Land at Knowle Lane, Cranleigh

Further Ecological Surveys

September 2023

1 Further Ecological Surveys

1.1 Introduction

1.1.1 Further to consultation responses from Surrey Wildlife Trust, the following further ecological surveys have been undertaken at the site in 2023.

- Bat emergence surveys of tree T10;
- Bat activity surveys extending around the eastern edge of the site;
- Dormouse surveys of hedges around the eastern edge of the site.

1.2 Bat Emergence Surveys

1.2.1 Tree T10 (a fallen dead tree) was identified during the Phase 1 survey as having 'moderate' potential to support bats. Accordingly, prior to works commencing, emergence surveys would be carried out of this tree to ensure that if roosting bats were present, appropriate mitigation was put in place. Three emergence surveys were undertaken, two at dusk and one at dawn, in accordance with standard survey guidance. These surveys are complete at the time of writing.

1.2.2 Two surveyors were positioned on opposite sides of the fallen tree so as to ensure that all potential roost features were observable during the surveys. Conditions during the emergence surveys were as follows:

Table 1 -Emergence survey details

Date	Type	Start & end times & time of sunset/sunrise	No. of Surveyors	Equipment used	Weather
26/06/2023	Dusk	Start time: 21.06 End time: 23.21 Sunset: 21.21	2	Anabat Scout	Dry, 25% cloud, BF1, 16-13°C
27/06/2023	Dawn	Start time: 02.49 End time: 05.04 Sunrise: 04.49	2	Anabat Scout	Dry, 85% cloud, BF1, 14-13°C
10/07/2023	Dusk	Start time: 21.00 End time: 23.15 Sunset: 21.15	2	Anabat Scout	Dry, 95% cloud, BF2-3, 19-18°C

BF0 = calm, BF12 = hurricane force

1.2.3 **Survey Results and Evaluation.** No bats were detected or observed emerging from or returning to potential roost features within tree T10. Conditions on each survey occasion were appropriate for detecting emerging bats based on the presence of pipistrelle bats detected foraging in the wider area around the site on each occasion. It is concluded that tree T10 does not support roosting bats.

1.3 Bat Activity Surveys

1.3.1 A full suite of bat activity surveys was undertaken at the site in 2021 and reported in the scheme's Ecological Appraisal[1]. However, these surveys did not extend to include parts of the eastern area of the site. The transect route used during the surveys was therefore extended to include these areas and update surveys are in progress. These surveys follow

[1] Aspect Ecology (2021). Land East of Knowle Lane, Cranleigh – Ecological Appraisal, Ref. 6165 EcoAp vf

the same methodology as those used previously and include the previous transect so that their results are directly comparable.

1.3.2 Extension of the transect meant that an additional five listening points were added to the transect surveyed in 2021. The transect was modified to include 5 additional listening points. These were added to the middle of the transect as listening points 5-9.

1.3.3 Conditions during the surveys are shown below:

Table 2 - Walked transect survey details

Date	Type	Start & end times & sunset/sunrise	Transect direction; No. of surveyors	Equipment used	Weather
26/06/2023	Dusk	Start time: 21.19 End time: 23.22 Sunset: 21.19	Clockwise; 2 surveyors	Anabat Scout; SM3 static detectors	Dry, 10% cloud, BF1, 19-15°C
18/07/2023	Dusk	Start time: 21.08 End time: 23.18 Sunset: 21.08	Clockwise; 2 surveyors	Anabat Scout; SM3 static detectors	Dry becoming light rain, 50% cloud, BF2, 18-15°C
15/08/2023	Dusk	Start time: 20:24 End time: 22:24 Sunset: 20:24	Clockwise; 2 surveyors	Anabat Scout; SM3 static detectors	Dry, 20% cloud, BF1, 17-16°C
16/08/2023	Dawn	Start time: 03:49 End time: 05:49 Sunrise: 05:49	Clockwise; 2 surveyors	Anabat Scout; SM3 static detectors	Dry, 0% cloud, BF1, 12-11°C

BF0 = calm, BF12 = hurricane force

1.3.4 **Results.** The activity survey results (based on data recorded from hand held bat detectors) are summarised in the tables below. Figures in parentheses indicate the number of bat passes recorded that occurred within the extended transect area (listening points 5-9).

Table 3 - Results of the dusk walked transect on 26 June 2023

Species	Number of Passes Recorded	Approximate % of Total Passes Recorded
Common Pipistrelle	112 (41)	82 (30)
Soprano Pipistrelle	21 (15)	15 (15)
Brown Long-Eared Bat	1 (1)	1 (1)
Myotis sp.	3 (0)	2 (0)
Total	**137 (57)**	**100 (42)**

Table 4 - Results of the dusk walked transect on 18 July 2023

Species	Number of Passes Recorded	Approximate % of Total Passes Recorded
Common Pipistrelle	57 (14)	79 (19)
Soprano Pipistrelle	13 (4)	18 (6)
Myotis sp.	1 (0)	1 (0)
'Big Bat'	1 (1)	1 (1)
Total	**72 (19)**	**100 (26)**

Table 5 - Results of the dusk walked transect on 15 August 2023

Species	Number of Passes Recorded	Approximate % of Total Passes Recorded
Common Pipistrelle	95 (21)	85 (19)
Soprano Pipistrelle	12 (6)	11 (5)
Brown Long-Eared Bat	2 (0)	2 (0)
'Big Bat'	3 (1)	3 (1)
Total	**112 (28)**	**100 (25)**

Table 6 - Results of the dawn walked transect on 16 August 2023

Species	Number of Passes Recorded	Approximate % of Total Passes Recorded
Common Pipistrelle	35 (13)	95 (35)
Soprano Pipistrelle	2 (0)	5 (0)
Total	**37 (13)**	**100 (35)**

1.3.1 The surveys show Common Pipistrelle to be the most frequently recorded species, accounting for over 80% of all registrations. Soprano Pipistrelle was present in lower numbers, with occasional Brown Long-Eared Bat, *Myotis* sp. and 'Big Bat' (Noctule/ Serotine/Leisler's Bat) also recorded.

1.3.2 **Remote Detector Surveys.** The findings of the automated static bat detectors placed at the site are summarised in Table 7-9 below.

Table 7 - Summary results, static bat detector 1

Survey Date	Number of registrations by species						
	Myotis	Barb	'Big Bat'	Pip 45	Pip 55	Pip	BLE
26/06/2023	1			69	216		
27/06/2023	3		1	133	104		
28/06/2023	1		3	72	91		
29/06/2023			2	35	182		
30/06/2023	1			84	239		
01/07/2023	3			61	452		
02/07/2023	1			148	117		
03/07/2023				192	169		
18/07/2023	1			152	152		
19/07/2023	2			47	140		
20/07/2023	4		2	105	67		
21/07/2023	3		4	51	23		
22/07/2023				142	212		
23/07/2023	2		2	273	135		
24/07/2023			2	94	34		
15/08/2023	5	2	2	161	6		
16/08/2023	3	2	4	106	19		
17/08/2023	3	1	8	183	37		
18/08/2023	1	5		397	83		
19/08/2023		1	1	232	53		
20/08/2023	9	1	5	160	164		
21/08/2023	1		5	460	43		
Total registrations	**44**	**12**	**41**	**3357**	**2738**	**0**	**0**
Approximate % of total registrations	**0.7**	**0.2**	**0.7**	**54.2**	**44.2**	**0.0**	**0.0**

Table 8 - Summary results, static bat detector 2

Survey Date	Number of registrations by species						
	Myotis	Barb	'Big Bat'	Pip 45	Pip 55	Pip	BLE
27/06/2023	1			4			
28/06/2023				1			
18/07/2023	1		4	12	9		
19/07/2023	1		7	12	3		
20/07/2023			2	7	5		
21/07/2023			2	5	1		
22/07/2023			4	10	3		
23/07/2023			3	10	1		
15/08/2023			7	17	2		
16/08/2023	1		4	12	4		1
17/08/2023		2	4	5	1		2
18/08/2023			4	10	3		
19/08/2023		2	3	8	3		
Total registrations	**4**	**4**	**44**	**113**	**35**	**0**	**3**
Approximate % of total registrations	**2.0**	**2.0**	**21.7**	**55.7**	**17.2**	**0.0**	**1.5**

Table 9 - Summary results, static bat detector 3

Survey Date	Number of registrations by species						
	Myotis	Barb	'Big Bat'	Pip 45	Pip 55	Pip	BLE
26/06/2023				19			
18/07/2023	8	24	11	854	222		2
19/07/2023	12	40	8	895	237		
20/07/2023	7	26	1	700	198		
21/07/2023	5	34	16	780	96		2
22/07/2023	24	7		600	731		
23/07/2023	1	22	7	809	84		
24/07/2023	5	30	4	420	74		
15/08/2023	4	8	3	98	49		
16/08/2023	6	1	5	94	24		
17/08/2023	8		5	124	5		
18/08/2023	17	3	5	136	20		
19/08/2023	11	2	12	158	34		
20/08/2023	9		9	227	129	1	
21/08/2023				1			
Total registrations	**117**	**197**	**86**	**5896**	**1903**	**1**	**4**
Approximate % of total registrations	**1.4**	**2.4**	**1.0**	**71.9**	**23.2**	**0.0**	**0.0**

Notes to Tables 7-9: Myotis- Myotis sp.; Pip 45- Common Pipistrelle ; Pip 55- Soprano Pipistrelle; Pip- Common Pipistrelle or Soprano Pipistrelle; 'Big Bat' - Noctule, Leisler's Bat or Serotine; BLE - Brown Long-eared Bat; Barb – Barbastelle

 # - Figures shown are the total no. of registrations during the dusk to the proceeding dawn period for each date, i.e. a recording 'night' for the 20th July will include registrations from 18.00 on 20/08 to 07.00 on the morning of 21st July.

1.3.3 The static bat detector data confirms that Common Pipistrelle is the most frequently recorded species. Soprano Pipistrelle was consistently the next most abundant, with Pipistrelle species together accounting for 70%-90% of registrations. The data confirms that Brown Long-Eared Bat, *Myotis* sp., 'Big Bat' (Noctule/Leisler's Bat/Serotine) and Barbastelle are also present foraging and commuting along the site boundaries.

1.3.4 Data from the static bat detectors and walked transects are shown in Plan 6165/ECO4.

1.3.5 **Evaluation.** Activity surveys have shown that bats are active around the boundary features of the site. The species of bats present are the same as identified during the 2021 surveys. The approximate proportions of bats observed within the area previously surveyed and the extended transect area (listening points 5-9) are broadly similar.

1.3.6 Data obtained from static bat detectors in 2023 was similar to that from 2021 both in terms of the species present and their relative proportions. Data from the third static bat detector from the area of the extended transect were broadly similar to that of the other static detectors, with the same proportion of bats of different species occurring, although larger total numbers of bats were detected. These results conform that all boundary features around the site are used by foraging and commuting bats and should be retained within the proposals.

1.3.7 These results support the conclusions of the Ecological Appraisal that boundary features around the site are used by foraging and commuting bats, and that, particularly because of the presence of Barbastelle, a sensitive lighting strategy at the boundaries of the site should be implemented to ensure risk of adverse effects is kept to a minimum.

1.4 Dormouse

1.4.1 Hedges in the east of the site that were previously omitted from the Dormouse surveys undertaken in 2021 as sub-optimal to support this species were subject to further surveys in 2023. Given that no records of Dormouse are known from within the 2km study area, habitat is sub-optimal, and no evidence of Dormouse was found during the 2021 surveys it is considered highly unlikely that this species will be encountered in these areas. However, additional monthly surveys have been made to support this conclusion.

1.4.2 Surveys followed the same method as the 2021 surveys, whereby nesting tubes are attached to branches of trees and shrubs and checked on a monthly basis for indications of the presence of Dormouse.

1.4.3 A total of 24 additional Dormouse nest tubes were deployed within hedgerows in the site in those areas that were not included in surveys undertaken in 2021. Nest tubes have been subject to monthly checks between June and September 2023.

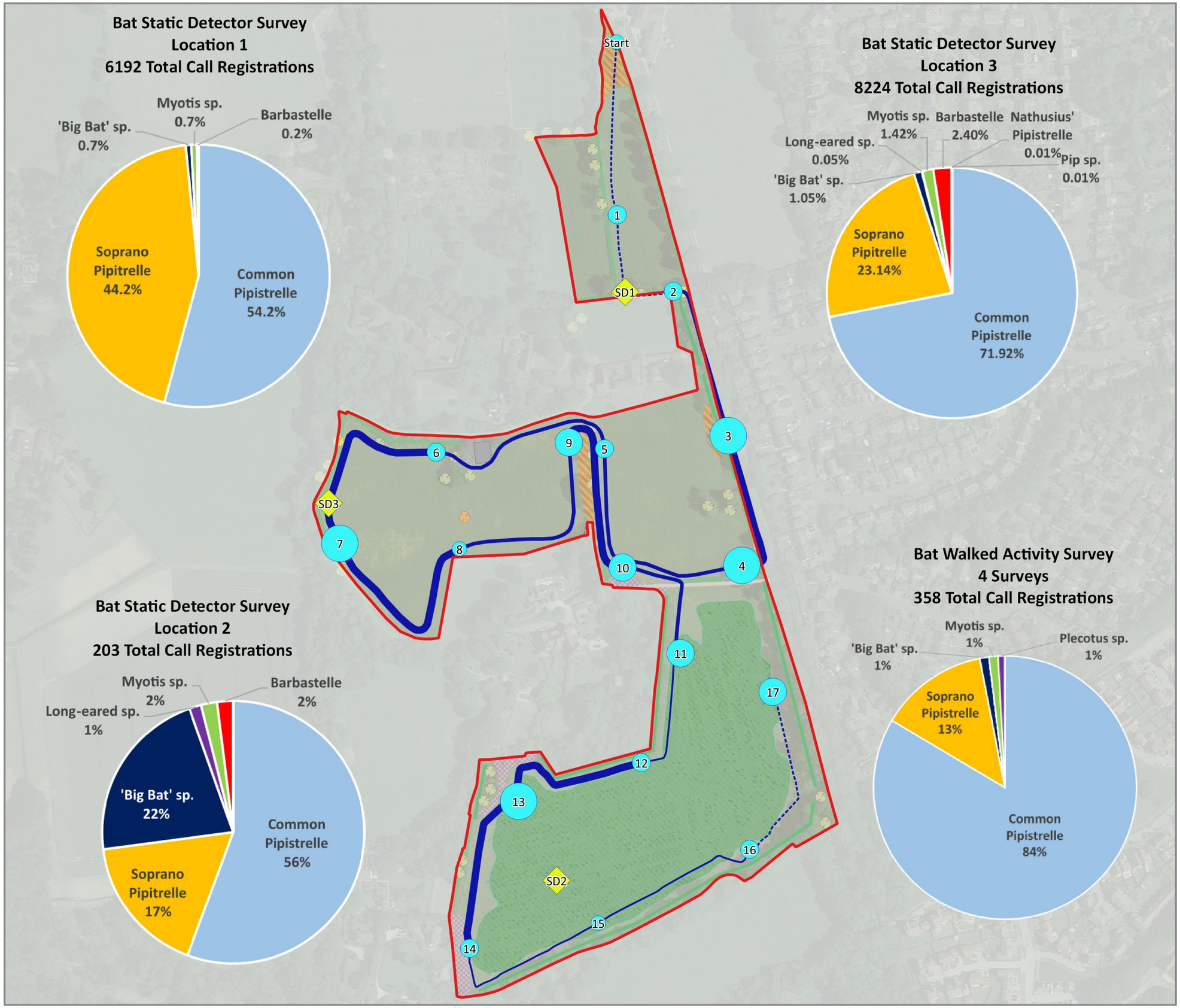
1.4.4 **Results and Evaluation:** Four additional Dormouse surveys have been undertaken in these areas. No evidence of Dormouse has been found during any survey. These findings support the conclusion made in 2021 that Dormouse is absent from the site.

1.5 Conclusion

1.5.1 The additional surveys undertaken to date do not alter the overall conclusions of the Ecology Report lodged with the application. The further information provided by the additional surveys reinforces the previous conclusion that the proposals will not result in harm to protected species and that the mitigation and enhancement measures previously proposed remain appropriate and valid.

Plan 6165/ECO4:

Bat Activity Survey Results



Key:

- Site Boundary
- Automated Bat Static Detector Locations

Walked Bat Activity Survey

At Listening Points

- High
- Moderate
- Low
- Negligible

Between Listening Points

- High
- Moderate
- Low
- Negligible

Bat Activity Level Key:
High: >1 Passes per minute

Moderate: 0.51-1.0 Passes per minute

Low: 0.01-0.5 Passes per minute

Negligible: 0 Passes per minute

Note: Number of passes per minute based on the number of sound files/passes determined by bat detector.

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Land East of Knowle Lane, Cranleigh	PROJECT
Bat Activity Survey Results	TITLE
6165/ECO4	DRAWING NO.
B/AM	REV
September 2023	DATE

ecology • landscape planning • arboriculture

aspect

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