Bat Emergence Survey Report

Site: Scotch Lake Farm, Moor Lane, Harmondsworth, Middx, UB7 0AP.

Client: Mr J Thurlbeck.

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

This approach is enshrined in Government planning guidance, for example, paragraph 174 of the National Planning Policy Framework for England. The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary. (BS 42020, 2013)

Executive Summary

Matthew Game Consultancy was instructed to undertake a Bat emergence survey at Scotch Lake Farm, Moor Lane, Harmondsworth. Middx UB7 0AP (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of an existing outbuilding and construction of a new commercial building (hereafter referred to as “the proposed development”).

No bat roosts were identified at the site. However, bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time. Any bats that begin using the building during the intervening period between the surveys being undertaken and works commencing could be injured or killed and their roosts destroyed. Therefore, a precautionary working method will be implemented, as detailed in Table 3 of this report. Requirements for a sensitive lighting strategy and opportunities for enhancement are also outlined in Table 3.

Contents

1.0 Introduction and Context

1.1 Background

Matthew Game Consultancy was instructed to undertake a Bat emergence survey at Scotch Lake Farm, Moor Lane, Harmondsworth. Middx UB7 0AP (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of an existing outbuilding and construction of a new commercial building (hereafter referred to as “the proposed development”).

The aim of the BERS was to determine the presence or likely absence of roosting bats and to characterise any roosts present. This has been undertaken with due consideration to the “Bat Surveys for Professional Ecologists —Good Practice Guidelines” publication (Collins, 2024).
The BERS have been informed by a Preliminary Roost Assessment (PRA) which was completed by Matthew Game Consultancy in February 2025.
The survey results are summarised in Table 1 below.

Table 1: Results of the PRA and subsequent survey requirements

Feature	Survey conclusions (with justification)	Recommendations
Roosting bats (B1)	The proposed development will result in the demolition of this building. This could result in damage/modification/destruction of any bat roosts present and could cause disturbance, death or injury to bats.	One bat emergence survey is required during the active bat season (May – September) to confirm presence or likely-absence of a bat roost in the building. Two surveyors are required to provide full coverage of the building. If bat roosts are confirmed in the building two additional surveys will be required to inform an EPSL application to Natural England. The EPSL application requires that all surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.

1.2 Site Context

The proposed development is located at approximate grid reference TQ 05343 77714 and covers an area of approx. 0.34Ha. The site sits on Moor Lane, Harmondsworth. The site encompasses five built structures consisting of 1 residential dwelling, 3 commercial buildings and a single outbuilding however only the timber outbuilding is due to be affected by the proposed development. The majority of the site is made up of developed land; sealed surface UKHabs code (u1b). The wider landscape is dominated by open green spaces with small pockets of residential development to the east. Notable landmarks in the area include Heathrow airport and associated lands to the south, Harmondsworth Moor to the west and the M4 to the north.

1.3 Scope of the Report

This report provides a description of the bat activity observed and recorded during BERS. The aim of the surveys was to determine the presence or likely absence of bats and to characterise any roosts present including species, number of individuals, number and location of roost access points, and to gain an understanding of how bats use the site. The report provides information on possible constraints to the proposed development as a result of bats and summarises the requirements for any mitigation proposals, including a European Protected Species Licence (EPSL), where appropriate, to achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- BERS of built structures has been undertaken to determine the presence or likely absence of bat roosts.
- An outline of potential impacts on any confirmed or unidentified roosts has been provided, based on the proposed development.
- Recommendations for mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) application if appropriate.
- Opportunities for the enhancement of the site for roosting, foraging and commuting bats have been set out.

2.0 Methodology

2.1 BERS

One survey, comprising of a single dusk emergence survey, was undertaken of building B1, as per the recommendations from the Preliminary Roost Assessment. The survey involved surveyors positioned around the building ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the building identified as providing suitable access points to bat roosts. Each surveyor was assigned an area of the building to observe for the duration of the survey.

Surveyors used heterodyne and frequency division bat detectors, and Echo Meter Touch detectors connected to iPads or Android tablets. Bat echolocation calls recorded during the surveys were analysed using Wildlife Acoustics sound analysis software Kaleidoscope V3.1.7 when required. The Echo Meter Touch includes an auto ID function for bat species; however, this is not 100% accurate and further post-survey sound analysis is often required to confirm species that could not be identified by the auto ID software during the survey. Surveyors also used head torches, survey record sheets and pens/pencils for recording all activity observed during the surveys. Each surveyor was also provided with a handheld radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the building.

Three infrared recording kits were set up to monitor the building during the BERS. This comprised one Nightfox Whisker set up on a tripod with two separate Nightfox XB5 Pro infrared lamps, and one Canon XA60 cameras with two Nightfox XB5 Pro infrared lamps. Analysis of the footage was subsequently undertaken to detect roosting activity.

Dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility.

Surveys were completed during optimal weather conditions i.e., when temperatures were above 10^{o}C, with no rain or strong winds (greater than 5m/s), as these adverse weather conditions can impact upon bat emergence and foraging behaviour. Periods of high moon illuminance (>80%) were also avoided insofar as possible as this can reduce bat activity.

2.2 Surveyors

The lead surveyor was Lewis Smith BSc (Hons) (NE Bat Class Licence: WML-CL17 & Accredited Agent, NE Bat Class Licence: WML-CL18) who has over 6 years' experience in consultant ecology. He was assisted by one other surveyor, also with several years of bat survey experience. The designated position of each surveyor during each survey is detailed in the tables in Section 3.1 below and shown on the plan in Appendix 3.

2.3 Limitations

This survey follows best practice guidance to confirm presence or likely absence of roosting bats and where present, characterise the roost. However, this information is collected at finite dates and times and provides an indication of the conditions on site only. The use of the building, and the site as a whole by bats, at all times cannot be established based on this information. Bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time.

3.0 Results and Evaluation

3.1 Survey Results

The result of the survey is provided in the table below and shown on the plan in Appendix 3.

Table 2: Survey results

Date	07-05-2025	
Start and end times.	20:20 – 22:05 **Sunset:** 20:35	
Weather conditions	**Start:** Temp: 12oC Relative Humidity: 53% Cloud Cover: 15% Wind: 6mph Rain: None Moon illuminance: 20%	**End**: Temp: 10oC Relative Humidity: 57% Cloud Cover: 10% Wind: 5mph Rain: None Moon illuminance: 40%
Surveyor (position) **As shown in Appendix 3**	**Name** – Lewis Smith (NE Bat Class Licence: WML-CL17 & Accredited Agent, NE Bat Class Licence: WML-CL18) (Position 1 – observing the southeastern elevation and roof structure of B1) **Name** – Sandra Jones - (Position 2 – observing the northeastern elevation and roof structure of B1)	

Building reference	**Surveyor position**	**Notes/observations:**
B1	1	Single Noctule heard not seen – 20:33
B1	2	Single Noctule heard not seen – 20:41
B1	2	Single Noctule foraging heard not seen– 20:43

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 5.

Bats are protected under the Wildlife and Countryside Act and the Conservation of Habitats and Species Regulations 2017 (amended by the Conservation of Habitats and Species Regulations (amendment) (EU Exit) Regulations 2019).

When bat roosts are present, the bat surveys undertaken at a site facilitate the characterisation of the roost type. This allows for appropriate mitigation and compensation to be designed to inform a European Protected Species Licence (EPSL) application to Natural England.

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust (BCT) publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, 2016).

Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.

Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.

Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites

Mating sites: sites where mating takes place from later summer and can continue through winter.

Maternity roost: where female bats give birth and raise their young to independence.

Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

An EPSL **will not be required** to enable the proposed works to be lawfully undertaken. Appropriate justification for this assessment is provided in Table 5 of this report.

4.2 Evaluation

Taking the field survey results into account, Table 5 presents an evaluation of the value of the buildings for roosting bats in relation to the proposed development.

Table 3: Evaluation of buildings on site for roosting bats

Feature	Survey conclusions (with justification)	Foreseen impacts	Recommendations Measures required to adhere to guidance, legislation and planning policies.	Enhancements
Building B1	A likely absence of roosting bats is confirmed from building B1	Bats are unlikely to be roosting within this building and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development. However, bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time. Any bats that begin using the building during the intervening period between the surveys being undertaken and works commencing could be injured or killed and their roosts destroyed.	A precautionary working method will be implemented during and post-development. This will include the following measures: • The potential roost features will be removed by hand (where a risk still remains following the pre-commencement inspection) prior to any mechanical demolition. • In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice. A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal.	The installation of a minimum of one bat box on retained or new buildings will provide additional roosting habitat for bats e.g. **Beaumaris Bat Box (buildings)** **Vivara Pro Woodstone Bat Box (buildings)** **Or a similar alternative brand.** Alternatively, bat boxes could be incorporated into new buildings on the site e.g. Habibat Bat Box Schwegler 1FR Bat Tubes

		The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only. External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest duration to reduce the amount of time the lights are on. Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	Bat tubes should be inserted into the fabric of the building during construction, positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance and facing landscapes areas, away from artificial light.

5.0 Bibliography

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Appendix 1: Proposed Development Plan

Appendix 2: Site Location Plan

Appendix 3: Bat Survey Plan

Appendix 4: Survey photos (Darkest time of the survey for each elevation)

Illumination is via Infra-Red torches and floodlights.

Appendix 5: Legislation and Planning Policy Related to Bats

LEGAL PROTECTION

All species of bat are fully protected under ***The Conservation of Habitats and Species Regulations 2017*** (as amended) through their inclusion on Schedule 2.

Regulation 43: Protection of certain wild animals - offences

(1) A person is guilty of an offence if they:

(a) Deliberately captures, injures or kills any wild animal of a European protected species,

(b) Deliberately disturbs wild animals of any such species,

(c) Deliberately takes or destroys the eggs of such an animal, or

(d) Damages or destroys a breeding site or resting place of such an animal,

(2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—

(a) To impair their ability:

(i) To survive, to breed or reproduce, or to rear or nurture their young; or

(ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or

(b) To affect significantly the local distribution or abundance of the species to which they belong.

Bats are also protected under the ***Wildlife and Countryside Act 1981*** (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by Natural England will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored. The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008).

There are 17 species of bat breeding in England and Natural England issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

- include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- scientific and educational purposes;
- ringing or marking; and,
- conserving wild animals.

Development works fall under the first purpose and Natural England issues bat mitigation licences for developments.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to ‘local populations’ of EPS and not individuals/site populations.