Bat Roost Characterisation and Mitigation Report

Of

Primrose Hill Farm Hemingstone IP6 9RL

Carried out for:

Marie Mayhew

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Executive Summary

Abrehart Ecology was commissioned by Marie Mayhew, to conduct a bat survey as part of a Protected Species Assessment at Primrose Hill Farm Hemingstone Suffolk.

Due to the potential roost features identified during the initial Preliminary Roost Assessment, bat surveys were required to inform assessment of the potential impact of the proposals on them, and the degree of mitigation required to offset any impacts to roosting bats.

No bats were seen to emerge from, or return to roost within, the structure during surveys.

Activity around the structure was low, with moderate numbers of passes from two species only. Species recorded were common and widespread.

There are no further constraints with regards to roosting bats; however, lighting plans should consider bat activity and surveys will need to be updated should one year pass between the submission of this report and the start of construction works.

1 Introduction and background

Purpose and brief

1.1. Bat (emergence/return to roost) surveys were undertaken on behalf of Marie Mayhew on 2nd of August and the 22nd of August 2023 at Primrose Hill Farm Hemingstone Suffolk (central grid reference TM 15483 53701; Figure 1).

Description of Site and Local Area

1.2. The survey area was located to the east of Hemingstone, Suffolk. The proposed construction zone is approximately 0.2 hectares and consisted predominantly of a former boarding kennels/cattery. The kennels were surrounded by concrete hardstanding with some limited vegetation regrowth. Within this hardstanding area were also several smaller storage-type buildings. To the east of the kennels was a small walled courtyard consisting of a garden area, which had been left unmanaged at the time of survey, surrounded by hardstanding pathways. Adjacent this courtyard to the east was a disused and derelict piggery, this had dense ivy (*Hedera helix*) cover along the eastern aspect. To the east of the piggery was a small area of managed improved grassland and an area of bare earth.

1.3. The site was situated within the wider ownership boundary associated with Primrose Hill farm, the ownership boundary contained a residential dwelling and several agricultural buildings. Surrounding these buildings where large areas of modified grassland and hardstanding for access and parking areas.

1.4. The wider landscape was dominated by the residential buildings within Hemingstone as well as large areas of agricultural land with associated hedgerows, arable verges, ditches, and mature standard trees (see Figure 1).

The proposed development

1.5. The surveys were required to form a planning application for the construction of three new residential dwellings and associated landscaping and parking.

2 Legislative Context and Planning Policy

2.1 All bat species and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2010 (as amended). Under this legislation it is an offence to intentionally or recklessly:

- Capture, injure or kill a bat;
- Disturb a bat;
- Destroy or obstruct access to a bat roost.

2.2 The National Planning Policy Framework (NPPF) 2021 places responsibility on Local Planning Authorities (LPAs) to aim to conserve and enhance biodiversity in and around developments. Section 40 of the NERC Act requires every public body to "have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". Biodiversity, as covered by the Section 40 duty, is not confined to habitats and species of principal importance but refers to all species and habitats. However, the expectation is that public bodies would refer to the Section 41 list (of species and habitats) through compliance with the Section 40 duty.

3 Previous Survey Results and Background

3.1 Records of 12 species of bats were returned from the data search these were barbastelle (*Barbastella barbastllus*), Chiroptera (*Chiropter sp*) common pipistrellus (*Pipistrellus pipistrelus*) and brown long eared (*Plecotus auratus*) within 2km of the Site.

Previous surveys – Preliminary Ecological Appraisal (PEA) – July 2022

3.2 A PEA, including a desk study and preliminary roost assessment, was undertaken by Abrehart Ecology Ltd on the 6th of April 2023 (Abrehart Ecology Ltd., 2023).

3.3 There were several buildings within the construction area, consisting of an old piggery, several dog kennels, a cattery, and small storage structures. All existing buildings within the construction area are to be demolished as part of the development. The former piggery (detailed below) was the only structure considered to have bat roost potential, the storage structures kennels and cattery had a single skin, corrugated sheet metal roof and the buildings were of brick construction. All the brickwork appeared in good condition and was well sealed, the metal roofs meant that the structures were highly unlikely to maintain a suitable constant temperature for roosting bats. Therefore, all other structures (excluding the piggery) were considered to have negligible bat roost potential and their demolition will not impact roosting bats.

3.4 The building had breezeblock footings with a wooden board and timber frame construction. The roof consisted of pitched, corrugated asbestos type panels. The building was disused at the time of survey. There were many gaps between boards, around doorframes and between roofing panels. These could either be used as points of ingress or as roosting points for bats. There was dense ivy (*Hedera helix*) cover on the western aspect of the building and in the north-east corner of the building's interior. This would provide ideal roosting opportunities for bats. Gaps were seen along the soffits, these appeared to lead into the roof void and would provide roosting opportunities.

3.5 The building was considered to have moderate bat roost potential.

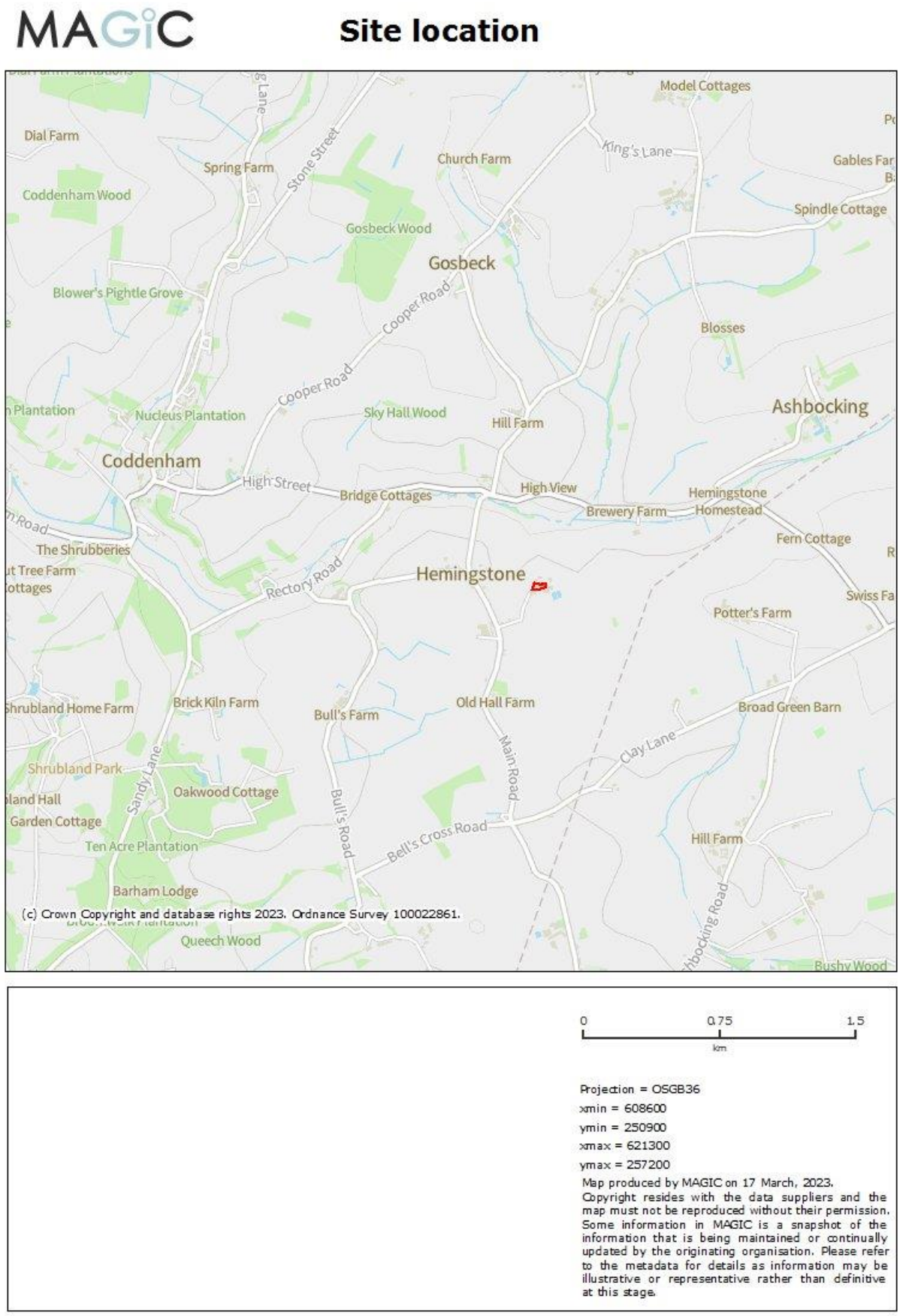

Figure 1. Site location.

4 Methods

Presence/Likely Absence and Roost Characterisation

Overview

4.1 The surveys were carried out according to good practice guidelines (Collins, 2016).

4.2 Both surveys were undertaken using infra-red (IR) cameras and static detectors based on the Interim Guidance Note on the use of night vision aids for bat emergence surveys (BCT, 2022).

Personnel

4.3 Surveyor details of each of the surveys is detailed in table 1 below.

Table 1. Personnel Details

Roost Characterisation Surveys	
Date	**Surveyors Present**
02.08.2023	Terry Stopher and Thomas Jordan
22.08.2023	Terry Stopher and Thomas Jordan

Equipment

4.4 Two IR cameras (Canon XA60 with two high intensity infra-red LED lights were used. This was used in conjunction with an i-Pad and EMT Pro and Anabat Scout with surveyors. The site was also watched by two experienced ecologists to cover the entire survey area.

Equipment deployment and monitoring

4.5 The IR cameras were placed in a position which covered a large portion of the site (see appendix for locations), to view potential roost features, to observe any emerging bats, in conjunction with visual monitoring by experienced ecologists.

4.6 The cameras were periodically checked throughout the survey to ensure the cameras were operational.

Analysis of footage and static detectors

4.7 The infra-red camera footage was reviewed after the survey to record emergence of any bats surveyed. Emergence was cross-checked using the Anabat bat detector recordings to confirm species identification.

Bat call analysis

4.8 The sound recordings from the Anabat bat detectors were analysed in Kaleidoscope to record bat species and calling at time of emergence. This is cross-checked with IR footage providing an accurate species ID and emergence time.

5 Limitations and Caveats

5.1 There were no limitations to the survey.

6 Survey Results

Emergence & Return to Roost Surveys

6.1 A PEA, including a desk study and preliminary roost assessment, was undertaken by Abrehart Ecology Ltd on the 6th of April 2023.

02.08.2023 dusk Survey

6.2 Weather: 17°C, 30% cloud cover, Beaufort 1, dry.

6.3 Species recorded common pipistrelle and noctule. No bats were seen to emerge from the building and activity was restricted to foraging common pipistrelles around the barn and noctules passing over the site. IR camera footage was checked, and no bats emerged from the building after light levels were too low for surveyors to accurately observe.

22.08.2023 dawn Survey

6.4 Weather: 15°C, 0% cloud cover, Beaufort 2-3, dry.

6.5 Species recorded common pipistrelle and noctule. Activity was lower during this survey, with recordings limited to individual passes and short foraging events. No bats were seen to return to roost and analysis of the IR footage confirmed this.

Proposed Mitigation and Licensing Strategy - Bats

6.6 There are no constraints with regards to roosting bats and no requirements for Natural England Mitigation Licences.

6.7 The development should consider foraging bats throughout and post-construction. Common pipistrelles were seen to forage around the existing building and surrounding land and so the development should incorporate sensitive lighting – ensuring the site is not illuminated in a detrimental way to bats during works and post construction. This will follow guidance provided by the Bat Conservation Trust (Bats and Artificial Lighting at Night, 2023), to ensure foraging and commuting bats using adjacent habitats are not negatively impacted. Lighting measures should also be applied to temporary security lighting used during the construction phase. This will include low pressure sodium lamps, with hoods, cowls, or shields, to prevent light spillage.

7 Conclusion & Enhancement Opportunities

7.1 **There are no constraints to the development with regards to roosting bats**.

7.2 Sensitive lighting will be implemented to prevent disturbance to nocturnal animals, particularly bats which were recorded using the yard area and trees.

7.3 The addition of bat roost features, such as access tiles, ridge access, or bat boxes (both external and integral) would increase roosting opportunities for bats in the local area.

7.4 Should bat access be encouraged within roof or beneath tiles then it is recommended that bituminous roofing felt is used. Breathable Roofing Membranes (BRMs) can create an entanglement threat to bats.

7.5 Below are example images of enhancement features. Boxes should be sited at least 3m from ground level and be clear of obstructions – allowing for a clear flight path to the box entrance i.e., not obscured by tree limbs or foliage. All features shown below do not require maintenance as the design encourages droppings to fall out of the bricks or access features. Bat roosts are protected from disturbance and so should be left undisturbed once installed – unless maintenance/remedial works are carried out by a suitably licenced ecologist at correct times of year – this should be discussed with an ecologist prior to being undertaken.

7.6 New planting – in the form of bushes, shrubs, and trees – will provide opportunity to increase foraging and sheltering potential for a range of wildlife, including birds, invertebrates, and mammals. Any planting should be of local provenance and of native species.

7.7 Trees and shrubs can provide year-round habitat for wildlife; the dense canopy formed by shrub beds offer protection from predators and foraging opportunities for butterflies, birds, and mammals; and trees provide additional nesting and foraging for birds – including resident and migratory bird species.

7.8 Trees – these should be planted 2-3m apart and avoid planting within 4m of buildings. Further details on planting can be found online (such as the RSPB website (https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/garden-trees/) or from the supplier of the trees. Trimming should be avoided throughout the bird nesting season (March to end of August) to prevent disturbing nesting birds or harming eggs/young birds.

7.9 Shrubs – should be planted 0.5-1.2m apart and to specifications/details provided by the supplier or found on the RSPB website (https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/shrubs-for-gardens/). Management of shrub growth should take place in winter months – both avoiding the nesting bird season and ensuring greatest benefit to local wildlife, as species detailed below will provide berries and seeds for animals to forage on.

7.10 Suitable species for shrub beds and tree planting include:

- Birch (Betula sp.)
- Holly
- Rowan
- Crab apple
- Berberis
- Spindle
- Dogwood
- Guelder rose
- Hawthorn
- Cornelian cherry

8 References

Literature

Arbtech Ltd (2023). Preliminary Ecological Appraisal of Primrose Hill Farm Hemingstone Suffolk for Marie Mayhew.

Dietz, C. & Kiefer, A. (2016) Bats of Britain and Europe, Bloomsbury Publishing, ISBN 978-1-4729-2202-1

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.

Michell-Jones, A.J. (2004) Bat Mitigation Guidelines, English Nature, ISBN 1 85716 781 3

Appendix I – Site Maps – Surveyor & IR Positions during both surveys

Appendix II – Survey Results

Surveyor Results – 02/08/2023 Dusk Survey (Sunset 20:45)

Surveyor: TJ			
Time	**Species**	**# Bats**	**Activity**
20:30	-	-	SURVEY START
21:13	*Pipistrellus pipistrellus*	1	HNS Foraging
21:18	*Pipistrellus pipistrellus*	1	Foraging around lean to
21:24	*Pipistrellus pipistrellus*	1	Many passes flying around nearby barn
21:36	*Nyctalus noctule*	1	Foraging HNS
22:30			SURVEY END

Surveyor: TS			
Time	**Species**	**# Bats**	**Activity**
20:30	-	-	SURVEY START
21:13	*Pipistrellus pipistrellus*	1	HNS
21:15	*Pipistrellus pipistrellus*	1	Foraging seen around the farm building
21:27	*Pipistrellus pipistrellus*	1	Foraging around the farm building
21:28	*Pipistrellus pipistrellus*	1	Flying around nearby barn likely to have emerged from nearby building
21:30	*Nyctalus noctule*	1	
22:30			SURVEY END

Surveyor results 22.08.2023 (Sunrise:

Surveyor: TJ			
Time	**Species**	**# Bats**	**Activity**
04:20	-	-	SURVEY START
04:20	*Pipistrellus pipistrellus*	1	Foraging HNS
04:26	*Pipistrellus pipistrellus*	1	HNS
04:31	*Pipistrellus pipistrellus*	1	HNS
05:01	*Pipistrellus pipistrellus*	1	Foraging HNS single pass
05:12	*Pipistrellus pipistrellus*	1	Foraging behind surveyor
05:19	*Pipistrellus pipistrellus*	2	Looped over building from North
06:05			SURVEY END

Surveyor: TS			
Time	**Species**	**# Bats**	**Activity**
04:20	-	-	SURVEY START
04:44	*Pipistrellus pipistrellus*	1	Flying around buildings
05:01	*Pipistrellus pipistrellus*	1	Flying around buildings
05:12	*Pipistrellus pipistrellus*	1	HNS
06:05			SURVEY END