



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE &
PLANNING

REPAIR OF ARDCAHAN BRIDGE

Bat Survey Report

Prepared for:
Cork County Council



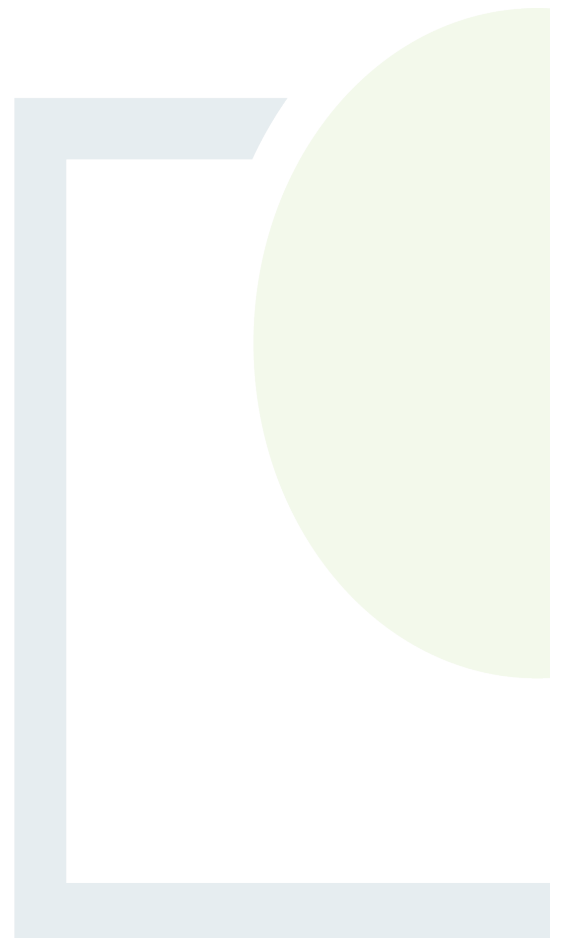
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Bat Survey Report

REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT

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Abstract: This document details the methodologies and findings of the bat surveys completed at Ardcahan Bridge, County Cork.

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1. INTRODUCTION

1.1 Overview

Cork County Council has identified the need to carry out emergency repair works to Ardcahan Bridge in Cork. These works will be progressed in accordance with the Local Authorities (Works) Act, 1949 as amended. The proposed repair works are detailed in the accompanying CEMP (Construction and Environmental Management Plan).

The bridge spans the River Bandon (EPA Code 20B02), flowing north-south. The proposed development is located in the Bandon_SC_010 sub-catchment, which is part of the Bandon-Ilen catchment.

1.2 Bat Species

Bats belong to the Order Chiroptera and to date, nine species are recorded as resident in Ireland. These nine species are divided into two families:

- Vespertilionidae, which contains eight Irish species (Daubenton's bat, Natterer's bat, whiskered bat, Leisler's bat, brown long-eared bat, soprano pipistrelle, common pipistrelle and Nathusius's pipistrelle; and
- Rhinolophidae, which contain one Irish species, the lesser horseshoe bat.

Brandt's bat *Myotis brandii* has only been recorded once in Ireland from a site in Co. Wicklow and is classified as a vagrant. In 2013, a single male greater horseshoe bat *Rhinolophus ferrumequinum* was recorded in Co. Wexford. In 2020 an individual was also recorded in Glendalough, Co. Wicklow. Both were considered to be vagrants. The development is outside the established distribution range for lesser horseshoe bat (Bat Conservation Ireland (BCI), 2020).

1.3 Legislation

1.3.1 Irish Legislation

In the Republic of Ireland, under Schedule 5 of the Wildlife Acts 1976 to 2019, all bats and their roosts are protected by law. It is an offence to disturb either without the appropriate licence. This Act was further strengthened by the Wildlife Amendment Act 2000.

1.3.2 E.U. Legislation

Under the Habitats Directive 1992 (EEC 92/43), each member state of the E.U. was requested to identify habitats of national importance and priority species of flora and fauna. These habitats are now designated as Special Areas of Conservation (SAC).



In Ireland, all bat species are classified as Annex IV species under the Habitats Directive. Annex IV species are species in need of strict protection. Lesser horseshoe bat is also classified as an Annex II species (Priority Species). Annex II species require the designation of Special Areas of Conservation specifically for their protection.

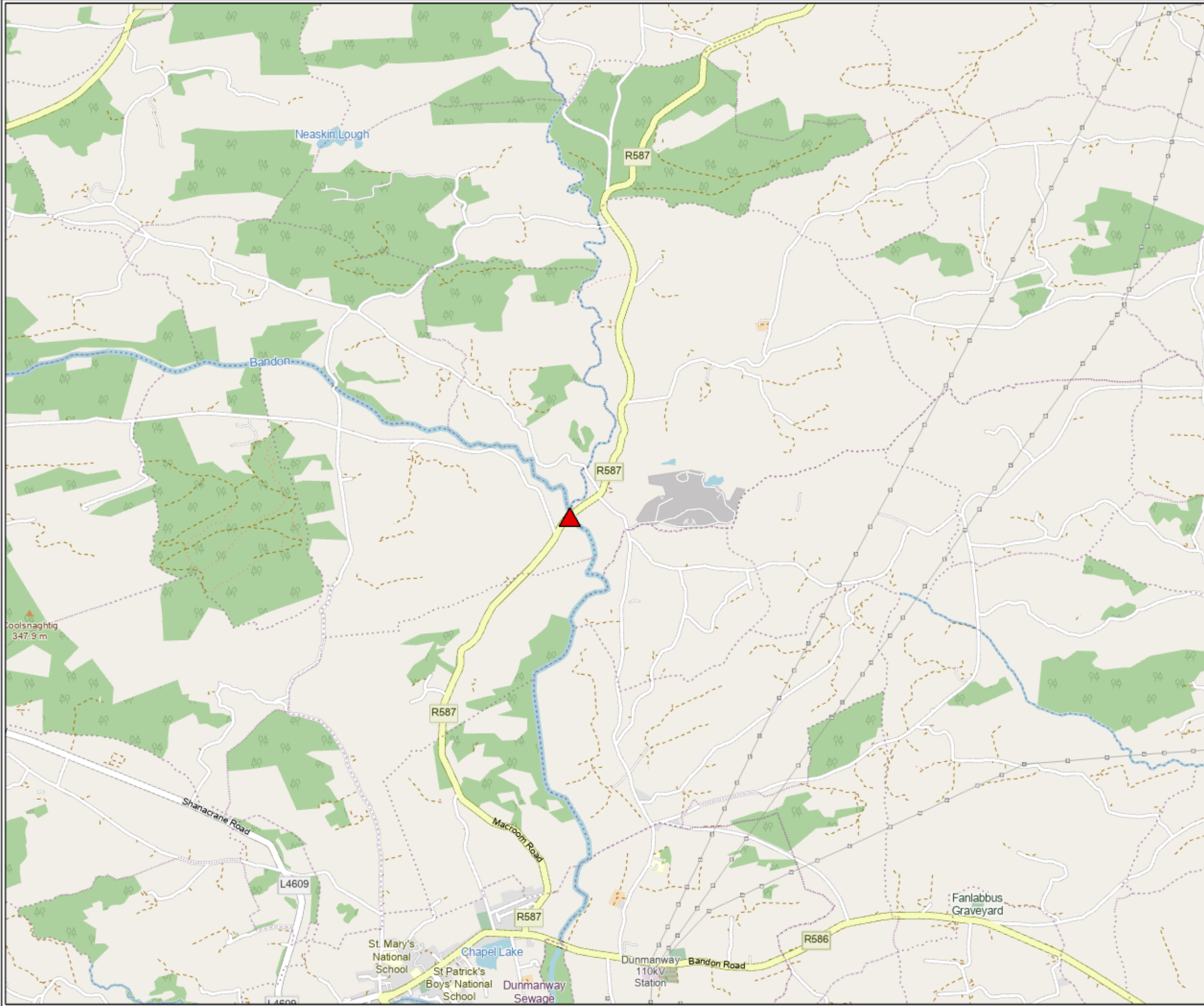
All species of bat in Ireland are strictly protected under the Habitats Directive to include deliberate disturbance of these species, particularly during the periods of breeding, rearing and hibernation. It also specifies that deterioration or destruction of breeding or resting places should not occur.

1.3.3 International Legislation

Ireland has ratified two international wildlife laws pertaining to bats:

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention, 1982) – part of this convention stipulates that all bat species and their habitats are to be conserved.

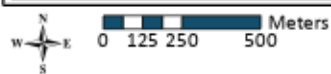
The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, Enacted 1983). This was instigated to protect migrant species across all European boundaries.



Legend

- Ardcahan Bridge

TITLE:	Site Location		
PROJECT:	Ardcahan Bridge Rehabilitation		
FIGURE NO:	1-1		
CLIENT:	Cork County Council		
SCALE:	1:24,000	REVISION:	0
DATE:	01/11/2023	PAGE SIZE:	A3
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2. BAT SURVEYS

2.1 Daytime Visual Bridge Inspection

Initial ecological surveys in 2019 inspected the underside of the Ardcahan bridge and identified features that could act as roosting habitat. Treelines near to the bridge are suitable for commuting bats. The River Bandon is suitable for foraging Daubenton's bat, in addition to more generalist species.

Brown long-eared bat (*Plecotus auritus*; Wildlife Acts; Annex IV; recorded 2012) were identified in the desktop review of the 2 km grid square (W25M) where the bridge is located. The Ardcahan Bridge was therefore identified as having moderate potential for bats.

The structure of Ardcahan Bridge was further inspected on 29th August 2023. The bridge was graded for its potential as a bat roost on the basis of the Billington and Norman (1997) (see scoring system below).

- 0 = no potential (no suitable crevices)
- 1 = crevices present may be of use to bats
- 2 = crevices ideal for bats but no evidence of usage
- 3 = evidence of bats (e.g. bats present, droppings etc.)

Potential roosting features were examined externally. Deep holes c. 3 cm diameter are present in the faces of all the concrete piers, from around waist height to chest height. These appear to have previously contained metal poles, with rusted remains left in some holes (see Figure 2-1). On the basis of the daytime visual inspection results, this bridge was given a score of 2, which aligns with the original 2019 survey.



Plate 2-1: Holes in west-facing pier in arch 6 (western arch).



2.2 Dusk Emergence Surveys

Two rounds of dusk emergence surveys were conducted in accordance with 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (3rd edition) (Collins 2016) by two surveyors, one covering the upstream side and one covering the downstream side. The survey was primarily a visual exercise to check for bats emerging from the bridge.

Handheld bat detector units (Batbox Duet, Songmeter SM4Bat FS, BATLOGGER M and BATLOGGER M2) were used to help alert surveyors to the presence of bats, identify species occurring in the area and obtain a sample of activity levels. A thermal camera was also used during the second visit. During the first round, the detector used at the upstream location (Batlogger M) malfunctioned and did not record bat calls. Playback of calls functioned correctly.

The surveys commenced c. 15 minutes before sunset and finished 1.5 hours after sunset. Weather conditions during the surveys are presented in Table 2-1. Two surveyors completed each survey, with one positioned downstream at 51.749162, -9.097821 (Plate 2-2 and Plate 2-3) and one positioned upstream at 51.749417, -9.097707 (Plate 2-4) during both rounds.

Table 2-1: Weather conditions during the emergence survey

Date	Start Time	Sunset Time	Cloud Cover	Rain	Wind	Temperature
29/08/2023	20:20	20:30	0/8	Dry	F1	14 °C
26/09/2023	19:15	19:26	2/8	Dry	F1	13°C

2.2.1 Emergence Survey 1

2.2.1.1 Downstream Results

There was no evidence of roosting in the bridge as there were no bats observed emerging from the bridge. Most activity was c. 60 minutes after sunset indicating no nearby roosts. Most activity was of soprano pipistrelle. Typically one/ two individuals were observed foraging between trees or commuting along the bridge. Common pipistrelle, Daubenton's, Leisler's, and *Myotis* sp. were also detected in smaller numbers.

2.2.1.2 Upstream Results

There was no evidence of roosting in the bridge as no bats were observed emerging from bridge. Pipistrelle Sp., Leisler's and Daubenton's bat activity was confirmed by playback of bat calls and visual observations of flight characteristics and habitat use. Pipistrelle bats were seen flying in tight circles in front of the bridge, over the bridge and along riparian vegetation. Daubenton's bats were observed hunting along the water surface. Several Leisler's bats were observed flying in straight lines at treetop level.



2.2.2 Emergence Survey 2

2.2.2.1 *Downstream Results*

There was no evidence of roosting in the bridge. The first detection of activity was recorded at 19:50, >20 minutes after sunset. The most common species recorded was soprano pipistrelle, with bats often flying up and down the length of the bridge. Common pipistrelle were also recorded. A number of bats flew at a height above the bridge. On two occasions bats were seen entering bridge arches, but they flew in and out and appeared to be foraging rather than flying to a roost. Smaller numbers of Daubenton's, Leisler's, whiskered bat and *Myotis* Sp. were also recorded. There was one record of brown long-eared bat and one record of Natterer's bat.

2.2.2.2 *Upstream Results*

There was no evidence of roosting in the bridge as no bats were observed emerging from the bridge. The earliest detection of activity was at 19:54, 28 minutes after sunset. The most frequently recorded species was common pipistrelle, followed by soprano pipistrelle and a number of Pipistrelle Sp. calls. There were also numerous Leisler's bat calls and a small number of Daubenton's bats recorded.



Plate 2-2: View of easternmost arches from downstream location



Plate 2-3: View of westernmost arch from downstream location



Plate 2-4: View of arches visible from upstream location (arches 3-5). Arches 1, 2 and 6 are blocked by dense vegetation from the upstream location.



3. ASSESSMENT AND MITIGATION

Although there was no evidence of bats roosting within the Ardcahan Bridge, this site was identified as having moderate roosting potential.

There are no proposals to remove the potential bat roosting features in the pier faces.

As a precautionary measure the bridge will be subject to a preconstruction endoscope survey (licensed) and emergence surveys (2 rounds) to re-confirm baseline conditions. If any new roosts are found during these surveys a relevant bat derogation licence shall be sought prior to construction works commencing and works will be carried out under the terms of the relevant derogation licence (a derogation license will be sought from NPWS to allow works to proceed in a manner which minimises disturbance and ensures no bats are harmed). An Annex IV assessment and report shall be completed in the event that bats are present in the bridge

Relevant guidance including the NRA (2006) Guidelines and Marnell et al. (2022) will be followed. If bats are found to be present, the ECoW will supervise works (accompanied by a bat specialist if required) to ensure they are carried out in a manner which minimises disturbance and ensures no bats are harmed.

Bat boxes will be installed under the bridge to enhance roosting potential and increase roosting options and capacity. It is noted that the bridge is located in an area which presents opportunities for foraging bats, but roosting opportunities in the bridge may be limited in terms of variety/conditions.



4. REFERENCES

Aughney, T., Kelleher, C. & Mullen, D. (2008). Bat Survey Guidelines: Traditional Farm Buildings Scheme. The Heritage Council, Áras na hOidhreachta, Church Lane, Kilkenny.

Billington, G.E. and G.M. Norman (1997). A Report on the Survey and Conservation of Bat Roosts in Bridges in Cumbria. Kendal, English Nature.

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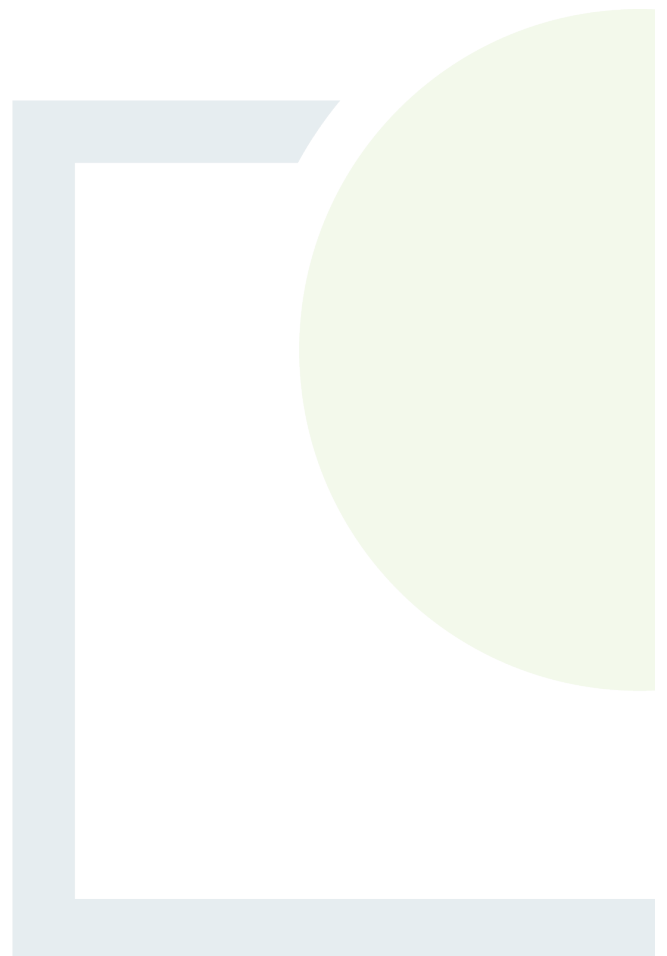
Marnell, F., Kelleher, C. & Mullen, E. (2022) Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.



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APPENDIX 1

Bat Species Detected using
SM4 -Survey 1 Downstream
on August 29th 2023



Time	Species	Comment
29/08/2023 20:45:31	Soprano Pipistrelle	
29/08/2023 20:52:48	Soprano Pipistrelle	
29/08/2023 20:54:10	Leisler's	
29/08/2023 20:54:33	Leisler's	
29/08/2023 20:54:48	Soprano Pipistrelle	First visual confirmation of bat. Flew overhead from behind and proceeded upstream above bridge.
29/08/2023 20:56:47	Soprano Pipistrelle	Flew over bridge upstream
29/08/2023 21:02:35	Soprano Pipistrelle	
29/08/2023 21:02:59	Soprano Pipistrelle	
29/08/2023 21:03:11	Soprano Pipistrelle	
29/08/2023 21:03:36	Daubenton's	
29/08/2023 21:04:03	Soprano Pipistrelle	
29/08/2023 21:04:26	Soprano Pipistrelle	
29/08/2023 21:04:51	Soprano Pipistrelle	
29/08/2023 21:05:06	Soprano Pipistrelle	
29/08/2023 21:05:24	Soprano Pipistrelle	
29/08/2023 21:05:54	Soprano Pipistrelle	
29/08/2023 21:06:13	Soprano Pipistrelle	Flew at a height upstream and over the bridge
29/08/2023 21:06:30	Soprano Pipistrelle	Beginning of flux of activity.
29/08/2023 21:06:47	Soprano Pipistrelle	
29/08/2023 21:07:04	Soprano Pipistrelle	2 sopranos going around in circles.
29/08/2023 21:07:21	Soprano Pipistrelle	
29/08/2023 21:07:38	Soprano Pipistrelle	
29/08/2023 21:07:52	Soprano Pipistrelle	
29/08/2023 21:08:09	Soprano Pipistrelle	
29/08/2023 21:08:26	Soprano Pipistrelle	
29/08/2023 21:08:33	Soprano Pipistrelle	
29/08/2023 21:08:40	Soprano Pipistrelle	
29/08/2023 21:08:47	Soprano Pipistrelle	
29/08/2023 21:09:04	Soprano Pipistrelle	
29/08/2023 21:09:09	Soprano Pipistrelle	
29/08/2023 21:09:26	Soprano Pipistrelle	
29/08/2023 21:09:48	Soprano Pipistrelle	
29/08/2023 21:09:54	Soprano Pipistrelle	
29/08/2023 21:10:11	Soprano Pipistrelle	Activity ongoing but bats not currently visible

Time	Species	Comment
29/08/2023 21:10:28	Soprano Pipistrelle	1 individual, flying over and back between trees.
29/08/2023 21:10:50	Soprano Pipistrelle	
29/08/2023 21:11:07	Soprano Pipistrelle	
29/08/2023 21:11:14	Soprano Pipistrelle	
29/08/2023 21:11:31	Soprano Pipistrelle	
29/08/2023 21:11:38	Soprano Pipistrelle	
29/08/2023 21:11:45	Soprano Pipistrelle	No visible evidence of bats at this time, only audio
29/08/2023 21:11:55	Soprano Pipistrelle	
29/08/2023 21:12:01	Soprano Pipistrelle	
29/08/2023 21:12:07	Soprano Pipistrelle	
29/08/2023 21:12:13	Soprano Pipistrelle	
29/08/2023 21:12:26	Soprano Pipistrelle	
29/08/2023 21:12:34	Soprano Pipistrelle	
29/08/2023 21:12:52	Soprano Pipistrelle	
29/08/2023 21:13:07	Soprano Pipistrelle	
29/08/2023 21:13:21	Soprano Pipistrelle	
29/08/2023 21:13:42	Soprano Pipistrelle	
29/08/2023 21:13:52	Soprano Pipistrelle	
29/08/2023 21:14:03	Daubenton's	
29/08/2023 21:14:13	Daubenton's	
29/08/2023 21:14:20	Daubenton's	
29/08/2023 21:14:38	Daubenton's	
29/08/2023 21:14:52	Daubenton's	
29/08/2023 21:15:08	Soprano Pipistrelle	
29/08/2023 21:15:26	Daubenton's	
29/08/2023 21:15:44	Soprano Pipistrelle	Flew upstream and downstream
29/08/2023 21:16:01	Soprano Pipistrelle	
29/08/2023 21:16:18	Soprano Pipistrelle	
29/08/2023 21:16:28	Soprano Pipistrelle	Flight between the trees on either side of river.
29/08/2023 21:16:45	Soprano Pipistrelle	
29/08/2023 21:16:51	Soprano Pipistrelle	
29/08/2023 21:17:08	Daubenton's	
29/08/2023 21:17:16	Daubenton's	
29/08/2023 21:17:35	Soprano Pipistrelle	Flying in circles, closer to the bridge.

Time	Species	Comment
29/08/2023 21:17:52	Soprano Pipistrelle	
29/08/2023 21:18:09	Soprano Pipistrelle	Not visible around this time
29/08/2023 21:18:26	Soprano Pipistrelle	
29/08/2023 21:18:43	Soprano Pipistrelle	
29/08/2023 21:19:00	Soprano Pipistrelle	
29/08/2023 21:19:17	Daubenton's	
29/08/2023 21:19:29	Soprano Pipistrelle	
29/08/2023 21:19:48	<i>Myotis</i> sp.	
29/08/2023 21:20:05	Soprano Pipistrelle	Flew over bridge
29/08/2023 21:20:22	<i>Myotis</i> sp.	
29/08/2023 21:20:39	Soprano Pipistrelle	Bat flew under bridge
29/08/2023 21:20:56	Soprano Pipistrelle	
29/08/2023 21:21:13	Soprano Pipistrelle	
29/08/2023 21:21:30	Daubenton's	
29/08/2023 21:21:47	Soprano Pipistrelle	
29/08/2023 21:22:04	Soprano Pipistrelle	Flying around in circles, between trees and across river.
29/08/2023 21:22:21	Soprano Pipistrelle	
29/08/2023 21:22:38	Soprano Pipistrelle	
29/08/2023 21:22:55	Soprano Pipistrelle	
29/08/2023 21:23:12	Soprano Pipistrelle	2 bats circling overhead, under bridge.
29/08/2023 21:23:29	Soprano Pipistrelle	
29/08/2023 21:23:46	Soprano Pipistrelle	
29/08/2023 21:24:03	Soprano Pipistrelle	
29/08/2023 21:24:20	Soprano Pipistrelle	
29/08/2023 21:24:37	Soprano Pipistrelle	
29/08/2023 21:24:55	Soprano Pipistrelle	
29/08/2023 21:25:12	Soprano Pipistrelle	
29/08/2023 21:25:29	Soprano Pipistrelle	
29/08/2023 21:25:46	Soprano Pipistrelle	
29/08/2023 21:26:03	Soprano Pipistrelle	Almost constant activity since last note.
29/08/2023 21:26:20	Soprano Pipistrelle	
29/08/2023 21:26:37	Soprano Pipistrelle	
29/08/2023 21:26:54	Soprano Pipistrelle	
29/08/2023 21:27:11	Soprano Pipistrelle	

Time	Species	Comment
29/08/2023 21:27:28	Soprano Pipistrelle	Flying up and down around the bridge. Constant activity since last note.
29/08/2023 21:27:45	Daubenton's	
29/08/2023 21:28:02	Daubenton's	
29/08/2023 21:28:15	Daubenton's	
29/08/2023 21:28:30	Daubenton's	
29/08/2023 21:28:48	Soprano Pipistrelle	
29/08/2023 21:29:02	Daubenton's	
29/08/2023 21:29:21	Daubenton's	
29/08/2023 21:29:34	Daubenton's	
29/08/2023 21:29:41	Common Pipistrelle	
29/08/2023 21:29:55	Common Pipistrelle	
29/08/2023 21:30:12	Daubenton's	
29/08/2023 21:30:24	Daubenton's	
29/08/2023 21:30:41	Daubenton's	
29/08/2023 21:30:49	Daubenton's	
29/08/2023 21:31:01	Daubenton's	
29/08/2023 21:31:14	Daubenton's	
29/08/2023 21:31:31	Daubenton's	
29/08/2023 21:31:48	Common Pipistrelle	
29/08/2023 21:32:05	Soprano Pipistrelle	Not bats observed since last note, but heard on bat box
29/08/2023 21:32:22	Soprano Pipistrelle	
29/08/2023 21:32:39	Soprano Pipistrelle	
29/08/2023 21:32:56	Soprano Pipistrelle	
29/08/2023 21:33:13	Soprano Pipistrelle	
29/08/2023 21:33:30	Soprano Pipistrelle	
29/08/2023 21:33:47	Soprano Pipistrelle	
29/08/2023 21:34:04	Soprano Pipistrelle	
29/08/2023 21:34:21	Soprano Pipistrelle	
29/08/2023 21:34:37	Soprano Pipistrelle	
29/08/2023 21:34:54	Soprano Pipistrelle	
29/08/2023 21:35:11	Soprano Pipistrelle	
29/08/2023 21:35:28	Soprano Pipistrelle	
29/08/2023 21:35:45	Soprano Pipistrelle	
29/08/2023 21:35:59	Common Pipistrelle	

Time	Species	Comment
29/08/2023 21:36:16	Soprano Pipistrelle	
29/08/2023 21:36:33	Soprano Pipistrelle	
29/08/2023 21:36:50	Soprano Pipistrelle	Constant activity since last note
29/08/2023 21:37:07	Soprano Pipistrelle	
29/08/2023 21:37:17	Soprano Pipistrelle	
29/08/2023 21:37:36	Soprano Pipistrelle	
29/08/2023 21:37:53	Soprano Pipistrelle	
29/08/2023 21:38:10	Soprano Pipistrelle	
29/08/2023 21:38:27	Soprano Pipistrelle	
29/08/2023 21:38:44	Soprano Pipistrelle	
29/08/2023 21:39:01	Soprano Pipistrelle	Activity has slightly reduced at this time. Calls fainter.
29/08/2023 21:39:18	Common Pipistrelle	
29/08/2023 21:39:35	Soprano Pipistrelle	
29/08/2023 21:39:52	Soprano Pipistrelle	
29/08/2023 21:40:09	Soprano Pipistrelle	
29/08/2023 21:40:26	Common Pipistrelle	
29/08/2023 21:40:43	Common Pipistrelle	
29/08/2023 21:40:53	Soprano Pipistrelle	
29/08/2023 21:41:11	Common Pipistrelle	
29/08/2023 21:41:33	Common Pipistrelle	
29/08/2023 21:41:43	Soprano Pipistrelle	
29/08/2023 21:42:01	Soprano Pipistrelle	
29/08/2023 21:42:18	Leisler's	
29/08/2023 21:42:24	Soprano Pipistrelle	
29/08/2023 21:42:34	Soprano Pipistrelle	
29/08/2023 21:42:52	Soprano Pipistrelle	
29/08/2023 21:42:59	Soprano Pipistrelle	
29/08/2023 21:43:12	Soprano Pipistrelle	
29/08/2023 21:43:19	Soprano Pipistrelle	
29/08/2023 21:43:36	Soprano Pipistrelle	
29/08/2023 21:43:53	Soprano Pipistrelle	
29/08/2023 21:44:09	Soprano Pipistrelle	
29/08/2023 21:44:17	Soprano Pipistrelle	
29/08/2023 21:44:31	Soprano Pipistrelle	

Time	Species	Comment
29/08/2023 21:44:49	Soprano Pipistrelle	
29/08/2023 21:45:06	Soprano Pipistrelle	
29/08/2023 21:45:24	Soprano Pipistrelle	
29/08/2023 21:45:42	<i>Myotis</i> sp.	
29/08/2023 21:45:47	Soprano Pipistrelle	
29/08/2023 21:46:02	Soprano Pipistrelle	Certainly less activity now.
29/08/2023 21:46:19	Soprano Pipistrelle	
29/08/2023 21:46:26	Soprano Pipistrelle	
29/08/2023 21:46:44	Soprano Pipistrelle	
29/08/2023 21:47:01	Soprano Pipistrelle	
29/08/2023 21:47:18	Soprano Pipistrelle	
29/08/2023 21:47:27	Soprano Pipistrelle	
29/08/2023 21:47:44	Soprano Pipistrelle	
29/08/2023 21:48:02	Soprano Pipistrelle	Circling
29/08/2023 21:48:19	Soprano Pipistrelle	
29/08/2023 21:48:44	Soprano Pipistrelle	
29/08/2023 21:49:01	Soprano Pipistrelle	
29/08/2023 21:49:10	Soprano Pipistrelle	
29/08/2023 21:49:25	Soprano Pipistrelle	
29/08/2023 21:49:42	Soprano Pipistrelle	
29/08/2023 21:49:59	Soprano Pipistrelle	
29/08/2023 21:50:16	Soprano Pipistrelle	
29/08/2023 21:50:28	Soprano Pipistrelle	
29/08/2023 21:50:45	Soprano Pipistrelle	
29/08/2023 21:51:03	Soprano Pipistrelle	
29/08/2023 21:51:16	Soprano Pipistrelle	
29/08/2023 21:51:33	Soprano Pipistrelle	
29/08/2023 21:51:50	Soprano Pipistrelle	Circling and flying over the river.
29/08/2023 21:52:07	Soprano Pipistrelle	
29/08/2023 21:52:24	Soprano Pipistrelle	
29/08/2023 21:52:41	Soprano Pipistrelle	
29/08/2023 21:52:57	Soprano Pipistrelle	
29/08/2023 21:53:29	Soprano Pipistrelle	
29/08/2023 21:53:47	Soprano Pipistrelle	1 present circling

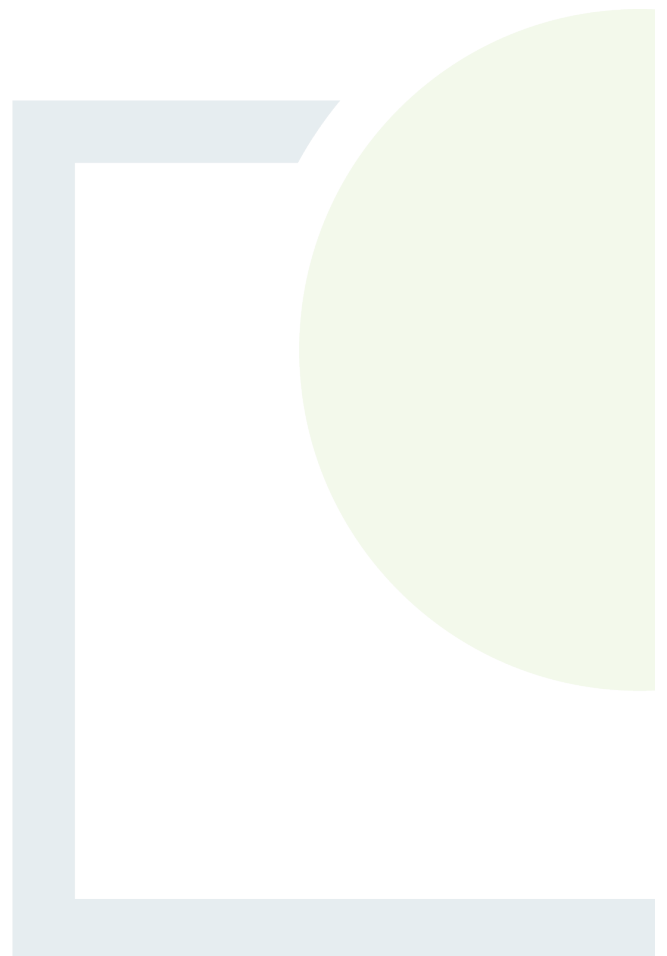
Time	Species	Comment
29/08/2023 21:54:03	Soprano Pipistrelle	
29/08/2023 21:54:14	Soprano Pipistrelle	
29/08/2023 21:54:22	Soprano Pipistrelle	
29/08/2023 21:54:33	Soprano Pipistrelle	
29/08/2023 21:54:46	Soprano Pipistrelle	
29/08/2023 21:55:03	Soprano Pipistrelle	Circling, less activity though
29/08/2023 21:55:15	Soprano Pipistrelle	
29/08/2023 21:55:32	Soprano Pipistrelle	
29/08/2023 21:55:49	Soprano Pipistrelle	
29/08/2023 21:56:06	Soprano Pipistrelle	
29/08/2023 21:56:12	Soprano Pipistrelle	2 bats present
29/08/2023 21:56:29	Common Pipistrelle	
29/08/2023 21:56:42	Soprano Pipistrelle	
29/08/2023 21:57:03	Soprano Pipistrelle	
29/08/2023 21:57:38	Soprano Pipistrelle	
29/08/2023 21:57:54	Soprano Pipistrelle	
29/08/2023 21:58:11	Soprano Pipistrelle	
29/08/2023 21:59:38	Soprano Pipistrelle	
29/08/2023 21:59:56	Soprano Pipistrelle	
29/08/2023 22:00:16	Soprano Pipistrelle	
29/08/2023 22:00:33	Soprano Pipistrelle	
29/08/2023 22:00:41	Soprano Pipistrelle	



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APPENDIX 2

Bat Species Detected using
BATLOGGER M -Survey 2
Downstream on September
26th 2023



Timestamp	Species	Surveyor Notes
26/09/2023 19:50	Soprano pipistrelle	First bat recorded, it flew downstream at a height above the bridge.
26/09/2023 19:52	Leisler's bat	Heard but not seen
26/09/2023 19:52	Leisler's bat	
26/09/2023 19:54	Leisler's bat	
26/09/2023 19:55	Soprano pipistrelle	Flying up and down the length of the bridge
26/09/2023 19:55	Soprano pipistrelle	
26/09/2023 19:55	Soprano pipistrelle	
26/09/2023 19:55	Soprano pipistrelle	
26/09/2023 19:55	Soprano pipistrelle	
26/09/2023 19:56	Soprano pipistrelle	
26/09/2023 19:57	Soprano pipistrelle	
26/09/2023 19:57	Soprano pipistrelle	
26/09/2023 19:58	Daubenton's bat	
26/09/2023 19:58	Daubenton's bat	
26/09/2023 20:00	Common pipistrelle	
26/09/2023 20:00	Daubenton's bat	
26/09/2023 20:00	Soprano pipistrelle	
26/09/2023 20:01	Common pipistrelle	
26/09/2023 20:01	Common pipistrelle	
26/09/2023 20:02	Common pipistrelle	
26/09/2023 20:02	Daubenton's bat	
26/09/2023 20:02	Daubenton's bat	
26/09/2023 20:03	Common pipistrelle	
26/09/2023 20:03	Common pipistrelle	
26/09/2023 20:03	Common pipistrelle	
26/09/2023 20:03	Leisler's bat	
26/09/2023 20:04	Common pipistrelle	
26/09/2023 20:04	Common pipistrelle	
26/09/2023 20:05	Common pipistrelle	
26/09/2023 20:06	Common pipistrelle	
26/09/2023 20:06	Common pipistrelle	
26/09/2023 20:06	Common pipistrelle	
26/09/2023 20:07	Common pipistrelle	
26/09/2023 20:07	Common pipistrelle	

Timestamp	Species	Surveyor Notes
26/09/2023 20:07	Common pipistrelle	
26/09/2023 20:07	Common pipistrelle	
26/09/2023 20:08	Common pipistrelle	
26/09/2023 20:08	Common pipistrelle	
26/09/2023 20:08	Common pipistrelle	
26/09/2023 20:08	Common pipistrelle	
26/09/2023 20:09	Common pipistrelle	
26/09/2023 20:09	Common pipistrelle	
26/09/2023 20:09	Common pipistrelle	
26/09/2023 20:09	Common pipistrelle	
26/09/2023 20:09	Common pipistrelle	
26/09/2023 20:09	Common pipistrelle	
26/09/2023 20:10	Common pipistrelle	
26/09/2023 20:10	Common pipistrelle	
26/09/2023 20:10	Common pipistrelle	
26/09/2023 20:10	Common pipistrelle	
26/09/2023 20:10	Common pipistrelle	
26/09/2023 20:10	Soprano pipistrelle	
26/09/2023 20:10	Soprano pipistrelle	
26/09/2023 20:10	Soprano pipistrelle	
26/09/2023 20:10	Soprano pipistrelle	
26/09/2023 20:11	Common pipistrelle	
26/09/2023 20:11	Common pipistrelle	
26/09/2023 20:11	Soprano pipistrelle	
26/09/2023 20:12	Common pipistrelle	
26/09/2023 20:12	Common pipistrelle	
26/09/2023 20:12	Common pipistrelle	
26/09/2023 20:12	Common pipistrelle	
26/09/2023 20:12	Common pipistrelle	
26/09/2023 20:12	Soprano pipistrelle	
26/09/2023 20:12	Soprano pipistrelle	
26/09/2023 20:12	Soprano pipistrelle	
26/09/2023 20:12	Soprano pipistrelle	
26/09/2023 20:13	Common pipistrelle	
26/09/2023 20:13	Daubenton's bat	

Timestamp	Species	Surveyor Notes
26/09/2023 20:13	Daubenton's bat	
26/09/2023 20:13	<i>Myotis</i> sp.	
26/09/2023 20:13	<i>Myotis</i> sp.	
26/09/2023 20:13	Soprano pipistrelle	
26/09/2023 20:13	Soprano pipistrelle	
26/09/2023 20:13	Soprano pipistrelle	
26/09/2023 20:13	Soprano pipistrelle	
26/09/2023 20:13	Soprano pipistrelle	
26/09/2023 20:13	Soprano pipistrelle	
26/09/2023 20:14	Common pipistrelle	
26/09/2023 20:14	Daubenton's bat	
26/09/2023 20:14	Daubenton's bat	
26/09/2023 20:14	Daubenton's bat	
26/09/2023 20:14	Daubenton's bat	
26/09/2023 20:14	<i>Myotis</i> sp.	
26/09/2023 20:14	<i>Myotis</i> sp.	
26/09/2023 20:14	<i>Myotis</i> sp.	
26/09/2023 20:14	Soprano pipistrelle	
26/09/2023 20:14	Soprano pipistrelle	
26/09/2023 20:14	Whiskered bat	
26/09/2023 20:15	Common pipistrelle	
26/09/2023 20:15	Common pipistrelle	
26/09/2023 20:15	Common pipistrelle	
26/09/2023 20:15	Common pipistrelle	
26/09/2023 20:15	Common pipistrelle	
26/09/2023 20:15	<i>Myotis</i> sp.	
26/09/2023 20:16	Common pipistrelle	
26/09/2023 20:16	Daubenton's bat	
26/09/2023 20:16	Daubenton's bat	
26/09/2023 20:16	Daubenton's bat	
26/09/2023 20:16	Daubenton's bat	
26/09/2023 20:16	Daubenton's bat	
26/09/2023 20:16	Daubenton's bat	
26/09/2023 20:16	Whiskered bat	

Timestamp	Species	Surveyor Notes
26/09/2023 20:23	Soprano pipistrelle	
26/09/2023 20:24	Soprano pipistrelle	
26/09/2023 20:24	Soprano pipistrelle	
26/09/2023 20:24	Soprano pipistrelle	
26/09/2023 20:24	Soprano pipistrelle	
26/09/2023 20:24	Soprano pipistrelle	
26/09/2023 20:24	Soprano pipistrelle	
26/09/2023 20:25	Natterer's bat	
26/09/2023 20:25	Soprano pipistrelle	
26/09/2023 20:25	Soprano pipistrelle	
26/09/2023 20:25	Soprano pipistrelle	
26/09/2023 20:25	Soprano pipistrelle	
26/09/2023 20:25	Soprano pipistrelle	
26/09/2023 20:25	Soprano pipistrelle	
26/09/2023 20:26	Soprano pipistrelle	
26/09/2023 20:26	Soprano pipistrelle	
26/09/2023 20:26	Soprano pipistrelle	
26/09/2023 20:26	Soprano pipistrelle	
26/09/2023 20:26	Soprano pipistrelle	
26/09/2023 20:27	Common pipistrelle	
26/09/2023 20:27	Common pipistrelle	
26/09/2023 20:27	Common pipistrelle	
26/09/2023 20:27	Soprano pipistrelle	
26/09/2023 20:27	Soprano pipistrelle	
26/09/2023 20:27	Soprano pipistrelle	
26/09/2023 20:28	Common pipistrelle	
26/09/2023 20:28	Common pipistrelle	
26/09/2023 20:28	Common pipistrelle	
26/09/2023 20:28	Common pipistrelle	
26/09/2023 20:28	Soprano pipistrelle	
26/09/2023 20:28	Soprano pipistrelle	
26/09/2023 20:29	Common pipistrelle	
26/09/2023 20:29	Common pipistrelle	
26/09/2023 20:29	Soprano pipistrelle	
26/09/2023 20:29	Soprano pipistrelle	

Timestamp	Species	Surveyor Notes
26/09/2023 20:30	Soprano pipistrelle	
26/09/2023 20:31	Common pipistrelle	
26/09/2023 20:31	Common pipistrelle	
26/09/2023 20:31	Common pipistrelle	
26/09/2023 20:31	Common pipistrelle	
26/09/2023 20:31	Soprano pipistrelle	
26/09/2023 20:31	Soprano pipistrelle	
26/09/2023 20:32	Common pipistrelle	
26/09/2023 20:32	Common pipistrelle	
26/09/2023 20:32	Soprano pipistrelle	
26/09/2023 20:32	Soprano pipistrelle	
26/09/2023 20:32	Soprano pipistrelle	
26/09/2023 20:32	Soprano pipistrelle	
26/09/2023 20:32	Soprano pipistrelle	
26/09/2023 20:32	Soprano pipistrelle	
26/09/2023 20:32	Soprano pipistrelle	
26/09/2023 20:33	Common pipistrelle	
26/09/2023 20:33	Soprano pipistrelle	Flying length of the bridge
26/09/2023 20:33	Soprano pipistrelle	
26/09/2023 20:33	Soprano pipistrelle	
26/09/2023 20:34	Soprano pipistrelle	Same bat flying length of the bridge
26/09/2023 20:34	Soprano pipistrelle	
26/09/2023 20:34	Soprano pipistrelle	
26/09/2023 20:34	Soprano pipistrelle	
26/09/2023 20:34	Soprano pipistrelle	
26/09/2023 20:34	Soprano pipistrelle	
26/09/2023 20:34	Soprano pipistrelle	
26/09/2023 20:34	Soprano pipistrelle	
26/09/2023 20:35	Soprano pipistrelle	
26/09/2023 20:35	Soprano pipistrelle	
26/09/2023 20:35	Soprano pipistrelle	
26/09/2023 20:35	Soprano pipistrelle	
26/09/2023 20:35	Soprano pipistrelle	
26/09/2023 20:35	Soprano pipistrelle	
26/09/2023 20:36	Common pipistrelle	Observed at a distance on the far side of the bridge.
26/09/2023 20:36	Common pipistrelle	

Timestamp	Species	Surveyor Notes
26/09/2023 20:36	Common pipistrelle	
26/09/2023 20:36	Soprano pipistrelle	
26/09/2023 20:36	Soprano pipistrelle	
26/09/2023 20:36	Soprano pipistrelle	
26/09/2023 20:36	Soprano pipistrelle	
26/09/2023 20:36	Soprano pipistrelle	
26/09/2023 20:37	Common pipistrelle	
26/09/2023 20:37	Common pipistrelle	
26/09/2023 20:37	Soprano pipistrelle	
26/09/2023 20:37	Soprano pipistrelle	
26/09/2023 20:37	Soprano pipistrelle	
26/09/2023 20:37	Soprano pipistrelle	
26/09/2023 20:37	Soprano pipistrelle	
26/09/2023 20:37	Soprano pipistrelle	
26/09/2023 20:38	Brown long-eared bat	Flew under the arch but was not observed going to roost and likely went through to other side
26/09/2023 20:38	Common pipistrelle	
26/09/2023 20:38	Common pipistrelle	
26/09/2023 20:38	Soprano pipistrelle	
26/09/2023 20:38	Soprano pipistrelle	
26/09/2023 20:38	Soprano pipistrelle	
26/09/2023 20:38	Soprano pipistrelle	
26/09/2023 20:39	Common pipistrelle	
26/09/2023 20:39	Soprano pipistrelle	
26/09/2023 20:39	Soprano pipistrelle	
26/09/2023 20:40	Soprano pipistrelle	
26/09/2023 20:40	Soprano pipistrelle	
26/09/2023 20:40	Soprano pipistrelle	
26/09/2023 20:41	Soprano pipistrelle	
26/09/2023 20:41	Soprano pipistrelle	Flying up and down the length of the bridge
26/09/2023 20:41	Soprano pipistrelle	
26/09/2023 20:42	Soprano pipistrelle	
26/09/2023 20:42	Soprano pipistrelle	
26/09/2023 20:42	Soprano pipistrelle	
26/09/2023 20:42	Soprano pipistrelle	
26/09/2023 20:43	Soprano pipistrelle	

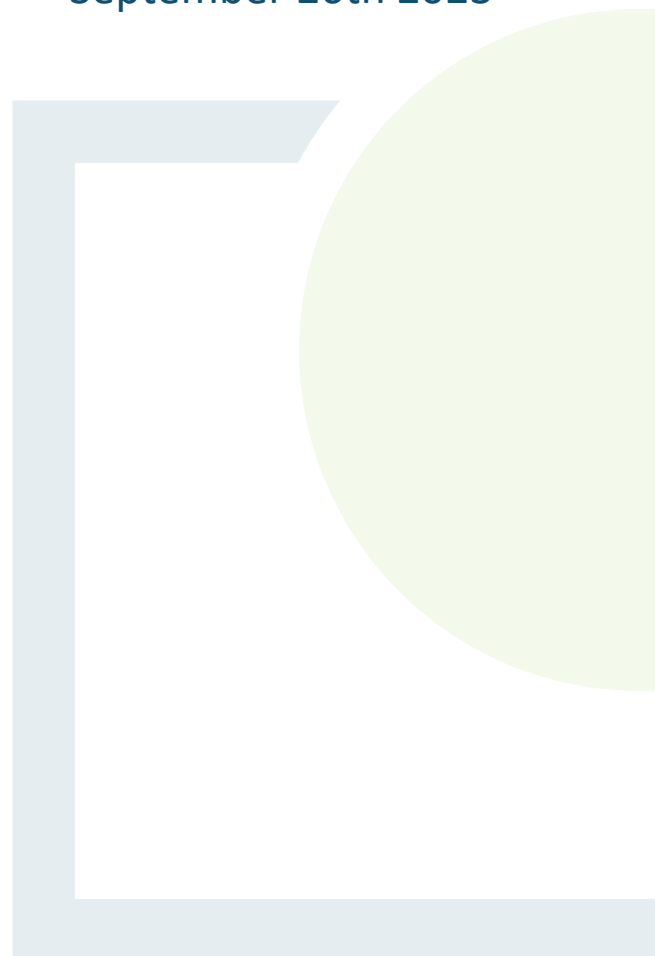
Timestamp	Species	Surveyor Notes
26/09/2023 20:50	Soprano pipistrelle	
26/09/2023 20:50	Soprano pipistrelle	
26/09/2023 20:50	Soprano pipistrelle	
26/09/2023 20:50	Soprano pipistrelle	
26/09/2023 20:50	Soprano pipistrelle	
26/09/2023 20:50	Soprano pipistrelle	
26/09/2023 20:50	Soprano pipistrelle	
26/09/2023 20:50	Whiskered bat	
26/09/2023 20:50	Whiskered bat	
26/09/2023 20:52	Common pipistrelle	
26/09/2023 20:53	Daubenton's bat	



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APPENDIX 3

Bat Species recorded during
Survey 2 - Upstream of
Ardcahan Bridge using
BATLOGGER M2 on
September 26th 2023



Timestamp	Species
26/09/2023 19:54	Common pipistrelle
26/09/2023 19:54	Common pipistrelle
26/09/2023 19:59	Soprano pipistrelle
26/09/2023 19:59	Soprano pipistrelle
26/09/2023 19:59	Soprano pipistrelle
26/09/2023 19:59	Soprano pipistrelle
26/09/2023 19:59	Soprano pipistrelle
26/09/2023 19:59	Soprano pipistrelle
26/09/2023 20:00	Soprano pipistrelle
26/09/2023 20:00	Soprano pipistrelle
26/09/2023 20:00	Soprano pipistrelle
26/09/2023 20:00	Soprano pipistrelle
26/09/2023 20:02	Daubenton's bat
26/09/2023 20:02	Daubenton's bat
26/09/2023 20:05	Soprano pipistrelle
26/09/2023 20:05	Soprano pipistrelle
26/09/2023 20:06	Common pipistrelle
26/09/2023 20:06	Common pipistrelle
26/09/2023 20:06	Daubenton's bat
26/09/2023 20:06	Daubenton's bat
26/09/2023 20:06	Daubenton's bat
26/09/2023 20:06	Daubenton's bat
26/09/2023 20:06	Daubenton's bat
26/09/2023 20:07	Pipistrelle sp.
26/09/2023 20:07	Soprano pipistrelle
26/09/2023 20:07	Common pipistrelle
26/09/2023 20:07	Common pipistrelle
26/09/2023 20:07	Common pipistrelle
26/09/2023 20:07	Common pipistrelle
26/09/2023 20:07	Common pipistrelle
26/09/2023 20:07	Common pipistrelle
26/09/2023 20:07	Common pipistrelle
26/09/2023 20:08	Common pipistrelle
26/09/2023 20:08	Common pipistrelle
26/09/2023 20:08	Common pipistrelle

Timestamp	Species
26/09/2023 20:08	Common pipistrelle
26/09/2023 20:09	Common pipistrelle
26/09/2023 20:09	Common pipistrelle
26/09/2023 20:09	Common pipistrelle
26/09/2023 20:09	Common pipistrelle
26/09/2023 20:09	Soprano pipistrelle
26/09/2023 20:09	Soprano pipistrelle
26/09/2023 20:09	Common pipistrelle
26/09/2023 20:09	Common pipistrelle
26/09/2023 20:10	Common pipistrelle
26/09/2023 20:10	Common pipistrelle
26/09/2023 20:10	Common pipistrelle
26/09/2023 20:10	Common pipistrelle
26/09/2023 20:10	Common pipistrelle
26/09/2023 20:10	Common pipistrelle
26/09/2023 20:10	Soprano pipistrelle
26/09/2023 20:10	Soprano pipistrelle
26/09/2023 20:10	Soprano pipistrelle
26/09/2023 20:10	Soprano pipistrelle
26/09/2023 20:10	Common pipistrelle
26/09/2023 20:10	Common pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:11	Soprano pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:11	Soprano pipistrelle
26/09/2023 20:11	Soprano pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:11	Common pipistrelle
26/09/2023 20:12	Common pipistrelle

Timestamp	Species
26/09/2023 20:18	Common pipistrelle
26/09/2023 20:18	Common pipistrelle
26/09/2023 20:18	Common pipistrelle
26/09/2023 20:18	Common pipistrelle
26/09/2023 20:18	Common pipistrelle
26/09/2023 20:18	Soprano pipistrelle
26/09/2023 20:18	Soprano pipistrelle
26/09/2023 20:18	Soprano pipistrelle
26/09/2023 20:18	Soprano pipistrelle
26/09/2023 20:19	Common pipistrelle
26/09/2023 20:19	Common pipistrelle
26/09/2023 20:19	Common pipistrelle
26/09/2023 20:19	Common pipistrelle
26/09/2023 20:19	Common pipistrelle
26/09/2023 20:19	Common pipistrelle
26/09/2023 20:19	Soprano pipistrelle
26/09/2023 20:19	Soprano pipistrelle
26/09/2023 20:20	Soprano pipistrelle
26/09/2023 20:20	Soprano pipistrelle
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Leisler's Bat
26/09/2023 20:20	Common pipistrelle
26/09/2023 20:20	Common pipistrelle
26/09/2023 20:20	Common pipistrelle
26/09/2023 20:20	Common pipistrelle
26/09/2023 20:20	Common pipistrelle

Timestamp	Species
26/09/2023 20:23	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Soprano pipistrelle
26/09/2023 20:24	Soprano pipistrelle
26/09/2023 20:24	Soprano pipistrelle
26/09/2023 20:24	Soprano pipistrelle
26/09/2023 20:24	Soprano pipistrelle
26/09/2023 20:24	Soprano pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:24	Common pipistrelle
26/09/2023 20:25	Common pipistrelle
26/09/2023 20:25	Common pipistrelle
26/09/2023 20:25	Common pipistrelle
26/09/2023 20:25	Common pipistrelle
26/09/2023 20:25	Common pipistrelle
26/09/2023 20:25	Common pipistrelle
26/09/2023 20:25	Common pipistrelle
26/09/2023 20:26	Common pipistrelle
26/09/2023 20:26	Common pipistrelle
26/09/2023 20:26	Common pipistrelle
26/09/2023 20:26	Leisler's Bat
26/09/2023 20:26	Leisler's Bat
26/09/2023 20:26	Leisler's Bat
26/09/2023 20:26	Common pipistrelle
26/09/2023 20:26	Common pipistrelle
26/09/2023 20:26	Common pipistrelle
26/09/2023 20:26	Common pipistrelle
26/09/2023 20:26	Soprano pipistrelle

Timestamp	Species
26/09/2023 20:29	Soprano pipistrelle
26/09/2023 20:29	Leisler's Bat
26/09/2023 20:29	Leisler's Bat
26/09/2023 20:29	Leisler's Bat
26/09/2023 20:30	Common pipistrelle
26/09/2023 20:30	Common pipistrelle
26/09/2023 20:30	Soprano pipistrelle
26/09/2023 20:30	Soprano pipistrelle
26/09/2023 20:30	Soprano pipistrelle
26/09/2023 20:30	Soprano pipistrelle
26/09/2023 20:30	Common pipistrelle
26/09/2023 20:30	Common pipistrelle
26/09/2023 20:30	Pipistrelle sp.
26/09/2023 20:30	Pipistrelle sp.
26/09/2023 20:30	Common pipistrelle
26/09/2023 20:30	Common pipistrelle
26/09/2023 20:30	Pipistrelle sp.
26/09/2023 20:30	Pipistrelle sp.
26/09/2023 20:31	Soprano pipistrelle
26/09/2023 20:31	Soprano pipistrelle
26/09/2023 20:31	Common pipistrelle
26/09/2023 20:31	Common pipistrelle
26/09/2023 20:31	Soprano pipistrelle
26/09/2023 20:31	Soprano pipistrelle
26/09/2023 20:31	Soprano pipistrelle
26/09/2023 20:31	Soprano pipistrelle
26/09/2023 20:31	Soprano pipistrelle
26/09/2023 20:31	Common pipistrelle
26/09/2023 20:31	Pipistrelle sp.
26/09/2023 20:31	Common pipistrelle
26/09/2023 20:31	Common pipistrelle
26/09/2023 20:32	Common pipistrelle
26/09/2023 20:32	Common pipistrelle
26/09/2023 20:32	Soprano pipistrelle
26/09/2023 20:32	Soprano pipistrelle

Timestamp	Species
26/09/2023 20:32	Soprano pipistrelle
26/09/2023 20:32	Soprano pipistrelle
26/09/2023 20:32	Soprano pipistrelle
26/09/2023 20:32	Soprano pipistrelle
26/09/2023 20:32	Common pipistrelle
26/09/2023 20:32	Pipistrelle sp.
26/09/2023 20:32	Pipistrelle sp.
26/09/2023 20:32	Pipistrelle sp.
26/09/2023 20:32	Soprano pipistrelle
26/09/2023 20:32	Soprano pipistrelle
26/09/2023 20:33	Common pipistrelle
26/09/2023 20:33	Common pipistrelle
26/09/2023 20:33	Common pipistrelle
26/09/2023 20:33	Common pipistrelle
26/09/2023 20:33	Pipistrelle sp.
26/09/2023 20:33	Leisler's Bat
26/09/2023 20:33	Leisler's Bat
26/09/2023 20:33	Leisler's Bat
26/09/2023 20:33	Soprano pipistrelle
26/09/2023 20:33	Soprano pipistrelle
26/09/2023 20:34	Soprano pipistrelle
26/09/2023 20:34	Soprano pipistrelle
26/09/2023 20:34	Pipistrelle sp.
26/09/2023 20:34	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Common pipistrelle
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.

Timestamp	Species
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Pipistrelle sp.
26/09/2023 20:35	Common pipistrelle
26/09/2023 20:35	Common pipistrelle
26/09/2023 20:35	Soprano pipistrelle
26/09/2023 20:35	Soprano pipistrelle
26/09/2023 20:35	Soprano pipistrelle
26/09/2023 20:35	Soprano pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Leisler's Bat
26/09/2023 20:36	Leisler's Bat
26/09/2023 20:36	Common pipistrelle
26/09/2023 20:36	Common pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Soprano pipistrelle
26/09/2023 20:36	Pipistrelle sp.
26/09/2023 20:36	Pipistrelle sp.
26/09/2023 20:36	Common pipistrelle
26/09/2023 20:36	Common pipistrelle
26/09/2023 20:37	Soprano pipistrelle
26/09/2023 20:37	Soprano pipistrelle
26/09/2023 20:37	Soprano pipistrelle
26/09/2023 20:37	Soprano pipistrelle
26/09/2023 20:37	Soprano pipistrelle
26/09/2023 20:37	Soprano pipistrelle
26/09/2023 20:37	Leisler's Bat
26/09/2023 20:37	Leisler's Bat
26/09/2023 20:37	Leisler's Bat
26/09/2023 20:37	Leisler's Bat

Timestamp	Species
26/09/2023 20:40	Common pipistrelle
26/09/2023 20:40	Common pipistrelle
26/09/2023 20:40	Common pipistrelle
26/09/2023 20:40	Common pipistrelle
26/09/2023 20:40	Pipistrelle sp.
26/09/2023 20:40	Pipistrelle sp.
26/09/2023 20:40	Soprano pipistrelle
26/09/2023 20:40	Soprano pipistrelle
26/09/2023 20:40	Soprano pipistrelle
26/09/2023 20:40	Soprano pipistrelle
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Leisler's Bat
26/09/2023 20:41	Common pipistrelle
26/09/2023 20:41	Common pipistrelle
26/09/2023 20:41	Soprano pipistrelle
26/09/2023 20:41	Soprano pipistrelle
26/09/2023 20:42	Common pipistrelle
26/09/2023 20:42	Common pipistrelle
26/09/2023 20:42	Pipistrelle sp.
26/09/2023 20:42	Pipistrelle sp.
26/09/2023 20:42	Pipistrelle sp.
26/09/2023 20:42	Pipistrelle sp.
26/09/2023 20:43	Common pipistrelle
26/09/2023 20:43	Common pipistrelle
26/09/2023 20:43	Pipistrelle sp.
26/09/2023 20:43	Pipistrelle sp.

Timestamp	Species
26/09/2023 20:43	Soprano pipistrelle
26/09/2023 20:43	Soprano pipistrelle
26/09/2023 20:43	Soprano pipistrelle
26/09/2023 20:43	Soprano pipistrelle
26/09/2023 20:43	Soprano pipistrelle
26/09/2023 20:43	Soprano pipistrelle
26/09/2023 20:44	Pipistrelle sp.
26/09/2023 20:44	Pipistrelle sp.
26/09/2023 20:44	Pipistrelle sp.
26/09/2023 20:44	Pipistrelle sp.
26/09/2023 20:44	Soprano pipistrelle
26/09/2023 20:44	Soprano pipistrelle
26/09/2023 20:45	Soprano pipistrelle
26/09/2023 20:45	Soprano pipistrelle
26/09/2023 20:45	Soprano pipistrelle
26/09/2023 20:45	Soprano pipistrelle
26/09/2023 20:45	Common pipistrelle
26/09/2023 20:45	Common pipistrelle
26/09/2023 20:45	Pipistrelle sp.
26/09/2023 20:45	Pipistrelle sp.
26/09/2023 20:46	Common pipistrelle
26/09/2023 20:46	Common pipistrelle
26/09/2023 20:47	Soprano pipistrelle
26/09/2023 20:47	Soprano pipistrelle
26/09/2023 20:47	Soprano pipistrelle
26/09/2023 20:47	Soprano pipistrelle
26/09/2023 20:48	Soprano pipistrelle
26/09/2023 20:48	Soprano pipistrelle
26/09/2023 20:48	Common pipistrelle
26/09/2023 20:48	Common pipistrelle
26/09/2023 20:48	Common pipistrelle
26/09/2023 20:48	Common pipistrelle
26/09/2023 20:48	Soprano pipistrelle
26/09/2023 20:48	Soprano pipistrelle

Timestamp	Species
26/09/2023 20:54	Leisler's Bat
26/09/2023 20:54	Leisler's Bat
26/09/2023 20:54	Leisler's Bat
26/09/2023 20:54	Leisler's Bat
26/09/2023 21:00	Leisler's Bat
26/09/2023 21:00	Leisler's Bat
26/09/2023 21:00	Leisler's Bat
26/09/2023 21:00	Leisler's Bat



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