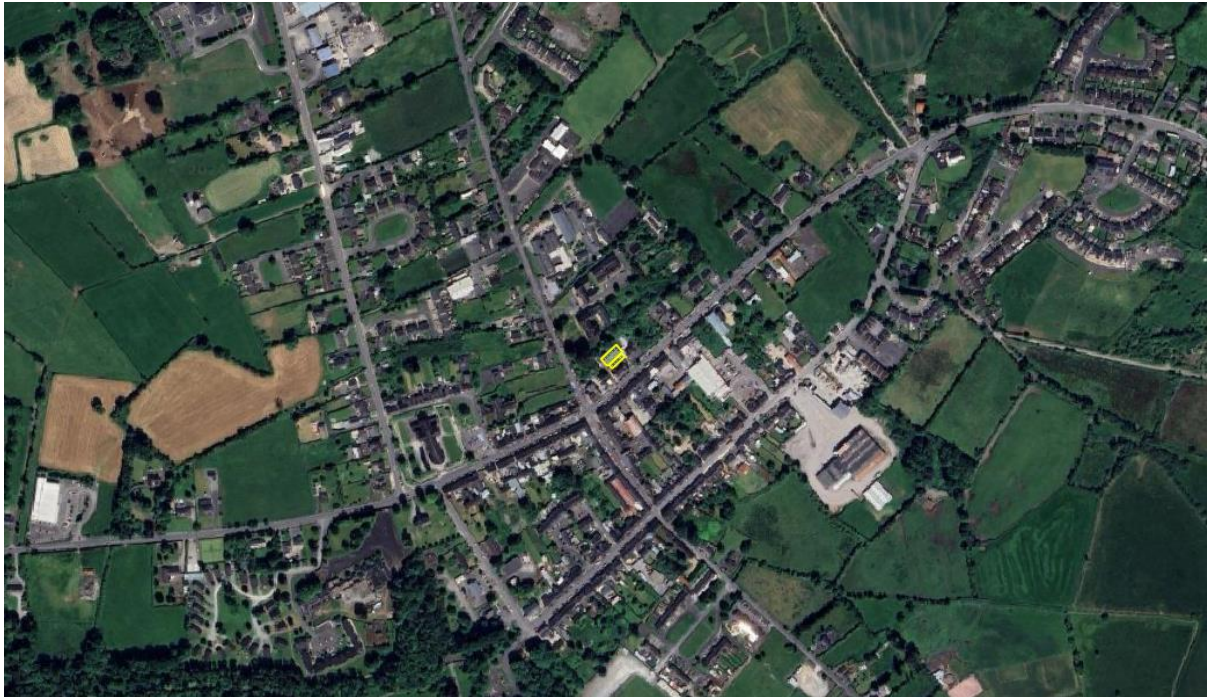


Figure 2-1: Aerial of site and surroundings

2.3 BAT SPECIES RECORDED IN THE SURROUNDING AREA

The Bat Conservation Ireland and NBDC database was consulted for details on bat records held for the site and the surroundings. The databases were consulted on the 23/08/2024 for details on historical records from the site, the surrounding 6km. Results are outlined in Table 2-2. Seven of the nine confirmed resident bat species known to occur in Ireland have been recorded within the surrounding area, many recordings are noted from Portumna Forest Park.

Table 2-1: Irish bat species recorded in 6km of the site.

Roost type	Species recorded	Date of last survey	Details
Bat boxes	<i>Nyctalus leisleri</i> , <i>Pipistrellus pygmaeus</i> , <i>Pipistrellus pipistrellus</i> , <i>Plecotus auritus</i>	Ongoing	62 bat boxes erected in 1999
Building	<i>Myotis mystacinus</i> , <i>Plecotus auritus</i>	2023	400 y/o listed building with natural slate roof

Roost type	Species recorded	Date of last survey	Details
Building	<i>Myotis mystacinus</i> , <i>Myotis nattereri</i> , <i>Myotis</i> spp., <i>Pipistrellus pygmaeus</i> , <i>Pipistrellus</i> spp. (45kHz/55kHz), <i>Plecotus auritus</i>	2009	Whiskered, Soprano Pipistrelle and Brown long-eared roosting in building
Building	<i>Myotis daubentonii</i> ; <i>Pipistrellus pipistrellus</i> (45kHz); <i>Pipistrellus pygmaeus</i>	2007	No details
Building	<i>Myotis daubentonii</i> ; <i>Myotis mystacinus/brandtii</i> ; <i>Myotis nattereri</i> ; <i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i> (45kHz); <i>Pipistrellus pygmaeus</i> ; <i>Plecotus auritus</i>	2005	Soprano Pipistrelle Maternity roost. Other species recorded flying in the area.
Building	Unknown bat species	2002	Droppings from unknown bat species

2.3.1 Bat Survey Portumna Courthouse

2021 bat surveys conducted on the adjacent courthouse building found a small Soprano Pipistrelle roost. A 2023 survey of the same building found low numbers of Common Pipistrelle, Soprano Pipistrelle, *Myotis* Spp. and Brown Long-eared Bat. A derogation licence was obtained by the National Parks and Wildlife Service for the protection of this roost and the upgrading of this building. Works were conducted in 2024 with the roof being re-slatted with bitumen felt, to make it more favourable for roosting bats. Three bat access slates were installed; a roost hot box was placed inside the attic space and baffles were constructed. Works are continuing to the rear of this building which lies adjacent to subject site. A lighting plan has been designed for the area, to ensure low light conditions to allow bats continue to utilise the area. These two site share connectivity as they lie adjacent to each other, and it would be expected they share similar bat ecology.

3 SURVEY FINDINGS

3.1 SURVEY METHODOLOGY

A detailed inspection of the building was undertaken during daylight hours on the 7th of August 2024. 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 recorded/heard noises and calls.

The exterior of the building was 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. 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 in good weather conditions.

3.2.1 Habitats on site

The building is situated behind the old Courthouse on Clonfert Avenue, which contains a mixture of residential and retail buildings. Traditional Sodium Street-lighting can be found on the road-front. A building can be found to the rear of the site with scrub and neglected pasture. These rear habitats are suitable for feeding bats and increase the potential of the development. Moderately suitable connectivity to fields and pastureland in the area is also present in the form of tree lines and several hedgerows.

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 Plates 3-1 to 3-3 below).



Plate 3-1: Front face of the building



Plate 3-2: Front face in opposite direction showing light exposure from the street



Plate 3-3: Alley next to the building with warm light above entrance

3.1 BAT DETECTOR SURVEYS

A dusk mobile detector survey was carried out outside the building with two TVA's, a thermal camera and an IR camera. Surveys commenced at 20:30; half an hour before sunset with a daylight investigation of the building to identify features of importance for bats. 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 which is triggered to record when a bat call is emitted louder than 18dB for 1sec. This detector uses 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 7th of August occurred at 21:07. Wind speed was still throughout the survey. The air temperature was consistent through the night of 12 – 11 degrees. Overall, these conditions were good for bat survey work.

3.1.1 Results of dusk survey

During the survey, four species of bat were identified: Common Pipistrelle, Soprano Pipistrelle, Natterer's Bat and Leisler's Bat. One Common pipistrelle was confirmed to roost within a crevice in the mortar at the front of the building and another unidentified Pipistrelle was observed emerging from an upper window.

During the survey a Common and Soprano Pipistrelle were noted circling low towards the front of the building. The surveyor placed a night vision camera at this point facing two doors and five windows to look for bats emerging from this section of the building. Bats become aware of people in proximity and alter behavior; many will delay emerging thus it can be more accurate to record bat activity and review later. A single Common Pipistrelle was seen exiting from a crevice in a lintel of the righthand door (See Plate below).



Plate 3-4 Locations of emerging Bats

During this time the surveyor carried out inspections of other sections of the building examining potential for emerging bats. Common Pipistrelle and Leisler’s bats were noted flying outside the building however these were hunting rather than emerging from the subject building.

Table 3-1: Bat activity summary

Contact number	Time	Species	Details
1	21:34	Common Pipistrelle	Emerging from right side of lintel above the right-hand door on the thermal
2	21:59	Natterer’s Myotis	Both audio detectors recorded this bat but was only seen on the Canon flying from the community hall alley (not emerging)
3	22:53	Common Pipistrelle	Pair of likely Common Pipistrelle courting low in front of building.
4	22:57	Unidentified Pipistrelle	Multiple Pipistrelle calls overlap at this time, bat emerges from top right window on thermal

4 DISCUSSION

Four species of bat were positively identified during the bat surveys: Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Leisler's bat (*Nyctalus leisleri*), and Natterer's Bat (*Myotis Nattererii*).

The majority of the bat contacts recorded during the bat surveys were of Pipistrelles. These results fall in line with what is expected since common and soprano pipistrelle species are the two most commonly encountered in Ireland and they have widespread distributions (although it should also be remembered that they are also amongst the species that produce calls that are the most likely to be captured by bat detectors). The only species observed roosting in the subject building were Common pipistrelle and either Common or Soprano Pipistrelle.

Despite the presence of many Leisler's calls, it is not expected that they are using the subject building. Leisler's Bat utilise a very low qCF call loudest at around 23kHz that travels further than any other Irish bat, up to 80m away. This is because Leisler's hunt in the open, typically at heights of 20m and need to search large areas for prey. This results in a somewhat over representation of recorded Leisler's Bat calls from detectors due to their detection from a greater distance than other species.

5 POTENTIAL IMPACTS

The survey above provides a preliminary study of bat usage of a building in the town of Portumna. A single Common Pipistrelle was recorded roosting within a crevice in a lintel of the building. One other Pipistrelle bat was observed emerging from upstairs window but no other signs of roosting bats in the roof were found.

- **Disturbance**

Works associated with development or building work are likely to lead to an increase in human presence at the site, extra noise, lighting and changes in the site layout and local environment.

- **Roost impacts**

Bat roosts found within the site are not going to be impacted by the current proposal; this works will focus solely on the roof.

6 MITIGATION AND COMPENSATION

Mitigation measures have been devised under guidance from the Irish Wildlife Manuals, No. 134, (Marnell, 2022).

6.1 DEROGATION LICENCE

After consultation with the local conservation officer Ann Bingham a derogation licence will be sought from the National Parks and Wildlife Service before the proposed works commence. While impacts on the roosts are not expected there still exists a disturbance potential.

6.2 TIMING

Works should take place from September to March inclusive.

6.3 OVERSIGHT OF ROOF REMOVAL

While no bats were found emerging from the roof, the works area is located close to existing bat roosts and there is potential for low numbers of bats to be relocated to roof sections. As such a licensed bat handler should be in place in case bats are found.

7 RESIDUAL IMPACTS AFTER MITIGATION

No impacts are expected on the local bat population after the mitigation measures are completed.

8 CONCLUSION

This report details the findings of a bat survey completed as part of a planned renovation of the Portumna Community Hall.

The results of the surveys presented above show that highest bat activity occurred to the north and west of the site where the building borders treelines and scrub (beyond the townhall). A single Common Pipistrelle bat was recorded within the wall of the building and another Pipistrelle spp. bat was found roosting within the building. The roost exit was found on ground level.

No bats were found to emerge from the roof. Works on this area will not impact bats as long as measures outlined in section 6 are adhered to.

Impacts on bats have been assessed with reference to the Irish Wildlife Manual Vol 134. The overall impact on bats following mitigation is low due to the presence of a two commonly recorded roosting bats. Mitigation measures include oversight of roof removal.

9 APPENDIX A – AUDIO CONTACTS, 7TH AUGUST 2024.

Table 9-1 Audio Detector located at Canon IR Camera.

Recording No.	Time	Species
1	21:42	Leisler's Bat (<i>Nyctalus Leislerii</i>)
2	21:57	Leisler's Bat (<i>Nyctalus Leislerii</i>)
3	21:57	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
4	21:57	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
5	21:58	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
6	21:58	Natterer's Bat (<i>Myotis Nattererii</i>)
7	21:58	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
8	22:00	Leisler's Bat (<i>Nyctalus Leislerii</i>)
9	22:00	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
10	22:00	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
11	22:02	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
12	22:05	Leisler's Bat (<i>Nyctalus Leislerii</i>)
13	22:05	Leisler's Bat (<i>Nyctalus Leislerii</i>)
14	22:06	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
15	22:08	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
16	22:14	Leisler's Bat (<i>Nyctalus Leislerii</i>)
17	22:17	Leisler's Bat (<i>Nyctalus Leislerii</i>)
18	22:17	Leisler's Bat (<i>Nyctalus Leislerii</i>)
19	22:17	Leisler's Bat (<i>Nyctalus Leislerii</i>)
20	22:22	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
21	22:23	Leisler's Bat (<i>Nyctalus Leislerii</i>)
22	22:25	Leisler's Bat (<i>Nyctalus Leislerii</i>)
23	22:25	Leisler's Bat (<i>Nyctalus Leislerii</i>)
24	22:25	Leisler's Bat (<i>Nyctalus Leislerii</i>)
25	22:28	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
26	22:28	Leisler's Bat (<i>Nyctalus Leislerii</i>)
27	22:29	Leisler's Bat (<i>Nyctalus Leislerii</i>)
28	22:29	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
29	22:29	Leisler's Bat (<i>Nyctalus Leislerii</i>)
30	22:29	Leisler's Bat (<i>Nyctalus Leislerii</i>)
31	22:29	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
32	22:30	Leisler's Bat (<i>Nyctalus Leislerii</i>)
33	22:31	Leisler's Bat (<i>Nyctalus Leislerii</i>)
34	22:31	Leisler's Bat (<i>Nyctalus Leislerii</i>)
35	22:32	Leisler's Bat (<i>Nyctalus Leislerii</i>)

Table 9-2 Audio Detector located at Thermal Camera

Recording No.	Time	Species
1	21:01	Unidentified Myotis
2	21:10	Leisler's Bat (Nyctalus Leislerii)
3	21:10	Leisler's Bat (Nyctalus Leislerii)
4	21:11	Leisler's Bat (Nyctalus Leislerii)
5	21:31	Common Pipistrelle (Pipistrellus Pipistrellus)
6	21:43	Leisler's Bat (Nyctalus Leislerii)
7	21:54	Common Pipistrelle (Pipistrellus Pipistrellus)
8	21:58	Common Pipistrelle (Pipistrellus Pipistrellus)
9	21:58	Common Pipistrelle (Pipistrellus Pipistrellus)
10	21:58	Natterer's Bat (Myotis Nattererii)
11	21:59	Common Pipistrelle (Pipistrellus Pipistrellus)
12	22:00	Leisler's Bat (Nyctalus Leislerii)
13	22:00	Common Pipistrelle (Pipistrellus Pipistrellus)
14	22:02	Common Pipistrelle (Pipistrellus Pipistrellus)
15	22:05	Common Pipistrelle (Pipistrellus Pipistrellus)
16	22:05	Leisler's Bat (Nyctalus Leislerii)
17	22:07	Common Pipistrelle (Pipistrellus Pipistrellus)
18	22:08	Common Pipistrelle (Pipistrellus Pipistrellus)
19	22:14	Leisler's Bat (Nyctalus Leislerii)
20	22:18	Leisler's Bat (Nyctalus Leislerii)
21	22:18	Leisler's Bat (Nyctalus Leislerii)
22	22:20	Soprano Pipistrelle (Pipistrellus Pygmaeus)
23	22:21	Leisler's Bat (Nyctalus Leislerii)
24	22:23	Common Pipistrelle (Pipistrellus Pipistrellus)
25	22:24	Leisler's Bat (Nyctalus Leislerii)
26	22:25	Leisler's Bat (Nyctalus Leislerii)
27	22:25	Leisler's Bat (Nyctalus Leislerii)
28	22:26	Leisler's Bat (Nyctalus Leislerii)
29	22:26	Leisler's Bat (Nyctalus Leislerii)
30	22:27	Leisler's Bat (Nyctalus Leislerii)
31	22:28	Soprano Pipistrelle (Pipistrellus Pygmaeus)
32	22:29	Leisler's Bat (Nyctalus Leislerii)
33	22:29	Leisler's Bat (Nyctalus Leislerii)
34	22:30	Leisler's Bat (Nyctalus Leislerii)
35	22:31	Leisler's Bat (Nyctalus Leislerii)
36	22:31	Leisler's Bat (Nyctalus Leislerii)
37	22:31	Leisler's Bat (Nyctalus Leislerii)
38	22:32	Leisler's Bat (Nyctalus Leislerii)
39	22:32	Leisler's Bat (Nyctalus Leislerii)
40	22:32	Leisler's Bat (Nyctalus Leislerii)
41	22:32	Leisler's Bat (Nyctalus Leislerii)
42	22:32	Leisler's Bat (Nyctalus Leislerii)
43	22:32	Leisler's Bat (Nyctalus Leislerii)
44	22:37	Common Pipistrelle (Pipistrellus Pipistrellus)
45	22:37	Leisler's Bat (Nyctalus Leislerii)
46	22:37	Common Pipistrelle (Pipistrellus Pipistrellus)

Recording No.	Time	Species
47	22:39	Leisler's Bat (<i>Nyctalus Leislerii</i>)
48	22:39	Leisler's Bat (<i>Nyctalus Leislerii</i>)
49	22:40	Leisler's Bat (<i>Nyctalus Leislerii</i>)
50	22:40	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
51	22:43	Leisler's Bat (<i>Nyctalus Leislerii</i>)
52	22:44	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
53	22:44	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
54	22:44	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
55	22:45	Leisler's Bat (<i>Nyctalus Leislerii</i>)
56	22:45	Leisler's Bat (<i>Nyctalus Leislerii</i>)
57	22:46	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
58	22:46	Leisler's Bat (<i>Nyctalus Leislerii</i>)
59	22:47	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
60	22:48	Leisler's Bat (<i>Nyctalus Leislerii</i>)
61	22:48	Leisler's Bat (<i>Nyctalus Leislerii</i>)
62	22:48	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
63	22:49	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
64	22:49	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
65	22:50	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
66	22:50	Leisler's Bat (<i>Nyctalus Leislerii</i>)
67	22:50	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
68	22:50	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
69	22:51	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
70	22:51	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
71	22:52	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
72	22:52	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
73	22:52	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
74	22:52	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
75	22:52	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
76	22:53	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
77	22:53	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
78	22:53	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
79	22:53	Unidentified Myotis
80	22:54	Unidentified Myotis
81	22:54	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
82	22:54	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
83	22:54	Leisler's Bat (<i>Nyctalus Leislerii</i>)
84	22:54	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
85	22:54	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
86	22:55	Leisler's Bat (<i>Nyctalus Leislerii</i>)
87	22:55	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
88	22:55	Leisler's Bat (<i>Nyctalus Leislerii</i>)
89	22:55	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
90	22:55	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
91	22:55	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
92	22:55	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
93	22:56	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)

Recording No.	Time	Species
94	22:56	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
95	22:56	Leisler's Bat (<i>Nyctalus Leislerii</i>)
96	22:56	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
97	22:57	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
98	22:57	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
99	22:57	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
100	22:57	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
101	22:57	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
102	22:57	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
103	22:57	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
104	22:58	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
105	22:58	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
106	22:58	Leisler's Bat (<i>Nyctalus Leislerii</i>)
107	22:58	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
108	22:58	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
109	22:58	Leisler's Bat (<i>Nyctalus Leislerii</i>)
110	22:58	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
111	22:59	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
112	22:59	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
113	22:59	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
114	22:59	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
115	22:59	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
116	22:59	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
117	22:59	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
118	23:00	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
119	23:00	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
120	23:00	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
121	23:00	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
122	23:00	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
123	23:00	Leisler's Bat (<i>Nyctalus Leislerii</i>)
124	23:00	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
125	23:01	Leisler's Bat (<i>Nyctalus Leislerii</i>)
126	23:01	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
127	23:01	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
128	23:01	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
129	23:01	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
130	23:01	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
131	23:01	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
132	23:01	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
133	23:01	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
134	23:02	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
135	23:02	Leisler's Bat (<i>Nyctalus Leislerii</i>)
136	23:02	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
137	23:02	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
138	23:02	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
139	23:02	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
140	23:03	Leisler's Bat (<i>Nyctalus Leislerii</i>)

Recording No.	Time	Species
141	23:03	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
142	23:03	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
143	23:03	Leisler's Bat (<i>Nyctalus Leislerii</i>)
144	23:03	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
145	23:03	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
146	23:04	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
147	23:04	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
148	23:04	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
149	23:04	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
150	23:04	Soprano Pipistrelle (<i>Pipistrellus Pygmaeus</i>)
151	23:05	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
152	23:05	Common Pipistrelle (<i>Pipistrellus Pipistrellus</i>)
153	23:05	Unidentified Myotis