

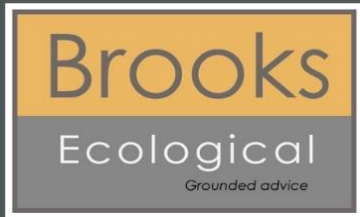
Lady Anne Road, Soothill



Bat Activity Survey

25/09/2023

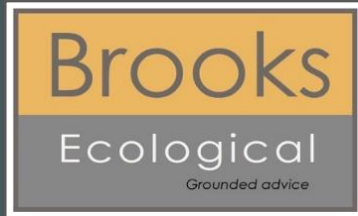
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Report reference	ER-3787-04-A
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Date	25/09/2023
Report duration	In accordance with CIEEM (2019), unless otherwise stated the findings of this report remain valid for a period of 18 months. After this period advice should be sought on the scope of any updating work required.



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Summary Statement

The Site has been found to attract only low-level irregular foraging, by a limited range of common bat species.

A Site Layout has been devised which retains much of the higher value habitat (Howley Beck corridor) and presents opportunities for ecological enhancement. Standard mitigation is recommended to minimise any residual impacts.

Introduction

1. Brooks Ecological was commissioned by D. Noble Ltd. to carry out seasonal (summer and autumn) Bat Activity Survey at the proposed development Site situated off Lady Anne Road, Soothill.
2. This survey is required to provide evidence of the baseline use of the Site by the local bat population, which in turn will then enable mitigation and enhancement strategies to be devised to support a planning application.
3. The scope of the survey has been devised based on an assessment of the habitats present, the results of previous activity surveys and in accordance with current best practice guidelines (Bat Conservation Trust, 2016).

Method

4. Surveys were directed by Christopher Shaw BSc (Hons) MCIEEM. Chris has over 13 years' experience of carrying out bat surveys in a professional capacity and is registered to use the Class Survey Licence WML CL18 (Bat Survey Level 2) and Bat Mitigation Class Licence WML CL21 Annex B.
5. The objective of the survey was to collect up to date information on the Site's use by local bat populations, so that an accurate assessment of the potential impacts of development could be made. A transect and remote monitoring survey was carried out to collect the following data (Bat Conservation Trust, 2018):
 - The assemblage of bat species using the Site.
 - The relative frequency with which the site is used by different species.
 - The nature of activity for different bat species, for example foraging, commuting, and roosting.

Survey Conditions

6. Walked transects were undertaken in June and September 2023, during optimal survey conditions and time of year. Survey conditions are summarised in Table 1.

Table 1 Survey Conditions

Date	Sunset	Weather	Insect Activity
19/06/2023	21:40	20-18°C. 90% cloud cover. No precipitation. Light Wind (B1).	Moderate
21/09/2023	19:08	14-13°C. 70% cloud cover. No precipitation. Light Wind (B1).	Low

Figure 1 Site location plan



Transects

7. The transects began just after sunset and continued up to two hours after when all bats were thought to have emerged, and thus were actively foraging and commuting.
8. The transect was walked by a team of two surveyors, equipped with a heterodyne detector as well as a Titley Scientific Anabat Scout, used to track the transect route and aid species identification. Notes taken during the survey were then used to produce the activity 'heat map'.
9. Blue shades on the heat map correspond with low activity defined by up to 2 individuals intermittently recorded, yellow tones indicate more prolonged spells of activity by 2 -5 individuals whilst red tones indicate higher and consistent activity levels of 5 or more bats.

Remote Monitoring

10. To supplement data collected during the walked transect, two static monitoring devices (Wildlife Acoustic SM4) were deployed in strategic locations on-site prior to the start of the walked transect.
11. Data collected during the period of remote monitoring has been run through Kaleidoscope Pro software, which can identify bat calls down to species level (except for *Myotis*). Identification is generally correct when using this software; however, results are double checked to ensure accurate data analysis.
12. Every effort is made to split up *Myotis* calls down to species level. This is done by analysing calls on Anabook software and looking at parameters such as inter-pulse interval, call duration, slope and maximum / minimum / peak call frequency. However, this can often be difficult when registrations are short in duration, faint or distorted by cluttered environments.

Limitations

13. Static monitoring can only reliably provide information on what species of bat are regularly making use of a site. More detailed information on bat activity, such as frequency of bats, nature of activity (foraging, commuting, flight path), etc. can only be gleaned through walked transects.
14. The frequency of calls recorded can, to some extent, suggest whether activity on site is low, moderate or high, by comparing data collected with that of similar sites that have been surveyed.
15. A single registration can account for up to 15 seconds of continuous bat call. Large batches of registrations can be interpreted in several different ways, i.e. a single bat foraging continuously for only an hour can result in many hundreds of registrations being logged; similarly, many hundreds of bats commuting quickly past the detector can result in the same number of registrations.

Summer Transect

16. The Site has been left unmanaged for many years, which has allowed the vegetation to grow rank, developing into a patchwork of tall grassland with stands of ruderal herbs and pockets of shrub (native and garden escapes). As such, access to much of the site was somewhat constrained, with the transect largely following informal footpaths and public highways. Wherever possible, attempts were made to penetrate the site, to ensure robust survey data could be collected.
17. The survey commenced at around sunset (21:40), heading northwards into the Site from Lady Anne Road. A full fap lap of the site was completed, before the surveyors then walked the length of the eastern boundary, along Lady Anne Road. Three laps of this route were walked in total.
18. The first bat contact was made at 22:07, when two common pipistrelle bats were recorded foraging over woody vegetation lining Howley Beck to the north (Plan Ref. 1.). These bats could still be heard as the surveyors left the Site through the northern boundary, indicating that foraging activity extended further north along the beck.
19. The next contact was logged at 22:20, when a solitary common pipistrelle bat was recorded foraging near the centre of the Site, over and around the line of trees (Plan Ref. 2). This bat remained foraging here for at least half an hour, with the surveyors logging the same activity on the second lap of the Site at around 22:48.
20. Another common pipistrelle was then recorded foraging over the southern end of the Site at 22:41 (Plan Ref. 3); this was not seen on any subsequent laps of the Site.
21. The final bat of the evening was again a common pipistrelle, this time heard but not seen along the northeast boundary, most likely foraging just offsite, beyond the tree line on the opposite bank of Howley Beck (Plan Ref. 4).
22. After this, no further bat activity was recorded.
23. Activity overall was considered low, with only small numbers of common pipistrelle bats recorded foraging, and for relatively short lengths of time.

Figure 2 Summary of bat activity observed during the summer transect.



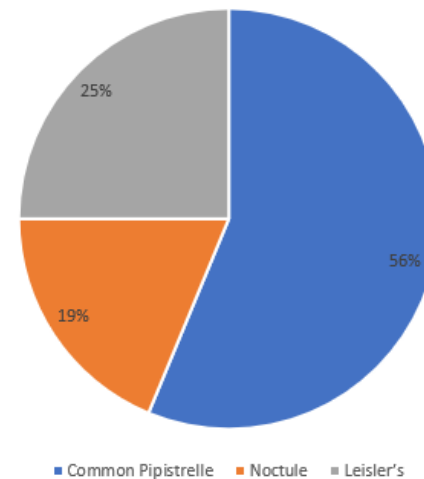
Summer Remote Monitoring

24. A single remote detector (Song Meter SM4BAT FS) was deployed in a central location within the Site immediately prior to the start of the transect. This was placed within a pocket of scrub, close to the line of trees, where it was thought bat activity would be representative of the Site. This was left to run for 7 consecutive nights, from the 19th to the 25th June 2023.
25. Bat activity during this period was very limited, despite optimal weather conditions and time of year.
26. Only three species of bat were recorded making use of the Site; these being common pipistrelle, noctule and Leisler’s bat. The table opposite summarises the number of registrations logged for each species over the seven nights of monitoring, with the final column presenting the average number of registrations across the monitoring period.
27. With all three species logging less than 10 registrations per night, on average, bat activity can be considered very low/ negligible overall.
28. The data collected does not indicate that the Site is of significant value for any local bat populations.

Table 2 Total number of registrations logged for each bat species, per day during summer monitoring.

Species	19 th	20 th	21 st	22 nd	23 rd	24 th	25 th	Average
Common Pipistrelle	8	13	8	4	14	6	13	9
Noctule	1	1	1	6	6	-	9	3
Leisler’s	4	1	2	-	12	5	7	4

Figure 3 Proportion of bat activity attributed to each bat species during the summer monitoring period.



Autumn Transect

29. A similar transect route to that walked in summer was repeated in autumn; this made use of public highways and informal footpaths as shown in the figure opposite.
30. Bat activity was very limited, with only two bat contacts being recorded all evening. The first was at 19:39 (31 minutes after sunset) when a single common pipistrelle bat was noted foraging over neighbouring land to the northeast (Plan Ref 1, Figure 4).
31. The second contact was logged at 20:07 and relates to a brief foraging pass recorded near the centre of the Site (Plan Ref 2, Figure 4), again attributed to a solitary common pipistrelle bat.
32. No further bat activity was recorded on site during the remainder of the survey.
33. Bat activity during this period was found to be very low and does not suggest that the Site is of value to any local bat populations during this time.

Figure 4 Summary of bat activity observed during the autumn transect.



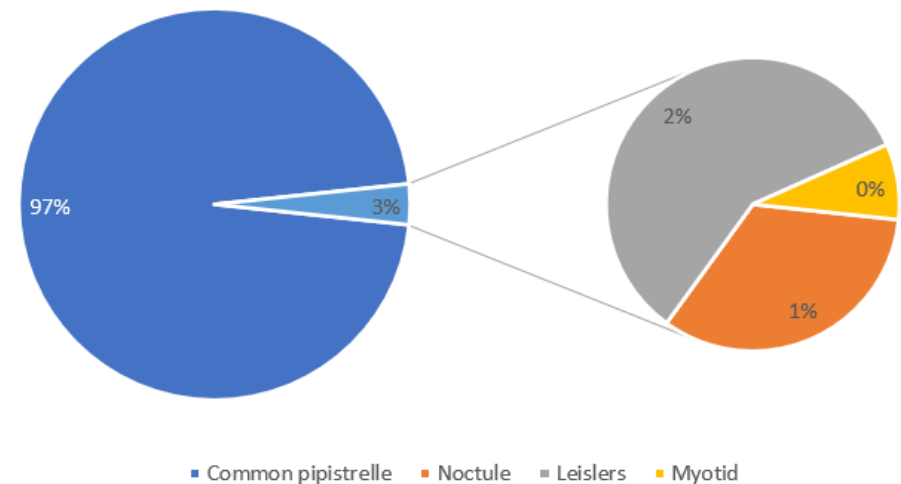
Autumn Remote Monitoring

34. A single remote detector (Song Meter SM4BAT FS) was deployed in a central location within the Site immediately prior to the start of the transect. This was placed within a pocket of scrub, close to the line of trees, where it was thought bat activity would be representative of the Site. This was left to run for 5 consecutive nights, from the 13th to the 17th September 2023.
35. Bat activity during this period was again very limited, despite optimal weather conditions and time of year.
36. Four species of bat were recorded making use of the Site, these being common pipistrelle, noctule, Leisler's and a single myotid bat species (suspected Brandt's). The table opposite summarises the number of registrations logged for each species over the monitoring period, with the final column presenting the average number of registrations across the monitoring period.
37. As can be seen, common pipistrelle accounted for most of the bat activity logged (circa. 97% of registrations), with an average of 69 registrations per night. This represents low to very low levels of bat activity, and could be attributed to irregular foraging by a single, or small number of individuals, as was seen during the walked transect.
38. The other three species accounted for the remaining 3% of registration logged, with an average of 1 registration per night or less, on which can be considered negligible activity overall.
39. The data collected does not indicate that the Site is of significant value for any local bat populations.

Table 3 Total number of registrations logged for each bat species, per day during autumn monitoring

Species	13th	14th	15th	16th	17th	Average
Common pipistrelle	32	50	161	101	3	69
Noctule	-	4	-	-	-	<1
Leisler's	-	-	7	-	-	1
Myotid (Brandts)	-	1	-	-	-	<1

Figure 5 Proportion of bat activity attributed to each bat species during the autumn monitoring period.



Conclusions

40. Seasonal bat activity surveys, carried out during the 2023 summer and autumn periods and during optimal weather conditions, has found the Site to attract only very limited bat activity.
41. The walked transects have recorded only low-level irregular foraging by common pipistrelle bats, with activity scattered around the site and along Howley Beck.
42. Remote monitoring recorded similar low-level activity, by four bat species, with common pipistrelle making up the bulk of this activity. Activity was consistently low through the monitoring period.
43. Data collected during this survey does not indicate that the Site is of any significant importance to any local bat populations.
44. Proposals show development will be mostly confined to the Site's interior and western boundary, with the Howley Beck corridor largely retained. This will seek to maintain connectivity through the Site and provides opportunities to enhance the highest value bat habitat.

Recommendations

45. Based on the information collected and the design of the masterplan, the proposed development is unlikely to impact significantly on the local bat populations.
46. In order to minimise any short - medium term impacts of development on this group, and maximise opportunities for long-term gains, the following is recommended:
 - A sensitive lighting plan should be designed to show how light spill will be minimised/ avoided on new and retained habitats favoured by bats, especially Howley Beck corridor.
 - The Site should be planted up with a range of semi-natural habitats in order to create a diverse mosaic of grassland, scrub and wetland.
 - Retained vegetation (i.e. Howley Beck corridor) should be enhanced to maximise its value to bats and other local wildlife.
 - Bat boxes could be installed within a number of suitable properties, i.e. those positioned along the eastern boundary, fronting onto Howley Beck.

References

- BS:42020 2013. Biodiversity - Code of practice for planning development. BSI
- Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists - Good Practice Guidelines
- Conservation of Habitats and Species Regulations 2010
<http://www.legislation.gov.uk/ukxi/2010/490/contents/made>
- CIEEM (2019) Advice Note - On the Lifespan of Ecological Reports and Surveys
- English Nature (2004) Bat Mitigation Guidelines. English Nature, Peterborough.
- Institute of Lighting Professionals (2018) Bats and artificial lighting in the UK. Bat Conservation Trust Guidance Note 08/18.
- <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>
- JNCC (2004) The Bat Workers Manual. 3rd Edition.
- ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System
<http://www.communities.gov.uk/publications/planningandbuilding/circularbiodiversity>
- Wray S, Wells D, Long E, Mitchell-Jones T (2010) Valuing Bats in Ecological Impact Assessment. CIEEM In Practice.