

BAT ACTIVITY SURVEYS AT CHAPEL LANE, HADFIELD, DERBYSHIRE

2016



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1.0 INTRODUCTION

- 1.1 Rachel Hacking Ecology Limited was commissioned in 2016 by Mellor Dowd to undertake bat activity surveys of the land off Chapel Lane, Hadfield, Derbyshire. The site is the subject of a planning application for the erection of ten new residential dwellings (planning reference HPK/2016/0063).
- 1.2 Chapel Lane is located in Hadfield, Derbyshire (O.S. grid reference: SK 01698 96013). The site comprises a number of mature trees, amenity grassland and scrub habitats.
- 1.3 An Extended Phase 1 Habitat Survey was undertaken in January 2016 (see *Extended Phase 1 Habitat Survey of land off Chapel Lane, Hadfield, Derbyshire – Rachel Hacking Ecology 2016*). The survey report concluded the mature trees offered negligible roosting habitat for bats. Further surveys were requested by Derbyshire Wildlife Trust (DWT) to fully determine if, and how, bats are using the site. Three trees were noted as having roosting potential and these were the subject of the surveys plus bat activity transects were also recommended and undertaken.
- 1.4 All bat species are protected under the Conservation of Habitats and Species Regulations 2010, the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000, the Natural Environment and Rural Communities Act 2006 and the Environmental Damage Regulations 2009. It is illegal to disturb or damage a bat roost whether bats are present or not.

2.0 METHODOLOGY

- 2.1 Two bat activity surveys were carried out (1 x dusk emergence survey, and 1 x dawn re-entry survey) on the three trees and two transect surveys were carried out across the site, in accordance with the Bat Conservation Trusts 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' 2016 (3rd Edition).
- 2.2 For each survey visit, six surveyors were used. One surveyor monitored each of the three trees mentioned in DWT comments as having potential for bats (T18, T23 and T41), while three separate surveyors carried out the two transect surveys, one each at sunset and sunrise. Due to small size of the site, the transects considered the site as a whole.
- 2.3 The emergence surveys began 15 minutes before sunset and continued for 90 minutes after sunset. The re-entry survey began 90 minutes before dawn and continued until 15 minutes after sunrise. The transects lasted for two hours over the course of sunrise and sunset. The surveyors used Anabat System bat detectors to record the echolocation of bats.

Timing and Personnel

- 2.4 The dusk emergence survey and transect was undertaken on 13th June 2016 and the dawn re-entry survey was undertaken on 23rd June 2016. June is an optimum month to undertake bat activity surveys. The weather conditions for all surveys were conducive to bat activity.
- 2.5 The surveys were undertaken by Rachel Hacking (Principal Ecologist), Joel Hacking, Andy Harmer, Sam Harmer, Mike Edwards and Rachel Blount. The surveyors have many years of experience in bat surveys and are all fully trained.

3.0 RESULTS

- 3.1 No bats were observed emerging or re-entering the three trees during the surveys.
- 3.2 A maximum of three Common Pipistrelle *Pipistrellus pipistrellus* bats were observed foraging over the eastern tree belt during the transect surveys. Figure 1 shows the transect results.

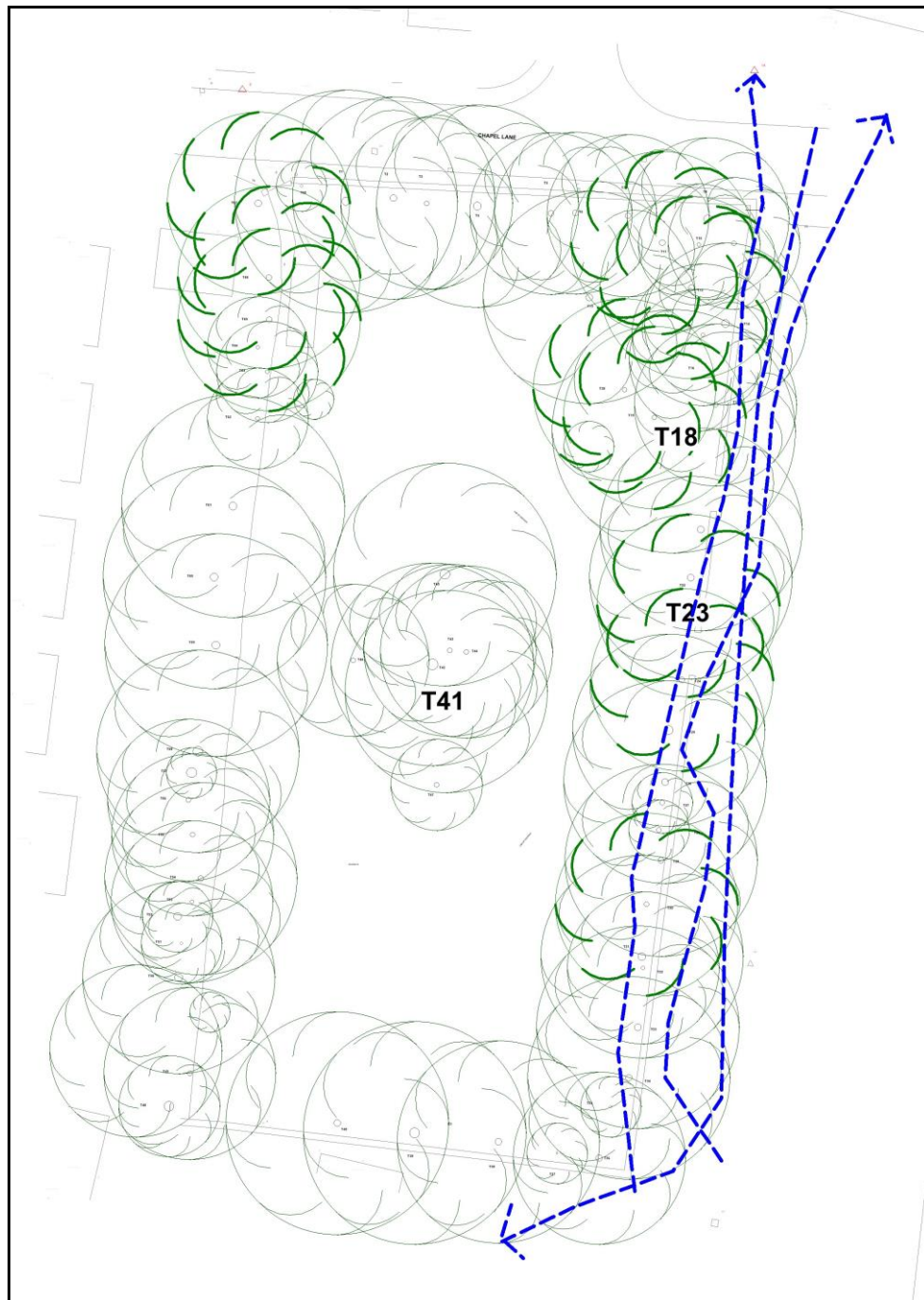


Figure 1 showing the results of the bat activity transect surveys (dotted blue lines show bat activity)

- 3.3 The results of the survey visits are outlined below.

13th June 2016

- 3.4 Table 1 details the bat activity observed on the site.

Table 1. Bat activity and timings during the survey on 13/06/16	
1.	No bats recorded emerging from the trees
2.	One Common Pipistrelle bat recorded foraging around eastern tree canopy. Multiple pulses recorded between 21:55 and 23:00

- 3.5 Table 2 gives the weather conditions during the survey.

Table 2. Weather conditions during the survey 13/06/16	
Sunset:	21:37
Temperature (low):	14°C
Beaufort Scale:	0
Weather:	Overcast, mild

23rd June 2016

- 3.6 Table 3 details the bat activity observed on the site

Table 3. Bat activity and timings during the survey on 23/06/16	
1.	No bats recorded re-entering the trees (no swarming behaviour observed)
2.	Maximum of three Common Pipistrelles observed foraging over eastern tree canopy. Multiple echolocation pulses and feeding 'buzzes' recorded between 03:23 and 05:00

- 3.7 Table 4 gives the weather conditions during the survey.

Table 4. Weather conditions during the survey 23/06/16	
Sunrise:	04.39
Temperature (low):	13°C
Beaufort Scale:	0
Weather:	Overcast, mild

4.0 SUMMARY AND RECOMMENDATIONS

- 4.1 No bats were observed emerging or re-entering the three trees subject to the bat activity surveys. No evidence of bat activity, such as bat droppings or staining, was found at the trees.
- 4.2 The bat activity transects, at dusk and dawn, recorded bats foraging and commuting over the tree belt on the eastern boundary of the site. No bats were noted foraging over the trees at the centre of the site.
- 4.3 The bat activity surveys, undertaken at the optimal time of year, in appropriate weather conditions, indicate that bats are not currently roosting on site, but that small numbers of Common Pipistrelle bats are using the eastern tree canopy to forage over.
- 4.4 The majority of the eastern tree belt is to be retained as part of the development proposals. The development in this part of the site will be mainly car parking provision, conducted using a no-dig methodology. Therefore, the bat foraging and commuting habitat will be retained. In addition, the boundary trees on the remainder of the site will be mainly retained.
- 4.5 T18 and T41 will be felled as part of the development. The loss of these trees can be compensated for by the erection of six 2F Schwegler Crevice Bat Boxes, to be erected onto retained trees. These will be erected more than 2 metres above ground and will be erected facing either south or west. T23 is to be retained.
- 4.6 A European Protected Species (EPS) mitigation licence from Natural England will not be required before any work can proceed on the trees. EPS licences can only be obtained for active bat roosts.

REFERENCES

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

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