Bat Activity and Badger Survey Report

Lane End Developments Ltd

Dinting Road

Glossop

October 2016

URBAN GREEN

Quality Management

Job No	**11298**		
Project	Dinting Road		
Location	Glossop, Derbyshire, SK13 7DY		
Title	Bat Activity and Badger Survey Report		
Document Type	Ecology Report	**Issue / Revision**	1.
Date	12th October 2016		
Prepared by	Amy Slater	Signature (for file)	
Checked by	Rob Wreglesworth	Signature (for file)	

Revision Status / History

Rev	Date	Issue / Purpose / Comment	Prepared	Checked
1	12/10/16	For Planning	AS	RW

Contents

1 Introduction

1.1 Background to the study

Urban Green was commissioned in August 2016 by Lane End Construction to undertake ecology surveys in relation to the development at a site off Dinting Road, Glossop (hereafter referred to as 'the site').

The proposals for the application site are for the development of up to 65 new residential properties with associated infrastructure and landscaping.

The site has received outline planning permission (with all matters reserved, except access) and has a number of associated conditions. Those relevant to this study include the following:

Condition 12:

'Prior to the commencement of any works on site a badger activity survey shall be carried out by a suitably competent ecologist to determine the presence of badgers in the area. The results of this survey and any recommendations or mitigation measures shall be submitted to and approved in writing by the Local Planning Authority. Any recommended mitigation measures shall be carried out strictly in accordance with the approved badger activity survey.'

Condition 13:

'Prior to commencement of any works on site a bat activity survey shall be carried out by a suitably competent ecologist to determine the presence of bats in the area and any impact on works to existing hedgerows within the site. The results of this survey and any recommendations or mitigation measures for the presence of bats shall be submitted to and approved in writing by the Local Planning Authority. Any recommended mitigation measures shall be carried out strictly in accordance with the approved bat activity survey.'

Urban Green were therefore appointed to carry out a badger activity survey and a bat activity survey at the site.

1.2 Site context

The site is located at National Grid Reference SK 02469 94520 and comprises a total area of 0.96ha (see Figure 1).

Figure 1: Site extent

The site is located in a rural area and is located approximately 1km to the north west of Glossop centre.

Dinting road borders the north of the site, a railway line borders the south and dinting lane borders the west.

1.3 Purpose of this report

This report details the methods, results and conclusions of the bat activity, bat static detector and badger activity survey carried out on site.

Further information on legal protection of those species which are formally protected is defined in Appendix 1.

2 Data Collection Methodology

2.1 Bats

2.1.1 Bat activity surveys

The planning condition stated that a bat activity survey be undertaken on the hedgerow on the northern boundary of the site as a small section of the hedgerow is to be lost as part of the development proposals.

This survey was undertaken on 5/9/2016 and involved two surveyors walking pre-determined transect routes with handheld bat detectors (Elekon Batscanner Stereo) recording numbers of bats, species, flight direction and behaviour. The weather on the night of the survey was clear and dry with a temperature at the start of the survey of 19°C. The survey was undertaken by Urban Green ecologists Natasha Seaward and Amy Slater. Natasha is a licenced bat surveyor with a class two bat licence from Natural England and Amy has two years' experience carrying out bat surveys of various types.

Table 1 – Survey details

Date and time	Sunset time	Surveyor / locations (See Appendix A for a map of transect routes)	Temperature	Weather notes
5/9/2016	19:48	NS – transect route A AS – transect route B	19°C	Clear, dry and warm

2.1.2 Static detector surveys

Due to the natural variability of bat activity across nights, the survey was supplemented by an automated static detector survey. This was conducted by placing an Anabat Express detector within the main hedgerow in the centre of the site for nine consecutive nights to give a better picture of overall bat activity on site.

Table 2 – Static survey details

Start – end dates	Detector type	Location (description)	Location (See Appendix A for a map of location)	Weather notes
5/9/2016 – 14/9/2016	Anabat Express	In center of hedgerow	Static A	General notes about the monitoring period

2.1.3 Analysis

The static detector records any bat calls between sunset and sunrise on each night. These files are then analysed in the office using Analook software which allows the species to be identified and the time at which it was recorded to be noted.

2.2 Badgers

Badger surveys encompassing the whole site and areas in the near vicinity of the site was carried out on the 14th September 2016 by ecologist Rob Wreglesworth. Rob has four years' experience of badger surveys and has held development licenses from Natural England for this species. The surveys were undertaken during daylight hours in calm and dry weather conditions.

The survey area was systematically searched for any signs of badgers. Signs of badgers include setts (active or redundant), well-worn pathways, snuffle holes, droppings and latrines, footprints, hairs caught on vegetation and fencing, scratch mark and crossing points (where badger push through fences, hedges and walls). Any setts were classified according to criteria set out in the Natural England guidance document (Natural England 2011).

2.3 Constraints to the survey

The following constraints applied to the bat survey:

- Although the activity survey was undertaken outside of optimal time for bat activity surveys (May to August), the first survey was undertaken in the first week of September. To compensate for this further data was collected via a static detector to build up a picture over a longer period of time. With this large amount of data and the warm weather at the start of September this limitation is not thought to affect the conclusions of this report.

The following constraints applied to the badger survey:

- At the time of survey some small sections of the site were covered in dense impenetrable scrub and so could not be fully surveyed. However, using evidence from the site conclusions were still able to be made.

3 Results

3.1 Bats

3.1.1 Bat Transect Survey

Surveyors both started the survey at the centre of the hedgerow and then walked slow transects along the hedgerow. One surveyor was located on the northern side of the hedgerow and one on the southern side so no commuting or foraging bats were missed. A map illustrating the transect routes walked is located in Appendix 2 of this report.

Table 7 – Bat transect survey results summary

Surveyor Reference	Summary of activity
A	• First activity noted was of a common pipistrelle which commuted from east to west along the southern side of the hedgerow approximately 30 minutes after sunset. • A myotis bat was heard but not seen at approximately the same time. • Up to three common pipistrelle bats were seen to be foraging around the trees for approximately 15 minutes approximately one hour after sunset.
B	• The first bat detected was a common pipistrelle call approximately 30 minutes after sunset, this bat was heard but not seen and corresponds with the results of surveyor A. • All other calls noted were assumed to be from bats on the southern side of the hedgerow. No bats were noted commuting or foraging along the northern edge of the hedgerow during the survey.

3.1.2 Static Detector Survey

A static bat detector (Anabat Express) was left within the hedgerow for nine consecutive nights between 5th September and 14th September to supplement the results of the transect survey and give a picture of bat activity over a number of nights. Files were analysed using Analook software back in the office.

The results of the survey are summarised below:

Table 8 – Static detector survey results summary

Date	Sunset Time	Sunrise Time	Summary of activity
5/9/2016 – 6/9/2016	19:48	06:24	• First activity corresponded with that of Surveyor A of a common pipistrelle at 20:17. • The first myotis call was recorded at 20:44. • Activity of common pipistrelle and myotis continued until 22:17, activity then dropped significantly and the last activity was of a common pipistrelle at 5:21.
6/9/2016 – 7/9/2016	19:45	06:26	• First activity of a common pipistrelle at 20:19. • Intermittent common pipistrelle calls until 1:28. • Occasional myotis calls were picked up starting at 20:31 and ending at 5:42
7/9/2016 – 8/9/2016	19:43	06:28	• First activity of common pipistrelle at 20:13. • Fairly constant common pipistrelle calls between 00:00 and 5:51 • A single myotis call at 00:50
8/9/2016 – 9/9/2016	19:40	06:30	• First activity of a common pipistrelle at 20:21 followed by a drop in activity until 22:06 • Intermittent activity of common pipistrelle which increases in frequency between 00:38 and 02:30 with the last call at 05:57. • A single myotis call at 02:30.
9/9/2016 – 10/9/2016	19:38	06:32	• First activity of a common pipistrelle at 20:13. • Frequent activity of common pipistrelle, higher than previous nights with the last call at 06:00.
10/9/2016 – 11/9/2016	19:35	06:34	• First activity of common pipistrelle at 19:59. Low amounts of activity until 03:12 • A single myotis call at 1:14
11/09/2016 – 12/09/2016	19:33	06:36	• First activity of common pipistrelle at 20:33. • Frequent activity of common pipistrelle, with the last call at 06:07. • Myotis species at 20:32 and 20:56.
12/09/2016 – 13/9/2016	19:31	06:38	• First activity of a soprano pipistrelle at 20:02 • Fairly constant activity of common pipistrelle until 06:18
13/09/2016 – 14/9/2016	19:29	06:40	• First activity of common pipistrelle at 20:05 • Lower activity than previous nights until 5:21

3.2 Badgers

- No badger setts were found anywhere within the site boundary or within 30m of the site boundary.
- No latrines or dung pits were found anywhere within the site boundary
- Mammal tracks were noted across site however these could also be associated with other mammals.

4 Conclusion and Recommendations

4.1 Bats

4.1.1 Importance of the site to bats

The site provides suitable foraging and commuting habitat for bats in the form of mature trees, a mature hedgerow, scrub and grassland. The transect survey revealed that a low number of common pipistrelle bats commute along the south side of the mature hedgerow from east to west approximately half an hour after sunset. It was also noted that common pipistrelle bats were foraging within the site to the south side of the mature hedgerow.

Large mature hedgerows and tree lines are important for this species as they act as a windbreak, lead to an increase in suitable prey species and are also used for navigation when commuting.

The static detector surveys reflected the result of the transect survey and showed that the mature hedgerow was used on a nightly basis by commuting and foraging common pipistrelle bats.

A low number of calls from myotis species were noted each night and are thought to also be associated with a low number of commuting bats.

No other species were noted on any of the surveys.

4.1.2 Potential impacts of the proposals to bats

The current proposals show the majority of the hedgerow on the northern boundary will be maintained with gardens backing onto it. This buffer will mean the hedgerow will not be heavily floodlit by new street lighting and the habitat will remain of high quality for common pipistrelle bats. The hedgerow should be left as unmanaged as possible as studies show bats prefer mature hedgerows which are not subject to intensive management, although the importance of this is less for common pipistrelle than for other species (Boughey et al. 2011.)

The addition of bat boxes or bat bricks on new buildings particularly close to the hedgerow will provide a net gain for this species.

The small section of hedgerow that will be lost to provide access to the site is not considered to have a detrimental effect to this species which is common in urban areas and can deal with moderate levels of disturbance, this gap should be kept to a minimum. In the long term the planting of trees and hedgerows on site along with additional suds features on site will provide a net gain for this species.

4.2 Badgers

4.2.1 Importance of site to badgers

No setts were found on or within close proximity to the site during the survey carried out in the summer of 2016. Therefore, the proposals will not result in the destruction of any active setts.

Mammal tracks suggest the site could be used by foraging badgers the site is therefore concluded to be of local value to foraging badgers.

4.2.2 Potential impacts of the proposals to badgers

The proposals will result in the loss of a small amount of potential foraging habitat for badgers. No major roads or fences are to be installed around the boundary and therefore major habitat fragmentation will not occur if the badgers are crossing the site.

Although no setts were found on or within close proximity to the site it is possible badgers are using the site for foraging and therefore it is recommended that;

- Any man-made excavations, trenches or pits relating to the development will either be securely fenced off or covered up overnight to avoid entrapment of badgers or, if left open, an egress point (e.g. mammal ladders or a roughened plank) will be placed within the excavation to form a ramp to allow badgers to escape.

- Any excavations will be inspected each morning to ensure no badgers have become trapped overnight. Contractors will be made aware that trapped badgers may dig a temporary sett into the side of a trench. If a badger is found within any excavations, an ecologist must be contacted immediately for further advice.

As badgers can construct new setts at any time it is recommended that a pre-commencement check of the site is carried out immediately prior to the start of construction to ensure no new setts have been constructed. If new setts are identified, an ecologist should be contacted so that appropriate advice can be given.

4.3 Caveats

It should be noted that at the time this report was written, the final site layout had not been confirmed. Therefore, this report may be subject to review, according to the final site layout proposals.

5 References

Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition, Bat Conservation Trust, England, UK.

Natural England 2011. Badgers and Development. A guide to best practice and licensing.

Boughey KL, Lake IR, Haysom KA & Dolman PM (2011). Improving the biodiversity benefits of hedgerows: How physical characteristics and the proximity of foraging habitat affect the use of linear features by bats. Biological Conservation, 144: 1790–1798

Appendix 1 – Relevant legislation

For the purposes of this report, legal protection refers to:

- species included on Schedules 2 and 4 of the *Conservation of Habitats and Species Regulations 2010* (as amended);
- species included on Schedules 1, 5 and 8 of the *Wildlife and Countryside Act 1981* (as amended), excluding species that are only protected in relation to their sale (see section 9[5] and 13[2]); and
- badgers, which are protected under the *Protection of Badgers Act 1992*.

Appendix 2 – Relevant legislation

Bats

- All species of bat are listed in Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and Schedule 2 of the *Conservation of Habitats and Species Regulations 2010*. They are afforded full protection under Section 9(4) of the Act and Regulation 41 of the Regulations. These make it an offence to:

- • deliberately capture, injure or kill any such animal;

- • deliberately disturb any such animal, including in particular any disturbance which is likely to:

- - impair its ability to survive, breed, or rear or nurture their young;

- - impair its ability to hibernate or migrate.

- - affect significantly the local distribution or abundance of that species; or

- • damage or destroy a breeding site or resting place of any such animal; or

- • intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or

- • intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection

- In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

  - Greater horseshoe bat (*Rhinolophus ferrumequinum*)
  - Lesser horseshoe bat (*Rhinolophus hipposideros*)
  - Bechstein's bat (*Myotis bechsteinii*)
  - Barbastelle (*Barbastella barbastellus*)
  - Greater mouse-eared bat (*Myotis myotis*)

Badgers

- The *Protection of Badgers Act 1992* consolidates previous legislation (including the *Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991*). It makes it an offence to:

  - kill, injure or take a badger;
  - attempt to kill, injure or take a badger; or
  - to damage or interfere with a sett.

- The 1992 Act defines a badger sett as "*any structure or place which displays signs indicating current use by a badger*".

Appendix 3 – Map of transect routes and static detector location