

Environmental Statement: Chapter 7

Technical Appendix 7.13: Bat Roost Survey

Land East of Blackmore Farm, Melksham

Gleeson Land Ltd

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1 Methodology

1.1 Ground level tree assessment

2021/23

- 1.1.1 All trees within the Site and a wider survey area were subject to a ground-level Preliminary Roost Assessment (PRA) in April 2021 and updated July 2023 to identify features that could potentially support roosting bats. Trees were assessed against the Bat Conservation Trust (BCT) criteria (Collins, 2016) current at that time to determine their suitability for roosting bats on a scale from 'Negligible' to 'High'.

2024

- 1.1.2 On 13 May 2024, an update Ground Level Tree Assessment (GLTA) of all trees within the survey area was undertaken to assess their potential to support roosting bats (i.e. the presence of Potential Roost Features; PRF). Trees were categorised according to the updated BCT guidelines (Collins, 2023), with roost features categorised as either PRF-I or PRF-M; refer to Table A7.13.1.

Table A7.13.1. Guidelines for assessing the potential suitability of proposed development sites for bats (adapted from Collins [ed.] 2023)

Suitability	Description of roosting habitats
PRF-I	PRF is only suitable for individual bats or very small numbers either due to size or lack of suitable habitats
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony

- 1.1.3 Suitability of PRFs at the GLTA stage is only indicative. According to survey guidance (Collins, 2023), all 'impacted' trees identified by the GLTA that have bat roost suitability should undergo a detailed aerial inspection (using climbing equipment), where safety permits. Following this detailed inspection, the potential roost features can be re-categorised. Trees confirmed as 'PRF-I' (suitable for very small numbers of roosting bats) require no further surveys. Trees confirmed as 'PRF-M' (suitable for multiple roosting bats and potentially used by a maternity colony) require two further surveys. Any trees deemed unsafe for an aerial inspection or unsuitable for climbing should be subject to dusk-emergence surveys using night-vision aids (NVAs).

1.2 Aerial tree inspections

- 1.2.1 Three aerial tree inspections of 28 trees (refer to table A7.13.3) were undertaken on 09 April 2025, 20 May 2025, and 16 June 2025 by an ecologist with a Level 2 Class Licence and Tree Climbing and Aerial Rescue qualification (City and Guilds NPTC Level 2: CS38). A second ground-based Ecologist with Tree Climbing and Aerial Rescue qualification was also in attendance for health and safety purposes.

1.3 Emergence surveys – Tree 21

2023

- 1.3.1 In accordance with 2016 BCT guidelines (Collins, 2016), Tree 21 (as a 'High' suitability tree) was subject to three dusk emergence / dawn re-entry surveys in July and September 2023 (alongside other trees now outside of the survey area).

- 1.3.2 Dusk surveys commenced approximately 15 minutes before sunset and continued for at least 90 minutes after sunset; dawn surveys commenced approximately 90 minutes before sunrise, and finished approximately 15 minutes after sunrise. Surveyors were positioned where suitable bat access features could be observed and were equipped with Anabat Scout full spectrum bat detectors and night vision enabled video cameras augmented with a tripod mounted Infra-red (IR) illuminator array and a Nightfox XC5 IR torch

2025

- 1.3.3 Tree 21 was assessed during the 2024 GLTA as 'PRF-I', but was unsuitable for climbing and so was subject to emergence surveys between May – July 2025. Dusk-emergence surveys involved the use of surveyors and Night Vision Aids (NVAs; Infra-Red or thermal imaging cameras) to determine roost presence / likely absence. The dusk surveys commenced 15 minutes before sunset and continued for up to 120 minutes after sunset. Surveyors and/or NVAs were located in predetermined positions around the trees to observe suitable bat access features. Surveyors were equipped with broadband bat detectors (Anabat Scout) to record any echolocation calls ('registrations') for subsequent analysis. NVA recordings were subsequently analysed to determine roost presence / likely absence.

2 Limitations

There were no survey limitations applicable to the current survey area.

3 Results

3.1 *Ground Level Tree Assessment*

- 3.1.1 All trees within the survey area were subject to a GLTA in 2024, and 30 were identified as having roost features initially categorised as either PRF-I or PRF-M; refer to Table A7.12.4 for preliminary GLTA results.
- 3.1.2 As the 2023 BCT guidelines supersede the 2016 BCT guidelines, the results of the 2021/23 roost categorization of trees are not included here.

3.2 *Aerial tree inspections*

- 3.2.1 The results of the tree assessment are provided in Table A7.13.4; refer also to Figure A7.13.1 for tree locations.
- 3.2.2 During the aerial tree inspection, a single Natterer's bat was recorded roosting within a cavity in Tree 24 on 09 April 2025. A single Natterer's bat was also recorded roosting within a cavity in Tree 39 during two aerial inspections on 09 April 2025 and 16 June 2025. Both trees were assessed as providing non-breeding day roosts for low numbers of Natterers' bat.
- 3.2.3 No further roosting bats or evidence of bat roosts were recorded during the aerial inspections; 17 trees were categorised as PRF-I and nine trees were categorised as PRF-M. Two trees assessed during the GLTA as potentially suitable bat roosting features were downgraded to 'negligible' suitability as a result of the aerial inspection.
- 3.2.4 One tree (Tree 26) was assessed as PRF-I during the aerial inspection, but due to the presence of inaccessible features, was flagged as requiring further assessment. As no direct impacts to Tree 26 are foreseen, no further survey was undertaken.

3.3 Emergence survey

2023

- 3.3.1 Emergence/re-entry surveys were undertaken of Tree 21 on 27 July and 18 August 2023. One common pipistrelle bat was recorded emerging from a bat box mounted on Tree 21 at 21:11 on 27 July. An unidentified bat, assumed to be a pipistrelle species, was recorded emerging from the same bat box on 04 September 2023 at 20:53. No re-entries were recorded on 18 August.
- 3.3.2 Weather conditions recorded during the 2023 emergence surveys are given in Table A7.13.2 below.

Table A7.13.2: Weather conditions during 2023 emergence surveys

Date	Start/end time	Sunset/rise	Cloud (Oktas)	Wind speed (Beaufort)	Temperature (C)
27/07/2023	20:49	21:04	8	2	17
	22:34		8	2	
18/08/2023	04:29	05:59	8	1	18
	06:14		8		
04/09/2023	19:34	19:49	1	1	15
	21:19		0		

2025

- 3.3.3 No bats were recorded emerging from Tree 21 during the 2025 emergence surveys. Weather conditions recorded during the 2025 emergence surveys are given in Table A7.13.3 below.

Table A7.13.3: Weather conditions during 2025 emergence surveys

Date	Start/end time	Sunset	Cloud (Oktas)	Wind speed (Beaufort)	Temperature (C)
27/05/2025	20:55	21:10	8	4	15
	22:40		8	3	14
19/06/2025	21:13	21:28	3	0	22
	22:58		3	0	20
16/07/2025	21:02	21:17	7	2	19
	22:47		8	0	19

3.4 Summary

- 3.4.1 During the course of the emergence/re-entry surveys in 2023/2025 and the aerial inspections in 2025, the following bat roosts were identified within the survey area:
- **Tree 21;** one common pipistrelle bat was recorded emerging from a bat box mounted on this maple tree on 27 July 2023, and an unidentified bat, assumed to be a pipistrelle species, was recorded emerging from the same bat box on 04 September 2023. Despite no bat emergences being recorded during the update 2025 surveys, this bat box is considered to be a **non-breeding day roost for low numbers of pipistrelle bats.**
 - **Tree 24;** a single Natterer's bat was recorded roosting within a cavity in this oak tree on 09 April 2024 during an aerial inspection. This feature is considered to be a **non-breeding day roost for low numbers of Natterers' bat.**

- **Tree 39**; a single Natterer's bat was recorded roosting within a cavity in this oak tree during aerial inspections on 09 April 2025 and 16 June 2025. This feature is considered to be a **non-breeding day roost for low numbers of Natterers' bat**.

4 References

Collin J (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Collins, J (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London.

Table A7.13.4: GLTA and aerial tree climbing survey results

Tree ref ¹	Tree species	Tree description	% Ivy cover	Preliminary GLTA result	Aerial inspection result
21*	Maple	Single-stem mature tree with a bat box.	0	PRF-I	Tree unsuitable for climbing so subject to emergence/re-entry surveys.
23	Ash	Single-stem mature tree with a cavity in the main trunk at 3m height, two woodpecker holes at various heights and two knot holes at various heights.	25	PRF-M	PRF-M. No evidence of roosting bats recorded.
24	Oak	Single-stem mature tree with a cavity in a limb at 9m height, a second cavity at 3m height and a woodpecker hole on a limb at 12m height.	0	PRF-M	Confirmed roost: single Natterer's bat was recorded roosting in a cavity on 09.04.25
25	Ash	Single-stem mature tree with holes in the trunk at 4m and 5m height.	90	PRF-I	PRF-I. No evidence of roosting bats recorded.
26	Oak	Single-stem mature tree with knot holes and peeling bark around broken branches.	40	PRF-I	PRF-I. No evidence of roosting bats recorded. Further assessment required of one feature which could not be accessed.
28	Oak	Multi-stem mature tree with broken branches creating two branch cavities at 9m and 10m heights and a desiccation fissure at 8m height and two knot holes, one a limb at 13m height and one on a stem at 3m height.	5	PRF-M	Suitability downgraded to PRF-I. No evidence of roosting bats recorded.
30	Oak	Single-stem mature tree with a knot hole at 12m height.	0	PRF-I	Suitability downgraded to Negligible. No evidence of roosting bats recorded.
31	Oak	Single-stem mature tree with a knot hole on a branch at 10m height.	20	PRF-I	PRF-I. No evidence of roosting bats recorded.
32	Oak	Single-stem tree with a callous roll in the trunk at 2m height, a stem cavity around the base of the tree, a large knot hole in the trunk at 9m height, a	0	PRF-M	PRF-M. No evidence of roosting bats recorded.

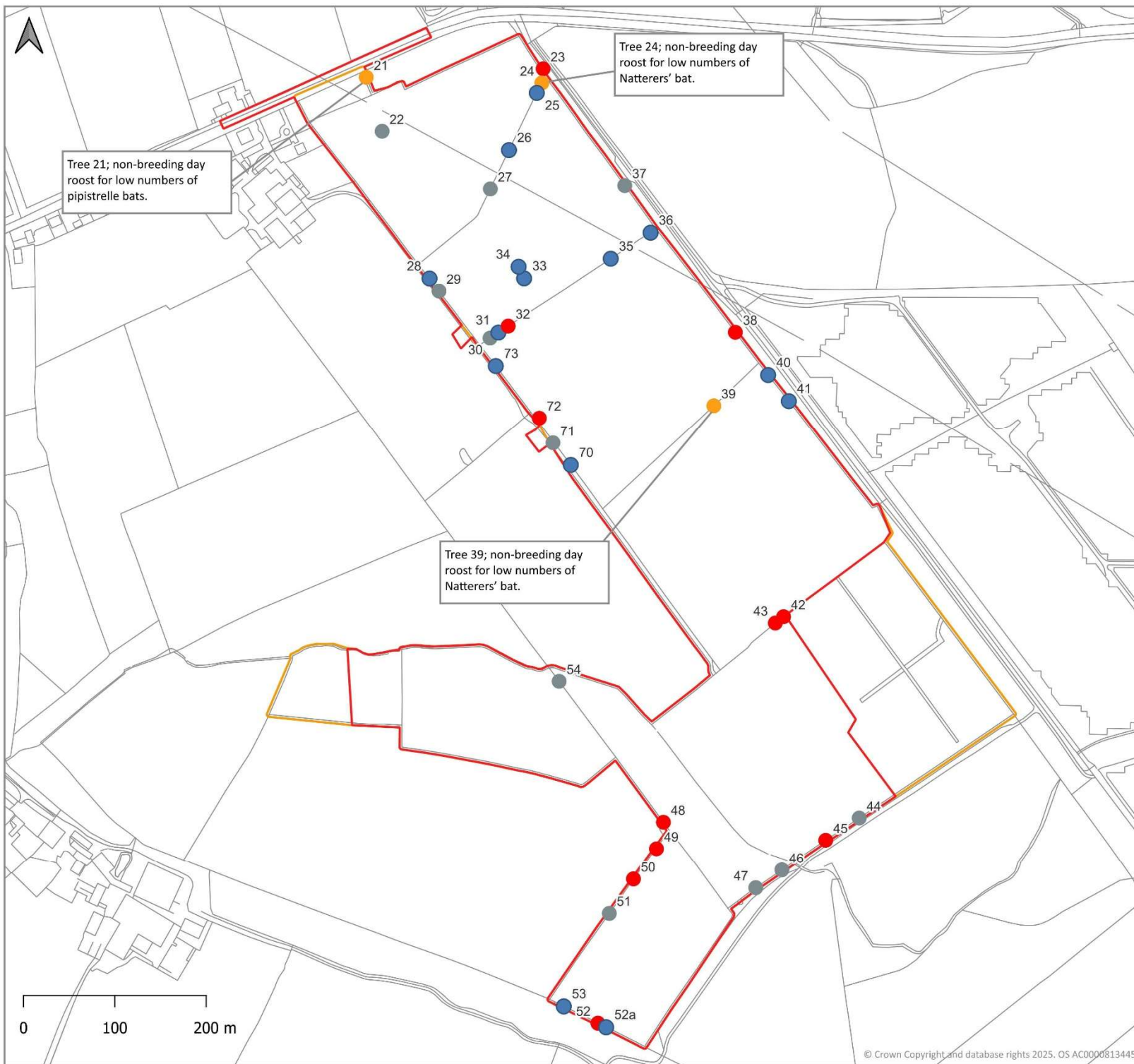
¹ Tree numbering system correlates with that used for previous surveys undertaken in 2021 for a wider survey area, hence numbering does not start at 1 and is non-consecutive.

Tree ref ¹	Tree species	Tree description	% Ivy cover	Preliminary GLTA result	Aerial inspection result
		tear out and knot hole at 11m height and two woodpecker holes all at 10m height.			
33	Oak	Single-stem mature tree with a cavity in a broken limb at 10m height, a woodpecker hole at 7m height and a knot hole on a limb at 6m height.	0	PRF-M	Suitability downgraded to PRF-I . No evidence of roosting bats recorded.
34	Oak	Single-stem mature tree with a woodpecker hole in a broken limb at 6m height.	0	PRF-M	Suitability downgraded to PRF-I . No evidence of roosting bats recorded.
35	Oak	Single-stem mature tree with a knot hole at 10m height in trunk and branch cavity on a limb at 9m.	0	PRF-M	Suitability downgraded to PRF-I . No evidence of roosting bats recorded.
36	Oak	Single-stem mature tree with a tear out in a broken limb at 7m height.	2	PRF-I	PRF-I . No evidence of roosting bats recorded.
38	Oak	Single-stem mature tree with a tear out at 12m height and a branch cavity at 12m height.	3	PRF-M	PRF-M . No evidence of roosting bats recorded.
39	Oak	Single-stem mature tree with two woodpecker holes at 10m and 12m heights, a branch cavity at 9m height, a desiccation fissure on a limb at 10m height and two tear outs on limbs at 9m heights.	5	PRF-M	Confirmed roost: single Natterer's bat was recorded roosting in a cavity on 09.04.25 and 16.06.25.
40	Oak	Single-stem mature tree with a knot hole at 4m height and a branch cavity at 10m height.	15	FAR	PRF-I . No evidence of roosting bats recorded.
41	Oak	Single-stem mature tree with two woodpecker holes on a branch at 11m and 13m heights and multiple tear outs on broken limbs at 9m, 11m, and 15m heights.	5	PRF-M	Suitability downgraded to PRF-I . No evidence of roosting bats recorded.
42	Ash	Dead mature tree with two woodpecker holes on main stem at 6m heights and on a limb at 13m height, and a large hole at 9m height.	0	PRF-M	PRF-M . No evidence of roosting bats recorded.
43	Oak	Large single-stem mature tree with large knot holes on trunk at various heights, a woodpecker hole on a branch at 12m height, a large hole on a limb at 7m height and a tear out on a limb at 13m height.	5	PRF-M	PRF-M . No evidence of roosting bats recorded.

Tree ref ¹	Tree species	Tree description	% Ivy cover	Preliminary GLTA result	Aerial inspection result
45	Oak	Large single-stem mature tree with a woodpecker hole on a limb at 12m height and a large hole on a limb at 8m height.	0	PRF-M	PRF-M. No evidence of roosting bats recorded.
48	Oak	Single-stem mature tree with a branch cavity in a dead limb at 8m height.	1	FAR	PRF-I. No evidence of roosting bats recorded.
49	Oak	Single-stem mature tree with two tear outs on limbs at 4m and 5m heights and torsion fracture on a limb at 5m height.	0	FAR	PRF-M. No evidence of roosting bats recorded.
50	Oak	Single-stem mature tree with prune wounds on the main stem at 2m and 4m heights and a tear out on a limb at 5m height.	0	FAR	PRF-I. No evidence of roosting bats recorded.
52	Oak	Single-stem mature tree with a knot hole at 5m height and a tear out on a broken limb at 7m height.	5	PRF-M	Suitability downgraded to PRF-I. No evidence of roosting bats recorded.
52a	Oak	Single-stem mature tree with a stem cavity at the base of the tree, three tear outs of various limbs at 11m heights and three knot holes on the main stem and various limbs at 6m, 9m and 11m heights.	0	PRF-M	PRF-M. No evidence of roosting bats recorded.
53	Ash	Twin stem dead tree with knot hole on a stem at 2m height, two woodpecker holes on a stem at 4m heights and cavity on a dead limb at 4m height.	0	FAR	PRF-I. No evidence of roosting bats recorded.
54	Oak	Single-stem mature tree with two woodpecker holes on a dead limb at 9m and 11m heights.	0	PRF-M	Suitability downgraded to Negligible. No evidence of roosting bats recorded.
70	Oak	One main trunk without the top of the tree and a large knot hole in trunk at 3m height and a steam cavity at 2m height.	75	PRF-M	Suitability downgraded to PRF-I. No evidence of roosting bats recorded.
72	Oak	Single-stem mature tree with two knot holes on limbs at 7m and 10m heights.	0	PRF-I	Suitability upgraded to PRF-M. No evidence of roosting bats recorded.
73	Oak	Single-stem mature tree with loose bark on a dead limb at 5m height.	12	PRF-I	PRF-I. No evidence of roosting bats recorded.

* Roost recorded in previous surveys in 2023.

Figure A7.13.1: Bat Roost Suitability Plan



Key

- Site boundary
- Survey boundary
- PRF-I
- PRF-M
- Negligible
- Confirmed Roost



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