

Fernhill Heath, Worcester
Bat Report

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Reviewed	Tom Flynn	Principal Ecologist	21 July 2023
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1 Summary

Background

- 1.1 BSG Ecology was commissioned on 25 January 2023 by LDA Design on behalf of Lioncourt Strategic Land Ltd. to carry out an extended Phase 1 habitat survey and to produce an Ecological Appraisal (EA) of an area of land at Fernhill Heath, Worcester.
- 1.2 The 'Site', proposed for residential development, is ca. 7.94 ha in extent and is located east of Dilmore Lane in the village of Fernhill Heath, Worcestershire.
- 1.3 BSG Ecology carried out an ecology desk study, an extended Phase 1 habitat survey, a badger survey, a great crested newt survey, and a tree assessment for roosting bats, and is currently progressing surveys for breeding birds and bat activity. BSG Ecology has also undertaken a habitat condition assessment, and a biodiversity net gain assessment of the Proposed Development.
- 1.4 The survey work indicates that the Site is dominated by arable land and poor improved grassland, both of limited ecological value. The hedgerows, pond and stream provide habitat of greater ecological interest, which are likely to provide ecological connectivity at the local level.
- 1.5 Some of the hedgerows at the Site support trees with suitability for roosting bats. The wider Site is likely to be of low suitability for foraging bats.

Purpose of report

- 1.6 This report has been produced to inform a planning application for the residential development at the Site by providing information on the use of the Site by bats.
- 1.7 This bat report outlines the results of a ground level tree assessment for bats and two (out of three) transect bat activity surveys undertaken by BSG Ecology in 2023.

Ongoing work

- 1.8 This report has been prepared whilst further bat activity surveys continue at the Site. An Ecological Appraisal (EA) dated 15 June 2023 has already been submitted. This included precautionary impact assessment in relation to bats, based on the habitat on and close to the site. Further ongoing survey will continue, and the EA report will be updated as necessary.

2 Methods

Desk study

- 2.1 Information on the presence of designated sites, and records of protected or otherwise notable species in the vicinity of the Site was provided by Worcestershire Biological Records Centre (WBRC) on 04 May 2023. The search area extended 2 km from Site's central Ordnance Survey National Grid Reference (SO 86623 59557).
- 2.2 The desk study made use of publicly available online mapping and aerial photography resources to assess the context of the Site and to identify any designated sites of nature conservation interest including:
- The Multi-Agency Geographic Information for the Countryside (MAGIC) database (<http://www.magic.gov.uk/>). This was used to identify any statutory designated sites (such as Sites of Special Scientific Interest (SSSIs)) and any granted European Protected Species Mitigation Licence (EPSM) applications within 2 km of the Site.
 - Bing maps (<https://www.bing.com/maps/>). This was used to review aerial photographs and Ordnance Survey mapping.
 - Google maps (<https://www.google.co.uk/maps>). This was used to review aerial photographs.
- 2.3 These websites were utilised throughout the course of the work, and most recently accessed in May 2023.

Tree assessment for bats

- 2.4 A ground level tree assessment (GLTA) was undertaken of trees on the Site to assess their suitability to support roosting bats. Trees at the Site were inspected on 14 February 2023 by Natalie Sabin from the ground using binoculars and a high-powered torch where necessary. A search was made for Potential Roost Features (PRFs) such as knot holes and rot damage, cracks and cavities created by branch loss, lifted bark, and dense ivy growth. Evidence of roosting bats, such as droppings or staining under PRFs was also searched for.
- 2.5 Trees were assigned a category defining their suitability to support roosting bats, in accordance with Table 1. There were no significant constraints to this assessment.

Table 1: Tree suitability for roosting bats; adapted from Collins, 2016

Suitability	Roosting Habitat
Negligible	Negligible PRFs, which may be isolated from suitable foraging habitat.
Low	A tree with one or more PRFs which have a very limited potential to be used by individual opportunistic bats. These features do not have the correct dimensions or conditions and/or are not connected to suitable foraging habitat that could be used by a larger number of bats.
Moderate	A tree with one or more PRFs which could be used by bats because of their dimension and conditions. However, these features are unlikely to support a roost of high conservation status with respect to roost type only. The tree may also have PRFs which are obscured or not possible to survey from the ground level. The surrounding habitat is continuous and/or well connected to the wider landscape.

¹ This includes Species of Principal Importance in England, as designated by Natural England in accordance with Section 41 of the Natural Environment and Rural Communities Act 2006 and species with other conservation significance (e.g. red or amber listed birds in Eaton *et al* (2015) or species listed in red data lists for the UK or England).

Suitability	Roosting Habitat
High	A tree with one or more PRFs which are obviously suitable for use by a larger number of bats on a more regular basis and potentially for longer periods of time, due to their dimensions and conditions. The surrounding habitat is high quality, continuous and/or well connected to the wider landscape.
Confirmed Roost	Presence of bats or evidence of recent use by bats.

Bat activity survey

- 2.6 Bat activity surveys of the Site are in progress, comprising three deployments of automated bat detectors and three walked transects (see Figure 5 taken from the submitted EA) by bat surveyors using ultrasonic bat detectors to identify and record bat passes. Surveys began in May 2023 and two of the three survey visits have been carried out to date.

Personnel

- 2.7 Natalie Sabin, Ecologist at BSG Ecology, undertook the ecological surveys, and wrote this report. Natalie has over 3 years' experience of carrying out ecological surveys and is a Level 2 Natural England bat licence holder and has carried out a number of ecological assessments.
- 2.8 Dr Tom Flynn CEcol MCIEEM, Principal Ecologist at BSG Ecology, reviewed this report. Tom has over 15 years' experience in ecological consultancy, has extensive experience of ecological survey and assessment.

3 Bat Results and Initial Interpretation

Bats

- 3.1 The Site comprises mainly arable land and improved grassland, with foraging and commuting habitat largely limited to boundary features such as hedgerows and lines of trees. As such the Site is considered, overall, to be of low value for foraging bats.
- 3.2 The desk study data indicate that at least ten species of bat were found within the 2 km search radius, with the closest being a common pipistrelle *Pipistrellus pipistrellus* within 65 m of the Site boundary. Further species listed in the data search are: lesser horseshoe *Rhinolophus hipposideros*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, Leisler's bat *Nyctalus leisleri*, brown long-eared bat *Plecotus auritus*, whiskered bat *Myotis mystacinus*, Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, and serotine *Eptesicus serotinus*.
- 3.3 Three records of lesser horseshoe bats were noted in the desk study, one from a location ca.1 km south-east of the Site and the remaining two from a location ca. 1.3 km south-east of the Site.
- 3.4 As European protected species, bats and their roosts receive full protection under the Conservation of Habitats and Species Regulations 2017 (as amended) and under the WCA, 1981. Soprano pipistrelle, brown long eared, barbastelle and lesser horseshoe are all listed as Species of Principle Importance in England² (SPIs). Further information on European protected species and other relevant wildlife legislation is provided in Appendix 2.

Tree assessment for bats

- 3.5 All trees on Site and on the Site boundary were assessed for their potential to support roosting bats. A line of mature pollarded willows to the south of Site (adjacent to the pond). These trees have similar characteristics with abundant crevices and cracks. These trees have high potential to support roosting bats.

Bat activity survey

- 3.6 Two bat activity transect surveys have been undertaken at Fernhill Heath, Worcester on the 03 May and 06 July 2023 a further survey is scheduled on 13 September 2023. Both surveys were undertaken in suitable weather conditions and were led by Natalie Sabin (L2 licence holder: 2023-11222-CL18-BAT).
- 3.7 Bat activity during the May survey was limited to hedgerow field boundaries, with 138 confirmed calls recorded consisting of Noctule (1 call), common pipistrelle (94 calls), and soprano pipistrelle (43 calls). Activity was spread relatively evenly across the hedgerow field boundaries aside from the south western area of the site where no activity was recorded. The first activity during the May survey was recorded 22 minutes after sunset suggesting that bat roosts could be present in the vicinity of the Site.
- 3.8 Bat activity during the July survey was limited to the eastern half of the site, along with some activity by the Pond A, with 58 total confirmed calls recorded, consisting of common pipistrelle (52 calls) and soprano pipistrelle (2 calls), Noctule (2 calls) and 2 unconfirmed pipistrelle calls. The first activity during the July survey was recorded 36 minutes after sunset, again, consistent with locally roosting bats.

² As listed by Natural England in accordance with Section 41 of the Natural Environment and Rural Communities Act 2006.

Interpretation and potential impacts

- 3.9 The results to date indicate that there is some use of the site by bat species that are common and widespread. The site is likely to provide habitat of local value as a foraging resource and in terms of habitat connectivity.
- 3.10 The pollarded willows in the south of the Site, which have the potential to support roosting bats will be retained within greenspace in the proposed development. Given this, and the lighting mitigation specified in the Ecological Appraisal, no impacts on these potential roosts is anticipated.
- 3.11 At this stage of survey and data interpretation, the assumptions and conclusion of our impact assessment, that mitigation of bats in the Proposed Development is feasible appear to be sound.

4 Figures

Figure 5: Bat survey transect route



- Legend
- Stopping Point
 - - - Survey transect
 - Site boundary

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PROJECT TITLE
 FERNHILL HEATH, WORCESTER

DRAWING TITLE
 Figure 5: Bat survey transect route

DATE: 07/06/2023 CHECKED: NS SCALE: 1:2,000
 DRAWN: MSG APPROVED: TF VERSION: 1.1

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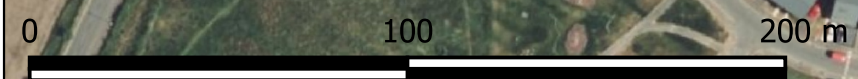
No dimensions are to be scaled from this drawing and are to be checked on site. Area measurements for indicative purposes only.

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Sources: BSG Ecology survey data



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