A Bat Assessment of the Buildings and lands at Old Dunleary Road, Tedcastle's site, Dun Laoghaire Proposed For Development and Implications for Resident and Local Bat Fauna

Brian Keeley B. Sc. (Hons) in Zool.

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Introduction

Most of Ireland's mammals enjoy protection under the Wildlife Act (1976) and the more recent updating of this legislation (Wildlife (Amendment) Act 2000, S.I. No. 94 of 1997, S.I. No. 378 of 2005, European Communities (Natural Habitats) (Amendment) Regulations, 2005). In conjunction with the enactment of the Habitats Directive into Irish legislation, all native mustelid species and bat species are protected with further protection given to otters and lesser horseshoe bats. Lesser horseshoe bats are not found in County Dublin.

Bats account for nine of Ireland's terrestrial mammal species, approximately one quarter of the species of the Irish land mass. All of the species found to date and indeed all bat species that may remain undetected up to the present are afforded legal protection under Irish and EU legislation and agreements (Wildlife Act (1976), Wildlife (Amendment) Act (2000), S.I. No. 94 of 1997 and S.I. No. 378 of 2005 implementing the EU Habitats

Directive, Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animal) and the Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats).

A speedy and productive means of determining the bat fauna within a site is to walk the entire site concerned, paying particular attention to all hedgerow, woodland, watercourses, fence lines, paths etc. with the aid of an ultrasonic receiver ("bat detector").

Determining the bat fauna of the surrounding area may involve a much greater level of assessment if the aim of the survey is to catalogue all bats in all townlands but this is too detailed for the aim of creating mitigation for most developments except where the species under consideration are particularly elusive or specialised and leave few signs.

In urban areas, there is typically a scarcity of hedgerow and woodland while there is the possibility of treelines and freestanding mature trees often historically linked to former estates or planting in gardens or by local councils.

The survey undertaken within the site at Old Dunleary Road allows a targeting of mitigation measures to the appropriate or most efficient sites to prevent accidental death or injury in and to assist in providing mitigation for losses brought about in feeding and commuting. The buildings and lands are within Dun Laoghaire district where bat fauna is reduced in abundance in the more built-up areas and the sea to the east of the site.

Construction and development create numerous changes to a site that usually lead to considerable vegetation loss and a change from a green site to a greater level of concrete and land management. Within the proposed development there would also be a removal of a number of buildings and outbuildings. This may alter the elements of the landscape of benefit to bats including roost sites, hedgerow, mature trees and the insects attracted by agricultural practices.

The proposed development at the former Ted Castles site and DunLeary House (a proposed Protected Structure), Old Dun Leary Road, Cumberland Street and Dun Leary Hill, Dun Laoghaire will consist of:

- The provision of 146 no. apartment units (Build to Rent) and all associated ancillary facilities (including residential amenities) in a building with an overall height ranging from 6 storeys (with setbacks from 4th & 5th storey) addressing Dun Leary Hill, to 5 and 8 storeys (with set back from 7th storey) addressing Old Dun Leary Road and 6-7 storeys (with setbacks at 8th storey) addressing Cumberland Street. The proposal provides for private and communal open spaces in the form of balconies and terraces throughout.

- A retail unit (c.290m2) at ground floor level addressing Old Dun Leary Road and Cumberland Street

- The refurbishment, partial removal and adaptation of a 4-storey building on site known as "DunLeary House" (a proposed Protected Structure) to provide co-working office suites (c.247m2) at Levels 01,02 and 03. The works will include partial removal of original walls and floors, removal of non-original extensions to DunLeary House, repointing and repair of brickwork and granite fabric, reinstatement of timber sash windows, removal of existing roof, removal; alteration and reinstatement of internal floor layouts, reinstatement of entrance point on DunLeary Hill, removal of non-original level 00 and linking the existing building to the new development from level 00 to level 03 with the construction of 3 new floors of development (with set back at roof level) above the existing building. It is proposed to repair, reinstate and improve the existing boundary treatment to DunLeary House.

- Provision of 52 no. car parking spaces in total - 44 no. car parking spaces provided at level 00. At Cumberland Street 11 no. existing on street car parking spaces will be removed and 8 no. on street car parking spaces provided. Provision of 277 bicycle parking spaces (94 no. cycle parking spaces accommodated in bicycle stands and 183 no. long term bicycle parking spaces within a secure storage area) and 4 no. motorbike parking spaces, all at Level 00**.** A new vehicular entrance/cycle path (off the Old Dun Leary Road), ancillary plant areas, ESB substation and storage areas.

- Extensive hard and soft landscaping throughout, green roof, public lighting, signage, boundary treatments and public realm improvements.

- The demolition of the existing open fronted shed on site and all associated ancillary site services and site development works.

Plate 1: DunLeary House, the shed and perimeter wall within the site

Plate 2: Cavities in stonework in the shed and perimeter wall (eastern side of the site)

Methodology

The site was examined visually for evidence of bat roosts on 28th July to 29th July 2019. The site was re-examined on 19th and 20th June 2020. The site was examined on a third occasion on 23rd to 24th June 2021. There were two main structures with roost potential within the site; DunLeary House and a large outbuilding in addition to a perimeter wall with cavities (see Plates 1 and 2). This was followed by a night-time bat detector survey utilising ultrasonic receivers to convert bat signals used in navigation and social interaction to a recordable and measurable pulse. In the field, one piece of equipment (EM3 – see below) provided a screen for instant evaluation while the capacity to record signals allowed for bat identification to be confirmed using sound analysis software (Kaleidoscope). The analysis was carried out by automatic identification and then evaluation of the identifications by the bat specialist.

The entire site was walked before and following sunset and a transect of the site covering most hedgerow was also walked prior to sunrise. In 2021, all buildings and walls were re-examined prior to sunset with high powered beams and a fibrescope. From prior to sunset, one surveyor monitored the outbuilding while the second monitored the house and nearby trees for any bat emergence. Surveying continued up to 23.10 hours and re-commenced an hour prior to sunrise and continued up to sunrise.

Equipment employed:

Echometer 3+ Real Time Expansion monitor with SD card recording (EM3)

Songmeter2Bat+ monitor for overnight recordings within the site (SM2) (2019 only)

Songmeter Mini Bat monitor for overnight recordings within the site (Mini) (2020 and 2021)

Kaleidoscope Pro sound analysis software 5.1.9

Maps of proposed development, Google Earth and Google Maps

Huawei Smartphone 6 with digital camera

Echometer Touch 2 Pro bat detector

Motorola G(8)

An EM3 was held for the entire survey period in all three years and recorded all bat signals detectable by its transducer. A SM2 was located at the large shed and was moved at 23.00 hours to the far end of the site to the side of the main building (DunLeary House)

in 2019. In 2020, a Mini was placed in the same locations (at the large shed before being moved to the wall to the rear of DunLeary House. In 2021., the Mini remained at the same position on a wall close to DunLeary House. All buildings were examined in daylight for evidence of bats (actual bats, bat droppings, staining). The internal area of DunLeary House was examined in daytime in 2019, 2020 and 2021 and during the night for any evidence of roosting bats. This included all rooms and the attic of the house on all occasions.

Survey constraints

Conditions for surveying in 2019 were suited to bat activity for the first 90 minutes after sunset and this would have allowed emergence of Leisler's bats and pipistrelles. At sunset (21.27 hours) the temperature was 17 degrees Celsius. There was no rain on the night of survey and temperatures were adequate for bat feeding activity. There was no strong wind at the commencement of the night or at any stage in the survey. Sunrise was at 05.36 hours and was suitable for bat activity.

Once again, conditions were very suited to bat activity in June 2020 with a starting temperature of 15 degrees Celsius, no wind and no rain. Cloud cover approached 90% at sunset.

Existing Environment

Bat species noted in 2019 and 2020 in the proposed site

Common pipistrelle	***Pipistrellus pipistrellus***
Leisler's bat	***Nyctalus leisleri***

(See Tables 1- 4)

Other bats noted in the general area

Soprano pipistrelle	*Pipistrellus pygmaeus*
Daubenton's bat	*Myotis daubentonii*

Bat activity in 2019, 2020 and 2021 was dominated by common pipistrelle feeding to the southern section of the site along the trees at the rear of the site (see Figures 1 – 5). This species was noted here within 40 minutes of sunset and fed for short periods of no greater than 5 minutes before leaving the site. One individual was noted to fly from the site and over

the main gate. Common pipistrelles were primarily absent from the site prior to sunrise in all three years (with one signal 50 minutes prior to sunrise in June 2020).

Leisler's bat activity was noted briefly after sunset in all years and was only noted briefly prior to sunrise in 2019 and 2021 but not in 2020.

No bats entered or emerged from any structure within the site and no structure served as a bat roost in 2019, 2020 or 2021.

An examination of the attic, rooms, shed and stone walls provided no evidence of bats either current or historical. There was no staining, no droppings and no carcases noted anywhere in the site.

Modifications or Features introduced by the proposed development

Building demolition

There will be removal of all buildings within the site. This includes a house with a pitched roof attic and an open-sided shed.

Vegetation alterations

There will be a requirement to remove much or all of the vegetation from the site to facilitate the project.

Lighting

There will be an increased level of lighting as there will be an introduction of housing to an unused open site (see Plate 5). There will be increased lighting for the construction and operation of the new buildings. This would lead to the disturbance of light intolerant or shy species while the more urban-adapted species will be affected to a lesser extent.

Pipistrelles and Leisler's bats are less affected by light than all other species, but Pipistrelles will avoid light where possible. Leisler's bats may be attracted to lighting later into the night-time to feed on moths that themselves are attracted or disorientated by the lights. Species such as brown long-eared bat typically avoid light and *Myotis* species are also typically intolerant of light.

Impacts of The Proposed Development

Potential roost loss

Building demolition and tree removal create a risk of roost loss. This could lead to injury or death to a species protected under the Wildlife Act and Habitats Directive (if a roost were present and not identified) and would therefore constitute a breach of the Irish and EU legislation. There is no evidence that the buildings within the site are in use as bat roosts from the surveys of July 2019 and June 2020 and 2021.

DunLeary House may serve as a roost at some stage in the year. There is no evidence of bat usage, but individual bats move in and out of roosts on a regular basis and could roost under slates or in crevices and the signs may not be present if the bats were absent in the survey period. Hence, individuals may be present at times other than a specific survey without any evidence. This impact is likely to be moderate and long-term if there is roost loss and no obvious equivalent replacement for the roost loss

Disturbance from lighting

Lighting will be utilised for two different functions:

1. Access and safety and 2) Security and policing. The former is to allow ease of use at night. The latter is to ensure a perceived higher security level. This may affect light intolerant bat species during foraging and if directed at emergence points would affect all bat species, even those that will feed in illuminated areas.

Species such as Leisler's bat and common pipistrelles are less affected than almost all other Irish bat species and this would not be a significant impact. At worst, it would be a permanent moderately negative impact.

Reduced Feeding

Reduced vegetation including the removal of any of the trees within the site may lead to reduced insect abundance. On the night of survey, five species were noted. This will be a

permanent slight negative impact.

Proposed Mitigation

Examination of the office / house for the presence of bats prior to removal

The assessments of 2019, 2020 and 2021 suggests that DunLeary House did not serve as a bat roost at the time of survey. It is therefore proposed that this building must be re-examined prior to demolition only if the building remains in place beyond 2021. If bats are noted, then a derogation must be sought from NPWS which will involve additional measures to protect bats prior to and during demolition and the provision of alternative roost sites for bats within the development.

Incorporation of 3 bat boxes (Schwegler types 2F or 2FN or equivalent) is proposed into the site to provide bat roost opportunities. All bat boxes must be *unlit* and should be at least 2.5 metres above ground height and preferably 3 metres or higher.

2F 2FN

Plate 3: Schwegler Bat Boxes proposed for trees (or buildings)

The bat boxes shall be installed on buildings (or poles if there are no option of retaining mature trees). Three boxes shall be attached to suitable trees / buildings away from lighting and scrub. There shall be no lighting of bat boxes.

Planting of vegetation

Where there is an opportunity to provide vegetative cover, native and local plant species should be employed including typical plants such as oak (the greatest value for most wildlife), hawthorn, blackthorn, elder, gorse, bramble, in addition to other species such as dog rose with an encouragement of species such as *Clematis* and other species attractive to moths.

Lighting

Lighting shall be controlled to avoid light pollution of green areas and should be targeted to areas of human activity and for priority security areas.

Motion-activated sensor lighting is preferable to reduce light pollution.

The following requirements are met by the proposed lighting:

- No mature trees shall be illuminated within or outside the site.
- All luminaires shall lack UV elements when manufactured and shall be LED
- A warm white spectrum shall be adopted to reduce blue light component. The light temperature is 3000 K for this project to meet Council requirements. • Luminaires shall feature peak wavelengths higher than 550 nm

Impacts Following Mitigation

There will be a slight negative impact upon feeding that may be reduced to negligible negative impact once vegetation establishes at the site.

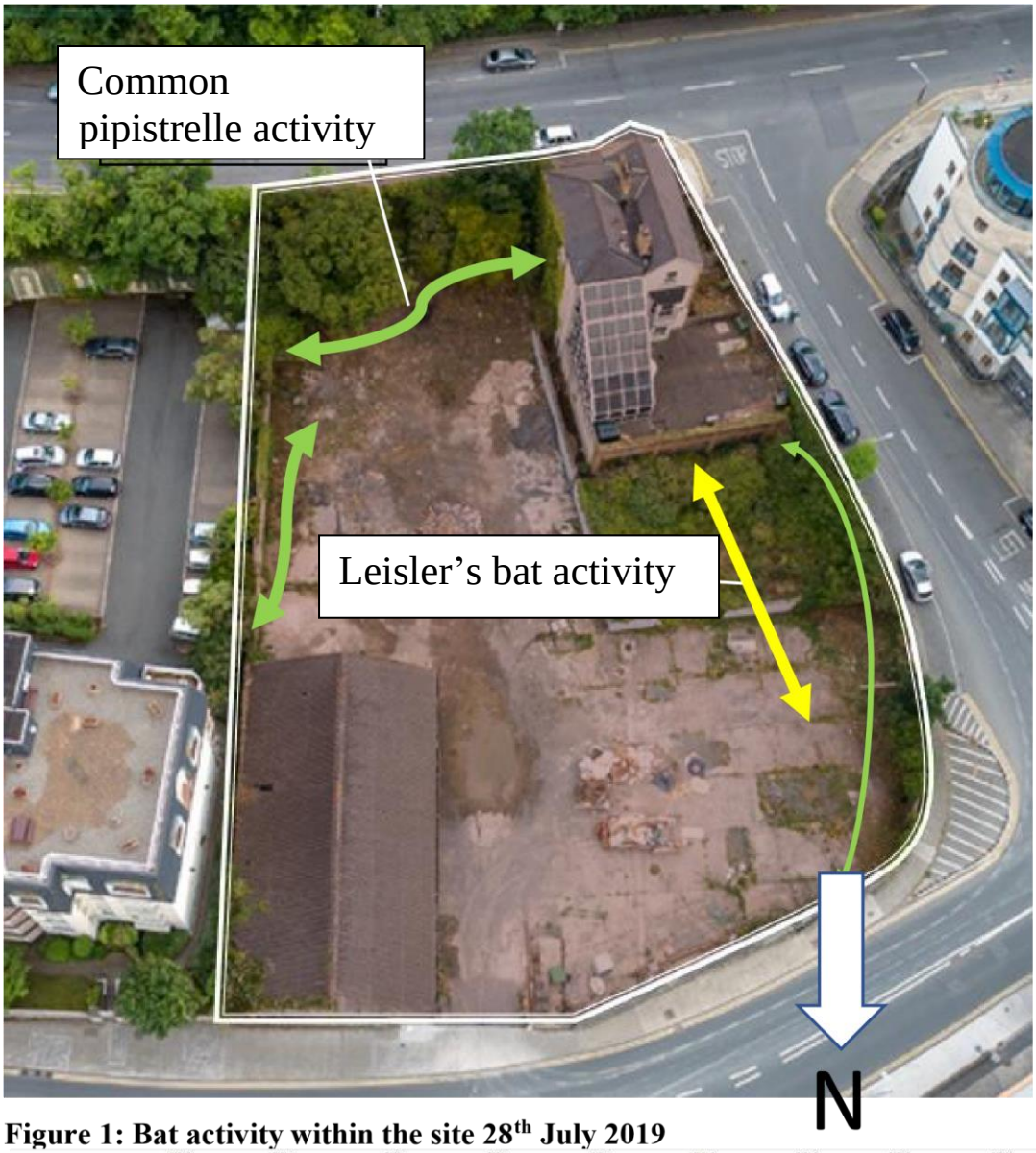
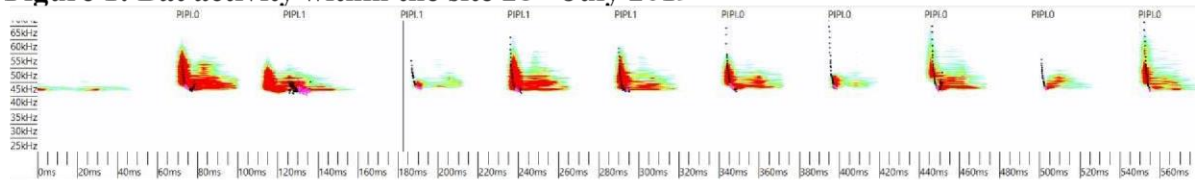
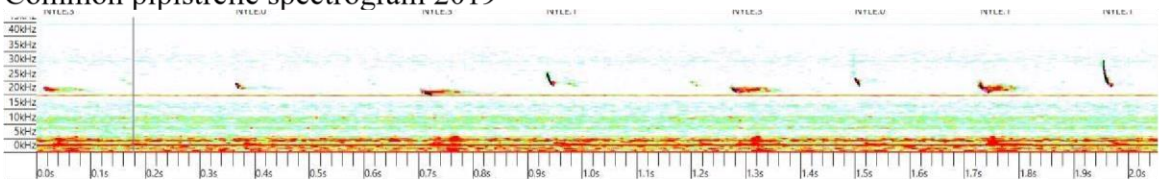


Figure 1: Bat activity within the site 28th July 2019

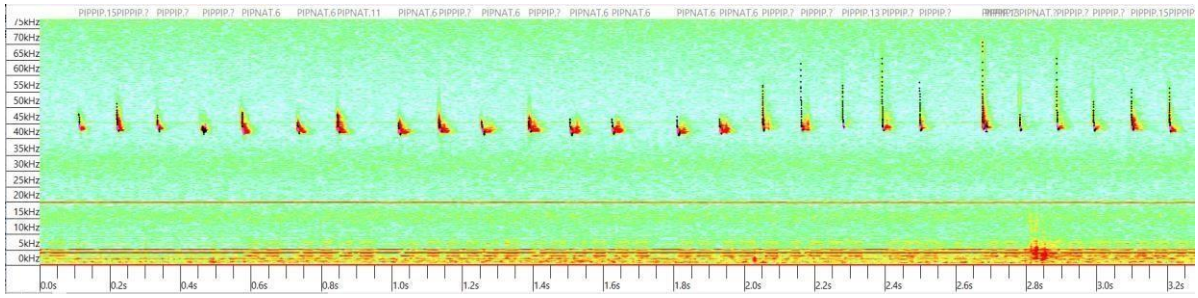


Common pipistrelle spectrogram 2019

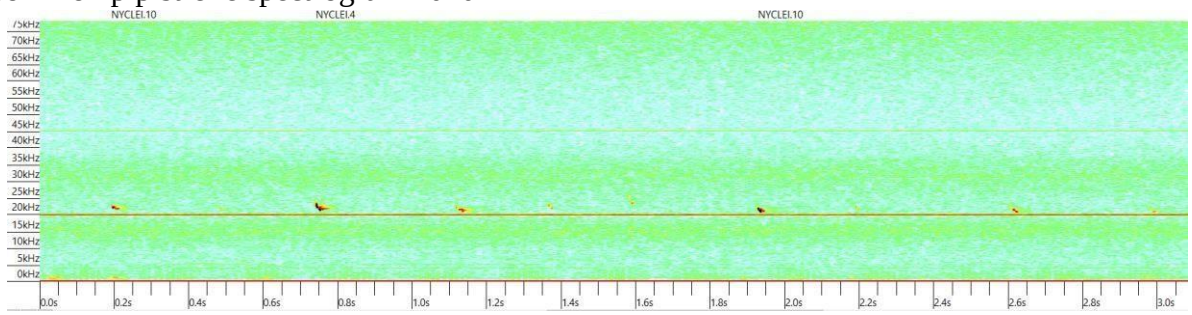


Leisler's bat signals 2019

Figure 2: Bat signals 2019



Common pipistrelle spectrogram 2020



Leisler's bat signals 2020

Figure 3: Bat signals 2020

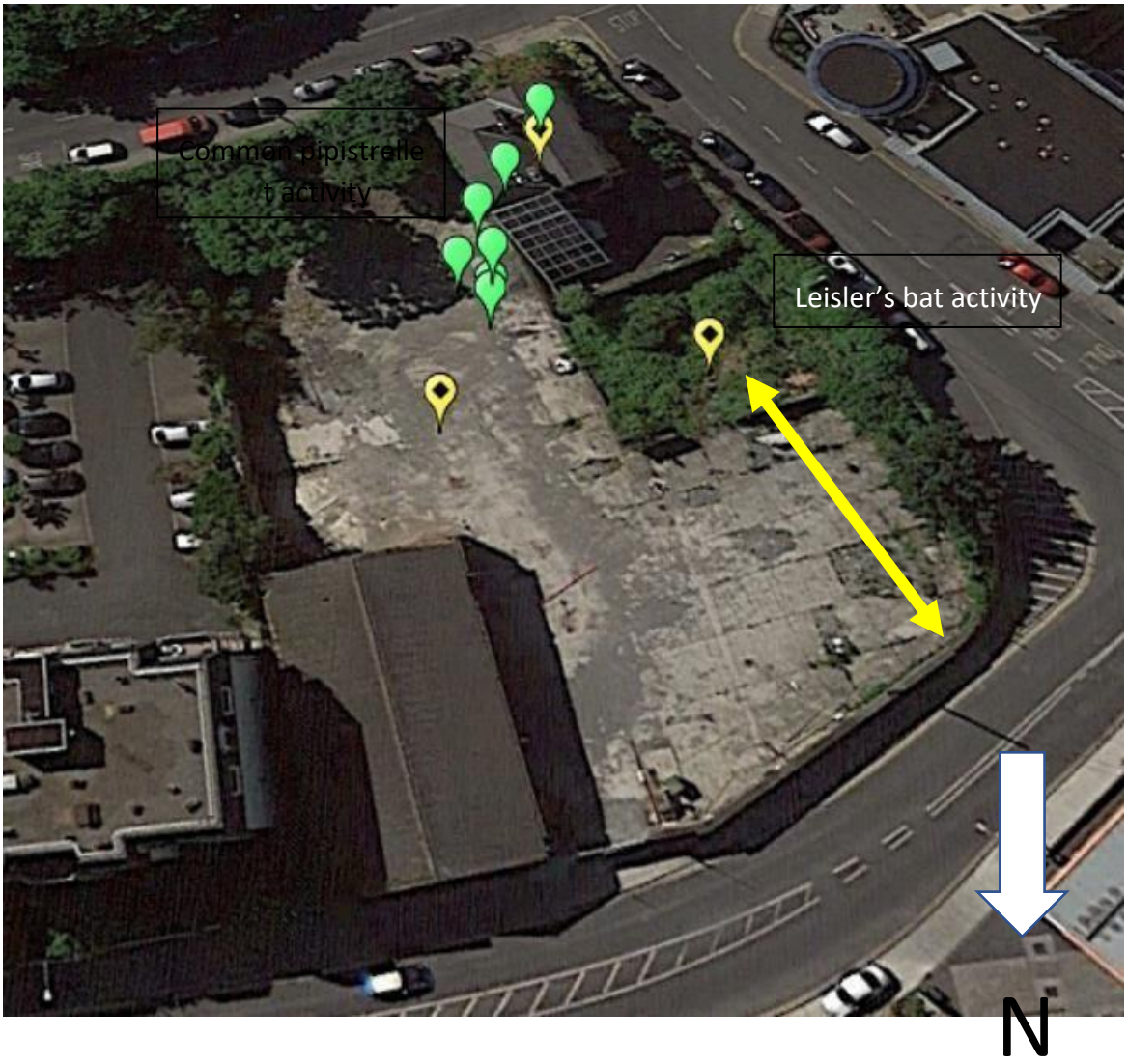


Figure 4: Bat activity within the site 19th June 2020

Yellow paddles indicate Leisler's bat activity while green paddles indicate common pipistrelle bat activity

Figure 5: Bat activity within the site 19th June 2020 indicating areas where common pipistrelle activity was highest (green arrows and green paddles)

Figure 6: Tedcastle's 2021 bat activity from Handheld EM3 data and Echometer Touch 2 Pro

Yellow paddles indicate Leisler's bat activity while green paddles indicate common pipistrelle bat activity. The line indicates the walked transect. The star indicates the location of the only bat signal prior to sunrise; a passing Leisler's bat at 04.01 hours.

Plate 4: **DunLeary House – the Main building (left) Outbuilding or Shed (right)**

The trees to the left of DunLeary House (viewed from the main gate) were a focal point for most common pipistrelle activity.

Plate 5: Lighting within the site

Light levels were mainly very low in this area with one small area where the amber street light illuminated to 1 lux (top left). Light towards the main gate from street lighting (white) contributed 1 – 2 lux (top right). Street lighting around the site did not illuminate the site in general (bottom).

Plate 6: Vegetation surrounding the site included trees in De Vesci gardens and trees along Cumberland Street (to the right of the picture)

Plate 7: The top attic of the main building on site

Plate 8: A small concrete room below the main building examined for bat signs

Table 1: Bat signals recorded on the handheld EM3 monitor 28th July 2019

TIME	AUTO ID	MANUAL ID
22:04:23	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:04:43	Nathusius' pipistrelle	Pipistrellus pipistrellus
22:09:26	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:12:47	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:13:28	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:13:48	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:14:08	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:18:30	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:18:51	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:19:11	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:22:12	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:22:33	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:26:15	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:39:02	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:46:41	Leisler's bat	Leisler's bat
22:47:01	Leisler's bat	Leisler's bat
05:10:02	Leisler's bat	Leisler's bat

Table 2: Bat signals recorded on the handheld EM3 monitor 19th June 2020

TIME	AUTO ID	PULSES	MANUAL ID
22:16:57	Leisler's bat	3	Leisler's bat
22:29:29	No id	108	Common pipistrelle
22:29:44	No id	47	Common pipistrelle
23:42:43	Leisler's bat	5	Leisler's bat
23:42:48	Leisler's bat	2	Leisler's bat
23:44:51	Leisler's bat	5	Leisler's bat
23:48:14	No id	3	Leisler's bat
22:30:10	Nathusius' pipistrelle	116	Common pipistrelle
22:30:50	Nathusius' pipistrelle	90	Common pipistrelle
22:30:30	Nathusius' pipistrelle	82	Common pipistrelle
22:31:10	Nathusius' pipistrelle	61	Common pipistrelle
22:30:45	Nathusius' pipistrelle	46	Common pipistrelle
22:29:24	Nathusius' pipistrelle	34	Common pipistrelle
22:30:25	Nathusius' pipistrelle	20	Common pipistrelle
22:31:05	Nathusius' pipistrelle	25	Common pipistrelle
22:18:59	Nathusius' pipistrelle	12	Common pipistrelle
22:29:50	Common pipistrelle	125	Common pipistrelle
22:38:57	Common pipistrelle	44	Common pipistrelle
22:40:59	Common pipistrelle	16	Common pipistrelle
22:29:09	Common pipistrelle	31	Common pipistrelle
22:31:31	Common pipistrelle	12	Common pipistrelle
22:30:05	Common pipistrelle	14	Common pipistrelle
22:40:53	Common pipistrelle	2	Common pipistrelle
23:53:14	Common pipistrelle	2	Common pipistrelle
04:08:14	Common pipistrelle	4	Common pipistrelle

Table 3: Bat signals recorded on the SM2 monitor 28th July 2019

TIME	AUTO ID	MANUAL ID
02:46:11	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:23:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:24:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
21:58:30	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:29:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
21:59:30	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:30:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:00:30	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:32:43	Leisler's bat	Leisler's bat
22:01:30	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:37:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:03:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:38:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:04:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:38:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:05:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:39:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:06:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:39:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:07:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:08:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:44:00	Nathusius' pipistrelle	Pipistrellus Pipistrellus
22:09:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:55:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:10:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
23:18:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:11:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
23:18:30	Leisler's bat	Leisler's bat
22:16:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
23:20:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:17:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
23:31:13	Pipistrellus pygmaeus	Pipistrellus pygmaeus
21:58:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
23:35:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:00:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
23:36:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:02:30	No ID	Pipistrellus pipistrellus
23:37:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:04:30	Pipistrellus pipistrellus	Pipistrellus pipistrellus
23:56:13	Pipistrellus pygmaeus	Pipistrellus pygmaeus
22:06:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
00:02:30	Leisler's bat	Leisler's bat
22:08:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
00:41:00	Leisler's bat	Leisler's bat
22:10:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
00:49:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:16:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
00:52:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus

21:59:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
00:53:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:03:30	Pipistrellus pipistrellus	Pipistrellus pipistrellus
01:02:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:07:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
01:55:27	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:01:00	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:05:30	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:09:43	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:20:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus
02:16:57	Leisler's bat	Leisler's bat
02:45:11	Pipistrellus pipistrellus	Pipistrellus pipistrellus
02:45:41	Pipistrellus pipistrellus	Pipistrellus pipistrellus
22:12:13	Pipistrellus pipistrellus	Pipistrellus pipistrellus

Table 4: Bat signals on the Songmeter Mini 19th June 2020

Time	Auto id*	Pulses	Manual id
22:16:49	Leisler's bat	17	Leisler's bat
22:18:59	Nathusius' pipistrelle	55	Common pipistrelle
22:22:29	Leisler's bat	2	Leisler's bat
22:22:43	Leisler's bat	5	Leisler's bat
22:29:53	Common pipistrelle	44	Common pipistrelle
22:31:12	Common pipistrelle	53	Common pipistrelle
22:31:25	Common pipistrelle	36	Common pipistrelle
22:38:51	Common pipistrelle	56	Common pipistrelle
23:01:15	Common pipistrelle	66	Common pipistrelle
23:02:44	No ID	34	Common pipistrelle
23:44:47	Leisler's bat	7	Leisler's bat
01:54:52	Leisler's bat	9	Leisler's bat
02:04:55	Nathusius' pipistrelle	17	Common pipistrelle
02:16:49	Nathusius' pipistrelle	27	Common pipistrelle
02:17:29	Leisler's bat	8	Leisler's bat
02:47:21	Nathusius' pipistrelle	22	Common pipistrelle
03:04:59	No ID	7	Common pipistrelle
03:37:34	Common pipistrelle	13	Common pipistrelle
04:08:02	Common pipistrelle	28	Common pipistrelle

Table 5: Data from EM3+ 23rd to 24th June 2021

Date	Time	Auto Id	Pulses	Matching	Manual Id
23/06/2021	22:20:34	Leisler's Bat	2	2	Leisler's Bat
23/06/2021	22:20:40	Leisler's Bat	9	9	Leisler's Bat
23/06/2021	22:21:10	Common Pipistrelle	3	2	Common Pipistrelle
23/06/2021	22:21:15	Common Pipistrelle	3	3	Common Pipistrelle
23/06/2021	22:22:35	Common Pipistrelle	7	7	Common Pipistrelle
23/06/2021	22:23:00	Common	22	22	Common Pipistrelle

		Pipistrelle			
23/06/2021	22:23:05	Common Pipistrelle	3	3	Common Pipistrelle
23/06/2021	22:23:10	Common Pipistrelle	10	10	Common Pipistrelle
23/06/2021	22:23:40	Pina	4	2	Common Pipistrelle
23/06/2021	22:24:31	Common Pipistrelle	19	13	Common Pipistrelle
23/06/2021	22:25:01	Common Pipistrelle	14	14	Common Pipistrelle
23/06/2021	22:26:41	Common Pipistrelle	10	10	Common Pipistrelle
23/06/2021	22:27:22	Common Pipistrelle	19	19	Common Pipistrelle
23/06/2021	22:27:27	Common Pipistrelle	13	13	Common Pipistrelle
23/06/2021	22:27:57	Common Pipistrelle	2	2	Common Pipistrelle
23/06/2021	22:33:17	Leisler's Bat	2	2	Leisler's Bat
23/06/2021	22:33:22	Leisler's Bat	7	7	Leisler's Bat
23/06/2021	22:54:37	Leisler's Bat	10	8	Leisler's Bat
23/06/2021	22:59:34	Leisler's Bat	2	2	Leisler's Bat
23/06/2021	22:59:39	Leisler's Bat	5	4	Leisler's Bat
23/06/2021	23:04:20	Leisler's Bat	4	4	Leisler's Bat
23/06/2021	23:04:25	Leisler's Bat	3	3	Leisler's Bat

Table 6: Data from Songmeter Mini Bat static monitor 23rd June 2021

Date	Time	Auto Id	Pulses	Manual Id
23/06/2021	21:51:14	Leisler's Bat	6	Leisler's Bat
23/06/2021	22:19:40	Common Pipistrelle	43	Common Pipistrelle
23/06/2021	22:19:45	Common Pipistrelle	20	Common Pipistrelle
23/06/2021	22:19:50	Common Pipistrelle	13	Common Pipistrelle
23/06/2021	22:19:55	Leisler's Bat	14	Leisler's Bat
23/06/2021	22:20:00	Leisler's Bat	18	Leisler's Bat
23/06/2021	22:20:06	Leisler's Bat	4	Leisler's Bat
23/06/2021	22:20:11	Leisler's Bat	15	Leisler's Bat
23/06/2021	22:20:16	Leisler's Bat	9	Leisler's Bat
23/06/2021	22:20:27	Common Pipistrelle	29	Common Pipistrelle
23/06/2021	22:21:34	Common Pipistrelle	42	Common Pipistrelle
23/06/2021	22:21:39	Common Pipistrelle	37	Common Pipistrelle Leisler's Bat
23/06/2021	22:21:44	Common Pipistrelle	34	Common Pipistrelle
23/06/2021	22:21:50	Common Pipistrelle	17	Common Pipistrelle
23/06/2021	22:22:10	Common Pipistrelle	42	Common Pipistrelle

23/06/2021	22:22:15	Pina	10	Common Pipistrelle
23/06/2021	22:22:51	Common Pipistrelle	43	Common Pipistrelle
23/06/2021	22:22:56	Pina	20	Common Pipistrelle
23/06/2021	22:24:27	Common Pipistrelle	38	
23/06/2021	22:24:32	Common Pipistrelle	7	
23/06/2021	22:25:46	Common Pipistrelle	45	
23/06/2021	22:25:51	Common Pipistrelle	5	
23/06/2021	22:25:55	Common Pipistrelle	17	
23/06/2021	22:26:04	Common Pipistrelle	33	
23/06/2021	22:26:48	Common Pipistrelle	21	
23/06/2021	22:26:53	Common Pipistrelle	35	
23/06/2021	22:32:35	Leisler's Bat	16	
23/06/2021	22:32:40	Leisler's Bat	12	
23/06/2021	22:32:45	Leisler's Bat	9	
23/06/2021	22:44:50	Common Pipistrelle	38	
23/06/2021	22:44:55	Common Pipistrelle	9	
23/06/2021	22:47:09	Common Pipistrelle	24	
23/06/2021	22:47:14	Noid	2	Common Pipistrelle
23/06/2021	22:48:22	Common Pipistrelle	8	Common Pipistrelle
23/06/2021	22:53:52	Leisler's Bat	10	Leisler's Bat
23/06/2021	22:53:57	Leisler's Bat	4	Leisler's Bat
23/06/2021	22:58:50	Leisler's Bat	6	Leisler's Bat
23/06/2021	23:03:38	Leisler's Bat	11	Leisler's Bat
23/06/2021	23:03:43	Leisler's Bat	13	Leisler's Bat
23/06/2021	23:03:48	Leisler's Bat	3	Leisler's Bat
23/06/2021	23:14:27	Pina	12	Common Pipistrelle
23/06/2021	23:16:34	Common Pipistrelle	23	Common Pipistrelle
23/06/2021	23:16:39	Common Pipistrelle	11	Common Pipistrelle
23/06/2021	23:21:12	Common Pipistrelle	24	Common Pipistrelle
23/06/2021	23:55:13	Leisler's Bat	14	Leisler's Bat
23/06/2021	23:55:18	Leisler's Bat	11	Leisler's Bat
23/06/2021	23:55:23	Leisler's Bat	6	Leisler's Bat
24/06/2021	00:14:31	Leisler's Bat	4	Leisler's Bat
24/06/2021	00:15:21	Common Pipistrelle	25	Common Pipistrelle
24/06/2021	00:52:08	Leisler's Bat	9	Leisler's Bat
24/06/2021	01:02:56	Common Pipistrelle	31	Common Pipistrelle
24/06/2021	01:08:19	Pina	21	Common Pipistrelle
24/06/2021	01:10:38	Common Pipistrelle	12	Common Pipistrelle

24/06/2021	01:10:57	Leisler's Bat	16	Leisler's Bat
24/06/2021	01:11:02	Leisler's Bat	2	Leisler's Bat
24/06/2021	01:34:18	Common Pipistrelle	16	Common Pipistrelle
24/06/2021	01:34:23	Common Pipistrelle	2	Common Pipistrelle
24/06/2021	01:45:10	Leisler's Bat	9	Leisler's Bat
24/06/2021	01:45:15	Leisler's Bat	10	Leisler's Bat
24/06/2021	01:45:20	Leisler's Bat	2	Leisler's Bat
24/06/2021	02:07:15	Common Pipistrelle	8	Common Pipistrelle
24/06/2021	02:09:11	Pina	13	Common Pipistrelle
24/06/2021	02:23:00	Pina	25	Common Pipistrelle
24/06/2021	03:06:12	Common Pipistrelle	31	Common Pipistrelle

Table 6: BCIreland data: search results 4th August 2021

BCIreland data: search results 4 Aug 2021

Search parameters: Roosts Transects Ad-hoc observation sites with observations of Myotis brandti Myotis daubentonii Myotis mystacinus Myotis mystacinus/brandtii Myotis nattereri Myotis spp. Nyctalus leisleri Pipistrellus nathusii Pipistrellus pipistrellus (45kHz) Pipistrellus pygmaeus Pipistrellus spp. (45kHz/55kHz) Plecotus auritus Rhinolophus hipposideros Unidentified bat within 1000m of O2358028769.

Ad-hoc observations

Survey	Grid reference	Grid ref easting	Grid ref northing	Date	Species
Bat Survey - Scott Cawley	O235278	323500	227800	07/07/2009	Nyctalus leisleri
EIS surveys - Brian Keeley	O2370029000	323700	229000	01/06/2004	Nyctalus leisleri; Pipistrellus spp. (45kHz/55kHz)