



# Woolley Colliery Road, Barnsley



**Bat Activity Survey - Interim Report**

ER-6218-02

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## **Summary Statement**

Seasonal Bat Activity Surveys have been commissioned at the Site, thus far, only the Summer survey has been completed, with this report presenting interim results.

Survey has recorded only low levels of bat activity, attributed primarily to common pipistrelle bats.

The data collected does not point to the Site being of any significant importance to any local bat populations. However, this assessment will need to be supported by the autumn and spring results.

Based on the information collected to date, and the sensitive design of the masterplan, the proposed development is unlikely to impact significantly on any local bat populations.

Recommendations have been provided to help minimise the impact of development on this group.

## Introduction

1. Brooks Ecological was commissioned by Rouse Homes Ltd to carry out detailed Bat Activity Survey at the proposed development Site at Woolley Colliery Road, Barnsley.
2. These surveys are 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).
4. 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, 2016):
  - 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.

**Figure 1** Site location plan



## Method

- Surveys were directed by Christopher Shaw BSc (Hons) MCIEEM. Chris has over 12 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.

### Survey Conditions

- Walked transects were undertaken in optimal survey conditions; as summarised in the table below

**Table 1** Survey Conditions

Survey	Date	Sunset	Weather	Invertebrate Activity
Summer	12/07/2022	21:31	19-18°C. Light Breeze (B1). High humidity. No cloud cover.	High
Autumn	-	-	-	-
Spring	-	-	-	-

## Transects

- Transects began around sunset and continued up to two hours after when all bats were thought to have emerged, and thus were actively foraging and commuting.
- The transects were walked by a team of two surveyors, equipped with a heterodyne detector as well as a Titley Scientific Anabat Express, used to track the transect route and aid species identification. Notes taken during the survey were then used to produce the activity 'heat map' seen in the below figures.
- 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

- To supplement data collected during the walked transect, static monitoring device/s (Wildlife Acoustic SM4) were deployed in a strategic location on-site prior to the start of the walked transect.

- 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.
- Every effort is made to split up *Myotis* calls down to species level. This is done by analysing calls on Anlook 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

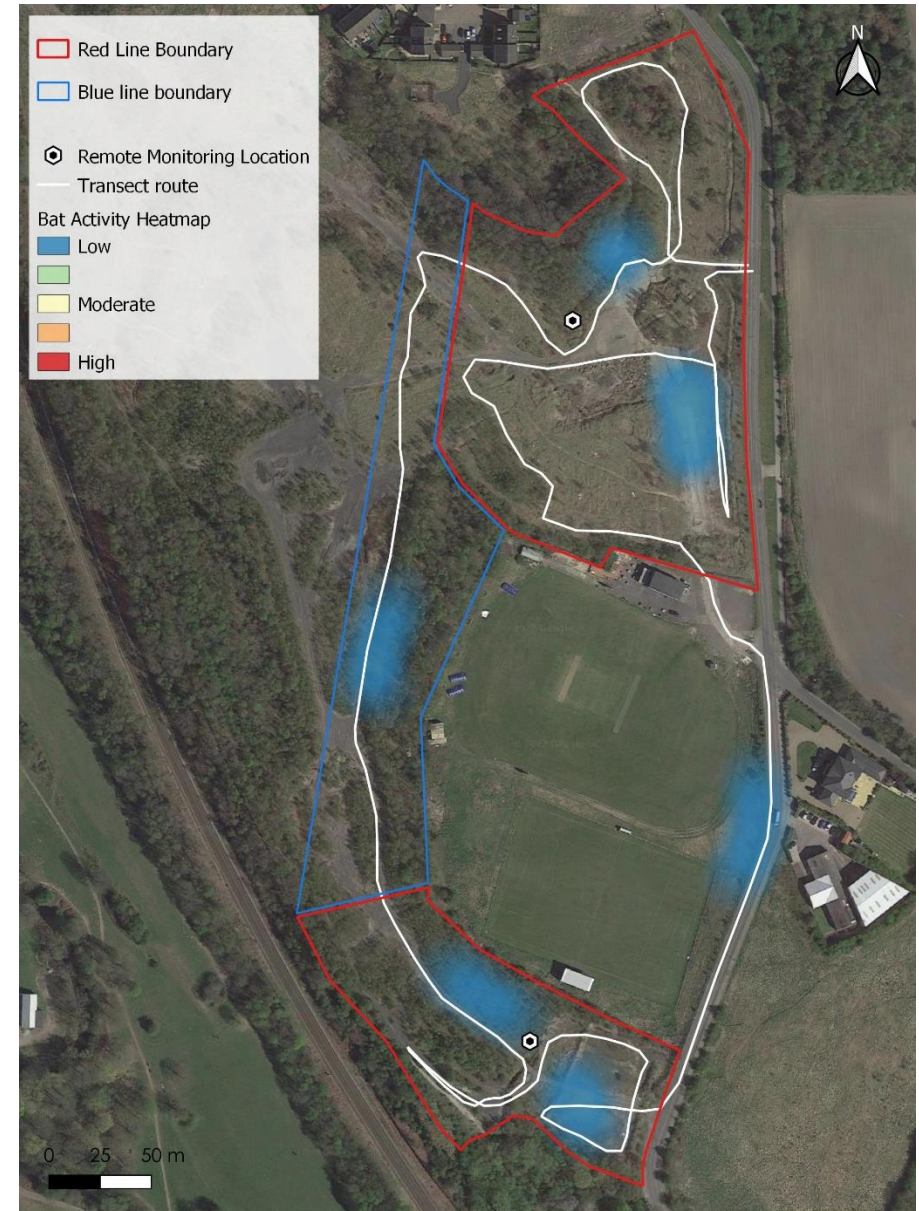
- Static monitoring can only reliably provide information on what species of bat are regularly making use of a site. More detailed information on bat activity, such as frequency of bats, nature of activity (foraging, commuting, flight path), etc. can only be gleaned through walked transects.
- The frequency 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.
- 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 Results

### Walkover Transect

16. The transect began and ended at the entrance to the northern parcel, along the eastern boundary. It proceeded in a clockwise direction, taking in all areas of structured habitat that were thought likely to attract bat activity and with an aim of covering as much of the red and blue line boundary areas as possible. An indicative route is shown in the figure opposite.
17. Bat activity that was observed on Site during the transect can be described as being low. A summary of the activity noted during the transect is provided as a heat map; see figure opposite.
18. All activity relates to solitary common pipistrelle bats, that were observed foraging for short periods of time before moving on. No sustained or significant foraging activity was noted on Site.

**Figure 2** Summary of bat activity observed during walked transect



## Summer Results

### Remote Monitoring

19. Two remote detectors (Song Meter SM4BAT FS) were deployed on Site, as shown in Figure 2 above. These were positioned to cover both the northern and southern red line boundaries. Both detectors ran for 5 consecutive nights, from the 7<sup>th</sup> to the 11<sup>th</sup> July 2022.
20. The activity recorded at each of the two monitoring locations was very similar, both in terms of species assemblage and abundance.
21. Common pipistrelle logged the greatest number of registrations at each monitoring location, with an average of 22 and 33 registrations logged per night at the north and south locations, respectively. This constitutes very low levels of bat activity and can be attributed to a single bat foraging near to each of the monitoring devices for just a short period of time each evening - as was seen during the transect.
22. A very small number of noctule registrations were also logged on each of the detectors, most likely attributed to a single or small number of individuals commuting over the site each evening, but spending no time on site foraging.
23. A single myotis bat registration (most likely a whiskered bat) was logged on the southern device on the last night of monitoring. This is likely to represent a single bat commuting quickly past the detector.

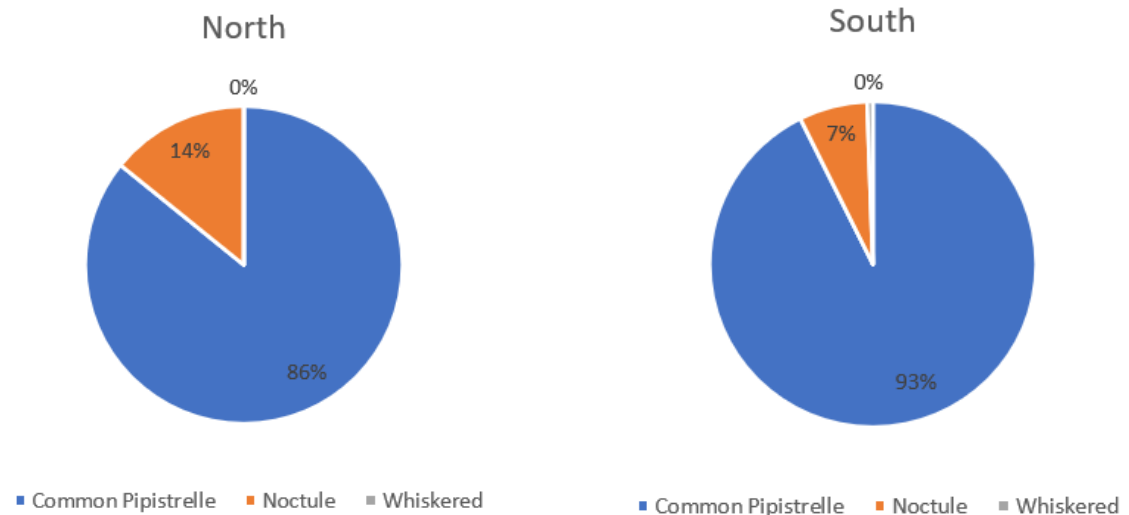
**Table 2a** Total number of registrations logged for each bat species, per day within Northern parcel

Species	7th	8th	9th	10th	11th	Average / night
Common Pipistrelle	22	20	18	31	18	22
Noctule	-	-	3	10	5	4

**Table 2b** Total number of registrations logged for each bat species, per day within Southern parcel

Species	7th	8th	9th	10th	11th	Average / night
Common Pipistrelle	21	32	28	31	52	33
Noctule	3	2	4	-	3	2
Whiskered	-	-	-	-	1	<1

**Figure 3** Total number of registrations logged for bat species, at each monitoring location, during the summer



## Conclusions & Recommendations

24. Following the recommendations made in the Preliminary Ecological Appraisal Report, seasonal bat activity surveys have been commissioned at the Site. Thus far, only the Summer survey has been completed, with this report presenting the interim results.
25. Despite the survey being conducted within the period of peak activity for this group, and under optimal survey conditions, the Site has been found to attract very low levels of bat activity.
26. The walked transect recorded only a small number of common pipistrelle bats foraging on Site, all individually and all foraging for only short periods of time. This activity was scattered across both red line boundaries and the blue line land, with no areas that formed a focus for bat activity.
27. Remote monitoring recorded similar low-level activity, with common pipistrelle making up the bulk of this activity. The data collected is in keeping with the activity observed during the transect and can be attributed to brief foraging by solitary bats. Two other species of bat were recorded (noctule and whiskered) at very low levels, indicating occasional commuting passes.
28. The data collected thus far does not point to the Site being of any significant importance to any local bat populations. However, this assessment will need to be supported by the autumn and spring results.
29. Based on the information collected to date, and the sensitive design of the masterplan, the proposed development is unlikely to impact significantly on any local bat populations.
30. To minimise the impact of development of this group further, the following mitigation is recommended.
  - A sensitive lighting plan should be designed to show how light spill will be minimised/ avoided on retained and boundary habitat.
  - Newly created POS and blue line land could be designed / enhanced to maximise its value to bats.
  - Bat boxes could be installed within a number of suitable properties, i.e. those positioned along periphery that front only to retained vegetation.

## References

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