

Activity Survey for Bats

Location: Hillcroft, Ipstones Bank

Author: Matthew Haydock

August 2023

Notice to readers

This report has been prepared by Absolute Ecology 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).

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The results of the survey and assessment work undertaken by Absolute Ecology are representative at the time of surveying.

Every endeavour has been made to identify the presence of protected species on site, where this falls within the agreed scope of works.

The flora and fauna detailed within this report are those noted during the field survey and from anecdotal evidence. It should not be viewed as a complete list of flora and fauna species that may frequent or exist on site at other times of the year.

Up to date standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on-site.

Absolute Ecology cannot take responsibility where Government, national bodies or industry subsequently modify standards.

Absolute Ecology cannot accept responsibility for data collected from third parties.

Reference to sections or particular paragraphs of this document taken out of context may lead to misrepresentation.

Executive summary

Absolute Ecology was commissioned to undertake a bat survey for the bat roost potential at a site known as Hillcroft, Ipstones Bank, Froghall, ST10 2HQ. Grid reference: SK 02456 47619

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), BS 42020, and the Bat Conservation Trust Best Practice 3rd Edition 2016.

Proposals have been made to extend the building to facilitate extra room.

A building assessment was carried out on 15th August 2023 by Matthew Haydock – HND, ND, MIEEM, Natural England Bat Survey Registration Number: 2015-12430-CLS-CLS. The assessment concluded the building to be of **moderate** potential for supporting roosting bats with potential roosting features identified externally and internally.

Subsequent presence/absence surveys were undertaken as summarised below;

- Survey 1 – dusk emergence – 15/08/2022
- Survey 2 – dawn re-entry – 29/08/2022

The results of the bat activity surveys, which were conducted during the optimum survey period, have **confirmed an absence of bats within the building.**

During the bat, activity surveys Night Visual Aids were used, and were strategically placed to cover the building where visibility would be limited due to the darkness all cameras were in view of the surveyors. The film footage was analysed and identified no bat emerged or re-entered the building.

Moderate - minor bat activity was recorded throughout each survey period, although no bats were seen entering or exiting the building. Confirmed species of bat recorded foraging/commuting across the site; common pipistrelle (*Pipistrellus pipistrellus*), Noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*) and a *Myotis* sp.

As no bat roosts were identified during the surveys, it will not be necessary to apply for a Natural England European Protected Species (EPS) licence and no further survey actions are considered necessary. However, where surveys have demonstrated a likely absence of bats in a building, it should be noted that it is possible that bats could begin to utilise the building at any time, and any work should be undertaken with care and vigilance for bats. Should bats be found during development, then all works must cease and a qualified bat ecologist should be consulted.

The site in question is situated in a rural zone characterized by low district brightness. The activities of various species, such as bats and birds, can be influenced by light spill, impacting their foraging and commuting behaviours. To mitigate this, any new artificial exterior lighting should be installed in accordance with the guidelines detailed in the Institute for Lighting Engineers' document "Guidance for the Reduction of Obtrusive Lighting" (2005) [GN01:2011], and the Bat Conservation Trust's "Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimize the Impact of Artificial Lighting" (2014) [GN8/18]

Generally, it's advisable to avoid directing light towards trees, nearby, and the lighting should not exceed 200 lumens (150 watts). For security lighting, where feasible, it should be set on a timer and oriented downwards to prevent unnecessary light spill into neighbouring habitats. The height of any light posts around the development should not surpass eight meters to further mitigate ecological damage from light pollution. To

minimize upward light spill, we recommend using low-pressure sodium lamps (SOX) equipped with hoods to guide light downwards, below the horizontal plane.

No evidence of bird utilisation was observed within the building.

Recommendations for biodiversity enhancement have been suggested within section 6.0.

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2.0 Introduction

Background

- 2.1 Absolute Ecology was commissioned to undertake a bat survey for the bat roost potential at a site known as; Hillcroft, Ipstones Bank, Froghall, ST10 2HQ. Grid reference: SK 02456 47619
- 2.2 The initial building assessment was undertaken on 15th August 2023 by Matthew Haydock – HND, ND, CMIEEM, Royal Institution biology Full Member, Natural England Bat Survey Registration Number: 2015-12430-CLS-CLS.
- 2.3 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 the emerging '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)) the emerging BS 42020, and the Bat Conservation Trust Best Practice 2016.
- 2.4 The objective of this report is to provide the client with information on any known or potential protected or rare species that may be using the site and to outline recommendations on how to proceed with the works in a legal and ecologically sensitive manner.
- 2.5 Unless the client indicates to the contrary, information on the species found to be present on the site will be passed to the county biological records centre to update records held for the area.

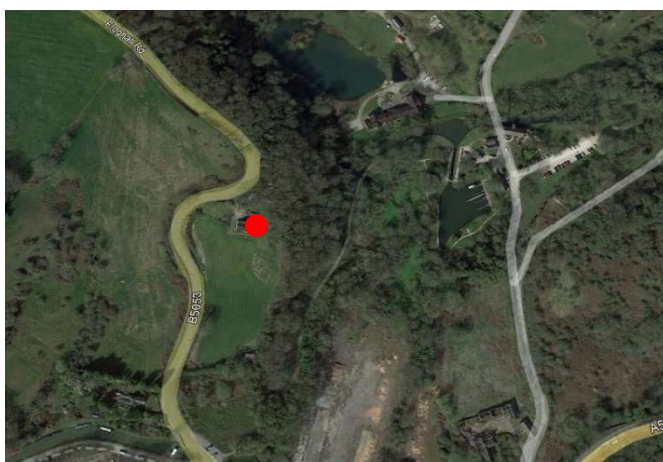
Proposed Works

- 2.6 Proposals have been made to carry out a two-storey extension on the Northeast elevation.

Site Description

- 2.7 The site is located within a rural location, on the northern edge of the village of Ipstones, alongside Ipstones Bank. The site is immediately bounded by a holiday park (caravan and lodges) and woodland.

Figure 1: Showing site location.



Aims of the Survey

Bats

- 2.8 The aims of the Preliminary Roost Assessment and presence/absence activity surveys are to provide an ecological evaluation of bats within the proposed application area, including the following;
- Probability of bats and their roost sites being present at the proposed redevelopment 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.
- 2.9 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):

Table 1: Bat Roost Types and Definitions

Type	Definition
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 Roost	Where bats may be found during the winter. (This is assessed within the context of this report).
Day 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/occasional roost	Used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Swarming Site	Where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites.
Mating sites	Where mating takes place from late summer and can continue through winter.
Satellite roost	An alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

- 2.10 Should bats be present on-site, then a European Protected Species (EPS) development license issued by Natural England (NE) may be required prior to any work taking place. If required, further presence/absence surveys 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.

Birds

- 2.11 In addition, consideration will be given to the presence of breeding birds, to provide an ecological evaluation within the proposed application area, to include the following;
- Establish if birds are using the site.
 - Locate nest sites, if present.
 - Assess suitable food resources and habitat requirements.
 - Provide an impact assessment, if nests are found.
- 2.12 Particular consideration will also be given to the presence of barn owl (*Tyto alba*) within rural locations, including the following;
- 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
- 2.13 Assessment also considers potential effects on valued ecological receptors (VERs) and zones of influence (Zol) 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.

3.0 Methodology

Desk Study

- 3.1 Absolute Ecology LLP (June 2022) undertook a 2km data search, assisted by Staffordshire Ecological Record (SER).

Building/Tree Inspection

- 3.2 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).
- 3.3 Building inspections adhere to guidance within the Bat Mitigation Guidelines (Mitchell Jones 2004) and within Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins 2016). Surveys involve external and internal examinations of relevant areas.
- 3.4 Equipment used to support the assessment includes binoculars and a high-powered torch, with an endoscope on hand for any accessible crevices. Throughout the building inspections, evidence of use by bats (including bat presence, droppings, feeding remains, urine stains and grease marks) was searched for, in addition to suitable potential access and roosting points. These can include gaps beneath ridge tiles, lifted/raised roof tiles, missing tiles, missing/damaged doors and windows, gaps behind fascia boards and in soffit boxes, gaps beneath lead flashing and crevices in the brickwork. Internally, loft spaces (where safe to do so) are also inspected for evidence of bat use, as well as bats themselves.
- 3.5 Any trees within the survey area will also be assessed for any features that may present suitable opportunities to roosting bats. Such features can include: lifted bark, knot holes, woodpecker holes, rot holes, splits, cavities, bat boxes and densely-plated ivy growth.
- 3.6 Any onsite buildings/trees will be assigned a value for its bat roosting potential, as described in Table 2 (adapted from Collins, 2016).

Table 2: Buildings and Trees Assessment Criteria

Suitability	Description	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger number of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roosting features (PRF's) but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a happy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.

Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees. Scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, treelined watercourses and grazed parkland. Site is close to known roosts.

- 3.7 The classification of the building and trees corresponds to the level of further survey effort required i.e. the number of recommended emergence/re-entry surveys for bats, in accordance with best practice guidance (Collins 2016), as shown in Table 3;

Table 3: Minimum number of survey visits to give confidence in a negative result, and timings

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry (structures).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.
No further survey required (trees).	May to September with at least one of the surveys between May and August.	May to September with at least one of the surveys between May and August.
May to August.		

Activity Surveys

- 3.8 Bat ultrasound data is gathered using a number of heterodyne (Batbox Duet and SSF Bat2) and real-time recording devices (Wildlife Acoustics Echo Meter Touch). Real-time recordings were subsequently analysed using Bat Explorer software. Canon XA11, with IR LED Illuminators to capture and record continuous bat activity.
- 3.9 Surveyors are positioned around the building/tree in order to cover all vantage points/elevations.
- 3.10 All surveys were carried out during optimal weather conditions and period for bat activity – sunset temperature 10°C or above, no rain or strong wind. Following best practice guidance; Dusk emergence surveys commenced 15minutes before sunset until 1.5-2hours after sunset. Dawn re-entry surveys commenced 1.5hours before sunrise until 15minutes after sunrise.

Surveyor Information

Surveyor 1

- 3.11 Matthew Haydock – HND, ND, MIEEM, Natural England Bat Survey Registration Number: 2015-12430-CLS-CLS. Matthew is an ecologist with four years' experience of environmental consultancy work. He holds a HND in Environmental Management with distinction. Matthew is an experienced bat surveyor with 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. Matthew holds a Natural England and Countryside Council for Wales licence, since 1997, to disturb bats for the purposes of science and education or conservation and has held Development Licences to permit development works affecting bats. Matthew has been an active bat group worker with the Staffordshire Bat Group since 1997, conducting various surveys throughout Staffordshire and Derbyshire. He also works alongside the Bat Conservation Trust with various projects such as the National Bat Monitoring Project, and is now a corporate member of the Bat Conservation Trust.

Surveyor 2

- 3.12 Carrie Alcock - BSc (Hons). Carrie has been working as an Assistant Ecologist for Absolute Ecology since June 2017. Carrie is competent with activity surveys, dawn and dusk, bat roost assessments, daytime surveys for bat field signs, and assessments of trees as potential bat roosts.

4.0 Results

Desk Study – Map shown within Appendix 1

Churnet Valley SSSI is located immediately adjacent to the application site, the habitat is mainly Broadleaved woodland, Mixed and Yew woodland- Lowland.

Protected Species.

Seven British bat species are currently given UK BAP (2007) Priority Species Status: Eleven of the seventeen resident UK bat species occur in Staffordshire. Staffordshire Ecological Records show three UK BAP species being recorded within 2km of the proposed application area. A single Brown long-eared bat was recorded near the site in 2015 but no further details were provided by the Ecological Record Centre a further desktop study via the planning portal also provided no further information. The current surveys of 2022 found no bats roosting within the building which concluded that the building is not currently used by bats. All survey conducted followed the BCT Guidelines 3rd Edition.

UKBAP	Common name	Species	2 Km
☒	Brown long-eared bat	<i>Plecotus auritus</i>	☒
☒	Barbastelle bat	<i>Barbastella barbastellus</i>	☒
☒	Bechstein's bat	<i>Myotis bechsteinii</i>	☒
☒	Noctule	<i>Nyctalus noctula</i>	☒
☒	Greater horseshoe bat	<i>Rhinolophus ferrumequinum</i>	☒
☒	Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>	☒
☒	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	☒

UKBAP	Common name	Species	2 Km
☒	Natterer's bat	<i>Myotis Nattereri</i>	☒
☒	Daubenton's bat	<i>Myotis daubentonii</i>	☒
☒	Whiskered/ brandt bat	<i>Myotis mystacinus/brandtii</i>	☒
☒	Common pipistrelle	<i>Pipistrellus pipistrellus</i>	☒

Building Inspection

Building reference	External inspection	Roost assessment category
B1	The building, with brick walls which are rendered, single-pitched roofs that are tiled with small areas of felted flat roofs. The pitched roofs face east to west, and the building measures 9 meters by 7 meters approx. with attached flat roof building. The tiled roof shows some areas, of potential access for bats in the form of missing mortar from the ridge tiles, however, the roofing overall was in good condition. The brick structure of the building was rendered providing no cracks or crevices showing little potential access and roosting opportunities for bats. The internal inspection of the dwelling identified two roof voids both of which were accessible, and both showed visible roofing tiles with no under felting as a constraint the roof voids were fairly small in size but still suitable for bat pre-flight it was noticeable that the voids were heavily cobb webbed and dusty due to the deterioration of the mortar, but also noticeably infested with wasps and nests, however, the voids were inspected and did find suitable roosting opportunities, however, the inspection investigated the floors and walls for signs of bat activity such as droppings the inspection did not find any such evidence.	Moderate due to external roosting features in the roof where ridge tiles showed missing mortar.



Plate 1: Showing the building subject to the planning application.



Plate 2: Showing the side elevation subject to the extensions.



Plate 3: Showing raised ridge tile potential bat access point.



Plate 4: Showing internal roof void.

4.1 In summary, the following was concluded.

- The building was assessed to be of **moderate potential** for supporting roosting bats. This assessment has been based on the number of potential external roosting features identified, alongside a means of access for bats and high-value adjacent foraging habitat. Therefore, further surveys are required to confirm the presence/ absence.

Activity Surveys

4.2 Absolute Ecology LLP using information obtained during previous site inspections, undertook subsequent bat activity surveys to confirm the presence/absence of bats within the building. Two surveyors were present on each visit.

Timings and Abiotic Variables

Table 4: Timings and Abiotic variables

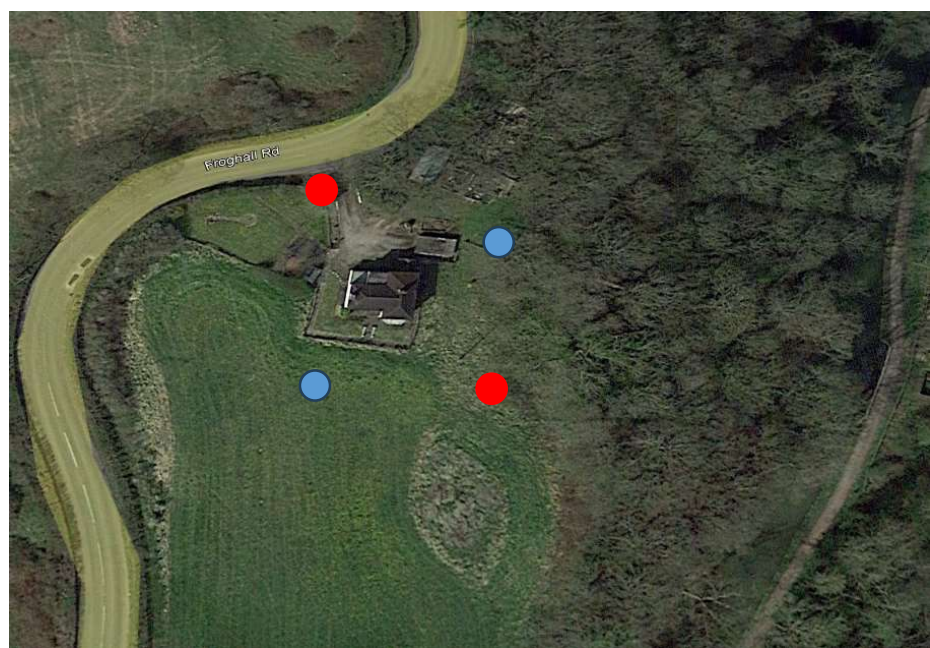
Abiotic variables during survey 1: Dusk emergence			
Date: 15/08/2022			
Sunset: 20:36			
Temp Start	19 °C	Cloud Cover Start	0%
Temp Finish	13°C	Cloud Cover Finish	30%
Wind Speed Average	<1mph	Precipitation	Nil
Abiotic variables during survey 2: Dawn re-entry			
Date: 29/08/2023			
Sunrise: 06:12			
Temp Start	11°C	Cloud Cover Start	90%
Temp Finish	12 °C	Cloud Cover Finish	100%
Wind Speed Average	<2 mph	Precipitation	Nil

Results summary (full results tables shown in Appendix)

Table 5: Activity Results

Survey number	Building reference	Summary
1 Dusk	B1 – Hillcroft	No bats seen to emerge from the building. Minor bat activity observed from common pipistrelle, soprano pipistrelle and Noctule bats.
2 Dawn	B1 – Hillcroft	No bats seen to re-enter the building. Moderate bat activity observed from common pipistrelle, brown long-eared and noctule.
Roost Status No roost present		

Figure 2: Building plan and surveyor locations (indicated by the Blue circles). IR (Red Circles)



IR Camera used for the bat activity survey.

5.0 Assessment

Constraints

Constraints on Survey Information

- 5.1 All activity surveys were carried out during August/2023. This period is considered as being an optimal survey period in order to evaluate the presence or absence of bats.

Constraints on Equipment Used

- 5.2 No constraints were present with regard to the equipment used during the scoping effort (i.e. bat detectors, endoscope, ladders and high-powered binoculars).

Potential Impacts of Development

Roosts

- 5.3 No roosts identified. The results of the surveys have confirmed an absence of bats within Hillcroft

Designated Site & Bat Foraging areas.

- 5.4 The site provides food resources for bats and activity was evident during the activity surveys. Although the buildings will have an extension this would not impact foraging bats.
- 5.5 Churnet Valley SSSI is located immediately adjacent to the application site, the habitat is mainly Broadleaved woodland, Mixed and Yew woodland- Lowland.
- 5.6 However, protection measures need to be put in place to remove any indirect impacts that may occur. These include:
- Hand tools should always be used in the first instance, and where possible, poles cut by hand with foundations remaining intact (avoiding any excavations).
 - Suitable and appropriate measures or precautions should be taken to avoid any issues relating to fuel spillage. This could involve the use of spill kits (absorbent materials) on site.
 - Good site practice should be employed to ensure that concrete or vehicle runoffs and that all chemicals and fuels on site are stored within a locked, sealed, bunded container. The refuelling of vehicles or traffic light generators should occur in one location, a drip tray should always be used.
- 5.7 The site in question is situated in a rural zone characterized by low district brightness. The activities of various species, such as bats and birds, can be influenced by light spill, impacting their foraging and commuting behaviours. To mitigate this, any new artificial exterior lighting should be installed in accordance with the guidelines detailed in the Institute for Lighting Engineers' document "Guidance for the Reduction of Obtrusive Lighting" (2005) [GN01:2011], and the Bat Conservation Trust's "Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimize the Impact of Artificial Lighting" (2014) [GN8/18].

Generally, it's advisable to avoid directing light towards trees, nearby, and the lighting should not exceed 200 lumens (150 watts). For security lighting, where feasible, it should be set on a timer and oriented downwards to prevent unnecessary light spill into neighbouring habitats. The height of any light posts around the development should not surpass eight meters to further mitigate ecological damage from light pollution. To minimize upward light spill, we recommend using low-pressure sodium lamps (SOX) equipped with hoods to guide light downwards, below the horizontal plane.

Zone	Description
E0	Intrinsically dark landscapes. National Parks, Areas of Outstanding Natural Beauty, etc.
E1	Low district brightness. Rural, small village, or relatively dark outer suburban locations.
E2	Average district brightness. Small town centres or suburban locations.
E3	High district brightness. Town/city centres with a high level of night-time activity.
E4	Special zones of high brightness. Areas of high night-time activity in major city centres.

6.0 Recommendations and Mitigation

Bats

Further Surveys

- 6.1 It is considered that a reasonable amount of survey effort has been applied, thus no further surveys are required. However, further surveys would be considered necessary if no redevelopment has commenced within two years of this report.

Mitigation Measures

- 6.2 No Natural England licence will be required as no roosting bats were evident.

Recommendations

Lighting

- 6.3 Particular consideration should be given to potential light spill that can affect the foraging and commuting strategy of many species and should be avoided onto nearby habitats, in particular the adjacent woodland areas.
- 6.4 Where possible, any onsite security lighting should be on a timer setting and faced down to prevent spillage onto nearby habitats. Height of any lighting columns around the development should not exceed eight meters to further reduce any ecological impact of light pollution.
- 6.5 The Institution of Lighting Professionals and the Bat Conservation Trust produced a guidance note on 'Bats and Artificial Lighting in the UK' (2018) which can be viewed at [file:///C:/Users/User/Downloads/ilp-guidance-note-8-bats-and-artificial-lighting-oct-18-compressed%20\(1\).pdf](file:///C:/Users/User/Downloads/ilp-guidance-note-8-bats-and-artificial-lighting-oct-18-compressed%20(1).pdf) The guidance note is intended to raise awareness of the impacts of artificial lighting on bats, with mitigation suggestions included for various scenarios.

Scaffolding

- 6.6 As a further precautionary measure, it is recommended that no plastic sheeting or mesh be used on any scaffolding erection during the development, to prevent potential snaring and entanglement of volant bats.

Biodiversity enhancement

- 6.7 It is recommended that bat boxes are incorporated into the development, in order to provide additional roosting opportunities. Bat boxes can be fitted externally or integrated into the walls (see Table 6 for examples).
- 6.8 Further information of providing access for roosting bats can be found on: Bat Conservation Trust website: www.bats.org.uk/pages/new_build.html. The Nest Box Company: www.nestbox.co.uk/Improved-Treble-Crevise-Bat-Box.html NHBS: www.nhbs.com/schwegler_bat_boxes_eqcat_422.html

Table 6: Example bat features (Photos taken from www.nhbs.com)

Bat Feature Type			
Bat boxes installed external on walls	Beaumaris Woodstone Bat Box 	Schwegler 1FQ 	Vincent Pro Bat Box 
Bat boxes integrated into brick walls (i.e. new builds)	Habibat Bat Box 001 	Ibstock Enclosed bat Box 	Vivara Pro Build-In 
Bat boxes for trees	Schwegler 2F Bat Box 	Improved cavity Bat Box 	Schwegler 2FN 
Roof features	Bat Access Tile Set 	Habibat Bat Access Slate 	Vented/modified ridge tile 

Landscaping

- 6.9 It is encouraged that any landscaping relating to the proposed development should encompass native tree and shrub species to encourage foraging potential for species. No plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 should be planted during any landscaping within this development. For further details of Schedule 9 plants visit the Defra website: www.defra.gov.uk/wildlife-pets/non-native
- 6.10 Ideas to encourage bats include;
- Planting of night-scented flowers
 - Build a pond
 - Make a compost heap or log pile
 - Avoid use of pesticides
 - Letting your garden grow a little wild
 - Creating linear features i.e. hedgerow or tree line
 - Reduce or remove artificial light
 - Keep cats indoors at night
- 6.11 See Bat Conservation Trust Encouraging Bats leaflet for further information; https://cdn.bats.org.uk/pdf/Resources/Encouraging_Bats.pdf?mtime=20181101151549&focal=none

Birds

- 6.12 No evidence of bird utilisation observed within the building.

7.0 Summary

Bats

- 7.1 During the surveys, moderate - minor levels of common pipistrelle, soprano pipistrelle, Noctule and brown long-eared bat activity were recorded on site, but no evidence that the onsite building is being used by roosting bats was found. Therefore, it has been concluded that the building can be re/developed without the need for a Natural England European Protected Species (EPS) licence, as the impact on the local bat population is negligible.
- 7.2 Recommendations to minimise disturbance to bats that feed and commute onsite/adjacent to the site and possible ways of enhancing the site for bats have been suggested.

Nesting birds

- 7.3 No evidence of bird utilisation was observed within the building.

Hedgehogs

- 7.4 Any vegetation clearance/ground works should be done under a precautionary method statement to avoid harm to any individuals residing onsite.

8.0 References

- Anon (1995) *Guidelines for Baseline Ecological Assessment*. Institute of Environmental Assessment. Chapman & Hall.
- Anon (1995) *The UK Biodiversity Action Plan*. Joint Nature Conservation Committee, Peterborough.
- Anon (1999) *Advice Sheet 10: Reptile Survey*. Froglife, Peterborough.
- Anon (2002) *Badgers and Development*. English Nature, Peterborough.
- Anon (2003) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit* (Revised reprint). Joint Nature Conservancy Council, Peterborough.
- Anon (2004) *Reptiles: Guidelines for Developers*. English Nature, Peterborough.
- Foster, J. (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.
- Gent, T. & Gibson, S. (1998) *Herpetofauna Workers Manual*. Joint Nature Conservation Committee, Peterborough.
- Hundt L (2012) *Bat Surveys: Good Practice Guidelines*, 2nd edition, Bat Conservation Trust.
- Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.
- Mitchell-Jones, A.J. & McLeish, A.P. [Eds.] (2004). *The Bat Workers Manual* (3rd edition). Joint Nature Conservancy Council, Peterborough.
- Rose, F. (1991). *The Wild Flower Key*. Frederick Warne, London.

Websites used:

Protected Sites: www.magic.gov.uk

Protected Species: <http://data.nbn.org.uk/>

Rotherham Biodiversity Action Plan:
http://www.rotherham.gov.uk/info/1009/wildlife/946/biodiversity_action_plan/1

UKBAP: <http://jncc.defra.gov.uk/page-5155>

www.rspb.org.uk

www.streetmap.co.uk

www.maps.google.co.uk

www.bing.com/maps

Web addresses for access to full UK legislation and policy text:

Conservation (Natural Habitats &c.) Regulations 1994:
http://www.opsi.gov.uk/si/si1994/uksi_19942716_en_1

Conservation (Natural Habitats &c.) (Amendment) Regulations 2007:
http://www.opsi.gov.uk/si/si2007/uksi_20071843_en_1

Conservation (Natural Habitats &c.) (Amendment) Regulations 2009:
http://www.legislation.gov.uk/uksi/2009/6/pdfs/uksi_20090006_en.pdf

Habitats Directive:
http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

Wildlife and Countryside Act 1981:
<http://www.legislation.gov.uk/ukpga/1981/69>

Countryside and Rights of Way Act 2000:
<http://www.legislation.gov.uk/ukpga/2000/37/contents>

Protection of Badgers Act 1992:
http://www.opsi.gov.uk/ACTS/acts1992/ukpga_19920051_en_1

Natural Environment and Rural Communities Act 2006:
<http://www.legislation.gov.uk/ukpga/2006/16/contents>

National Planning Policy Framework 2012:
<http://www.communities.gov.uk/publications/planningandbuilding/nppf>

9.0 Plans (No Plans Received)

Appendix 1: Full Activity Survey Results

Survey 1: 15/08/2022 – Dusk		
Time	Species (common name)	Observed behaviour
20:58	Noctule	Commuting
21:02	Noctule	Commuting
21:08	Soprano pipistrelle	Commuting
21:11	Soprano pipistrelle	Foraging along hedgerow
21:25	Common pipistrelle	Commuting
21:38	<i>Myotis</i> sp	Commuting
21:39	Common pipistrelle	Foraging within garden & Field 15 minutes Approx
21:39	Soprano pipistrelle	Commuting
21:45	Common pipistrelle	Commuting
<u>Survey 1 summary</u> No bats emerged from the building. All bats heard were not seen. The site is surrounded by trees making it difficult to observe any offsite foraging, but no bats were seen to fly onto the site.		

Survey 2: 29/08/2022 – Dawn		
Time	Species (common name)	Observed behaviour
04:30	Common pipistrelle	Commuting
04:35	Common pipistrelle	Commuting
04:39	Common pipistrelle	Flew over site in a northerly direction
04:44	Common pipistrelle	Commuting
04:47	Brown long-eared	Foraging briefly in front garden (south west elevation) before leaving site in a westerly direction
04:56	Common pipistrelle	Commuting
05:00	Common pipistrelle	Commuting
05:04	Common pipistrelle	Commuting
05:11	Common pipistrelle	Commuting
05:16	Noctule	Commuting
<u>Survey 2 summary</u> No bats re-entered the building		

Preliminary Ecological Appraisal

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Appendix 2: Legislation

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) (EU Exit),	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 (2006)	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 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.