

**Bat Survey Report for
The Puesdown Inn,
Compton Abdale,
Cheltenham, GL54 4DR**



Cotswold Wildlife Surveys

22nd April 2021 & 12th and 31st May 2021

QUALITY CONTROL

Date	Version	Name
22.04.21	Daytime inspection	Neil Musgrave – BEng (Hons) Associate
12.05.21 31.05.21	Nocturnal surveys	James Warren + assistant Director
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The information in this report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. The conclusions and recommendations expressed are reasoned judgements based on the evidence.

Every reasonable attempt has been made to comply with BS42020:2013 *Biodiversity – Code of practice for planning and development*, *CIEEM Guidelines for Ecological Report Writing* (CIEEM, 2017) and Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition, Collins, 2016). If there has been deviation from recognised practice, justification/explanation has been given.

CONTENTS

Page No.

SUMMARY	4
1. INTRODUCTION	5
2. METHODOLOGY	6
3. RESULTS	8
3.1 Desk Study	8
3.2 Location	8
3.3 Site Description	8
3.4 Buildings Survey	9
3.4.1 Bats	9
3.4.2 Other species	15
3.5 Emergence Surveys	16
3.5.1 1 st Emergence Survey	16
3.5.2 2 nd Emergence Survey	18
4. CONCLUSIONS AND RECOMMENDATIONS	20
5. REFERENCES	22
APPENDICES.....	22
Appendix 1: Location plan	23
Appendix 2: Site layout	24

SUMMARY

At The Puesdown Inn, Compton Abdale, Cheltenham, planning permission is being sought to convert the existing building into dwellings.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 22nd April 2021 to assess the buildings for signs of bat occupation. All the external and internal structures, especially those associated with the roofs and walls of the buildings were examined.

The suitability for roosting pipistrelles *Pipistrellus sp* was considered to be moderate, as broken, dislodged and missing stone tiles were observed.

As the suitability was considered to be moderate, two nocturnal survey were undertaken on the evenings of 12th and 31st May 2021. The second visit was switched to an emergence survey, as a Common Pipistrelle had been recorded emerging from under a tile during the first survey. A third visit was not considered necessary, as the roost was characterised by the first two surveys.

The emergence survey on 12th May 2021 recorded a Common Pipistrelle *Pipistrellus pipistrellus* emerging from under a roof tile, the exact location of which could not be determined. A Noctule Bat *Nyctalus noctula* was also recorded foraging over the fields to the north, this having emerged elsewhere.

The second emergence on the 31st May 2021 recorded just a single Common Pipistrelle flying past in the distance. No bats emerged from the building.

Taking all the visits into account, the status of bats at the site is considered thus:

- Common Pipistrelle – day roost used occasionally.

As the roost will be lost with the re-roofing of the buildings, suitable mitigation will be required.

The site will be eligible for registration under Natural England's Bat Mitigation Class Licence (BMCL) scheme.

Mitigation measures will include a 'toolbox talk' by a Registered Consultant (RC) to contractors about bats and what to do if one is unexpectedly encountered, a pre-works inspection of the roof by the RC, supervision of the destructive roof works by the RC, the latter undertaken by hand, and the provision of a Schwegler 2F bat box or similar installed on a tree in the grounds in which to relocate a bat if one is discovered before or during works.

It should be noted that under BMCL there will be no timing constraints, and an ecologist will be present at all key stages to ensure the replacement roosting provision is correctly installed.

No birds' nests were found either in or on the buildings.

1. INTRODUCTION

In early April 2021, Cotswold Wildlife Surveys was instructed by Tyack Architects, to undertake a bat survey of The Pusedown Inn, Compton Abdale, Cheltenham. On 22nd April 2021, a visit was made to the property to carry out a diurnal inspection of the buildings to check for signs of bat occupation.

As the suitability was considered to be moderate, two nocturnal survey were undertaken on the evenings of 12th and 31st May 2021.

The results of the surveys are contained in this report.

In England, Scotland and Wales, all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended), through inclusion in Schedule 5. In England and Wales this Act has been amended by the Countryside and Rights of Way Act 2000 (CRoW), which adds an extra offence, makes species offences arrestable, increases the time limits for some prosecutions, and increases penalties.

All bats are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations 1994, (or Northern Ireland 1995) (the Habitats Regulations), which defines 'European protected species of animals'.

The above legislation can be summarised thus (Mitchell-Jones and McLeish, 2004):

- ❑ *Intentionally or deliberately kill, injure or capture (or take) bats*
- ❑ *Deliberately disturb bats (whether in a roost or not)*
- ❑ *Recklessly disturb roosting bats or obstruct access to their roosts*
- ❑ *Damage or destroy roosts*
- ❑ *Possess or transport a bat or any part of a part of a bat, unless acquired legally*
- ❑ *Sell (or offer for sale) or exchange bats, or parts of bats*

The word 'roost' is not used in the legislation but is used here for simplicity. The actual wording is 'any structure or place which any wild animal...uses for shelter or protection' (WCA), or 'breeding site or resting place' (Habitats Regulations).

As bats generally have both a winter and a summer roost, the legislation is clear that all roosts are protected whether bats are in residence at the time or not.

2. METHODOLOGY

In order to fully assess bat occupation of a particular site, the Bat Conservation Trust (2016) recommends that information gathered from a desk study of known bat records, and a daytime site walkover, is used to inform the type and extent of future bat survey work, potentially including nocturnal surveys.

The diurnal walkover provides an opportunity to check for signs of occupancy, such as droppings, scratch marks, feeding remains, carcasses, or even animals in residence, whilst nocturnal surveys (if required) allow numbers and species of bats to be confirmed. The latter are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent, but suitability of roosting is considered to be medium to high.

Roosting places vary depending on the species. Pipistrelles usually inhabit narrow cracks or cavities around the outside of buildings, but they will roost in similar niches inside larger barns. Typical sites include soffit spaces, gaps behind fascia boards and end rafters, crevices around the ends of projecting purlins, under warped or lifted roof and ridge tiles, or in gaps in stone and brickwork where mortar has dropped out.

Larger species such as Brown Long-eared Bats *Plecotus auritus*, Myotis bats (Natterer's *Myotis nattereri* and Whiskered/Brandt's *M. mystacinus/M. brandtii*), and Lesser Horseshoe Bats *Rhinolophus hipposideros*, like to roost in the roof voids of buildings, and can often be found hanging singly or in small groups from ridge boards or roof timbers, especially where they butt up against gable walls or chimney breasts. They especially favour older structures with timber frames. Here they squeeze into tight crevices making them difficult to observe.

Diurnal walkovers can be carried out at any time of the year, but nocturnal surveys should only be undertaken when bats are out of hibernation and in their summer roosts. The recommended period is from May to September inclusive, with May to August optimum and September sub-optimum. The season can be extended into October, although particularly cold weather will render this inadvisable. Indeed, the air temperature at the start of each survey must be at least 10°C or above.

Visits will be a minimum of two weeks apart, and the number of surveys is dependent on the evidence found or the suitability of the site to bats.

Where bats are found, or there is evidence of bat occupation or activity, i.e. that bat use is confirmed, the number and timing of visits will be decided by the ecologist and will be appropriate for the type of roost. In general, at least two nocturnal surveys will be carried out, both of which can be emergence surveys, or one emergence and one dawn re-entry.

Where there is no evidence of bat presence, and no suitability for roosting, no nocturnal surveys will be needed.

For a site with no evidence but low suitability, just one nocturnal emergence survey is required, this to be in the optimum period.

For medium suitability a minimum of two visits are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey. With high suitability, three visits will be necessary, of which two must be in the optimum period. At least one of these must be a dawn re-entry survey, with the third visit either an emergence or a dawn re-entry.

For sites < 5 ha in size, and/or regularly shaped structures, at least two surveyors must be present, with more surveyors at larger sites and more complex buildings, e.g. those with multiple elevations and/or roof structures.

On 22nd April 2021 a thorough inspection of The Puesdown Inn was made by Neil Musgrave (Natural England bat licence No. 2020-44602-CLS-CLS), including the exterior and interior walls, roof coverings, roof voids, eaves, gables, window casements and door frames.

8x42 binoculars and a Fenix TK75 torch were used for the inaccessible/unreachable areas. On this occasion an endoscope was not used, as there were no crevices and cavities that could not be inspected with a torch or by use of binoculars from a ladder.

On the evenings of 12th and 31st May 2021, nocturnal emergence surveys of the buildings were undertaken by James Warren and assistant, to determine the presence or absence of roosting bats.

The surveys began 15 minutes before sunset and continued for up to one and three quarter hours after sunset.

The surveys were aided by the use of electronic Echo Meter Touch and BatBox Duet bat detectors and i-pads. This facilitates the detection of bats, and computer analysis of recordings aids in the identification of individual species, in particular those which might be utilising different frequencies simultaneously.

The result of the daytime inspection and nocturnal survey are detailed in Section 3.

3. RESULTS

3.1 Desk Study

In view of the proposed works, the likely low impact on bats, and in line with current guidance on accessing and using biodiversity data (CIEEM, 2016), a detailed background data search was not carried out in this case.

However, within 3.0 km of The Puesdown Inn the following development licences for bats were issued by Natural England:

- 2012 2.75 km southwest for Common Pipistrelle *Pipistrellus pipistrellus*, Brown Long-eared Bat and Lesser Horseshoe;
- 2016 3.00 km north for Common Pipistrelle, Brown Long-eared Bat and Lesser Horseshoe.

3.2 Location

Compton Abdale is a village located approximately 5.75 km northwest of Northleach. The Puesdown Inn lies off the A40, 5.25 km west of the roundabout of the A40 and the A429, on the north side of the road. The Ordnance Survey Grid Reference is SP 07548 17104 (Appendix 1).

3.3 Site Description

The survey site comprised a detached pitched roofed building with adjoining mono-pitched, flat roofed and pitched roofed extensions to its rear, and a number of outbuildings (Figs. 1 and 2).



Figs. 1 & 2 Aspects to the front and rear

To the front there was a large area of hardstanding with open fields and mature trees beyond (Figs. 3 and 4).

To the rear there was an area of lawn with open fields and mature trees beyond (Figs. 5 and 6).



Figs. 3 & 4 View to the front towards the southeast and southwest



Figs. 5 & 6 Views to the rear towards the northwest and north

The layout of the site is shown in the aerial photograph in Appendix 2.

3.4 Buildings Survey

3.4.1 Bats

The daytime inspection was carried out on 22nd April 2021 commencing at 11:00. The weather conditions during the time of the survey were recorded and are presented in Table 1 below.

Parameter	Value
Temperature (°C)	9.0
Cloud cover (%)	10
Precipitation	None
Wind speed (Beaufort scale)	0

Table 1 Weather conditions during the diurnal survey

Main building

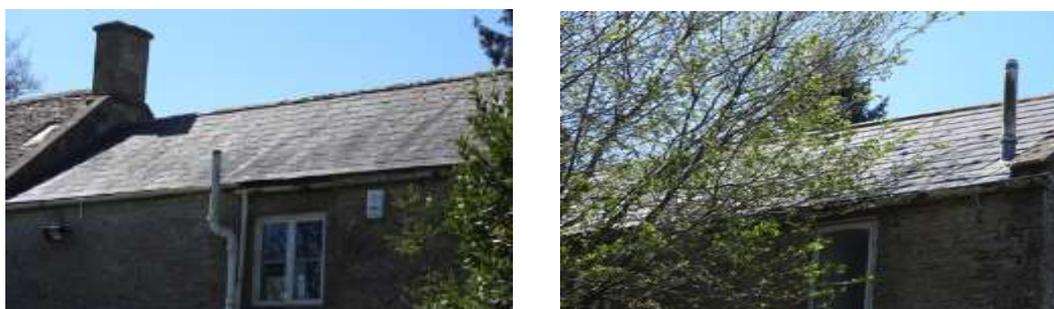
The main building comprised two roofs these covered with stone and slate tiles.

Slate tile section:

The ridge was intact and sealed whilst all the roof tiles were tightly overlapping (Figs. 7-10).



Figs. 7 & 8 Ridge and roof tiles to the front



Figs. 9 & 10 Ridges and roof tiles to the rear

The gable was finished with coping stones (Fig. 11) with the roof verges tightly fitting against the gable wall (Ref. Fig. 7). The clipped eaves were finished with the roof ends tightly fitting against the wall plates (Fig. 12).



Figs. 11 & 12 Coping stone finished gable wall (L) and sealed eaves (R)

The stone walls were sound throughout. The window casements and door frames were tightly fitting with no crevices or gaps. No signs of bat activity were found around the outside of the slate tiled section.

Stone tiled roof and mono-pitched extension:

The ridge was intact and sealed whilst the stone roof tiles were mainly tightly overlapping, although broken, dislodged and missing tiles were observed.

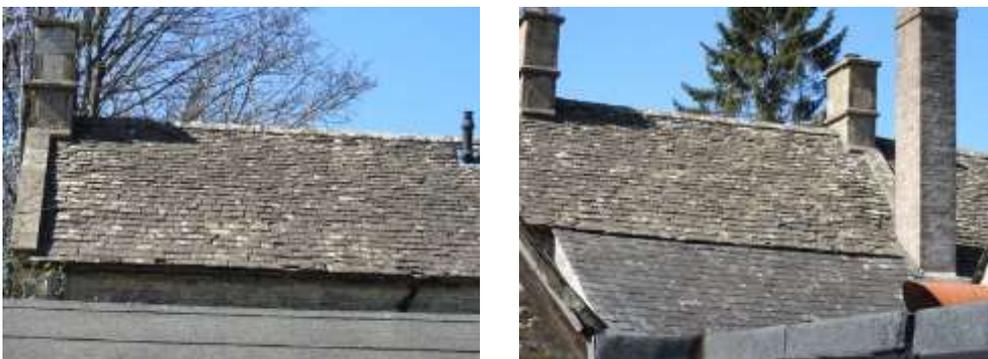
The tiles of the mono-pitched extension were all tightly overlapping (Figs. 13-18).



Figs. 13 & 14 Ridge and roof tiles to the front



Fig. 15 Ridges and roof tiles to the front

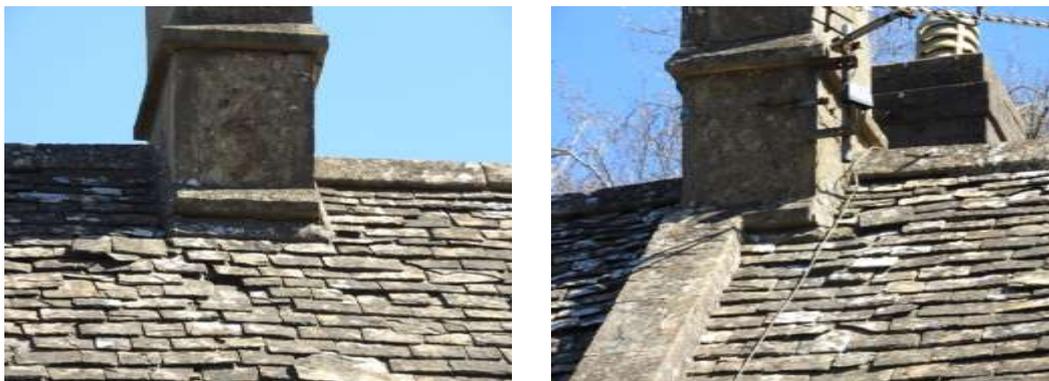


Figs. 15 & 17 Ridge and roof tiles to the rear and mono-pitched extension



Fig. 18 Ridge and roof tiles to the rear and mono-pitched extension

The chimneys were finished with cement tightly moulded around their bases (Figs. 19 and 20).



Figs. 19 & 20 Sealed chimney bases

The gable was finished with the coping stones (Fig. 21), with the roof verges tightly fitting against the gable wall (Ref. Fig. 20). The eaves were finished with the roof ends tightly fitting against the wall plates (Fig. 22).



Figs. 21 & 22 Coping stone finished gable wall (L) and sealed eaves (R)

The stone walls were sound throughout whilst all the window casements and door frames were tightly fitting with no crevices or gaps.

No signs of bat activity were found around the outside of stone tiled section.

Internally the building had several roof voids, with some rooms vaulted (Fig. 23).



Fig. 23 Vaulted room

The non-vaulted rooms had roof voids, these measuring approximately 1.8 m high and running the width of the building with varied lengths. The voids were all lined with tarred felt, and all had cobwebs on their ridge boards and gable ends (Figs. 24-26).



Fig. 24 Cobwebbed ridge



Figs. 25 & 26 Cobwebbed ridge and gable ends

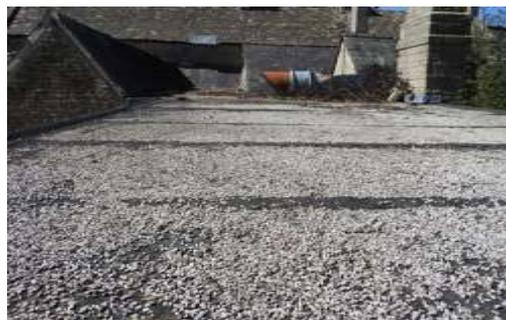
Light penetrated some of the voids, but no evidence of bat occupation was discovered inside the main building.

Pitched and flat roofed extensions

The ridges of the pitched roofed extensions were intact and sealed, whilst most of the roof tiles were tightly overlapping, with some broken, dislodged and missing tiles noted. The gravel covered tarred felt flat roof was in good condition with no holes or tears, whilst the gables were finished with the roof verges cement sealed to the gable walls (Figs. 27-32).



Figs. 27 & 28 Ridges and roof tiles of pitched roofed extension



Figs. 29 & 30 Ridge and roof tiles of extension (L) and tarred felt flat roof (R)



Figs. 31 & 32 Sealed gables

The stone and block walls were sound throughout. The window casements and door frames were tightly fitting with no crevices or gaps.

No signs of bat activity were found around the outside of the extensions to the rear.

Internally the pitched roofed extensions had hardboard linings (Figs. 33 and 34). The flat roofed extension was lined on the underside of the joists.



Figs. 33 & 34 Hardboard lined roofs

No evidence of bat activity was discovered inside the extensions.

Outbuildings

The outbuildings comprised a pre-cast concrete garage and two timber garden sheds (Figs. 35 and 36).



Figs. 35 & 36 Garage (L) and timber sheds (R)

The garage had a corrugated panelled roof (Fig. 37), whilst the two timber sheds were open to their unlined roofs (Figs. 38 and 39).



Fig. 37 Corrugated roof of the garage



Figs. 38 & 39 Unlined roofs of the timber sheds

No evidence of bat activity was found inside or outside the outbuildings, and they were unsuitable for bat roosting.

3.4.2 Other species

No birds' nests were found either in or on any of the buildings.

3.5 Emergence Surveys

3.5.1 1st Emergence Survey

The first emergence survey was carried out on 12th May 2021, commencing at 20:35 and finishing at 22:25. The weather conditions during the time of the survey were recorded and are presented in Table 2.

Parameter	Value
Temperature (°C)	10.0 start, 8.0 finish
Cloud cover (%)	100
Precipitation	Light drizzle
Wind speed (Beaufort scale)	0
Sunset	20:51

Table 2 Weather conditions during the 1st emergence survey

A single Common Pipistrelle emerged from under a roof tile, the exact location of which could not be determined. A Noctule Bat was also recorded foraging over the fields to the north, this having emerged elsewhere.

The times of bat observations and detections are shown below.

Time	Observation
20:41	Common Pipistrelle emerged from roof (exact location unknown)
21:08	Noctule overhead, heading north
21:09	Common Pipistrelle back to forage in garden
21:11-21:30	Noctule foraging in fields to north
21:12	Common Pipistrelle flew past
21:14	Common Pipistrelle flew past again
21:40	No further detections were made and survey ended

The bat flight paths at 1st emergence are shown on Plan 1 overleaf.

Plan 1 Bat flight paths at emergence on 12th May 2021



Common Pipistrelle Bat/s →

Noctule Bat →

Positions of observers ☀

3.5.2 2nd Emergence Survey

The second emergence survey was carried out on 31st May 2021, commencing at 21:00 and finishing at 22:30. The weather conditions during the time of the survey were recorded and are presented in Table 3.

Parameter	Value
Temperature (°C)	19.0 start, 17.5 finish
Cloud cover (%)	20
Precipitation	None
Wind speed (Beaufort scale)	2-3 NW
Sunset	21:16

Table 3 Weather conditions during the 2nd emergence survey

No bats emerged from the buildings, and the only bat recorded during the survey was a single Common Pipistrelle flying past in the distance.

The times of bat observations and detections are shown below.

Time	Observation
21:53	Common Pipistrelle flew past in distance
22:30	No further detections made and survey ended

The bat flight paths at 2nd emergence are shown on Plan 2 overleaf.

Plan 2 Bat flight paths at emergence on 31st May 2021



Common Pipistrelle Bat/s →

Positions of observers ☀

4. CONCLUSIONS AND RECOMMENDATIONS

Bats tend to be seasonal visitors to properties and are not usually in occupation all year round. The females normally form maternity colonies during May or June and then leave for adjacent trees and/or woodland during July or August once the young bats are able to fly and become independent. Here they will spend the winter months in hibernation before returning to the building or barn the following spring.

Male bats generally live alone and have a number of favoured roosts. During the summer they visit each of these for a few days at a time, before moving to their chosen hibernation site in mid-late October. Different species have different habits, but this seasonal movement is common to all.

Bats choose their roosts carefully. During the summer they look for sites which are warmed by the sun, and as a result are most often found on the south and western side of buildings.

Pipistrelles, our smallest and commonest bats, prefer to roost in very confined spaces around the outside of buildings, typical places being behind hanging tiles, weather boarding, soffit, barge and eave boarding, between roof felt and roof tiles or in cavity walls.

As such they can be difficult to find, so the suitability for roosting was also assessed.

This was considered to be moderate for the stone tiled section of the roof. All other buildings and roofs were considered to have negligible suitability, as no suitable crevices or gaps were noted.

The nocturnal surveys confirmed the presence of a single roosting Common Pipistrelle, this using the roof on a presumed occasional basis.

Another bat frequently encountered in buildings is the Brown Long-eared Bat. This is also a common species, but unlike pipistrelles, they prefer the dry, warm space of the loft or roof void, and can often be found hanging from roof timbers, especially rafters and the ridge board next to chimney breasts.

No signs of Brown Long-eared Bat activity were found, nor evidence of other bat species which are commonly found inside buildings.

Taking all the visits into account, the status of bats at the site is considered thus:

- Common Pipistrelle – day roost used occasionally.

As the roost will be lost with the re-roofing of the buildings, suitable mitigation will be required.

The site will be eligible for registration under Natural England's Bat Mitigation Class Licence (BMCL) scheme.

Mitigation measures will include a 'toolbox talk' by a Registered Consultant (RC) to contractors about bats and what to do if one is unexpectedly encountered, a pre-works inspection of the roof by the RC, supervision of the destructive roof works by the RC, the latter undertaken by hand, and the provision of a Schwegler 2F bat box or similar installed on a tree in the grounds in which to relocate a bat if one is discovered before or during works.

It should be noted that under BMCL there will be no timing constraints, and an ecologist will be present at all key stages to ensure the replacement roosting provision is correctly installed.

5. REFERENCES

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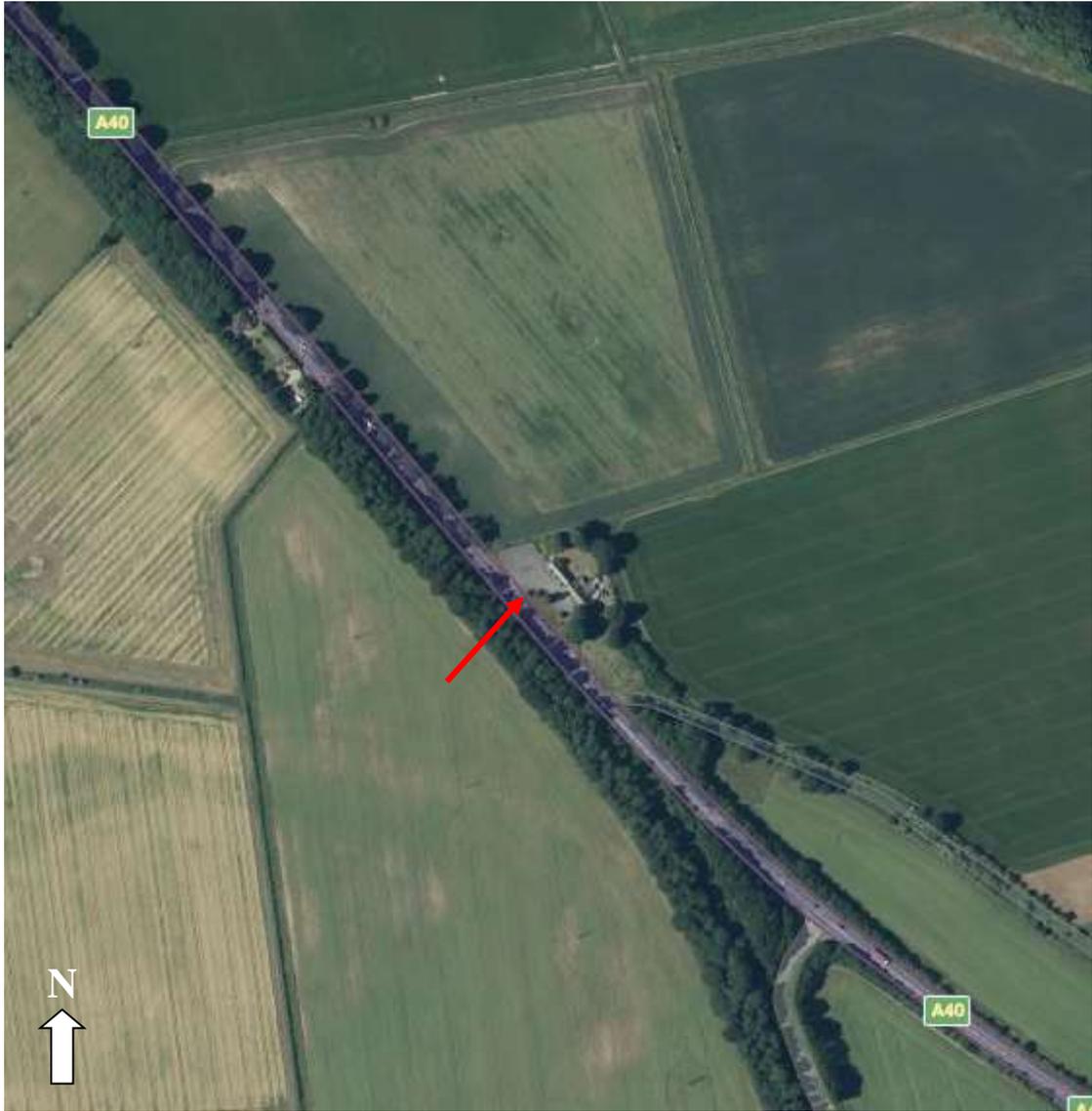
The Vincent Wildlife Trust, 2003. *The Bats of Britain and Ireland.* The Vincent Wildlife Trust, Ledbury.

APPENDICES

Appendix 1: Location plan

Appendix 2: Site layout

Appendix 1: Location plan



The Pusedown Inn, Compton Abdale, Cheltenham

Appendix 2: Site layout



The Puesdown Inn

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