Preliminary Roost Assessment for Bats & Birds

Location: 86 Hoyland Rd, Hoyland,
Barnsley S74 0AP

Author: James Porter

Date: February 2017

Notice to Readers

This report has been prepared by Absolute Ecology LLP with all reasonable skill, care and diligence, within the terms of the contract with the client. The actions of the surveyor on site and during the production of the report were undertaken in accordance with the Code of Professional Conduct for the chartered Institute of Ecology and Environmental Management (www.cieem.org.uk).

Executive Summary

Absolute Ecology were commissioned to undertake a Preliminary Roost Assessment for the bat roost potential at a site known as 86 Hoyland Rd, Hoyland, Barnsley S74 0AP. The proposal is for the demolition of a redundant dwelling house and erection of 2 no. detached two story dwellings with detached double garages. Further details of the proposed development can be found in the documents '*20161258 Ground Floor Plans*' and '*20161258 Location and Elevation Plans*', which have informed the following assessment.

The aims of the Preliminary Roost Assessment are to provide an ecological evaluation of the potential for roosting and/or foraging bats within the proposed application area. Should the assessment reveal the presence or potential for other protected/notable species or habitats to be affected by the proposed development, then these are discussed also.

The site is a derelict property, on the edge of a residential area of Barnsley, with hedgerow-lined fields adjacent to the north. The site contains a garden, connecting to the gardens of adjacent properties to the east and west. The adjacent fields contain small streams/ditches, with a number of ponds also present within the wider landscape. These, coupled with other features of the wider landscape (such as woodland fragments) provide optimal foraging resource for bats.

There is one statutory designated site within 2km of the proposed development. This is approx. 1.5km away, on the other side of the M1 motorway. It is therefore highly unlikely that this small-scale development would have any impact (direct or indirect) on Potters Holes Plantation LNR.

Whilst foraging and commuting habitat is present on site, it is of a lower quality than much of the surrounding landscape. A study of aerial photographs does not suggest that important foraging or commuting routes are likely to occur on site. Wildlife-friendly lighting should be utilised however, and needs to be considered at an early stage.

Whilst no evidence of roosting bats was discovered during the survey, it was not possible to rule out their presence in these buildings through a daytime inspection alone. There is therefore a risk of any roost(s) present being destroyed. There is also a risk of direct disturbance and/or harm to any bat(s) present during works. Any of these impacts could constitute a criminal offence, if carried out in the absence of a licence from Natural England. All three buildings show moderate potential for use by roosting bats. The BCT Good Practice Guidelines (2016) therefore recommend presence/absence surveys of each of these buildings; two separate survey visits (not within 2 weeks of one another) per building, comprising of one dusk emergence survey and one dawn re-entry survey. These are to be conducted between May and September, with at least one survey between May and August. Should bat presence be confirmed, then further survey effort will be required, in order to ascertain the character of the roost, and so provide sufficient data for an application to be made to Natural England for a licence to carry out the proposed works (including suitable mitigation measures).

BMBC provided records of Barn Owl within a 2km radius of the application area, but no evidence or indication of Barn Owl presence was found during the survey.

Contents

1. Introduction

1.1. Site Description

Absolute Ecology were commissioned to undertake a Preliminary Roost Assessment for the bat roost potential at a site known as 86 Hoyland Rd, Hoyland, Barnsley S74 0AP.

1.2. Proposed Works

The proposal is for the demolition of a redundant dwelling house and erection of 2 no. detached two story dwellings with detached double garages. Further details of the proposed development can be found in the documents '*20161258 Ground Floor Plans*' and '*20161258 Location and Elevation Plans*', which have informed the following assessment.

1.3. Best Practice Guidance

The scope of this appraisal has been determined in line with the proportional approach to ecological survey, assessment and subsequent recommendations for avoidance and mitigation of impacts, which is encouraged in 'BS 42020: Biodiversity – Code of practice for planning and development'. This report has been prepared with due consideration for various best-practice guidance and methodologies including those of the Chartered Institute of Ecology and Environmental Management (CIEEM (2012)1, the emerging BS 42020 and the Bat Conservation Trust Best Practice 2012.

1.4. Aims of the Survey

1.3.1 The aims of the Preliminary Roost Assessment is to provide an ecological evaluation of the following species within the proposed application area:

Bats
• Probability of bats and their roost sites being present at the proposed re/development site.
• To assess the roost status.
• To assess suitable food resources and habitat requirements.
• If a roost site is found, to provide an impact assessment.

Table 1. Aims of survey in relation to bats.

1.3.2 A bat roost is interpreted as 'any structure or place, which any wild bat uses for shelter or protection'. Bats tend to show a high fidelity to roosts. Subsequently, legal opinion regards a roost to be protected whether or not the bats are present at the time. There are many types of roost used by temperate bats during their annual cycle: Any structures found having evidence

of bats will be further evaluated to assess which of the following roost categories may be present onsite (if any):

Status	Description
Maternity / Nursery Roost	*used by breeding bats, where pups are born and raised to independence (Anecdotal evidence may support this prospect despite sub-optimal survey period).*
Hibernation Site	*where bats may be found during the winter. (This is assessed within the context of this report).*
Daytime Summer Roost	*used by males and/or non-breeding females (Seasonal limitations prevent robust analysis of this).*
Night Roost	*where bats rest between feeding bouts during the night but are rarely present during the day.*
Feeding Roost	*where bats temporarily utilize feeding perches and stations to eat an item of prey.*
Transitional (or Swarming) Site	*where bats may be present during the spring or autumn (This cannot be assessed within the context of this report).*

Table 2. Bat roost status definitions

Birds
• Establish if birds are using the site.
• Locate nest sites, if present.
• Assess what types of activities were shown within the redevelopment site.
• Assess suitable food resources and habitat requirements.
• Provide an impact assessment, if nests are found.

Table 3. Aims of survey in relation to birds.

Barn Owl (*Tyto alba*)
• Establish presence onsite.
• Establish potential nest sites (PNS).
• Locate any active roost sites (ARS).
• Locate any temporary roost sites (TRS)
• Assess potential feeding and dispersal habitats (PFH)
• Provide an impact assessment, should barn owl(s) be present

Table 4. Aims of survey in relation to Barn Owl.

1.3.2 Assessment also considers potential effects on valued ecological receptors (VERs) and zones of influence (ZoI) during pre and post development, both onsite and off- site. The term Zone of Influence is used to describe the geographic extent of potential impacts of a proposed development. Should a likely significance of negative impacts be identified, further surveys,

mitigation and enhancement measures will then be determined accordingly; to prevent, offset or reduce the degree of impact that may occur should development commence.

1.3.3 Should bats be present, or evidence of bats identified onsite, or constraints identified during the Preliminary Roost Assessment; then further survey would be required. If bats are identified, then a European Protected Species (EPS) development license issued by Natural England (NE) may be required prior to any works taking place. If required, further presence/absence survey should be undertaken and a mitigation strategy be implemented with Natural England and the Local Planning Authority. Should no further surveying effort be considered, then the PEA report will include full justification and evaluation.

2. Methods

2.1. Summary of Survey Methods

All bat species resident in the UK have been recorded using trees, buildings and built structures, e.g. bridges, at some time during the year (Bat Conservation Trust, 3rd edition 2016). The buildings were inspected externally and internally, where access was available, for signs of bat activity. These typically include bat presence, droppings, feeding remains, urine stains and grease marks. Notes were made on the following in accordance with the guidelines published by the BCT (3rd edition 2016) for the surveying of buildings and built structures:

- Type and age of building
- Type of construction
- Presence of potential roost features, e.g. hanging tiles, raised tiles, roof voids
- Information or evidence of work having been undertaken that could affect use of the structure by bats
- Amount and location of evidence of bats such as presence of live or dead bats, droppings, grease marks, urine stains, characteristic smell of bats.

In the absence of any evidence, trees and structures have been assigned a rating of suitability from negligible to high potential for supporting bats. The rating is based on the location of the structure in the surrounding landscape, the number and type of features suitable for use by bats and the surveyor's experience. For example, a structure with a high level of regular disturbance and few opportunities for access by bats that is in a highly urbanised area with few or no mature trees, parkland, woodland or wetland would have negligible potential. Conversely, a pre-20th-century or early 20th-century building with many features suitable for use by bats close to good foraging habitat would have high potential.

2.2. Pre-Survey Data Search

Existing bat records relating to the site and a surrounding 2km radius (the study area) were requested from Barnsley Metropolitan Borough Council (BMBC). Bat records are confidential information, which are not suitable for public release.

A review of the following information sources has also been undertaken to inform the assessment:

- Landscape structure using aerial images from Google Earth
- Designated sites, habitat and species data held on Magic.gov.uk.
- Designated sites information found on Natureonthemap.naturalengland.org.uk
- Information on the surrounding area using OS Opendata 2010

2.3. Surveyor Information

Surveyor 1

James Porter – BSc(Hons), MSc, Natural England Bat Licence Number 2015-13455-CLS-CLS is an experienced bat surveyor, and member of CIEEM. His main experience has been with a variety of ecological consultancies, working on residential properties, fields, and potential barn conversions, follow-up surveys for housing developments, a power substation, and a housing estate scheduled for demolition. He has gained competency in activity surveys, dawn and dusk bat roost assessments, daytime surveys for bat field signs, assessments of trees as potential bat roosts and the production of reports providing advice on best practice, mitigation and compensation works relating to bats as may be required.

2.4 Field Surveys

2.4.1. Habitat Survey

The habitat on site and surrounding habitat were assessed for their suitability to support foraging and/or commuting bats. Particular consideration was given to linear features, or 'dark corridors', and to whether the habitats found on/near site were of greater value to bats than those found within the surrounding area.

2.4.2. Roost Surveys

Equipment used to aid the survey included low and high-powered torches, ladders, binoculars and an endoscope.

3. Results

3.1. Pre-Survey Data Search

3.1.1. Designated Sites

There is one statutory designated site within 2km of site:

- Potters Holes Plantation Local Nature Reserve (LNR) lies approx. 1.5km west of site.

3.1.2. Protected Species.

Seven British bat species are currently given UK BAP Priority Species Status: Ten of the seventeen resident UK bat species occur in Yorkshire. BMBC show three UK BAP species being recorded within 2km of the proposed application area.

UKBAP	Common name	Species	Recorded within 2km
☑	Brown long-eared bat	*Plecotus auritus*	☑
☑	Barbastelle bat	*Barbastella barbastellus*	☒
☑	Bechstein's bat	*Myotis bechsteinii*	☒
☑	Noctule	*Nyctalus noctula*	☑
☑	Greater horseshoe bat	*Rhinolophus ferrumequinum*	☒
☑	Lesser horseshoe bat	*Rhinolophus hipposideros*	☒
☑	Soprano pipistrelle	*Pipistrellus pygmaeus*	☑

UKBAP Bat species recorded within 2km of site.

A further one bat species that is not currently given UK BAP consideration has also been recorded within 2km of site.

UKBAP	Common name	Species	Recorded within 2km
☒	Common pipistrelle	*Pipistrellus pipistrellus*	☑

Non UKBAP Bat species recorded within 2km of site.

BMBC also provided records of Barn Owl within a 2km radius of the application area.

3.2. Field Surveys

3.2.1. Habitat Description

The site is a derelict property, on the edge of a residential area of Barnsley, with hedgerow-lined fields adjacent to the north. The site contains a garden, connecting to the gardens of adjacent properties to the east and west.

The adjacent fields contain small streams/ditches, with a number of ponds also present within the wider landscape. These, coupled with other features of the wider landscape (such as woodland fragments) provide optimal foraging resource for bats.

3.2.2. Roost Surveys

There were three interconnected structures on site:

B1 was an abandoned house, with a timber-framed pitched roof, clad in stone tiles, with open eaves, and chimneys at either end. Single-storey, single-pitch extensions were present on the south and east of B1; the east extension clad in similar tiles to the main roof and the south extension clad in a sheeting material. External inspection found missing areas of mortar below ridge tiles, gaps around flashing at the chimneys, gaps in mortar at ridge ends, and a small number of slipped tiles. A full internal inspection was not possible, as the space could not be safely accessed due to the poor condition of the structure. Neither internal nor external inspection found any evidence of bat presence, but (as previously mentioned) it was not possible to fully inspect the roof interior.

B2 was attached to the western side of B1; two-storey and similar in construction. From the large access doorway on its south side, it appears to have previously been a garage, or some form of agricultural building (or similar). The timber-framed pitched roof had largely collapsed at the time of survey, and the remnant of the first floor was in poor condition; therefore internal inspection of this building was also constrained. Large crevices (potentially suitable for bat roosting) were observed within all four walls of this building. Where accessible these were inspected by endoscope and no evidence of bats identified, but several were either beyond reach or extended too far into the walls for full inspection.

B3 was a smaller, single-storey storage/workshop, attached to the south side of B2. Its pitched timber-framed roof was largely intact, but in poor condition (particularly where it had been damaged by falling tiles from B2). Missing mortar below ridge tiles, missing/ slipped/raised tiles and crevices within the walls all presented potential access/roosting sites for bats. A dense covering of ivy at the southern gable may have concealed further potential roosting sites. Internal inspection found no evidence of roosting bats, but access was limited (although to a lesser degree than in the other buildings) by safety considerations.

No evidence or indication of Barn Owl presence was found during the survey.

4. Assessment

4.1. Constraints on Survey Information

Internal inspection of all three buildings was constrained by safety considerations, due to the poor condition of the buildings. Several potential roosting features were also inaccessible due to either their location, or how far they extended into the fabric of the building. It is therefore not possible to adequately conclude presence or absence of bats within this buildings from a Preliminary Roost Assessment alone.

4.2. Constraints on Equipment Used

None.

4.3. Potential Impacts of Development

4.3.1. Designated Sites

There is one statutory designated site within 2km of the proposed development. This is approx. 1.5km away, on the other side of the M1 motorway. It is therefore highly unlikely that this small-scale development would have any impact (direct or indirect) on Potters Holes Plantation LNR.

4.3.2. Roosts

Whilst no evidence of roosting bats was discovered during the survey, it was not possible to rule out their presence in these buildings through a daytime inspection alone. There is therefore a risk of any roost(s) present being destroyed. There is also a risk of direct disturbance and/or harm to any bat(s) present during works. Any of these impacts could constitute a criminal offence, if carried out in the absence of a licence from Natural England.

4.3.3. Foraging and Commuting Habitat

Whilst foraging and commuting habitat is present on site, it is of a lower quality than much of the surrounding landscape. A study of aerial photographs does not suggest that important foraging or commuting routes are likely to occur on site.

4.4. Legislation and Policy Guidance

Unlike many smaller mammals, bats have low fecundity with a long and complex life cycle, which is played out over a large spatial landscape. Bats show a strong fidelity to different types of roosts throughout their annual cycle i.e. hibernacula, maternity, bachelor, satellite roosts and feeding perches. Linear features within the landscape such as hedgerows and tree lines are often used by bats for commuting, predator avoidance and foraging. Bats are highly social animals and loss of a single habitat alone can have a serious impact on populations. The status of many bat populations is tentative, being based on relatively few records and are highly susceptible to habitat loss and fragmentation. As such bats are given protected consideration within the following legislation and policy guidelines:

Policy guidelines

PAS 2010	The published 'PAS 2010' 'Planning to halt the loss of biodiversity' which is the government's new policy aimed at all authorities and developers involved in the planning process in the UK to halt biodiversity decline by 2010 and deliver net biodiversity gains as part of the green infrastructure provisions.
National Planning Policy Framework, Section 11:	The recently published framework in 2012, replaces the previous Planning Policy Statement 9. Section 11: 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.
Article 10 of the EC Habitats Directive:	The published Article requires government to develop features such as 'stepping stones' on the landscape, such as clusters of ponds, tracts of rough grassland or scrubland and vegetated railway line embankments.
Wildlife and Countryside Act 1981:	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.
Conservation of Habitats and Species Regulations (2010)	The Conservation of Habitats and Species Regulations 2010 consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994, in respect of England and Wales. It is an offence to possess, sell or offer, or transport for sale any European species of bat or any part derived from such a species. These Regulations also remove the 'incidental result defence'. In other words, it is no longer a defence to show that the killing, capture or disturbance of a species covered by the Regulations or the destruction or damage of their breeding sites or resting places was the incidental and unavoidable result of a lawful activity. Natural England can grant European Protected Species (EPS) licences in respect of development to permit activities that would otherwise be unlawful.
Natural Environment and Rural Communities Act	Under Section 40 of the Natural Environment and Rural Communities Act (2006), public bodies, including Local and Regional Planning Authorities, have a duty to 'have

(2006)	regard' to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. In compliance with Section 41 of the Act, the Secretary of State has published a list of species considered to be of principal importance for conserving biodiversity in England. This is known as The England Biodiversity List, all of which make up the UK BAP Priority Species. Regional Planning Bodies and Local Planning Authorities will use it to identify the species that should be afforded priority to maintain, restore and enhance species and habitats.
Bird legislation	Most resident nesting birds are protected under the Wildlife and Countryside Act 1981, which protects birds, nests, eggs and nestling's. Some rarer species, such as barn owls, are afforded extra protection.

Please note: If bat species are present at the site, the purpose of this report will only summarize the potential requirements for a bat mitigation package or project. A separate mitigation report or project will include the necessary compensation measures to maintain the conservation status of a European Protected Species.

5. Recommendations and Mitigation

5.1. Further Surveys

All three buildings show moderate potential for use by roosting bats. The BCT Good Practice Guidelines (2016) therefore recommend presence/absence surveys of each of these buildings; two separate survey visits (not within 2 weeks of one another) per building, comprising of one dusk emergence survey and one dawn re-entry survey. These are to be conducted between May and September, with at least one survey between May and August. Should bat presence be confirmed, then further survey effort will be required, in order to ascertain the character of the roost.

5.2. Mitigation Measures

5.2.1. Proposed Mitigation for Roost Sites

Suitable mitigation will largely depend on the results of the further surveys outlined above.

5.2.2. Proposed Mitigation for Foraging and Commuting Habitat

The proposed works do not involve loss of any bat foraging habitat; therefore no habitat mitigation measures are required, although the planting of wildlife-attracting plants around the site would serve to enhance the site for bats in future.

Should the proposed extensions involve significantly increased lighting levels and/or an increase in light-spill from the building however, then there is potential for adverse impacts upon bat commuting routes. A lighting design should therefore be considered at an early stage.

6. Summary

Absolute Ecology were commissioned to undertake a Preliminary Roost Assessment for the bat roost potential at a site known as 86 Hoyland Rd, Hoyland, Barnsley S74 0AP. The proposal is for the demolition of a redundant dwelling house and erection of 2 no. detached two story dwellings with detached double garages. Further details of the proposed development can be found in the documents '*20161258 Ground Floor Plans*' and '*20161258 Location and Elevation Plans*', which have informed the following assessment.

The aims of the Preliminary Roost Assessment are to provide an ecological evaluation of the potential for roosting and/or foraging bats within the proposed application area. Should the assessment reveal the presence or potential for other protected/notable species or habitats to be affected by the proposed development, then these are discussed also.

The site is a derelict property, on the edge of a residential area of Barnsley, with hedgerow-lined fields adjacent to the north. The site contains a garden, connecting to the gardens of adjacent properties to the east and west. The adjacent fields contain small streams/ditches, with a number of ponds also present within the wider landscape. These, coupled with other features of the wider landscape (such as woodland fragments) provide optimal foraging resource for bats.

There is one statutory designated site within 2km of the proposed development. This is approx. 1.5km away, on the other side of the M1 motorway. It is therefore highly unlikely that this small-scale development would have any impact (direct or indirect) on Potters Holes Plantation LNR.

Whilst foraging and commuting habitat is present on site, it is of a lower quality than much of the surrounding landscape. A study of aerial photographs does not suggest that important foraging or commuting routes are likely to occur on site. Wildlife-friendly lighting should be utilised however, and needs to be considered at an early stage.

Whilst no evidence of roosting bats was discovered during the survey, it was not possible to rule out their presence in these buildings through a daytime inspection alone. There is therefore a risk of any roost(s) present being destroyed. There is also a risk of direct disturbance and/or harm to any bat(s) present during works. Any of these impacts could constitute a criminal offence, if carried out in the absence of a licence from Natural England. All three buildings show moderate potential for use by roosting bats. The BCT Good Practice Guidelines (2016) therefore recommend presence/absence surveys of each of these buildings; two separate survey visits (not within 2 weeks of one another) per building, comprising of one dusk emergence survey and one dawn re-entry survey. These are to be conducted between May and September, with at least one survey between May and August. Should bat presence be confirmed, then further survey effort will be required, in order to ascertain the character of the roost, and so provide sufficient data for an application to be made to Natural England for a licence to carry out the proposed works (including suitable mitigation measures).

BMBC provided records of Barn Owl within a 2km radius of the application area, but no evidence or indication of Barn Owl presence was found during the survey.

7. References

Bat Conservation Trust (2016). *Bat Surveys for Professional Ecologists – Good Practice Guidelines*. Bat Conservation Trust: London.

BSBI (2008). *BSBI 2007 List.* [Online]. Available at: http://www.bsbi.org.uk/html/database.html [accessed on 20th October 2010].

The Conservation of Habitats and Species Regulations 2010. SI 2010/490.

The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. SI 2007/1843, London: HMSO.

Countryside and Rights of Way Act 2000 (c.37). London: HMSO.

Office of the Deputy Prime Minister (2005) *Planning Policy Statement 9: Biodiversity and Geological Conservation*. The Stationery Office, Norwich.

UK Biodiversity Action Plan (2007). *UK List of Priority Species.* Joint Nature Conservation Committee. [Online]. Available at: http://www.ukbap.org.uk/NewPriorityList.aspx [accessed on 20th October 2010].

Biodiversity Action Reporting System (2010). *Biodiversity Action in Staffordshire.* BARS. [Online]. Available at: http://ukbap-reporting.org.uk/plans/map_county.asp?X=%7BD7D87E4F%2D9520%2D48D6%2D93E0%2DD2698BA05B9D%7D&CTRY=%7B7C884413%2D1AC7%2D48B6%2DADCD%2D23CBA1482CD6%7D&WES= [accessed on 20th October 2010].

Wildlife and Countryside Act 1981 (and amendments) (c.69). London: HMSO.

Appendix 1 Pre-Survey Data Search

Existing bat records relating to the site and a surrounding 2km radius (the study area) were requested from Barnsley Metropolitan Borough Council (BMBC). Bat records are confidential information, which are not suitable for public release. These can be provided, in full, upon request.

Appendix 2 Photographs

Image 1: B1 (right), B2 (centre), B3 (left) viewed from southeast

Image 2: B1 viewed from south

Image 3: B1 viewed from north

Image 4: B2 interior - holes within south wall

Image 5: B2 interior - showing collapsed roof and remaining first floor section

Image 6: Large crevice in north wall of B2

Image 7: Gaps between tiles on roof of B3

Image 8: B3 interior - showing gaps in roof