MPEcology

Preliminary Roost Assessment (PRA) of a Garage at Old Manor Cottage Little Bedwyn, Wiltshire

June 2023



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MPEcology

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1 Executive summary

1.1.1 In November 2022, MPEcology were commissioned by Mr M Landau to undertake a Preliminary Roost Assessment of a garage at Old Manor Cottage, a residential property in Little Bedwyn (also referred to as 'the site'). The site is located within the administrative boundary of Wiltshire County Council (National Grid Reference SU 290660).

1.1.2 The garage at Old Manor Cottage was subject to a daytime inspection on the 9th December 2022. During the visit the building was searched by an experienced, licensed bat worker in order to locate evidence of current or past bat roosts, in the form of bats, droppings, staining, feeding signs, and/or remains of bats.

1.1.3 No statutory designated sites were identified in proximity to Old Manor Cottage, the nearest being Freeman's Marsh Site of Special Scientific Interest (SSSI). The SSSI lies approximately 3.45km to the north-east and is noted for its unimproved meadows, marsh and reedbed habitats. Chilton Foliat Meadows SSSI, which forms part of the Kennet and Lambourne Floodplain Special Area of Conservation (SAC), also lies 4.56km to the north-east whilst the Savernake Forest is situated 4.64km to the west. None of the designated sites are considered likely to be impacted by proposals.

1.1.4 Preliminary roost assessment found droppings identifying use of the garage (Building C) by Serotine bats. Based on good practice guidelines, three dusk emergence surveys were undertaken between the 2nd May and 6th June 2023. A static bat detector was also deployed to remotely monitor use of the garage.

1.1.5 Further surveys failed to identify current use of the garage by bats. It is possible that the presence of droppings represents the opportunistic use of the structure by a Serotine (for instance, during a period when garage doors were left open at night in recent years). A lack of current activity or evidence of use (such as fresh droppings) suggests the structure is no longer used as a roost. For this reason, a European Protected Species (EPS) development license is not considered to be warranted. A precautionary approach to development should be followed including a pre-construction check and provision of mitigation features.

2 Introduction

2.1 Background

2.1.1 In November 2022, MPEcology were commissioned by Mr M Landau to undertake a Preliminary Roost Assessment of a garage at Old Manor Cottage, a residential property in Little Bedwyn (also referred to as 'the site'). The site is located within the administrative boundary of Wiltshire County Council (National Grid Reference SU 290660).

2.1.2 The landowner is seeking planning permission to replace the building.

Figure 1: Location of the site.



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2.2 Purpose of this document

2.2.1 The purpose of the report is to provide an overview of potential ecological constraints to development at the site.

3 Legislation, planning policy and guidance

3.1 The Conservation of Habitats and Species Regulations 2017

3.1.1 Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, known as the 'Habitats Directive' and the Birds Directive (Council Directive 2009/147/EC (which codifies Directive 79/409/EEC) for rare, vulnerable and regularly occurring migratory bird species and internationally important wetlands. The requirements of the Habitats Directive and the Birds Directive are transposed into UK legislation by 'The Conservation of Habitats and Species Regulations 2017, commonly known as the 'Habitats Regulations'.

3.1.2 The Habitats Regulations allow for the designation of both Special Protection Areas (SPAs) for birds and Special Areas of Conservation (SACs) for the protection of other species and habitats. These protected areas are collectively known as the Natura 2000 network of sites. Species listed under the Habitats Regulations are known as European Protected Species (EPS) and are afforded a higher level of protection. EPS including Great Crested Newts, Otter and all species of bat are fully protected under UK law making it an offence to kill, injure or disturb EPS and to destroy any place used for rest or shelter.

3.2 Wildlife and Countryside Act 1981 (as amended)

3.2.1 The Wildlife and Countryside Act 1981 (as amended) (WCA) is the principal legislation relating to wildlife protection in the United Kingdom. The Act provides for the designation of Sites of Special Scientific Interest (SSSI), which are selected as the best national examples of habitat types, sites with notable species and sites of geological importance.

3.2.2 Schedules 1-4 of the Act deal with the protection of wild birds. Schedule 5 of the Act details with the protection of other animal species. Full protection is given under Section 9 of the Act to certain animals listed on Schedule 5, including all species of bats. Partial protection under Section 9 is given to certain other species, including all common species of reptile. Schedule 8 of the Wildlife and Countryside Act details protection for plants and fungi. It is an offense to knowingly cause the spread, into the wild, of plants listed on Schedule 9 of the Act.

3.2.3 Special penalties are available for offences related to birds listed on Schedule 1 of the Act and there are additional offences of disturbing these birds at their nests, or their dependent young, as well as the strict protection afforded to birds, their nests and eggs.

3.3 The Countryside and Rights of Way Act 2000

3.3.1 The Countryside and Rights of Way Act 2000 (CRoW Act) primarily deals with the rights of members of the public to access the countryside. The CRoW Act updated and strengthened the legal protection for designated sites (such as SSSIs) as well as certain species. In particular, the CRoW Act strengthened legislation by introducing the offence of 'reckless disturbance'. Section 74 of CRoW Act placed a statutory duty on government departments to have regard to biodiversity conservation and requires the preparation and maintenance of lists of priority species and habitats. Some of the provisions set out in CRoW Act have

been incorporated into amendments to the WCA or have been superceded by the Natural Environment and Rural Communities Act 2006 (NERC 2006).

3.4 National Planning Policy Framework (NPPF) (2021)

3.4.1 The revised National Planning Policy Framework (NPPF) published in 2021 and sets out the framework by which government intends growth to be achieved, whilst protecting the natural and historic environment for future generations. In particular, paragraph 174 relates to conservation and enhancement of the natural environment.

3.4.2 When determining planning applications, the policies and decisions of local planning authorities should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

3.4.3 In addition paragraph 180 of the NPPF sets out that when determining planning applications, local planning authorities should apply the following principles:

a) *If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused*.

4 Methodology

4.1 Desk study

4.1.1 GIS resources of Natural England (NE) were used to identify nearby statutory designated sites. Wiltshire is known to support a rich bat fauna and many of the resident UK species would be expected locally. A specific data search for existing records was not undertaken.

4.2 Daytime building inspection for bats

4.2.1 The garage at Old Manor Cottage was subject to a daytime inspection on the 9th December 2022. During the visit the building was searched by an experienced, licensed bat worker in order to locate evidence of current or past bat roosts, in the form of bats, droppings, staining, feeding signs, and/or remains of bats.

4.3 Static detector survey

4.3.1 An Anabat Express was deployed inside the garage on the 19th May 2023 and retrieved on the 6th June 2023 (sixteen nights deployment).

4.4 Emergence / roost return surveys

4.4.1 Dusk emergence surveys were undertaken to investigate use of the building by roosting bats. Dusk visits were undertaken on the 2nd May 2023, 19th May 2023 and 6th June 2023.

4.4.2 The survey followed good practice guidelines[1], with dusk visits beginning fifteen minutes before sunset and continuing for approximately one and a half hours.

4.4.3 Two surveyors undertook surveys used recordable bat detectors (Anabat Walkabout / Scout). Sony AX53 night-shot video cameras with supplementary IR lamps were also used on the second visit. All bat calls recorded were analysed using Kaleidoscope / Analook software.

4.5 Surveyors

4.5.1 The lead surveyor and author of this report was Matthew Pickard (BSc., MSc.), an ecologist with over 20 years environmental consultancy experience, a Chartered Environmentalist (CEnv), full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and a licensed bat and great crested newt surveyor. Assistance was provided by Jo Pickard (BSc., MSc., MCIEEM).

4.6 Survey limitations

4.6.1 Seasonal timing was not considered to be a constraint to preliminary assessment of the site.

[1] Collins, J. (ed) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

5 Baseline conditions

5.1 Statutory designated sites

5.1.1 No statutory designated sites were identified in proximity to Old Manor Cottage, the nearest being Freeman's Marsh Site of Special Scientific Interest (SSSI). The SSSI lies approximately 3.45km to the north-east and is noted for its unimproved meadows, marsh and reedbed habitats.

5.1.2 Chilton Foliat Meadows SSSI, which forms part of the Kennet and Lambourne Floodplain Special Area of Conservation (SAC), also lies 4.56km to the north-east whilst the Savernake Forest is situated 4.64km to the west. None of the designated sites are considered likely to be impacted by proposals.

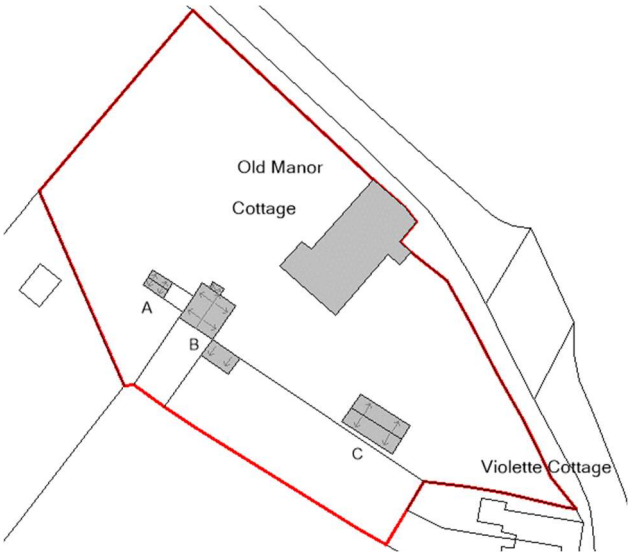
5.2 Site context

5.2.1 The landscape surrounding Little Bedwyn is of mixed arable agriculture although the wider landscape also supports a patchwork of semi-natural broadleaved and planted woodlands. Little Bedwyn is centred on the River Dunn as well as the Kennet and Avon Canal. These waterbodies lie approximately 25m south-east of the landholding.

5.3 Daytime inspection

5.3.1 Old Manor Cottage, a thatched property at the northern end of the plot, was not subject to survey. The garage (Building C of Figure 2) was the target of this report, two other outbuildings (Buildings A & B) were the focus of an earlier report[2].

Figure 2: Target buildings.



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[2] MPEcology (2023). Preliminary Roost Assessment (PRA) of Outbuildings at Old Manor Cottage, Little Bedwyn, Wiltshire – January 2023. An unpublished report in support of planning.

<table>
<tr><td colspan="2">Building C – High potential for roosting bats</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2">A weather-boarded garage with roof finished in timber shingles.</td></tr>
<tr><td></td><td>TN1 – The timber roof shingles were found to be tightly overlapping and lacked crevices accesible by bats.</td></tr>
<tr><td></td><td>TN2 – Gaps appeared to be present at the junction between exterior cladding and the roof edge at the north-western gable.</td></tr>
</table>

	**TN3** – An open window at the ivy-clad south-eastern gable provided a potential flyway into the interior of the structure.
	**TN4** – Internally, few crevice features with potential for bats were present. However, occasional gaps near roof timbers and at gable ends could not be discounted.
	**TN5** - A scattering of old bat droppings were noted from the floor of the building. The droppings appeared to be centred along the ridgeline and were relatively few in number (<50).

5.4 Static detector survey

5.4.1 Deployment of an Anabat Express detector between the 19th May and 6th June 2023 (16 nights) failed to detect any bat activity.

5.5 Emergence surveys

Visit 1 – Dusk survey 02.05.2023

5.5.1 Sunset was expected at 20:30hrs. Weather conditions during the survey were considered suitable for bat activity: clear and dry with a temperature of 13°C and a light breeze (8mph easet-south-easterly). Two surveyors took part in the survey: Matt Pickard and Jo Pickard.

5.5.2 Three species of bat were recorded during the survey: Serotine, Common Pipistrelle and Soprano Pipistrelle.

5.5.3 The first bat recorded was a Common Pipistrelle which arrived from the south at 20:48hrs and began foraging to the east of the garage before flying off towards the north. A Serotine passed from south to north at 21:04hrs and a Soprano Pipistrelle at 21:08hrs.

5.5.4 No evidence of roosting bats was detected from the garage.

Visit 2 – Dusk survey 19.05.2023

5.5.5 Sunset was expected at 20:57hrs. The weather conditions during the survey were considered suitable for bat activity: clear and dry with a temperature of 13°C and a light breeze (7mph north-north-easterly) at the start of the survey. By the end of the survey the temperature had dropped to 12°C. Two surveyors took part in the survey: Matt Pickard and Jo Pickard.

5.5.6 Four species of bat were recorded during the survey: Noctule, Serotine, Common Pipistrelle and Soprano Pipistrelle.

5.5.7 The first bat recorded was a Common Pipistrelle at 21:26hrs (passing from south to north) shortly followed by a Noctule passing high over the site at 21:27hrs. A Soprano Pipistrelle was recorded flying past the site at 21:41hrs and a Serotine at 21:57hrs.

5.5.8 No evidence of roosting bats was detected from the garage.

Visit 3 – Dusk survey 06.06.2023

5.5.9 Sunset was expected at 21:18hrs. The weather conditions during the survey were considered suitable for bat activity: cloudy and dry with a temperature of 13°C and a light breeze (10mph north-easterly) at the start of the survey. By the end of the survey the temperature had dropped to 12°C. Two surveyors took part in the survey: Matt Pickard and Jo Pickard.

5.5.10 Three species of bat were recorded during the survey: Noctule, Common Pipistrelle and Soprano Pipistrelle.

5.5.11 The first bat recorded was a Noctule at 21:45hrs shortly followed by a Common Pipistrelle (flying through the site from south to north) at 21:47hrs. The first Soprano Pipistrelle was recorded passing the site at 21:56hrs.

5.5.12 No evidence of roosting bats was detected from the garage.

6 Assessment

6.1 Proposed development plan

6.1.1 The existing garage was found to be in a state of deterioration and proposals involve its demolition and replacement.

6.2 Roosting bats

Garage (Building C)

6.2.1 The Garage lacked potential roost features except for limited gaps at the north-facing gable end and near some associated internal roof timbers. No evidence of roosting was found during the daytime inspection apart from the presence of a few scattered droppings on the floor of the building beneath the ridgeline. The droppings had deteriorated and appeared old, although their presence identified was considered to signify at least historical use by bats.

6.2.2 A sample of the most intact of the droppings was retained and sent for DNA analysis by Warwick University. Successful analysis confirmed use by Serotine (*Eptesicus serotinus*) bats (refer to Appendix 1). Serotine bats are a large but agile crevice dwelling species strongly associated with buildings. Roosts are usually associated with roof or wall cavities.

6.2.3 Emergence and static detector surveys (May-June 2023) failed to find any evidence of current use by bats.

6.2.4 It is possible that the presence of droppings represents the opportunistic use of the structure by a Serotine (for instance, during a period when garage doors were left open at night in recent years). A lack of current activity or evidence of use (such as fresh droppings) suggests the structure is no longer used as a roost. For this reason, a European Protected Species (EPS) development license is not considered to be warranted. However, a precautionary approach to development should be followed including a pre-construction check and provision of mitigation features.

Outline mitigation plan

6.2.5 Prior to demolition, a pre-construction check for roosting bats should be undertaken comprising physical inspection of the structure and a search for signs of use. If evidence is found suggesting use by bats, then demolition should be delayed until a development license is in place.

6.2.6 A broad mitigation plan outlined in the Design and Access Statement for the proposal includes provision of a bat box and ridgeline feature. Open-fronted garage bays will also provide incidental night-roosting opportunities for bats. A built-in bat box suitable for larger crevice dwelling species will be installed into the apex at the southern gable end of the new garage. Suitable designs would include Schwegler 1FR, ACO Build-in Bat Box and Green & Blue Bat Block. The ridgeline access feature will be created using lead and the base of the internal ridgeline cavity will be lined with bitumen (1F) roofing felt to inhibit contact with modern roofing membranes.

	Ridgeline access point formed using lead. The lead former provides bat access to the void beneath the ridgeline.
	Ridgeline access point in situ.

7 Conclusion

7.1.1 Preliminary roost assessment of a garage at Old Manor Cottage found droppings identifying use by Serotine bats. However, further surveys failed to identify current use.

7.1.2 It is possible that the presence of droppings represents the opportunistic use of the structure by a Serotine (for instance, during a period when garage doors were left open at night in recent years). A lack of current activity or evidence of use (such as fresh droppings) suggests the structure is no longer used as a roost. For this reason, a European Protected Species (EPS) development license is not considered to be warranted. However, a precautionary approach to development should be followed including a pre-construction check and provision of mitigation features.

7.1.3 A built-in bat box suitable for larger crevice dwelling species will be installed into the apex at the southern gable end of the new garage. Suitable designs would include Schwegler 1FR, ACO Build-in Bat Box and Green & Blue Bat Block. A purpose-built ridgeline access feature will also be created (using lead).

8 References

Collins, J. (ed) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).* Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

9 Appendices

Appendix 1: Results of DNA analysis

WARWICK
THE UNIVERSITY OF WARWICK

EcoWarwicker
Ecological Forensics

16 January 23

Re: Identification Results for Matthew Pickard, MPEcology

Job number 19244, received 03 January 2023
Sample labelled: Little Bedwyn (Wiltshire)
PCR amplification successful. DNA sequence:
ATGACCAACATTCGAAAATCCCACCCTCTACTAAAAATTGTCAACGACTCATTTATTG
ATCTACCTACCCCCTCAAGCATCTCTGCATGA

Phylogenetic analysis identification: *Eptesicus serotinus*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

Professor Robin Allaby
School of Life Sciences,
Gibbet Hill Campus,
University of Warwick,
Coventry CV4 7AL
Tel: 02476575059
Fax: 02476574500
Email: r.g.allaby@warwick.ac.uk