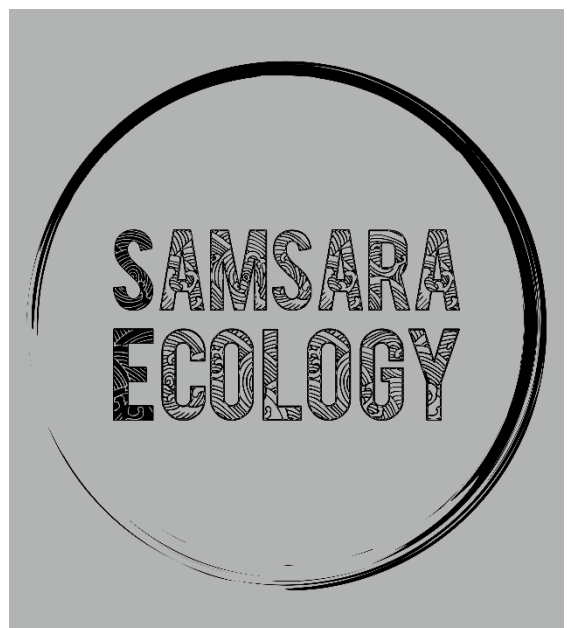


Bat Surveys
Rhencullen Farm
Linda Richardson
Project Number: 124
Version:
June 2023



Rhencullen Farm, Chivery

Document Control

Project Information	
Client	Linda Richardson
Project Type	Bat Surveys
Project Name	Rhencullen Farm
Project Location	Chivery, Tring, HP23 6LD

Copyright Samsara Ecology Ltd. All rights reserved.

No part of this report may be copied or reproduced by any means without prior written permission from Samara Ecology Ltd.

This report has been prepared for the exclusive use of the commissioning party. Unless otherwise agreed in writing by Samsara Ecology Ltd, no other party may use, make use of, or rely on the report's contents.

Samsara Ecology Ltd accepts no liability for any use of this report other than for its originally prepared and provided purposes.

Opinions and information contained in the report are on the basis of Samsara Ecology Ltd using due skill, care, and diligence in the preparation of the same, and no explicit warranty is provided as to their accuracy. It should be noted, and it is expressly stated, that no independent verification of any of the documents or information supplied to Samsara Ecology has been made.

Any legal information Samsara Ecology Ltd provides is an outline only, intended for general information and does not constitute legal advice. Consult the original legal documents and/or seek legal advice for definitive information.

It is important that planning decisions are based on up-to-date ecological reports and survey data. However, it is difficult to set a specific timeframe over which reports, or survey data should be considered valid, as this will vary in different circumstances. In some cases, there will be specific guidance on this (such as for the age of data which may be used to support an EPS licence application). In circumstances where such advice does not already exist, CIEEM provides general guidance in its Advice Note on the Lifespan of Ecological Reports and Surveys¹, which should be referred to if this report is not submitted within 12 months of the first production.

¹ <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

Rhencullen Farm, Chivery

Contents

1	Introduction	1
1.2	Purpose of the Report	1
1.3	Suitably Qualified Ecologist (SQE)	1
2	Methodology	2
2.1	Desk Study	2
2.2	Survey Methods	2
2.3	Limitations to the Surveys	4
3	Baseline Ecological Conditions.....	5
3.1	Desk Study	5
3.2	Habitats offsite and onsite	5
4	Results and Assessment.....	7
4.1	Survey Details	7
4.2	Survey Results	7
4.3	Impact Assessment	9
4.4	Proposed Development.....	9
4.5	Assessment.....	9
5	Recommendations	10
5.1	Protected Species Licencing (PSL)	10
5.2	Timings of works	10
5.3	Ecological Clerk of Works (ECoW)	10
5.4	Retention, mitigation, or compensation.....	10
5.5	Lighting.....	11
5.6	Enhancement opportunities	11
6	Conclusions.....	12
	Appendix 1 Legislation and Policy.....	13
	Appendix 2 Protected Species Licencing.....	16
	Appendix 3 Bat Hibernation Surveys	17

Rhencullen Farm, Chivery

1 Introduction

- 1.1.1 Samsara Ecology Ltd was commissioned by Linda Richardson (the Client) in April 2021 and again in May 2023 to undertake bat surveys of Rhencullen Farm (the Site) [Ordnance Survey (OS) grid reference SP 89799 09164].
- 1.1.2 The surveys were completed following an Ecological Impact Assessment (EclA) undertaken by Ecology by Design in March 2021 and updated in spring 2023. Further surveys were recommended in the Ecology by Design report to establish the presence or likely absence of bat roosts in the building identified as B1. Samsara Ecology Ltd was commissioned to undertake these additional surveys, and this report details the methods, results, and subsequent recommendations.
- 1.1.3 This report relates only to bat surveys of the residential farmhouse. The Ecology by Design report gives recommendations relating to other species and additional ecological mitigation, compensation, and enhancements.
- 1.1.4 The Client is submitting a planning application for extension and alteration to the farmhouse.
- 1.1.5 The Ecology by Design EclA undertaken in March 2021 recorded a single brown long-eared bat roosting in the loft of the farmhouse. Full hibernation surveys undertaken by Samsara Ecology in January and February 2023 found no evidence of hibernation bats. It concluded that the Site is a transitional roost for a brown long-eared bat. The hibernation survey report is given in Appendix 3

1.2 Purpose of the Report

- 1.2.1 This report has been written in accordance with the Bat Conservation Trust's bat survey guidelines and aims to:
- Identify the presence or likely absence of bat roosts at the Site.
 - Inform the Client on where any significant impacts to bats can be avoided or minimised where possible in line with legal and policy implications.
 - Inform the Client of the need for protected species licences and the information that they will contain.
 - Make recommendations for enhancement where there are opportunities for the project to achieve a net gain in biodiversity in accordance with local and national policies.
- 1.2.2 All relevant planning policies and legislation are presented in **Appendix 1**.

1.3 Suitably Qualified Ecologist (SQE)

- 1.3.1 The report has been written by Andy Swan, BSc, MSc (Hons), a subcontractor to Samsara Ecology Ltd and an SQE with over 20 years of professional experience in environmental consultancy. The report has been reviewed for issue by Hayley Farnell, BSc, MSc (Hons), an SQE with over 19 years of professional experience in environmental consultancy. Andy and Hayley are full members of the Chartered Institute of Ecological and Environmental Management (CIEEM) and hold Class 2 survey licenses for bats [Licence Numbers: 2015-35890-CLS-CLS and 2015 -15896-CLS-CLS].

Rhencullen Farm, Chivery

2 Methodology

2.1 Desk Study

- 2.1.1 An online desk study has been undertaken using tools within the Multi-Agency Geographical Information Centre (MAGIC)². This has allowed for the identification of the location of Special Areas of Conservation (SACs), for which bats are a qualifying reason for designation, within 5 km of the Site's boundaries.
- 2.1.2 Information regarding the location of Protected Species Licences (PSL) for bats granted by Natural England within 5 km of the Site has also been obtained using the tools within MAGIC.
- 2.1.3 Aerial mapping has been used to provide the context of surrounding habitats.

2.2 Survey Methods

2.2.1 Presence and Absence Surveys

- 2.2.1 In accordance with the survey guidelines, the presence or likely absence of bats was identified using emergence and -re-entry survey methods.
- 2.2.2 Emergence surveys begin 15 minutes before sunset and continue for up to two hours. Re-entry surveys begin up to 2 hours before dawn and stop at sunrise. During this time, the structure is observed by surveyors equipped with handheld bat detectors that record bat calls for later analysis. The surveyors make notes if bats are seen to emerge or re-enter the structure, which identifies the time and location of the activity.
- 2.2.3 For the 2023 surveys, the surveyors were also equipped with reflectance Infra Red cameras (Sionyx aurora sport and Sionyx aurora pro), set up to capture 60fps. Nightfox IR torches also allowed the cameras to capture images in low light.
- 2.2.4 Bat calls are analysed following the surveys using appropriate software to identify the species of bats recorded. The video from the cameras was watched back at 1.5x speed, except when a surveyor noted an emergence, wherein 5 minutes of footage was observed at normal speed around the time noted.
- 2.2.5 The structure was observed from 2 vantage points. The locations are presented in Figure 1, and surveyor details are given in Table 1.

² <https://magic.defra.gov.uk/MagicMap.aspx> [Accessed 19/06/23]

Figure 1 – Vantage Points



Table 1 – Surveyor Details

Surveyor Name	Licence holder	Licence number	Equipment Used
Andy Swan	Yes	2015-35890-CLS-CLS	Anabat Express, echo meter touch and Syonix Aurora
Rob Wyatt	No	N/A	Echo meter touch and Syonix Aurora Sport

2.2.6 BCT has recently published an interim guidance note³ relaxing the requirement for dawn surveys. The note superseded the 2016 guidelines and was written in consultation with Natural England and leading experts. The note cites recent publications that '*create questions about the efficacy of dawn surveys for determining the presence or likely absence of bats and the value of these over dusk surveys for this specific purpose*'. One main concern is that a recent review of empirical data shows that bats will often return to roosts before dawn surveys commence, and hence roosts can be missed during this type of survey.

³ Bat Conservation Trust, May 2022. Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys.

Rhencullen Farm, Chivery

- 2.2.7 The surveyors were equipped with cameras with night vision capability, allowing a clear view of the structures in low light levels. In accordance with the interim guidance note, and due to being aided by suitable Night Vision Aids (NVA), only dusk surveys were undertaken in 2023.
- 2.2.8 A dusk and a dawn survey were undertaken in 2021, and three dusk surveys (with NVAs) were undertaken in 2023.

2.3 Limitations to the Surveys

- 2.3.1 Any ecology assessment must be considered a 'snapshot' of the site conditions at the time of the survey. Ecological constraints will change over time, and therefore the report's findings are considered valid for one year, after which the report should be reviewed to assess whether the survey should be updated.
- 2.3.2 There were no access constraints for the survey.
- 2.3.3 No constraints were such that they affect the overall conclusions and recommendations made herein.

Rhencullen Farm, Chivery

3 Baseline Ecological Conditions

3.1 Desk Study

- 3.1.1 There are no Special Areas of Conservation, for which bats are a qualifying reason for designation, within 5 km of the Site.
- 3.1.2 Natural England has granted 11 protected Species Licences for bats within 5 km of the Site. The closest is located 0.7 km southeast of the Site and was issued in 2015 for the destruction of resting places of common pipistrelle and brown long-eared bat.

3.2 Habitats offsite and onsite

- 3.2.1 Detailed habitat descriptions are given in the Ecology by Design report.
- 3.2.2 The Site is located in rural Buckinghamshire, approximately 3 km east of Wendover. Immediate surroundings include lawn and horse pasture. The wider landscape is predominantly arable and pasture, with large areas of mixed woodland located within 100m of the building.
- 3.2.3 The Site in the context of the surrounding habitats is presented in Figure 2

Figure 2 - The Surrounding Habitats



Rhencullen Farm, Chivery

3.2.4 The structures on the Site are described in Table 2, and the photos are presented below.

Table 2 – Structures on the Site

Structure ID	Description	Level of Survey
B1 (Farmhouse)	The building is a two-storey residential property of brick construction with a half-hipped, tiled roof. Dormer windows are on the north and south faces, each with hanging tiles. The living space extends into the roof void, leaving a low (approx. 1.2m) loft void above. Internally the roof tiles are lined with a modern breathable membrane.	<ul style="list-style-type: none"> • Preliminary Roost Assessment. • Two presence/absence surveys in 2021 • Three presence/absence surveys in 2023 • Hibernation surveys in 2023



Photograph 1 - South and East aspects of the property



Photograph 2 – South and West aspects



Photograph 3 – North and East aspects



Photograph 4 – Loft void

Rhencullen Farm, Chivery

4 Results and Assessment

4.1 Survey Details

4.1.1 The dates, times, and weather conditions during each survey are presented in Table 3.

Table 3 – Survey Details (2021 & 2023)

Structure ID	Date	Time	Start			Finish			
			Temp °C	Wind ^a	Rain	Time	Temp °C	Wind ^a	Rain
B1	11/05/21	20:27	12	1	0	22:12	10	1 - 2	0
B1	26/05/21	03:25	8	1	0	04:55	7.5	0	0
B1	02/05/23	20:12	12	2	0	21:57	10	1	0
B1	16/05/23	20:35	13	1	0	22:20	11	1	0
B1	07/06/23	21:02	16	1	0	22:47	14	0	0

^a Beaufort scale

4.2 Survey Results

4.2.1 The results of the surveys are presented in Table 4. No bat foraging was recorded during the 2023 surveys in the immediate vicinity of the farmhouse, and levels of commuting were very low. The only bat activity recorded in the 2021 dusk and dawn surveys was the single roosting common pipistrelle. The immediate vicinity of the farmhouse does not form an important foraging or commuting resource for bats.

4.2.2 The farmhouse is categorised as a day roost for up to two common pipistrelle bats and a transitional roost of a brown long-eared bat (see Appendix 3).

Table 4 – Summary of Bat Survey Results (2021 & 2023)

Structure ID	Date	Species (and number)	Emergence or Re-entry	Access Location	Description of roost location (i.e., under roof tiles)
Dusk					
B1	11/05/21	Common pipistrelle (1)	Emergence (20:57 hrs)	East side of the eastern dormer on the north face	Under a hanging tile
Summary of activity during the survey:					

Rhencullen Farm, Chivery

Structure ID	Date	Species (and number)	Emergence or Re-entry	Access Location	Description of roost location (i.e., under roof tiles)
No other bat activity was recorded than the roosting common pipistrelle.					
Dawn					
B1	26/05/21	0	0	-	-
Summary of activity during the survey: No bats were recorded.					
Dusk					
Farmhouse	02/05/23	Common pipistrelle (1)	Emergence (21:01 hrs)	West side of the western dormer on the north face of the building.	Under hanging tile
Summary of activity during the survey: Very low levels of common pipistrelle bat activity in the vicinity of the farmhouse.					
Dusk					
Farm House	16/05/23	Common pipistrelle (2)	Emergence (21:02hrs, 21:03hrs)	West side of the east and central dormers on the north face of the building	Under hanging tiles
Summary of activity during the survey: Very low levels of common pipistrelle activity and two passes of noctule bat.					
Dusk					
Farm House	07/06/23	Common pipistrelle (1)	Emergence (21:42)	The apex of the roof at the western hip.	Under roof tile.
Summary of activity during the survey: Very low levels of common pipistrelle activity and a single pass of soprano pipistrelle.					

4.2.3 The roost locations are shown in Photo 5.

Photo 5 - Roost Locations



4.2.4 A maximum of two individual roosting common pipistrelle bats were recorded on any one survey.

4.3 Impact Assessment

4.4 Proposed Development

4.4.1 The Client has applied for planning permission for extension and alterations to the property.

4.5 Assessment

4.5.1 Common pipistrelle bats are relatively common and widespread throughout the UK and are often found roosting in residential properties under roof tiles.

4.5.2 The species is widespread and common in Buckinghamshire⁴

4.5.3 Without appropriate mitigation, bats may be injured or killed during the construction works and roosts destroyed.

4.5.4 The proposed development will result in the loss of a day roost of small numbers of common pipistrelle bats and the temporary loss of a transitional roost of a brown long-eared bat (see Appendix 3).

⁴ <https://www.northbucksbatgroup.org.uk/index.html>

Rhencullen Farm, Chivery

5 Recommendations

5.1 Protected Species Licencing (PSL)

5.1.1 A protected species licence will be required from Natural England to allow the works to proceed lawfully. Details of licencing procedures are provided in Appendix 2.

5.2 Timings of works

5.2.1 No specific timing restrictions are required for the roost type identified during the surveys.

5.3 Ecological Clerk of Works (ECoW)


5.3.1 An ecological clerk of works will be required to supervise the deconstruction of the roof during the construction works. The clerk of works will undertake the following tasks:

- Provide a toolbox talk to all contractors working in the area of the roost, which will inform them of the legislation, identification, and methods to be used concerning the bats identified on the Site.
- Supervise the works as set out in the method statement of the licence.
- Investigate roost spaces before works begin for the presence of bats.
- Install temporary or permanent exclusion devices if included within the method statement.
- Stop works if and when a bat is discovered and move it out of the way by hand into a temporary and secure box.
- Release any bats that have been removed from the construction area at dusk.


5.4 Retention, mitigation, or compensation

5.4.1 The transitional brown long-eared roost will be retained by creating a bat access point to the loft void of the completed farmhouse development. The loft volume in the completed scheme will be similar to the existing void, and construction will be of the same materials. A bespoke bat access tile will be fitted, and an example is given in Table 5. Compensation for the loss of the common pipistrelle bat day roost will be an integrated bat box that can be inset into a new brick gable of the completed farmhouse. An example of the integrated box is shown in Table 5.

Table 5 -Example of Bat Compensation Features

Description	Example Dimensions	Example Image
<p>The bat access tile set provides purpose-made access points to loft voids when an opening is made in the felt liner below.</p> <p>The bat access tile set includes three tiles available</p>	<p>Width: 255mm</p> <p>Height: 160mm</p> <p>Lap: 65mm</p> <p>Gauge: 95mm</p> <p>Handmade, so measurements approx.</p>	

Rhencullen Farm, Chivery

Description	Example Dimensions	Example Image
<p>in five traditional roof tile colours.</p>		<p>Photo courtesy of NHBS</p>
<p>A single chamber box with a specially designed internal panel or feature which allows bats to hang upside down in the roost.</p> <p>It is recommended that boxes have open bottoms to allow droppings to fall out and not build up in the cavity.</p> <p>The box will provide a space within the façade for bats to roost but will prevent them from accessing the cavity walls.</p> <p>Boxes can have bespoke facings which allow them to match the wall in which they are integrated, including timber.</p>	<p>Width: 215 mm Height: 440 mm Depth: 102 mm Weight: 9 kg</p>	 <p>Photo courtesy of Habibat</p>

5.5 Lighting

5.5.1 It is recommended that lighting for the development be designed according to the guidance set out in the Institute for Lighting Professionals (ILP) note on bats and artificial lighting. This includes advice such as:

- Using luminaires that lack UV elements when manufactured.
- Using LED luminaires where possible.
- Adopting a warm white spectrum (ideally <2700 kelvin).
- Using luminaires that feature a peak wavelength higher than 550 nm.
- Setting any external security lighting on motion detectors and short (1 min) timers.
- Recessing internal luminaires when installed in proximity to windows to reduce glare and light spill.

5.5.2 It is also recommended that the boundary vegetation not be lit by external lighting to maintain a dark corridor around the Site.

5.6 Enhancement opportunities

5.6.1 Enhancements for bats are detailed in the Ecology by Design EIA report (Section 5.5.7) and consist of the installation of four additional bat boxes, two in trees and two within the construction of the new barn in the northeast of the Site.

Rhencullen Farm, Chivery

6 Conclusions

- 6.1.1 Samsara Ecology Ltd completed bat surveys at Rhencullen Farm in May 2021 and May/June 2023 to establish the presence or likely absence of bats roosting at the Site.
- 6.1.2 Further surveys identified a day roost of small numbers of common pipistrelle bats. This is in addition to the transitional brown long-eared roost identified during preliminary and hibernation surveys. The hibernation survey found no evidence of hibernating bats (see Appendix 3)
- 6.1.3 A protected species licence will be required to be granted by Natural England before works being on the Site. The method statement within the licence application will detail the full methods, mitigation and compensation required to allow the construction works to be undertaken lawfully.
- 6.1.4 Enhancement opportunities are given in the Ecology by Design report.

Appendix 1 Legislation and Policy

Many active pieces of legislation are aimed at protecting wildlife and habitats within the UK. These are summarised in Table 6

Table 6 – Summary of Primary Legislation in the UK

Legislation or Species	Description
The Wildlife and Countryside Act (WCA) 1981	<p>The WCA is the primary piece of legislation relating to nature conservation in Great Britain. The Act is supplemented by provisions in the CRoW Act 2000 and the NERC Act 2006. It provides for the notification and confirmation of Sites of Special Scientific Interest by Natural England. It also sets out, in schedules, important and invasive species which are legally protected or require active management.</p> <p>The WCA consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) in Great Britain (NB Council Directive 79/409/EEC has now been replaced by Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version)).</p>
The Conservation of Habitats and Species Regulations 2017	<p>The Conservation of Habitats and Species Regulations 2017 consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations came into force on 30th November 2017 and extend to England and Wales (including the adjacent territorial sea) and, to a limited extent, in Scotland (reserved matters) and Northern Ireland (excepted matters).</p>
The Countryside and Rights of Way (CRoW) Act 2000	<p>The CRoW applies to England and Wales only, received Royal Assent on 30 November 2000, with the provisions it contains being brought into force in incremental steps over subsequent years. Containing five Parts and 16 Schedules, the Act provides for public access on foot to certain types of land, amends the law relating to public rights of way, increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB). The Act is compliant with the provisions of the European Convention on Human Rights, requiring consultation where the rights of the individual may be affected by these measures.</p>
Natural Environment & Rural Communities (NERC) Act 2006	<p>The NERC places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.</p> <p>The NERC Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list replaces the UK Biodiversity Action Plans (UKBAP) and has been drawn up in consultation with Natural England, as required by the Act.</p> <p>The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act, to have regard to the conservation of biodiversity in England when carrying out their normal functions.</p>

Legislation or Species	Description
	<p>Fifty-six habitats of principal importance (HPI) are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. Of most relevance to the Site, they include ponds, open mosaic habitats on previously developed land and lowland heathland.</p> <p>There are 943 species of principal importance (SPI) included on the S41 list. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.</p>
<p>Non-native species</p>	<p>Certain non-native plants and animals are recognised as invasive. The WCA makes it an offence to:</p> <ul style="list-style-type: none"> • Release or allow to escape into the wild any animal which is not ordinarily resident in Great Britain and is not a regular visitor to Great Britain in a wild state, or is listed in Schedule 9 to the Act. • Plant or otherwise cause to grow in the wild any plant listed in Schedule 9 to the Act. • Sell, offer or expose for sale, or possess or transport for the purposes of sale, non-native species that are listed in Schedule 9. <p>Species control agreements and orders can be made by environmental authorities to ensure that landowners take action on invasive non-native species. The NERC Act allows the Secretary of State to issue or approve codes of practice on invasive species. The codes alone cannot be used to prosecute but must be taken into account by a court in any case in which they appear to the court to be relevant.</p>
<p>Bats</p>	<p>All species of bat in Britain are 'European Protected Species' (EPS) and are protected under the Conservation of Habitats and Species Regulations 2010, and the Wildlife and Countryside Act 1981, as amended by the Countryside & Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to EPS and their habitats, making it an offence to:</p> <ul style="list-style-type: none"> • Deliberately capture, injure or kill a bat. • Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats. • Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time). • Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat. • Intentionally or recklessly obstruct access to a bat roost. <p>The Natural Environment & Rural Communities (NERC) Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.</p>

Policy

National Planning Policy Framework (NPPF) (Revised – July 2021)

Chapter 15 of the National Planning Policy Framework (NPPF) aims at conserving and enhancing the natural environment. It states that planning policies and decisions should contribute to and enhance the natural and local environment. In terms of biodiversity, this should be achieved by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils,
- recognising the intrinsic character and beauty of the countryside, and wider benefits from natural capital and ecosystem services, and
- minimising impacts on and providing net gains for biodiversity by establishing coherent ecological networks that are more resilient to current and future pressures.

The NPPF states that to protect and enhance biodiversity, [local] plans should:

- identify and safeguard components of wildlife-rich habitats and wider ecological networks, and
- promote the conservation and enhancement of priority habitats and ecological networks and the protection and recovery of priority species.

The NPPF states that when determining planning applications, local planning authorities should refuse applications which:

- cause significant harm to biodiversity which cannot be avoided, adequately mitigated or, as a last resort, compensated for,
- plan to develop on land within or outside of a Site of Special Scientific Interest (SSSI) and which is likely to have an adverse effect on it (either individually or in combination with other developments) and/or
- result in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) unless there are wholly exceptional reasons and where a suitable compensation strategy exists.

The local planning authority should support developments whose primary objective is to conserve or enhance biodiversity, while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

HM Government – 25-Year Environment Plan

The 25-year plan to improve the environment sets out what the government intends to do to increase biodiversity, reduce climate change and secure ecosystem services. It aims to deliver cleaner air and water, protect threatened species, and provide abundant wildlife habitats.

Appendix 2 Protected Species Licencing

The animal and plant species listed on Schedule 2 and 4 of The Conservation of Habitats and Species Regulations 2010 (as amended) are referred to as European Protected Species (EPS).

If a project is likely to impact an EPS and breach the Conservation of Habitats and Species Regulations 2010, and where best practice guidance avoidance measures either cannot be followed or are not applicable, licences can be obtained to allow persons to carry out activities that would otherwise be prohibited, without committing an offence. Natural England has powers to grant such licences in England if it meets three 'derogation tests'.

The three tests are that:

1. The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety ('public' can, in some circumstances, be interpreted as an individual or family).
2. There must be no satisfactory alternative.
3. Favourable conservation status of the species must be maintained.

The licence application consists of three documents,

- Section one - Application details (a basic application form),
- Section two - Method Statement (MS) (specifying the proposals, mitigation, compensation, and schedule and demonstrating how the project meets Test 3) and
- Section three - Reasoned Statement (RS) (demonstrating how the project meets Tests 1 and 2).

The Application form and Method Statement are usually completed by your ecologist (who is included in the application as a Named Ecologist), and the Reasoned Statement by the Client or their planning consultant or environmental lawyer.

You don't need to include a reasoned statement where bats and their roosts will be affected by:

- repairs and maintenance
- roof replacements, loft conversions and extensions
- renovations of existing domestic dwellings and associated structures, such as garages
- housing developments of less than 1 hectare, including:
 - existing buildings and associated structures that may need to be demolished before redevelopment takes place (whether domestic dwellings or other types of buildings)
 - barn conversions for domestic dwellings (this doesn't include conversions for commercial use, such as holiday lets)

The developer is usually the applicant and licensee and is legally responsible for carrying out the method statement. To protect other people working on the project (and also to tie them to the MS legally), contractors and consultants that may affect the EPS, such as demolition or construction contractors and the ecologist, should be appointed as 'accredited agents' to the licence by the licensee.

Natural England aims to determine an application within 30 working days, at which point they make a Further Information Request (FIR) if there are uncertainties or they do not agree with the MS or RS. At the end of the licensable activities, the licensee is required to submit a licence return (although this is usually completed on their behalf by the Named Ecologist), where they declare the success (or failure) of the mitigation and are obliged to report on breaches to the MS.

Appendix 3 Bat Hibernation Surveys



Bat Hibernation Surveys
Rhencullen Farm
Mrs Linda Richardson
Project Number: 124
Version: 01
February 2023



Rhencullen Farm, Chivery

Document Control

Project Information	
Client	Linda Richardson
Project Type	Bat Hibernation Surveys
Project Name	Rhencullen Farm
Project Location	Chivery, Tring, HP23 6LD

Copyright Samsara Ecology Ltd. All rights reserved.

No part of this report may be copied or reproduced by any means without prior written permission from Samsara Ecology Ltd.

This report has been prepared for the exclusive use of the commissioning party and, unless otherwise agreed in writing by Samsara Ecology Ltd, no other party may use, make use of, or rely on the contents of the report.

Samsara Ecology Ltd accepts no liability for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information contained in the report are on the basis of Samsara Ecology Ltd using due skill, care, and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy. It should be noted, and it is expressly stated, that no independent verification of any of the documents or information supplied to Samsara Ecology has been made.

Any legal information provided by Samsara Ecology Ltd is an outline only, intended for general information and does not constitute legal advice. Consult the original legal documents and/or seek legal advice for definitive information.

It is important that planning decisions are based on up-to-date ecological reports and survey data. However, it is difficult to set a specific timeframe over which reports, or survey data should be considered valid, as this will vary in different circumstances. In some cases, there will be specific guidance on this (such as for the age of data which may be used to support an EPS licence application). In circumstances where such advice does not already exist, CIEEM provides general guidance in its Advice Note on the Lifespan of Ecological Reports and Surveys¹ which should be referred to if this report is not submitted within 12 months of the first production.

¹ <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

Contents

1	Introduction	1
1.2	Purpose of the Report	1
1.3	Suitably Qualified Ecologist (SQE)	1
2	Methodology	2
2.1	Hibernation Surveys	2
2.2	Limitations to the Surveys	2
3	Baseline Conditions	3
4	Results and Discussion	4
5	Recommendations	5
5.1	Protected Species Licencing (PSL)	5
5.2	Timings of works	5
5.3	Ecological Clerk of Works (ECoW)	5
5.4	Retention, mitigation, or compensation	5
5.5	Enhancement opportunities	6
6	Conclusions	7
	Appendix 1 Legislation and Policy	8
	Appendix 2 Protected Species Licencing	11



Rhencullen Farm, Chivery

1 Introduction

1.1.1 Samsara Ecology Ltd was commissioned by Mrs Linda Richardson (the Client) in January 2023 to undertake bat hibernation surveys of Rhencullen Farm (the Site) [Ordnance Survey (OS) grid reference SP 89799 09164].

1.1.2 The surveys were completed following an Ecological Impact Assessment (EclA) undertaken by Ecology by Design in March 2021, and bat surveys undertaken by Samsara Ecology in May 2021.

1.2 Purpose of the Report

1.2.1 This report has been written in accordance with the Bat Conservation Trust's bat survey guidelines and aims to:

- Identify the presence or likely absence of hibernating bats at the Site.
- Inform the Client on where any significant impacts to hibernating bats can be avoided or minimised where possible in line with legal and policy implications.
- Inform the Client of the need for protected species licences and the information that they will contain.
- Update information regarding roost status at the Site.

1.2.2 All relevant planning policies and legislation are presented in **Appendix 1**.

1.3 Suitably Qualified Ecologist (SQE)

1.3.1 The survey and report writing were undertaken by Andy Swan BSc, MSc (hons), a subcontractor to Samsara Ecology and an SQE with over 20 years of professional experience in environmental consultancy.

1.3.2 The report has been reviewed for issue by Hayley Farnell BSc, MSc (hons), an SQE with over 18 years of professional experience in environmental consultancy.

1.3.3 Andy and Hayley are both full members of the Chartered Institute of Ecological and Environmental Management (CIEEM) and hold Class 2 survey licence for bats [Licence Numbers : 2015-35890-CLS-CLS and 2015 -15896-CLS-CLS].

Rhencullen Farm, Chivery

2 Methodology

2.1 Hibernation Surveys

- 2.1.1 Bats hibernate between November and March and require stable micro-climates to achieve a state of torpor. They tend to be in the deepest hibernation between December and February when temperatures are lowest. Therefore, hibernation checks can be conducted during this time to confirm presence or likely absence of hibernating bats.
- 2.1.2 Hibernation checks involve visual inspections and passive monitoring with the aid of static detectors. Bats will occasionally come out of torpor to feed, drink or move to a new position if overnight temperatures increase during the winter months. Therefore, static detectors can pick up any echolocation emitted by bats during this period.
- 2.1.3 Two visual inspections were carried out in mid-January and mid-February. A static bat detector (Anabat express) was deployed in the loft space for four weeks between the 20th of January 2023 and the 20th of February 2023. The batteries were changed mid-way through the four-week survey period.

2.2 Limitations to the Surveys

- 2.2.1 Any ecology assessment must be considered as a 'snapshot' of the site conditions at the time of the survey. Ecological constraints will change over time, and therefore the findings of this report are considered to be valid for a period of one year, after which the report should be reviewed to assess whether the survey should be updated.
- 2.2.2 There were no access constraints for the survey.
- 2.2.3 No constraints were such that they affect the overall conclusions and recommendations made herein.

Rhencullen Farm, Chivery

3 Baseline Conditions

- 3.1.1 Ecology by Design found a single brown long-eared bat *Plecotus auritus* and seven bat droppings in the west end of the loft void of the farmhouse. This bat was recorded on 25 March 2021 and the building was categorised as a hibernation roost for the purposes of the impact assessment.
- 3.1.2 The building was also categorised as moderate suitability for use by roosting bats during the active season. In accordance with best practice Ecology by Design recommended two further surveys be conducted between May and September.
- 3.1.3 The further surveys were undertaken by Samsara Ecology in May 2021. A single common pipistrelle emerged from under a hanging tile at 20:57 on the 11/05/2021. No bats emerged during the second survey conducted on the 26/05/2021. The report concluded that the building supported a day roost of a common pipistrelle bat.

Rhencullen Farm, Chivery

4 Results and Discussion

- 4.1.1 The brown long-eared bat found in March 2021 was found roosting during a month with higher than usual temperatures for that time of year, for which met office recorded temperatures 0.9⁰ C above the 1981-2010 average².
- 4.1.2 In 2023, no bats were seen within the loft during the surveys and no bat echolocation was recorded by the bat detector placed within the loft.
- 4.1.3 Five bat droppings were recorded in the loft void in January 2023.
- 4.1.4 Temperatures during the survey were often below zero degrees and daily average temperatures did not exceed single figures. The lowest temperature recorded in the area over the survey period was minus five degrees³.
- 4.1.5 Bat are more likely to be in full hibernation during colder spells, therefore, the survey covering this cold period increases the confidence in the likely absence of hibernation.
- 4.1.6 Analysis of the EclA results, the further survey report and the 2023 data concludes that the building supports a transitional roost of a brown-long eared bat and a occasional day roost of a common pipistrelle.
- 4.1.7 The building does not support hibernating bats.

² Met office official blog <https://blog.metoffice.gov.uk/tag/march-2021/> [Accessed 28/03/2022]

³ <https://www.wunderground.com/history/monthly/gb/luton/EGGW/date/2023-1>



5 Recommendations

5.1 Protected Species Licencing (PSL)

- 5.1.1 A protected species licence will be required from Natural England to allow the works to proceed lawfully.
- 5.1.2 Details of licencing procedures and the two options that can be applied to this project are provided in Appendix 2.

5.2 Timings of works

- 5.2.1 There are no restriction to the timings of the works for the roosts which have been identified during the surveys.



5.3 Ecological Clerk of Works (ECoW)

- 5.3.1 An ecological clerk of works will be required to supervise the deconstruction of the roof and removal of the hanging tiles during the construction works. The clerk of works will undertake the following tasks:
- Provide a toolbox talk to all contractors working in the area of the roost, which will inform them of the legislation, identification, and methods to be used concerning the bats identified on the Site.
 - Supervise the works as set out in the method statement of the licence.
 - Investigate roost spaces before works begin for the presence of bats.
 - Install temporary or permanent exclusion devices, if included within the method statement.
 - Stop works if and when a bat is discovered and move it out of the way by hand into a temporary and secure box.
 - Release any bats that have been removed from the construction area, at dusk.

5.4 Retention, mitigation, or compensation

- 5.4.1 Mitigation will be required during construction to avoid the killing, injury or harm to bats roosting within the building. Mitigation will be in the form of applying precautionary methods when stripping the roof tiles. Under the supervision of the ECoW, each tile to be removed will be lifted by hand, or using the aid of hand tools, turned over carefully, and checked for bats underneath or clinging to the tile. The tile can be discarded once the contractor and ECoW are sure there is no bat present.
- 5.4.2 The transitional brown long-eared roost will be retained by creating a bat access point to the loft void of the completed farmhouse development. The volume of the loft in the completed scheme will be similar to the existing void and construction will be of the same materials. A bespoke bat access tile will be fitted, an example is given in Table 1. Compensation for the loss of common pipistrelle bat day roost will be in the form of an integrated bat box which can be inset into a new brick gable of the completed farmhouse. An example of the integrated box is shown in Table 1.

Table 1 - Example of Bat Mitigation Features

Description	Example Dimensions	Example Image
<p>The bat access tile set provides a purpose made access points to loft voids when an opening is made in the felt liner below.</p> <p>The bat access tile set includes three tiles available in five traditional roof tile colours.</p>	<p>Width: 255mm Height: 160mm Lap: 65mm Gauge: 95mm</p> <p>Handmade so measurements approx.</p>	 <p>Photo courtesy of NHBS</p>
<p>A single chamber box with a specially designed internal panel or feature which allows bats to hang upside down in the roost.</p> <p>It is recommended that boxes have open bottoms to allow droppings to fall out and not build up in the cavity.</p> <p>The box will provide a space within the façade for bats to roost but will prevent them from accessing the cavity walls.</p> <p>Boxes can have bespoke facings which allow them to match the wall in which they are integrated, including timber.</p>	<p>Width: 215 mm Height: 440 mm Depth: 102 mm Weight: 9 kg</p>	 <p>Photo courtesy of Habibat</p>

5.5 Enhancement opportunities

- 5.5.1 Enhancements for bats are detailed in the Ecology by Design EIA report (Section 5.5.7) and consist of installation of four additional bat boxes, two in trees and two within the construction of the new barn in the north east of the Site.

Rhencullen Farm, Chivery

6 Conclusions

- 6.1.1 Samsara ecology completed surveys at Rhencullen Farm between January and February 2023 to establish the presence or likely absence of hibernating bats.
- 6.1.2 No bats were seen in situ in the loft during the surveys and no bat echolocation was recorded by the bat detector placed within the loft.
- 6.1.3 Following all the surveys carried out at the Site to date the building is categorised as a transitional roost for a brown long-eared bat and an occasional day roost for a common pipistrelle.
- 6.1.4 A protected species licence will be required to be granted by Natural England before the start of any works to the roof or roof tiles of the farmhouse.

Appendix 1 Legislation and Policy

Many active pieces of legislation are aimed at protecting wildlife and habitats within the UK. These are summarised in Table 1

Table 1 – Summary of Primary Legislation in the UK

Legislation or Species	Description
The Wildlife and Countryside Act (WCA) 1981	<p>The WCA is the primary piece of legislation relating to nature conservation in Great Britain. The Act is supplemented by provisions in the CRoW Act 2000 and the NERC Act 2006. It provides for the notification and confirmation of Sites of Special Scientific Interest by Natural England. It also sets out, in schedules, important and invasive species which are legally protected or require active management.</p> <p>The WCA consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) in Great Britain (NB Council Directive 79/409/EEC has now been replaced by Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version)).</p>
The Conservation of Habitats and Species Regulations 2017	<p>The Conservation of Habitats and Species Regulations 2017 consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations came into force on 30th November 2017 and extend to England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters).</p>
The Countryside and Rights of Way (CRoW) Act 2000	<p>The CRoW applies to England and Wales only, received Royal Assent on 30 November 2000, with the provisions it contains being brought into force in incremental steps over subsequent years. Containing five Parts and 16 Schedules, the Act provides for public access on foot to certain types of land, amends the law relating to public rights of way, increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB). The Act is compliant with the provisions of the European Convention on Human Rights, requiring consultation where the rights of the individual may be affected by these measures.</p>
Natural Environment & Rural Communities (NERC) Act 2006	<p>The NERC places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.</p> <p>The NERC Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list replaces the UK Biodiversity Action Plans (UKBAP) and has been drawn up in consultation with Natural England, as required by the Act.</p> <p>The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.</p>

Legislation or Species	Description
	<p>Fifty-six habitats of principal importance (HPI) are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. Of most relevance to the Site, they include ponds, open mosaic habitats on previously developed land and lowland heathland.</p> <p>There are 943 species of principal importance (SPI) included on the S41 list. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.</p>
Non-native species	<p>Certain non-native plants and animals are recognised as invasive. The WCA makes it an offence to:</p> <ul style="list-style-type: none"> • Release or allow to escape into the wild any animal which is not ordinarily resident in Great Britain and is not a regular visitor to Great Britain in a wild state, or is listed in Schedule 9 to the Act. • Plant or otherwise cause to grow in the wild any plant listed in Schedule 9 to the Act. • Sell, offer or expose for sale, or possess or transport for the purposes of sale, non-native species that are listed in Schedule 9. <p>Species control agreements and orders can be made by environmental authorities to ensure that landowners take action on invasive non-native species. The NERC Act allows the Secretary of State to issue or approve codes of practice on invasive species. The codes alone cannot be used to prosecute but must be taken into account by a court in any case in which they appear to the court to be relevant.</p>
Bats	<p>All species of bat in Britain are 'European Protected Species' (EPS) and are protected under the Conservation of Habitats and Species Regulations 2010, and the Wildlife and Countryside Act 1981, as amended by the Countryside & Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to EPS and their habitats, making it an offence to:</p> <ul style="list-style-type: none"> • Deliberately capture, injure or kill a bat. • Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats. • Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time). • Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat. • Intentionally or recklessly obstruct access to a bat roost. <p>The Natural Environment & Rural Communities (NERC) Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.</p>

Policy

National Planning Policy Framework (NPPF) (Revised – July 2021)

Chapter 15 of the National Planning Policy Framework (NPPF) aims at conserving and enhancing the natural environment and states that planning policies and decisions should contribute to and enhance the natural and local environment. In terms of biodiversity, this should be achieved by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils,
- recognising the intrinsic character and beauty of the countryside, and wider benefits from natural capital and ecosystem services, and
- minimising impacts on and providing net gains for biodiversity by establishing coherent ecological networks that are more resilient to current and future pressures.

The NPPF states that to protect and enhance biodiversity, [local] plans should:

- identify and safeguard components of wildlife-rich habitats and wider ecological networks, and
- promote the conservation and enhancement of priority habitats and ecological networks and the protection and recovery of priority species.

The NPPF states that when determining planning applications, local planning authorities should refuse applications which:

- cause significant harm to biodiversity which cannot be avoided, adequately mitigated or as a last resort, compensated for,
- plan to develop on land within or outside of a Site of Special Scientific Interest (SSSI) and which is likely to have an adverse effect on it (either individually or in combination with other developments) and/or
- result in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) unless there are wholly exceptional reasons and where a suitable compensation strategy exists.

The local planning authority should support developments whose primary objective is to conserve or enhance biodiversity, while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

HM Government – 25-Year Environment Plan

The 25-year plan to improve the environment sets out what the government intends to do to increase biodiversity, reduce climate change and secure ecosystem services. It aims to deliver cleaner air and water, protect threatened species, and provide richer wildlife habitats.

Appendix 2 Protected Species Licencing

Bat Mitigation Licence – (A13)

The animal and plant species listed on Schedule 2 and 4 of The Conservation of Habitats and Species Regulations 2010 (as amended) are referred to as European Protected Species (EPS).

If a project is likely to impact a EPS and breach the Conservation of Habitats and Species Regulations 2010, and where best practice guidance avoidance measures either cannot be followed or are not applicable, licences can be obtained to allow persons to carry out activities that would otherwise be prohibited, without committing an offence. Natural England has powers to grant such licences in England if it meets three 'derogation tests'.

The three tests are that:

1. The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety ('public' can, in some circumstances, be interpreted as an individual or family).
2. There must be no satisfactory alternative.
3. Favourable conservation status of the species must be maintained.

The licence application consists of three documents,

- Section one - Application details (a basic application form),
- Section two - Method Statement (MS) (specifying the proposals, mitigation, compensation, and schedule and demonstrating how the project meets Test 3) and
- Section three - Reasoned Statement (RS) (demonstrating how the project meets Tests 1 and 2).

The Application form and Method Statement are usually completed by your ecologist (who is included in the application as a Named Ecologist) and the Reasoned Statement by the Client or their planning consultant or environmental lawyer.

You don't need to include a reasoned statement where bats and their roosts will be affected by:

- repairs and maintenance
- roof replacements, loft conversions and extensions
- renovations of existing domestic dwellings and associated structures, such as garages
- housing developments of less than 1 hectare, including:
 - existing buildings and associated structures that may need to be demolished before redevelopment takes place (whether domestic dwellings or other types of buildings)
 - barn conversions for domestic dwellings (this doesn't include conversions for commercial use, such as holiday lets)

The developer is usually the applicant and licensee and is legally responsible for carrying out the method statement. To protect other people working on the project (and also to tie them to the MS legally) contractors and consultants that may affect the EPS, such as demolition or construction contractors and the ecologist should be appointed as 'accredited agents' to the licence by the licensee.

Natural England aims to determine an application within 30 working days, at which point they make a Further Information Request (FIR) if there are uncertainties or they do not agree with the MS or RS. At the end of the licensable activities, the licensee is required to submit a licence return (although this is usually completed on their behalf by the Named Ecologist), where they

declare the success (or failure) of the mitigation and are obliged to report on breaches to the MS.

Bat Low Impact Licence (CL21)

A low-impact licence can be used for developments which will have a "low impact" on bats and their conservation status. The bat 'low impact' licence (CL21) is a mitigation class licence that allows a registered ecological consultant to interfere with certain bats and their roosts.

This licence can be used:

- to disturb and capture up to 3 'common or widespread' bat species
- to damage or destroy up to 3 'low conservation status roosts' (these are: feeding, day, night and transitional roosts)
- if the proposed action has a low or temporary impact on bats or their roosts.

Natural England aim to determine a low impact licence application in 10 working days.

Samsara Ecology Ltd
Registered Office
10 Bolt Court
3rd Floor
London
EC4A 3DQ
Email: Hayley@samsaraecology.co.uk

