

**Bat Emergence Survey Report
Horn Crag Quarry, Silsden**

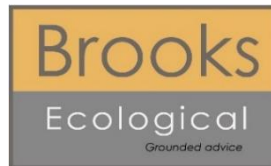
AD Calvert Architectural Stone Supplies

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Report Title:	Bat Survey Report Horn Crag Quarry, Silsden
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Summary Statement

Survey has confirmed the likely absence of roosting within the quarry during the summer.

Hibernation monitoring over winter is recommended to determine bats' potential use of the quarry over the hibernation period.

Introduction

1. Subsequent to recommendations set out in the Preliminary Ecological Appraisal Report (ER-5064-01), Brooks Ecological was commissioned to carry out a detailed Bat Emergence Survey at the proposed development Site at Horn Crag Quarry, Silsden.
2. Survey was required on the quarry face, which was assessed as providing features with low bat roost suitability; see Figure 1 (below). In accordance with current best practice guidelines, structures of low suitability need a single evening emergence or dawn re-entry survey in order to confirm the presence or likely absence of roosting bats.

Figure 1 The Site boundary – survey extent shown in yellow hatch



Method

3. Brooks Ecological specialise in bat surveys ranging from individual buildings through to complex sites requiring numerous visits with large teams. In terms of the survey effort, number of personnel and number of visits required to be able to properly evaluate the building(s) use by bats, we refer to the Bat Conservation Trust Survey Good Practice Guidelines (2016). However, these guidelines are not prescriptive, and we approach each site individually as required using our professional judgement and significant experience base.
4. In this case, one visit with a team of two surveyors was deemed necessary to fully evaluate the potential use of the exposed rock face for roosting.
5. Surveys were carried out with surveyors positioned around the rock face to cover all aspects where bats could potentially emerge or return, and to establish activity levels around the Site.
6. The surveyors, using heterodyne detectors, were in place at least 15 minutes before sunset and left once all species of bat would be expected to have left a roost and patterns of activity within the Site had been appraised. Conditions and dates are summarised in Table 1 below.

Table 1 Survey conditions.

Date	Survey Type	Temp. Start/End	Weather
18.05.2021	Emergence	16°C/14°C	Heavy rain earlier in the day, dry. Clear. Light air (B1).

Box 1 *Bat roosts*

Bats roost in buildings and trees in different locations depending upon time of year and environmental factors such as position of the sun, proximity to heat sources and feeding grounds. The following types are commonly referred to:

Transitional roosts

Bats frequently gather early in the season (March to April) before dispersing to summer roosts. Bats can be found in high numbers in these roosts for a very short period. Transitional roosts can also be found shortly before hibernation in August to October when bats (depending upon species) can gather in roosts not used earlier in the season.

Maternity roosts

These are among the most important roosts and are normally occupied from May to August. Depending on the species involved, some maternity roosts can contain a very significant proportion of the local population.

Summer (non-breeding) roosts

Small groups of non-breeding female and male bats can gather in these roosts or bats from a local population may choose to roost individually. There are normally a large number of suitable locations for summer non-breeding roosts and these may be routinely used or used only on an occasional basis. Irregularly used summer roosts can be very hard to find without unreasonable survey effort.

Mating roosts

Around September bats will gather in roost to mate; these are often in different locations than summer or breeding roosts.

Hibernation roosts

As bats in hibernation roosts are highly vulnerable to disturbance and bats can be present in large numbers these are considered to be among the most important bat roosts. Many species of bats roost in large and nationally important hibernation roosts associated with underground sites, many of which are well known and protected. However, the most common bat in the UK (the common pipistrelle) is largely unaccounted for in winter but thought to disperse and roost individually or in small groups in thermally stable cracks and crevices in thick walls or trees.

Box 2 *Legal background*

Bats are afforded full protection under The Wildlife and Countryside Act (1981) plus amendments, and the Conservation of Habitats and Species Regulations 2010. Under these Acts it is an offence among others, to recklessly kill, injure or disturb bats. It is also an offence to destroy or obstruct a roost even if bats are not in occupancy at the time of the action.

There are no defences against contravention of the Habitats Regulations 2010 which means that it is important for detailed and well-designed bat surveys to be carried out, prior to carrying out activities that may impact upon bat roosts such as demolition of buildings or removal of trees.

Where bats are found within a potential development site, a license from Natural England may need to be secured if works that could otherwise contravene legislation are to be carried out. These licences are only issued where Natural England is satisfied that works are unavoidable and would not have a negative impact on the favourable conservation status of bats. A Natural England license requires that the potential development site has full planning permission and that bats were a material consideration of the planning permission.

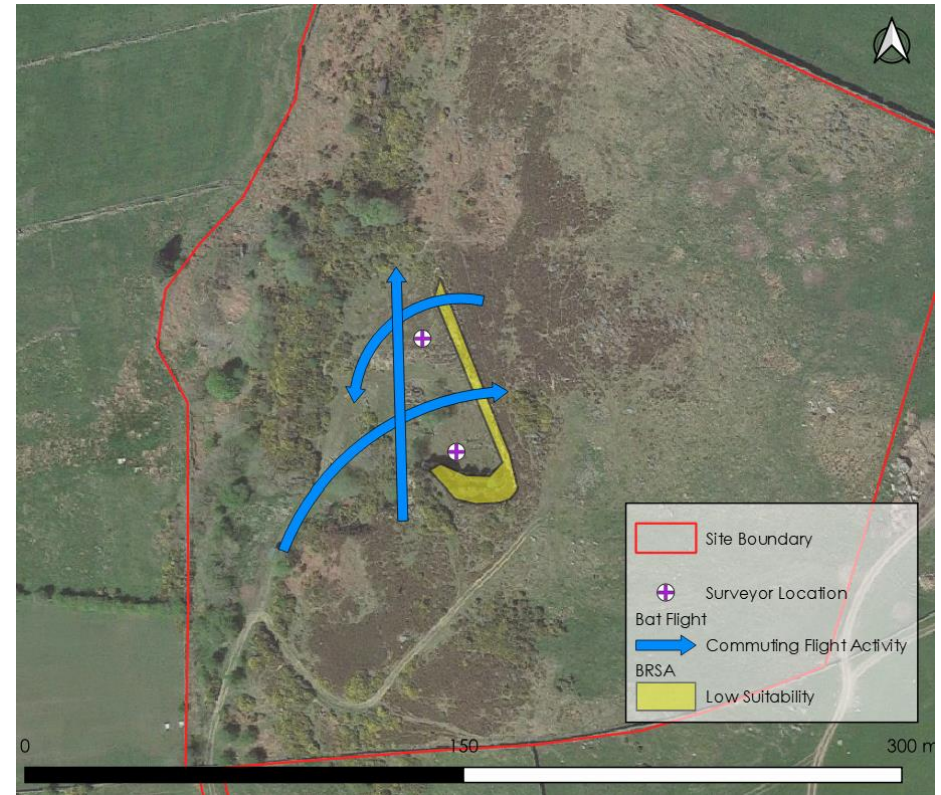
Survey Results

Survey 1

Emergence – 18th May 2021 (sunset 21:09)

7. This survey encompassed the quarry face, with surveyors positioned so as to cover all features with bat roost suitability.
8. Overall, bat activity was considered to be low, with bat contacts being brief and irregular.
9. The first contact was logged at 21:06 when a common pipistrelle was observed commuting south past the surveyors, coming from the east and circling round the surveyor to the north.
10. A single common pipistrelle was observed commuting south to north at 21:29, followed by a second bat commuting up the quarry track and heading east at 21:38.
11. A single common pipistrelle was noted briefly foraging at 22:01 near the quarry track.
12. No roosts were identified, or suspected, within the rockface.

Figure 2 Summary of bat activity observed during emergence surveys.



Evaluation & Conclusion

13. One evening emergence survey, covering the quarry face (highlighted yellow in Figure 1), has confirmed the likely absence of roosting during bats' active season.
14. A number of deeper crevices are noted at varying heights across the quarry structure, though direct access to some of these was not possible. These fissures look to extend horizontally into the quarry and appear relatively sheltered, providing potential for hibernation roosting. As such, further monitoring is recommended to determine bats use of the Site during the hibernation season. This can be undertaken in winter 2021.

Figure 3a-b Fissures noted within quarry face



15. Bat roost suitability assessment of any individual trees subject to works/removal would also be recommended should these be affected, followed by climbed inspection should they support potential roost features. Assessment should be undertaken once detailed proposals and trees to be removed are made available.

References

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