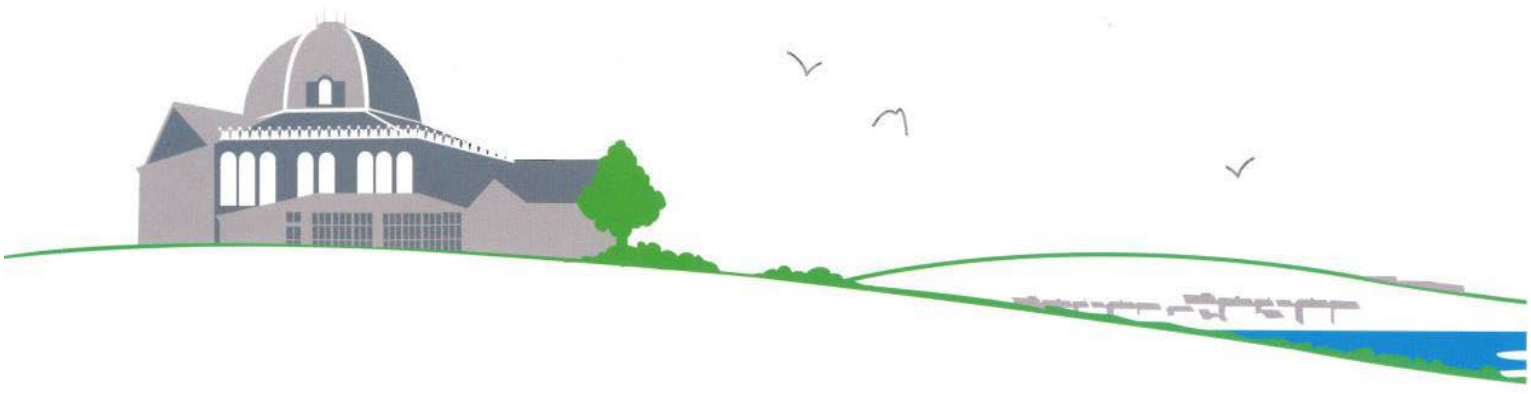
Penny Anderson Associates Ltd
CONSULTANT ECOLOGISTS

BURO HAPPOLD

555 LEES HALL ROAD, DEWSBURY

BAT ACTIVITY SURVEY REPORT



BURO HAPPOLD

555 LEES HALL ROAD, DEWSBURY

BAT ACTIVITY SURVEY REPORT

Penny Anderson Associates Limited
'Park Lea'
60 Park Road
Buxton
Derbyshire
SK17 6SN

Project Manager and Author
Rob Lamb BSc (Hons) MSc ACIEEM (Senior Ecologist)

September 2022

This project has been undertaken in accordance with PAA policies and procedures on quality assurance.

Signed:_____

Penny Anderson Associates Ltd
CONSULTANT ECOLOGISTS

CONTENTS

Page

1. INTRODUCTION 1

Site Description 1

Legislative Context 1

Bat Biology 3

Protected Species 4

2. METHODS 5

Bat Activity Surveys 5

Limitations 5

3. RESULTS 6

Bat Activity Surveys 6

Activity Survey Findings 7

4. RECOMMENDATIONS 8

Survey Summary 8

Recommendations 8

Survey Validity 8

5. REFERENCES 9

6. ABBREVIATIONS 9

TABLES

1 Dusk Emergence Survey Results, 25th July 2022 6

2 Dawn Re-Entry Survey Results, 11th August 2022 6

3 Dawn Re-Entry Survey Results, 25th August 2022 7

APPENDIX

1 Summary of the Legislation Relating to Bats

1. INTRODUCTION

1.1 Penny Anderson Associates Ltd (PAA) was commissioned by Buro Happold, on behalf of their client, in July 2022 to carry out three bat activity surveys on a building at 555 Lees Hall Road, Dewsbury.

1.2 This report details the methods and results of one dusk emergence and two dawn re-entry surveys and makes any further recommendations as required.

Site Description

1.3 The building (photograph below) comprised two structural elements: a pitched-roofed main building facing north onto the road and a flat-roofed extension to the south. Potential roost features were mainly associated with the pitched roof aspect, with small gaps possible on the underside of eaves and fascia boards.



1.4 The building was in current use as a mosque at the time of the bat activity surveys and was previously used as a pub. The mosque was outside of the applicants control and an internal building inspection was not undertaken. Therefore, as a precaution, three bat activity surveys were completed.

1.5 The immediate surroundings were residential and business buildings, car park and roads. Rural and agricultural land was present in the wider landscape to the south.

Legislative Context

1.6 A range of international and national legislation has been established in the UK to protect important nature conservation sites and priority species. At the international level, European Union (EU) Directives require individual member states to implement their conservation

provisions nationally for the benefit of Europe as a whole. These Directives have been transposed into UK law by the Conservation of Habitats and Species Regulations 2017 (amended).

1.7 Other international conventions include: the Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979), which requires the maintenance of populations of wild flora and fauna, giving particular protection to endangered and vulnerable species; and the Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979), which requires the protection of migratory species throughout their entire range. The above conventions are implemented in England and Wales via the Wildlife and Countryside Act (WCA), 1981 (as amended) and Countryside and Rights of Way (CRoW) Act 2000. This legislation also protects important habitats and sites such as Sites of Special Scientific Interest (SSSI).

1.8 At the national level, Biodiversity 2020 (Defra 2011) forms England's national biodiversity strategy. Building on the Natural Environment White Paper[1] published in 2011, this provides a means of delivering the UK's commitments to maintaining and protecting biodiversity. Under Biodiversity 2020, the Priority Species and Habitats referred to are those of 'Principal Importance' for the conservation of biodiversity in England as listed on Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006 (amended).

1.9 More recently, the Environment Act 2021 further supports this commitment to, and strengthens the legislation in respect of, maintaining and also enhancing biodiversity in England, and Part 6 Nature and Biodiversity includes the following key areas:

- Strengthened biodiversity duty for public authorities in England;
- Biodiversity net gain to ensure developments deliver at least 10% increase in biodiversity;
- Local Nature Recovery Strategies to support a Nature Recovery Network;
- Duty upon Local Authorities to consult on street tree felling;
- Strengthen woodland protection enforcement measures; and
- Protected Site Strategies and Species Conservation Strategies to support the design and delivery of strategic approaches to deliver better outcomes for nature.

1.10 Finally, the National Planning Policy Framework (NPPF 2021) provides guidance for local authorities on the content of the Local Plans and is a material consideration in determining planning applications. Briefly, with an overall focus on sustainable development, the NPPF states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks.

1.11 The NPPF identifies the following principals that should be applied by local planning authorities when determining planning applications:

a. if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b. development on land within or outside a SSSI, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location

[1] https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature

proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSI;

c. development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d. development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

1.12 The NPPF states that the planning system should contribute to and enhance the natural environment through a range of actions, including:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services; and
- minimising impacts on biodiversity and providing net gains for biodiversity including establishing coherent ecological networks that are more resilient to current and future pressures.

1.13 To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Bat Biology

1.14 There are 17 species of native bats known to be resident (i.e. breed) in the British Isles. British bats feed entirely on insects and have developed a complex sonar system, known as echolocation, which enables them to find prey and navigate around their environment at night.

1.15 Habitat requirements vary widely, both on an individual and species level, although certain features, such as woodland, parkland, traditional pasture, marshes and areas of freshwater, are often focal points for foraging, as insects are plentiful in these areas (Mitchell-Jones 2004). Bats use linear features such as rivers, hedgerows, roads and woodland edges as landmarks in order to commute from one location to another (Schofield and Mitchell-Jones 2003).

1.16 Bats utilise different roosts at different times of the year. Between late October and March, bats hibernate; this requires an unexposed roost with a stable temperature, typically a cave, cellar or tunnel. Around March, the bats emerge and gradually move to their summer roosts, typically within man-made structures or suitable crevices in trees. During the spring and summer period female bats gather together at maternity roosts to give birth and rear their young. Most births occur between late June and mid-July, with the young able to fly within three to five weeks (Altringham 2003; Waters and Warren 2003). By the end of August, most of the young bats are independent and the colony begins to break up (Schofield and Mitchell-Jones 2003). Mating takes place between August and December, either at the winter hibernation site or at autumn breeding

sites. The numbers of bats utilising these roosts can vary from single bats to hundreds of bats in a nursery colony or hibernation site (Altringham 2003).

1.17 Bats play an important role in many environments around the world, including pollination and insect control. In the UK, bats can tell us a lot about the state of the environment because they are top predators of common nocturnal insects and are extremely sensitive to changes in their surroundings, e.g. climate, landscape, agricultural intensification, development and habitat fragmentation. Populations of British bats have suffered severe declines in the past century, influenced by these factors.

Protected Species

1.18 Details of the protected species legislation relevant to this report can be found in Appendix 1.

2. METHODS

Bat Activity Surveys

2.1 Three bat activity surveys were undertaken of the structure. This comprised a single dusk emergence survey and two dawn re-entry surveys.

2.2 The survey team comprised various combinations of Senior Ecologist Rob Lamb (Level 1 Bat Licence Registration No. 2020-44441-CLS-CLS), Ecologist Gerard Hawley and Assistant Ecologists Stephen Griffith, Ross Quick and Isabelle Tomkinson.

2.3 All members of the survey team have the necessary experience of surveys for protected species, including bats, and are appropriately qualified to carry out this work based on the CIEEM[2] competencies for survey (CIEEM 2013).

2.4 The surveyors were positioned at vantage points in view of potential roost features and recorded any bat activity heard or seen. Each surveyor had a Batbox Duet or Anabat Walkabout to aid detection in the field, and an Anabat SD1 or Anabat Walkabout to record echolocation calls and enable sonogram analysis for confirmation of species identification.

2.5 Survey timings followed good practice guidance established in the *Bat Survey for Professional Ecologists* (Collins 2016), taking into account the typical emergence/re-entry times for the species considered likely to be present. Survey timings and weather conditions are detailed in the Results section of this report.

2.6 Bat calls recorded by all surveyors were analysed using specialist sound analysis software 'Analook W'. Based on parameters such as peak frequency and call duration, each call was assigned to a particular bat species to confirm the identification recorded by surveyors in the field.

Limitations

2.7 All activity surveys were undertaken within the peak active bat survey season in July and August 2022, in suitable weather and temperature conditions.

2.8 The first survey, undertaken at dusk, was ended early at 40 minutes after sunset. This was due to unforeseen access issues and requests to stop the survey.

2.9 The main access issue pertained to the dusk survey coinciding with evening prayer at the mosque. Therefore, the final two activity surveys were chosen to be undertaken at dawn to avoid possible further survey disruption.

2.10 There were no significant constraints during the two dawn surveys.

[2] *Chartered Institute of Ecology and Environmental Management*

3. RESULTS

Bat Activity Surveys

3.1 The dusk emergence survey was undertaken on 25th July 2022. Dawn re-entry surveys were completed on 11th and 25th August 2022. The findings and weather conditions during the surveys are summarised in Tables 1-3.

Table 1 Dusk Emergence Survey Results, 25th July 2022

Species	First Recorded	Notes
NA	NA	Survey finished early (40m after sunset) due to unforeseen access issues. No bats heard or seen by surveyors or picked up on recording detectors.
Surveyors and Location: Rob Lamb (north of building across road), Stephen Griffith (east of building), Isabelle Tomkinson (west of building)		
Start time: 21:00	**Sunset**: 21:15	**End time**: 21:55
Conditions: Dry with light wind with ~90% cloud cover throughout survey. Light rain in the hour prior to the survey commencing.		
Temperature: 14.4°C decreasing to 13°C. **Humidity:** 64% increasing to 70%.		

Table 2 Dawn Re-Entry Survey Results, 11th August 2022

Species	First Recorded	Notes
Common pipistrelle (CP)	03:26	CP (*Pipistrellus pipistrellus*) social calls were heard at the commencement of survey by the north-eastern surveyor. Brief foraging activity and social calls were then recorded infrequently by the north-eastern surveyor during the rest of the survey, until 04:43. This was mainly associated behind the north-eastern surveyor away from the subject building, and wasn't picked up by the south-western surveyor. The last call heard at 04:43 indicates CP are likely to be roosting nearby, however, none were seen to enter or interact with the structure.
Surveyors and Locations: Stephen Griffith (north-east of building), Ross Quick (south-west of building)		
Start time: 03:26	**Sunrise**: 04:57	**End time**: 05:13
Conditions: Dry and calm throughout with no cloud cover during survey.		
Temperature: 15.7°C decreasing to 12.5°C. **Humidity:** 50% increasing to 87%.		

Table 3 Dawn Re-Entry Survey Results, 25th August 2022

Species	First Recorded	Notes
Common pipistrelle (CP)	05:28	A single CP (*Pipistrellus pipistrellus*) pass was heard during the survey at 05:28 by the south-western surveyor. The bat was not seen.
Surveyors and Location: Rob Lamb (north-east of building), Gerard Hawley (south-west of building)		
Start time: 04:31	**Sunrise**: 06:03	**End time**: 06:15
Conditions: Dry and calm with ~90% cloud cover throughout survey.		
Temperature: 15°C decreasing to 14.3°C. **Humidity:** 53% increasing to 90%.		

Activity Survey Findings

3.2 The dusk emergence survey was ended early (40m after sunset) due to unforeseen access issues. Therefore, the findings of the dusk survey were limited. The period surveyed would have likely picked up emergences from a pipistrelle species roost but could not reliably account for late pipistrelle emergences/possible outliers, and did not cover the typical emergence times of most other species. No bats were recorded during the short survey.

3.3 The dawn re-entry surveys had no significant limitations. These surveys recorded low levels of activity for a single species, common pipistrelle (*Pipistrellus pipistrellus*). Occasional foraging activity and social calls were recorded for this species during the first dawn survey, mostly behind the north-eastern surveyor and away from the building. This activity was last recorded ten minutes before sunrise. The timings of these last calls indicate the individual(s) were likely roosting nearby. However, none were seen to interact or enter the structure being surveyed.

3.4 Overall, activity was low and for a single species. Based on the survey findings, it is assessed that bat roosts are likely absent from the building.

3.5 It was noted that there was street lighting around the structure. Additionally, high lumen security lighting was present on the western face of the building facing onto the car park. These elements likely reduce the viability of the structure to support roosting bats.

4. RECOMMENDATIONS

Survey Summary

4.1 The surveys picked up a low level of common pipistrelle foraging, social calling and commuting activity nearby.

4.2 No bats were seen to emerge, re-enter or interact with the building during the three activity surveys.

4.3 Significant limitations were noted for the dusk emergence survey. The two dawn re-entry surveys had no significant limitations.

4.4 Despite the limitations of the dusk survey, it is considered that the two dawn surveys can provide adequate survey effort for the structure, and that three surveys were planned only as a precautionary approach in the absence of a preliminary roost inspection.

4.5 It is considered that, in combination, the three surveys provide a robust appraisal of the structure and can be used to assess bat roosts as likely absent.

Recommendations

4.6 Based on the survey findings, it is assessed that bat roosts are likely absent on the building. Therefore, no further recommendations are made in respect of roosting bats at this time.

4.7 In the unlikely event that bats are found during future destructive works or demolition, works should stop immediately, and advice be sought from a professional bat ecologist

Survey Validity

4.8 The findings of the survey should be considered valid for a period of two years from the date of survey (August 2022). If works have not commenced by May 2024 (the start of the 2024 bat survey season), then the need for update surveys should be considered. This would ensure the surveys do not become outdated and that the ecological advice given is based on up-to-date information.

5. REFERENCES

Altringham, J.D., 2003. *British Bats*. New Naturalist Series 93, Harper Collins.

CIEEM, 2013. *Competencies for Species Survey: Bats*. Chartered Institute of Ecology and Environmental Management.

Collins, J., (ed.) 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.).* The Bat Conservation Trust.

Defra, 2011. *Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services*. Defra.

Mitchell-Jones, A.J., 2004. *Bat Mitigation Guidelines*. English Nature.

NPPF, 2021. *National Planning Policy Framework, updated July 2021*. Ministry of Housing, Communities and Local Government.

Schofield, H.W., and Mitchell-Jones, A.J., 2003. *The Bats of Britain and Ireland*. The Vincent Wildlife Trust.

Waters, D. and Warren, R., 2003. *Bats*. The Mammal Society.

6. ABBREVIATIONS

CIEEM	Chartered Institute of Ecology and Environmental Management
CRoW	Countryside and Rights of Way
EU	European Union
NERC	Natural Environment and Rural Communities
NPPF	National Planning Policy Framework
PAA	Penny Anderson Associates Ltd
SSSI	Site(s) of Special Scientific Interest

APPENDIX 1

Summary of the Legislation Relating to Bats

SUMMARY OF THE LEGISLATION RELATING TO BATS

All wild species of bat are protected under the Wildlife and Countryside Act (WCA) 1981, which has also been amended by later legislation, including the Countryside and Rights of Way (CRoW) Act 2000. Bats are listed on Schedule 5 of the WCA and are therefore subject to some the provisions of Section 9 which, with the amendments, make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection (S9:4b).
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat (S9:4c).

There are additional offences in relation to buying and selling (S9:5) any live or dead animal of this species or anything derived from them.

Bat species are also listed under Annexes IIa and IVa of the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the 'Habitats Directive'. Inclusion on Annex IVa means they are consequently identified as European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2017 (amended).

The Conservation of Habitats and Species Regulations 2017 (amended) state that a person commits an offence if they:

(a) deliberately capture, injure or kill any wild animal of a European protected species,

(b) deliberately disturb wild animals of any such species, in such a way as –

  (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or

  (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or

  (iii) to affect significantly the local distribution or abundance of the species to which they belong;

(c) deliberately take or destroy the eggs of such an animal, or

(d) damage or destroy a breeding site or resting place of such an animal.

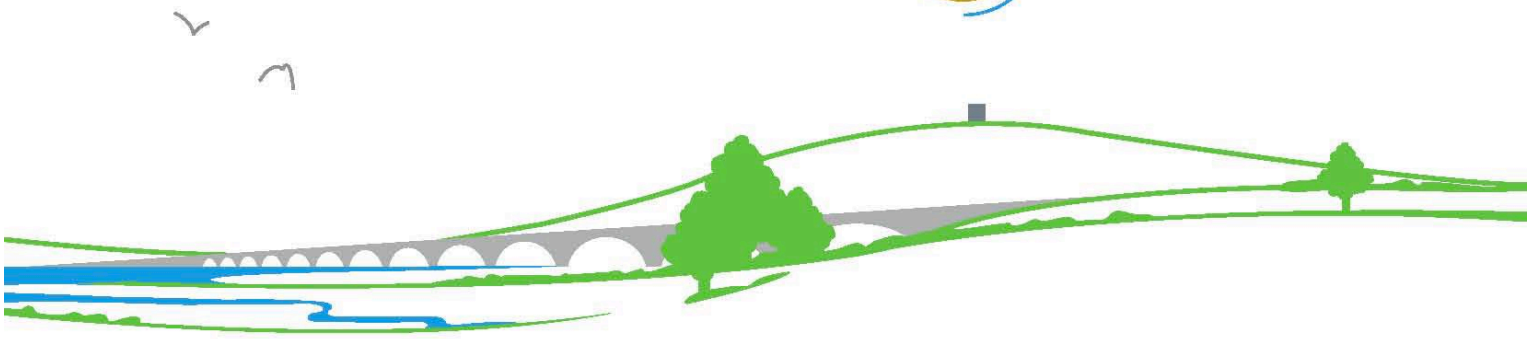
Under these Regulations it is an offence to damage or destroy a breeding site or resting place whether the animal is in occupation or not, and protection extends to all life stages of the animal in question. There are additional offences relating to possession, control and sale of a live or dead bat or part of such an animal.

In addition, seven native British bat species, including the soprano pipistrelle (*Pipistrellus pygmaeus*) and the brown long-eared bat (*Plecotus auritus*), are listed as 'species of principal importance' for the conservation of biodiversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (amended). In Wales, Section 7 of the Environment (Wales) Act 2016 provide a list of organisms of 'principal importance for maintaining and enhancing biodiversity' and lists several species of bat including the common pipistrelle (*Pipistrellus pipistrellus*) which is absent from England's S41 list.

Please note: the above text provides a brief summary of the legislation in relation to bats and their roosts and the original Acts, Regulations and any amendments should be referred to for the precise wording.

Penny Anderson Associates Ltd

CONSULTANT ECOLOGISTS



Park Lea, 60 Park Road, Buxton, Derbyshire SK17 6SN

Registered Office as Above | Registered in England & Wales | Company No. 4223109 | Directors: Mrs P Anderson Mr P Worrall Miss S Rogers