

APPENDIX 6.1

**A BAT AND BIRD ASSESSMENT OF THE LANDS AT PORTMARNOCK
PROPOSED FOR DEVELOPMENT AND IMPLICATIONS FOR RESIDENT
AND LOCAL BAT FAUNA**

A Bat and Bird Assessment of the Lands at Portmarnock Proposed for Development and Implications for Resident and Local Bat Fauna

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

July 2021

Introduction

Bats and birds are a significant, widespread, and vital element of the natural heritage of Ireland. As part of the European Union, biodiversity conservation in the Republic of Ireland is protected within a single legislative directive (European Communities (Birds and Natural Habitats) Regulations 2011-2015) that is the Birds Directive of 1979 and the Habitats Directive of 1992. Bats and birds are afforded varying degrees of protection under Irish and EU law.

Bird protection is more complicated as some species are considered sufficiently abundant to allow killing for sport and recreation or to reduce crop damage, building deterioration or health risk (e.g., large numbers of roosting pigeons may be deemed to create a risk of Histoplasmosis and removed under licence) . Birds and their nests are protected under the Wildlife Act within the officially designated nesting period; March 1st to August 31st.

In the urban and suburban environment, the need to protect and enhance biodiversity may be challenging where the need to house and provide recreational facilities may involve the modification of the vegetation and landscape elements and may have an immediate effect upon the biodiversity of the area or of adjoining and surrounding areas. Bird may lose nest sites through hedgerow removal in addition to the feeding opportunities provided by the presence of vegetation and cover. Bats may also lose roost sites and feeding and commuting corridors that allow movement between good roost sites and good feeding areas and the network of roosts that bats avail of throughout the year.

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 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.

The survey undertaken within the site at Portmarnock 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. 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. This may alter the elements of the landscape of benefit to bats including hedgerow, mature trees and the insects attracted by agricultural practices.

Methodology

The site was examined on two occasions in summer 2021. Bats and birds were considered during both of these visits.

Bats

This commenced with an overall evaluation of the site for bat roost potential, and this was followed by a night-time bat detector survey by one surveyor 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 on each night (EM3 – on May 25th and Echometer Touch 2 Pro and June 1st - 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 Pro). The night survey commenced prior to sunset at 21.34 hours and continued for approximately one and a half hours on May 25th, 2021. Surveying re-commenced at 04.00 hours and continued up to 05.10 hours on May 26th, 2021. The survey commenced prior to 21.43 hours on June 1st and again continued up to 23.09

hours. The pre-dawn survey commenced at 04.00 hours and continued until 05.03 hours on June 2nd, 2021.

The sound analysis was later carried out by automatic identification with Kaleidoscope Pro software and then evaluation of the identifications by the bat specialist.

Equipment employed:

Echometer 3 Real Time Expansion monitor with SD card recording and Garmin GPS

2 x Songmeter Mini monitors for overnight recordings within the site

Echometer Touch 2 Pro bat detector

Pettersson D240X heterodyne and time expansion detector

Motorola G8 Plus Smartphone with digital camera

On May 25th, 2021, an EM3 was held for the entire survey period and recorded all bat signals detectable by its transducer. The D240X was used as a detector but not for recording. The transducer of this monitor is more sensitive and detects bats at a greater distance. It can be used as an additional means of determining the bat fauna over a wider radius where the bats do not approach the observer within the site. Observations on Leisler's bat activity is supplemented within the report from the notes made during the survey of D240X signals.

On June 1st, an Echometer Touch 2 Pro was used to record bat signals in addition to 2 static monitors (Songmeter Mini Bat), one placed in the north-eastern corner of the site and one in the south-eastern corner. These recorded throughout the night.

Survey constraints

Conditions for surveying were suited to bat activity and birds on all dates of visit. At sunrise on May 26th (05.10 hours), the temperature was officially 16 degrees Celsius but was reading 8 degrees Celsius on site. On June 1st, the start temperature was 14 degrees Celsius. Cloud cover was very low (10%). Sunset was at 21.43 hours with a temperature of 12 degrees Celsius by 23.09 hours. Sunrise was at 05.03 hours with the temperature falling to 11 degrees Celsius (still very suitable for bat activity).

Bat roosts identified within the site

None

Bat species noted in the site

Common pipistrelle	<i>Pipistrellus pipistrellus</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
Leisler's bat	<i>Nyctalus leisleri</i>
Brown long-eared bat	<i>Plecotus auritus</i>

Bat activity within the site was highest in the north-eastern corner of the site where trees form a sheltered corner. Here, there was high Leisler's bat activity as well as common and soprano pipistrelle bat activity.

Modifications or Features introduced by the proposed development

Vegetation alterations

There will be removal of hedgerow from the fields proposed for the construction including trees and hedges.

✦Lighting

There will be an increased level of lighting as there will be an introduction of housing to an agricultural site. 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, wherever possible.

Impacts of The Proposed Development

Potential roost loss

Tree removal creates 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 trees within the site are in use as bat roosts from the survey of 2021. Bats move in and out of roosts on a regular basis and individuals may be present at times other than a specific survey without any evidence. .

(Tree roosts are used often for short periods but repeatedly). This will potentially be a long-term moderate negative impact on the local bat fauna.

Loss of feeding

The removal of grazing and of grass, hedgerow and trees will reduce the value of the site for feeding for bats. There will be some feeding around buildings and gardens. On the night of survey, four species were noted, of which three were noted repeatedly. This is a permanent moderate negative impact upon bats of the area.

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.

Proposed Mitigation

All mature trees shall be checked for the presence of bats prior to felling

All the mature trees within the site shall be examined for the presence of bats prior to felling by a bat specialist. Should bats be noted in any tree, it is a protected structure, and a derogation must be sought as discussed above.

Incorporation of 9 bat boxes into the site

9 Schwegler bat boxes types 2F or 2FN or equivalent shall be installed in 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 1: Schwegler Bat Boxes proposed for trees (or buildings)

The bat boxes shall be installed on mature trees that are to be retained or on buildings (or poles if there are no options of the above type). Three boxes shall be attached to each of three trees unless there are better opportunities created by modifying this arrangement according to the bat specialist.

Planting of vegetation

Native and local plant species shall 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 should be controlled to avoid light pollution of green areas and should be targeted to areas of human activity and for priority security areas.

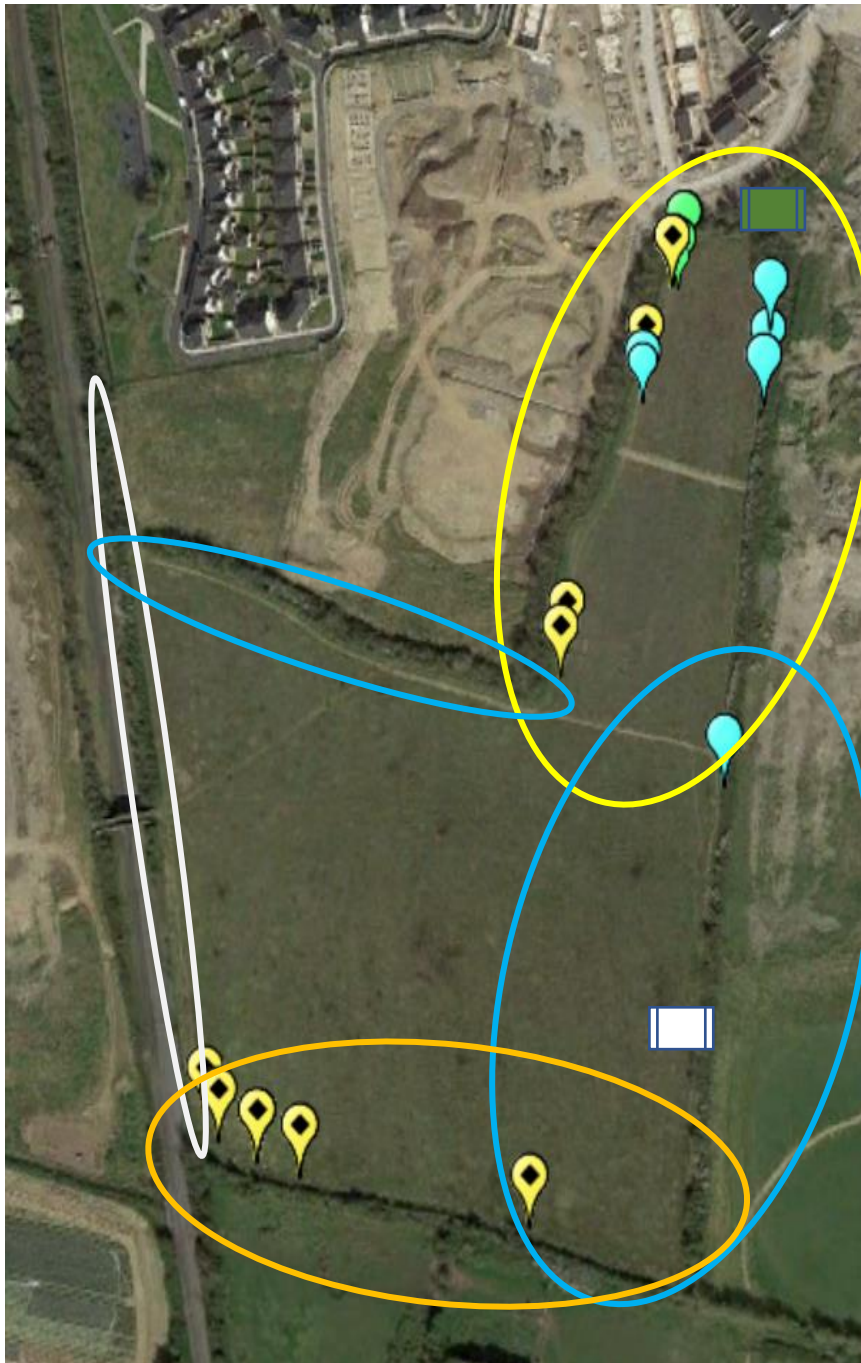
Motion-activated sensor lighting is preferable to reduce light pollution.

- None of the remaining mature trees or trees proposed for planting shall be illuminated.
- Dark corridor for movement of bats along the grounds of the site. Lighting should be directed downwards away from the treetops.
- All luminaires shall lack UV elements when manufactured and shall be LED
- A warm white spectrum (ideally <2700 Kelvin but as low as the Council limitations allow) shall be adopted to reduce blue light component
- Luminaires shall feature peak wavelengths higher than 550 nm
- Tree crowns shall remain unilluminated
- Planting shall provide areas of darkness suitable for bats to feed and commute through the site.

IMPACTS OF THE DEVELOPMENT AFTER MITIGATION

There will be some loss in feeding due to vegetation removal from some of the land. There will be some feeding replacement from the planting of native vegetation. There will be a reduction in lighting impacts from the measures to reduce light overspill and pollution. There will be roost sites available from bat boxes for individual bats and over time bat roosting opportunities within houses.

Overall, there will be no impact on the conservation status for any of the bat species noted. There will be no direct risk to bats once all tree felling is accompanied by a bat assessment.



Bat activity within the study area late May and early June 2021

Legend

<i>White box</i>	<i>Songmeter Mini Bat towards bottom right corner hedge</i>		
<i>Green box</i>	<i>Songmeter Mini Bat in top right</i>		
<i>Yellow oval</i>	<i>High Bat Activity</i>	<i>Orange oval</i>	<i>High to Moderate Bat Activity</i>
<i>Blue oval</i>	<i>Moderate Bat Activity</i>	<i>Grey oval</i>	<i>Low Bat Activity</i>
<i>Yellow paddle</i>	<i>Leisler's bat</i>	<i>Green paddle</i>	<i>Common pipistrelle</i>
<i>Blue paddle</i>	<i>Soprano pipistrelle</i>		

Birds noted within the breeding season within the site.

Of the species listed, the following were not breeding within the site: Rook, Starling, Pheasant and Jackdaw. Previously, buzzards were noted in this area prior to the construction of the current housing but no buzzards were within the site at the time of survey in May and June 2021.

BC (3 singing males)	Blackcap	<i>Sylvia atricapilla</i>
BT	Blue Tit	<i>Cyanistes caeruleus</i>
BZ	Buzzard	<i>Buteo buteo</i>
CF	Chaffinch	<i>Fringilla coelebs</i>
D. (3 calling males)	Dunnock	<i>Prunella modularis</i>
GO	Goldfinch	<i>Carduelis carduelis</i>
BF	Bullfinch	<i>Pyrrhula pyrrhula</i>
GT (2 calling males)	Great Tit	<i>Parus major</i>
R. (3 calling males)	Robin	<i>Erithacus rubecula</i>
ST (3 calling males)	Song Thrush	<i>Turdus philomelos</i>
MT	Mistle Thrush	<i>Turdus viscivorus</i>
SG	Starling	<i>Sturnus vulgaris</i>
BB (5 calling males)	Blackbird	<i>Turdus</i>
WP (2 calling males)	Wood Pigeon	<i>Columba palumbus</i>
CD	Collared dove	<i>Streptopelia decaocto</i>
WR (10 calling males)	Wren	<i>Troglodytes troglodytes</i>
JD	Jackdaw	<i>Corvus monedula</i>
MP	Magpie	<i>Pica pica</i>
S (3 singing males)	Skylark	<i>Alauda arvensis</i>
P	Pheasant	<i>Phasianus colchicus</i>
SL	Swallow	<i>Hirundo rustica</i>
Rk	Rook	<i>Corvus frugilegus</i>
HC	Hooded crow	<i>Corvus corone</i>

Bat recordings from Echometer Touch Pro 25th May to 26th May 2021

Date	Time	Auto Id*	Manual Id
25/05/2021	21:55:29	Leisler's Bat	Leisler's Bat
25/05/2021	21:55:34	Leisler's Bat	Leisler's Bat
25/05/2021	21:55:39	Leisler's Bat	Leisler's Bat
25/05/2021	21:55:45	Leisler's Bat	Leisler's Bat
25/05/2021	21:55:50	Leisler's Bat	Leisler's Bat
25/05/2021	21:55:55	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:01	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:06	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:11	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:18	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:23	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:28	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:34	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:39	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:44	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:52	Leisler's Bat	Leisler's Bat
25/05/2021	21:56:57	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:02	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:10	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:15	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:20	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:28	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:33	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:38	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:44	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:49	Leisler's Bat	Leisler's Bat
25/05/2021	21:57:54	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:01	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:06	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:11	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:17	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:22	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:27	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:33	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:38	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:43	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:50	Leisler's Bat	Leisler's Bat
25/05/2021	21:58:55	Leisler's Bat	Leisler's Bat
25/05/2021	21:59:00	Leisler's Bat	Leisler's Bat
25/05/2021	22:02:27	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:02:41	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:02:57	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:03:04	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:03:21	Leisler's Bat	Leisler's Bat
25/05/2021	22:04:20	Leisler's Bat	Leisler's Bat
25/05/2021	22:04:37	Leisler's Bat	Leisler's Bat
25/05/2021	22:05:01	Leisler's Bat	Leisler's Bat
25/05/2021	22:05:14	Leisler's Bat	Leisler's Bat
25/05/2021	22:05:30	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:05:52	Leisler's Bat	Leisler's Bat
25/05/2021	22:06:08	Leisler's Bat	Leisler's Bat
25/05/2021	22:06:24	Leisler's Bat	Leisler's Bat
25/05/2021	22:06:41	Leisler's Bat	Leisler's Bat
25/05/2021	22:07:01	Leisler's Bat	Leisler's Bat
25/05/2021	22:07:14	Leisler's Bat	Leisler's Bat
25/05/2021	22:07:30	Leisler's Bat	Leisler's Bat
25/05/2021	22:08:02	Leisler's Bat	Leisler's Bat
25/05/2021	22:08:08	Leisler's Bat	Leisler's Bat
25/05/2021	22:08:27	Leisler's Bat	Leisler's Bat

25/05/2021	22:08:48	Leisler's Bat	Leisler's Bat
25/05/2021	22:08:58	Leisler's Bat	Leisler's Bat
25/05/2021	22:09:27	Leisler's Bat	Leisler's Bat
25/05/2021	22:09:39	Leisler's Bat	Leisler's Bat
25/05/2021	22:09:48	Leisler's Bat	Leisler's Bat
25/05/2021	22:23:58	Leisler's Bat	Leisler's Bat
25/05/2021	22:26:18	Leisler's Bat	Leisler's Bat
25/05/2021	22:26:23	Leisler's Bat	Leisler's Bat
25/05/2021	22:26:28	Leisler's Bat	Leisler's Bat
25/05/2021	22:26:57	Leisler's Bat	Leisler's Bat
25/05/2021	22:27:02	Leisler's Bat	Leisler's Bat
25/05/2021	22:30:39	Noid	Leisler's Bat
25/05/2021	22:30:49	Leisler's Bat	Leisler's Bat
25/05/2021	22:36:42	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:37:32	Leisler's Bat	Leisler's Bat
25/05/2021	22:37:37	Leisler's Bat	Leisler's Bat
25/05/2021	22:37:42	Leisler's Bat	Leisler's Bat
25/05/2021	22:40:08	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:40:22	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:40:32	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:40:37	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:41:47	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:41:52	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:15	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:20	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:25	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:31	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:36	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:41	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:44	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:49	Noise	Common Pipistrelle
25/05/2021	22:42:52	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:42:57	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:43:02	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:43:08	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:43:13	Common Pipistrelle	Common Pipistrelle
25/05/2021	22:44:13	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:44:18	Soprano Pipistrelle	Soprano Pipistrelle
25/05/2021	22:44:23	Noise	Soprano Pipistrelle
25/05/2021	22:46:23	Leisler's Bat	Leisler's Bat
25/05/2021	22:46:28	Leisler's Bat	Leisler's Bat
25/05/2021	22:46:33	Leisler's Bat	Leisler's Bat
25/05/2021	22:46:39	Leisler's Bat	Leisler's Bat
25/05/2021	22:46:44	Leisler's Bat	Leisler's Bat
25/05/2021	22:46:52	Leisler's Bat	Leisler's Bat
25/05/2021	22:46:57	Leisler's Bat	Leisler's Bat
25/05/2021	22:47:02	Noid	Leisler's Bat
26/05/2021	04:21:27	Noid	Common Pipistrelle
26/05/2021	04:28:45	Common Pipistrelle	Common Pipistrelle
26/05/2021	04:28:50	Noise	Common Pipistrelle
26/05/2021	04:31:12	Noise	Common Pipistrelle
26/05/2021	04:31:17	Noise	Common Pipistrelle
26/05/2021	04:31:22	Common Pipistrelle	Common Pipistrelle
26/05/2021	04:33:18	Noise	Common Pipistrelle
26/05/2021	04:33:28	Leisler's Bat	Leisler's Bat
26/05/2021	04:40:27	Leisler's Bat	Leisler's Bat
26/05/2021	04:41:07	Leisler's Bat	Leisler's Bat
26/05/2021	04:41:12	Noise	Leisler's Bat
26/05/2021	04:41:17	Noise	Leisler's Bat
26/05/2021	05:00:08	Leisler's Bat	Leisler's Bat
26/05/2021	05:00:13	Noise	Leisler's Bat

Bat data from static monitor in the top right corner of the site

Bat passes per hour	Species																	
	Leisler's bat			Leisler's bat Total	Total	Common pipistrelle			Common pipistrelle Total	Soprano pipistrelle signals			Soprano pipistrelle signals Total	Brown long-eared bat	Brown long-eared bat Total	Grand Total		
Date and hour	Leisler's bat	Common pipistrelle and Leisler's bat at same time	Soprano pipistrelle and Leisler's bat at same time	Common pipistrelle	Common pipistrelle	Common pipistrelle and Leisler's bat at same time	Common and soprano pipistrelle	Common and soprano pipistrelle	Soprano pipistrelle only	Soprano pipistrelle and Leisler's bat at same time	PLAUR							
01/06/2021	29	2	1	32								1	6	7	1	1	40	
21:00	18			18													18	
22:00	11	2	1	14								1	6	7			21	
23:00															1	1	1	
02/06/2021	23	1		24	8	8	68	5	11	84	8	30		38	7	7	161	
0:00	1			1	4	4	39	1	6	46	2	1		3			54	
01:00	2			2			6			6		10		10	4	4	22	
02:00	1			1			10		5	15	3	3		6	3	3	25	
03:00					4	4	10			10	3	16		19			33	
04:00	19	1		20			3	4		7							27	
Grand Total	52	3	1	56	8	8	68	5	11	84	8	31	6	45	8	8	201	

Automatic identification of bats from south-eastern corner of site

Bat passes per					
Date and Hour	Leisler's bat	Possible Nathusius' pipistrelle	Common pipistrelle	Soprano pipistrelle	Grand
01/06/2021	193	1	11	119	324
21	39	1			40
22	146		10	117	273
23	8		1	2	11
02/06/2021	38	3	39	39	119
0	5	1	1	5	12
1	2	1	2	1	6
2	8		5	3	16
3		1	30	24	55
4	23		1	6	30
Grand Total	231	4	50	158	443

Manual identifications of signals analysed from south-eastern corner of the site

Bat passes per hour								
Date and Hour	Leisler's bat	Common pipistrelle	Common pipistrelle and Leisler's bat	Common pipistrelle and Soprano pipistrelle	Common pipistrelle and Soprano pipistrelle and Leisler's bat	Soprano pipistrelle	Soprano pipistrelle and Leisler's bat	Grand Total
01/06/2021	72	1	2	3	1	4	35	118
21	38							38
22	34	1	2	3	1	4	35	80
02/06/2021		11				9		20
3		11				9		20
Grand Total	72	12	2	3	1	13	35	138

Analysis of the signals confirmed that there were no Nathusius' pipistrelles recorded