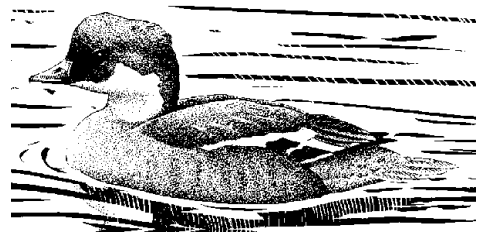


Bat Survey to
Green Farm
High Lane
Ingbirchworth
S36 7GG

29th July 2022



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1. Summary

- 1.1 A bat scoping and activity survey has been carried out to the long barn at Green Farm, Ingbirchworth to determine if the building is being used by roosting bats or barn owls. The survey is required as part of an application for change of use. The survey was undertaken at the optimal time for bat occupancy and aimed to establish the presence or absence of bats in the building. The application seeks to convert the buildings to residential.
- 1.2 The building is a long, two-storey barn with stone walls and a stone roof located in a rural area in the centre of Ingbirchworth village. Overall, the building is in very good condition and has been reroofed within the past 30yrs, but there are a number of potential bat roosting features (PRFs) present in the building, including stone roof tiles, gaps to ridge pointing, failed mortar along the verges and cracks and gaps in the stone walls. Inside the building, the ridge is clean and free from cobwebs but there were no accumulations of moth wings, droppings or other discarded prey remains. There were occasional scattered droppings noted on stored goods, but these are likely to be evidence of bats passing through the barn while foraging or commuting. There are open windows that allow bats (and swallows) to access the barn easily. Although there are a number of PRFs present, the surrounding habitat is low value in terms of foraging habitat and there are large areas of open fields surrounding the site and this is likely to lessen the site's potential to bats. Based on the availability of PRFs and the lack of good foraging habitat, the building is assessed as having 'moderate' bat roosting potential.
- 1.3 Two activity surveys were carried out, the first of which was an emergence survey on the same evening as the scoping survey (22nd July 2022). Small numbers of common pipistrelle were recorded in the yard to the east of the yard and flying through the site, but these were seen to fly into the site from the south end of the site. Small numbers were observed foraging around the site for the duration of the survey, but no bats emerged from the barn. During the survey, several visits inside the barn were made but no brown long-eared bats or other ridge dwelling species were noted. A dawn activity survey was undertaken on 29th July 2022 and the number of bats was again low with any bats present heading south away from the site as dawn approached. Again, no bats were recorded inside the barn and no bats returned to roost in the barn or as far as could be determined, to any of the buildings on site. During both surveys, noctule bats were recorded flying high over the site but these are not roosting within the survey site.
- 1.4 There was no evidence of nesting barn owls on site though they are present locally (from personal observations). Barn owl are not considered to be present on site. There are several active swallow nests and swallows were present and noted roosting in all sections of the barn and will require mitigation and compensation as they will no longer be able to breed in the building post conversion.
- 1.5 There is no evidence that bats have or are using the building for roosting despite the moderate potential. Bat numbers in the area were unremarkable and, although bats may use the building from time to time, the building is not considered essential to the survival of bats in the area. The roof will still be available to bats post conversion and roosting features can be included which will maintain the availability of the building to bats. Compensation for the loss swallow nesting sites will be required and this can be in the form of artificial nests and/or by making other buildings available. Mitigation and compensation measures have been made. The survey concludes that bats are roosting within other dwellings close by but that the numbers of bats locally is likely to be low. No further survey work is required.

2. Introduction

2.1 A bat scoping and activity survey was carried out to the barn at Green Farm, High Lane, Ingbirchworth S36 7GG (NGR SE223056) to determine whether bats have or are using the property as a roost site. The site was also checked for the presence of barn owl.

2.2 The current proposal seeks to convert the building to residential dwellings.

2.3 The survey took place at a time considered to be the optimal period for bat occupancy therefore, the survey aimed to establish the following:

- the presence or absence of bats by undertaking a scoping survey
- determine if activity surveys are required
- identify any potential roosting areas
- provide an impact assessment of the development on bats
- define mitigation proposals where required
- assess the requirement for a protected species licence.
- Assess the building for use by nesting birds

3. Methodology

3.1 The site was surveyed in accordance with BCT best practice guidelines and surveyor experience by John Gardner, a surveyor with 41yrs field experience in searching for bats and is registered to use the Class Survey Licence WML CL20 (Level 4). The licence number is 2015-15656-CLS-CLS.

3.2 The interior and exterior of the building was inspected during daylight using torches and binoculars. All normal signs of bats were looked for including bats, dead baby bats, bat droppings, prey remains, scratching and staining of entry and exit holes.

3.3 The building was assessed for its degree of potential to support roosting bats including assessing the building design, construction, materials, and condition. This combined with an assessment of the location of the site and the surrounding habitat in terms of bat suitability allows an assessment to be made as to the potential of the building to support bats. Factors such as the proximity of good foraging areas (woodland, water bodies) and features that link the site to the wider surrounds such as linear features (hedgerows etc) were also considered.

3.4 This report sets out the findings of a daytime scoping and evening emergence survey carried out to the above site on Friday 22nd July 2022 and dawn return survey was carried out on 29th July 2022. This report highlights the ecological constraints and opportunities associated with the proposed works and appraises the potential impacts. Appropriate actions to ensure the protection of bats are identified and mitigation measures detailed where appropriate.

4. Survey constraints

4.1 The north end of the barn has a single room that was not possible to search other than from the doorway due to an unsafe floor. There did not appear to be any evidence if bats using this section of the building.

5. Site Description

5.1 The site consists of a group of a large barn in the farmyard at Green Farm located in the centre of the village. The area around the site is rural and is largely open fields though there are mature trees and some hedgerows creating linear features that connect it to the wider landscape including Scout Dyke Reservoir to the SE. Bats of a local provenance are likely to be present and reasonably widespread.

Figure 1. Site location plan

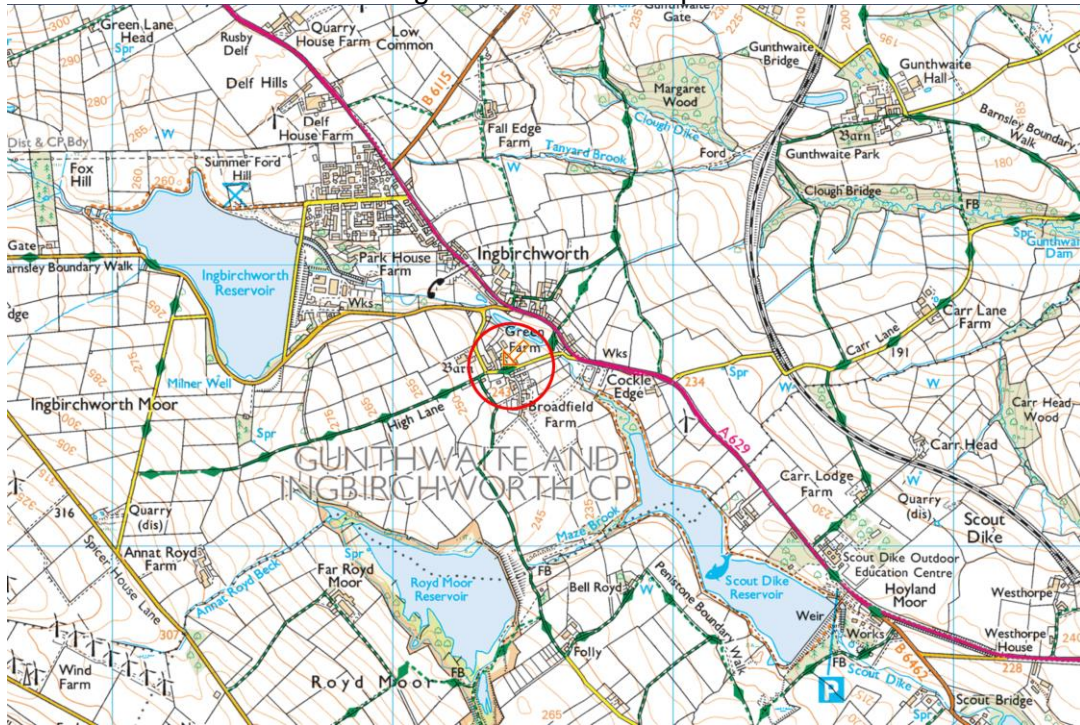


Figure 2 Aerial view of the site, surrounds and specific buildings surveyed

6. Desk Study

There are no records relating directly to the site, but bat roosts are known from within a 2km radius though mostly historical records. The scope of this project will not extend beyond the site footprint and will not affect bat roosts that might be close by. The data from this survey supersedes any previous records for this site.

7. Activity surveys

7.1 The building was assessed as being of 'moderate' bat roost potential and therefore, two activity surveys were carried out; an emergence survey on the same evening as the scoping survey followed by a dawn return survey a week later. Two very experienced surveyors covered the site, and this is considered robust for the survey.

8. Survey results

Scoping Survey

The building is a large, two-storey barn with stone walls and a stone roof and is generally in a sound state of repair.

The roof is covered with large stone tiles and is in good condition without missing or slipped tiles. The ridge tiles are all present though there are areas of failed mortar which provide access to the ridge section. The gables have capping stones which are all present. The stone tiles provide natural gaps which would allow bats to roost though the roof is unlined and therefore is less likely to support larger clusters of bats beneath the tiles. Internally, the unlined roof has a good clean ridge section and light ingress can be seen where the ridge mortar has failed. Despite the clean ridge, there was no evidence of roosting bats; no accumulation of droppings beneath the ridge or at the gable walls and no scattered prey remains suggestive of brown long-eared bats. The upper floor of the main section of barn is used as a hay loft and therefore no evidence of bats is present. There is a partition wall to the north end of the barn which creates a smaller tack room at that end of the barn. The floor is too unsafe to enter but the room is thick with dirt and the ridge in this section has a heavy coating of cobwebs. There did not appear to be any use by bats, but active swallow nests were noted. The roof shows evidence of being replaced in previous years and is not the original timber work and all wall tops on the interior have been pointed and blocked with mortar which excludes bats from using the wall tops.

The gable walls have large coping stones and these are all present though there are large sections of failed mortar on the north elevation creating large gaps in the dry verge. Many of these gaps are considered too large to be of interest to bats as they could also be accessed by starlings etc. The south gable has a cement covered dry verge that is sound and without gaps.

The walls appear to have many gaps and areas of missing pointing and while some may be deep enough to support roosting bats, many are quite shallow and are simply the result of spalling mortar caused by frost. Inspection using a powerful lamp and binoculars allows for easy inspection of the potential roosting features. There are some gaps in the stonework that would support small numbers of roosting bats, but none showed evidence of use. There are no external wooden features such as gutters or fascia boards.

Emergence survey

A dusk emergence survey was undertaken on the same evening by two highly experienced surveyors using both heterodyne and an RTE detector. The conditions were good for the survey with temperatures of 16°C and only a gentle breeze. The survey covered the period 60mins prior to sunset until 60 mins after sunset and sunset was recorded at 21:35.

The first bat recorded was a noctule bat high overhead at 21.30 but is not associated with the site. A common pipistrelle bat appeared to fly into the site and flew through the site along the east side of the barn at around 21:45 followed by a second bat around 6 minutes later. No bats were seen to emerge from the barn and bat numbers were considered low. On and off throughout the survey, individual bats were seen foraging on the south side of the site and to the east of the barn on the opposite side of the farmyard. Several searches of the inside of the barn were made during the survey but no bats were recorded using the interior. The barn showed no signs of use by brown long-eared or Myotis bats.

A dawn return survey was carried out on 29th July 2022 from 90mins prior to sunrise until 30 minutes after sunrise. Temperatures were 13°C and there was no wind though light rain set in just before official sunrise at 05.15 by which time it was considerably light and would have caused bats to return to roost early. As with the emergence survey, only small numbers of bats were observed with around three individuals recorded during the survey and these were observed south of the site in the opposite side of High Lane. No bats returned to the barn to roost and no bats were seen inside the building during the internal searches of the barn.



Figure 4. Illustration of bat activity at sunset

No barn owls were seen during the survey and this species is considered absent from the site.

9. Interpretation and analysis

The survey results established that the building has moderate roost potential and has a variety of PRFs, mainly in the roof and ridge section. The rubble filled walls appear to have some suitable gaps in the stonework but many do appear to be quite shallow. The roof has been replaced at some point, probably within the last 30yrs, and is therefore sound and without missing or slipped tiles. The natural gaps between the stonework do provide suitable roosting features which could be used on occasion by individual bats, particularly in the early spring and autumn when bats are much more transient. However, neither of the activity surveys recorded bats using the building and bat numbers appeared low with only a few single pipistrelles being noted during the surveys.

Bats recorded during the survey were seen entering the site from the south and it is likely that common pipistrelle are roosting in a nearby residential or other farm building. The site offers very little foraging but is used by bats as they pass through the site on their way to other foraging grounds, but the site is not significantly important to bats in terms of foraging. The roof has been replaced at some point in the near past, but it will be stripped and replaced during the current project in order that the roof can be lined. Adding a roof lining increases the potential for bat to use a roof as they can access the area between the tiles and roofing felt so there could be an increase in the site's appeal to bats. Adding bat boxes along the western elevation will compensate for loss of crevices in the wall and including an access gap in the ridge pointing will create potential use of the ridge area.

Bats were not found to be using the building and the building is not considered to be essential for the continued survival of the species in this area.

Barn swallows were noted as being present with several active nests and birds were recorded roosting in all sections of the barn, both upstairs and in ground floor rooms.

10. Impact assessment

The proposed works to convert the buildings to residential is unlikely to harm or destroy bat roosts and will not impact the local bat population. Inclusion of roosting features could increase the site's appeal to bats. Swallows will be excluded from nesting in the barn in future years.

11. Mitigation measures

No bats were recorded using the building and, consequently, there are no requirements for an EPS licence but given there are bats in the area and that the building has 'moderate' potential to support roosting bats, some compensation has been specified.

Mitigation

- Contractors to be made aware of the potential presence of bats and to act with vigilance when disturbing roof tiles or stonework.
- All stone roof tiles to be removed by hand by lifting, rather than dragging, to avoid crushing injuries were bats to be present.
- Deeper cavities should be inspected carefully before cementing to avoid entombing bats.

Features and enhancements

- Bat roosting features should be added to the west facing elevation just below eaves. Inclusion of two Schwegler universal bat summer roosts 1FTH should be added.
- Include gaps along the eaves lines of the building to allow bats to access the wall tops.
- Include a small gap 100mmx20mm in the ridge pointing at the southern end of the roof. (see fig, 4 below)
- Artificial swallow nests should be included in other open fronted barns on the southern end of the site to provide continued nesting opportunities for this species. Erection of 5x Schwegler swallow nests No.10 should be considered. Windows could also be left open in the other large stone barn to allow swallows to enter.



Figure 4. Example if bat access point in the ridge

Timings

Bats are not considered to be using the barn but stripping the roof in the winter period (November-Mar) when bats are least likely to be present would be preferable.

Lighting

Lighting can have a detrimental effect on bat foraging and commuting activity and some species will actively avoid areas that are well lit. Lighting can cause habitat fragmentation by preventing bats from commuting between roost and foraging areas.

- Avoid floodlighting the building
- Set any necessary security lighting on short timers with a sensitivity to large moving objects only.
- Use hoods, cowls, or directional lighting to avoid light being directed at the sky and to avoid light spill.
- Limit lighting times to provide dark periods.

12. Conclusion

The survey concluded that the building has moderate bat roosting potential but at the time of the surveys, bats are not using the building, Given the style of the building bats could use it from time to time but it is not considered vital to the success of the species and there are other dwellings of equal or greater roosting opportunities nearby. Including permanent roosting features will increase the site's appeal to bats, Barn swallows will be excluded from using the barn post conversion and mitigation for this species has been specified. Bats are thought to be roosting in buildings to the south of the site and pass through the survey site during post emergence foraging and on their way to better foraging habitat. The works are unlikely to impact the local bat population. Barn owls are considered absent from the site.

Appendix 1: Photographs of the site



North elevation



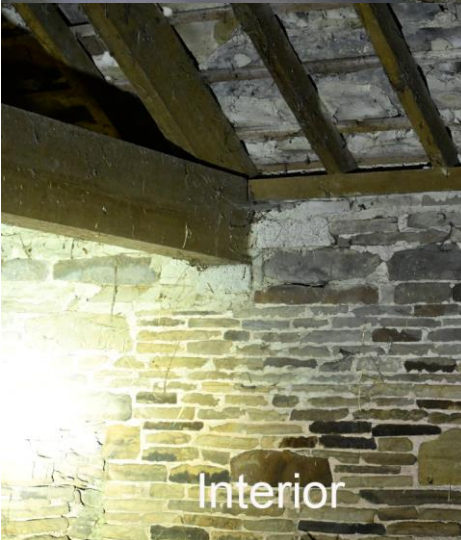
South elevation



West elevation



East elevation



Interior



Interior