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Bat Survey and Report

Dunsbury Park Phased Development Project

Park Lane, Havant,
PO9 4HT

NGR: SU 69948 09164.

11th December 2017

Version 1.0

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1 Introduction

Aim of the study

- 1.1 This report presents the findings of a series of bat surveys (bat activity transect and static monitoring) across the development site located at approximately at Park Lane, Havant, PO9 4HT NGR: SU 69948 09164.

Site description

- 1.2 The development site is situated on an area of open fields bordered by hedgerow and woodland copses between the urban conurbations of Havant (to the east) and Waterlooville (to the west). Both of these urban areas are also separated by the A3(M) road, which runs on a north – south axis.

- 1.3 ***Figure 1 – Extent of the Site (red line boundary)***



Legal Status of Bats

- 1.4 All eighteen of the UK's bat species are protected under Section 9 of the Wildlife and Countryside Act (WCA) 1981 (as amended). The WCA states that '*a person is guilty of an offence if intentionally or recklessly they disturb [a bat] while it is occupying a structure or place which it uses for shelter or protection; or he obstructs access to any structure or place which [a bat] uses for shelter or protection*'.
- 1.5 Bats are also protected under the Conservation of Habitats and Species Regulations 2017. Bats are listed as European protected species under which it is an offence if;
- *a person deliberately captures, injures or kills any wild animal of a European protected species;*
 - *deliberately disturbs wild animals of any such species;*
 - *damages or destroys a breeding site or resting place of such an animal.*
- 1.6 Disturbances of animals include in particular any disturbance which is likely to impair their ability to;

- *survive, breed or reproduce, or to rear or nurture their young;*
- *in the case of animals of a hibernating or migratory species, to hibernate or migrate; or*
- *to affect significantly the local distribution or abundance of the species to which they belong.*

2 Methodology

2.1 The survey was carried on using standard guidance and best practice methodology outlined in the Bat Workers Manual (Mitchell-Jones & McLeish, 2004), the Bat Mitigation Guidelines (English Nature, 2004) and Bat Surveys Guidelines for Professional Ecologists – Good Practice Guidelines (BCT 2016). The surveyors were led by Richard Law (2015-12576-CLS-CLS).

2.2 **Figure 2 - Transect Survey and Stopping Points 10th July & 21st September 2017**



2.3 **Figure 3 – Transect Route and Stopping Points 11th & 12th August 2017**



- 2.4 The transect route was divided into two parts, with the southern part of the route encompassing the south eastern field woodland margins. The route then continued following the bridleway north-west, heading west to follow the northern hedgerow to then incorporate the woodland block bordering the east of the development site. This transect was then routed to include both sides of the central hedge which was hypothesised as being an important feature for commuting bats.

Equipment Used

- 2.5 Echo Metre Touch Pro (using iPad Air 125GB) and a Heterodyne (Bat Box duet III) bat detector was used to pick up any ultrasonic calls that bats could have made during the surveys.
- 2.6 SM2 static monitoring bat detectors were installed in July and September in the following two locations; centrally along the northern hedge line (July) and centrally within the central hedge line (September), the locations of which are detailed within Figure 4.

- 2.7 ***Figure 4 – Locations of SM2 Static Monitoring Detectors***



Limitations

- 2.8 It should be borne in mind that the behaviour of animals can be unpredictable and may not conform to standard patterns recorded in scientific literature. Therefore, this report cannot predict with absolute certainty, that animal species will occur in apparently suitable locations or habitats, or that they will not occur in locations or habitats that appear unsuitable.

3 Results

3.1 **Table 1 – Transect Survey Parameters and Weather Conditions**

Date	Start Time	End Time	Sunset (sunrise)	Temperature °C	Wind	Cloud Cover % (visual estimate)	Precipitation during survey
6th July 2017	21:10	23:12	21:11	21	Light southerly breeze	Clear	None
10th August 2017	20:35	22:37	20:35	23	Still	50	None
11th August 2017	03:45	05:48	05:45	16	Still	50	None
21st September 2017	19:35*	21:37	19:03	19	Light SW	25	None

*slightly later start due to traffic issues.

3.2 **Table 2 – Stopping Point Timings**

Stopping Point	10 th July	11 th August	12 th August	22 nd September
1	21:10 – 21:20	20:35 – 20:45	03:45 – 03:55	19:35 – 19:45
2	21:42 – 21:52	20:51 – 21:01	04:01 – 04:11	20:07 – 20:17
3	21:58 – 22:08	21:07 – 21:17	04:17 – 04:27	20:23 – 20:33
4	22:14 – 22:24	21:23 – 21:33	04:33 – 04:43	20:39 – 20:49
5	22:30 – 22:40	21:39 – 21:49	04:49 – 04:59	20:55 – 21:05
6	22:46 – 22:56	21:55 – 22:05	05:05 – 05:15	21:11 – 21:21
7	23:02 – 23:12	22:27 – 22:37	05:37 – 05:48	21:27 – 21:37

3.3 **Table 3 – 6th July 2017 Transect Survey**

Time	Species	Number	Location	Behaviour
22:16	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
22:19	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
22:20	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
22:20	Serotine	1	Along central hedge line	Commuting
22:24	Common pipistrelle	1	Along central hedge line	Foraging
22:26	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
22:36	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
22:39	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
22:41	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
22:55	Serotine	1	Point 6	Foraging
23:12 - Survey End				

3.4 **Table 4 – 11th August 2017 Dusk Survey**

Time	Species	Number	Location	Behaviour
20:50	Noctule	1	Point 2	Commuting
21:15	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
21:22	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
21:23	Common pipistrelle	1	Along central hedge line	Commuting/ Foraging
21:25	Common pipistrelle	1	Along central hedge line	Foraging
21:38	Common pipistrelle	1	Point 5	Foraging
21:39	Common pipistrelle	1	Point 5	Foraging

21:40	Common pipistrelle	1	Point 5	Foraging
21:41	Common pipistrelle	1	Along hedge line by track	Commuting
22:37 - Survey End				

3.5 **Table 5 – 12th August 2017 Dawn Survey**

Time	Species	Number	Location	Behaviour
03:48	Soprano pipistrelle	1	Point 1	Foraging
03:52	Common pipistrelle	1	Point 1	Foraging
03:59	Common pipistrelle	1	North at central hedge line	Foraging
04:12	Common pipistrelle	1	Along western woodland edge	Commuting
04:15	Soprano pipistrelle	1	Along central hedge line	Commuting
04:32	Soprano pipistrelle	1	Along central hedge line	Commuting
05:17	Soprano pipistrelle	1	Along woodland edge at southern field	Foraging
05:58 - Survey End				

3.6 **Table 6 – 21st September 2017**

Time	Species	Number	Location	Behaviour
19:47	Common pipistrelle	1	At woodland edge along southern field	Foraging
19:54	Common pipistrelle	1	Along hedge line by track	Foraging
20:11	Common pipistrelle	1	Point 2	Foraging
20:15	Soprano pipistrelle	1	Point 2	Foraging
20:16	Common pipistrelle	1	Point 2	Foraging

20:17	Common pipistrelle	1	Point 2	Foraging
20:18	Common pipistrelle	1	Along northern hedge line	Foraging
20:19	Common pipistrelle	2	Around northern hedge line	Foraging
20:19	Serotine	1	Around northern hedge line	Commuting/ Foraging
20:20	Serotine	1	Around northern hedge line	Commuting/ Foraging
20:20	Common pipistrelle	1	At northern end of central hedge	Foraging
20:22	Common pipistrelle	1	Around northern hedge line	Foraging
21:05	Nathusius' pipistrelle	1	Point 5 – Central hedge	Commuting
21:26	Common pipistrelle	1	Along hedge line following lane	Commuting/ Foraging
21:37 - Survey End				

3.7 The survey results show that there were two main concentrations of bat activity. One located at the north east of the site around stopping point two and continuing along the northern hedge with another concentration of bat activity located along the central hedge, with both commuting and foraging activity noted here. Nathusius' pipistrelle (*Pipistrellus nathusii*) was recorded utilising the central hedge as were common pipistrelle (*P. pipistrellus*), soprano pipistrelle (*P. pygmaeus*) and serotine (*Eptesicus serotinus*). A single noctule (*Nyctalus noctula*) was noted early on the 11th August transect.

3.8 **Table 7 – SM2 Analysis**

	<i>Soprano Pipistrelle</i>	<i>Common Pipistrelle</i>	<i>Myotis sp.</i>	<i>Nathusius' pipistrelle</i>	<i>Noctule</i>	<i>Brown Long Eared</i>	<i>Barbastelle</i>
10/07/2017	3	75	0	0	0	1	0
11/07/2017	0	116	3	0	0	0	0
12/07/2017	0	129	1	0	0	0	0
13/07/2017	1	70	1	0	1	0	0
21/09/2017	1	16	5	0	0	0	0
22/09/2017	2	17	1	0	0	0	0

23/09/2017	10	91	0	0	0	0	2
24/09/2017	2	92	1	0	0	0	0
25/09/2017	3	353	2	0	0	1	1
26/09/2017	3	75	5	1	0	0	1
27/09/2017	0	2	0	0	0	0	0
Totals	25	1036	19	1	1	2	4
Percentage (%)	2.30	95.22	1.75	0.74			

- 3.9 The most number of passes were undertaken by common pipistrelle, which at 95.22% of passes, represented a vast majority of the passes. Soprano pipistrelle at (2.30%) were the second most abundant with Myotis sp (1.75%) the third most abundant. Of particular note were the four Barbastelle (*Barbastella barbastellus*) passes, on the 23rd, 25th & 26th September 2017 respectively and the single Nathusius' pipistrelle pass on the 26th September 2017. Brown long eared bat and noctule passes were low with two and one pass each respectively.

4 Discussion

- 4.1 There is a clear concentration of bat activity along the central hedge line and at the north eastern part of the site. The central hedge must be retained to enable continued commuting of bats across this site. This would also include the restriction of light pollution spill encompassing this feature and any developmental encroachment that may diminish the ecological integrity of this location
- 4.2 Common pipistrelle, soprano pipistrelle, serotine, noctule and Nathusius' pipistrelle were recorded on site during the transect surveys, with a majority of bats present being common pipistrelle.
- 4.3 The SM2 static monitoring has further reinforced the conclusion that the central hedge is likely to be utilised as a commuting route for bats to travel across the site. Common pipistrelle was the most dominant bat species at the locations of the SM2 detectors. Barbastelle bats were recorded utilising the central hedge line
- 4.4 A buffer zone around the central hedge line is required. It is recommended that this buffer zone be at least 5.0 metres on each side of the hedge measured from the edge of the hedge

5 References

BCT (2016) Bat Survey Guidelines for Professional Ecologist – Good Practice Guidelines

English Nature (2004) Bat Mitigation Guidelines IN13.6

HMSO (1981) The Wildlife and Countryside Act 1981 (as amended) HMSO, London.

HMSO (2017). The Conservation (Natural Habitats, &c). (as amended) Regulations 2017.

Mitchell-Jones, T & McLeish, A.P (2004) Bat Workers Manual, Joint Nature Conservation Committee.