

Bat Roost Assessment

BE-1106.1a

2 Hill Park, Mirfield WF14 8JB



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Executive Summary

Bagshaw Ecology Ltd have been requested by Orange Design Studio to undertake a Bat Roost Assessment of 2 Hill Park, Mirfield WF14 8JB, in relation to an application for planning. The development proposals are to construct an extension on the northwest gable of the building.

The survey found the surrounding area to provide suitable habitat for bats, with linear commuting habitat close to the site.

The survey found the site to consist of a modern detached bungalow with a pitched concrete tile roof. Gaps were observed within the plastic fascias on the southeast gable and under missing tiles at the ridge close to the southeast apex of the roof. A low number of old bat droppings were observed within the roof void. To establish whether bats were still utilising the building a further activity survey was carried out.

During the dusk emergence survey a peak count of 100 common pipistrelle *Pipistrellus pipistrellus* bats were observed emerging from the southeast gable. Bats were observed emerging from a gap in the apex of the gable beneath the fascia and from missing roof tiles to the southwest.

It is anticipated that the roost comprises a maternity colony which is located between the roof tiles, fascia and roof lining at the apex of the southeast gable. The development proposals will not result in the destruction of this roost; however, to prevent any disturbance to bats during works it is recommended wildlife friendly lighting is used in the development and a method statement is followed during work on the building.

1. Introduction

1.1. Background

Bagshaw Ecology Ltd have been requested by Orange Design Studio to undertake a Bat Roost Assessment of 2 Hill Park, Mirfield WF14 8JB, hereafter referred to as 'the site'.

The purpose of the report is to:

- Determine if bats are present or absent in the buildings on the site.
- If bats are found to be present, to estimate the size and status of the roost.
- Where necessary, to identify the requirement for further surveys, for mitigation and/or ecological enhancement measures.

1.2. Site Details

The site located at grid reference SE 19587 18816 and is accessed off the west of Hill Park. The site is bordered by Hopton Lane to the north and by residential dwellings to the south, east and west.

The site comprises a detached bungalow and associated gardens.



Figure 1.1 Aerial imagery of site and surrounding area (Google Earth Pro, 2019)

1.3. Development Proposals

The development proposals are to construct an extension on the northwest gable of the building.

2. Legislative Context

2.1. Legislation

All bat species are protected under Schedule II of the Conservation of Habitats and Species Regulations 2017. The Conservation of Habitats and Species Regulations makes it an offence to kill, capture or damage a bat, or to destroy a breeding site or resting place of a bat. Any development which compromises the protection afforded to bats under the regulations will require a European Protected Species License from Natural England.

All British bats are protected under the Wildlife and Countryside Act 1981, extended by the Rights of Way Act (2000), making an offence to deliberately or recklessly:

- Injure, kill or capture a bat.
- Disturb a bat (whether in a roost or not).
- Possess or control any live or dead specimen of a bat.
- Destroy or obstruct access to any structure or place used for protection by a bat species.
- Sell, barter or exchange a bat.

2.2. Policy

The UK Biodiversity Action Plan (UKBAP) includes a list of 943 national priority species and 56 habitats of principal importance, with all species and habitats having specific action plans defining the measures required to ensure their conservation. Although the UKBAP has since been superseded by the UK-Post 2010 Biodiversity Framework and a focus on County Biodiversity Plans, it remains a useful point of reference.

Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006 required that any public bodies take into consideration any species and habitats listed in the UKBAP when implementing their duty and exercising any normal functions.

The National Planning Policy Framework (NPPF) states that planning decisions should aim to protect or enhance biodiversity and conservation interests, and where possible any development should aim to increase net gains in biodiversity.

3. Methods

3.1. Ecological Data Search

Aerial imagery and other online sources were consulted in order to give an appraisal of the surrounding landscape regarding its suitability for bats.

The Department for Environment, Food and Rural Affairs' (DEFRA) Magic Maps website and the Natural website were consulted as to any land-based designations and protected/notable species within 1km of the site.

3.2. Scoping Survey

The bat scoping survey was carried out on the 25th of June 2019.

The survey was undertaken by Amy Reddick BSc (Hons) MSc ACIEEM, an ecologist and licensed bat surveyor (2018-37680-CLS-CLS) with experience in carrying out building inspections for bats.

The survey was based upon methodologies prescribed by Collins (2016), Mitchell-Jones (2004) and Mitchell-Jones and McLeish (2004). This involved an inspection of the exterior and interior of the building. Any structural features with potential for use by roosting bats were recorded and any suitable access points were identified. Any direct evidence of bats, such as scratch marks, oil stains, dropping and feeding remains were also identified.

Taking account of the structural features of the building, the surrounding habitat, buildings were assigned a level of roost suitability based upon professional judgement (see table 3.2).

Table 3.1 Bat roost suitability and descriptions

Bat Roost Suitability Class	Description
Confirmed presence	Bat presence confirmed during the scoping survey
High	Buildings that have many areas suitable for roosting which are obviously suitable for use by a larger number of bats including maternity colonies.
Moderate	Buildings with a smaller number of areas suitable for roosting, but still supporting feature that could be attractive to bats and potentially support maternity colonies.
Low	Buildings with limited roosting opportunities but which could be used on a sporadic or occasional basis by a low number of bats, but which are unsuitable for maternity roosts.
Negligible	Buildings which appear unsuitable for roosting bats due to a clear lack of roosting spaces such as voids and/or absence of suitable access points.

3.3. Bat activity surveys

Following the initial scoping survey, a dusk emergence survey was carried out on the 22nd July 2019. The surveys were carried out by Amy Redick and Alice Harrison. Surveyors were equipped with Echo Meter Touch 2 bat box duet bat detectors and were augmented by infrared Canon Legria HF R205 with an illuminator and an Anabat Express. The building was monitored for emerging/re-entering bats. Any additional bat activity, such as foraging and commuting bats, was also recorded. Bat calls were analysed using Analook and Kaleidoscope software. Table 3.2, below, shows a summary of the survey details.

Table 3.2 Bat activity survey details

Date	Surveyors	Start time	Finish time	Sunset/Sunrise time	Weather
22/07/2019	Amy Reddick and Alice Harrison	21:05	22:50	21:20	Dry Temp: 16°C Wind: Beaufort 1 Cloud cover: 10%

4. Results

4.1. Data Search

The surrounding land use consists of suburban and rural agricultural farmland. Connectivity to the site is good and tree cover in the immediate surrounding area is intermediate, with linear tree features providing suitable habitat for commuting and foraging bats near to the site.

DEFRA (2019) hold records of several priority habitats within 1km of the site, including:

- Two ancient woodland priority habitats, Hepworth Wood and Briery Bank which was the closest at 720m to the east of the site.
- Four deciduous woodland priority habitats, the closest of which was located 220m to the northeast of the site.

DEFRA (2019) holds one record of granted European Protected Species Licenses within 1km of the site. 2016-27006-EPS-MIT, which allowed the destruction of a common pipistrelle *Pipistrellus pipistrellus* roost. The licence start date was the 19th of December 2019 and the licence end date was the 19th of December 2016. The approximate location of the roost was 780m to the northeast of the site.

Ten species of bat have been recorded in West Yorkshire, including Brandt's bat *Myotis brandtii*, Daubenton's bat *Myotis daubentonii*, whiskered bat *Myotis mystacinus*, Natterer's bat *Myotis nattereri*, Leisler's Bat *Nyctalus leisleri*, noctule *Nyctalus noctula*, Nathusius' pipistrelle *Pipistrellus nathusii*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared bat *Plecotus auritus* (Harris and Yalden, 2008).

Seven of the 10 species recorded in West Yorkshire, including whiskered bat, Brandt's bat, Natterer's bat, Leisler's bat, common pipistrelle, soprano pipistrelle and brown long-eared bat are known to roost in buildings at some point throughout the seasonal year (Harris and Yalden, 2008; Dietz *et al*, 2011; Collins, 2016).

4.2. Scoping survey

The building on site consisted of a modern bungalow with a pitched concrete tile roof. The stone tiles were well-sealed except several missing tiles located below the ridge on the southwest aspect of the roof close to the apex of the gable. The soffits were plastic and well-sealed. The fascias were also plastic; the northwest fascia was well sealed, and several small gaps noted beneath the southeast fascia particularly near to the apex of the gable. The exterior stonework was in good condition with no gaps or cracks observed. At the time of the survey an orangery was under construction to the west of the building, which was tying into the roof.

The interior of the building had a single roof void of modern truss construction. The roof beams were modern and well-sealed. The roof was lined with bitumen which was well-sealed with a small gap to the north where a ventilation pipe was positioned. The gables were of breezeblock construction and well-sealed. A small number of old bat droppings were observed scattered in the roof void.

Due to the gaps under the roof tiles and evidence of old bat droppings in the roof void, in accordance with the Bat Conservation Trust Guidelines (Collins, 2016), a further bat activity survey was carried out on the building.

4.3. Bat activity survey

During the dusk emergence survey 97 common pipistrelle bats were observed emerging from a gap under the fascia in the apex of the southeast gable of the building between 21:22 and 22:09. Three common pipistrelles were also observed emerging from the missing roof tiles above of the apex of the gable.

Bats were also observed re-entering the roost from 21:30 with a total of five bats re-entering the roost during the survey.

Bats were observed foraging throughout the trees to the north of the site for the duration of the survey.

5. Impact Assessment

The surrounding area provides suitable habitat for commuting and foraging bats due to the presence of foraging and commuting routes near to the site. The trees to the north of the site were utilised by foraging bats throughout the survey. If any lighting from the development is directed onto these trees this could have negative impacts on foraging and commuting bats.

There were several gaps into the building under the fascia of the southeast gable and missing roof tiles close to the apex of the gable to the southwest. A small number of old bat droppings were observed within the roof void.

During the dusk emergence survey a peak count of 100 common pipistrelles were observed emerging from the southeast gable of the building. As several individuals returned to the roost early this indicates the presence of breeding female bats with dependant young, due to this and the size of the roost it is anticipated that the roost is a maternity colony.

The roost is located between the roof tiles, roof lining and fascia at the southeast gable of the building, old bat droppings were observed within the roof void, however there was no recent evidence of roosting bats within the main roof void. As the development proposals are to construct an extension on the northwest gable of the building with no work taking place on the existing roof or roof void, this will not result in the destruction of the roost. However, if the works are carried out during roosting bat season this may result in disturbance to roosting bats.

6. Conclusion and Recommendations

There is a maternity colony of common pipistrelle bats within the southeast gable of the building. Maternity colonies of common species such as common pipistrelles are considered to be of medium conservation importance (Mitchell-Jones, 2004).

To avoid disturbance to the roost it is recommended that work is carried out between October – April when the majority of bats will not be roosting within the building.

To prevent disturbance to bats during the works it is recommended a method statement is followed (Appendix 3). This should include supervision of aspects of the works by a licensed bat ecologist.

As the bat roost is to be retained within the building and no work is to be carried out within close proximity to the roost, provided works are carried out within the specified timeframe and that the method statement is followed correctly, it is not anticipated that the development proposals will result in the disturbance or destruction of the bat roost. As such, a Natural England European (EPS) licence is not considered necessary.

If, however, works are carried out between May and September and/or any proposed works will cause damage to the roost, an EPS licence will be required prior to the commencement of works. Destroying a bat roost is a criminal offence, which can result in an unlimited fine and up to six month's imprisonment. Note that the roost is afforded protection even when bats are not present.

To avoid impacting commuting and foraging habitats it is recommended that wildlife friendly lighting is utilised on the site. Lighting should not be directed onto the trees to the north of the site or onto the bat roost on the southeast gable, where exterior lighting is considered necessary, the following recommendations prescribed by the Bat Conservation Trust (2018) should be followed:

- All luminaires should lack UV elements,
- LED luminaires should be used where possible,
- A warm white spectrum (<2700 kelvin) should be adopted to reduce blue light,
- External security lighting should be set to a short timer or motion sensor
- The spread of light should be at, or near horizontal level,
- The times that lights are used should be limited to provide some dark periods.

7. References

- Bat Conservation Trust (2018). *Bats and artificial lighting in the UK*. Bat Conservation Trust, London
- Collins, J. (ed) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition)*. The Bat Conservation Trust, London.
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- Google Earth Pro (2019). *Google Earth* [online]. Available at: >www.earth.google.com< [accessed 14th August 2019]
- Harris, S., Yalden, D. (eds.) (2008). *Mammals of the British Isles: Handbook 4th Edition*. The Mammal Society, London.
- Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. English Nature.
- Mitchell-Jones, A.J., McLeish, A.P. (2004). *Bat Workers Manual*. Joint Nature Conservation Committee.

8. Appendices

Appendix 1: Photographs



Plate 1 Southeast aspect of the building



Plate 2 Southeast gable and bat emergence point



Plate 3 West aspect of the building



Plate 4 Northwest gable of the building



Plate 5 East aspect of the building



Plate 6 Interior roof void



Plate 7 Interior roof void of the building



Plate 8 Interior roof void of the building

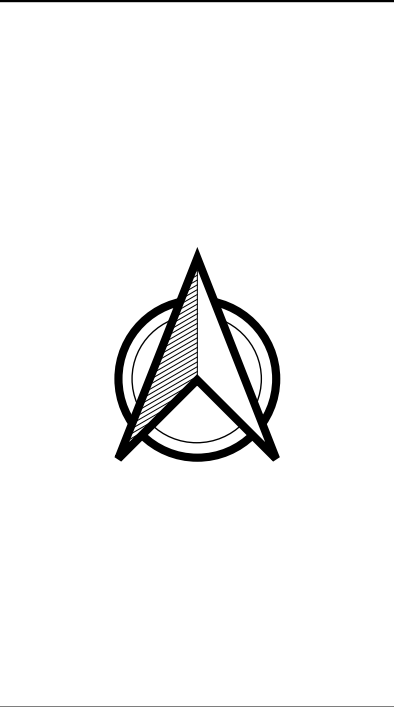


Appendix 2: Bat Activity Map

Project:	Hill Park
Drawn by:	Amy Reddick
Date:	14/08/2019

Not to scale

- Key:
- Surveyor position
 - Bat re-entry point
 - Bat emergence point
 - ↔ Bat foraging activity



Appendix 3: Bat Method Statement for works at 2 Hill Park

To ensure that bats are not harmed or disturbed by development works, it is recommended that the following precautionary methods are followed:

1. Contractors will be given a 'toolbox talk', to ensure they are aware of the signs of bats, and to ensure that they know how to respond if bats are encountered.
2. Works will be carried out between October – April to avoid the bat maternity season and to reduce the likelihood of bats being present during work.
3. No lighting should be used on the site from 15 minutes prior to sunset until 15 minutes after sunrise throughout the work.
4. The ecologist will supervise the removal of the fascia on the northwest gable and any roof tiles which require removal to tie the new extension roof into the existing roof.
5. If any bats are encountered during the development work, works should cease and a Natural England European Protected Species Licence will be required before works can continue.
6. When the ecologist is satisfied that bats are no longer at risk of disturbance, then work may continue unsupervised. However, in the event that a bat is encountered during this period then all work should stop and the licenced ecologist should be contacted.
7. If for any reason it is determined that the development works will necessitate the disturbance of destruction of a bat roost, works should cease and a Natural England European Protected Species licence (EPSL) should be sought before works commence. Damaging, destroying or disturbing a bat roost is a criminal offence, which can result in an unlimited fine and up to six month's imprisonment. Note that the roost is afforded protection even when bats are not present.