



Reading Borough Council

NORCOT COMMUNITY CENTRE AND AFFORDABLE HOUSING, READING

Bat Survey Report



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Bat Survey Report

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EXECUTIVE SUMMARY

WSP undertook a Preliminary Ecological Appraisal (PEA) of the Norcot Community Centre Site in Reading (herein referred to as the 'Site') in June 2017 (WSP | PB, July 2017). The Site is approximately 0.18 hectares (ha) and was found to contain a single building, areas of scrub and hardstanding. The Site is being considered as a potential location for affordable housing provision within the borough.

During the PEA the building was assessed as being of low potential for use by bats. Low potential buildings / features require a single bat survey in line with the good practice guidelines (Collins, 2016).

A single bat survey was undertaken on the building by WSP on 22nd and 23rd August. Some features were surveyed in a dusk emergence survey and the remaining features surveyed the following dawn during a re-entry survey.

The building on the Site is a single-storey brick building with a low-pitched roof and two extensions with flat felted roofs previously used as a Community Centre. The building was not in use at the time of the survey and had been boarded up. No access was obtained inside the building. The external inspection confirmed that potential for bat roosts was limited to gaps in the brickwork and soffits, under lead flashing and roofing felt, which were all assessed to have low potential to support summer or transition roosts of individual or low numbers of bats.

The dusk emergence and dawn re-entry survey confirmed the likely absence of roosts from the building with no bats observed entering or leaving the building.

During the dawn survey, a bat was noted repeatedly flying close to the building near to sunrise, before flying offsite. Given that such behaviour is typically exhibited by bats returning to a roost it is considered that bats are likely to be roosting nearby. As bats will move between roosts frequently and there are low potential features identified on the building, precautionary recommendations have been made with regard to the building demolition. All demolition works should proceed under a Method Statement that details the prior inspection by a bat licenced ecologist and subsequent soft strip of suitable features for roosting bats under the supervision.

Further bat survey should be conducted if no demolition or construction works are undertaken within 12 months of the August 2017 survey. This is because unoccupied buildings can rapidly deteriorate and their potential to support bats may change as a result.

In line with National and Local planning policy for biodiversity (NPPF, 2012 and Reading Borough Council Draft Local Plan), recommendations to enhance the Site for roosting bats have been provided.

1 INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1. WSP was instructed by Reading Borough Council to carry out a bat survey of the building on the land at Norcot Community Centre, Reading (central National Ordnance grid reference SU67887451), hereafter referred to as the 'Site'. The Site is being considered as the potential location for affordable housing provision within the borough.

1.2 ECOLOGICAL BACKGROUND

- 1.2.1. A Preliminary Ecological Appraisal (PEA) and external building inspection for bats was completed during June 2017, access to inside the building was not possible so no internal inspection was undertaken (WSP | PB, July 2017). The external building inspection identified a number of features that could provide shelter and roosting opportunities for bats (gaps in the brickwork, barge boards, raised lead flashing and roofing felt). No evidence of roosting bats was identified during the external inspection. Based on the small number and low potential of the features identified on the building combined with the lack of evidence of bats, the building was categorised as being of low potential for roosting bats.
- 1.2.2. The desk study completed as part of the PEA identified a total of 104 records of bats within 5 km of the Site, including two confirmed roosts (one soprano pipistrelle *Pipistrellus pygmaeus* and one common pipistrelle *Pipistrellus pipistrellus* roost situated 800 m north west and 500 m west of the Site respectively). There are records of at least seven species of bat foraging or flying within 5 km of the site. The closest records were for common pipistrelle and Nathusius' pipistrelle *Pipistrellus nathusii* which were recorded approximately 2 km south of the Site in 2015. Daubenton's bat *Myotis daubentonii*, soprano pipistrelle, brown long-eared bat *Plecotus auritus* and noctule *Nyctalus noctula* were recorded further afield.
- 1.2.3. A single emergence or re-entry survey of each feature was recommended to determine the presence / likely absence of bat roosts from the building, in line with good practice guidelines for buildings of low potential.

1.3 BRIEF AND OBJECTIVES

- 1.3.1. Reading Borough Council instructed WSP to complete a bat survey of the Norcot Community Centre Site in August 2017. The brief was to:
- Complete a dusk emergence and pre-dawn return to roost survey of the low potential features identified on the building, in line with the good practice guidelines (Collins, 2016); and
 - Highlight any known or potential legal or planning policy constraints to the Proposed Development in relation to the roosting bats and the building on Site; and
 - Highlight the requirement or otherwise for licencing to enable the any future development to proceed, and provide recommendations for avoidance, mitigation and enhancement to satisfy legal requirements and planning policy where appropriate.

2 METHODS

2.1 BAT DUSK EMERGENCE / PRE-DAWN RETURN SURVEY

- 2.1.1. The Norcot Community Centre building was identified as having features with potential to support summer or transitional roosts of individual or low numbers of bats. The features identified were gaps in the brickwork, behind the soffits and under roofing felt and lead flashing. Based on this it was assessed as having low potential (as per the Collins, 2016 guidelines). In line with the guidelines it was subject to a dusk and dawn emergence/re-entry survey covering four locations. Two surveyors observed two of the four features identified on the building at dusk and then the remaining two features on the building at dawn, giving complete coverage of the building over two surveys. The dates of survey are outlined within Section 3.5, with the detailed methods provided below. Full survey results are included within Appendix A.
- 2.1.2. The emergence survey commenced fifteen minutes before sunset and continued for two hours after sunset and the pre-dawn re-entry survey commenced two hours before sunrise and continued until 15 minutes after sunrise.
- 2.1.3. The surveyors were positioned in locations with views of potential bat access points. The timing of the visit was aimed at detecting active bats emerging from or re-entering the building, as well as activity in the vicinity of the building. Full spectrum Batlogger detectors were used by the surveyors to listen for the ultrasonic sounds produced by bats.
- 2.1.4. Surveyors recorded all bat activity encountered with particular attention focused on any bats emerging or re-entering the building. The results were documented by noting the time, bat species and behaviour (e.g. commuting, foraging, social interaction etc.). Surveyors were in contact via hand-held radios so that information from the different locations around the building could be easily exchanged regarding bat activity, where appropriate. The time on the surveyor detectors was synchronised so bat activity data between locations was directly comparable.

2.2 WEATHER CONDITIONS

- 2.2.1. At the start and end of the dusk and the dawn survey, temperature (°C), humidity (%), cloud cover (Oktas), wind speed (Beaufort Scale), and rainfall (categorical) were recorded by the surveyors. All surveys were completed under weather conditions suitable for bat emergence / re-entry and foraging activity; the conditions are shown within Appendix A.

2.3 DATA ANALYSIS

- 2.3.1. The recordings of bat echolocation calls collected during the surveys were analysed using specialist computer software BatExplorer. The analysis enables confirmation of species or species group based on call parameters. Once triggered by ultrasound, the Batlogger detectors record sound files. The sound files may contain the calls of individual bats or may contain the calls of more than one bat. The surveyors were able to record specific detail on the numbers and behaviours of bats present during the survey which helps provide context to the electronic recordings. The raw data needs to be considered in line with the surveyors observations as large volumes of calls can be recorded when small numbers of bats repeatedly trigger the detector (e.g. bats making repeated foraging passes within the range of a detector).
- 2.3.2. Where possible, bat calls are identified to species level. However, species of the genus *Myotis* are grouped together in most cases as their calls are similar in structure and have overlapping call parameters, making species identification problematic (Russ, 2013). For *Pipistrellus* species the following criteria based on measurements of peak frequency are used to classify calls:
 - Common pipistrelle ≥ 42 and <49KHz;
 - Soprano pipistrelle ≥ 51KHz;
 - Nathusius pipistrelle <39KHz;
 - Common/soprano pipistrelle ≥ 49 and <51KHz; and
 - Common/Nathusius pipistrelle ≥ 39 and <42KHz.

2.4 DATES OF SURVEY AND PERSONNEL

- 2.4.1. The bat survey was undertaken by two licensed bat workers holding Natural England Class Licences (level 2, WML CL-18) and both with over 10 years' experience in ecological consultancy.
- 2.4.2. The timing of the survey visits is summarised in Table 1 below.

Table 1 - Dates for Bat Dusk Emergence / Pre-dawn Return Survey Visits

Building Ref.	No. Surveyor Positions	Dates of Survey
Building 1 – Dusk	2	22nd August 2017
Building 1 - Dawn	2	23rd August 2017

2.5 NOTES AND LIMITATIONS

- 2.5.1. The interior of the building could not be accessed and no internal inspection was undertaken as part of the survey. The external inspection survey however noted that the building was well sealed apart from some minor low potential features on the soffits, raised roofing felt and lead flashing that were all covered by the emergence and re-entry survey undertaken. As these features were covered in the dusk emergence and re-entry survey the lack of internal inspection is not considered to be a significant limitation.
- 2.5.2. Un-forecasted and heavy rain started to fall approximately 1.5 hours after sunset during the dusk survey; no bats were recorded after this time. However, most bats usually emerge within one hour of sunset, and bats were recorded flying within that time. It is therefore considered that any bats that would have emerged on the night of the survey had already done so, before the rain started to fall.
- 2.5.3. As the building is currently unoccupied its structural condition could deteriorate at any time. This could result in it becoming more suitable for use by bats. Therefore if demolition works have not taken place within one year of the initial survey in August 2017 it is advised that the building is re-assessed and surveyed again.

3 RESULTS AND EVALUATION

3.1 BAT DUSK EMERGENCE / PRE-DAWN RETURN SURVEY

- 3.1.1. No bats were recorded emerging from, or returning to roost within the building surveyed, therefore the likely absence of bat roosts is concluded.
- 3.1.2. A common pipistrelle was observed circling the northern side of the building during the dawn survey, as if to re-enter roost within the typical re-entry time for this species. This bat then flew off-Site and did not return.
- 3.1.3. A minimum of five bat species were recorded on the Site; common pipistrelle, soprano pipistrelle, noctule, serotine and *Myotis* sp. The most frequently recorded species was common pipistrelle, with soprano pipistrelle calls also recorded regularly.
- 3.1.4. During the dusk emergence survey, a common pipistrelle was recorded 17 minutes after sunset at 20:30, flying south-west along the south-western boundary, closely followed by a soprano pipistrelle at 20:31. Although this activity was recorded very close to sunset (common and soprano pipistrelles typically emerge from their roosts between 20 and 30 minutes after sunset (Jones & Walsh, 2006)), which indicates that the bats were roosting close by, no bats were seen to emerge from the building on Site.
- 3.1.5. Common pipistrelles were observed flying across the Site at 20:33 and 20:34; and at 20:36 a soprano pipistrelle flew across the Site before staying to forage for a brief period in the northern corner. Intermittent common and soprano activity was then recorded on or adjacent to the Site for the remainder of the survey. A noctule was recorded commuting over the Site at 20:47.
- 3.1.6. During the dawn re-entry survey, intermittent common and soprano activity was recorded on or adjacent to the Site for the majority of the period. A serotine was recorded at 04:14 and a *Myotis* sp. was heard at 05:00.
- 3.1.7. A common pipistrelle was observed foraging around the east side of the building at 05:24-05:27, before moving to the north side; the bat repeatedly circled close to a soffit board on the north-west corner of the building, behaving as if it were about to enter a roost before finally flying off-site in a westerly direction at 05:36. The last soprano pipistrelle recorded was at 05:40, and finally two common pipistrelles were seen flying south and west off-site at 05:42, 20 minutes before sunrise. No bats were seen to re-enter a roost during the dawn survey.
- 3.1.8. The raw data is presented in Appendix A. Although relatively low levels of activity were recorded, the Batlogger can record bat passes approximately every 10 seconds, resulting in a high number of recordings if a bat is foraging in one area for even a short period of time.

4 DISCUSSION AND RECOMMENDATIONS

4.1 LEGAL AND PLANNING POLICY CONTEXT

- 4.1.1. Bats and their roosts are fully protected under European and UK legislation which means that they are protected from death or injury, and their roosts from damage or disturbance. The presence of protected species is also a material consideration for Local Authorities assessing planning applications.
- 4.1.2. For full details of the specific legal protection afforded to bats please refer to Appendix B.
- 4.1.3. The Draft Reading Local Plan States “On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible.
- 4.1.4. For further detail on the local policies of relevance please refer to Appendix B.

DISCUSSION OF RESULTS

- 4.1.5. The survey work has returned the conclusion of the likely absence of roosting bats. However the behaviour of some of the bats observed during the survey and the timing of the first and last bats recorded suggest that there are roosts in the near vicinity of the Site. As bats often move roosts and the building supports low potential features, it is recommended on a precautionary basis that an endoscope inspection followed by a soft-strip of the low potential features (for example soffits and lead flashing) to confirm the absence of roosting bats before works start.
- 4.1.6. In the unlikely event that any bats are encountered at any stage prior to or during the demolition, all works must stop and the ecologist called. Natural England must be consulted prior to works continuing and it may be necessary to obtain a European Protected Species Licence for the works.
- 4.1.7. The pre-works inspection and soft strip should be undertaken under the supervision of a Natural England licensed bat ecologist. This will require working at height either on scaffolding or Mobile Elevated Working Platforms (MEWP). The demolition team should be briefed on the detailed methods prior to commencement to ensure the strip can be completed effectively and with minimal risk to roosting bats (if present).
- 4.1.8. Once the soft strip of the low value features has been completed, and the licensed bat ecologist has confirmed the absence of roosting bats, the hard demolition of the building can commence.
- 4.1.9. To ensure roosting opportunities on Site are available to bats in the future, recommendations to enhance habitat provision are provided in Section 5.2 below.

FORAGING AND COMMUTING HABITAT

- 4.1.10. Any landscaping and screen-planting proposals should aim to support a diversity of flying insect prey for bats by incorporating native species known to be beneficial to wildlife, thereby increasing foraging and maintaining commuting habitat on the Site.

SENSITIVE LIGHTING

- 4.1.11. Lighting both during the construction phase and operational phase of the Proposed Development could have a negative effect upon bat activity on and around the Site.
- 4.1.12. It is recommended that the lighting strategy for the Site seeks to:
 - Use the minimum light levels necessary for the relevant task / function, this may equate to reducing light intensity, and/or using the minimum number of light sources or minimum column height;
 - Use hoods, louvres or other luminaire design features to avoid light spill onto retained and newly created areas of vegetation likely to be used by foraging and commuting bats;
 - Use narrow spectrum light sources where possible to lower the range of species affected by lighting, specifically avoiding shorter wave length blue light, using instead warm/neutral colour temperature <4,200 kelvin lighting (BCT, 2014b); and
 - Use light sources that emit minimal ultra-violet light to avoid attracting night-flying invertebrate species which in turn may attract bats to the light.
- 4.1.13. Where possible, consideration should also be given to varying the lighting levels in particularly ecologically valuable areas around the Site boundaries. For example, it may be possible to reduce lighting levels or perhaps even switch installations off after certain times e.g. between 00:00 and sunrise in the vicinity of tree

lines of proposed landscaping. This use of “adaptive lighting” can tailor the installation to suit human health and safety as well as wildlife needs (BCT, 2014b).

4.2 ECOLOGICAL ENHANCEMENT MEASURES

4.2.1. Planning policy promotes the inclusion of ecological enhancement; accordingly it is recommended that consideration is given to the following enhancement measures:

- Inclusion of nectar-rich plant species in soft landscaping areas that are attractive to night-flying insects to enhance foraging opportunities for bats;
- Creation of linear vegetation (tree-lines and hedgerows) within the landscaping scheme to provide additional commuting corridors across the Site for bats; and
- Installation of two Schwegler 2FR bat tubes or equivalent into the fabric of any of the new buildings or woodcrete boxes suitable for tree / wall mounting. This will increase the roosting opportunities on Site for bats. If bat bricks are used they should be placed in unlit sections of the building, and not above windows or doors where their occupation by bats could cause conflict with the residents. If tree / wall mounted boxes are used then they should be carefully sited away from routinely accessed areas and subject to routine maintenance to ensure they remain in a safe condition.

5 CONCLUSION

- 5.1.1. The results of the survey indicated the likely absence of roosting bats from the Norcot Community Centre building.
- 5.1.2. However, the timing of arrival and departure of bats on-site indicate that bats roost close by. The presence of potential roosting features, as well as the behaviour of a common pipistrelle bat flying close to the building close to sunrise during the pre-dawn survey, indicates a residual risk that bats may choose to roost in the building in the future.
- 5.1.3. A precautionary approach to the demolition of the building has therefore been recommended due to the low level risk of the building supporting individual bats.
- 5.1.4. Recommendations have been made for the installation of alternative roosts (bat boxes) into the new buildings to provide increased roosting opportunities available to bats on Site. Any lighting scheme should be sensitively designed for bats and a landscaping scheme should incorporate native species of plant that will provide insect prey for bats.
- 5.1.5. The survey should be updated if no works are undertaken within 12 months of the first survey which was undertaken in August 2017. This is because unoccupied buildings can rapidly deteriorate and their potential to support bats changes as a result.

6 REFERENCES

6.1 PROJECT REFERENCES

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6.2 TECHNICAL REFERENCES

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