

**Bat Survey Report for
Tonilla,
Upper Warren Avenue,
Caversham,
Reading, RG4 7EB**



NKM Associates

22nd February 2024

QUALITY CONTROL

Date	Version	Name
22.2.24	Daytime inspection	Neil Musgrave – BEng (Hons)
14.3.24	Report prepared	Neil Musgrave – BEng (Hons)
17.3.24	Checked	Clare Charlton – BA (Hons), PG. Cert
18.3.24	Reviewed and issued	Neil Musgrave – BEng (Hons)

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* (4th edition, Collins, 2023). 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 Building Survey.....	9
3.4.1 Bats	9
3.4.2 Other species	14
4. CONCLUSIONS AND RECOMMENDATIONS.....	15
5. REFERENCES	16
APPENDICES.....	16
Appendix 1: Location plan	17
Appendix 2: Site layout	18

SUMMARY

At Tonilla on Upper Warren Avenue in Caversham, Reading, planning permission is being sought to redevelop the bungalow and garage.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 22nd February 2024, 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.

No signs of bat activity or occupation were found, and the suitability for roosting pipistrelles *Pipistrellus sp* or other bat species was considered negligible, as there were no suitable crevices or gaps.

At the time of the survey, the bungalow or garage were not identified as bat roosts or hibernation sites, and as such no further surveys or mitigation measures are required.

*

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

1. INTRODUCTION

In mid-February 2024, NKM Associates was instructed by Andrew Smith to undertake a bat survey of the bungalow and garage at Tonilla on Upper Warren Avenue in Caversham, Reading. On 22nd February 2024, a visit was made to the property to undertake a diurnal inspection of the bungalow and garage to check for signs of bat occupation.

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) and the Natural Environment and Rural Communities Act 2006 (NERC), which add 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 (the Habitats Regulations), which defines 'European protected species of animals'. In England this is the Conservation of Habitats and Species Regulations 2010, in Scotland the Habitat Regulations 1994 (as amended), and in Northern Ireland the Conservation Regulations 1995.

All bats are also protected under the Bern Convention Appendix II, the Bonn Convention Appendix II, and the Wild Mammals (Protection) Act 1996.

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

To fully assess bat occupation of a particular site, the Bat Conservation Trust (2023) 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 emergence surveys.

The preliminary roost assessment (PRA) is usually in the form of a diurnal walkover and can be carried out at any time of the year. It provides an opportunity to check for signs of bat occupancy and/or the suitability for bat roosting.

Evidence of bat activity includes droppings, scratch marks, feeding remains, carcasses, or even roosting animals, whilst suitability is determined by the type and number of potential roost features (PRFs) typically used by bats.

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 Horseshoes *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.

Where bats are found, or there is evidence of bat occupation or activity, i.e., that bat use is confirmed, a roost characterisation survey is undertaken. The results are used to inform the impact assessment and design of mitigation measures. Roost characterisation includes nocturnal emergence surveys unless sufficient information has already been collected using robust survey methods with no significant constraints.

Nocturnal emergence surveys allow numbers and species of bats to be confirmed and should only be undertaken when bats are out of hibernation and in their summer roosts.

The bat active period is generally considered to be between April and October, although particularly cold weather will affect the level and extent of bat activity. Indeed, the air temperature at the start of each survey should be at least 10°C or above, with no strong wind or heavy rain. The nocturnal survey starts 15 minutes before sunset and continues for one and a half to two hours after sunset.

Nocturnal surveys visits will be a minimum of three weeks apart, and the number of surveys and timing is dependent on the evidence found or the suitability of the site to bats. This will be determined by the ecologist. In general, at least two emergence nocturnal surveys will be carried out, but a third visit may be necessary if the results are inconclusive or further information is required.

Nocturnal emergence surveys are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent but the suitability for bat roosting is considered low, moderate, or high.

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

For moderate suitability, a minimum of two visits are needed between May and September, of which one must be in the period May to August.

With high suitability, three visits will be necessary between May and September, of which two must be in the period May to August.

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

The number of surveyors and/or the use of night vision aids (NVAs) is determined by the ecologist and is dependent on the complexity of the structure. For simple structures just one surveyor using an appropriate number of NVAs will be sufficient, but for larger sites and/or more complex or irregularly shaped structures, e.g., those with multiple elevations and/or roof slopes, more surveyors will be required.

On 22nd February 2024 thorough inspections of the bungalow and garage were made by Neil Musgrave (Natural England bat licence No. 2020-44602-CLS-CLS), including the exterior and interior walls, roof coverings, roof void, eaves, gables, window casements and door frames.

8x42 binoculars and a Fenix TK75 torches 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.

The results of the inspections are detailed in Section 3.

3. RESULTS

3.1 Desk Study

In view of the small scale 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 2.0 km of Tonilla the following European Protected Species licences for bats were issued by Natural England:

- ❑ 2014 0.5 km north for Common Pipistrelle *Pipistrellus pipistrellus*;
- ❑ 2014 0.5 km east for Common Pipistrelle and Soprano Pipistrelle *Pipistrellus pygmaeus*;
- ❑ 2014 12.00 km southeast for Soprano Pipistrelle;
- ❑ 2015 0.25 km west for Common Pipistrelle and Soprano Pipistrelle;
- ❑ 2015 0.50 km southeast for Common Pipistrelle;
- ❑ 2016 0.75 km north for Brown Long-eared bat and Soprano Pipistrelle;
- ❑ 2017 0.25 km east for Soprano Pipistrelle;
- ❑ 2017 1.25 km southeast for Brown Long-eared bat and Common Pipistrelle;
- ❑ 2018 2.00 km northeast for Common Pipistrelle;

3.2 Location

Upper Warren Avenue is located to the west of Caversham. Tonilla lies approximately 200 m southeast of the junction with Blagrove Lane, the junction is the northwest end of the avenue, on the northeast side of avenue. The Ordnance Survey Grid Reference of the site is SU 69515 75408 (Appendix 1).

3.3 Site Description

The survey site comprised a detached pitched roofed bungalow with extended pitched roofed gables to its rear and a detached flat roofed garage (Fig. 1).



Fig. 1 Detached pitched roofed bungalow

To the front of the bungalow and garage was a hard surfaced drive, an area of lawn, hedgerow to the south and mature trees on its side boundaries and in the distance (Fig. 3). The rear garden had a paved patio area adjoining the bungalow with a central lawned area with large mature trees on the boundaries (Fig. 4).



Figs. 3 & 4 Views to the front (L) and rear (R)

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

3.4 Building Survey

The daytime inspections were carried out on 22nd February 2024 commencing at 10:15. The weather conditions during the time of the survey were recorded and are presented in Table 1 below.

Parameter	Value
Temperature (°C)	11.0
Cloud cover (%)	100
Precipitation	Rain
Wind speed (Beaufort scale)	0

Table 1 Weather conditions during the diurnal survey

3.4.1 Bats

Bungalow

All the ridges were intact and sealed, whilst all the roof tiles were tightly overlapping with no broken, dislodged or missing tiles observed (Figs. 5 – 13).



Figs. 5 & 6 Ridge and roof tiles to the front



Fig. 7 Ridge and roof tiles to the west



Figs. 8 & 9 Ridge and roof tiles to the north



Figs. 10 & 11 Ridge and roof tiles to the north



Figs. 12 & 13 Ridge and roof tiles to the east

The chimney base was sealed with tightly moulded lead flashing (Fig. 14).



Fig. 14 Tightly moulded lead flashing

The gables were sealed with the roof verges cement sealed to the gable wall plates all round (Figs. 15 – 19).



Figs. 15 & 16 Sealed gables to the west and northwest



Figs. 17 & 18 Sealed gables to the north and southeast



Fig. 19 Sealed gable to the east

The eaves were finished with tightly fitting boxed soffits against the walls all round (Figs. 20 and 21).



Figs. 20 & 21 Tightly fitting boxed soffits against the walls

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

No signs of bat activity were found around the outside of the bungalow.

Internally the bungalow had a single roof void including the extensions to its rear. All the roofs were lined with tarred felt in good condition with no holes or tears observed. The ridges, plumb cuts and gable ends were cobwebbed (Figs. 22 – 26).



Figs. 22 & 23 Cobwebbed ridges



Figs. 24 & 25 Cobwebbed plumb cut and gable end



Fig. 26 Cobwebbed gable end

No light penetrated the roof void, and no evidence of bat activity was found inside the bungalow.

Garage

The flat roof of the garage was finished with tarred felt and a covering of vegetation (Fig. 27). The eaves were sealed with tightly fitting timber fascia boards all round (Fig. 28).



Figs. 27 & 28 Vegetation covered roof and tightly fitting timber fascia boards

The brick walls were sound throughout, whilst the window casements and door frames were tightly fitting, no crevices or gaps were observed.

No signs of bat activity were found around the outside of the garage.

Internally the garage was open to the underside of the flat roof, this was cobwebbed all over (Figs. 29 and 30).



Figs. 29 & 30 Cobwebbed garage roof

Light penetrated the garage through the window, and no evidence of bat activity was found inside the garage.

3.4.2 Other species

No birds' nests were observed either in or on the bungalow or garage.

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 house 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 **negligible** for both the bungalow and garage as no suitable crevices or gaps were observed.

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 or of any other species that prefer roof voids.**

At the time of the survey, the bungalow and garage were not identified as bat roosts or hibernation sites, and as such no further surveys or mitigation measures are required.

*

No birds' nests were observed either in or on the bungalow or garage.

5. REFERENCES

Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines. (4th edn).* Bat Conservation Trust, London.

Mitchell-Jones A. J. & McLeish, 2004. *Bat Workers' Manual.* Joint Nature Conservation Committee, Peterborough.

Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats.* Chartered Institute of Ecology and Environmental Management, Ampfield.

Stebbing R.E., 1986. *Which bat is it?* The Mammal Society and The Vincent Wildlife Trust, London.

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



Tonilla Upper warren Avenue Caversham Reading

Appendix 2: Site layout



Tonilla

NKM Associates

**Neil K Musgrave B.Eng. (Hons)
Woodley House, 4 Orchard Close, Mickleton,
Gloucestershire, GL55 6TA**

Tel: 07732 657845

neil@nkmassociates.co.uk

Tonilla, Upper Warren Avenue, Caversham, Reading - Bat Survey Report

Report Number: 42024-01 NKM Assoc

Version: 01

Date: 18th March 2024