KILN LANE BARN PRELIMINARY BAT ASSESSMENT

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BK ECOLOGY

Bat and Barn Owl Survey; Kiln Lane, Clitheroe

1. Introduction

1.1. BK Ecology was commissioned to undertake an assessment for bats at Kiln Barn, Kiln Lane, near Paythorne, Clitheroe (SD 83102 51581), see Figures 1a and b. Plans involve conversion of a barn into a residential property.

1.2. The aim of the assessment was to establish potential for bat use and record evidence of any bat use through a daytime inspection.

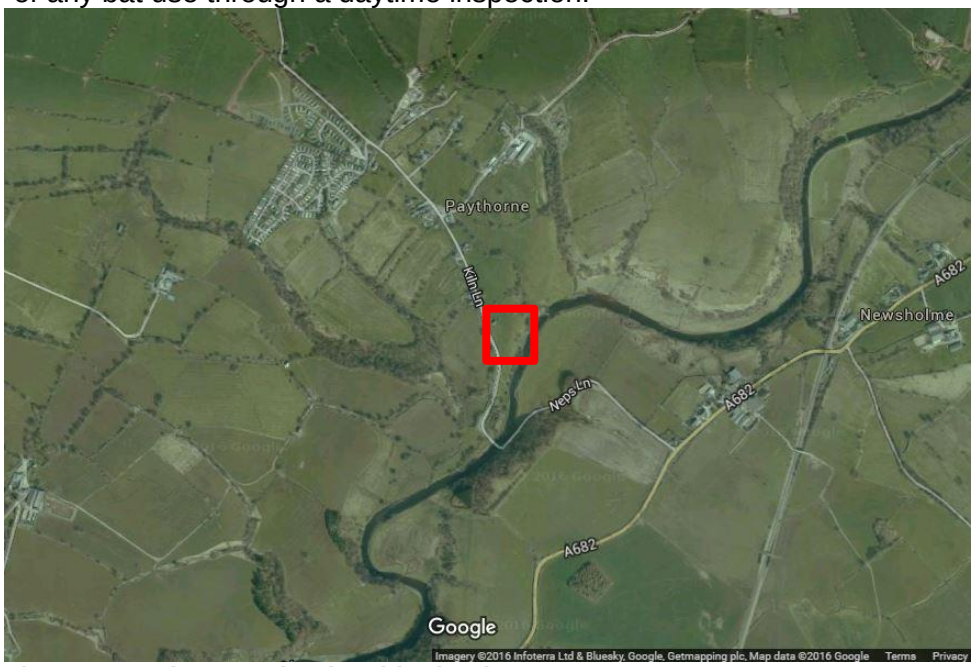

Figure 1a – Site Location in wider landscape

Figure 1b – Site Location

2. Method

Daytime Inspection

2.1. A daytime internal and external inspection of the building was undertaken on 25.05.16 by Jo Bates-Keegan MSc, BSc (Hons), Natural England Class Licence Number 2015-13046-CLS-CLS. The weather during the inspection was cloudy with a temperature of 10^{o}C and a moderate breeze.

2.2. The internal and external building inspection involved a search of the building for field signs such as;

- bats,
- bat droppings,
- urine stains,
- bat feeding remains (moth wings, insect cases),
- bat staining,
- distinctive smell of bats,
- scratch marks and smoothing of surfaces which would indicate a roost site.

2.3. This also involved checking for field signs of bats on particular features of the building with attention being paid to windowsills, panes and ledges, walls, doors and the ground around the buildings. An assessment of the potential of the building to support bats was also made during the survey i.e. searching for suitable roosting crevices or access points. A high power torch and binoculars were used to aid the survey.

2.4. An assessment of the suitability of habitat of the site for bats was undertaken, including the identification of potential foraging and roosting areas, potential flight lines and important corridors.

2.5. Natural England's Bat Mitigation Guidelines (2004) state that a significant bat roost can normally be determined on a single visit at any time of the year, provided that the entire structure is accessible and that signs of bats have not been removed by others.

2.6. In addition, the presence of nesting birds was recorded.

3. Results

Data Search

3.1. East Lancashire Bat Group provided a number of records within 1.5 km of the site including;

- 1 roost containing brown long-eared (*Plecotus auritus*) and natterer's (*Myotis nattereri*) bats approximately 250 m to the northwest of the site, recorded in 2009.
- Foraging brown long eared, common and soprano pipistrelles recorded in 2009 approximately 650 m north of the site.
- A record of bats roosting within the barn itself in 2014. These included a common pipistrelle bat roosting in a crevice above the window, brown long eared bat feeding signs within the barn, 3 soprano pipistrelle (*Pipistrellus pygmaeus*) and 3 common pipstrelle bats and a Myotis bat emerging from the barn at dusk. Soprano pipistrelle and noctule bats were noted feeding in the vicinity of the barn.

3.2. LERN provided a single record within 1.5 km of the site;

- 1 possible brown long-eared (*Plecotus auritis*) roost approximately 530 m to the south west of the site, recorded in 2009.

Daytime Inspection

Bats

3.3. The site is situated on to the north of Gisburn (see Figures 1a and b). The immediate and wider area is pastoral with some agriculture and a number of woodlands. Connectivity is provided by hedgerows, treelines, woodland and the River Ribble which runs from east to west and is located less than 200 m to the south of the site. There are abundant potential roosting opportunities in the surrounding landscape within scattered residential properties, trees and woodland including the BHS (and ancient) woodlands Castle Haugh, Twin Gills and Bridge wood, all within 500 m of the site.

3.4. The property is shown in the site plan shown in Figure 2. It comprises a stone built barn with corrugated asbestos roof.

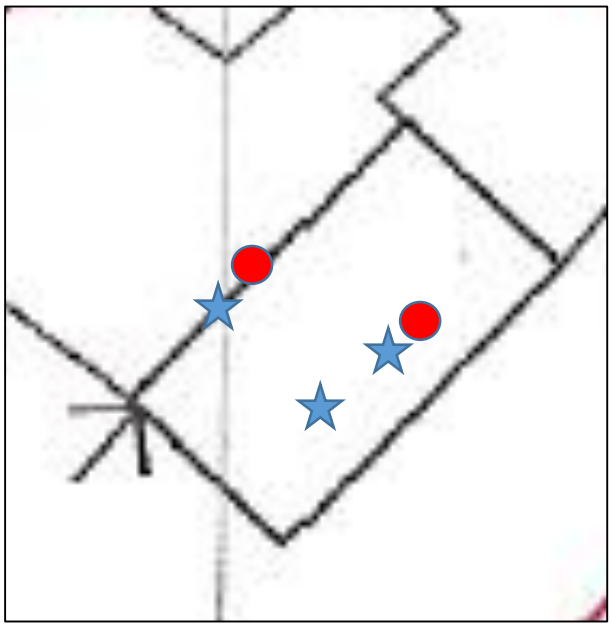

Figure 2 – Current building plan and positions of bat droppings / feeding remains

3.5. The building (see Appendix 1 for photographs) has high potential for roosting bats. It is a stone barn with a pitched, corrugated asbestos roof. There are numerous opportunities for access including an open lower barn door, gaps in stonework, broken glass in windows and vents in stonework. Torching is loose and degraded, which may present some opportunities.

3.6. The end wall of the barn is suffering subsidence and is gradually coming away. Anecdotal evidence suggests this end of the barn (specifically the south east corner) is where bats are roosting.

3.7. It was not possible to inspect the barn's hayloft (or upstairs) due to safety concerns. Therefore it is not known whether any timber joists and beams remain. However, a

previous severe fire is likely to have destroyed them and resulted in the use of asbestos roofing material. If any remain however, they are likely to provide roosting opportunities. Timber joists and beams provide suitable roosting opportunities for a number of species of bats throughout the year, although the timber ridge board is no longer present (visible externally). There is a large open area for bat species which prefer to fly within the roost, such as brown long eared and Natterer's bats (*Myotis nattereri*).

3.8. There are also ample opportunities within the stonework and beams for crevice dwelling species such as whiskered (*Myotis mystacinus*), Brandt's (*Myotis brandtii* auritus) and pipistrelle bats (*Pipistrellus sp*.).

3.9. Evidence of bat use was found in several places on the ground floor during the survey, however, it is considered likely that an inspection of the upper floor would have produced more.

Plate 1 shows droppings on the floor behind a bucket and against the northern wall.

3.10. Several butterfly wings and droppings were noted internally on the floor (and in a bucket) next to a set of three windows on the north western aspect of the building. In addition droppings were found on the wall itself above the windows, apparently dropping down between the upper floor and the wall.

Plate 2 Shows butterfly wings on the floor and against the wall.

3.11. Additional butterfly wings were found in two places on the floor and droppings next to stairs leading to the upper floor. The presence of butterfly wings indicates the potential for brown long eared bats, either using the timber internal framework as a feeding perch or feeding in a more substantial roost (e.g. maternity roost).

3.12. Externally, there are numerous points of potential access including gaps in mortar, air vents, missing and broken window panes, gaps behind stone and timber lintels above doors and windows and behind steel fascia at the two ends of the barn. There are also frequent small gaps in the mortar along the roof ridge line and large cracks in the wall on the south east corners.

Nesting Birds

3.13. The building has some potential for barn owl roosting and nesting although no signs of barn owl were found during the survey. However, the upper floor was not accessible so it is not possible to rule this species out.

3.14. The barn was noted to have recent evidence of nesting swallows (see Figure 3 and Photograph 10).

3.15. Two active nests with young were noted during the survey, one of which was jackdaw, positioned internally, just above the upper floor in the south east corner of the building. The second undetermined nest was noted above the barn door on the southern aspect of the building, beneath the lintel. Parent birds were heard to feed the young throughout the survey.

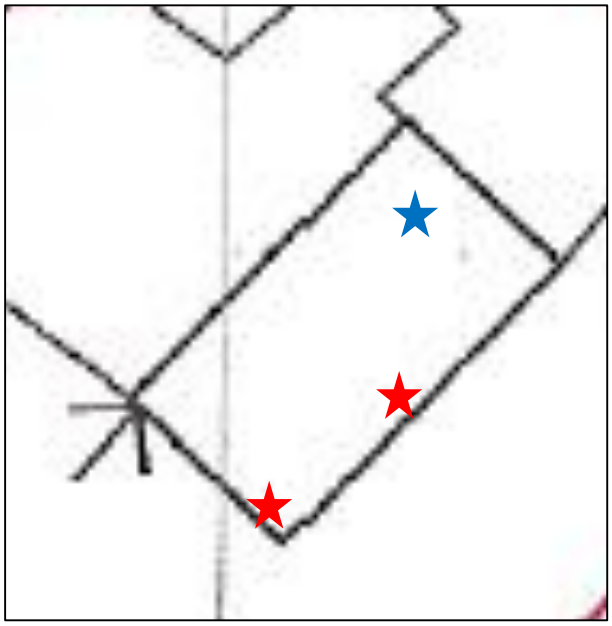

Figure 3 – Position of nesting birds within the building ★ and swallow nest. ★

4. Conclusion and Recommendations

Bats

4.1. Immediately surrounding habitat provides ample suitable foraging, with hedgerow treelines, woodland and the river Ribble close by. Occasional residential and farm buildings nearby also provide additional opportunities for roosting. The barn has previously confirmed presence of roosting bats and showed current evidence of roosting bats during the preliminary assessment.

Survey Requirements

4.2. Due to the evidence of bat use noted during the inspection, and previous recorded use the barn should be subject to further survey in order to confirm and / or determine the type of roost, status and any species present prior to any works. This should inform any licence application before work commences.

4.3. The Bat Conservation Trust Good Practice Guidelines (2012) state:
"If a building or built structure is considered to have a moderate or high likelihood of use by bats, the preliminary roost assessment, even if negative for bats, should be followed by several presence/absence surveys. It is recommended that at least three dusk emergence surveys, pre-dawn re-entry surveys per roost should be undertaken during the summer period in order to give confidence in a negative survey result. At least one of these surveys should be a pre-dawn re-entry survey. At least two of the surveys should be completed between mid-May and August."

4.4. Therefore, it is recommended that two evening emergence surveys and at least one dawn re-entry survey is carried out on the building prior to any works. These surveys should be carried out between May to September.

4.5. If more than one year elapses after surveys are completed before work commences, it is recommended that a re-survey of the site should take place.

Mitigation and Compensation

4.6. Recommendations regarding timing of works or licensing requirements cannot be made at this time until further survey has been carried out, however it is considered likely that a licence will be required in order to commence work.

Birds

4.7. During the survey it was noted that the building has evidence of recently nesting swallows. In addition, a jackdaw nest and another active nest with young were noted during the survey.

4.8. It is recommended that removal or renovation works to buildings is undertaken outside the breeding bird season which runs from late February until September, in order to prevent any impacts upon breeding birds.

4.9. The barn was also considered to have potential for roosting and nesting barn owls. Whilst no evidence of this species was found during the survey, it should be noted that the upstairs hayloft was not accessed due to health and safety concerns.

4.10. If the works must be carried out within the bird breeding season, a check of all buildings should be made for nesting birds (including barn owl) prior to the works commencing by a suitable ecologist. If nesting birds are present, no works should be carried out to the structure until the young have fledged and are no longer returning to the nest site. Further recommendations for mitigation may be required if barn owl are present.

4.11. If vegetation is to be removed, it is recommended that any clearance works be carried out outside the bird breeding season, or that a breeding bird check is carried out in advance in order to ensure no offence is committed.

4.12. The Wildlife & Countryside Act (1981, as amended) gives general protection to all wild birds from killing, injuring or taking; destroying, damaging or taking nests in use or being built; and taking or destroying eggs. Further, as the swallow returns to the same site each year, it is recommended that some provision is made for these birds within the new development. This should take the form of;

- An access points to be included in the building.
- Nesting sites or nests; an example of which can be found in Appendix 2.

Appendix 1 - Photographs

Photograph 1 shows the north eastern aspect of the building.

Photograph 2 shows the eastern aspect of the building.

Photograph 3 shows the south eastern aspect.

Photograph 4 shows the south eastern aspect.

Photograph 5 shows the south west corner of the barn, the jackdaw nest is in this corner, just above the upper floor.

Photograph 6 shows the internal structure of the barn.

Photograph 7 shows droppings below the upper floor and between lower floor windows

Photograph 8 shows the structure of the floor above the windows.

Photograph 9 shows the gap in the lintel and also between the upper timber floor and the lintel.

Photograph 10 shows swallow nest.

Appendix 2 – Swallow Mitigation

Swallows prefer outbuildings which provide dark ledges and corners for nesting. These are warm in cold weather and cool during warmer weather. Swallows can enter a building through a small access point and need very little light (brightly lit nest sites are most at risk from predators).

A gap should be provided - minimum 50 mm high and 70 mm wide, under the eaves or by leaving an open window. The potential roosting site can be enhanced by either adding a nest platform high in the building, in the shape of a letter H, on which the swallows can build a nest. Alternatively a ready-made swallow nest can be fixed to a wooden backing plate. This may be made from papier mache, or a sawdust and cement cup, or purchased. These are available from suppliers such as the RSPB (example product code R0767) or Wildcare http://www.wildcareshop.com/swallow-nest.html.
Nests should be placed at least 1m apart.

References

Bat Mitigation Guidelines. A.J. Mitchell-Jones. Natural England (2004)

The Bat Workers Manual. JNCC. 3rd Edition (2004)

Bat Conservation Trust Good Practice Guidelines 2012

Barn Owls on Site – A guide for developers and planners English nature 2002

Barn Owls and Rural Planning Applications - A guide The Barn Owl Trust 2015