Bat Habitat Assessment

Site: Buckingham Hotel, Burlington Road, Buxton, Derbyshire

Client: A Barar

Report complete: 13/09/14

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EXECUTIVE SUMMARY

An ecological assessment was requested on behalf of the Buckingham Hotel, Burlington Road, Buxton, Derbyshire proceeding planning for development of the hotel.

A Phase 1 and protected species assessment was conducted in 2013 and updated in June 2014 that made recommendations for further investigation into the presence of bat roosts at the site. A bat habitat assessment was commissioned and undertaken during the period of June to August 2013 and updated between July and August 2014.

The data search revealed that no bat roosts were recorded on site or within 500m of the site. The building was classified as having an increased likelihood of bats being present using the BTC (2007) matrix.

The building was inspected internally and externally for any signs of bats. None were found but the building was assessed as having moderate potential and as such emergence surveys were undertaken.

All the trees on the site were assessed for suitability to provide habitat for bats. One tree, a small leaved lime, *Tilia cordata* was identified as having medium potential for bats. This tree was incorporated into the bat emergence and swarming surveys. Recommendations are made for the felling of this tree. These include soft felling and investigation of limbs with identified roosting features such as holes and fissures by a suitably qualified ecologist with an endoscope.

Three emergence and activity surveys were conducted, two at dusk and one at dawn using SM2 devices. No bat activity was recorded on site: no bats were seen emerging from the building, swarming or using the vegetation on the site for commuting, navigational or foraging purposes. No bats were recorded with the SM2 devices.

It is concluded that bats are not using this site. However the one small leaved lime *Tilia cordata* tree on site identified as having medium potential for bats should be felled according to the recommendations set out in this report in section 4.2.

Bats are a legally protected species and if at any time during the construction process any are found works should stop immediately. In the first instance the Derbyshire Bat Group should be contacted on 08451300228 and then a suitably qualified licensed bat ecologist should be engaged to liaise with Natural England before works commence.

1 INTRODUCTION

This ecological survey was commissioned as a follow up to a recommendation made in a Phase 1 Habitat Survey and Protected Species Assessment (Cox, 2013). A bat building assessment and subsequent bat emergence survey was carried out throughout the period of June-September 2013 by Megan Cox, BSc (Hons) PGDip MIEAM which concluded the likely absence of bats. The survey was subsequently updated between July and August 2014 by Megan Cox BSc (Hons) PGDip MIEAM and Laura Bellfield (CL502427). The assessment took the form of a desk top study, external and internal bat building assessment, tree surveys and three bat emergence and activity surveys.

1.1 SITE LOCATION

The site is located at: 1-2 Burlington Road, Buxton, Derbyshire, SK17 9AS, Grid Reference: SK 05328 73388. The site comprises a 37 bedroom Victorian hotel with car park.

1.2 SITE DESCRIPTION

The curtilage of the Buckingham Hotel building currently comprises an area approximately 0.16 ha. The total land within the development boundary comprises approximately 0.21 ha. (Figure 1.1). The post development building footprint will increase, thereby reducing by 0.38 ha. the area of land outside the building's current footprint.

The north, east and south-west borders comprise of hedge rows with trees, with car parking to the East and West of the building for 32 cars. To the North and South of the building there are two small areas of amenity grassland with horticultural planting.

Figure 1. Site boundary

1.3 DEVELOPMENT PROPOSALS

The footprint of the new building will be enlarged; 60% of the proposed increase formed plans which were granted Full Planning Permission by High Peak Borough Council in 2002 (HPK/2002/0072), subsequently renewed in 2006 (HPK/2006/0802). The building will also be extended vertically in both directions: above ground by an additional two storeys and below ground by 2 new basement levels (making 3 in total).

Specific bat roosting provision within the new building has been advised as a key recommendation in the Phase 1 Habitat Survey and Protected Species Assessment (Cox, 2013). Furthermore the developer is willing to install *full spectrum monitoring* for the benefit of any collaborative research partner(s) post development.

To encourage use of the newly created on-site roosts, maintain optimum foraging availability and improve the connectivity of the site, bat sensitive lighting has been advised as a key recommendation (Cox, 2013).

1.4 REGULATION AND POLICY

All bats in the United Kingdom are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation (Natural Habitats, & c.) Regulations 1994. It is an offence to damage or destroy any bat roost, intentionally or recklessly obstruct a bat roost, deliberately, intentionally or recklessly disturb a bat or intentionally kill, injure or take any bat. Please refer to the original Acts for precise wording. It is stressed that bat roosts are protected against damage, destruction or obstruction, irrespective of whether or not bats are present at the time, and that current guidance issued by Natural England state that once bats have occupied a roost, it is, under normal circumstances, protected indefinitely.

2 METHODOLOGY

2.1 DATA SEARCH

Data was requested from Derbyshire Bat Group for any records held within a 1 km grid square of the proposed development.

2.2 INTERNAL ASSESSMENT

Equipment taken to the site consisted of:

- Ladders
- CB2 Clubman million candle power lamp
- Head lamps
- Compass
- GPS eTrex
- Opticron Verano BGA 8X32 close focus binoculars

Bat Building Assessments consist of searching through buildings looking for obvious use, such as the presence of bats or bat droppings, but also to assess the potential of a building for roosting bats. The assessment of buildings is placed into the following five categories:

No Potential: The building does not support features considered suitable for roosting bats.

Low Potential: Bats are very unlikely to use the building for a roost. Suitable cavities may exist but these are open to wind, rain or disturbance.

Minor Potential: This category describes a building that has some potential to support roosting bats but is less than ideal in some way. For example, the feature may be subject to some kind of intermittent disturbance. A survey would not expect to find a bat using such a building and therefore the building may not be required to qualify for presence/absence surveys.

Moderate Potential: This category describes a building considered to have suitable habitat or features for roosting bats but no evidence of occupation by bats has been found during the survey. Features considered to have adequate potential would include cavities of appropriate dimensions that are generally free from disturbance and free from fluctuations in the temperature. Such features are likely to be subject to further surveys (presence/absence surveys) at a time of year when bats are active.

High Potential/Confirmed: This category is where positive evidence of bats has been recorded. For example, bats are found; bat droppings may be present at a suitable location for roosting bats; existing bat records may be associated with the building. A licence from Natural England is likely to be required if a bat roost is to be disturbed by the development.

2.3 EXTERNAL BUILDING ASSESSMENT

Inspection of the building involved identifying potential access/egress points for bats into the building, as well as any external features which could provide habitats suitable for utilisation by roosting bats. Binoculars were used where necessary. All accessible parts of the buildings were also subject to external searches for signs of bats such as droppings, scratch marks and staining. The roof areas of each building were not accessed externally; however they were examined from the ground through the use of binoculars.

2.4 TREE SURVEYS

The trees within the proposed works footprint were assessed for potential suitability for bat roosts by means of a walkover survey on 22nd July 2014. All trees within the site boundary were inspected to assess their potential to hold bat roosts. The following signs were looked for:

- Holes Frost cracks
- Splits in branches/trunk
- Fissures
- Hollow sections of trunk, branches and roots
- Broken Limbs
- Loose Bark
- Dense epicormic growth
- Dense ivy
- Urine Staining
- Droppings
- Fur Rubbing
- Scratch marks
- Audible squeaking
- Strong smell of ammonia
- Flies around potential access points

The trees were inspected with the aid of close focusing binoculars, powerful torches (to remove shadow effect) and ladders.

A scoring system was applied to the trees using the following criteria.

Low probability of bat interest: Trees with low bat interest are usually young trees without any deadwood or holes. Most conifers fall into this category as they are usually planted as a crop and are then felled prior to becoming old, although once old age is attained as in a landscape tree, suitable bat roosts may develop.

Medium probability of bat interest: Trees in this category will have holes, cracks and crevices and loose bark suitable for roosting bats but no obvious roost signs such as staining and droppings at

entrances.

High probability of bat interest: Trees within this category will contain all the obvious roost features such as holes, cracks and crevices and loose bark and will also contain staining and droppings at the roost entrance or have been identified as a roost via a visual sighting of an exiting bat. A licence is normally required for development which affects trees classified as high probability of bat interest (Cowan, 2003).

2.5 BAT EMERGENCE SURVEY

The bat emergence and re-entry survey method was based on survey guidelines published by the Bat Conservation Trust (2013).

The survey comprised two dusk survey sessions on July 22nd 2014 and August 7th 2014 and a dawn survey on 8th August 2014.

Two bat ecologists (Megan Cox and Laura Belfield CL502427) were deployed at strategic locations around the site were possible access points had been identified and where the linear features of the site were also in view.

Dusk surveys began 30 minutes before local sunset time and ended 90 minutes after sunset.
The dawn survey session began 90 minutes before local sunrise and ended 30 minutes after sunrise.
Times of survey sessions and weather conditions are listed in section 3.4 in Table 3.1 Surveyors used SM2 ANABATs and ultrasound detectors to listen for bat calls comprising two Batbox Duet. Data from the ANABATs was downloaded and analysed using analook.

3 RESULTS

3.1 DATA SEARCH

The full data set received by the Derbyshire Bat Group can be seen in Appendix 1. There were no bats recorded at the site before and no roosts within 500m are recorded.

3.2 INTERNAL BUILDING ASSESSMENT

The entire roof space was accessible via loft hatches and ladders, with adequate crawl space and as such searched for any signs of by bats.

The loft spaces were both found to be in a reasonable state, although a layer of dust and grime had built up throughout with frequent cobwebs. The floor of the loft spaces were insulated making the identification of any bat evidence fairly easy against the yellow insulation material.

Each roof supported a standard truss design with lining in between. The lining was in moderate condition with some tares. No access points into the roofs were identified and no evidence of bats was noted during these internal assessments.

3.3 EXTERNAL BUILDING ASSESSMENT

The building was categorised as having an increased likelihood to offer potential habitat for bats. No specific access points were identified but there were many areas where rotten facades, missing mortar or rotten wood on the west side of the building. Subsequently this is the area the emergence survey focuses on.

3.4 TREE SURVEYS

None of the trees on site were identified as having high potential for roosting bats. However the small leaved lime tree *Tilia cordata* (Figure 2) at the edge of the western side of the building did show limited potential for bat roosts, and although no signs were found it is possible that this tree could be used by bats. As such this tree was included in the emergence and dawn surveys.

Emergence Surveys Figure 2. The one tree on site identified as having medium potential for bat roost

3.5 EMERGENCE SURVEYS

No activity was observed on site. No bats were seen emerging from the building, or swarming and no bats were seen to be using the vegetation on site for foraging, commuting or navigation. No bat calls were recorded on the SM2 recording devices.

Table 3. Summary of Emergence survey results

Date	Duration	Observations	Surveyor	Weather
22nd July 2014	2115-2315	None	Megan Cox, Laura Bellfield	Clear, mild, No rain light breeze
7th August 2014	2040-2240	None	Megan Cox, Laura Bellfield	Clear, mild, No rain light breeze
8th August 2014	0350-0610	None	Megan Cox, Laura Bellfield	Clear, mild, No rain light breeze

4 EVALUATIONS

4.1 CONCLUSIONS

Please note that all conclusions and recommendations are based upon the current survey findings and on the proposal outlined. If the site management changes then the potential for protected species to use the site may change accordingly. Many protected species are also highly mobile and re survey of the site may be necessary in the future.

The findings of this report suggest that the site does not currently offer any roosting habitats for bats. However one tree on the site was identified as offering medium potential for roosting bats and as such should be felled using the methodology set out in section 4.2 of this report.

4.2 RECOMMENDATIONS

It is recommended that the small leaved lime *Tilia cordata* tree as identified in Figure 2 show be soft felled using he following methodology;

Where possible works should be undertake during least vulnerable time for bats (early October).

Trees/branches with bat features to be lost should be further checked with an endoscope either with ladder access or by an experienced tree climber immediately prior to removal. If bats are found to be present works should not proceed without a licence from Natural England.

All felling should be by soft felling with branches carefully lowered to the ground.

The removal of all potential bat features should be undertaken under the direction and supervision of a licensed bat worker.

Bats are a legally protected species and if at any time during the construction process any are found works should stop immediately. In the first instance the Derbyshire Bat Group should be contacted on 08451300228 and then a suitably qualified licenced bat ecologist should be engaged to liaise with Natural England before works commence.

5 REFERENCES

- Cowan, A. (2003). *Guidance Notes Trees and Bats,* Arboricultural Association Romsey Hampshire

- Cox, M. (2013). Phase 1 Habitat Survey and Protected Species Assessment, Buxton

- Hundt, L. (2012). Bat Surveys: Good Practice Guidelines, 2nd edition. Bat Conservation Trust.

6 APPENDICES

6.1 APPENDIX 1

Results of a search for bat records around The Buckingham Hotel, Buxton

Grid Squares searched: SK0472, 0473, 0474, 0572, 0573, 0574, 0672, 0673, 0674

Map Reference	Roost Code	Common name	Record	Date	Number Counted	Comments
SK055737		Bat	2599	07-Sep-06	1	Bat in living room, escaped.
SK0673		Bat	2328	19-Mar-98	1	Bat with hole in wing, care, released later.
SK0572	40308650	Bat	4153	01-Jun-92	119	Date approx only, assumed 1992. 119 bat counted from roof.
SK0573		Bat	922	26-Oct-88	1	Bat seen flying in area of Old Station House.
SK0573		Bat	913	16-Jun-88	1	Bats in house
SK049725	321	Myotis bats	5731	19-Jan-10	1	NBMP Temp & humidity recorded
SK049725	321	Whiskered/Brandt's	5727	16-Feb-09	1	NBMP Temp & humidity recorded
SK049725	321	Whiskered/Brandt's	5726	30-Jan-09	1	NBMP Temp & humidity recorded
SK049725	321	Whiskered/Brandt's	5725	14-Feb-07	2	NBMP Temp & humidity recorded
SK049726	321	Whiskered/Brandt's	3067	14-Dec-06	2	Hibernation roost. Whiskered/Brandt's.
SK049725	321	Natterer's bat	5724	07-Feb-12	4	NBMP Temp & humidity recorded
SK049725	321	Natterer's bat	5723	17-Jan-12	2	NBMP Temp & humidity recorded
SK049725	321	Natterer's bat	5722	08-Feb-11	2	NBMP Temp & humidity recorded
SK049725	321	Natterer's bat	5721	19-Jan-11	1	NBMP Temp & humidity recorded
SK049725	321	Natterer's bat	5720	18-Feb-10	5	NBMP Temp & humidity recorded
SK049725	321	Natterer's bat	5719	19-Jan-10	1	NBMP Temp & humidity recorded
SK049725	321	Natterer's bat	5718	16-Feb-09	2	NBMP Temp & humidity recorded
SK049725	321	Natterer's bat	5717	14-Feb-07	4	NBMP Temp & humidity recorded
SK049725	321	Natterer's bat	5716	12-Feb-07	4	NBMP Temp & humidity recorded
SK049726	321	Natterer's bat	3066	14-Dec-06	4	Hibernation roost.
SK049726	321	Natterer's bat	2424	09-Oct-06	1	1 on right hand side of entrance to Pooles Cavern, deep in crevice, small number in cave itself. Occasional Natterer's on woodland edge throughout night.
SK049726	321	Natterer's bat	3065	12-Feb-06	4	Hibernation roost, plus one unidentified bat.
SK049726		Noctule	2427	09-Sep-06	1	Single hawking up and down NE side of wood near Poole's Cavern.
SK058735		Pipistrelle bats	5477	12-May-08	1	VLA Data M Adult
SK0573	233	Pipistrelle bats	646	20-Aug-03	0	Bats getting into living area. Droppings presentbelow access point.
SK060723	18	Pipistrelle bats	317	07-Nov-00	0	Up to 10 bats in living area over 2 years none at time of visit.
SK060723	18	Pipistrelle bats	2323	17-Sep-98	0	Bats in living area, this and last autumn. V few old droppings in roof space.
SK053736	63	Pipistrelle bats	2332	13-Jul-93	100	Possibly bats present for 6yrs. Also present in property 2 doors away.
SK044729	40308509	Pipistrelle bats	3216	18-Jun-90	40	
SK069742		Common pipistrelle (45)	6195	19-Jun-12	1	Ad M found dead on path
SK0573		Common pipistrelle (45)	2805	12-Apr-07	1	Injured bat found, into care, died later.

SK049726		Common pipistrelle (45)	2426	09-Sep-06	20	Up to 2 dozen coming from housing and feeding in woodland area near Poole's Cavern.
SK044729		Common pipistrelle (45)	2185	13-Feb-06	1	Injured bat, died later.
SK048736	94	Common pipistrelle (45)	476	21-Jun-99	5	Bats seen previous years but this is first time droppings noticed.
SK049726	321	Soprano pipistrelle (55)	2425	09-Sep-06	2	One in crevice, emerged joined by second feeding in cave entrance. Approx dozen coming from housing and feeding in woodland area
SK049725	321	Brown long-eared bat	5730	07-Feb-12	1	NBMP Temp & humidity recorded
SK049725	321	Brown long-eared bat	5729	08-Feb-11	2	NBMP Temp & humidity recorded
SK049725	321	Brown long-eared bat	5728	19-Jan-11	1	NBMP Temp & humidity recorded
SK053727	326	Brown long-eared bat	2485	29-Sep-05	0	No bats at visit. Droppings present.
SK0573		Brown long-eared bat	1742	21-Sep-04	1	Juvenile found during building work, care, released later.