Bat and Barn Owl Survey and Report

GREEN FARM

Jonathan Ayres CEnv MCIEEM FLS | 17/05/2018



Bat and Barn Owl Report, Green Farm

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Executive summary

Rationale

This survey and report has been undertaken at the request of the applicant in support of a future planning application for the proposed redevelopment of three derelict buildings known collectively as Green Farm in the borough of Staffordshire Moorlands District Council.

The buildings were subject to a thorough internal and external examination, to look for the presence of bats and barn owls, the buildings on site are in a poor state of repair and have been derelict for a number of years. A large sycamore tree to the south of Building 1 was also subject to detailed inspection.

Following the inspection an evening emergence survey was undertaken to determine bat usage of the site.

Planning

The applicant intends to carry out structural repairs and renovation works to the buildings on site to bring them back into use.

Survey Results

The site contains three buildings and one mature sycamore tree, detailed surveys were undertaken of these features to determine any previous evidence of bat or bird usage.

Building 1 the former farmhouse is in a poor state of repair with all windows and doors missing and only a small section of roof in place, large areas of block and brick are missing from the buildings and numerous cracks are visible internally and externally, the large majority of the building is open and exposed to the elements and therefore it is considered to be of low value roosting potential for bats, with no evidence visible despite detailed inspection, no evidence of barn owl usage was observed within the building.

Buildings 2 and 3 are in a dilapidated state with only external walls remaining in-situ and these are of negligible value to bats.

As a precaution and in accordance with BCT guidelines a single emergence survey was undertaken at the site to determine the levels of bat usage, two surveyors were positioned at the most likely areas for bat roosting and a third volunteer was positioned to observe activity on the sycamore.

No bats were observed emerging from any of the buildings on site, bat activity was limited to a single common pipistrelle and single soprano pipistrelle bat that were observed flying into the site from the south and around the boundaries of the site and over the buildings at no point did they enter the buildings on site.

It is therefore considered unlikely that bats are roosting within the buildings on site and works may proceed without the need for a licence from Natural England. As bats are known to alter roosts on a regular basis should any works be undertaken over the summer period precautionary measures should be observed and should any bats be found advice should be sought from an ecologist before proceeding.

Anecdotal evidence provided by local users and the owner indicates that little owls are breeding locally, no evidence to suggest they are breeding within the site was observed during the surveys and it is likely they use the site on an occasional basis for roosting, the renovation works to the buildings are therefore considered unlikely to impact on this species.

1. Introduction

This report has been re-produced in accordance with the standard template outlined in BCT 2016 guidelines. Jonathan Ayres CEnv MCIEEM FLS an experienced and licenced bat and barn owl ecologist was commissioned by the applicant to undertake a bat and barn owl surveys on a series of derelict buildings known as, Green Farm, Biddulph Moor, Staffordshire, ST8 7LB at OS Grid Ref SJ90633 58704. A daytime inspection of the building was carried out on the 10/05/2018 followed by an evening emergence survey.

1.1 Site Description

The building is situated in a rural location to the north of the village of Biddulph Moor. The site consists of three disused farm buildings a main farmhouse and two smaller outbuildings, none of the buildings have been occupied since the 1960's and are in disrepair, a mature oak and sycamore are present within the site along with associated hard standings and an unmanaged line of hedgerow trees. The wider landscape is dominated by sheep grazed paddocks, hedgerows link the site to the wider area and to the far west is a tree lined watercourse.



Figure 1 – Existing Site Layout and Surrounding Habitats

1.2 Proposed Works

At this stage, no planning application has been submitted; however, the proposed works will likely involve complete renovation of the main farmhouse building.

1.3 Aims of Survey

To determine the presence or likely absence of bat species within the site and to evaluate the use of the property by bats, to evaluate any roost status and assess the habitats within the site and their importance on a local level to bat species; should any roosts be found to provide advice on further surveys and any licencing or mitigation works that may be necessary.

To determine the presence or historical usage of the building by barn owls and any other nesting bird species.

All surveys have been undertaken in accordance with the methods outlined in the BCT 2016 guidelines and where necessary adapted to the site-specific requirements using professional judgement.

2. Methods

2.1 Summary of survey methods

The aims of the survey and this report are to determine the ecological value of the site in relation to protected species and the likely impact from any proposed development works upon these species, in particular bats and nesting birds.

2.2 Pre-survey data search

A number of freely available ecological records were examined for evidence of historical bat records and ecological sites, a search with Staffordshire Local Ecological Records was also purchased, the results are presented in Appendix D.

2.3 Surveyor information

The survey was undertaken by Jonathan Ayres an experienced ecologist and full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) – and holder of Natural England licences 2015-11635-CLS-CLS Class Licence in Bat Survey Level 4 (CL20) and Barn Owl Survey Licence CL29/00085.

2.4 Field surveys

2.4.1 Habitat survey/Daytime Bat Survey

An external and internal inspection of the buildings was undertaken on the 10/05/2018 – this survey involved a detailed examination of all internal and external surfaces of the buildings to look for any evidence of bat usage such as droppings, rub marks and staining. An assessment of the condition and suitability of the buildings for bats was also made in order to investigate any suitable access and egress points such as under eaves, mortar joints, gaps under roofing or under tiles. The visual survey was enabled using ladders to gain access and high-powered torches, endoscopes and binoculars where necessary.

Evidence of barn owl usage such as whitewash, feeding remains and pellets was also searched for.

Any trees on site would be assessed in accordance with the latest BCT guidance and scored in accordance with the following table.

| Tree category and description | Survey requirements prior to determination. | Recommended mitigation works and / or further surveys. | |
|--|---|--|--|
| Category 1 Confirmed bat roost with field evidence of the presence of bats, e.g. live / dead bats, droppings, scratch marks, grease marks and / or urine staining. | Identified on map and on the ground. Further assessment such as climb and inspect and / or dusk / dawn surveys should be undertaken to provide an assessment on the likely use of the roost, numbers and species of bat present. | Avoid disturbance where possible. Felling or other works that would affect the roost would require an EPS licence with like for like roost replacement as a minimum. Works may also be subject to timing constraints. | |
| Category 2a Trees that have a high potential to support bat roosts. | Identified on map and on the ground to assess the potential use of suitable cavities, based on the habitat preferences of bats. Further assessment such as climb and inspect and / or dusk / dawn surveys should be undertaken to ascertain presence / absence of roosting bats. Trees may be upgraded if presence of roosting bats is confirmed or downgraded following further surveys if features present are of low suitability. | Trees where no bat roost confirmed after further surveys: Avoid disturbance where possible. Further nocturnal surveys during the active bat season immediately prior to felling and / the use of non-return valves may be required. Use "soft felling" techniques and avoid cutting through tree cavities. | |
| Category 2b Trees with a low potential to support bat roosts. | None. | Avoid disturbance where possible. Trees would be felied using reasonable avoidance measures such as soft felling, removing ivy cover by hand etc. | |
| Category 3 Trees with negligible potential to support bat roosts. | None. | None. | |

Table 1 – Tree Bat Survey Categories

2.4.2 Activity surveys

The main building was assessed to be of low roost suitability, the latest BCT survey guidelines state that buildings of low value require a minimum of one activity survey either an evening emergence survey or dawn re-entry survey, to give confidence in a negative result. As bats were recorded on the visit, the number of surveys undertaken was deemed sufficient to confirm the status of the site, in order to enable the local planning authority to have sufficient information to determine the application.

Time expansion and frequency division bat detectors were used to record all bat calls, these included Wildlife Acoustics EM3 and Echometer Touch, Anabat SD2 and Batbox Baton devices.

2.4.3 Data analysis

Once completed all calls recorded during the survey were analysed using Kaleidoscope, Analookw and Petersson Batsound software. From these sonograms, the species of bat and an indication of bat activity were determined i.e. social calls, commuting activity, foraging/feeding passes.

2.4.4 Barn Owl Survey

The building was inspected for signs of usage by barn owls such as feeding remains, owl pellets and whitewash from droppings. Evidence of usage by other birds such as swallow was also surveyed for.

3. Results

3.1 **Pre-survey data search**

Online resources such as Google and MAGIC.gov were used to undertake a basic record search to look for any evidence of known bat records within 1km of the site, a detailed records search with the local ecological records centre was also purchased, the full details are presented in Appendix D.

Numerous bat records occur within 1km of the site, however within 500m only one record occurs and this is for an unknown species of bat dated 1991. Species known to occur locally based previous surveys in this area include common and soprano pipistrelle, brown-long eared and Myotis bats.

3.1.1 Designated sites

No statutory designated sites are located within 1km of the site. The proposal site lies within a SSSI impact risk zone; however, the redevelopment of a single residential unit is not a criterion to consult Natural England upon.

3.1.2 Protected species

No European Protected Species Licences have been issued for bat species within km of the site, according to the http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx

3.2 Field surveys

No previous bat surveys of the site have been undertaken.

3.2.1 Preliminary Roost Assessment

Building Survey

The site is located in a rural location and surrounded by agricultural land on all sides. Buildings 2 and 3 are in a poor state of repair with no roofs and considered to be of negligible value for roosting bats.

Building B1 has been vacant for a number of years and in more recent times has been subject to collapse and exposed to the elements. No windows or doors are present and only around 10% of the roof is intact, with large open areas of the upper floors uncovered and open to the elements, a number of the upper floors have collapsed onto the ground floor areas and large sections of the building are missing.

Given the open nature and amount of damage present the building lacks significant permanent roosting areas, however the damaged structure provides suitable roost provision for typical crevice dwelling bats such as common and soprano pipistrelle, these potential roost sites include:

- Gaps and crevices under the remaining ridge tiles on the northeast section of roof,
- Gaps in brick and stone work caused by fracturing, loss of mortar and general disrepair,
- Gaps under beams that sit on the wall plate and in joints within the beams, and
- Chimneys still present in the central section of the building.

Two large trees are present within the site; one of these a sycamore tree in the centre of the site contained a number of cavities that may be of roost value to bats or nesting for birds. A mature oak located at the entrance to the site contained no suitable features for bat roosting.

| Photograph | Description |
|------------|--|
| | The main building (B1) a derelict house located adjacent to a field of improved grassland. The building is in a poor condition having suffered from a lack of maintenance for an extended period of time. A number of external and internal walls are missing and no windows or doors are present and only 10% of the roof is remaining. The age and construction of the building lack modern insulated wall cavities or soffits, numerous large cracks occur within the blockwork and within missing mortar. The majority of the upper floor lacks roofing and is |
| | therefore well lit by natural daylight and open to the elements reducing the favourability for bat roosting. |
| | The section of roof to the south-eastern side of the house still has a small number of unlined ridge and roof tiles in place and a chimney, all of which are potential roosting areas for bats typically pipistrelle species. Other potential roost areas include missing brickwork, gaps between roofing and wall plates and timber work. The northern and western elevations of the building are in extreme disrepair and have largely collapsed and lack any roof cover. |
| | |

 Table 2 – Results of the Preliminary Roost Assessment









Building 3 is in a poor state of repair with no roof covering and lacking any doors or windows making the interior section open to the elements and high levels of natural light.

The building is a mix of block and brick construction, large parts of which have collapsed and contain numerous large gaps and cracks.

No evidence of bat or breeding bird usage was observed during the detailed examination and due to the exposed open nature of the structure it was determined to be of negligible value to roosting bats.

No evidence of bats or their field signs was observed during the detailed external and internal inspections of the buildings. No evidence of barn owl usage was recorded during the surveys of the buildings.

Building B1 was assessed to be of low value and an emergence survey was undertaken to determine if any bats were present.

Buildings B2 and B3 were assessed to be of negligible roost value and no further survey works are recommended on these structures.

3.2.2 Activity surveys

Given the low suitability of building B1 for bats it was planned to undertake a single evening emergence survey following the inspection surveys.

All surveys were undertaken in full accordance with the BCT 2016 guidelines.

| Date | 10/05/2018 | |
|---------|-----------------------|--|
| Weather | Dry, still, 5% cloud, | |

| Temperature | 15C down to 10C |
|-------------|-----------------|
| Start Time | 20:30 |
| End Time | 22:00 |
| Sunset | 20:38 |

Table 3 – Summary of bat survey conditions

| Dusk Emergence | 21:28 - a single common pipistrelle bat was observed from the south heading north along Dam Lane and west over the site. 21:36 - a single soprano pipistrelle was seen heading north along Dam Lane and continued west across the site. |
|---------------------------|---|
| Foraging and Commuting | The single common pipistrelle continued to forage over the site until the end of the survey, foraging passes were observed around the large sycamore and over the hedgerows to the north and south of the site, the bat also used Dam Lane moving north and south along the lane and over the house and gardens to the south of the site. The single soprano pipistrelle was observed foraging over the site following a similar pattern to the common pipistrelle, social calls between the two bats were observed in the |
| | pattern to the common pipistrelle, social calls between the two bats were observed in the sonograms. |

Table 4 – Summary of Emergence Survey Results

3.2.3 Data analysis

Analysis of the recorded data confirmed the presence of a single common pipistrelle and a single soprano pipistrelle foraging over the site and the surrounding habitats. A sample of the results of the sonogram analysis are presented in Appendix C.

3.2.4 Species evaluation and analysis of results

Both surveys confirmed that small numbers of common and soprano pipistrelle bats are present in the local area, none of the bats were observed showing any signs of roosting or attachment to the buildings or trees on site. The habitats across the site and in surrounding areas provide suitable foraging and commuting resources for bats and the species recorded are typical of the location and habitats present.

Given the time after sunset the bats were recorded and the first observation confirming both species commuting into the site from the houses to the south, it is considered likely that the bats are roosting off site to the south.

3.2.5 Barn Owl Survey

No evidence of barn owl usage was recorded in the building.

4. Assessment

4.1 Constraints on survey information

The surveys were undertaken in May which is deemed to be an optimal time of the year to undertake bat roost inspection surveys and emergence surveys. Bats were recorded on the visit therefore confirming that conditions were suitable for bat surveys to be undertaken.

As with any survey a single visit such as this represents the result of the current site status and bats are known to change roosts on a regular basis throughout the year, therefore precautionary measures for future works are advised.

4.2 Constraints on equipment used

No constraints were considered present with regards to the equipment used during the activity surveys.

4.3 Evaluation of bat activity

The surveys confirm that the site is used by low numbers of foraging and commuting bats of at least two different species, overall the levels of activity were deemed to be low for a site located within open countryside. The building is not considered to be a roost. Common and soprano pipistrelle bats are common and widespread in the local area.

4.4 Potential impacts of development

4.4.1 Designated sites

None predicted.

4.4.2 Roosts

The results of the detailed inspections and emergence surveys found no evidence to suggest that the buildings are being used by bats at the present time.

The buildings on site are considered unlikely to be used a winter hibernation roost by bats for the following reasons:

- Buildings lack thermally stable conditions,
- The internal and external walls lack deep cavities suitable for use by bats,
- The absence of roofing and any lining,
- The buildings lack shade and are likely to be subject to direct sunlight during winter months and therefore would not provide a stable, cool temperature and favourable humidity level, required by bats.

4.4.3 Foraging and commuting habitat

The proposed renovation works will be undertaken on the footprint of the existing buildings; therefore, there will be no increased loss of foraging or commuting habitat as a result of the works. Minor remedial works to the sycamore may need to be undertaken.

4.4.4 Predicated Scale of Impacts

Based upon the lack of any roosts on site the proposed renovation works are likely to have a negligible impact on the conservation status of bats in the local area, the proposed works to bring the derelict buildings back into use may increase the availability of potential roost sites in the local area.

4.4.5 Licensing Requirements

As no bat roosts have been identified on site there is no requirement to obtain a development licence from Natural England in order to undertake the proposed renovation works.

4.4.6 Breeding Birds

No evidence of current breeding bird activity was recorded within the buildings on site, however locals have stated that little owls use the site on a regular basis.

4.5 Legislation and policy guidance

All bat species, their breeding sites and resting places are fully protected by law – they are all listed as European protected species.

All species of bat are fully protected under the Wildlife and Countryside Act 1981, the European Conservation (Natural Habitats etc.) Regulations 1994 and the Countryside and Rights of Way Act 2000. This legislation makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

The bird nesting season is generally classed as between March and August (inclusive) for most species. All birds are protected under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. The legislation makes it illegal, both intentionally and recklessly to:

- Kill, injure or take any wild bird,
- Take, damage or destroy the nest of any wild bird while it is being built or in use,
- Take or destroy the eggs of any wildlife birds, and
- Possess or control any wild bird or egg unless obtained legally.

Birds listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are afforded additional protection, which makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

National Planning Policy Framework (NPPF), Section 11: The recently published framework in 2012, replaces the previous Planning Policy Statement 9. Section 11: states - Conserving and enhancing the natural environment, reaffirms the government's commitment to maintaining green belt protections and preventing urban sprawl, retains the protection of designated sites and preserves wildlife, aims to improve the quality of the natural environment and halt declines in species and habitats, protects and enhances biodiversity and promotes wildlife corridors.

5. Recommendations and Mitigation

5.1 Further survey

Provided works are undertaken within the next 12 months it is not considered that further surveys are necessary, should 12 months elapse before works are undertaken an updated survey should be carried out to establish any recent bat usage.

5.2 Mitigation measures

5.2.1 Proposed mitigation for roost sites

No mitigation is considered to be required for roost sites.

5.2.2 Proposed mitigation for foraging and commuting habitat

No specific mitigation is deemed necessary to replace any habitat as part of the development of the site.

5.2.3 Precautionary Working Methods

No bat roosts have been recorded on site, however bats are known to move roosts throughout the year when conditions change, therefore as a precaution the following measures are advised should works be undertaken through the summer period, these include;

- Briefing site staff about the potential presence of bats prior to works,
- When removing any roofing materials, these should be lifted by hand and checked underneath for the presence of bats,
- Timing works to avoid the periods likely to encounter bat or nesting bird species, in general from mid-March to August.

5.3 Mitigation licenses

As no bats have been recorded within any of the buildings on site, no licence is required in order for the works to proceed, however should any bats be found at any time during the works, advice should be sought from the ecologist on how to proceed.

6. Summary

6.1.1 Bat presence/absence

The predicted impact on local bat species is deemed to be negligible as no roosts are present on site at the current time. Overall only a relatively low number of bats were recorded during the activity surveys.

6.1.2 Barn Owl

The predicted impact on local populations of barn owl is deemed to be negligible, as no evidence that barn owls nest or roost within the site was recorded during this survey.

6.1.3 Ecological value of buildings on site

The building inspections and dusk emergence/activity surveys have confirmed that the ecological value of the buildings on site is low-negligible.

7. References

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Appendix A. Survey Plan



Appendix B. Bat Flight Routes During Emergence Survey



Appendix C. Bat Sonograms



Sonogram 1 – Common pipistrelle foraging calls recorded along the eastern boundary of the site.



Sonogram 2 – A soprano pipistrelle bat call, bat was observed foraging over Dam Lane.

Appendix D. Ecological Desk Based Records



A legend to the map showing **Nature Conservation Sites and Species**

Introduction

These colours are used on the site alert mapping within the SWT GIS, but SER cannot guarantee the same colours are used in any other mapping system, particularly those based on ArcView.

Statutory Designations from Natural England's web-site

National Nature Reserves

Local Nature Reserves

Sites of Special Scientific Interest

- **Mathebasic** NNR (boundary not available owing to OS restrictions)
- **SSSI** (boundary not available owing to OS restrictions)
- **t** LNR (boundary not available owing to OS restrictions)

Non-statutory Designations from the Staffordshire Grading System (1995 onwards)

Site of Biological Importance (ex Grade 1 SBI) equivalent to "Local Wildlife Site"

Biodiversity Alert Site (ex Grade 2 SBI)

Proposed/potential Site of Biological Importance

Geological Sites

Regionally Important Geological/geomorphological Site (= Local Geological Site)

Staffordshire Wildlife Trust Sites

SWT Nature Reserves

Other Nature Reserves

Royal Society for the Protection of Birds

Species Information

- Mammals excluding those listed below
- Otter (Lutra lutra)
- Badger (Meles meles) not normally supplied
- Water Vole (Arvicola terrestris)
- All bat species
- All bird species
- Any other protected species (precise to 100m)
 - All Protected Species Records (precise to 1km)

| nci | ient | Wo | od | land | |
|-----|------|------|-----|------|----|
| | Anc | ient | & S | emi- | na |

A Inventory

- tural Woodland
- Ancient Replanted Woodland
- Amphibians and reptiles excluding those below
- \bigcirc Great Crested Newt (Triturus cristatus)
- ቍ Native Cravfish (Austropotamobius pallipes)
- ∇ Flowering plants except those below
- Bluebell (Hyacinthoides non-scripta)
- Butterflies and Moths \bigcirc
- (\bullet) BAP Species Records (precise to 100m)
 - BAP Species Records (precise to 1km)

Notes:

The Local Nature Reserve and other nature reserve boundaries can overlay the current grading when both layers are actively visible

Where there are multiple species records for the same grid reference the dot for one species may obscure the dots for other species - all species records will be displayed in the accompanying spreadsheet

Not all the above categories may be present on the accompanying map

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