Bat and Barn Owl Survey Report,
For
The Barn,
Manor Park Road,
Old Glossop,
Derbyshire,
SK13 7SQ.

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Executive Summary

A bat and barn owl survey was commissioned by Mr and Mrs Potts to accompany a planning application for the redevelopment of the Barn, Manor Park Road, Old Glossop. This submission includes the results of an internal and external inspection of the building to look for evidence of use as a roost site by bats and barn owl conducted in October 2010, repeat building inspections carried out in 2011, and 2014 and further dusk and dawn surveys in 2010 and 2014.

Bats receive full protection under the Wildlife and Countryside Act 1981. They are also protected under the Conservation of Habitats and Species Regulations 2010. The barn owl (*Tyto alba*) is protected under Schedule 1 of the Wildlife and Countryside Act, 1981. The initial building inspection in October 2010 identified features within the exterior stone work and stone roof of the barn with the potential to provide roost opportunities for crevice dwelling bats, in addition possible brown long eared bat (*Plecotus auritus*) feeding remains were identified on the interior of the barn. However this remains inconclusive and the repeat building inspections did not reveal any additional bat or barn owl evidence in 2011 or 2014. As potential features for roosting bats were observed, and the identification of possible feeding remains were found, together with some areas of the building interior being inaccessible to survey, it was recommended that two bat activity and emergence surveys were undertaken at the appropriate time of year between May and September on evenings of suitable weather conditions. In 2014 the barn was found to be further dilapidated with approximately a third of the roof now collapsed and absent.

During the emergence surveys in 2011, no bats were seen or detected emerging from the building. A total of ten intermittent passes of common pipistrelle (*Pipistrellus pipistrellus*) bats were observed or detected to the east of the barn during the two surveys. In 2014 no emergence from the building was again encountered with just frequent foraging activity in the wider vicinity of the building. Remote monitoring with an SM2 bat detector revealed several calls. However, with the roof open there is no way to attribute these files to roosting behaviour. From the surveys carried out it has been concluded that bats do not pose a constraint to the proposed development work with no evidence of roosting encountered. However, as with all buildings there is a low risk that the barn may provide an occasional roost site for bats. The building in its current condition is considered to not provide any long term roost viability for bats due to being at such a level of disrepair. As with all buildings, should bats be found or suspected at anytime during the proposed works then, as a legal requirement, work in that area should cease immediately until further advice has been sought from Natural England and the Bat Conservation Trust.

No evidence of barn owl was found within the areas of the barn accessible to survey, with access available for this species to the barns interior through the open first floor windows. During the evening bat activity and emergence surveys, no barn owl was seen to enter or emerge from the barn. Also, no casual sightings of barn owl were witnessed in the vicinity of the building during the surveys. The building has been used as a nest site by birds and a bird box is present externally on the southwest corner of the building above a boarded up door. This should be taken into consideration prior to any redevelopment work on the building. Work should ideally be undertaken outside the nesting bird season which runs from March to August inclusive. Alternatively if work is programmed for within the nesting season then the house and bird box should be checked for active nests by a competent person prior to the start of work on site; if active nests are located then no work can commence until the young have fledged the nest.

1. Introduction

A bat and barn owl survey was commissioned by Mr and Mrs Potts to accompany a planning application for the redevelopment of the Barn, Manor Park Road, Old Glossop, Derbyshire, SK13 7SQ. The location of the barn is indicated on Plan 1, Appendices. This submission includes the results of the initial internal and external inspections of the barn to look for evidence of use as a roost site by bats and barn owl carried out in October 2010 as well as the results of two evening bat activity and emergence surveys, repeat building inspection carried out in November 2011 and further repeat surveys in 2014 including inspection, two dusk surveys and one dawn survey.

Bats receive full protection under the Wildlife and Countryside Act 1981. They are also protected under the Conservation of Habitats and Species Regulations 2010.

- It is an offence for any person to intentionally kill, injure or take any wild bat.
- It is an offence to intentionally damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection. This is taken to mean all bat roosts whether bats are present or not.
- It is an offence to intentionally disturb any wild bat while it is occupying a structure or place that it uses for shelter or protection.

In this sense a bat roost has been interpreted to mean any structure or place which is used for shelter or protection whether or not bats are present at the time.

A bat roost may be defined (AM Hutson 1993) as either:

(i) Spring/autumn transitional/gathering roosts
(ii) Maternity roosts
(iii) Mating roosts
(iv) Night roost and feeding roosts
(v) Prehibernal roosts
(vi) Hibernation roosts

The Countryside and Rights of Way Act 2000 amends the Wildlife and Countryside Act to also make it an offence to intentionally or recklessly damage, destroy or obstruct a place that bats use for shelter or protection. The term ‘reckless’ is defined by the case of Regina v Caldwell 1982. The prosecution has to show that a person either deliberately took an unacceptable risk, or failed to notice or consider an obvious risk.

Licences to disturb or take bats can be issued for certain purposes under Section 16 of the Wildlife and Countryside Act 1981 and under Regulation 44 of the Conservation of Habitats and Species Regulations permitting activities that would otherwise be illegal under the legislation. Licences can take up to thirty working days to be issued by Natural England. Where impacts on bats are unavoidable mitigation will be required to maintain and enhance the favourable conservation status of bats. Losses of bat roosts must be compensated for by the provision of new roosting sites and planting of new foraging habitat. Mitigation measures will need to be designed on a site specific basis and only in consultation with an expert. All mitigation proposals must be agreed with Natural England and put in place prior to the commencement of works.

The barn owl (*Tyto alba*) is on Schedule 1 of the Wildlife and Countryside Act, 1981; therefore the birds, their nests, eggs and young are fully protected at all times throughout the UK. It is also an offence to intentionally or recklessly disturb barn owls at an active nest site with eggs or young or before eggs are laid, or to disturb the dependent young.

Loss of barn owl roosts to development must be compensated for by the provision of alternative roost and nest sites within 200 metres of the development, these should be made available at least 30 days prior to the start of works though the longer the better. Timing constraints will apply to avoid the periods when barn owl are nesting and raising dependant young. The provision of permanent roost and nest sites will be required within the redevelopment.

During the building inspection any evidence of other nesting birds was also noted. Under the 1981 Wildlife and Countryside Act all wild birds, their nests and eggs are protected by law and it is an offence to;

- Intentionally kill, injure or take any wild bird
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built
- Intentionally take or destroy the egg of any wild bird.

2. Methodology

2.1. *Building Inspection*

An initial inspection of the interior and exterior of the building was undertaken during the morning of 18th October 2010 by Neil Lee-Gallon, MIEEM, C Env, an experienced ecologist and licensed bat worker (20112885), to identify the possible use of the barn as a bat and barn owl roost. Repeat building inspections were also undertaken on 11th November 2011 by Andrew Leese (MSc, MCIEEM Natural England Bat Class Survey Licence WML-A34, Natural England barn Owl Survey Licence number 20131025) and Laura Belfield (ACIEEM Natural England Bat Class Survey Licence WML CL17 on the 8th August 2014.

Externally the roof and associated voids between the roof stones, eaves and walls were inspected with the aid of high-powered binoculars and/or ladders for evidence of use by bats. This evidence includes staining and scratch marks around potential entrance points, bat droppings, and feeding remains. The lower walls, entrance points and windowsills of the building were also inspected for the presence of bat droppings and feeding remains.

Internally the walls, floors and roof beams of the barn were inspected for the presence of bat droppings and feeding remains with the aid of ladders and torch. The upper floor was not fully accessible due to health and safety concerns.

The exterior of the barn was also assessed for potential access to the building for barn owls. Whilst the interior was searched for disused nests, barn owl feathers, droppings and owl pellets. Other bird nests were also noted during the building inspection.

2.2 Emergence and activity surveys

In accordance with Bat Conservation Trust guidelines (BCT, 2007) two additional bat emergence and activity surveys were carried out at the building during August and September 2011. The surveyors (Steven Ward AIEEM, Andrew Leese MSc) were in position fifteen minutes before sunset and monitored the buildings for emerging bats for over two hours after sunset. In 2014, the surveyors (Andy Leese, Miranda Cowan, Laura Belfield and Laura Kershaw) were in position fifteen minutes before sunset and monitored the building for emerging bats for over two hours after sunset. During the dawn survey, surveyors were in position an hour and a half before sunrise, completing the survey at sunrise. Species identification was aided by using magenta heterodyne, as well as an Echometer EM3 real time expansion bat detector.

During the bat emergence surveys, exit points on the building were also observed for the presence of barn owl. Any incidental observations of barn owl were also recorded.

The dates of survey and weather conditions are detailed in the table below.

Date (2011)	Temperature	Sunset time	Cloud cover	Wind	Weather conditions
23rd August	18°C	20:13	2/8	1/8	Clear, dry evening
6th September	11°C	19:48	4/8	5/8	Semi-overcast, dry evening

Date (2014)	Temperature	Sunset time	Cloud cover	Wind	Weather conditions
8th July	17°C	21:35	6/8	2/8	Overcast, dry evening with a light shower prior to survey start
28th July	21°C	21:10	3/8	1/8	Semi-overcast, dry, warm evening
9th August	15 °C	05:21	4/8	3/8	Overcast morning with some rain earlier in the night.

Survey Constraints

The interior of the barn is over two floors, the first floor joists and boards are rotten and this area was not surveyed on grounds of health and safety. A vantage point from external windows gave a view of the upper interior floor to an extent. A dwelling adjoins the barn and this has a loft again the joists are rotten and the loft was not inspected on grounds of health and safety. Due to the built up nature around the barn some vantage points were limited. The survey was therefore undertaken as far as possible. In 2014 approximately a third of the roof has been lost due to extensive damage. With further deterioration of the upper floor making full internal access not possible.

3. Results

3.1 Building Inspection

The Barn is located in a semi rural area of Derbyshire being bounded by residential properties and numerous farm buildings beyond which lies open countryside that is predominantly grassland managed as pasture bounded by fences and mature hedgerows with areas of woodland. These semi-natural habitats will provide invertebrate rich foraging and commuting habitat for bats and potential foraging habitat for barn owls.

The barn and adjoining dwelling is constructed from stone with the main ridged roof covering being stone. The roof of the barn is in an advanced state of disrepair with numerous holes, raised roof stones and ridge tiles and these have the potential to provide roost opportunities for crevice dwelling bat species. In 2014 the barn had advanced this disrepair with the southern roof section missing entirely leaving the barn very exposed. Photographs of the barn are included within the appendices. There are no barge boards or soffits present around the exterior of the eaves and gable ends. The windows and doors of the building are wooden framed, with all windows and doors on the ground floor boarded up and sealed around the edges with expanding foam, the windows to the first floor are broken and open to the elements. Potential access points for bats are present through the broken windows and at the eaves, as well as the open roof area on the south side which all present ample flight access for bats which they are bound to use from time to time.

Numerous cavities and cracks are present within the exterior stone work some of which are relatively deep and probably extend to the wall cavity behind. The external inspection of the barn revealed no obvious staining, scratch marks, bat droppings or feeding remains on the walls, windowsills or access points to the building. The numerous holes, voids and cavities within the walls have the potential to provide roost sites for crevice dwelling bat species. Several of these holes have been utilised in the past by nesting birds.

Internally the barn has two storeys in the main section of the building with the loft space inaccessible to survey due to the condition of the first floor. The interior of the barn is draughty and relatively light with open windows to the first floor and a third of the roof now collapsed. The initial inspection in 2010 of the ground floor revealed two small clusters of butterfly and moth wings which are possible feeding remains of brown long eared bats (*Plecotus auritus*). However this remains inconclusive with no additional evidence found during the repeat inspections and no bat droppings were found on the ground or upper floor found during the repeat inspections. Several old bird nests were present within the barn. Additionally a single bird box is located externally on the southwest corner of the building above a boarded up door. No evidence was found of barn owl on the ground floor of the barn but access is available to the interior for barn owl through the open first floor windows.

The adjoining dwelling, unoccupied since the 1960's, is over two floors and the external inspection of the building is covered above. Internally no evidence was found of bats, barn owl or other nesting birds with the loft left uninspected on grounds of health and safety. A dead swallow *(Hirundo rustica)* was found on the upper floor, with further swallow activity noted in respect of this building.

A stone outbuilding with a ridged slate roof in a state of disrepair adjoins the dwelling and the inspection of this portion of the building revealed no evidence of roosting bats or nesting birds.

3.2 Emergence and activity surveys

Survey 1: 23rd August 2011

No bats were sighted or detected emerging from the building. Four intermittent common pipistrelle bat passes were sighted and detected to the east of the building. Occasional foraging was witnessed and detected during the bat passes.

Survey 2: 6th September 2011

Again, no bats were sighted or detected emerging from the building. From 20:20 hours two common pipistrelle bats were sighted and detected making six intermittent passes east of the building making a total of ten bat passes for the two surveys.

Survey 3: 8th July 2014

No bats were seen to emerge from the building. At 21;59 the first bat was seen which was a common pipistrelle bat which cut across the east face of the building from north to south. At 22:05 a distant common pipistrelle was heard. Following this, at 22:06 two common pipistrelle bats were observed foraging to the southeast of the site within adjacent land. Frequent foraging and passes were then observed by common pipistrelle bats until around 10:30 when activity dropped off quite dramatically. Just occasional passes were then witnessed until survey end.

Survey 4: 28th July 2014

No bats were seen to emerge from the building. At 21:25 the first common pipistrelle bat was witnessed passing from the north of the barn to the south. At 21:32 two common pipistrelles were observed foraging close to the building near the Ivy (*Hedera helix*) on the northwest side. Occasional passes and foraging was witnessed until 22:05 when activity dramatically dropped off. There was relatively little general bat activity during the survey.

Survey 5: 9 th August 2014

During the dawn survey, the presence of high light spillage from the streetlamp off Manor Park View was noted for reducing the potential for bats roosting within the building. From 03:30 – 04:53 two common pipistrelle bats were noted foraging up and down the lane which runs adjacent to the barn feature. Similarly, they were witnessed using the linear feature of Manor Park View throughout this time. Then as sunrise approached at 05:10am one common pipistrelle bat flew in a south easterly direction; with another doing the same at 05:15am. No further activity was witnessed in respect of bats or barn owls until dawn.

SM2+ remote monitoring.

The SM2 bat detector was left onsite for a week from 28th July until 4th August. It recorded for three nights due to the heavy levels of calls recorded throughout each night depleting battery levels. It recorded 837 sound files. Approximately 200 files were noise only with something else triggering the detector. The remaining files are recordings of common pipistrelle foraging activity. This is attributed to the barn being open due to around a third of the roof being missing, as well as the large open upper windows. It cannot be determined if the calls are related to roosting and is much more likely to be passing calls throughout the nights. The level of calls from the close together timings, indicate consistent repeated calls from a small number of common pipistrelle bats throughout each night, and this correlates with the activity witnessed during all of the activity surveys.

3.3 Barn owl observations

During all the evening bat activity and emergence surveys, no barn owl was seen to enter or emerge from the barn. No casual sightings of barn owl were witnessed during the surveys. From anecdotal evidence provided from the farmer it was thought that no previous sightings of barn owl have been witnessed in relation to the building.

4. Conclusions and Recommendations

From the initial building inspection results in October 2010 it was concluded that two locations on the interior of the barn may have been used infrequently in the past as a feeding perch by an individual brown long eared bat. However, during the re-inspection in November 2011, and 2014 no further evidence was found. It is therefore considered that this evidence is inconclusive. The barn structure itself was subject to heavy disturbance in the past, functioning as a hay barn and the current highly exposed nature; fully open to the elements further, reduces the possibility of bats using this structure.

The exterior of the building has potential bat roost opportunities across the roof and within cavities present within the stone walls, in addition areas of the barn where not accessible to inspect on grounds of health and safety. Two activity and emergence surveys were undertaken in accordance with the Bat Conservation Trust Bat Survey Best Practice Guidelines.

No bats were seen or detected emerging from the building during the surveys in 2011 and 2014. Bats do not pose a constraint to the proposed development work. However, as with all buildings there is a low risk that the barn may provide an occasional roost site for bats. Should bats be found or suspected at anytime during the proposed works then, as a legal requirement, work in that area should cease immediately until further advice has been sought from Natural England and the Bat Conservation Trust.

It is recommended to install two schwegler 2FE bat boxes to the exterior gable ends of the building on renovation completion. Alternatively, during renovation, integral bat boxes such as the ‘habibat’ bat box or 1WI may be more discretely added to the building. It is considered that this will enhance the site for bats and provide roosting opportunities.

No evidence of barn owl was found within the areas of the barn accessible to survey, with access available for this species to the barns interior through the open first floor windows. No barn owl was sighted emerging or entering the barn, and no casual sightings of barn owl were witnessed during the surveys.

The building has been used as a nest site by birds; in particular swallow. A single bird box is also located externally on the southwest corner of the building above a boarded up door. Work should ideally be undertaken outside the nesting bird season which runs from March to August inclusive. Alternatively if work is programmed for within the nesting season then the house and bird box should be checked for active nests by a competent person prior to the start of work on site; if active nests are located then no work can commence until the young have fledged the nest. It is also recommended to install bird boxes to the completed building such as those available from Schwegler or purposefully left cavities/ledges on the building. These features would be best not installed due south without sufficient shade or cover, and installed/left at the tops of walls close to the eaves. Because swallows have been found to previously use the building, it is also recommended to incorporate replacement nesting sites for this species on the barn or close-by buildings. Swallows typically require covered dark places such as garages, carports, or porches. Artificial nests such as the RSPB swallow nest box can be installed to such covered areas. By undertaking these measures, it is considered that this will favourably enhance the site for nesting birds as opposed to the lack of opportunities currently available.

References

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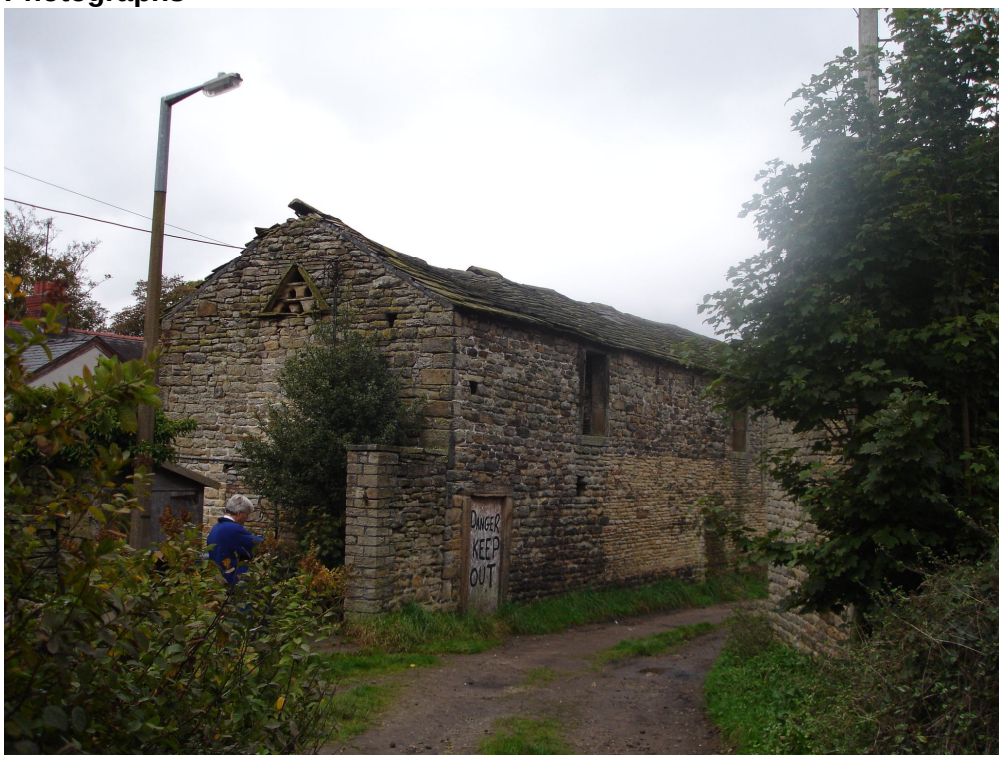
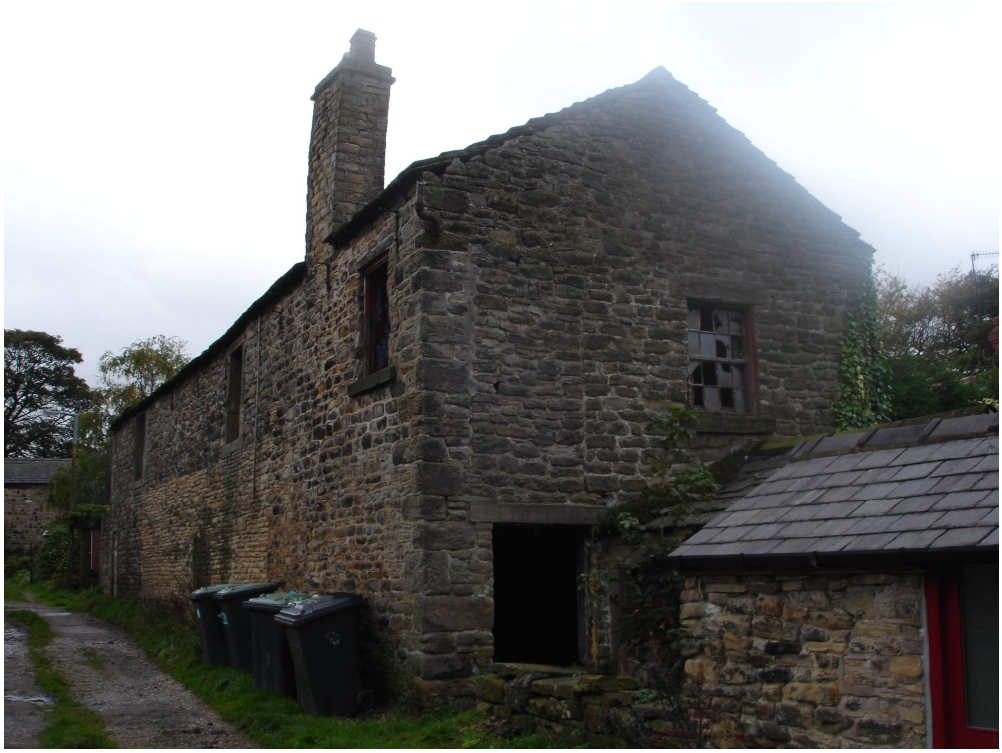
Appendices

Photographs



The barn section.



Barn and adjoined dwelling