

**Bat Survey Report for
Upper Chimney and surrounding roof,
Turkdean Manor, Turkdean,
Cheltenham, GL54 3NU**



NKM Associates

19th April 2023

QUALITY CONTROL

Date	Version	Name
19.4.23	Daytime inspection	Neil Musgrave – BEng (Hons)
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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.

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SUMMARY

At Turkdean Manor in Turkdean, Cheltenham listed building consent is being sought to remove the upper chimney and replace with a new chimney structure.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 19th April 2023, to assess the upper chimney and surrounding roof building for signs of bat occupation.

All the external and internal structures 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, upper chimney and surrounding roof were not identified as a bat roost or hibernation site, and as such no further surveys or mitigation measures are required.

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No birds' nests were found in or around the upper chimney.

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No Preliminary Ecological Assessment was undertaken as the work to be undertaken is simply to remove and re-build the upper chimney. This work will not affect the local ecology nor the flight paths of bats and birds when the work is completed.

1. INTRODUCTION

In early April 2023, NKM Associates was instructed by Goldings Chartered Building Surveyors & Architectural Consultants to undertake a bat survey of the upper chimney of Turkdean Manor in Turkdean Cheltenham. On 19th April 2023, a visit was made to the property to carry out a diurnal inspection of the upper chimney and surrounding roof to check for signs of bat occupation.

The result of the survey is 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 (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 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.

Nocturnal surveys must 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., bat use is confirmed, the number and timing of nocturnal surveys 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.

However, for a site with no evidence but low suitability, just one nocturnal survey is required, this to be in the optimum period, and either an emergence or a dawn re-entry.

For medium suitability a minimum of two nocturnals are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey.

With high suitability, three nocturnals 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 19th April 2023 a thorough inspection of the upper chimney and surrounding roof was made by Neil Musgrave (Natural England bat licence No. 2020-44602-CLS-CLS).

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 from a ladder.

The result of the survey is 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 4.0 km of Turkdean Manor, the following European Protected Species licences for bats were issued by Natural England:

- 201 4.0 km southeast for Brown Long-eared bat and Lesser Horseshoe bat.

3.2 Location

Turkdean is a village located approximately 2.25 km northwest of the A40 and A429 roundabout 1.25 km north of Northleach. Turkdean Manor lies to the northeast of the village. off Oxford Street is located towards the west of the town. The Ordnance Survey Grid Reference of the eastern rear extension is SP 10816 17664 (Appendix 1).

3.3 Site Description

The survey site comprised the upper chimney and surrounding roof of Turkdean Manor (Fig. 1).



Fig. 1 Aspect to the west

To the north of the manor was a wood and to the rear was a gravelled yard with open fields and mature trees were all round.

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

3.4 Building Survey

The daytime inspection was carried out on 19th April 2023 commencing at 16:00. 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 (%)	100
Precipitation	None
Wind speed (Beaufort scale)	0

Table 1 Weather conditions during the diurnal survey

3.4.1 Bats

The stonework of the upper chimney was in good condition with no crevices or gaps, the adjoining roof tiles were all present with two slightly raised tiles which when closely inspected were considered too small for bat occupation and had cobwebs over their front edges, the lead flashing was tightly moulded all round (Fig. 2). Internally the room directly below the chimney was vaulted (Fig. 3).



Figs. 2 & 3 Upper Chimney and surrounding roof (L); vaulted room (R)

No evidence of bat activity was found around the outside of the upper chimney and adjoining roof or inside the room directly below the chimney.

3.4.2 Other species

No birds' nests were found in or on the upper chimney or surrounding roof.

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**, as there were no suitable external crevices or cavities.

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 the inside of buildings.**

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

*

No bird nests were found in or on the eastern rear extension.

*

No Preliminary Ecological Assessment was undertaken as the work to be undertaken is simply to remove and re-build the upper chimney. This work will not affect the local ecology nor the flight paths of birds and bats when the work is completed.

5. REFERENCES

Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines. (3^d edn).* Bat Conservation Trust, London.

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APPENDICES

Appendix 1: Location plan

Appendix 2: Site layout

Appendix 1: Location plan



Turkdean Manor, Turkdean

Appendix 2: Site layout



Chimney, Turkdean Manor

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Upper Chimney and surrounding roof at Turkdean Manor, Cheltenham

Bat Survey Report

Report Number: 35323-01 NKM Assoc

Version: 01

Date: 15th May 2023