



NOCTURNAL EMERGENCE / DAWN RE-ENTRY BAT SURVEYS REPORT

CLIENT: Bindu Nagi

SITE: Homewood, Farmlane, Loudwater, Herts, WD3 4JX

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1. INTRODUCTION

1.1 BACKGROUND

In May 2020, Greenwood Environmental Ltd. commissioned MMEcology to undertake Nocturnal Emergence and Dawn Re-entry bat surveys at Homewood in Loudwater, Hertfordshire. These surveys are required to inform a planning application associated with the construction of a two-storey side and rear extension, single storey side extension and construction of an attached garage.

It is understood that a Preliminary Ecological Appraisal and Protected Species Assessment was carried out by Peter Oakenfull in March 2015, during which the main building on site was assessed to have moderate potential for roosting bats (Hertfordshire Ecology Consultation response to Three Rivers District Council in relation to refused planning application ref. no. 20/0903/FUL).

As the main dwelling on site was assessed to have moderate potential for roosting bats, nocturnal emergence and dawn re-entry bat surveys were carried out between May and June 2021, to establish the presence or likely absence of a bat roost within this building. This report details the results of the bat activity surveys, including a single dusk emergence and a dawn re-entry survey.

1.2 SITE DESCRIPTION

Homewood is a vacant, detached dwelling on rising land, located within a large, landscaped plot, with wooded boundaries. It is located at National Grid Reference TQ 05039 96537.

The site comprises a main house, with a number of outbuildings (the outbuildings did not form part of the survey work). The dwelling is surrounded on all sides by residential buildings, with their large private gardens. Farm Lane and Troutstream Way are situated to the south, with Trout Rise to the north.

The application site is set within an urban setting, surrounded by low density housing and private gardens. The nearest block of woodland is located approximately 340m north-east and 440m north-west of the site respectively, with the M25 Motorway located over 700m west of the site.

2. METHODOLOGY

2.1 NOCTURNAL EMERGENCE AND DAWN RE-ENTRY SURVEYS

As the main dwelling on site has been assessed to hold moderate potential for roosting bats during the Preliminary Roost Assessment carried out by Peter Oakenfull in March 2015, in line with the Good Practice Guidelines (Collins, 2016), two bat surveys were carried out, consisting of a single nocturnal emergence and one dawn re-entry bat survey. The aim of these surveys was to determine whether bats are currently roosting within the building on site, the species roosting and the type of roost(s) present.

Nocturnal Emergence Bat Surveys commenced 15 minutes prior to sunset and continued until 90 minutes after sunset. The dawn surveys commenced 90 minutes prior to sunrise and continued until 15 minutes after sunrise.

To facilitate the detection of bats and to aid in the determination of species of bat using the site, the survey was conducted using electronic bat detectors (i.e. Echo Meter Touch 2 Pro). Computer analysis (i.e. Kaleidoscope software) of bat detector information collected was utilised to identify all species recorded on the site.

Due to the difficulty in detecting late emerging bats, a Sony FDR-AX33 camcorder with infrared recording capability, with two supplementary infrared illuminators were also used during each survey to assist in detecting late emerging bats. The camcorder footage was later analysed. The location of the infrared camcorder was changed during each survey to ensure a full coverage of the areas of the building to be affected by the proposals.

All surveys were carried out by three members of staff, led by Maral Miri, Principal Ecologist, MSc, MCIEEM, CEnv, Natural England Level 2 bat class licence holder and a holder of European Protected Species development licence for bats.

Prior to commencement of the nocturnal emergence survey, an external assessment of the main dwelling was carried out to identify the suitable features present and inform the position of the surveyors. No internal access was provided. A number of potential roost features (PRAs) in the form of missing roof tiles, missing mortar below bonnet tiles, gap under lead flashing and lifted tiles were recorded along all elevations of the building as shown in Figures 1 – 4 below.



Figure 1. Example of missing roof tiles



Figure 2. Example of missing roof tiles



Figure 3. Example of gap under lead flashing/roof tile and missing tile



Figure 4. Example of missing mortar below bonnet tiles

Drawing below shows the location of the surveyors, ensuring a full coverage of the main building.



Figure 5: Location of the surveyors during the nocturnal emergence and dawn re-entry bat surveys

3. SURVEY RESULTS

3.1 FIRST NOCTURNAL BAT EMERGENCE SURVEY

The first nocturnal emergence survey was undertaken on 30 May 2021. The weather conditions recorded at the time of the survey are detailed in table 1 below.

Parameter	Conditions
Temperature	16°C
Cloud Cover (%)	0%
Precipitation	Dry
Wind Speed (Beaufort)	F1

Table 1: Weather conditions during the first nocturnal emergence survey

The nocturnal emergence survey commenced 15 minutes prior to sunset and continued until 90 minutes after sunset. Sunset was at 21:08. No bats were recorded emerging from the main dwelling on site. In total, four species of bat, noctule *Nyctalus noctule*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus* and brown long-eared bat *Plecotus auritus* were recorded during the survey. Overall, moderate levels of foraging and commuting bat activity was recorded across the site. More details are provided below.

Soprano pipistrelle

The first bat call on site was recorded at 21:15 (7 minutes after sunset). This bat was not seen emerging from the main dwelling on site and was heard only. At 21:29, another soprano pipistrelle call was logged (no visual contact was made). At 21:43, two soprano pipistrelle bats were observed commuting from the direction of the trees located along the northern boundary of the site, flying in a southerly direction. Another soprano pipistrelle was seen commuting in a northerly direction, flying over the roof of the dwelling on site. At 22:00, another soprano pipistrelle was recorded commuting from the direction of the trees in the north, towards the conifer trees located outside the south-eastern boundary of the site. Faint and brief foraging soprano pipistrelle calls were also logged at 22:02 and 22:14.

Noctule

Noctule calls were logged at 21:34 and 21:40 (no visual contact was made), with a noctule seen at 21:46 commuting in a northerly direction.

Brown long-eared bat

At 21:57 (49 minutes after sunset), a brown long-eared bat was observed commuting from south to north, flying along the eastern elevation of the dwelling on site.

Common pipistrelle

At 21:27 (19 minutes after sunset), a common pipistrelle was seen flying from the direction of the trees in the north, in a south-easterly direction. From 21:34 until the end of the survey, intermittent foraging calls belonging to common pipistrelle bats was recorded. Occasional visual contact was made (e.g. at 21:51, an individual common pipistrelle was seen foraging around the northern tree canopy).

3.2 DAWN RE-ENTRY SURVEY

The dawn re-entry bat survey was undertaken on 12th June 2021. The weather conditions recorded at the time of the survey are detailed in Table 2.

Parameter	Conditions
Temperature	15°C (start) - 14°C (end)
Cloud Cover (%)	0%
Precipitation	Dry
Wind Speed (Beaufort)	F0 – F1

Table 2: Weather conditions during dawn re-entry survey

The dawn re-entry survey commenced 90 minutes prior to sunrise and continued until 15 minutes after sunrise. Sunrise was at 04:44. Two species of bat, common and soprano pipistrelle, were recorded during the survey. No bats were recorded re-entering the main building on site. Overall, low levels of bat activity was recorded throughout the survey period. More details are provided below.

Common pipistrelle

A total of five common pipistrelle bat calls were recorded during the survey (no visual contact was made), at 03:41, 03:46, 03:54 and 03:56, with the last call recorded at 04:16 (28 minutes before sunrise).

Soprano pipistrelle

At 03:57, a brief soprano pipistrelle call was logged.

4. DISCUSSION AND CONCLUSIONS

4.1 SUMMARY OF PROPOSALS

It is proposed to construct a two-storey side and rear extension, single storey side extension and an attached garage.

4.2 SUMMARY OF NOCTURNAL EMERGENCE AND DAWN RE-ENTRY SURVEYS

During the nocturnal emergence and dawn re-entry bat surveys of the site between May and June 2021, no bats were recorded emerging or re-entering the main dwelling on site.

4.3 CONCLUSIONS

Following the suite of survey work undertaken on site, including external and internal building inspection (carried out by Peter Oakenfull in March 2015) and dusk emergence and dawn re-entry surveys, it can be confirmed that the main building on site does not currently contain a bat roost.

4.4 POTENTIAL IMPACTS ON BATS

All bat species are UK and European protected species and are capable of being material consideration in the planning process. This makes it an offence to:

- deliberately (or recklessly) capture, injure or kill a bat;
- deliberately (or recklessly) disturb a bat; and,
- damage or destroy a bat roost.

As the surveys to date have confirmed the absence of roosting bats within the main building on site, the proposal will not result in any impacts on bats.

5. RECOMMENDATIONS

5.1 BATS

The building on site has been subject to a suite of surveys in line Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), and no bat roost was identified.

The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed building have not commenced within this timeframe, it may be necessary to update the survey effort to establish if bats have colonised the building in the interim. As a precautionary measure, it is recommended that the works are carried out under the supervision of an experienced and licenced bat ecologist (to be secured via a Planning Condition). This will entail the soft stripping of the roof tiles and other PRFs under supervision.

In the unlikely event that a bat is found during the demolition, all works in that area must immediately cease and a suitably qualified ecologist should be contacted.

In line with the National Planning Policy Framework, it is recommended that a single bat roosting feature such as a bat tube, bat brick or bat access tile is incorporated in the design of the extended building. Where a bat feature has been installed, the used of breathable roof membrane will not be allowed.



Figure 6. Example of bat roosting feature (Bat Tube)



Figure 7. Example of bat roosting feature (Bat Access Tile)

5.2 NESTING BIRDS

Any works to the building on site is recommended to be undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and end of August. If this is not possible, then the building to be affected should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting, any works which may affect them would have to be delayed until the young have fledged, and the nest has been abandoned naturally.

REFERENCES

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

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