Meadow Farm Stud, Newtown, Ramsbury, Marlborough, SN8 2PP

Inspection Survey for Bat Roost Potential



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All Ecology Ltd

Tel: 01453 393001
Email: info@allecology.co.uk
Web: www.allecology.co.uk

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All Ecology

England and Wales Office

All Ecology Ltd,
Haw Street,
Coaley,
Dursley,
Gloucestershire,
GL11 5AY.

Scotland Office

All Ecology Ltd,
Bowfield Road,
Howwood,
Renfrewshire,
PA9 1BZ.

Tel: 01453 393001
Email: info@allecology.co.uk
Web: www.allecology.co.uk

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The results of the survey and assessment work undertaken by All Ecology are representative at the time of surveying.

Every endeavour has been made to identify the presence of protected species on site, where this falls within the agreed scope of works.

The flora and fauna detailed within this report are those noted during the field survey and from anecdotal evidence. It should not be viewed as a complete list of flora and fauna species that may frequent or exist on site at other times of the year.

Up to date standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on-site.

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1.0 Introduction

Background

1.1 In July 2021, All Ecology was commissioned to undertake an Inspection Survey for Bat Roost Potential of a House at Meadow Farm Stud, Newtown, Ramsbury, Marlborough, SN8 2PP. The building is surrounded by typical residential gardens and entrance driveway with the boundaries of the site formed of hedge and trees. The site is located on the eastern edge of Ramsbury village, Wiltshire with the wider area being a mosaic of pasture and arable land, small pockets of woodland and the River Kennet approximately 180 m south.

1.2 The House is the subject of a planning application to permit its demolition and the erection of a new dwelling in its place.

Objectives and Aim

1.3 The main objectives and aim of the survey was to establish the following:

- Presence/absence of bat roosts.
- Status of roosts if present.
- Whether additional surveys are required.
- Whether a European Protected Species (EPS) licence is required to ensure legal compliance.
- Which type of mitigation measures would need to be employed.

Site Location



Figure 1: Site location plan (building indicated).

2.0 Legislation and Status

Bats

2.1 All species of bat are listed on Schedule 5 of The Wildlife and Countryside Act (1981) and as such receive protection under Section 9 of this Act. This has been amended several times, most recently by the Countryside and Rights of Way Act 2000, which added 'or recklessly' to Section 9(4) (a) and (b). In summary, it is a criminal offence to:

- Intentionally kill, injure or take a wild bat.
- Be in possession of, or control, any live or dead wild bat or part of, or anything derived from a wild bat.
- Intentionally or recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection.
- Intentionally or recklessly disturb any wild bat whilst it is occupying a structure or place that it uses for shelter or protection.
- Transport for sale or exchange, or offer for sale or exchange, a live or dead bat or any part of a bat.

2.2 The Conservation of Habitats and Species Regulations 2010, consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994, in respect of England and Wales. It is an offence to possess, sell or offer or transport for sale any European species of bat or any part derived from such a species. These Regulations also remove the 'incidental result defence'. In other words, it is no longer a defence to show that the killing, capture or disturbance of a species covered by the Regulations or the destruction or damage of their breeding sites or resting places was the incidental and unavoidable result of a lawful activity. Natural England can grant European Protected Species (EPS) licenses in respect of development to permit activities that would otherwise be unlawful.

2.3 Under Section 40 of the Natural Environment and Rural Communities Act (2006) public bodies, including Local and Regional Planning Authorities have a duty to 'have regard' to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. In compliance with Section 41 of the Act, the Secretary of State has published a list of species considered to be of principal importance for conserving biodiversity in England. This is known as The England Biodiversity List, all of which make up the UK BAP Priority Species. This list forms the basis of the UK Biodiversity Framework, and in England, Biodiversity 2020: A strategy for England's wildlife and ecosystem services (Defra, 2011). Regional Planning Bodies and Local Planning Authorities will use it to identify the species that should be afforded priority when applying the requirements of the National Planning Policy Framework (NPPF) to maintain, restore and enhance species and habitats.

2.4 Seven bat species are NERC Priority Species (JNCC, 2007). These are:

- Barbastelle *Barbastella barbastellus*
- Bechstein's *Myotis bechsteinii*
- Noctule *Nyctalus noctula*

- Soprano Pipistrelle *Pipistrellus pygmaeus*
- Brown Long-eared *Plecotus auritus*
- Greater Horseshoe *Rhinolophus ferrumequinum*
- Lesser Horseshoe *Rhinolophus hipposideros*

2.5 Greater Horseshoe, Lesser Horseshoe, Barbastelle and Bechstein's, are afforded greater protection under European legislation, being listed under Annex II of the EC Habitats Directive which lists species whose conservation requires the designation of Special Areas of Conservation (SACs).

3.0 Methodology

Personnel

3.1 The survey was carried out by Daniel Roberts BSc Hons and overseen by James Godbeer BSc Hons MCIEEM, an ecologist with over 14 years' experience working as a consultant. James has extensive experience of managing environmental contracts, and particular experience in surveying, assessment and mitigation for rare and protected species. He has considerable knowledge of the development and planning process including Ecological Impact Assessments, sustainable ecological design and he has completed ecology chapters of Environmental Statements. James holds a number of protected species licences including bats (all species, all counties, Class Licence Registration No. 2015-12313-CLS-CLS), and Great Crested Newts (Class Licence Registration No. 2019-44282-CLS-CLS). He has successfully obtained European Protected Species mitigation licences for a number of bat species including Lesser Horseshoe, Greater Horseshoe, Serotine, Brown Long-eared, Common Pipistrelle and Natterer's bats, for a number of roost types including maternity and hibernation sites.

Inspection Survey for Bat Roost Potential

3.2 An internal and external inspection survey of the building was conducted on the 26th July 2021.

3.3 All bat species resident in the UK have been recorded using buildings and built structures as roosts at some time during the year (Collins, 2016). The various sections of the building were inspected externally and internally following the methodology set out in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd Ed (Collins, 2016).

3.4 In summary, the building was searched externally and then internally, where access was available, for any evidence of use by bats and notes were made on the following:

- Location and number of any live bats.
- Location and number of any corpses or skeletons.
- Location and number of droppings.
- Notes on relative freshness, shape and size of droppings.
- Location and quantity of feeding remains.
- Location of clean, cobweb-free timbers, crevices and holes.
- Location of characteristic staining from urine and/or grease marks.
- Location of known and potential access points to the roost.
- Location of the characteristic smell of bats if no other evidence is recorded.

3.5 Notes were also made on the characteristics and features of the building as follows.

- Type, age and aspect.
- Wall construction, in particular the type of brick or stone used to build the walls and whether it has cavity walls or rubble- filled walls.

- Form of the roof, in particular the presence of gable ends, hipped roofs, etc. and the nature and condition of the roof covering.
- Presence of hanging tiles, weather boarding or other forms of cladding.
- Nature of the eaves, in particular if they are sealed by a soffit or boxed eave and the tightness of the fit to the exterior walls.
- Presence and condition of lead flashings.
- Gaps under eaves, around windows, under tiles, lead flashings etc.
- Presence and type of roof lining.
- Presence of roof insulation.
- Presence of water tanks in loft (note if covered or uncovered).
- Structure of the roof including the truss type, age and nature of timber work.
- Information or evidence of work having been undertaken that could affect use of the structure by bats.

3.6 The presence or evidence of nesting birds was also recorded.

Equipment

3.7 Equipment used to aid the inspection survey included low and high-powered torches, ladders, endoscope, mirrors, binoculars and a camera.

Assessment

3.8 Where a building cannot fully be inspected or the presence of bats entirely ruled out, the potential suitability of the building for roosting bats is assessed and classified as follows (Collins, 2016):

- Negligible – Negligible habitat features on site likely to be used by roosting bats.
- Low – A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
- Moderate – A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
- High – A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

3.9 The surveyed building has been evaluated to assess which of the following categories it falls into, if any (Mitchell-Jones, 2004 & Collins, 2016):

- Transitional roost (April-September/October) - On waking from hibernation or in the period prior to hibernation, bats search for roosts in which they stay for only a few days or on some occasions several weeks. These transitional roosts can be occupied by a few individuals or occasionally small groups. The transitional roosts used prior to hibernation are generally cool and thus may allow bats to reduce their energy requirements before going into hibernation.
- Maternity roost (May-August) - Breeding females gather together around the beginning of May to form nursery colonies. During this period gestation begins with births typically occurring between June and July. The females and their young remain within the maternity roost until the young are weaned and independent (late July-August). These roosts tend to break up between August and September. Adult males are rarely found within these colonies. However, the adult males of long-eared bats, Daubenton's, Natterer's, and horseshoe bats can be found roosting within maternity colonies with their numbers increasing throughout the active season.
- Satellite roost (May-August) - Breeding females may have alternative roost sites in close proximity to the main nursery colony. These are referred to as 'satellite roosts'. The numbers of bats using these roosts can vary greatly, from a few individuals, to small groups.
- Mating roost (September-November) - All British bats are polygynous i.e. males mate with several females. Mating generally takes place from late summer and can continue through the winter. A number of different mating strategies are used by bats, though males of some species establish mating roosts, whereby they defend territory and display/call to females to mate.
- Hibernation roost (October-March) - Depending on the weather and food availability, bats tend to move to hibernation sites from October. Hibernation roosts can vary greatly in terms of the number of individuals and the diversity of species that occupy them. However, they tend to have a constant cool temperature and high humidity, which allows the bats to use less energy regulating their temperature. Bats will wake occasionally during hibernation to drink and feed.
- Night roost (March-November) - Bats may use roosts other than traditional day roosting sites to rest in during the night. These roosts vary in their conservation significance. Night roosts may be used by a single individual on occasion or they could be used regularly by the whole colony. Studies have shown that night roosts may be of particular importance to some species i.e. the Lesser Horseshoe, providing key resting places within core foraging areas.
- Day roost (March-November) - These roosts are used during the day to rest in. Males of most British species spend the summer roosting alone or in small groups with other males in such roosts. Bats may regularly use a number of day roosts, switching between them on a daily basis, though conversely, they may occupy the same roosting site for several weeks.
- Feeding roost (May-November) - These roosts can be occupied by a single animal or a few individuals throughout the active season. They vary in their significance as they may be used by the whole colony or just a few individuals to feed, to shelter from the weather or to rest temporarily. Feeding roosts are often used by long-eared and horseshoe species.

- Other considerations, Swarming sites - Swarming takes place between August and November, whereby large numbers of bats from several species gather, generally around caves and mines. They are often dominated by the *Myotis* species and appear to be important mating sites with some bats travelling several kilometres to reach these areas. A proportion of the bats that travel to these sites will remain to hibernate.

Limitations

3.10 No access was available to inspect the garage interior; however, the remainder of the building was fully accessible and the only parts of the building that could not be fully inspected were the void between the tiles and bitumen felt that lined the roofs and the suspected wall cavity behind external timber cladding.

4.0 Results

Inspection Survey

Surrounding Habitat

4.1 The building is surrounded by gardens comprising of short amenity grassland bound by hedges and trees with an entrance driveway entering the site from Halfway Lane immediately east. Beyond the site are open fields of grassland and arable with a network of hedges connecting pockets of woodland with the River Kennet 180 m south.

4.2 The wider area is likely to support a wide range of bat species including some of the more notable species. The site is small and any value to bats is likely to be limited to potential for roosting; however, boundary hedgerows, particularly on the east of the site are connected into a surrounding network of hedgerows, and these have some potential to be used by commuting and foraging bats.

Buildings

4.3 The House is the subject of proposed demolition.

Building 1 – House

4.4 External – An 'L shaped' building with the main living accommodation predominantly in the south and a garage occupying the north portion, with an open covered area abutting the north end of the building. The building is timber clad with a 'L shaped gable roof comprising multiple sections with the majority of living space being two storeys with the garage being a single-story section. The main roofs are covered with interlocking concrete tiles and there are two chimney stacks and zinc flashings with timber fascia and soffit boards enclosing the eaves and clay slate tiles covering the small roofs of bay windows. Windows and doors are present on most elevations. The covered area on the north wall has open sides with a basic metal frame supporting a corrugated sheet roof.

Internal – The ground and first floors of the building are typical living space. A large 'L shaped' roof void is located above the southern two-storey portion of the building. This roof is formed of a modern fink truss design with rafters, tension webs and a central ridge board overlaid with a bitumen lining felt. This roof void has a wall that partially separates the main roof space from the 4 m length of roof to the east. A second roof space is present over the single storey garage portion of the building. This roof is of the same structural design as the main roof and is also lined with a bitumen felt; however, this roof is of a simpler straight gable design with a slightly lower ridge height and degree of pitch.

Access for Bats – A number of gaps were recorded under tiles, including below the lower row where mortar is in part missing, which provide access to the small void between tiles and felt and subsequently to the internal roof spaces. The walls of the building were found to be generally well-sealed; however, small gaps were noted towards the apices of gable ends and behind a small number of warped cladding boards. Some sections of the roof were found to be difficult to view from ground level and these areas may provide further access points.

Potential Roosting Sites – The roof spaces of the building provide dark areas that would be attractive to some species of bats where suitable access is available. Externally, there is a void between the tiles and roof linings that may provide suitable roosting sites for crevice dwelling species with loose lining material allowing access to the main roof space. The walls of the building are largely well-sealed but where gaps around cladding is present, this may allow access to a suspected wall void that can provide further roosing potential. Scattered droppings were located in the main roof space over the south section; however, no bats were recorded. Two small clusters of bat droppings and a roosting Brown Long-eared bat were recorded in the roof space over the garage.



Photograph 1: View of the house with garage and covered area.



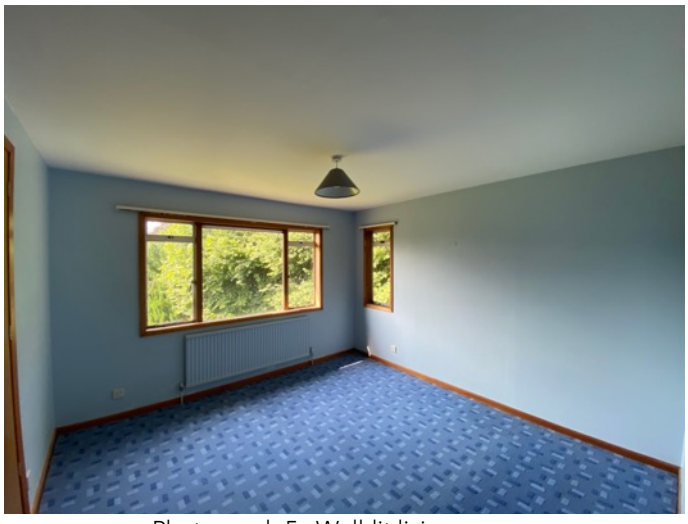
Photograph 2: East gable end and south elevation.



Photograph 3: South elevation.



Photograph 4: West elevation.



Photograph 5: Well-lit living space.



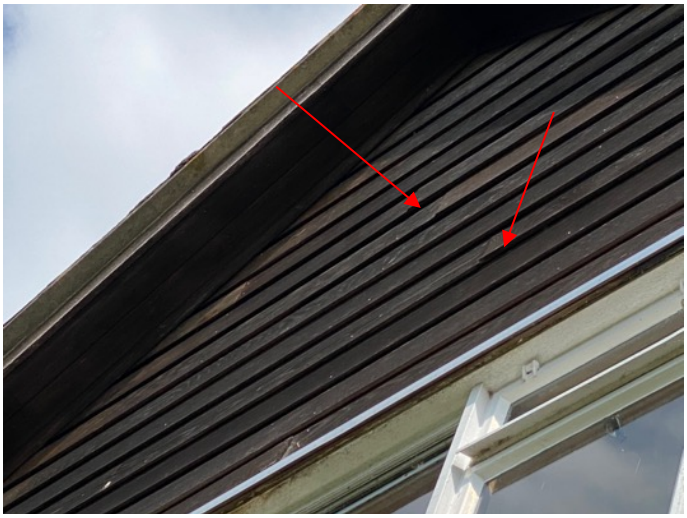
Photograph 6: Part of the house roof void.



Photograph 7: Garage roof void.



Photograph 8: Sagging bitumen felt.



Photograph 9: Small gaps behind slightly warped timber cladding.



Photograph 10: Gaps under tiles where mortar is missing.



Photograph 11: Scattered droppings within the main house roof void.



Photograph 12: Probable Brown Long-eared bat droppings within the roof space over the garage.



Photograph 13: A Brown Long-eared bat roosting in the garage roof void.

Other species

4.5 No evidence of bird nests was recorded.

5.0 Evaluation

Inspection Survey

5.1 The House has gaps under tiles that provide access to a small void between tiles and the internal linings and subsequently the enclosed roof voids with further limited potential within the wall structure of the building. Crevices under tiles and the dark roof spaces provide suitable roosting sites for bats with scattered and two small clusters of droppings as well as the one recorded Brown Long-eared bat showing presence of roosting bats. The House is classed as a **known roost(s) with high potential for other roosts.**

Hibernation

5.2 In terms of hibernation, the building did not provide areas sufficiently isolated from external changes in temperature to be considered highly suitable for hibernating bats. Any potential is minimal and limited to gaps under tiles and within the wall structure for species such as pipistrelles that will tend to hibernate in relatively exposed locations in order to take advantage or warmer winter days to forage. The roof voids provide limited potential for use by hibernating long-eared bats.

Birds

5.3 No evidence of nesting activity was recorded but the buildings provide some limited nesting potential and maybe used by nesting birds in future.

6.0 Impacts and Recommendations

Impacts

6.1 The House is the subject of a planning application to permit its demolition and the erection of a new dwelling in its place.

6.2 In the absence of mitigation, the following impacts and potential impacts with regard to bats have been identified:

Building 1 - House

- Demolition of the House resulting in the permanent loss of bat roosting features. Evidence of bats in the form of one Brown Log-eared bat and droppings within the roof spaces indicates bat roost(s). The building is classified as a known roost with potential for further roosts in features that could not be fully inspected. **Impact unknown**.
- Risk of significant disturbance, including injury and death of individual bats when the works are carried out. **Impact unknown**.

General

- Temporary/permanent disruption of areas of commuting habitats and sub-optimal bat foraging habitat through changes to building layout and potential increase/changes in external lighting. **Impact unknown.**

6.3 The following impacts and potential impacts with regard to birds have been identified:

- The disturbance of nesting birds resulting in the abandonment of nests and death of young, if works are carried out when nesting birds are present.

Further Surveys

6.4 In accordance with the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd Ed (Collins, 2016), where a building is deemed to be a **roost or of high potential**, the building should be subject to three survey visits in order to classify the roost and give confidence in a negative result for other roosts. Usually, two dusk emergence surveys and a separate pre-dawn re-entry survey are carried out, between May – September with two of the surveys occurring between May – August inclusive. The surveys should be at least two weeks apart and take place in suitable weather conditions. The House should therefore be subject to these surveys. The further surveys will also provide information of foraging and commuting activity associated with the site in order to inform a mitigation plan.

6.5 No evidence of nesting birds was recorded but birds may nest in buildings in the future. Nesting birds are protected under The Wildlife and Countryside Act 1981 (and amendments). Demolition works should ideally be carried out outside of the bird-nesting season of March to September to take into account the often extended nesting period by some species associated with buildings. Works during the nesting season should be preceded by a nesting bird survey and if nesting birds are discovered then the nest and surrounding habitat must be left undisturbed until the young have fledged.

Legal Compliance

6.6 The Wildlife and Countryside Act 1981 as amended by The CRoW Act 2000 and The Conservation of Habitats and Species Regulations 2010 makes it illegal to recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection, whether the bat is occupying the shelter at the time or not.

6.7 European Protected Species (EPS) Licences to permit the above for the purposes of development must be obtained from Natural England. To gain a licence the scheme must have been issued with detailed planning permission and must not result in a loss of conservation status of the species concerned. At least one Brown Long-eared bat is known to roost within the building with further roosts likely. A licence to permit the demolition of the House will be required, and the further surveys will inform the licence application.

Provision for Bats

6.8 Any detailed mitigation strategy for bats is dependent on the outcome of the further surveys However, the proposed development is likely to require a bat loft for long-eared bats. Specific provision for bats will be detailed after the further surveys have been completed.

Provision for Birds

6.9 In order to compensate for the loss of potential nesting habitat and enhance the site for other nesting birds, the following could be incorporated on the new building:

- Nest boxes for swifts could be incorporated into the eaves. These not only provide nesting sites for Swifts but can also be used by other species such as House Sparrows and Starlings.
- Individual boxes, such as the Schwegler Bird Home 1MR, installed at a height of at least 2 m on the new buildings.
- A group of three small bird boxes could be installed on a building at a height of least 2 m to provide nesting sites for birds such as House Sparrows.
- Nest boxes can also be installed in surrounding mature trees.

7.0 References

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