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Bat activity surveys for proposed new prison, bowling club, and boiler house on land adjacent to HMP Garth and HMP Wymott, Leyland

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Non-technical summary

Introduction

CGO Ecology Ltd was instructed by Mace Ltd, on behalf of the Ministry of Justice, to conduct a series of bat activity surveys on land adjacent to HMPs Garth and Wymott, Leyland, Lancashire. The Ministry of Justice proposes a development as part of its New Prisons Programme on land centred on (SD 502 205). The Local Planning Authority (LPA) is Chorley Council.

Methodology

Haycock and Jay Associates Ltd undertook the surveys as subconsultants for CGO Ecology Ltd. Monthly dusk transects were conducted from April to October 2021, with a dawn transect in August 2021. Each month, two static detectors were also deployed for five days to record all bat activity. Methods and levels of effort followed standard guidance. The surveys were led by Karl Harrison MCIEEM (Natural England CL18 licence).

Results

The transect surveys showed high common pipistrelle activity throughout the site, focused mainly on woodland edges as expected. The new prison site has less activity than some other parts of the site. Static detector surveys showed a similar species composition. Noctule and unidentified *Myotis* species showed low to moderate activity, and brown long-eared bat was rare.

Conclusions, mitigation, enhancement recommendations

Common pipistrelle commuting and foraging habitat will be lost to the proposed development. The new prison area is less used by bats than other areas of the site, as identified in the roost surveys and B15 vantage-point surveys reported previously, but there will still be some loss of common pipistrelle commuting and foraging habitat there. Lighting associated with the boiler house and bowling club could impact common pipistrelle. Other bat species are not likely to be significantly affected by habitat loss or light-spill.

Lighting impacts will be mitigated by a sensitive lighting plan to minimise light-spill onto currently-dark bat commuting routes and foraging areas. Short-term habitat enhancement of modified grassland to biodiverse grassland, with pond creation, will compensate some of the habitat losses for common pipistrelle. Significant areas of woodland and hedgerow planting will fully offset the losses in the medium to long term.

As an enhancement, at least 20 batboxes will be placed in trees and/or buildings to assist bats in modifying their spatial behaviour patterns.

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1. Introduction

1.1. Background

CGO Ecology Ltd (CGO) was instructed by Mace Ltd, on behalf of the Ministry of Justice (MoJ), to conduct monthly bat transect and static detector surveys from April to October 2021, of land adjacent to HMPs Garth and Wymott, Leyland, Lancashire. The MoJ proposes a new prison, boiler house, and bowling club as part of its New Prisons Programme on land centred on (SD 502 205). The Local Planning Authority (LPA) is Chorley Council.

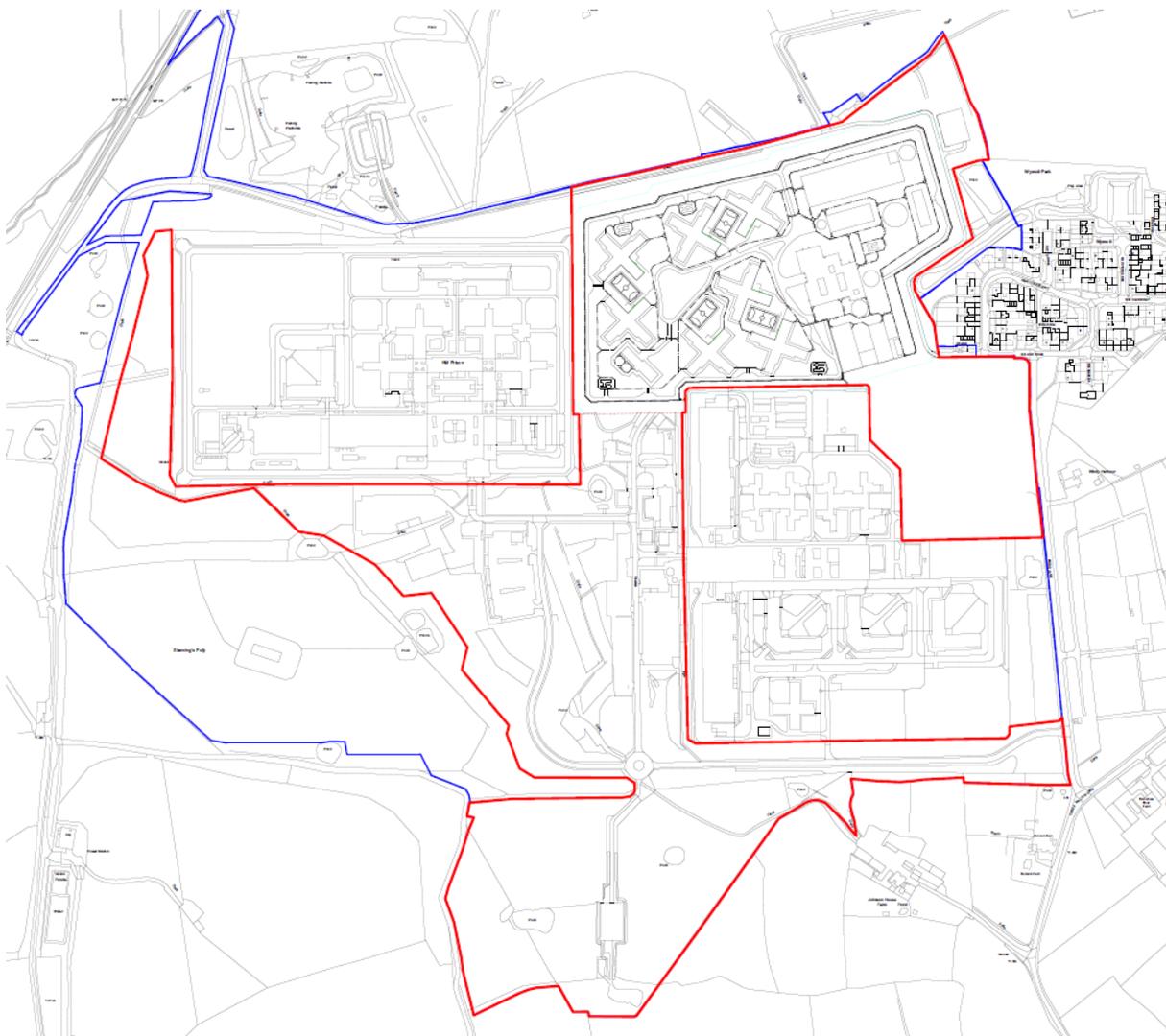


Figure 1 – Development site boundary (red line) and MoJ ownership boundary (blue line).

All UK bats and their roosts are protected by the Wildlife and Countryside Act 1981 (as amended) and the Habitats Regulations 2017 (as amended). Bats may roost in crevices in building roofs, loft voids, and other built features, or in trees and other natural cavities.

A Preliminary Ecological Appraisal (PEA) conducted by Ramboll (Molesworth, 2020). Additional areas were subjected to a PEA by CGO (Gleed-Owen, 2021a). An Ecological Impact Assessment (EclA) has already been conducted by CGO (Gleed-Owen, 2021b). This report deals with bat activity surveys in the Zone of Influence (Zoi). Bat roost surveys of buildings and woodland were reported separately (Gleed-Owen, 2021c; Harrison & Gleed-Owen, 2021).

Natural England has issued 16 European Protected Species (EPS) mitigation licences within 5km. Eight of these were for bats, the nearest being 400m south for common pipistrelle (*Pipistrellus pipistrellus*). The others are for common pipistrelle and/or brown long-eared bat (*Plecotus auritus*), with one also including Brandt's bat (*Myotis brandtii*) 4.3km north.

A Lancashire Environment Record Network (LERN) search yielded 33 bat records within 2km, comprising common pipistrelle, soprano pipistrelle (*Pipistrellus pygmaeus*), Brandt's bat, brown long-eared bat, and unidentified bats. The records include roosts for both pipistrelle species within 2km.

Haycock and Jay Associates Ltd (HJA) was commissioned to carry out the surveys as subconsultant to CGO. Karl Harrison MCIEEM (Natural England level 2/CL18 bat licence) of HJA is the lead surveyor, and lead author of this report, acting as an Associate Ecologist to CGO.

Dr Chris Glead-Owen MCIEEM is Director and Principal Ecologist of CGO, and project manager for the Garth Wymott 2 phase 2 ecological surveys.

This report aims to follow CIEEM (2017) guidance, and provide sufficient information to assist an EcIA conforming to CIEEM (2018) guidance.

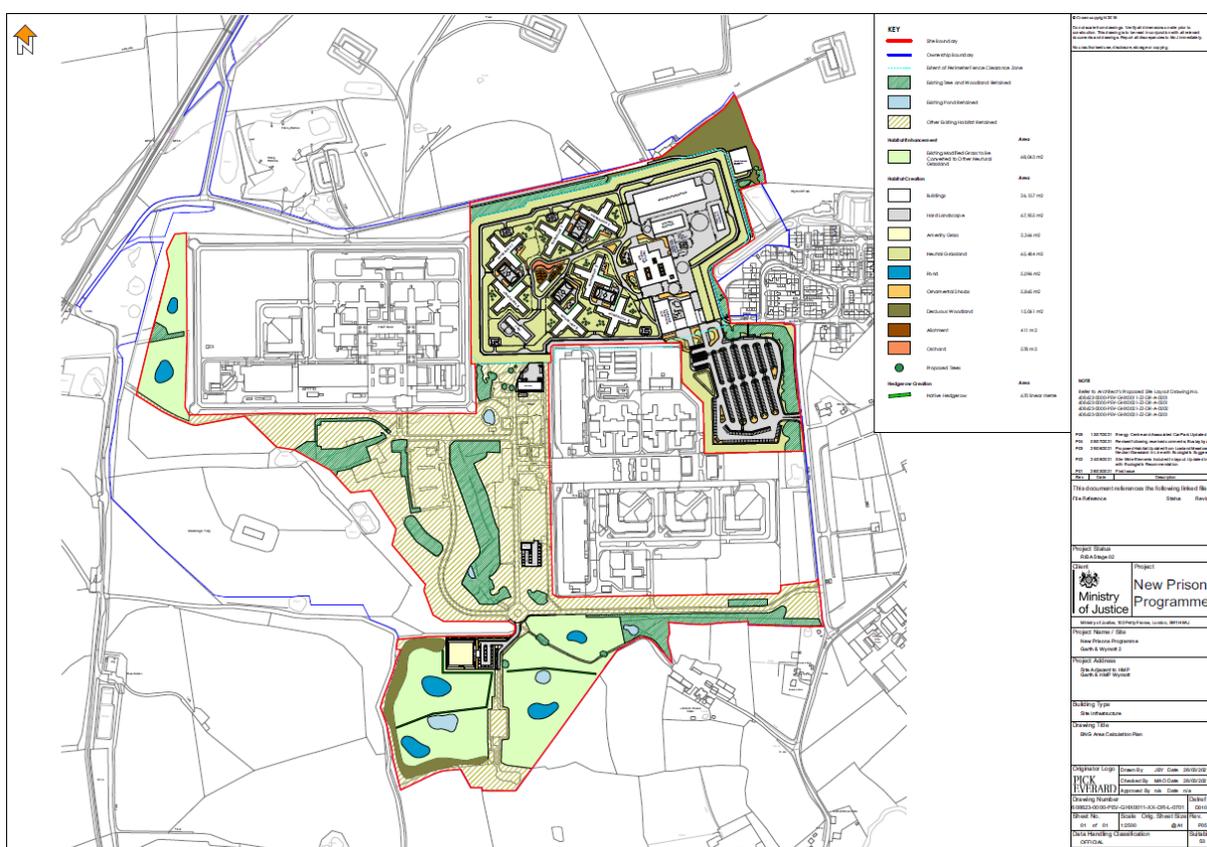


Figure 2 – Proposed development and landscaping plan, with habitat areas for BNG purposes, produced by Pick Everard.

1.2. Site context

The development site comprises predominantly land north of HMP Wymott, currently used as a sheep (*Ovis aries*) farm, stables, bowling club, boiler house, and utility buildings. The part within HMP Wymott is a sports field and disused assault course. The new boiler house will be between the existing prisons. The new bowling club will be on farmland to the south. Some woodland will be lost for the new prison development. Larger areas of woodland will remain.

The surrounding area is intensively farmed for a mixture of livestock and arable crops, but there are significant areas of woodland and other land uses. A large area of woodland lies to the southwest of the site, extending around the west and north of HMP Garth. There are major urban areas to the northeast (Leyland and Preston), and a network of minor roads, railway lines, villages, hamlets, and farms in all directions.

1.3. Proposed works

The proposed development is a hybrid planning application seeking: Outline planning permission (with all matters reserved except for access, parking and landscaping) for a new prison (up to 74,531.71m²) within a secure perimeter fence following demolition of existing buildings and structures and together with associated engineering works; Outline planning permission for a replacement boiler house (with all matters reserved except for access); and Full planning permission for a replacement bowling green and club house.

2. Methodology

2.1. Transect surveys

Bat activity transect surveys, to record the levels of bat activity at the site, were carried out monthly from April to October 2021. These were dusk transects, except for one which was a dawn, as per standard guidance. The transect followed a single route measuring approximately 5.5km in length, as annotated on Figure 3. The transect route was altered slightly from May 2021 onwards, to collect data on the proposed habitat creation area to the south of site. This meant that the transect route was marginally longer than the 3-5km guidance (Collins, 2016).

The transect was designed in accordance with the standard methodology, to encompass the full spectrum of habitats found on the site. Six listening points were utilised along the route, stopping for five-minute intervals at each, to observe and record bat behaviour at each location. The starting/finishing point was altered (selected using a random order generator) to provide minimise bias.

Survey Date	Start/End Time (Sunset/Sunrise)	Temperature (start/end, °C)	Weather	Surveyors
19 th April 2021	20:19/22:32 (20:19)	12/9	0 Beaufort Wind Scale (BWS), 0% Cloud Cover (CC), dry	WS, KH
24 th May 2021	21:19/00:08 (21:19)	11/10	1 BWS 50-100% CC, dry for majority, with intermittent showers (23:14-23:16 and 23:20 to 23:26) and light rain (23:16-23:44).	WS, ES
17 th June 2021	21:44/01:05 (21:44)	16/12	0 BWS, 0 % CC, dry	WS, ES
12 th July 2021	21:36/00:44 (21:36)	16/15	1 BWS, 90% CC, dry	KH, ES
8 th August 2021	20:50/23:53 (20:50)	16/16	0 BWS, 5% CC, dry	WS, ES
9 th August 2021	02:44/05:38 (05:39)	13/13	1 BWS, 50% CC, dry	WS, ES
6 th September 2021	19:48/22:55 (19:48)	19/17	0 BWS, 0 % CC, dry	WS, ES
6 th October 2021	18:36/21:10 (18:36)	13/13	1-3 BWS, 100% CC, Intermittent periods of light rain.	WS, ES

Table 1 – Bat transect surveys timings, weather conditions, and surveyors. KH = Karl Harrison, WS = Will Steele, ES = Emma Sutton.

The transect route covered the whole development site and Zol. It was walked by paired surveyors for safety and ease of recording. The surveys followed published Covid-19 safety advice (BCT, 2020; CIEEM, 2020; IUCN, 2020).

The surveys were led by Karl Harrison MCIEEM, with support from experienced bat surveyors Will Steele and Emma Sutton. Bat activity, including species, time, location and behaviour of any bats observed, was recorded in the field.

The surveys were carried out with the aid of Pettersson M500-384 microphone and tablet recording device and Batbox Duet heterodyne bat detectors, which allowed the surveyor to retrospectively undertake call analysis in combination with GPS mapping to identify bats that were not identified in the field.

Calls were analysed manually using Kaleidoscope Viewer (Wildlife Acoustics) software. Calls identified as unknown/unidentified were difficult to identify in the field or during later analysis as a result of the calls being too brief or quiet, and as such could not be reliably identified to species level.

Surveys were undertaken at dusk, commencing at sunset and continuing for approximately two to three hours after sunset, with the exception of a single dusk and pre-dawn survey, undertaken in August. The dawn survey commenced at 2 hours before sunrise until sunrise. Details of the surveys including the sunset/sunrise times and weather are provided in Table 1.

2.2. Static detector surveys

Static detector	Time Period	Location and habitat	OS grid reference
Position A	19 th to 23 rd April 2021, 17 th to 21 st May 2021, 17 th to 21 st June 2021, 5 th to 9 th July 2021, 12 th to 13 th and 15 th to 17 th August 2021, 12 th to 16 th September 2021 and 13 th to 17 th October 2021	Woodland edge, positioned at 2m height, pointing east away from woodland.	SD 50134 20393
Position B	19 th to 23 rd April 2021, 26 th to 30 th May 2021, 17 th to 21 st June 2021, 5 th to 9 th July 2021, 12 th to 13 th and 15 th to 17 th August 2021, 12 th to 16 th September 2021 and 13 th to 17 th October 2021	Woodland edge, positioned at 2m height, pointing south away from woodland.	SD 50332 20931

Table 2 – Bat static detector deployment dates, habitat descriptions, and location grid references.

Each month, in combination with walked transects, static detector monitoring was undertaken using Anabat Express recording bat detectors placed at two locations, as indicated on Figure 3. The habitat at the location of each detector is described in Table 2. The detectors were deployed in two locations (A and B) for five days in each month. The locations were selected to maximise data collection. The recorded bat calls were downloaded and analysed to identify bat species and call type.

The static detector locations were strategically selected chosen to collect data to inform a comparison between the woodland edge within the development site and similar habitat close to the proposed habitat creation.

Static detector monitoring was conducted in line with accepted methodology (Collins, 2016), whereby detectors were left to record for five consecutive nights during each month of April to October 2021. The recording period was extended where suboptimal weather, such as low temperature, persistent rainfall and/or strong winds may have influenced bat activity. Where the recording period was extended, the five nights with weather most suitable for bat activity were selected for analysis.

The Anabat Express records in Zero Crossing format and recordings were analysed in AnalookW (Titley Scientific). Calls were identified to species level where possible.

2.3. Incidental observations

Sightings of notable wildlife observed during the bat emergence/re-entry surveys were also recorded. These were fed into the relevant species survey datasets.

2.4. Limitations

Rainfall occurred during the May and October transects, for short periods significant. Nevertheless, despite the rainfall, bat activity was comparable with other surveys, and the results are considered valid.

The transect route was slightly altered following the April transect, to incorporate an additional area of the site. The length of the transect was thus increased to 5.5km, which is slightly longer than recommended.

The transect route was slightly altered during the October transect due to the presence of a bull. As a consequence, listening point 6 was replaced with listening point 6b in the October transect. This listening point 6b is considered directly comparable to listening point 6 in the other months, as it was in equivalent nearby habitat.

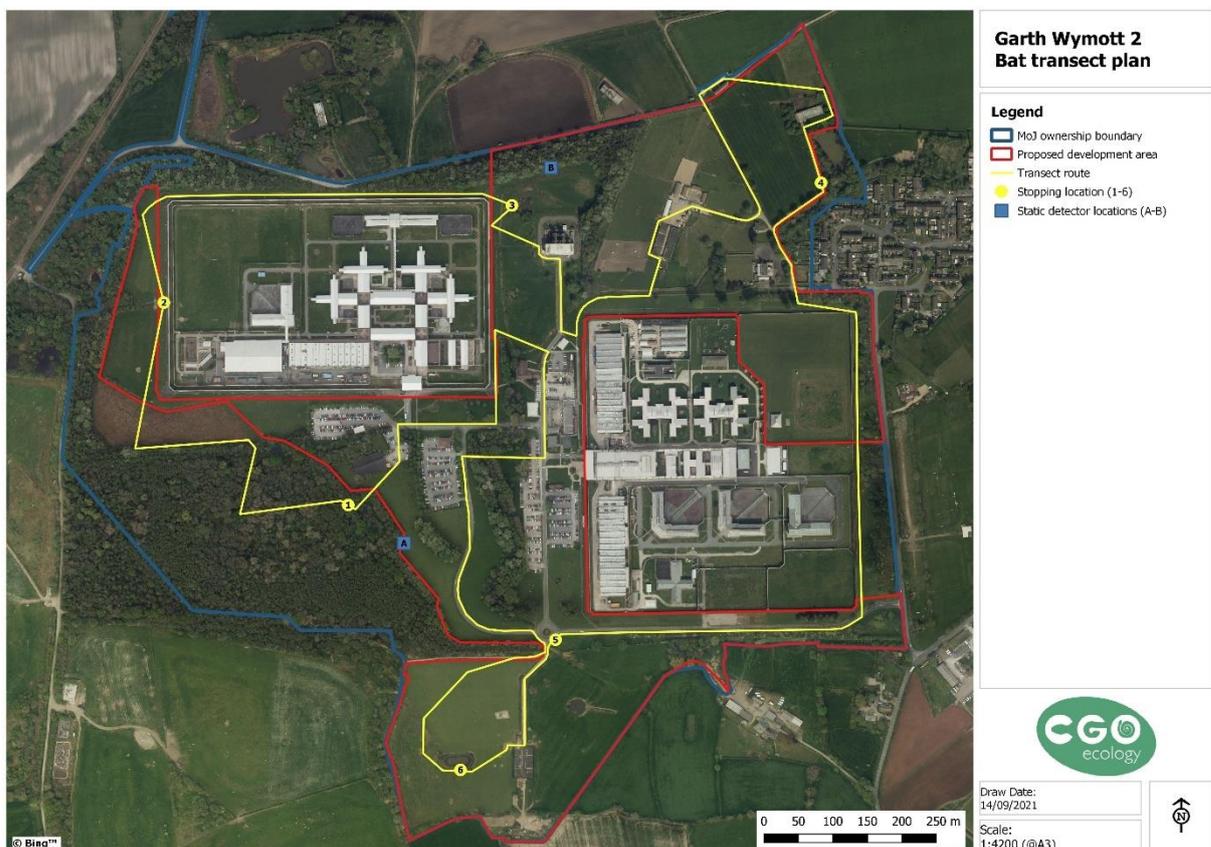


Figure 3 – Transect walking route with six stopping points (yellow lines/points), and two static detector locations (blue squares).

3. Baseline ecological conditions

3.1. Transect surveys

Survey date	Activity period (24hrs)	Species recorded (no. of passes)	Activity/behaviour
19 th April 2021	20:31 to 22:31	Ppip (848) Unk (1) Nnoc (2)	Frequent passes and period of continuous foraging by predominantly common pipistrelle, with noctule and unidentified species also recorded. Activity was observed throughout the transect, however it was focussed at woodland edge and tree lines. A maximum of 2 common pipistrelle was observed at any one time.
24 th May 2021	21:45 to 00:05	Ppip (382) Myo (3) Nnoc (1)	Frequent passes and period of continuous foraging by predominantly common pipistrelle, with noctule and <i>Myotis</i> also recorded. Activity was observed throughout the transect, however it was focused at woodland edge and tree lines. A maximum of 2 common pipistrelle was observed at a time.
17 th June 2021	21:53 to 00:58	Ppip (918) Myo (272) Nnoc (1) Unk (1)	Frequent passes and period of continuous foraging by predominantly common pipistrelle and <i>Myotis</i> , with single passes by noctule and an unidentified species being recorded. Activity was observed throughout the transect, however it was focused at woodland edge and tree lines. A maximum of 4 common pipistrelle was observed at a time.
12 th July 2021	22:02 to 00:44	Ppip (90) Nnoc (1)	Frequent passes and period of continuous foraging by common pipistrelle, with a single noctule pass also recorded. Activity was observed throughout the transect, however it was focused at woodland edge and tree lines. A maximum of 3 common pipistrelle was observed at a time.
8 th August 2021	20:50 to 23:49	Ppip (292)	Frequent passes and period of continuous foraging by solely common pipistrelle. Activity was observed throughout the transect, however it was focused at woodland edge and tree lines. A period of continuous foraging by up to ten bats was observed at any one time, this was within a pig shed.
9 th August 2021	02:55 to 05:21	Ppip (38) Myo (1)	Frequent passes and period of continuous foraging by common pipistrelle, with a single pass by a <i>Myotis</i> also recorded. Activity was observed throughout the transect, however it was focused at woodland edge and tree lines.
6 th September 2021	20:12 to 22:55	Ppip (109) Paur (2) Unk (1)	Frequent passes and period of continuous foraging by predominantly common pipistrelle, with individual passes by brown long-eared and an unidentified species also recorded. Activity was observed throughout the transect, however it was focused at woodland edge and tree lines.
6 th October 2021	18:36 to 21:10	Ppip (168) Myo (1)	Frequent passes and period of continuous foraging by common pipistrelle, with a single <i>Myotis</i> pass also recorded. Activity was observed throughout the transect, however it was focused at woodland edge and tree lines.

Table 3 – Bat activity survey results summary. Ppip - Common pipistrelle, Nnoc – Noctule. ‘Foraging’ indicates where the bat was thought to be hunting for prey and is deciphered by the flight pattern (e.g. repeated passes in the same area) or call, including presence of feeding ‘buzzes’ (a characteristic sound made by bat hunting a prey item). ‘Commuting’ indicates bats thought to be travelling between feeding areas, to or from roosts and foraging locations.

Full details of the walked transect survey results are provided at Appendix 1. A summary of the combined April-October results is presented in Figure 4 and 5 below.

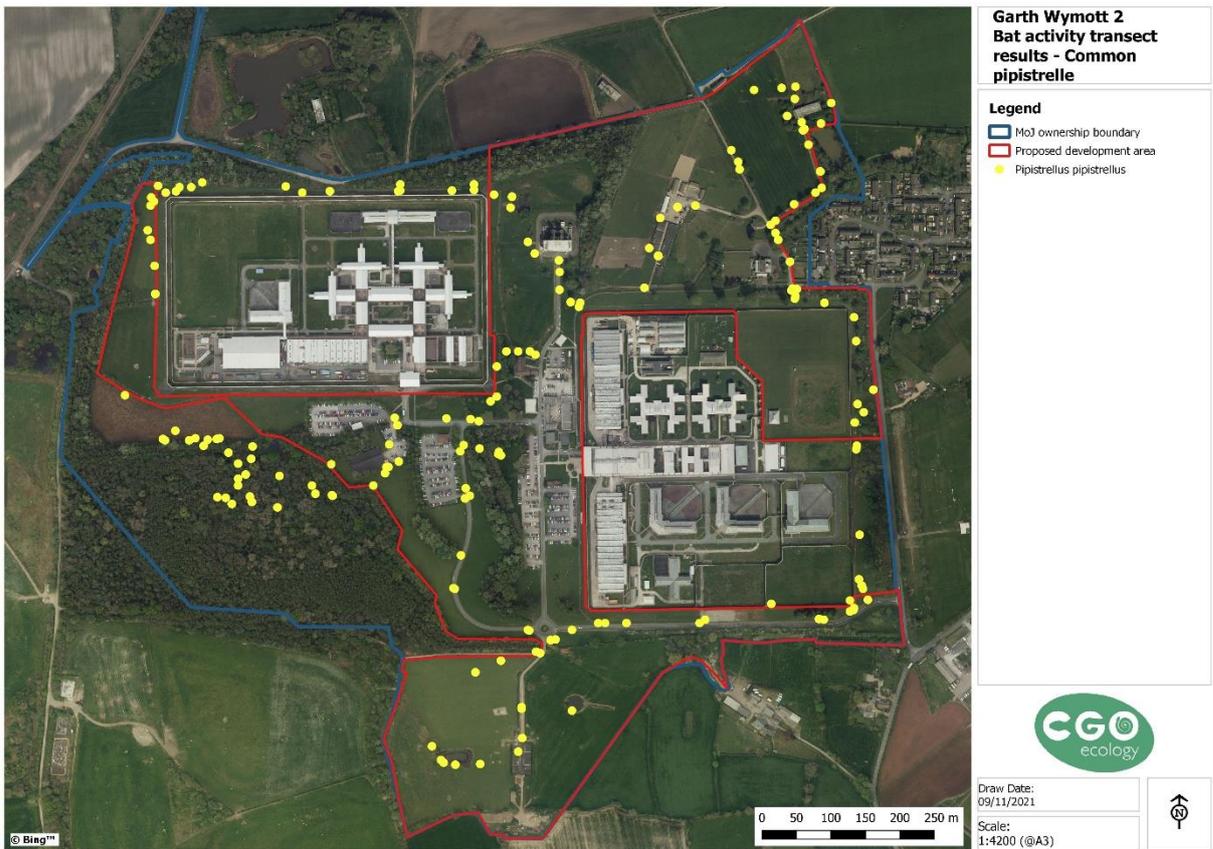


Figure 4 – Common pipistrelle activity results summary from transects April-October 2021.

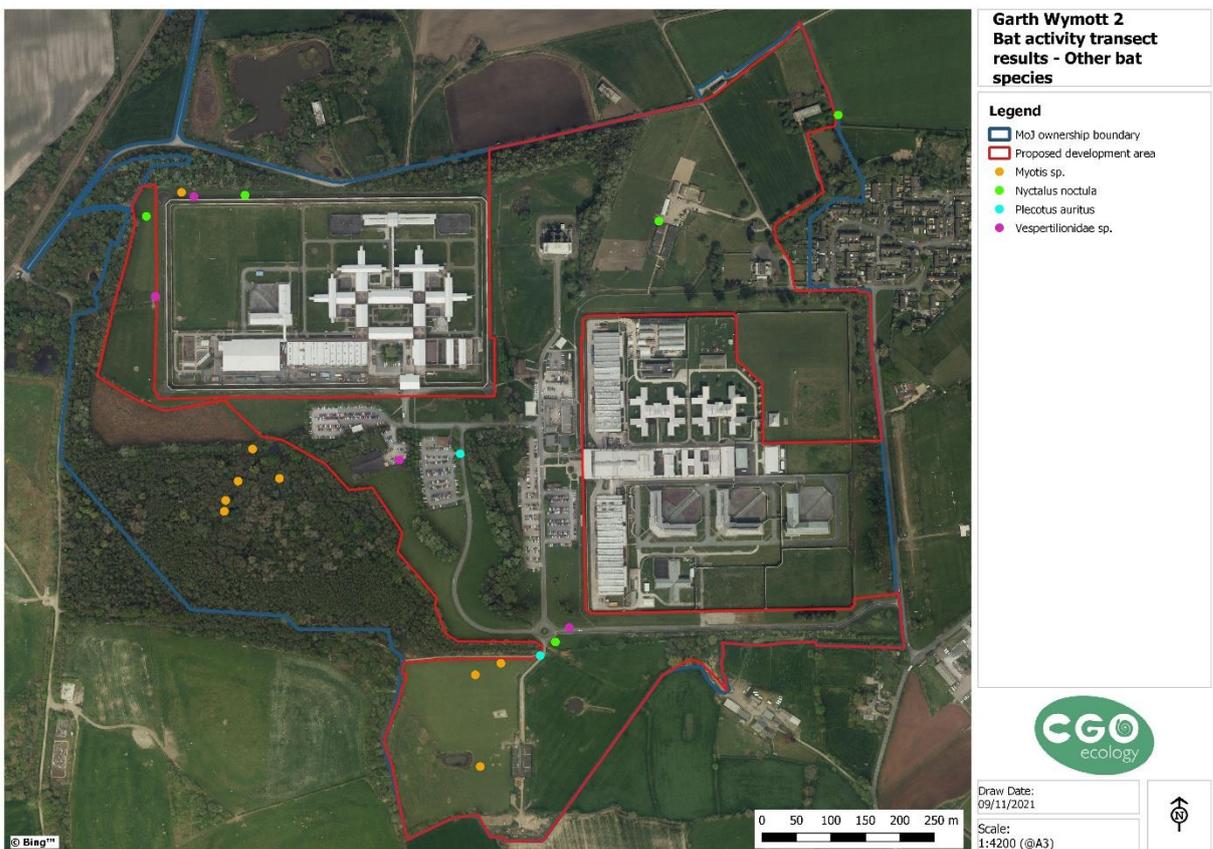


Figure 5 – Other bat species activity results summary from transects April-October 2021.

Bat calls rapidly deteriorate in the atmosphere. Calls which are at a distance or of low intensity are particularly affected and features key to species identification may be lost. Bat calls which cannot be reliably identified to taxon or species level have been recorded as 'unidentified' bat species.

The large majority of bats recorded and/or seen were common pipistrelles, with occasional brown long-eared bat and unidentified *Myotis* species.

Common pipistrelle foraging activity has been focussed at woodland edge and tree lines. Activity has been typically well distributed across these habitats. No obvious commuting routes were identified as part of this survey, however surveys at B15 did confirm that the majority of bats commute south from this roost. Based on the results of activity surveys the site is considered to support foraging and commuting opportunities of local importance for common pipistrelle bats.

Noctule passes were observed across the transects, with one observation located within the development site.

Continuous foraging by unidentified *Myotis* species was observed during the June transect, and occasional passes were observed on other occasions.

A barn owl was observed flying at SD 50649 21036 and SD 49784 20896 on 6th September 2021, and at SD 50166 20894 on 6th October 2021.

3.2. Static detector surveys

Month\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
April	2641	65	15	4	0	0	2725
May	688	5	6	1	0	0	700
June	755	9	14	8	0	0	786
July	1074	16	9	19	0	1	1119
August	651	1	3	12	0	3	670
September	461	3	5	17	0	7	493
October	632	0	1	7	0	0	640
Total	6902	99	53	68	0	11	7133

Table 4 – Bat static detector results summary, position A (south).

Month\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
April	1423	0	9	2	0	0	1434
May	1331	7	17	2	1	0	1358
June	1325	7	10	12	0	0	1354
July	949	1	16	2	0	0	968
August	3042	1	5	4	0	3	3055
September	1759	0	10	19	0	0	1788
October	594	0	3	5	0	1	603
Total	10423	16	70	46	1	4	10560

Table 5 - Bat static detector results summary, position B (north).

Full details and results from static monitoring are provided in Appendices 2 and 3. A summary of activity recorded at each position is detailed in Tables 4 and 5 below.

Bat calls rapidly deteriorate in the atmosphere. Calls which are at a distance or of low intensity are particularly affected and features key to species identification may be lost. Bat calls which cannot be reliably identified to taxon or species level have been recorded as 'unidentified' bat species.

Common pipistrelle calls make up the vast majority of bats recorded. Recordings reported as unidentified *Pipistrellus* sp. comprise bat calls with characteristics of both common pipistrelle and either soprano pipistrelle (*Pipistrellus pygmaeus*) or Nathusius' pipistrelle (*Pipistrellus nathusii*) which could not be identified to species level.

Low to moderate levels of noctule and *Myotis* activity were also recorded, and on one occasion a brown long-eared bat.

Noctule is an acoustically detectable species. Therefore, the relatively low numbers of passes recorded for this species suggests that it is not reliant upon the habitats present within the site.

Myotis activity was recorded occasionally throughout the season at both detector locations. *Myotis* and brown long-eared bats were not observed within the development site during the bat activity transects, and low numbers were recorded during the static detector monitoring. This suggests limited use of the site and that these species are not considered to be reliant upon the habitats within the development site.

4. Impact assessment

The loss of habitat, notably woodland edge, will reduce the foraging and commuting resource of the local area for common pipistrelle. Habitat loss will include around 500m of woodland edge (block projecting south from the north boundary).

In addition, an existing woodland gap to the east of HMP Wymott, southeast side of the new prison, will be accentuated by a new access, although without canopy removal. Other habitat loss will include a pond, hedgerows, and open pasture. These losses will not significantly affect other species of bat.

The loss of habitat in a strategic location (infilling a green corridor between two prisons), could potentially pose a significant impact on bats from commuting between the existing prisons. However, surveys of the B15 maternity roost show that this is not a significant commuting route (Gleed-Owen, 2021c; Harrison & Gleed-Owen, 2021). Therefore, infilling the corridor between the prisons is not considered to be a significant impact.

The anticipated operational increases in artificial lighting of currently-dark areas, and light spillage onto adjacent habitat, will further discourage bats from utilising some retained habitats. This will be a significant impact around the fringes of the new prison, and potentially around the new bowling club and boiler house.

5. Mitigation, compensation

A sensitive lighting plan adhering to current guidance (BCT & ILP, 2018) will be in place to ensure that there is no light spillage onto currently-dark habitat such as retained woodland-edges.

Around 900m of new woodland-edge habitat will be created in the south of site and 600m of new woodland-edge in the northeast of site, as part of landscape proposals. This habitat will take 30 years to establish and provide a similar foraging resource to habitat lost. A total of 1500m of new woodland edge habitat is considered to fully compensate in the long-term for the short-term loss of habitat.

In the meantime, wetland creation and grassland enhancement will provide increased foraging opportunities in the short term. The proposed habitat creation is considered to adequately compensate for the loss of similar habitats within the development site, and will deliver biodiversity enhancement for local bats. In addition, habitat creation to the south of maternity roost at B15, linked to the primary commuting route from it, will contribute to maintaining the favourable conservation status of this roost.

6. Residual effects, enhancements

The mitigation will minimise the risk of light spillage in operation, with some residual effect. The loss of common pipistrelle habitat will result in a short-term negative residual effect on foraging common pipistrelle bats.

As an enhancement, at least 20 nestboxes targeting common pipistrelle will be installed on suitable retained trees and/or buildings at the start of works. This will assist bats in modifying their spatial behaviour patterns.

7. References

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9. Appendices

Appendix 1 – Transect survey results

Appendix 2 – Static detector survey results position A

Appendix 2 – Static detector survey results position B

Appendix 1 – Transect survey results

Listening point	Grid reference	Time	Species	Number of passes	Description
19 th April 2021 (Dusk)					
1	SD 50032 20441	20:19			Survey start.
1 to 2		20:24			
	SD 49914 20495	20:31	Ppip	20	Continuous foraging in woodland. HNS
2	SD 49775 20736	20:45			
2	SD 49775 20736	20:48	Unk	1	Distant. HNS
2 to 3		20:50			
	SD 49764 20829	20:51	Ppip	1	Commuting pass. HNS
	SD 49764 20829	20:52	Ppip	5	Foraging. HNS
	SD 49790 20884	20:53	Ppip	1	HNS
	SD 49790 20884	20:53	Ppip x2	2	Commuting east to west over grass.
	SD 49905 20884	20:55	Nnoc	1	Commuting south to north.
	SD 49988 20884	20:57	Ppip	1	HNS
	SD 50028 20886	20:58	Ppip	1	HNS
	SD 50130 20887	21:00	Ppip x2	15	Continuous foraging.
	SD 50205 20887	21:02	Ppip	1	HNS
	SD 50205 20887	21:03	Ppip	10	Continuous foraging.
3	SD 50292 20878	21:05			
3	SD 50292 20878	21:06 to 21:10	Ppip x2	75	Continuous foraging, occasionally seen over pond.
3 to 4		21:10			
	SD 50361 20742	21:13	Ppip	25	Continuous foraging.
	SD 50491 20803	21:18	Ppip	5	HNS
	SD 50505 20846	21:20	Nnoc	1	HNS
	SD 50558 20865	21:24	Ppip	1	HNS
	SD 50703 21039	21:30	Ppip	1	Distant. HNS
	SD 50703 21039	21:31	Ppip	1	Commuting pass. HNS

	SD 50722 20954	21:37 to 21:38	Ppip x2	3	HNS
4	SD 50739 20915	21:38			
4	SD 50739 20915	21:38 to 21:43	Ppip	40	Continuous foraging. HNS
4 to 5		21:43			
	SD 50732 20884 to SD 50692 20788	21:43 to 21:46	Ppip x2	25	Continuous foraging.
	SD 50702 20729 to SD 50793 20575	21:47 to 21:53	Ppip x2+	150	HNS Continuous foraging.
	SD 50793 20575 to SD 50794 20286	21:53 to 21:58	Ppip x2+	200	Continuous foraging.
	SD 50788 20277 to SD 50572 20260	21:59 to 22:02	Ppip x2	40	Continuous foraging.
	SD 50572 20260 to SD 50355 20231	22:02 to 22:05	Ppip x2	20	Intermittent foraging.
5	SD 50355 20231	22:06			
5	SD 50355 20231	22:06 to 22:11	Ppip x2	75	Continuous foraging.
5 to 1		22:11			
	SD 50317 20244 to SD 50228 20433	22:12 to 22:15	Ppip	30	Continuous foraging.
	SD 50225 20452	22:16 to 22:17	Ppip	5	Intermittent passes.
	SD 50272 20502 to SD 50332 20552	22:18 to 22:20	Ppip x2	30	Continuous foraging.
	SD 50318 20652	22:22	Ppip	5	HNS
	SD 50284 20652 to SD 50266 20635	22:24 to 22:28	Ppip x2	75	Continuous foraging.
	SD 50110 20483	22:31	Ppip	5	Commuting passes.
1	SD 50032 20441	22:32			Survey end.
24 th May 2021 (Dusk)					
5	SD 50355 20231	21:19			Survey start.
5 to 6		21:24			
6	SD 50210 20048	21:30			
6 to 1		21:35			

	SD 50207 20306	21:45	Ppip	1	HNS
	SD 50224 20437 to SD 50216 20511	21:48	Ppip	2	HNS
	SD 50224 20437 to SD 50216 20511	21:49	Ppip	3	Commuting from north-east to south-west.
	SD 50245 20510	21:50	Ppip x2	5	Two bats foraging in woodland.
	SD 50244 20550	21:57	Ppip	2	HNS
1	SD 50032 20441	22:03			
1	SD 50032 20441	22:05 to 22:08	Ppip	25	Distant continuous foraging, HNS.
1 to 2		22:08			
	SD 50007 20444	22:11 to 22:15	Ppip	80	HNS, continuous foraging.
	SD 49912 20440	22:16 to 22:18	Ppip x2+	50	Multiple bats, continuous foraging.
	SD 49895 20466	22:19	Myo		HNS
	SD 49895 20466 to SD 49916 20513	22:19 to 22:26	Ppip	20	HNS, continuous foraging.
	SD 49916 20513	22:27	Ppip	20	HNS, continuous foraging.
	SD 49916 20513	22:27	Myo		HNS
	SD 49789 20522 to SD 49770 20705	22:33 to 22:36	Ppip	5	HNS, foraging.
2	SD 49775 20736	22:40	Ppip	5	Regular passes.
2	SD 49775 20736	22:44	Ppip	5	HNS
2 to 3		22:45			
	SD 49775 20736 to SD 49779 20880	22:46 to 22:50	Ppip x2	25	Two bats foraging.
	SD 49775 20736 to SD 49779 20880	22:47	Myo	1	HNS
	SD 49762 20853	22:49	Nnoc	1	HNS
	SD 49768 20865	22:49	Ppip	1	HNS
	SD 50127 20886	22:55	Ppip	3	HNS
3	SD 50292 20878	22:59	Ppip	1	

3	SD 50292 20878	23:02 to 23:03	Ppip	5	
3	SD 50292 20878	23:04 to 23:07	Ppip	20	Intermittent foraging.
3 to 4		23:07			
		23:14			Heavy rain
	SD 50389 20717	23:14	Ppip	1	HNS, commuting.
		23:16			Light rain
		23:20 to 23:26			Heavy rain
	SD 50610 20946	23:24	Ppip	3	HNS, light rain
	SD 50643 21034	23:29	Ppip	2	HNS, light rain
	SD 50691 20996	23:31	Ppip	10	HNS, Foraging, light rain
	SD 50714 20975	23:34	Ppip	10	HNS, light rain
4	SD 50739 20915	23:39			
4	SD 50739 20915	23:43 to 23:44	Ppip	10	Foraging along woodland edge, light rain
4 to 5		23:44			
	SD 50695 20783	23:48	Ppip	2	HNS
	SD 50703 20733 to SD 50776 20722	23:49 to 23:52	Ppip	60	Continuous foraging, two bats
	SD 50788 20702	23:53	Ppip	1	HNS
	SD 50796 20384	23:57	Ppip	2	Commuting, HNS
	SD 50795 20319	23:58	Ppip	1	Commuting
	SD 50782 20272	00:01	Ppip	1	Commuting
	SD 50564 20255	00:05	Ppip	1	Commuting
5	SD 50355 20231	00:08			Survey end.
17 th June 2021					
2	SD 49775 20736	21:44			Survey start.
2 to 3		21:49			
	SD 49831 20882	21:53	Unk	1	HNS, very distant.
3	SD 50292 20878	22:00			
3 to 4		22:03			
	SD 50755 21015	22:26	Ppip	10	HNS, foraging over field

	SD 50765 21001	22:27	Nnoc	1	HNS.
	SD 50740 20985 to SD 50722 20956	22:28 to 22:30	Ppip	25	Two bats, continuous foraging.
4	SD 50739 20915	22:30	Ppip	1	HNS, foraging over field
4 to 5		22:35			
	SD 50741 20891	22:36	Ppip	2	HNS.
	SD 50667 20837 to SD 50678 20815	22:38	Ppip	5	Foraging activity.
	SD 50678 20815 to SD 50692 20787	22:39	Ppip	3	HNS.
	SD 50699 20744 to SD 50745 20723	22:40 to 22:43	Ppip	15	Regular foraging passes.
	SD 50745 20723 to SD 50791 20677	22:43 to 22:45	Ppip	20	Continuous foraging.
	SD 50792 20514	22:48	Ppip	5	Four bats commuting north to south and one bat HNS.
	SD 50792 20514 to SD 50793 20326	22:49 to 22:55	Ppip	25	Regular foraging passes, north and south along the prison wall.
	SD 50782 20288	22:55	Ppip	8	Continuous foraging inside the prison walls.
	SD 50744 20260 to SD 50669 20261	22:57 to 23:00	Ppip	20	Continuous foraging, HNS.
	SD 50668 20283	23:00	Ppip	5	Continuous foraging inside the prison walls.
	SD 50458 20255	23:04	Ppip	1	HNS.
5	SD 50355 20231	23:06 to 23:09	Ppip	10	Foraging nearby, regular passes.
5	SD 50355 20231	23:10	Nnoc	1	HNS.
5 to 6		23:11			
	SD 50348 20230	23:12	Ppip	5	Foraging.
	SD 50306 20130	23:15	Ppip	10	Foraging, HNS.
	SD 50246 20049	23:18 to 23:20	Ppip & Myo	20	Continuous foraging.
6	SD 50210 20048	23:21	Ppip	100	Continuous foraging.
6 to 1		23:26			
	SD 50193 20051	23:27 to 23:29	Ppip	20	Continuous foraging.

	SD 50239 20183	23:32	Ppip	2	HNS.
	SD 50239 20183	23:32	Myo	2	HNS.
	SD 50276 20200 to SD 50332 20215	23:33 to 23:36	Ppip & Myo	10	Regular foraging passes.
	SD 50218 20354	23:39	Ppip	2	HNS.
	SD 50276 20500	23:43	Ppip	2	Foraging
	SD 50326 20647 to SD 50275 20654	23:46 to 23:48	Ppip	20	Continuous foraging.
	SD 50232 20553	23:50 to 23:51	Ppip	5	HNS.
	SD 50113 20483	23:54	Ppip	2	HNS.
	SD 50091 20456	23:56	Ppip	15	Continuous foraging.
1	SD 50032 20441	23:59 to 00:04	Ppip	75	Continuous foraging.
1 to 2		00:04			
	SD 50031 20442 to SD 49885 20411	00:07 to 00:017	Ppip	50	Regular foraging passes, HNS.
	SD 49875 20422	00:18 to 00:20	Myo	10	Continuous foraging.
	SD 49877 20438 to SD 49916 20513	00:20 to 00:52	Ppip & Myo	230	Near continuous foraging.
	SD 49868 20525 to SD 49764 20518	00:53 to 00:58	Ppip	35	Continuous foraging.
2	SD 49775 20736	01:05			Survey end.
12 th July 2021 (Dusk)					
5	SD 50355 20231	21:36			
5 → 6		21:41			
6	SD 50210 20048	21:54			
6 → 1		21:59			
	SD 50327 20213	22:02 - 22:03	Ppip	8	HNS, frequent passes
	SD 50315 20245	22:05 - 22:06	Ppip	9	Two bats seen along treeline, heading west to east. Frequent passes.
	SD 50222 20515	22:11	Ppip	7	One bat seen foraging along treeline
	SD 50126 20544	22:13 – 22:14	Ppip		At least 3 bats seen continuously foraging around nearby trees and overhead.
	SD 50128 20491	22:17	Ppip	1	HNS, brief

1	SD 50032 20441	22:23			
1 → 2		22:28			
	SD 49915 20432	22:32 - 22:33	Ppip	10	HNS, frequent passes
	SD 49886 20429	22:35 - 22:39	Ppip		HNS, continuous foraging. At least, 2x bats.
	SD 49886 20429	22:40	Ppip	3	HNS, nearby
	SD 49786 20524	22:53	Ppip		At least 2x bats. HNS, frequent foraging.
2	SD 49775 20736	23:04			
2	SD 49775 20736	23:05	Nnoc	1	HNS, brief and distant
2	SD 49775 20736	23:06	Ppip	2	HNS, nearby
2 → 3		23:09			
	SD 49768 20815	23:11	Ppip	2	HNS, nearby
	SD 49779 20894	23:15	Ppip	1	HNS, brief
	SD 49810 20892	23:16	Ppip	6	HNS
	SD 49827 20892	23:18	Ppip		HNS, Frequent foraging nearby
	SD 50237 20896	23:26	Ppip	5	HNS, foraging
3	SD 50292 20878	23:27			
3 → 4		23:32			
	SD 50290 20862	23:33	Ppip	4	HNS, nearby
	SD 50325 20795	23:35	Ppip	5	HNS, frequent foraging
	SD 50360 20785	23:38	Ppip	2	HNS, nearby
	SD 50361 20768	23:40	Ppip	3	HNS, nearby
	SD 50391 20723	23:41- 23:43	Ppip		At least 2x bats. HNS, continuous foraging. Plus, one bat seen foraging around streetlight.
	SD 50484 20745	23:45	Ppip		HNS, foraging nearby. 2x bats
	SD 50507 20847	23:48	Ppip	3	HNS, foraging
	SD 50620 20929	23:53 – 23:55	Ppip		HNS, continuous foraging nearby. Plus, one bat seen foraging around trees.
	SD 50712 20987	00:00 – 00:03	Ppip		At least two bats. HNS, continuous foraging nearby.
	SD 50716 20977	00:04	Ppip	3	HNS, foraging
4	SD 50739 20915	00:06			
4	SD 50739 20915	00:09	Ppip	2	HNS, nearby

4 → 5		00:11			
	SD 50674 20843	00:12 – 00:14	Ppip		HNS, frequent foraging
	SD 50705 20743	00:16	Ppip	3	HNS
	SD 50791 20667	00:23	Ppip		One bat seen foraging around nearby trees
	SD 50789 20548	00:27 – 00:31	Ppip		At least two bats. HNS, continuous foraging nearby.
	SD 50808 20289	00:32 – 00:34	Ppip		HNS, frequent foraging
	SD 50379 20245	00:44	Ppip		HNS
5	SD 50355 20231	00:44			End of survey
8 th August 2021 (Dusk)					
4	SD 50739 20915	20:50	Ppip	3	HNS
4→5	SD 50739 20915	20:55	Ppip		
	SD 50802 20563	21:05	Ppip		
	SD 50427 20255	21:11	Ppip		
5	SD 50355 20231	21:16	Ppip	60	Continuous Foraging. At least two bats.
5→6		21:21			
	SD 50306 20132	21:24	Ppip	1	HNS Commuting
	SD 50301 20067	21:26	Ppip		At least 10 bats. Foraging inside pig shed. Possible roost.
6	SD 50210 20048	21:29			
	SD 50210 20048	21:33 - 21:34	Ppip	10	HNS
6→1		21:35			
	SD 50189 20055	21:35	Ppip	1	HNS
	SD 50176 20075 to SD 50298 20193	21:39	Ppip		HNS foraging
	SD 50261 20579	21:56	Ppip		HNS
	SD 50129 20497	22:00	Unk		HNS brief
1	SD 50032 20441	22:06			
	SD 50032 20441	22:10	Ppip	3	HNS
1→2		22:11			
	SD 49952 20424	22:15- 22:20	Ppip	45	HNS regular foraging. At least 2 bats.
	SD 49906 20472	22:23- 22:27	Ppip	20	HNS regular foraging. At least 2 bats.

	SD 49881 20504	22:37- 22:43	Ppip	45	Continuous Foraging.
	SD 49864 20524 to SD 49730 20524	22:43- 22:49	Ppip		At least 2 bats. Regular foraging, near continuous.
	SD 49731 20588	22:52	Ppip	10	
2	SD 49775 20736	22:56			
	SD 49775 20736	22:57	Ppip	3	HNS
2→3		23:02			
	SD 49769 20877 to SD 50240 20899	23:06- 23:15	Ppip	50	HNS regular foraging.
3	SD 50292 20878	23:19			
	SD 50292 20878	23:20	Ppip	2	HNS
3→4		23:25			
	SD 50377 20724	23:29	Ppip	1	HNS
	SD 50504 20792	23:33	Ppip	5	HNS foraging
	SD 50532 20863	23:37	Ppip	1	HNS
	SD 50532 20863 to SD 50571 21021	23:40- 23:42	Ppip	10	HNS foraging
	SD 50683 21037	23:45	Ppip	10	HNS
	SD 50714 20975	23:49	Ppip	5	HNS
4	SD 50739 20915	23:53			End
9 th August 2021 (Dawn)					
2	SD 49775 20736	02:44			
2→3		02:50			
	SD 49813 20888	02:55	Myo	1	HNS
	SD 49843 20899	02:57- 02:58	Ppip	5	Foraging along wood edge.
3	SD 50292 20878	03:05			
3→4		03:10			
	SD 50504 20791	03:16	Ppip	2	HNS
	SD 50715 20976	03:29- 03:30	Ppip	2	HNS
4	SD 50739 20915	03:32			
4→5		03:37			

	SD 50791 20509	03:46	Ppip	5	HNS
	SD 50787 20274	03:55	Ppip	1	Commuting
5	SD 50355 20231	03:58			
5→6		04:03			
6	SD 50210 20048	04:10			
6→1		04:15			
	SD 50231 20441	04:26	Ppip	1	HNS
	SD 50270 20586	04:35	Ppip	3	HNS foraging
	SD 50197 20554	04:38	Ppip	1	HNS commuting
	SD 50122 20555	04:39	Ppip	1	HNS foraging
	SD 50108 20474	04:43	Ppip	3	HNS
1	SD 50032 20441	04:45			
	SD 50032 20441	04:48	Ppip	1	HNS
1→2		04:50			
	SD 49865 20439	04:59	Ppip	10	Continuous foraging
	SD 49833 20525	05:21	Ppip	1	Commuting west to east along the woodland.
2	SD 49775 20736	05:33			
		05:38			End
6 th September 2021 (Dusk)					
3	SD 50292 20878	19:48			
3 → 4		19:53			
	SD 50702 21021	20:12- 20:15	Ppip	10	Foraging in barn, continuously.
	SD 50649 21036	20:13	Barn owl		
4	SD 50739 20915	20:17			
4→5		20:22			
	SD 50674 20825	20:25	Ppip	3	HNS
	SD 50697 20741 to SD 50785 20737	20:26- 20:30	Ppip	25	Foraging in barn, near continuously. 1-3 bats.
	SD 50816 20596	20:33	Ppip	5	Foraged briefly.
	SD 50799 20310	20:37	Ppip	1	HNS
5	SD 50355 20231	20:46			

5→6		20:51			
	SD 50375 20252	20:55	Unk	1	HNS faint
6	SD 50210 20048	21:00			
6→1		21:05			
	SD 50333 20211	21:14	Ppip	2	HNS 2x bats
	SD 50333 20211	21:15	Paur	1	HNS
	SD 50217 20506	21:24	Ppip	1	HNS
	SD 50217 20506	21:24	Paur	1	HNS
	SD 50114 20516	21:34	Ppip	5	HNS
1	SD 50032 20441	21:39			
1→2		21:44			
	SD 50030 20487	21:48	Ppip	1	HNS distant
	SD 49895 20456	21:59	Ppip	2	HNS distant
	SD 49845 20514	22:15	Ppip	15	HNS foraging
	SD 49804 20536 to SD 49708 20521	22:22- 22:26	Ppip	10	HNS intermittently
2	SD 49775 20736	22:31			
	SD 49775 20736	22:32	Ppip	4	2x bats commuting HNS
2→3		22:36			
	SD 49774 20777	22:38	Ppip	2	HNS with social calls
	SD 49773 20871	22:41	Ppip	2	HNS foraging
	SD 49784 20896	22:42	Barn owl		
	SD 49805 20886	22:43	Ppip	2	HNS foraging and social calls
	SD 49805 20886	22:45	Ppip	1	HNS foraging
	SD 49964 20893	22:48	Ppip	2	HNS distant
	SD 50130 20896	22:51	Ppip	10	HNS foraging
	SD 50237 20888	22:53	Ppip	5	HNS
3	SD 50292 20878	22:55	Ppip	1	HNS brief End of survey
6 th October 2021 (dusk)					
6b	SD 50379 20127	18:36			Rerouted and changed listening point due to a bull and calf's in the field.

	SD 50379 20127	18:36	Ppip	1	HNS
6b→1		18:41			
	SD 50307 20087	18:45	Ppip	10	Continuous foraging in pig shed. 2x bats
	SD 50209 20305	18:50	Ppip	1	HNS brief
	SD 50273 20505	18:55	Ppip	10	HNS foraging
	SD 50301 20652	19:00	Ppip	2	Foraging
	SD 50270 20630	19:01	Ppip	1	Commuting north to south
1	SD 50032 20441	19:09			
	SD 50032 20441	19:15	Ppip	1	HNS
1→2		19:15			
	SD 50002 20456	19:19	Ppip	10	Continuous foraging
	SD 49955 20470	19:21	Ppip	5	HNS
	SD 49955 20470	19:21	Myo	1	HNS
	SD 49895 20488	19:24	Ppip	20	Continuous foraging
	SD 50002 20456	19:31- 19:38	Ppip	30	HNS foraging (intermittently). 1-2 bats.
	SD 49851 20523	19:41	Ppip	3	HNS with social calls
	SD 49824 20522 to SD 49764 20521	19:43- 19:46	Ppip	15	HNS regular foraging
2	SD 49775 20736	19:52			
2→3		19:57			
	SD 50166 20894	20:09	Barn owl		Flew out of the trees.
	SD 50266 20881	20:11	Ppip	2	HNS
3	SD 50292 20878	20:12			
3→4		20:17			
	SD 50315 20812	20:19	Ppip	3	HNS foraging
	SD 50622 20918	20:31	Ppip	25	Continuous foraging. Plus social calls.
4	SD 50739 20915	20:44			
	SD 50739 20915	20:47	Ppip	1	HNS commuting
4→5		20:50			
	SD 50701 20867	20:52	Ppip	5	Foraging around the edge of the woodland

	SD 50801 20305	21:02	Ppip	2	HNS distant
	SD 50737 20261	21:05	Ppip	5	HNS commuting
	SD 50417 20255	21:10	Ppip	10	HNS continuous foraging
5	SD 50355 20231	21:12			
		21:14	Ppip	1	HNS
5→6b		21:18			
	SD 50348 20230	21:19	Ppip	5	HNS
6b		21:22			The end

Appendix 2 – Static detector survey results position A

April - Position A (south) - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
19/04/2021	831	19	3	1	0	0	854
20/04/2021	907	35	1	1	0	0	944
21/04/2021	138	1	3	0	0	0	142
22/04/2021	274	5	4	2	0	0	285
23/04/2021	491	5	4	0	0	0	500
Total	2641	65	15	4	0	0	2725

* includes the night and following morning of the date stated

April - Position B (north) - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
19/04/2021	198	0	1	0	0	0	199
20/04/2021	278	0	2	1	0	0	281
21/04/2021	209	0	0	1	0	0	210
22/04/2021	53	0	3	0	0	0	56
23/04/2021	685	0	3	0	0	0	688
Total	1423	0	9	2	0	0	1434

May - Position A - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
17/05/2021	258	0	2	1	0	0	261
18/05/2021	91	0	1	0	0	0	92
19/05/2021	80	3	1	0	0	0	84
20/05/2021	109	0	0	0	0	0	109
21/05/2021	150	2	2	0	0	0	154
Total	688	5	6	1	0	0	700

May - Position B - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
26/05/2021	120	2	3	0	0	0	125
27/05/2021	314	1	5	0	0	0	320
28/05/2021	482	2	4	0	0	0	488
29/05/2021	177	1	5	1	1	0	185
30/05/2021	238	1	0	1	0	0	240
Total	1331	7	17	2	1	0	1358

June - Position A - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
17/06/2021	222	0	3	2	0	0	227
18/06/2021	132	3	2	2	0	0	139
19/06/2021	100	0	6	0	0	0	106
20/06/2021	174	3	3	1	0	0	181
21/06/2021	127	3	0	3	0	0	133
Total	755	9	14	8	0	0	786

June - Position B - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
17/06/2021	209	0	1	7	0	0	217
18/06/2021	208	1	0	2	0	0	211
19/06/2021	460	2	0	0	0	0	462
20/06/2021	303	3	8	1	0	0	315
21/06/2021	145	1	1	2	0	0	149
Total	1325	7	10	12	0	0	1354

July - Position A - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
05/07/2021	79	2	2	4	0	0	87
06/07/2021	0	0	0	0	0		0
07/07/2021	287	7	2	7	0	0	303
08/07/2021	320	3	2	3	0	0	328
09/07/2021	388	4	3	5	0	1	401
Total	1074	16	9	19	0	1	1119

July - Position B - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
05/07/2021	122	0	2	0	0	0	124
06/07/2021	26	0	0	0	0	0	26
07/07/2021	189	1	5	1	0	0	196
08/07/2021	267	0	1	1	0	0	269
09/07/2021	345	0	8	0	0	0	353
Total	949	1	16	2	0	0	968

August - Position A - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
12/08/2021	397	0	1	7	0	2	407
13/08/2021	202	0	0	4	0	1	207
15/08/2021	1	0	0	0	0	0	1
16/08/2021	51	1	2	1	0	0	55
17/08/2021	0	0	0	0	0	0	0
Total	651	1	3	12	0	3	670

August - Position B - Bat passes per night

Night*\Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
12/08/2021	115	0	1	0	0	1	117
13/08/2021	307	0	1	1	0	0	309
15/08/2021	1208	1	2	1	0	1	1213
16/08/2021	493	0	1	2	0	1	497
17/08/2021	919	0	0	0	0	0	919
Total	3042	1	5	4	0	3	3055

September - Position A - Bat passes per night

Night*Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
12/09/2021	90	1	1	6	0	2	100
13/09/2021	69	1	0	1	0	0	71
14/09/2021	135	1	0	2	0	1	139
15/09/2021	72	0	2	2	0	0	76
16/09/2021	95	0	2	6	0	4	107
Total	461	3	5	17	0	7	493

September - Position B - Bat passes per night

Night*Species	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
12/09/2021	592	0	2	3	0	0	597
13/09/2021	255	0	2	1	0	0	258
14/09/2021	416	0	3	13	0	0	432
15/09/2021	338	0	2	2	0	0	342
16/09/2021	158	0	1	0	0	0	159
Total	1759	0	10	19	0	0	1788

October - Position A - Bat passes per night

Date	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
13/10/2021	140	0	0	1	0	0	141
14/10/2021	63	0	0	1	0	0	64
15/10/2021	17	0	0	1	0	0	18
16/10/2021	14	0	1	4	0	0	19
17/10/2021	398	0	0	0	0	0	398
Total	632	0	1	7	0	0	640

October - Position B - Bat passes per night

Date	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
13/10/2021	42	0	0	0	0	0	42
14/10/2021	462	0	2	4	0	0	468
15/10/2021	48	0	1	0	0	0	49
16/10/2021	18	0	0	1	0	0	19
17/10/2021	24	0	0	0	0	1	25
Total	594	0	3	5	0	1	603

Appendix 3 – Static detector survey results position B

April - Position A (south) - Bat passes per hour

Time	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total number
20:00	263	1	6	0	0	0	270
21:00	595	37	5	1	0	0	638
22:00	827	5	2	2	0	0	836
23:00	690	5	0	0	0	0	695
00:00	78	14	0	0	0	0	92
01:00	51	0	2	0	0	0	53
02:00	65	0	0	0	0	0	65
03:00	63	3	0	1	0	0	67
04:00	9	0	0	0	0	0	9
Total	2641	65	15	4	0	0	2725

April - Position B (north) - Bat passes per hour

Time	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total number
20:00	35	0	1	0	0	0	36
21:00	408	0	6	0	0	0	414
22:00	378	0	0	1	0	0	379
23:00	71	0	0	0	0	0	71
00:00	150	0	1	0	0	0	151
01:00	158	0	0	0	0	0	158
02:00	115	0	0	0	0	0	115
03:00	73	0	0	0	0	0	73
04:00	28	0	0	1	0	0	29
05:00	7	0	1	0	0	0	8
Total	1423	0	9	2	0	0	1434

May - Position A - Bat passes per hour

Time	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total number
21:00	203	1	2	0	0	0	206
22:00	166	0	3	0	0	0	169
23:00	96	2	0	0	0	0	98
00:00	63	0	0	0	0	0	63
01:00	63	1	1	0	0	0	65
02:00	24	1	0	0	0	0	25
03:00	22	0	0	1	0	0	23
04:00	51	0	0	0	0	0	51
Total	688	5	6	1	0	0	700

May - Position B - Bat passes per hour

Hours	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total number
21:00	159	1	2	0	0	0	162
22:00	388	2	6	0	0	0	396
23:00	61	1	5	0	0	0	67
00:00	125	0	2	0	0	0	127
01:00	130	1	0	1	0	0	132
02:00	200	1	1	1	0	0	203
03:00	191	0	1	0	1	0	193
04:00	77	1	0	0	0	0	78
Total	1331	7	17	2	1	0	1358

June - Position A - Bat passes per hour

Hours	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total number
21:00	36	0	0	1	0	0	37
22:00	281	3	3	3	0	0	290
23:00	88	2	4	0	0	0	94
00:00	68	0	3	0	0	0	71
01:00	48	0	2	3	0	0	53
02:00	47	2	2	1	0	0	52
03:00	122	2	0	0	0	0	124
04:00	65	0	0	0	0	0	65
Total	755	9	14	8	0	0	786

June - Position B - Bat passes per hour

Hours	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
22:00	431	2	1	0	0	0	434
23:00	198	1	4	2	0	0	205
00:00	142	0	4	2	0	0	148
01:00	116	2	0	7	0	0	125
02:00	163	1	0	0	0	0	164
03:00	226	0	1	1	0	0	228
04:00	49	1	0	0	0	0	50
Total	1325	7	10	12	0	0	1354

July - Position A - Bat passes per hour

Hours	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
21:00	162	2	0	0	0	0	164
22:00	269	3	3	2	0	0	277
23:00	182	2	3	4	0	0	191
00:00	145	0	1	2	0	0	148
01:00	120	1	2	4	0	1	128
02:00	78	1	0	5	0	0	84
03:00	41	0	0	2	0	0	43
04:00	77	7	0	0	0	0	84
Total	1074	16	9	19	0	1	1119

July - Position B - Bat passes per hour

Hours	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
21:00	6	0	3	0	0	0	9
22:00	268	0	3	0	0	0	271
23:00	188	0	4	1	0	0	193
00:00	137	1	0	0	0	0	138
01:00	101	0	1	0	0	0	102
02:00	70	0	0	1	0	0	71
03:00	88	0	0	0	0	0	88
04:00	91	0	5	0	0	0	96
Total	949	1	16	2	0	0	968

August - Position A - Bat passes per hour

Time	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
20:00	16	0	0	0	0	0	16
21:00	95	0	1	1	0	0	97
22:00	96	0	1	2	0	1	100
23:00	113	0	0	2	0	1	116
00:00	44	1	0	0	0	0	45
01:00	45	0	0	3	0	0	48
02:00	86	0	0	3	0	1	90
03:00	43	0	1	1	0	0	45
04:00	84	0	0	0	0	0	84
05:00	29	0	0	0	0	0	29
Total	651	1	3	12	0	3	670

August - Position B - Bat passes per hour

Time	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
20:00	5	0	0	0	0	0	5
21:00	448	0	1	0	0	0	449
22:00	365	0	1	0	0	0	366
23:00	357	0	0	1	0	1	359
00:00	412	0	0	2	0	2	416
01:00	399	0	1	0	0	0	400
02:00	368	0	0	0	0	0	368
03:00	259	0	1	1	0	0	261
04:00	277	0	0	0	0	0	277
05:00	152	1	1	0	0	0	154
Total	3037	1	5	4	0	3	3055

September - Position A - Bat passes per hour

Time	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
19:00	94	0	0	0	0	0	94
20:00	180	2	3	2	0	1	188
21:00	58	0	1	2	0	1	62
22:00	57	0	1	0	0	4	62
23:00	9	0	0	1	0	0	10
00:00	8	0	0	4	0	1	13
01:00	13	0	0	2	0	0	15
02:00	5	0	0	0	0	0	5
03:00	12	1	0	0	0	0	13
04:00	6	0	0	2	0	0	8
05:00	7	0	0	4	0	0	11
06:00	12	0	0	0	0	0	12
Total	461	3	5	17	0	7	493

September - Position B - Bat passes per hour

Hours	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
19:00	36	0	1	0	0	0	37
20:00	674	0	1	2	0	0	677
21:00	182	0	2	2	0	0	186
22:00	198	0	1	0	0	0	199
23:00	239	0	1	0	0	0	240
00:00	147	0	0	2	0	0	149
01:00	214	0	1	10	0	0	225
02:00	39	0	1	0	0	0	40
03:00	7	0	2	2	0	0	11
04:00	5	0	0	0	0	0	5
05:00	13	0	0	1	0	0	14
06:00	5	0	0	0	0	0	5
Total	1759	0	10	19	0	0	1788

October - Position A - Bat passes per hour

Time	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
18:00	25	0	0	0	0	0	25
19:00	27	0	0	2	0	0	29
20:00	33	0	0	2	0	0	35
21:00	76	0	0	0	0	0	76
22:00	124	0	0	0	0	0	124
23:00	145	0	0	0	0	0	145
00:00	65	0	0	0	0	0	65
01:00	10	0	0	1	0	0	11
02:00	13	0	1	1	0	0	15
03:00	87	0	0	1	0	0	88
04:00	26	0	0	0	0	0	26
05:00	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0
07:00	1	0	0	0	0	0	1
Total	632	0	1	7	0	0	640

October - Position B - Bat passes per hour

Time	Common pipistrelle	<i>Pipistrellus</i> sp.	Noctule	<i>Myotis</i> sp.	Brown long-eared	Unidentified bat	Total
18:00	11	0	0	0	0	0	11
19:00	90	0	0	0	0	0	90
20:00	22	0	1	0	0	1	24
21:00	0	0	0	0	0	0	0
22:00	1	0	0	0	0	0	1
23:00	7	0	0	0	0	0	7
00:00	5	0	0	0	0	0	5
01:00	81	0	0	0	0	0	81
02:00	155	0	1	3	0	0	159
03:00	143	0	1	1	0	0	145
04:00	77	0	0	0	0	0	77
05:00	0	0	0	0	0	0	0
06:00	2	0	0	1	0	0	3
Total	594	0	3	5	0	1	603