

A46 Coventry Junctions (Walsgrave) Scheme number TR010066

6.3 Environmental Statement Appendices Appendix 8.5 Bat Roost Report

APFP Regulations 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and
Procedure) Regulations 2009

Volume 6

November 2024

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed
Forms and Procedure)
Regulations 2009**

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

ENVIRONMENTAL STATEMENT APPENDICES
Appendix 8.5 Bat Roost Report

| | |
|---|--|
| Regulation Number | Regulation 5(2)(a) |
| Planning Inspectorate Scheme Reference | TR010066 |
| Application Document Reference | TR010066/APP/6.3 |
| Author | A46 Coventry Junctions (Walsgrave), Project Team & National Highways |

| | | |
|----------------|---------------|--------------------------|
| Version | Date | Status of Version |
| Rev 0 | November 2024 | Application Issue |

Table of contents

| | | |
|---|---|----|
| 1. | Introduction | 1 |
| 1.1. | Scheme overview | 1 |
| 1.2. | Site description | 1 |
| 1.3. | Previous surveys | 1 |
| 1.4. | Purpose | 2 |
| 2. | Methodology | 3 |
| 2.1. | Survey area | 3 |
| 2.2. | Ground level PRAs | 3 |
| 2.3. | Tree climbing inspections | 4 |
| 2.4. | Emergence / re-entry surveys | 4 |
| 2.5. | Limitations | 5 |
| 3. | Results | 7 |
| 3.1. | Ground level PRAs | 7 |
| 3.2. | Tree climbing inspections | 7 |
| 3.3. | Ground-level PRAs and tree climbing summary results | 8 |
| 3.4. | Emergence/re-entry surveys | 15 |
| 4. | Discussion and recommendations | 24 |
| 4.1. | Bat roost status at the site - trees | 24 |
| 4.2. | Bat roost status at the site – buildings/structures | 25 |
| 4.3. | Further surveys | 26 |
| 4.4. | Avoidance | 27 |
| 4.5. | Mitigation | 28 |
| 4.6. | Compensation | 29 |
| 4.7. | Enhancement | 29 |
| 5. | References | 30 |
| Appendix A. Figure 1 – A46 Bat roost survey results | | 31 |
| Appendix B. Bat Tree Inspection Report A46 Walsgrave ((Ref: DE00062/01/ii) Derbyshire Ecologist, 2022) | | 32 |

Tables

| | |
|--|---|
| Table 1 Bat roost grading criteria for structures and trees (adapted from Collins, 2016) | 3 |
| Table 2 Survey effort for trees and structures dependent on roost suitability, adapted from Collins (2016) | 5 |
| Table 3 Summary of ground-level PRA and tree climbing results, and emergence re-entry surveys undertaken | 9 |

1. Introduction

1.1. Scheme overview

- 1.1.1. The A46 is part of the strategic road network forming a significant trade and export route between the east and west Midlands. As part of the Government's Road Investment Strategy (RIS2) 2020-2025, the A46 Walsgrave junction is being improved with the realignment of the carriageway and a new grade separated junction (the 'Scheme'). This aims to increase the roads capacity to cater for future developments across the region and promote safety by separating local and long-distance traffic and reducing congestion.
- 1.1.2. The bat roost surveys detailed within this report were undertaken in advance of the commencement of preliminary design and as such the surveys were based upon the Scheme design as it was at the end of the option selection stage.
- 1.1.3. Sweco were commissioned by Octavius Infrastructure on behalf of National Highways to undertake bat roost surveys for the Scheme.

1.2. Site description

- 1.2.1. The Scheme comprises an area of approximately 25ha of natural habitat located to the east of Coventry (Figure 1).
- 1.2.2. The habitats within the Scheme comprise woodland, scrub, arable farmland and hedgerows.

1.3. Previous surveys

- 1.3.1. Surveys previously undertaken in relation to bats and reported on within the Environmental Assessment Report (EAR) (National Highways, 2022) include a desk study undertaken in 2020 which identified no Special Areas for Conservation (SACs) designated for bats within 30km of the site. The desk study included the purchase of species records within 2km of the site from Warwickshire Biological Records Centre (WBRC). There were records returned for:

- common pipistrelle *Pipistrellus pipistrellus*
- soprano pipistrelle *Pipistrellus pygmaeus*
- Nathusius' pipistrelle *Pipistrellus nathusii*
- brown long-eared bat *Plecotus auritus*
- Daubenton's bat *Myotis daubentonii*

- Natterer's bat *Myotis nattereri*
- noctule bat *Nyctalus noctula*
- serotine bat *Eptesicus serotinus*
- whiskered bat *Myotis mystacinus*.

1.3.2. Additionally, the desk study reported a record of a roost located at national grid reference (NGR) SP 38500 79500 which is approximately 35m east of Hungerley Hall Farm. There was no further information provided on the type of roost or which species inhabited it

1.4. Purpose

- 1.4.1. This bat roost report has been prepared by Sweco for National Highways and will be used to inform the Environmental Statement (ES) biodiversity chapter at preliminary design for the Scheme.
- 1.4.2. All bats are protected in the UK under the Conservation of Habitats and Species Regulations 2017 (as amended), as European protected species (EPS), and Schedule 5 of the Wildlife & Countryside Act 1981 (as amended).
- 1.4.3. The report details bat summer roost surveys undertaken between March and September 2022. Trees that were identified as having hibernation potential during the tree climbing inspection surveys will require further surveys with the results detailed in a separate report to follow.

2. Methodology

2.1. Survey area

- 2.1.1. Surveys were undertaken in accordance with current guidance (Collins, 2016).
- 2.1.2. All trees, buildings and structures within the Scheme plus a 50m buffer, hereafter collectively referred to as 'the survey area' (see Figure 1), were subject to ground level preliminary roost assessments (PRAs). Following this initial survey, tree climbing inspections and subsequent emergence/re-entry surveys were undertaken for all suitable trees, buildings and structures within the survey area. Trees with bat roost potential present within the woodland north of Coombe Pool which are within 50m of a proposed woodland planting area were not surveyed beyond the initial PRAs (see Appendix A) as no impacts are anticipated.

2.2. Ground level PRAs

- 2.2.1. PRAs were undertaken to identify potential roost features (PRFs) in trees and buildings/structures within the survey area between 21 and 30 March 2022. A high-powered torch and close-focussing binoculars were used to assess PRFs at height. Surveys were conducted in daylight hours and all aspects of the trees and buildings/structures were assessed, where possible, searching for evidence indicating the current or historical use by roosting bats, such as droppings, scratches and urine staining.

Table 1 Bat roost grading criteria for structures and trees (adapted from Collins, 2016)

| Roost suitability | Description of roosting habitat |
|-------------------|---|
| Negligible | Negligible habitat features on site likely to be used by roosting bats. |
| Low | A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (which means they are unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. |
| Moderate | A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments made in this table are made irrespective of species conservation status, which is established after presence is confirmed). |
| High | A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. |

| Roost suitability | Description of roosting habitat |
|-------------------|---|
| Confirmed roost | Evidence of current or historical use of structure or tree by bats, such as live/dead bats, droppings, urine staining, feeding remains. |

2.2.2. Where PRFs were observed, details of the tree (species, height, diameter at breast height (DBH) and grid reference) or building/structure were recorded, as well as PRF details (external dimensions, height, location, orientation, description and photographs). Examples of PRFs in trees include woodpecker holes, knot holes, hazard beams, cracks and splits, cankers, butt-rots and dense ivy *Hedera* sp. plates. PRFs which may be identified on buildings/structures include, but are not limited to, lifted rendering, hanging/damaged tiles, access points behind eaves, soffit boxes, fascia and lead flashing and existing bat boxes.

2.2.3. Trees and buildings/structures were initially categorised in terms of their bat roost potential (BRP) in accordance with Collins (2016) and the categories in Table 1 above.

2.3. Tree climbing inspections

2.3.1. Tree climbing inspections were undertaken on trees identified as having moderate or high BRP following the ground level PRA surveys (Figure 1). Tree climbing inspections took place between 6 and 10 June 2022 and were undertaken by Derbyshire Ecologist (Derbyshire Ecologist, 2022).

2.3.2. Trees were re-categorised following the tree climbing inspection based on the location, type and condition of PRFs in accordance with Collins (2016). Full details of the tree climbing methodology are included within the Bat Tree Inspection Report A46 Walsgrave ((Ref: DE00062/01/ii) Derbyshire Ecologist, 2022) in Appendix B.

2.4. Emergence / re-entry surveys

2.4.1. Emergence and re-entry roost surveys were undertaken following ground-level PRAs and tree climbing inspections in accordance with survey effort detailed within Collins (2016) and Table 2 below. Surveys were undertaken between 17 May 2022 and 14 September 2022. The surveyors used Elekon Batlogger M2 devices to record echolocation sounds.

Table 2 Survey effort for trees and structures dependent on roost suitability, adapted from Collins (2016)

| Roost suitability | Description of roosting habitat |
|-------------------|---|
| Negligible | No further survey required |
| Low | Structures – one survey visit. One dusk emergence or dawn re-entry survey. Trees – no further survey required. |
| Moderate | Two separate surveys required, including one dusk emergence and one dawn re-entry. |
| High | Three surveys required, including at least one dusk emergence and at least one dawn re-entry. |
| Confirmed roost | |

2.4.2. Due to time constraints imposed upon the surveys associated with both the bat survey season and scheme-specific timeframes, a number of dusk emergence / dawn re-entry roost surveys were undertaken in advance of the tree climbing inspections, based on the ground level PRAs.

2.5. Limitations

2.5.1. Due to safety concerns, internal and close external access to the farm buildings and the courtyards between the buildings at Hungerley Hall Farm was not granted. As such, detailed external and internal inspections were not possible. Therefore, three surveys of the entire farm building complex were undertaken from a safe distance. There were limitations associated with surveying the building complex from four external locations which pertain to the lack of observation of numerous aspects of the buildings. Additionally, the surveyor on the west corner of the building complex, observing buildings including B2 and B3, was located a significant distance (approximately 33m) from the buildings due to the presence of a cattle herd in the adjacent field, and as such visual observation, and automatic recording, of bats near the buildings was significantly impaired (Figure 1). The limitations associated with surveying this farm building complex have been accounted for in the recommendations.

2.5.2. The survey of Tree 22 undertaken on 18 May 2022 was undertaken in suboptimal conditions with moderate rain throughout and lightning at 22.20, nine minutes before the end of the survey. However, as bat activity was recorded during the survey, including foraging activity, and the second survey on 23 June 2022 was undertaken within suitable conditions this is not considered a significant limitation.

2.5.3. Guidelines recommend that where two emergence/re-entry surveys are undertaken one is a dusk emergence and one a dawn re-entry survey (Collins,

2016). However, Tree 33 has been subject to two dawn re-entry surveys (see Table 3). Whilst this is not in accordance with guidelines it is not considered a significant limitation to surveys of T33 as two full surveys have been undertaken in appropriate conditions. Furthermore, dawn surveys are often more likely to identify roosts in trees due to the increased visibility at dawn and the behaviours of bats around a roost before re-entry.

3. Results

3.1. Ground level PRAs

- 3.1.1. The ground level PRAs identified the following within the survey area; three trees with high BRP, 36 trees with moderate BRP and 119 trees with low BRP. Additionally, one area of immature sycamore *Acer pseudoplatanus* trees (tree area 1) with a cover of ivy providing low BRP was identified within Coombe Park woodland (location shown on figure 1). A further fourteen trees across the entire survey area were inspected closely and found to have, as with the remaining trees in the survey area, negligible potential.
- 3.1.2. The Hungerley Hall Farm overpass (overpass 1) and the Walsgrave Farm overpass (overpass 2) north of the A46 Walsgrave junction (see Appendix A) were assessed as having negligible potential for roosting bats. These structures are concrete bridges over the A46 carriageway with no potential roost features (PRFs) noted.
- 3.1.3. It was not possible to subject the buildings at Hungerley Hall Farm to ground level PRAs due to access restrictions (see section 2.5.1). No further buildings are present within the survey area.

3.2. Tree climbing inspections

- 3.2.1. The tree climbing inspections identified the following:
- three trees with high BRP (T22, T114 and T152)
 - 11 trees with moderate BRP (T10, T11, T26, T29, T33, T34, T103, T111, T139, T146 and T153)
 - three trees with low BRP (T9, T18 and T143)
 - one tree with negligible BRP (T127)
- 3.2.2. Two trees (T33 and T34) were not fully assessed due to health and safety issues and as such were subject to two emergence/re-entry surveys in accordance with their ground-level PRA assessment of moderate roost suitability. The tree climbing inspections identified no bat roosts (via the presence of bats or direct roost evidence), however recommendations for further surveys were made and surveys undertaken.
- 3.2.3. Recommendations following the tree climbing inspections were for emergence/re-entry roost surveys of 12 trees (T11, T22, T26, T29, T33 and T34 (due to an incomplete aerial assessment), T103, T111, T114, T139, T146 and T153) and one further endoscope inspection of T10 on which all PRF's are visible from ground-level.

- 3.2.4. See *Bat Tree Inspection Report A46, Walsgrave* (Derbyshire Ecologist, 2022) in Appendix B for full results and recommendations from the aerial assessments, including descriptions of PRFs on each of the trees subject to emergence/re-entry surveys (see Table 3 and section 3.4).

3.3. Ground-level PRAs and tree climbing summary results

- 3.3.1. Table 3 shows a summary of surveys undertaken at each tree within the survey area. See Appendix A for a visual representation of survey results.

Table 3 Summary of ground-level PRA and tree climbing results, and emergence re-entry surveys undertaken

| Tree ID | Grid Reference | Ground level PRA result | Tree climbing inspection result and survey effort required following inspection | Emergence/re-entry surveys? |
|---------|----------------|-------------------------|--|--|
| 1 | SP 38678 78463 | Low | | |
| 2 & 3 | SP 38680 78508 | | | |
| 4 | SP 3854 178677 | | | |
| 5 | SP 38306 79190 | Negligible | | |
| 6 | SP 38036 79354 | Low | | |
| 7 | SP 38042 79345 | | | |
| 8 | SP 38059 79317 | | | |
| 9 | SP 38061 79306 | Moderate | Low (no further survey required) | |
| 10 | SP 38334 79023 | Moderate | Moderate (one further survey required) | Dawn re-entry survey on 23 June 2022 |
| 11 | SP 38276 79236 | High | Moderate (one further survey required) | Dusk emergence survey on 17 May 2022 |
| 12 | SP 38167 79273 | Low | | |
| 13 | SP 38066 79308 | | | |
| 14 | SP 38068 79317 | | | |
| 15 | SP 38064 79328 | | | |
| 16 | SP 38065 79329 | | | |
| 17 | SP 38785 79912 | | | |
| 18 | SP 38673 79585 | Moderate | Low (no further survey required) | |
| 19 | SP 38732 79592 | Low | | |
| 20 | SP 38650 79878 | | | |
| 21 | SP 38646 79881 | | | |
| 22 | SP 38664 79876 | Moderate | High (including hibernation potential in one potential roost feature (PRF) (two further surveys required)) | Dusk emergence survey on 18 May 2022 Dawn re-entry survey on 23 June 2022 |
| 23 | SP 38591 79887 | Negligible | | |
| 24 | SP 38585 79901 | Low | | |
| 25 | SP 38955 80688 | | | |

| Tree ID | Grid Reference | Ground level PRA result | Tree climbing inspection result and survey effort required following inspection | Emergence/re-entry surveys? |
|---------|----------------|-------------------------|--|--|
| 26 | SP 38118 79411 | Moderate | Moderate (one further survey required) | Dawn re-entry survey on 18 May 2022 |
| 27 | SP 38223 79402 | Low | | |
| 28 | SP 38117 79480 | | | |
| 29 | SP 38352 79583 | Moderate | Moderate (one further survey required) | Dawn re-entry survey on 18 May 2022 |
| 30 | SP 38360 79629 | Low | | |
| 31 | SP 38378 79665 | | | |
| 32 | SP 38395 79699 | | | |
| 33 | SP 38393 79715 | Moderate | Moderate (tree was not fully inspected (see section 3.2.2)) | Dawn re-entry survey on 19 May 2022 Dawn re-entry survey on 26 July 2022 |
| 34 | SP 38422 79742 | Moderate | Moderate (tree was not fully inspected (see section 3.2.2)) | Dusk emergence survey on 19 May 2022 Dawn re-entry survey on 26 July 2022 |
| 35 | SP 38428 79830 | Low | | |
| 36 | SP 38434 79840 | | | |
| 37 | SP 38625 79697 | Negligible | | |
| 38 | SP 38471 79612 | Low | | |
| 39 | SP 38444 79441 | | | |
| 40 | SP 38449 79441 | | | |
| 41 | SP 38425 79428 | | | |
| 42 | SP 38934 79440 | Moderate | Tree scoped out from climbed inspection due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 43 | SP 38923 79462 | Low | | |
| 44 | SP 38925 79447 | | | |
| 45 | SP 38895 79436 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 46 | SP 38897 79424 | Low | | |
| 47 | SP 38892 79460 | | | |

| Tree ID | Grid Reference | Ground level PRA result | Tree climbing inspection result and survey effort required following inspection | Emergence/re-entry surveys? |
|---------|----------------|-------------------------|---|-----------------------------|
| 48 | SP 38896 79459 | | | |
| 49 | SP 38888 79450 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 50 | SP 38878 79458 | Low | | |
| 51 | SP 38873 79465 | Moderate | Trees scoped out due to being within 50m of compensatory planting works only (see Section 4.2.4). | |
| 52 | SP 38873 79435 | | | |
| 53 | SP 38875 79444 | Low | | |
| 54 | SP 38861 79421 | | | |
| 55 | SP 38852 79432 | Moderate | Trees scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 56 | SP 38847 79458 | | | |
| 57 | SP 38838 79446 | Low | | |
| 58 | SP 38836 79441 | | | |
| 59 | SP 38834 79446 | | | |
| 60 | SP 38835 79445 | Negligible | | |
| 61 | SP 38833 79442 | Low | | |
| 62 | SP 38815 79441 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 63 | SP 38807 79448 | Low | | |
| 64 | SP 38786 79444 | | | |
| 65 | SP 38789 79439 | | | |
| 66 | SP 38782 79448 | | | |
| 67 | SP 38778 79430 | | | |
| 68 | SP 38781 79444 | | | |
| 69 | SP 38774 79446 | | | |
| 70 | SP 38794 79407 | High | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 71 | SP 38791 79408 | Low | | |
| 72 | SP 38780 79409 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 73 | SP 38756 79416 | Negligible | | |
| 74 | SP 38754 79417 | Low | | |
| 75 | SP 38758 79428 | High | | |

| Tree ID | Grid Reference | Ground level PRA result | Tree climbing inspection result and survey effort required following inspection | Emergence/re-entry surveys? |
|---------|----------------|-------------------------|---|-----------------------------|
| 76 | SP 38747 79418 | Moderate | Trees scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 77 | SP 38768 79435 | Low | | |
| 78 | SP 38736 79444 | | | |
| 79 | SP 38720 79437 | Negligible | | |
| 80 | SP 38702 79439 | Low | | |
| 81 | SP 38695 79434 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 82 | SP 38684 79438 | Low | | |
| 83 | SP 38681 79424 | | | |
| 84 | SP 38660 79419 | | | |
| 85 | SP 38693 79407 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 86 | SP 38700 79418 | Low | | |
| 87 | SP 38707 79420 | Moderate | | |
| 88 | SP 38656 79427 | | | |
| 89 | SP 38648 79422 | Low | | |
| 90 | SP 38650 79414 | | | |
| 91 | SP 38624 79408 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 92 | SP 38614 79390 | Low | | |
| 93 | SP 38584 79401 | | | |
| 94 | SP 38587 79386 | | | |
| 95 | SP 38577 79389 | | | |
| 96 | SP 38568 79394 | | | |
| 97 | SP 38560 79381 | Negligible | | |
| 98 | SP 38557 79376 | Low | | |
| 99 | SP 38553 79372 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 100 | SP 38543 79372 | Low | | |
| 101 | SP 38536 79370 | | | |
| 102 | SP 38525 79367 | | | |

| Tree ID | Grid Reference | Ground level PRA result | Tree climbing inspection result and survey effort required following inspection | Emergence/re-entry surveys? |
|---------|----------------|-------------------------|---|--|
| 103 | SP 38518 79365 | Moderate | Moderate (one further survey required) | Dusk emergence survey on 22 June 2022 |
| 104 | SP 38493 79350 | Low | | |
| 105 | SP 38451 79327 | | | |
| 106 | SP 38446 79306 | | | |
| 107 | SP 38448 79302 | | | |
| 108 | SP 38439 79267 | | | |
| 109 | SP 38446 79272 | Negligible | | |
| 110 | SP 38433 79257 | Low | | |
| 111 | SP 38451 79259 | Moderate | Moderate (one further survey required) | Dawn re-entry on 22 June 2022 |
| 112 | SP 38469 79326 | Low | | |
| 113 | SP 38533 79343 | | | |
| 114 | SP 38541 79331 | Moderate | High (including hibernation potential in one PRF (two further surveys required)) | Dusk emergence on 23 June 2022 Dawn re-entry on 16 August 2022 |
| 115 | SP 38544 79339 | Low | | |
| 116 | SP 38665 79393 | | | |
| 117 | SP 38661 79395 | Moderate | Trees scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 118 | SP 38637 79391 | | | |
| 119 | SP 38635 79375 | Low | | |
| 120 | SP 38629 79372 | | | |
| 121 | SP 38614 79379 | | | |
| 122 | SP 38598 79362 | | | |
| 123 | SP 38576 79360 | | | |
| 124 | SP 38557 79351 | Moderate | Tree scoped out due to being within 50m of compensatory planting works only (see section 4.2.4). | |
| 125 | SP 38551 79360 | Low | | |
| 126 | SP 38548 79358 | | | |
| 127 | SP 38486 79287 | Moderate | Negligible (no further surveys required) | |
| 128 | SP 38473 79254 | Low | | |
| 129 | SP 38468 79246 | | | |
| 130 | SP 38480 79129 | | | |

| Tree ID | Grid Reference | Ground level PRA result | Tree climbing inspection result and survey effort required following inspection | Emergence/re-entry surveys? |
|---------|----------------|-------------------------|---|--|
| 131 | SP 38476 79131 | | | |
| 132 | SP 38470 79140 | | | |
| 133 | SP 38467 79158 | | | |
| 134 | SP 38475 79191 | | | |
| 135 | SP 38451 79218 | | | |
| 136 | SP 38431 79204 | | | |
| 137 | SP 38440 79194 | | | |
| 138 | SP 38436 79167 | | | |
| 139 | SP 38454 79168 | Moderate | Moderate (one further survey required) | Dusk emergence on 23 June 2022 |
| 140 | SP 38430 79151 | Low | | |
| 141 | SP 38450 79156 | | | |
| 142 | SP 38438 79147 | | | |
| 143 | SP 38451 79115 | Moderate | Low (no further surveys required) | |
| 144 | SP 38462 79099 | Low | | |
| 145 | SP 38474 79099 | Negligible | | |
| 146 | SP 38476 79092 | Moderate | Moderate (one further survey required) | Dusk emergence on 22 June 2022 |
| 147 | SP 38480 79084 | Low | | |
| 148 | SP 38476 79063 | | | |
| 149 | SP 38487 79064 | | | |
| 150 | SP 38491 79045 | Negligible | | |
| 151 | SP 38498 79046 | | | |
| 152 | SP 38506 79032 | Moderate | High (two further surveys required) | Dusk emergence on 22 June 2022 Dawn re-entry on 14 September 2022 |
| 153 | SP 38506 79012 | Moderate | Moderate (including hibernation potential in one PRF (one further survey required)) | Dusk emergence on 22 June 2022 |
| 154 | SP 38528 78997 | Low | | |
| 155 | SP 38533 78988 | | | |
| 156 | SP 38515 78989 | | | |
| 157 | SP 38538 78967 | | | |
| 158 | SP 38435 79129 | | | |

| Tree ID | Grid Reference | Ground level PRA result | Tree climbing inspection result and survey effort required following inspection | Emergence/re-entry surveys? |
|-------------|---|-------------------------|---|-----------------------------|
| 159 | SP 38450 79186 | | | |
| 160 | SP 38672 79409 | | | |
| 161 | SP 38615 78627 | Negligible | | |
| 162 | SP 38356 79234 | Low | | |
| 163 | SP 38345 79246 | | | |
| 164 | SP 38347 79253 | | | |
| 165 | SP 38348 79256 | | | |
| 166 | SP 38339 79260 | | | |
| 167 | SP 38594 79522 | | | |
| 168 | SP 38611 79546 | | | |
| 169 | SP 38614 79563 | Negligible | | |
| 170 | SP 38706 79849 | Low | | |
| 171 | SP 38956 80508 | Negligible | | |
| 172 | SP 38073 79374 | Low | | |
| Tree area 1 | SP 38475 79302 (approximate central) | Low | | |

3.4. Emergence/re-entry surveys

- 3.4.1. Emergence/re-entry surveys were undertaken on 14 trees (T10, T11, T22, T26, T29, T33, T34, T103, T111, T114, T139, T146, T152 and T153) identified as being of moderate or high suitability for bat roosts and suitable for ground-level survey following the tree climbing inspection (see section 3.2). Surveys included one dusk emergence and one dawn re-entry survey of T152, for which further tree climbing surveys had been recommended, however were unable to be undertaken due to the presence of an active wasp nest within the tree. As such a complete dataset (a full suite of three surveys) was collected for this tree within the same survey season.
- 3.4.2. Three emergence/re-entry surveys were undertaken on the farm building complex at Hungerley Hall Farm (see section 2.5).
- 3.4.3. No bat roosts were identified within the surveyed trees and buildings.
- 3.4.4. Potential roosting activity was identified during some surveys and summarised below:

- During the emergence survey of T139 on 23 June no emergences were recorded, however due to soprano pipistrelle calls approximately 10 minutes before sunset the surveyor concluded there is a likely roost to the west of T139.
- During the emergence survey of T153 on 22 June common pipistrelle were detected approximately 15 minutes before sunset and were observed circling the tree at this time.
- During the emergence survey of Hungerley Hall Farm on 28 June potential roosts were identified in B4, B1 and B2 (see section 4.2).
- During the emergence survey of Hungerley Hall Farm on 25 July a potential pipistrelle emergence was recorded from B4 87 minutes after sunset.

3.4.5. In addition to the above potential roosting activity, during the emergence survey of T103 on 22 June the surveyor observed a potential soprano pipistrelle emergence from another tree in the woodland a maximum of 30m east of T103 two minutes after sunset. However, due to the timing of this observation it cannot be confirmed as potential roosting activity (see section 4.1.4).

3.4.6. Table 4 summarises the results of the emergence-re-entry surveys.

Table 4 Summary of results of emergence/re-entry roost surveys

| Tree/building ID | Tree climbing inspection results | Surveys required following all aerial inspections | Survey Date | Survey Type | Sunset/sunrise Time, Start Time and End Time | Weather Data* | Roost Confirmed? | Data Summary** (including species, number of detections and first (dusk) or last (dawn) calls per species) |
|------------------|----------------------------------|---|-------------|----------------|--|---|------------------|--|
| Trees | | | | | | | | |
| 10 | Moderate | 1 | 23 June 22 | Dawn re-entry | Sunrise: 04:43 Start: 03:13 End: 04:58 | Temperature: 18 – 15 Cloud cover: 0 – 7 Wind: 1 – 1 Rain: 0 - 0 | No | CP – 17, 03:44 NO – 4, 4:10 SP – 2, 03:16 SP foraging activity recorded around the tree |
| 11 | Moderate | 1 | 17 May 22 | Dusk emergence | Sunset: 20:58 Start: 20:43 End: 22:28 | Temperature: 21 – 16 Cloud cover: 8 – 8 Wind: 2 – 2 Rain: light - 0 | No | CP – 12, 21:36 SP – 1, 21:31 NO – 1, 21:45 NSL – 1, 21:55 CP foraging activity recorded |
| 22 | High | 2 | 18 May 22 | Dusk emergence | Sunset: 20:59 Start: 20:44 End: 22:29 | Temperature: 15 - 15 Cloud cover: 8 - 8 Wind: 3 - 2 Rain: moderate throughout, lightening at 22:20 | No | CP – 50, 21:24 SP – 3, 21:27 CP foraging activity recorded |
| | | | 23 June 22 | Dawn re-entry | Sunrise: 04:43 Start: 03:13 | Temperature: 15 - 16 | No | CP – 88, 03:53 SP – 5, 03:57 |

| Tree/building ID | Tree climbing inspection results | Surveys required following all aerial inspections | Survey Date | Survey Type | Sunset/sunrise Time, Start Time and End Time | Weather Data* | Roost Confirmed? | Data Summary** (including species, number of detections and first (dusk) or last (dawn) calls per species) |
|------------------|----------------------------------|---|-------------|---------------|--|--|------------------|---|
| | | | | | End: 04:43 | Cloud cover: 0 - 8 Wind: 1 - 1 Rain: none | | NO – 3, 04:07 CP foraging activity recorded on an adjacent arable field. SP and CP recorded commuting along the hedgerow. |
| 26 | Moderate | 1 | 18 May 22 | Dawn re-entry | Sunrise: 05:06 Start: 03:36 End: 05:21 | Temperature: 12 – 12 Cloud cover: 0 – 0 Wind: 2 – 1 Rain: 0 – 0 | No | CP – 110, 04:22 SP – 93, 04:19 CP and SP foraging activity recorded. |
| 29 | Moderate | 1 | 18 May 22 | Dawn re-entry | Sunrise: 05:06 Start: 03:35 End: 05:21 | Temperature: 12 - 12 Cloud cover: 0 - 0 Wind: 2 - 1 Rain: None | No | CP – 13, 04:21 SP – 7, 03:43 NSL – 1, 03:36 MY – 1, 03:48 CP and SP foraging and commuting activity recorded. |
| 33 | Moderate | 2 | 19 May 22 | Dawn re-entry | Sunset: 21:01 Start: 20:46 End: 22:31 | Temperature: 19 – 13 Cloud cover: 4 – 3 Wind: 1 – 0 Rain: None | No | CP – 33, 21:51 NO – 2, 21:29 SP – 4, 22:07 PS – 1, 21:50 NO were recorded foraging in the field to the west of the tree. CP were recorded foraging and commuting along the hedgerow north |

| Tree/building ID | Tree climbing inspection results | Surveys required following all aerial inspections | Survey Date | Survey Type | Sunset/sunrise Time, Start Time and End Time | Weather Data* | Roost Confirmed? | Data Summary** (including species, number of detections and first (dusk) or last (dawn) calls per species) |
|------------------|----------------------------------|---|-------------|----------------|--|---|------------------|---|
| | | | | | | | | to south. A pigeon <i>Columba</i> sp. emerged from one of the cavities. |
| | | | 26 July 22 | Dawn re-entry | Sunrise: 05:16 Start: 03:46 End: 05:31 | Temperature: 17 – 16 Cloud cover: 8 – 8 Wind: 1 – 1 Rain: None | No | CP – 35, 04:25 SP – 10, 04:40 CP commuting activity recorded along the hedgerow, particularly north to south. |
| 34 | Moderate | 2 | 19 May 22 | Dusk emergence | Sunset: 21:01 Start: 20:46 End: 22:31 | Temperature: 19 - 13 Cloud cover: 4 - 3 Wind: 1 - 0 Rain: None | No | CP – 58, 21:46 NO – 6, 21:18 SP – 3, 22:07 |
| | | | 26 July 22 | Dawn re-entry | Sunrise: 05:16 Start: 03:46 End: 05:31 | Temperature: 16 – 16 Cloud cover: 8 – 8 Wind: 1 – 1 Rain: Light intermittent | No | CP – 26, 04:23 SP – 6, 04:08 CP and SP were recorded foraging in the arable field and commuting along the hedgerow. |
| 103 | Moderate | 1 | 22 June 22 | Dusk emergence | Sunset: 21:32 Start: 21:17 End: 23:02 | Temperature: 21 - 16 Cloud cover: 0 - 0 Wind: 1 - 1 | No | SP – 28, 21:29 CP – 5, 23:12 MY – 12, 21:49 |

| Tree/building ID | Tree climbing inspection results | Surveys required following all aerial inspections | Survey Date | Survey Type | Sunset/sunrise Time, Start Time and End Time | Weather Data* | Roost Confirmed? | Data Summary** (including species, number of detections and first (dusk) or last (dawn) calls per species) |
|------------------|----------------------------------|---|-------------|----------------|--|--|------------------|---|
| | | | | | | Rain: None | | SP foraging activity was recorded in the field to the north. |
| 111 | Moderate | 2 | 22 June 22 | Dawn re-entry | Sunrise: 04:43 Start: 03:13 End: 04:43 | Temperature: 14 – 15 Cloud cover: 0 – 0 Wind: 1 – 1 Rain: No rain | No | SP – 119, 04:29 CP – 55, 04:11 PS – 4, 03:52 MY – 4, 03:40 NO – 1, 03:25 CP and SP foraging activity recorded. |
| 114 | High | 2 | 1 – 23/6/22 | Dusk emergence | Sunset: 21:32 Start: 21:17 End: 23:02 | Temperature: 23 – 21 Cloud cover: 5 – 7 Wind: 1 – 1 Rain: No rain | No | SP – 185, 21:48 CP – 25, 22:27 Myotis sp. – 13, 22:08 NSL – 2, 21:56 SP/CP – 11, 22:36 MY foraging activity recorded on Coombe Pool. |
| | | | 2 – 16/8/22 | Dawn re-entry | Sunrise: 05:05 Start: 04:20 End: 06:05 | Temperature: 18 – 16 Cloud cover: 0 – 2 Wind: 2 – 2 Rain: No rain | No | SP – 297, 05:18 CP – 102, 04:35 CP/NA – 1, 04:29 NO – 24, 05:19 NY – 10, 05:10 LE – 3, 04:19 NSL – 3, 05:02 BLE – 1, 05:18 |