



**Bat Emergence Survey
Land off Broadway, Barnsley**

Report reference: R-1941-02
July 2014

Report Title:	Bat Emergence Survey Land off Broadway, Barnsley
Report Reference:	R-1941-02
Written by:	Sam Kitching BSc(Hons) Grad CIEEM Ecologist
Technical review:	Peter James Brooks BSc (Hons) MA MIEEM CEnv Managing Director
QA review:	Christopher Shaw BSc (Hons) ACIEEM Ecologist
Approved for issue:	Peter James Brooks BSc (Hons) MA MIEEM CEnv Managing Director
Date:	14.07.14



Unit A, 1 Station Road, Guiseley, Leeds, LS20 8BX
Phone: **01943 884451**
01943 879129
Email: admin@brooks-ecological.co.uk
www.brooks-ecological.co.uk
Registered in England Number 5351418



Summary Statement

So far one emergence surveys has been carried out; this has found no evidence of roosting bats within any of the trees on site.

Introduction

1. Subsequent to the recommendations made in Brooks Ecological's Ecological Appraisal (R-1941-01) detailed bat survey was commissioned on several mature trees within land off Broadway, Barnsley (SE 330 055).
2. Background to these surveys is presented in R-1941-01, these two reports should be read in conjunction with each other for full context.

Box 1 *Legal background*

Bats are afforded full protection under The Wildlife and Countryside Act (1981) plus amendments, and the Conservation of Habitats and Species Regulations 2010. Under these Acts it is an offence among others, to recklessly kill, injure or disturb bats. It is also an offence to destroy or obstruct a roost even if bats are not in occupancy at the time of the action.

There are no defences against contravention of the Conservation of Habitats and Species Regulations 2010 which means that it is important for detailed and well designed bat surveys to be carried out, prior to carrying out activities that may impact upon bat roosts such as demolition of buildings or removal of trees.

Where bats are found within a potential development site, a license from Natural England may need to be secured if works that could otherwise contravene legislation are to be carried out. These licences are only issued where Natural England is satisfied that works are unavoidable and would not have a negative impact on the favourable conservation status of bats. A Natural England license requires that the potential development site has full planning permission and that bats were a material consideration of the planning permission.

Box 2 *Bat roosts*

Bats roost in buildings and trees in different locations depending upon time of year and environmental factors such as position of the sun, proximity to heat sources and feeding grounds. The following types are commonly referred to:

Transitional roosts:

Bats frequently gather early in the season (March to April) before dispersing to summer roosts. Bats can be found in high numbers in these roosts for a very short period. Transitional roosts can also be found shortly before hibernation in August to October when bats (depending upon species) can gather in roosts not used earlier in the season.

Maternity roosts:

These are among the most important roosts and are normally occupied from May to August. Depending on the species involved, some maternity roosts can contain a very significant proportion of the local population.

Summer (non-breeding) roosts

Small groups of non-breeding female and male bats can gather in these roosts or bats from a local population may choose to roost individually. There are normally a large number of suitable locations for summer non-breeding roosts and these may be routinely used or used only on an occasional basis. Irregularly used summer roosts can be very hard to find without unreasonable survey effort.

Mating roosts

Around September bats will gather in roost to mate; these are often in different locations than summer or breeding roosts.

Hibernation roosts

As bats in hibernation roosts are highly vulnerable to disturbance and bats can be present in large numbers these are considered to be among the most important bat roosts. Many species of bats roost in large and nationally important hibernation roosts associated with underground sites, many of which are well known and protected. However, the most common bat in the UK (the common pipistrelle) is largely unaccounted for in winter but thought to disperse and roost individually or in small groups in thermally stable cracks and crevices in thick walls or trees.

Local Status

3. The application site is within the natural range of species of bats listed in Table 1.

Table 1: Bat species recorded within 100km of the application site

Species	National status
Pipistrelles (<i>Pipistrellus pipistrellus</i> and <i>P. pygmaeus</i>)	widespread/common
Nathusius' Pipistrelle (<i>Pipistrellus nathusii</i>)	Widespread/rare
Noctule (<i>Nyctalus noctula</i>)	widespread/frequent
Leisler's (<i>Nyctalus leisleri</i>)	widespread/rare
Brown long-eared (<i>Plecotus auritus</i>)	widespread/common
Natterer's (<i>Myotis nattereri</i>)	widespread/frequent
Daubenton's (<i>Myotis daubentonii</i>)	widespread/common
Whiskered/Brandt's (<i>Myotis mystacinus</i> and <i>M. brandtii</i>)	widespread/scarce

4. Bat roosting potential of the trees was classified according to the following criteria set out in Tables 2 and 3, developed with reference to the Bat Mitigation Guidelines (2004), Bat Workers Manual (2004) and the Bat Conservation Trust Good Practice Guidelines (2012).

Table 3: Bat roosting potential in trees

Roosting potential	Criteria
Good	Trees that have many areas suitable for roosting with a large number of potential roosting features such as fissures, holes and flaking bark. These are normally in areas of good habitat such as close to water or in a landscape with well connected linear features. Trees with good potential could be used for a whole range of roosts including maternity and hibernation roosts.
Moderate	Trees with a smaller range of features suited to roosting in less valuable habitat, but still supporting features that could be attractive to bats and potentially support maternity roosts.
Limited	Trees with limited range or quality of roosting features in poor habitat. They could be used as occasional or transient roosts, but are unsuitable for maternity roosts.
Very Limited	Trees that have few places for bats to roost located in poor foraging habitat, but due to superficial features such as flaked bark etc. could be used on an occasional basis for solitary or small groups of bats.
None	Trees which appear unsuitable for roosting bats due to clear lack of roosting spaces such as voids etc and/or absence of suitable access points.

Method

5. Brooks Ecological specialise in bat surveys ranging from individual buildings through to complex sites requiring numerous visits with large teams. In terms of the survey

effort, number of personnel required and number of visits required to be able to properly evaluate the tree(s) use by bats we refer to the Bat Conservation Trust, Survey Good Practice Guidelines (2012). However these guidelines are not prescriptive and we approach each site individually as required using our professional judgement and significant experience base.

6. In this case, 2 visits with a team of up to 3 surveyors, was deemed necessary to fully evaluate the potential use of the site for roosting. The first survey was carried out on the 9th July 2014, with the second planned for later in the month. Surveyors were positioned around the mature trees subject to survey to ascertain information on bats roosting within as well as a surveyor positioned along the established tree line, to establish activity levels around the site.
7. The surveyors, using heterodyne detectors, were in place at least half an hour before dusk and left once all species of bat would be expected to have left a roost and patterns of activity within the site had been appraised. Conditions and dates are summarised in table 1 below:

Table 1: Survey summary

Date of Survey	Temperature	Weather	Invertebrate activity
09.07.14	18°C	10% cloud cover, still, dry and warm	Moderate
N/A	N/A	N/A	N/A

8. Surveys were directed by Rob Weston BSc (Hons) MSc MIEEM. Rob has many years experience of carrying out bat surveys in a professional capacity and is registered to use the new Class Survey Licence WML CL18 (Bat Survey Level 2). He is a member of the West Yorkshire Bat Group, the Bat Conservation Trust and runs training in bat surveys for student ecologists.

Results

Survey 1 – 09th July 2014, Sunset time -21:33

9. The first bat seen was a common pipistrelle at 22:17, 44 minutes after sunset. This bat was clearly seen to enter the site from over the hedge on the southern site boundary close to the surveyed trees. This bat flew a very brief arc through the site before leaving over the same hedge.
10. This flight path and activity was repeated at 22:21, 22:24 and 22:28 again by single common pipistrelles, likely to be the same bat on all occasions. The bat seen at 22:21 very briefly foraged on site before leaving site over the hedgerow.
11. At 22:19 a single common pipistrelle was seen to arrive on site, again over the hedgerow to the south. This bat was seen to commute through the site following the western edge of the line of poplar trees.
12. No bats were seen or suspected to have emerged from the surveyed trees.

Survey 2– Planned for second half of July 2014

Static Monitoring

13. Emergence survey will be supplemented by a period of static monitoring. A wildlife Acoustics SM2+ bat detector using a single multi-directional ultrasonic microphone will be deployed on site for a period of three nights.
14. The use of remote monitoring such as this allows for the electronic logging of all bat calls made within proximity of the recording device. This allows for detailed analysis of activity such as peaks around dusk or dawn being suggestive of roosting in the vicinity of the microphone as well as the careful analysis of all species present on site over the given period.

Evaluation and recommendations

15. Following the first emergence survey, no roosting bats have been found within the mature trees within the sites southern corner. A second emergence survey is planned for the second half of July 2014.
16. Activity around the site was found to be very limited, with only very brief periods of activity by common pipistrelle bats which were seen to commute through the site and very briefly forage. Based on these findings it is not felt that the site provides important habitat for bats, particularly as similar habitat is found in close proximity to the site. The loss of habitat within the site would not be detrimental to the favourable conservation status of local bat populations.
17. The current status of the site indicates that the proposed works can proceed with little risk of impacting on bats; however, this will need to be confirmed from the second emergence survey and period of remote monitoring.

General advice

18. Even where surveys have been carried out which demonstrate absence of roosting, site workers should always be aware that bats can move into buildings previously found not to support them. On this basis work should proceed with care and if a bat is found during the proposed demolition, works should stop immediately and a professional ecologist and/or the bat helpline (on 0845 1300 228 Bat Conservation Trust) should be contacted. The local office of Natural England should also be contacted to seek advice.
19. The UK government's latest guidance on nature conservation in relation to development (NPPF) makes it clear that opportunities should be sought through their planning system to use development as an opportunity to enhance sites for wildlife where possible. Proposals for the renovation could incorporate areas that could be attractive to roosting bats, such as adapted roof tiles and ridges which can be cheaply and easily incorporated into new buildings.

References

Bat Conservation Trust (2012) Bat Surveys – Good Practice Guidelines

English Nature (2004) Bat Mitigation Guidelines. English Nature, Peterborough.

JNCC (2004) The Bat Workers Manual. 3rd Edition.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System

<http://www.communities.gov.uk/publications/planningandbuilding/circularbiodiversity>

Conservation of Habitats and Species Regulations 2010
<http://www.legislation.gov.uk/uksi/2010/490/contents/made>

DRAFT