



ELLENDALE
ENVIRONMENTAL

Whitmore Dairy Cottage, Ashill, Devon

Bat Survey and Assessment

For Mr Perry Waddams

20th July 2023

South Office
41 Esmead
Chippenham, Wiltshire
SN15 3PR

North Office
292 Portobello High Street
Edinburgh
EH15 2AS

0131 563 9326
info@ellendale-environmental.co.uk



Version

VERSION	DATE	AUTHOR	REVIEWED	APPROVED
CIC v1.0	14/07/23	Stewart Parsons	Emma Parsons	20/07/23

Disclaimer

Copyright © Ellendale Environmental Limited. All rights reserved.

This report has been produced by Ellendale Environmental Limited within the terms and conditions of the contract with the client and taking account of the resources devoted to it by agreement with the client. It has been prepared for the sole use of the client and their professional advisors.

Ellendale Environmental Limited accepts no responsibility for any use of or reliance on the contents of this report by any third party.

The report, and the information contained in it, is intended to be valid for a maximum of 12 months from the date of the survey, providing no significant alterations to the site have occurred.



Contents

Executive Summary	4
1. Introduction.....	5
1.1 Commission.....	5
1.2 Site Details	5
1.3 Bat Conservation.....	6
2. Methodology	9
2.1 Bat Survey Licence.....	10
2.2 Survey Objectives	10
2.3 Field Survey Methodology.....	11
2.4 Constraints.....	12
3. Results	13
3.1 Physical Bat Survey	13
3.2 Bat Emergence/Activity Surveys.....	17
4. Conclusions	21
4.1 Conclusion.....	21
4.2 Main Recommendations.....	21
4.3 Suggested Biodiversity Enhancements	22



Executive Summary

Ellendale Environmental Limited was commissioned by Mr. Perry Waddams to undertake a bat survey and assessment of an existing building ('the target building') at Whitmore Dairy Cottage, Ashill, Devon, EX15 3NP ('the site'). It is understood that the building is to be extended and renovated as part of the overall redevelopment of the site ('the proposed development').

A daytime physical survey of the target building was undertaken on Wednesday 31st May 2023 prior to the first bat survey being undertaken. Full access was provided to the target building for the survey.

Two dusk emergence/activity surveys were conducted in May and June 2023 within the optimum survey window for bats.

During the surveys, common and soprano pipistrelle bats were recorded flying around and over the target building, before travelling to foraging grounds to the north and south. Bats were also recorded passing through the site along the eastern and western sides of the building. Bats were seen entering the site from the north and south, from the direction of adjacent properties and farm buildings.

No bats were recorded or were observed emerging from the target building during the surveys; however, evidence of old droppings was found in the loft space. It is possible that recent and ongoing renovations have deterred bats from using the building, due to disturbance, however this is not considered to be deliberate by the owner. This assessment was also made by another ecological consultancy that visited the site following the discovery of bat droppings during the renovation works.

From the evidence collected on site, it is assessed that the building is no longer being used by bats for roosting and therefore a development licence from Natural England will not be required.

Notwithstanding this, recommendations have been made for modest post-construction ecological enhancements at the site that are proportionate with the low level of environmental impact from the proposed development.



1. Introduction

1.1 Commission

Ellendale Environmental Limited was commissioned by Mr. Perry Waddams to undertake a bat survey and assessment of an existing building ('the target building') at Whitmore Dairy Cottage, Ashill, Devon, EX15 3NP ('the site'). It is understood that the building is to be extended and renovated as part of the overall redevelopment of the site ('the proposed development').

1.2 Site Details

The site is situated to the south-west of Ashill, a village located in the parish of Uffculme, in the English county of Devon at OS grid reference ST 08246 10793. The site comprises a detached house and associated garden and is surrounded by farmland.

Figure 1: Site location



Reproduced from Ordnance Survey Mapping Map Explorer 124 Scale 1:25000 by permission of Ordnance Survey on behalf of The Controller of His Majesty's Stationery Office. © Crown copyright. All rights reserved. Licence number 100054247.



1.3 Bat Conservation

British Bats

There are 17 species of bats resident in Britain. These are from two families, namely the Rhinolophidae (the two horseshoe bat species) and the 15 species of vesper/evening bats (the Vespertilionidae). All British bats are insectivorous and locate their prey using ultrasonic calls through a biological system known as echolocation.

During summer months, female bats form nursery colonies in trees and buildings, where they raise infants. In the winter, males and females hibernate in trees, buildings and underground structures.

Conservation Status of British Bats

The general consensus in Britain and Europe is that virtually all bat species are declining and are vulnerable. Our understanding of population status is poor, as there is very little historical data for most bat species. Certain species, such as the horseshoe bat, are better understood and have well documented contractions in range and population size.

Given this general picture of decline, the UK Government (within the UK Biodiversity Action Plan) has designated five species of bats as priority species (these being greater and lesser horseshoe bats, barbastelle, Bechstein's and pipistrelle). These plans provide an action pathway whereby the maintenance and restoration of former population levels are envisaged.

Legal Status of British Bats

All bats and their roosts in England were originally protected under the Wildlife & Countryside Act 1981. Subsequent amendments to the legislation for England (and Wales) has removed bats from most of the provisions of the Act; however, it remains an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; and/or
- Intentionally or recklessly obstruct access to any structure or place that a bat uses for shelter or protection.



All British bat species are listed in Annex IV of the EC Habitats Directive and are fully protected through The Conservation (Natural Habitats, &c.) Regulations 1994. All bat species found in England are classed as European protected species. They receive full protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

These regulations make it an offence to:

- Deliberately capture, injure, or kill a bat;
- Harass a bat or group of bats;
- Disturb a bat in a roost (any structure or place it uses for shelter or protection);
- Disturb a bat while it is rearing or otherwise caring for its young
- Obstruct access to a bat roost or otherwise deny an animal use of a roost;
- Disturb a bat in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species; and/or
- Disturb a bat while it is migrating or hibernating.

The legislation, although not strictly affording protection to foraging grounds, does protect bat roost sites. Bat roosts are protected at all times of the year, regardless of whether or not bats are present at the time.

It's also an offence to:

- Damage or destroy a breeding site or resting place of such an animal (whether or not deliberately or recklessly); and/or
- Keep, transport, sell or exchange, or offer for sale or exchange any wild bat (or any part or derivative of one) obtained after 10th June 1994.

Where development is proposed that would result in an offence under the Habitats and Species Regulations, a European Protected Species (EPS) licence needs to be granted by Natural England (NE) to permit an act that would otherwise be unlawful. This provides for a specific derogation from the legislation, to prevent a legal infringement occurring.

To obtain an EPS licence for development it must be demonstrated that the purpose of the act to be licensed is for:



- *“Preserving public health or public safety or other imperative reasons of overriding public interest including those of social or economic nature and beneficial consequences of primary importance for the environment” (Regulation 55(2)(e)).*

In addition, NE will not grant an EPS licence unless they are satisfied that:

- *“There is no satisfactory alternative” (Regulation 55(9)(a)); and*
- *“The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range” (Regulation 55(9)(b)).*



2. Methodology

Survey work undertaken in relation to a proposed development needs to be conducted under a scientific/conservation licence issued by, in this case, NE. The work is normally conducted by an environmental consultant on the behalf of the developer and the consultant will advise on the necessary course of further action with respect to licences, mitigation and compensation measures. A number of recognised survey techniques are available to the consultant, such as:

- Natural England guidelines (A.J. Mitchell-Jones [2004], *Bat Mitigation Guidelines*, English Nature. ISBN 1 85716 781 3), which provide generic technical advice on bat mitigation; and
- Hundt L (2012). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 3rd Edition, Bat Conservation Trust, London. ISBN-13: 978-1-872745-96-1.

The developer must:

- Demonstrate that adequate surveys have been undertaken to establish the presence or absence of bats, to predict the potential impact on them, their resting sites or breeding roosts;
- If bats or their roosts are discovered, bring proposals forward that will integrate provision for bats into any design that will compensate and mitigate for any impact during development; and
- Provide sufficient survey information that will support a licence application under the Habitats Directive should bats be discovered.

Where bat species are using a site, it will be necessary to mitigate the impacts of the development upon the population(s). These would include measures that remove or reduce any damaging effects on the animals or their roosts. In most cases a package of compensation measures will be required to accommodate any loss of breeding or resting-places, and the timing of works will need to be synchronised with the life-cycles of the effected species.



This collective package of mitigation and compensation measures should allow the conservation status of the animals to be at least maintained by the development. With careful thought, the conservation status may even be enhanced by development. This is usually most easily achieved by early ecological input.

In the case of sites where bats are present, a development licence from NE will be required to conduct works affecting bats.

2.1 Bat Survey Licence

The survey team was led by Stewart Parsons, Director and Principal Ecologist of Ellendale Environmental, holds a bat survey licence (Bat Survey Class Licence CL18 (Bat Survey Level 2), Registration number CLS01683), with respect to the Conservation Regulations 1994. The licence is valid for all counties of England, valid until June 2025. Stewart has over 19 years' professional experience of working with bat species across the UK,

The survey was assisted by Christopher Parsons, Ecologist at Ellendale Environmental. Christopher holds a bat survey licence (Bat Survey Class Licence CL18 (Bat Survey Level 2), registration number CLS-2019-42561), with respect to the Conservation Regulations 1994. The licence is valid for all counties of England, valid until June 2025. Christopher has over 10 years' professional experience of undertaking ecological surveys and working with bat species across the UK.

The survey was also assisted by Christopher Rawlins and Emma Parsons, who have over three years' experience of undertaking bat activity surveys.

2.2 Survey Objectives

On the basis of the brief provided by the client, Ellendale Environmental conducted survey work to fulfil the following needs:

- Obtain baseline information on the habitat features suitable for bat species;
- Determine the presence/likely absence of bat species and any activity at or near the target building; and
- Determine the type, extent and pattern of detected usage.

In practice this was achieved by a physical inspection of the target building, a search for live animals and/or other signs indicating their current or previous presence.



2.3 Field Survey Methodology

The following methodology was used:

1] A physical internal/external site inspection of the target building was undertaken on Wednesday 31st May 2023. The internal and external building was searched for signs of bats and evidence of them roosting in the building.

Table 1: Survey weather conditions for physical survey

SURVEY DATE	TEMPERATURE (°C)	WIND SPEED (MPH)	CLOUD COVER/PRECIPIATION
31/05/22	17.5	Avg. 0.8 Max. 1.9	50% cloud cover, warm and dry, with a light breeze.

All suitable features were assessed externally and internally. A telescopic surveyor's ladder was used to gain access to various points and a CLU-10 searchlight was used to search dark areas. A Visual Optics VO36-10ww Endoscope was utilised to assist inspection of internal spaces.

The physical search included a search for live animals and a search for other signs that give an indication of past or present occupancy.

In the case of bats, typical indicators include droppings (which are characteristic and can often be speciated), signs of staining, characteristic odours, and accumulations of prey items.

2] Two dusk emergence/activity bat detector surveys were undertaken on Wednesday 31st May 2023 and Thursday 29th June 2023. The surveys commenced 30 minutes before sunset (sunset was at approximately 21:16 and 21:31 respectively) and completed 90 minutes after sunset, when all bats will normally be expected to have exited their roost sites.

Mini time-expansion bat detectors (Pettersson D 240X) were used to detect bat echolocation calls and identify species where possible. Time-expanded (x10) recordings are made using a portable Edirol digital recorder (Edirol R-07HR) that can be later analysed on bespoke software.

Weather was not a limiting factor in the activity surveys. The conditions are summarised in Table 2.



Table 2: Survey weather conditions for activity surveys

SURVEY DATE	TEMPERATURE (°C)	WIND SPEED (MPH)	CLOUD COVER/PRECIPITATION
31/05/22	Start 16.3 End 13.9	Avg. 0.6 Max. 1.1	50% cloud cover, warm and dry, with a light breeze.
29/06/23	Start 18.6 End 11.0	Avg. 0.0 Max. 0.0	50% cloud cover, warm dry and still.

2.4 Constraints

The surveys were not restricted, and full access was granted to the target building. The surveys were undertaken at an optimal time of year for bat activity and in suitable weather conditions.

Whilst no biological survey can guarantee that all cues and signs of protected or notable species will be recorded, Ellendale Environmental is confident that all key fauna present in the survey area during the survey times were noted.

Although the survey timings are applicable for most of the UK, they vary according to the geographic location of the site. Optimal timing may also vary from year to year depending on the onset of each season. Outdoor surveys are weather-dependent and should be undertaken only in suitable weather conditions.



3. Results

3.1 Physical Bat Survey

Whitmore Dairy Cottage is located to the south-west of Ashill and comprises a detached residential property. To the south of the property there is an unnamed road, providing access to the property and beyond this there is a residential property and agricultural farmland. To the south there is a residential garden, beyond which is agricultural farmland that extends to the east and west of the site.

Photograph 1: showing a view of the target building



The target building is a two storey detached residential property constructed from traditional stone with an external render that has been painted. The roof is multi-pitched and is covered with slate tiles, and at the rear of the property there is a large two-storey extension with a flat roof covered with bitumen roofing felt.



Photograph 2: showing a view of the rear of the target building



Externally the walls of the building were found to be in a good condition with no cracks or crevices where bats could gain access for roosting. Some water damage was noted on the external walls; however, they were found to be dry at the time of the survey.

The external roof structure of the building was found to be in a good condition with no loose, lifted or missing tiles. Some evidence of moss was noted to be present on the roof indicating that it is wet and this may reduce the suitability for bats that require dry and stable conditions for roosting.

Externally no evidence of bat activity was found in the target building during the physical inspection.



Photograph 3: showing the external roof structure



Internally the building is undergoing renovations and it is understood that evidence of bats (droppings) was identified (by the owner) when a plasterboard ceiling was removed from the extension to the rear of the property.

Following the discovery of these bat droppings, an inspection was made by an ecology consultancy where it was assessed that bats had been using the area behind the fascia to the rear of the property (where they may have gained access to the top of the wall), although no bats were found. Droppings were assessed as being from pipistrelle bats and the owner was advised to internally enclose the area along the northern and eastern elevations, to prevent bats from entering the living space. It is understood that this has been undertaken using Celotex insulation.

During the survey undertaken by Ellendale Environmental no evidence of bats was found in this part of the building and no evidence of bats was found on the external areas of the building, indicating that it is no longer used by bats.



Photograph 4: showing the area where evidence of bats was found (by the owner/previous ecologist)



The loft space of the building is constructed from a traditional timber frame covered by a single layer of slate tiles. No felt liner was present under the slate tiles; however, the loft was well insulated with fiberglass loft insulation. A few old bat droppings were noted to be present within the loft space and these were found to be hard and grey. No recent bat droppings (i.e., 2023) were found. It was noted within the loft space that several gaps had been repaired to ensure the roof remained watertight and in a good condition.

A few cobwebs were noted to be present along the ridge of the building and some water damage was noted along the chimney area.



Photograph 5: showing an internal view of the loft space



3.2 Bat Emergence/Activity Surveys

The emergence/activity surveys were conducted in May and June 2023 during the optimum survey season for bats (which is March to September). The weather conditions were not limiting and were characterised by steady temperatures above 10°C and light winds.

Each surveyor was located in a static position to cover all aspects of the target building during the activity survey.



Figure 2: Surveyor locations



Dusk Survey, 31/05/23

Bat activity was first recorded at 21:33, 14 minutes after sunset, and was observed entering the site from the lefthand side at the rear of the building and flew north, through the rear of the garden. The bat did not emerge from the building. During the survey five bats, all common pipistrelle bats, were recoded and observed following this flight path.

A common pipistrelle bat was observed flying south to north over the roof of the building at 21:39 and common and soprano pipistrelle bats were recorded and were observed foraging at the front (south) of the property during the survey. The bats entered from the south near the adjacent property.



Table 3: Bat activity survey results, 31/05/23

Time	Observations
21:33	A common pipistrelle bat was recorded and observed entering the site from the left hand side at the rear of the building and flew North, through the rear of the garden. The bat did not emerge from the building.
21:35	A common pipistrelle bat was recorded and observed entering the site from the left hand side at the rear of the building and flew North, through the rear of the garden. The bat did not emerge from the building. Whilst recording another 3 further common pipistrelle bats flew the same path through the building to the north.
21:31	A common pipistrelle bat was recorded and observed foraging at the front of the building along the vegetation. The bat entered from the south, adjacent property and did not emerge from the building.
21:32	A common pipistrelle bat was recorded and observed foraging at the front of the building along the vegetation. The bat entered from the south, adjacent property and did not emerge from the building.
21:34	A common pipistrelle bat was recorded and observed foraging at the front of the building along the vegetation. The bat entered from the south, adjacent property and did not emerge from the building.
21:39	A common pipistrelle bat was recorded flying south to north over the roof of the building and flew north away from the property. The bats was recorded on both sides of the building and did not emerge from the property.
21:47 - End	A soprano pipistrelle bat was recorded and observed foraging at the front of the building along the vegetation. The bat entered from the south, adjacent property and did not emerge from the building.

Bat activity was noted to be low during the survey with no further bats heard after 21:47. No other species of bats were recorded during the survey and no bats were recorded emerging from the target building.

Dusk Survey, 29/06/23

Bat activity was first recorded at 21:50, 19 minutes after sunset, when a common pipistrelle bat was recorded flying north to south through the site along the eastern boundary. Throughout the survey bats were recorded flying north to south along the eastern and western boundaries of the site.



Table 4: Bat activity survey results, 29/06/23

Time	Observations
21:50	A common pipistrelle bat was observed and recorded entering the site from the rear garden to the North of the property and flew along the hedge and treeline to the east side of the house and on towards the fields at the south.
21:53	A common pipistrelle bat was observed and recorded entering the site from the rear garden to the North of the property and flew along the hedge and treeline to the east side of the house and on towards the fields at the south.
21:53	A common pipistrelle bat was observed and recorded entering the site from the rear garden to the North of the property and flew along the hedge and treeline to the east side of the house and on towards the fields at the south.
21:56	Two common pipistrelle bats were observed and recorded entering the site from the rear garden to the North of the property and flew to the old oaks that are on the west side of the house before flying south away from the building.
21:59	A common pipistrelle bats was observed and recorded entering the site from the rear garden to the North of the property and flew to the old oaks that are on the west side of the house before flying south away from the building.
22:03	A common pipistrelle bats was observed and recorded entering the site from the rear garden to the North of the property and flew to the old oaks that are on the west side of the house before flying south away from the building.
22:08 - End	A common pipistrelle bats was observed and recorded entering the site from the rear garden to the North of the property and flew to the old oaks that are on the west side of the house before flying south away from the building.

Bat activity was noted to be low during the survey with no further bats heard after 22:08. No other species of bats were recorded during the survey and no bats were recorded emerging from the target building.



4. Conclusions

4.1 Conclusion

The assessment was not constrained, and full access was gained to the external and internal spaces of the target building for the physical survey.

Two dusk emergence/activity surveys were conducted in May and June 2023 which was within the optimum survey window for bats.

Common and soprano pipistrelle bats were recorded during the surveys flying around and over the target building, before heading towards foraging ground to the north and south. Bats were also recorded passing through the site along the eastern and western sides of the building. Bats were seen entering the site from the north and south during the survey, from the direction of adjacent properties and farm buildings.

No bats were recorded or were observed emerging from the building during the survey; however, evidence of old droppings was found in the loft space. It is possible that recent and ongoing renovations have deterred bats from using the building, due to disturbance, however this is not considered to be deliberate by the owner. This assessment was also made by a previous ecological consultancy that visited the site following the discovery of bat droppings during the renovation works.

From the evidence collected on site, it is assessed that the building is no longer being used by bats for roosting and therefore a development licence from NE will not be required.

4.2 Main Recommendations

The bat roost assessment has been made as no evidence of bats could be found during the surveys; however, it is agreed that bat roosts and access/egress locations can often be difficult to find and missed in surveys.

Notwithstanding this, and given the findings of the surveys, it is very unlikely that bats are roosting in the target building. The proposed works are internal alterations only and therefore unlikely to have an impact.

It is therefore advised that precautionary working methods are undertaken during the renovation of the building, including:



- A suitably experienced and licenced ecologist will be available to attend site on a regular basis throughout the construction period to ensure all environmental mitigation relevant to the project is delivered;
- Site personnel will be made aware of the potential presence of bats through a toolbox talk;
- Any dangers within the site likely to affect bats will be identified and measures undertaken to minimise any such risk, i.e., lighting;
- If a bat is found, or the presence of bats is suspected, all work must stop immediately, and a licensed bat worker must be contacted for advice;
- Bats must not be handled under any circumstances; and
- The ecologist will assess a potential roost space (if identified/found) and inform NE of the proposed actions to be undertaken.

4.3 Suggested Biodiversity Enhancements

The following recommendation has been made for modest post-construction ecological enhancements at the site which are proportionate with the low level of environmental impact from the proposed works:

- As part of the design and layout considered, it is recommended that a 'Chillon Low Profile Woodstone®' bat box is placed on the building to create roosting opportunities for bat species. It is recommended that the box is located in a suitable place where it is least disturbed. This box has been designed to provide roosting for pipistrelle bat species which were recorded during the survey; and
- A minimum of six bat boxes should be placed in trees around the site to provide alternative bat roosting conditions for species identified during the survey.

It is recommended that the following boxes are used:

- Two '2FN Schwegler' bat boxes, which have two entrances, one at the front and one at the rear against the tree. Bats often creep into the rear entrance but leave by the front. It has a domed roof to allow the bats to form roosting clusters for warmth, and an increased internal height compared to other bat boxes;
- Two '2F Schwegler' (General Purpose) bat boxes, which are been designed as a summer roosting space for bats and has a simple entrance hole at the front and are best positioned at a height of between 3m to 6m in an open sunny position; and



- Two '1FF Schwegler With Built-in Wooden Rear Panel' bat boxes, which are spacious enough for bats to use as a summer roost or nursery site. The inner dimensions of the 1FF have a reducing width making it ideal for bat species which inhabit crevices such as pipistrelle bats.