Underdown Farm
Standlake

Preliminary Roost Assessment

On Behalf of:
Rebecca and Oliver Costar

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4 Acre Ecology Limited

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1. Executive Summary

1.1 Underdown Farm is located off The Downs Road in the civil parish of Standlake, which lies within the West Oxfordshire District of the county of Oxfordshire (Central Grid Reference SP 39252 04383).

1.2 There are plans to construct an extension to the two-storey house. Therefore, a Preliminary Roost Assessment has been requested to inform the planning decision.

1.3 The Preliminary Roost Assessment aims to provide an assessment of the building and its roof space in order to identify the presence or absence of bats, or whether further surveys are required to do so.

1.4 The field survey was undertaken on the 19th May 2023 by an experienced Ecologist with a Natural England class licence to survey bats by observation only (Class Licence Registration Number 2015-13769-CLS-CLS).

1.5 The two-storey house has stone walls and a twin-pitched stone tiled roof, providing features for crevice dwelling bats. A few Pipistrelle bat droppings were found at the gable end of the main roof space near to the chimney breast, therefore, the house was assessed as having low potential for roosting bats.

1.6 Following best practice guidelines, a single dusk bat emergence survey is required on the house to prove likely absence, with further surveys required should bats be found to be using the building as a roost.

1.7 Recommendations, along with any mitigation should it be required, will be made upon the completion of the dusk emergence survey.

1.8 No other protected species are believed to be affected by the proposed works to the house.

2. Introduction

Background

2.1 Underdown Farm is located at the north-western edge of the civil parish of Standlake off The Downs Road, which lies within the West Oxfordshire District of the county of Oxfordshire (Central Grid Reference SP 39252 04383).

2.2 The site covers an area of approximately 0.75ha and consists of modern farm buildings hard standing farmyard, grassland areas and a modern detached two-storey house.

2.3 There are plans to extend the house. Therefore, a Preliminary Roost Assessment has been requested to inform the planning decision.

2.4 Rebecca Costar commissioned 4 Acre Ecology Limited on 17th May 2023 to undertake a Preliminary Roost Assessment of the property to allow this report to be written.

Aims and Objectives

2.5 The aim of the survey was to determine whether bats used or were likely to use the building to roost in, or whether further surveys were required to do so. The objective was to support a successful application for planning permission whilst maintaining the conservation status of bats within the local area.

About the Author

2.6 Mark Satinet has been working in the field of Wildlife Conservation and Ecology since 1992. 13 years at the Wildlife Trusts working on wider countryside habitat and species projects provided a good background in habitat surveys, species identification, habitat management advice to landowners and dealing with the public and media. He became the County Mammal Recorder for Wiltshire in 2000 and set up the Wiltshire Mammal Group in 2005. He is also a voluntary Bat Warden for Natural England and has been an active member of the Wiltshire Bat Group since 2001.

2.7 Since 2005 he has been a consultant ecologist, first as a Senior Ecologist at a multi-disciplinary company for a year and then the Principal Ecologist running the ecology team in a specialised ecological firm for a further four years. He is a full member of the Chartered Institute of Ecology and Environmental Management and a Chartered Environmentalist.

2.8 He now owns and runs his own company, 4 Acre Ecology Limited. He holds disturbance licences for bats, Great Crested Newts, Dormice, Barn Owls and Shrews and has held development licences for Great Crested Newts, bats, Badgers and Dormice and holds both a Bat Mitigation Class Licence and Great Crested Newt Low Impact Class Licence

3. Methodology

Desk Study

3.1 A data search was commissioned from the Thames Valley Environmental records Centre (TVERC) for bats within 2km of the site. Biological Records Centres hold information regarding statutory designated sites, local nature reserves, sites of conservation interest, records of protected species and other species of conservation concern. However, this data cannot be considered fully comprehensive and therefore the absence of data, in response to a data search, does not imply that a species, important habitat or designation does not exist within that search area.

3.2 The NBN Gateway was consulted to ascertain the number of bat records within 5km of Sunnyside.

3.3 The Multi-Agency Geographical Information for the Countryside (MAGIC) website was consulted to determine if there were any sites designated for bats within 5 km of the site.

Field Survey

3.4 An external and internal inspection of the house was carried out by a Natural England Licensed bat surveyor (Class Licence Registration number 2015-13769-CLS-CLS). The exterior of the building was searched for evidence of bats, looking for grease stains in external crevices and searching for droppings on windows sills, windows, walls and ledges and on the ground below potential entrance/exit areas to the roof or walls.

3.5 The interior of the building was searched using high powered torches for evidence of bats. This evidence includes sightings, dead bats, feeding remains, smell, droppings and grease marks at entry/exit points. The potential of the building as a bat roost was judged and any signs of bats or features offering roost potential were noted.

4. Legislation and Planning Policy

4.1 There are a number of tiers of legislation protecting wildlife in England and Wales. The highest tier is for those species protected by European Legislation, such as the Dormouse, Great Crested Newt, Otter and all species of bat. These are known as European Protected Species (EPS), which gain their protection from the Conservation of Habitats and Species Regulations (Habitat Regulations) 2017 (As Amended), whereby under section 43 it is an offence to

- deliberately capture, injure or kill an EPS
- deliberately disturb or take/destroy the eggs of an EPS
- damage or destroy a breeding site or resting place of an EPS

4.2 Nationally protected species are either fully protected (e.g. Water Vole, Bat) or partially protected (e.g. Adder or Smooth Newt) under the Wildlife and Countryside Act (WCA) 1981 and amendments, including the Countryside and Rights of Way Act (CRoW) 2000. Under the WCA it is an offence to:

- intentionally kill, injure or take any wild bird, take or destroy any wild bird egg or take, damage or destroy any nest while it is in use or being built
- intentionally or recklessly disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird
- intentionally or recklessly at any other time take, damage, destroy or otherwise interfere with any nest habitually used by any wild bird included in Schedule A1
- intentionally or recklessly kill, injure or take from the wild or possess all or any part of a Schedule 5 species
- intentionally or recklessly damage or destroy any structure or place which a schedule 5 species uses for shelter or protection, or disturb a schedule 5 species while it is occupying such a place
- obstruct access to any structure or place which a schedule 5 species uses for shelter or protection
- intentionally pick, uproot or destroy any wild plant included in Schedule 8

4.3 The CRoW Act 2000 added the term recklessly after intentionally in the Wildlife and Countryside Act 1981 and introduced a maximum custodial sentence of 6 months for offences.

4.4 The Natural Environment and Rural Communities Act 2006 (NERC) made provision about bodies concerned with the natural environment and rural communities and in connection with wildlife, sites of special scientific interest, National Parks and the Broads. Section 41 established a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity. This is known as the UK Biodiversity Action Plan (BAP) list.

4.5 The National Planning Policy Framework (NPPF) updated in July 2018 (Revised in July 2021) states that Planning policies and decisions 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.

4.6 To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

5. Results

Desk Study

5.1 No protected sites designated for bats were identified within 5 km of the site. There are no nationally protected sites or local nature reserves within 2km of the site. There are no ancient woodlands within 2km of the site.

5.2 There have been five protected species licences issued for bats within 5km of the site. The nearest is 1.1km south-west of the site for Brown Long-eared, Common Pipistrelle, Natterer's and Soprano Pipistrelle bats. Two of the licences involve a maternity roost; 1.8km south for Common Pipistrelle and Soprano Pipistrelle and 3.1km south-east for Brown Long-eared, Soprano Pipistrelle and Whiskered.

5.3 The Thames Valley Environmental Records Centre (TVERC) holds 147 records of bats within 2km of the site covering at least 10 species; Bat (3), Brown Long-eared (26), Common Pipistrelle (24), Daubenton's (1), Lesser Noctule (4), Myotis sp. (5), Nathusius's Pipistrelle (1), Natterer's (4), Noctule (6), Pipistrelle Bat sp. (35), Serotine(6), Soprano Pipistrelle (27) and Western Barbastelle (2).

5.4 The NBN Gateway hold 76 records of bats covering at least 5 species within 5km of the site; Brown Long-eared (21) Common Pipistrelle (12), Natterer's (11), Noctule (1), Pipistrelle (5) and Soprano Pipistrelle (26).

Field Survey

5.5 The survey was undertaken on 24th May 2023. There were light rain showers with a light to moderate wind, 90% cloud cover and an air temperature of 10° centigrade.

Local Context

5.6 Underdown Farm is located at the north-western edge of the village of Standlake. The immediate landscape is one of modern farm buildings with hard standing yard and grassland. In the wider landscape the river Windrush lies to the north-east, with a gravel pit lake complex beyond. To the west is a camp site with houses and agricultural fields beyond. To the south is a mixture of agricultural fields and gravel pits, leading to the River Thames beyond, while to the east is he village of Standlake.

Underdown Farm

5.7 This is a two-storey building with stone walls and a twin-pitched stone tile roof with three dormer windows at the front and rear and a chimney at the north-western end. There is a single storey stone walled porch with a mono pitch stone tiled roof at the front (south) of the property and 1 ½ storey stone walled side extension with a twin-pitch stone tiled roof. There are well sealed 300mm soffits at the eaves with barge boards at the gable ends. The roof had a dry ridge system.

5.8 There were many gaps beneath the stone tiles, plus a 5cm gap between the stone wall and barge boards at the gable ends. There were vertical air slits at each of the gable ends.

5.9 Internally there are two roof spaces. The main roof space has a truss roof structure with a breathable membrane roof lining and ridge board. This is 3m high, 6m wide and 10m long. Around the loft hatch a small area has been boarded with the rest of the roof space open to 200mm glass fibre insulation laid on the ceiling.

5.10 The air slit in the gable end was covered by mesh with cobwebs along the apex of the roof. There were 10 to 15 bat droppings at the gable end chimney breast and scattered below the ridge. These were 7-9mm long 1.2-1.5mm in diameter with a fine texture.

5.11 The second roof space is in the extension, which has a truss roof structure with breathable membrane roof lining and 200mm glass fibre insulation. It is 2m high, 4m wide and 4m long. The gable end air slit had mesh over it and there were cobwebs throughout the roof space. At the western end of the roof space near to the loft hatch was a single bat dropping the same size and texture as within the main roof space.

6. Discussion

6.1 There are no sites designated for bats within 5km of the site. There are no nationally local designated sites within 2km of the site.

6.2 There were five protected species licences issued for bats within 5km of the site the nearest is 1.1km south-west of the site, while there is also a maternity roost 1.8km south of the site for Common and Soprano Pipistrelle and it is possible that bats from these roosts could use the site to commute and forage over.

6.3 The local records centre holds 147 records of bats covering at least 10 species within 2km of the site. This is a good representation of the numbers and species present within the area.

6.4 The structure of the immediate surrounding area offers good roosting, commuting and foraging habitat with the buildings within the village of Standlake providing potential roosting habitat and the River Windrush and the former gravel pits lakes offering good commuting and foraging habitat.

6.5 There were cobwebs at the apex of the main roof space and throughout the extension roof space, which indicates that light testing species such as Brown Long-eared are not present as they fly within the roof space which would remove any cobwebs and their droppings would be scattered throughout the roof space (Entwistle and Swift 2008).

6.6 There were gaps in the stone tiled roof and barge board where crevice dwelling bats such, as Common Pipistrelle, could roost without any signs being found by the surveying ecologist. Ten to fifteen bat dropping were found near to the chimney at the gable end of the main roof space and one in the smaller roof space. These droppings were 7-9mm long 1.2 to 1.5mm in diameter with a fine texture. This is indicative of Pipistrelle bat droppings (Jones and Racy 2008).

6.7 The Bat Conservation Trust; Bat Surveys for Professional Ecologists Good Practice Guidelines (2016) set out the following guidelines for assessing the potential suitability of proposed development sites for roosting bats.

- 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 or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat.

- 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 due to their size, shelter, protection, conditions and surrounding habitat.

6.8 The presence of the low number of droppings indicate that the roof spaces have been visited by a Pipistrelle bat. However, there were no obvious gaps at the points where the droppings were located where bats could enter the roof space with the air slit covered by mesh, also the cobwebs at the ridge indicate that crevice dwelling bats are not roosting at the ridge board.

6.9 Therefore, the building was assessed as having low potential for roosting bats, with a single dusk emergence survey required to determine likely absence or prove presence of roosting bats. If bats are found to be roosting in the house, then two further surveys will be required to classify the type of roost and inform the application of the protected species licence.

6.10 Recommendations will be made upon the outcome of the dusk emergence survey.

6.11 No other protected species are affected by the proposed works on the site.

7. Further Surveys, Recommendations and Enhancements

Further Surveys

7.1 Following good practice guidelines (BCT 2016) a Single Dusk Bat Emergence Survey is required to ascertain if bats are using the house at Underdown farm as a roost. Should bats be found to be present then further surveys, in the form of a Dawn Return to Roost Survey and a Second Dusk Bat Emergence Survey, will be required to classify the type of roost and to inform the application for a protected species licence.

7.2 The survey will be carried out between May and August 2023.

Recommendations

7.3 Recommendations will be made regarding bats upon the completion of the dusk emergence survey.

Enhancements

7.4 Any planting of shrubs in the grounds will include flower bearing species, particularly night-flowering ones, to encourage insects that provide food for bats. Shrubs and plants such as Honeysuckle, Aubretia, Alyssum, Hazel, Hawthorn, Heather, Evening Primrose, Crab Apple, Ornamental Cherry, Hebes and Flowering Currant can be used (See www.rhs.org.uk/advice/pdfs/plants-for-bats.pdf).

8. Figures

Figure 1: Roof Plan

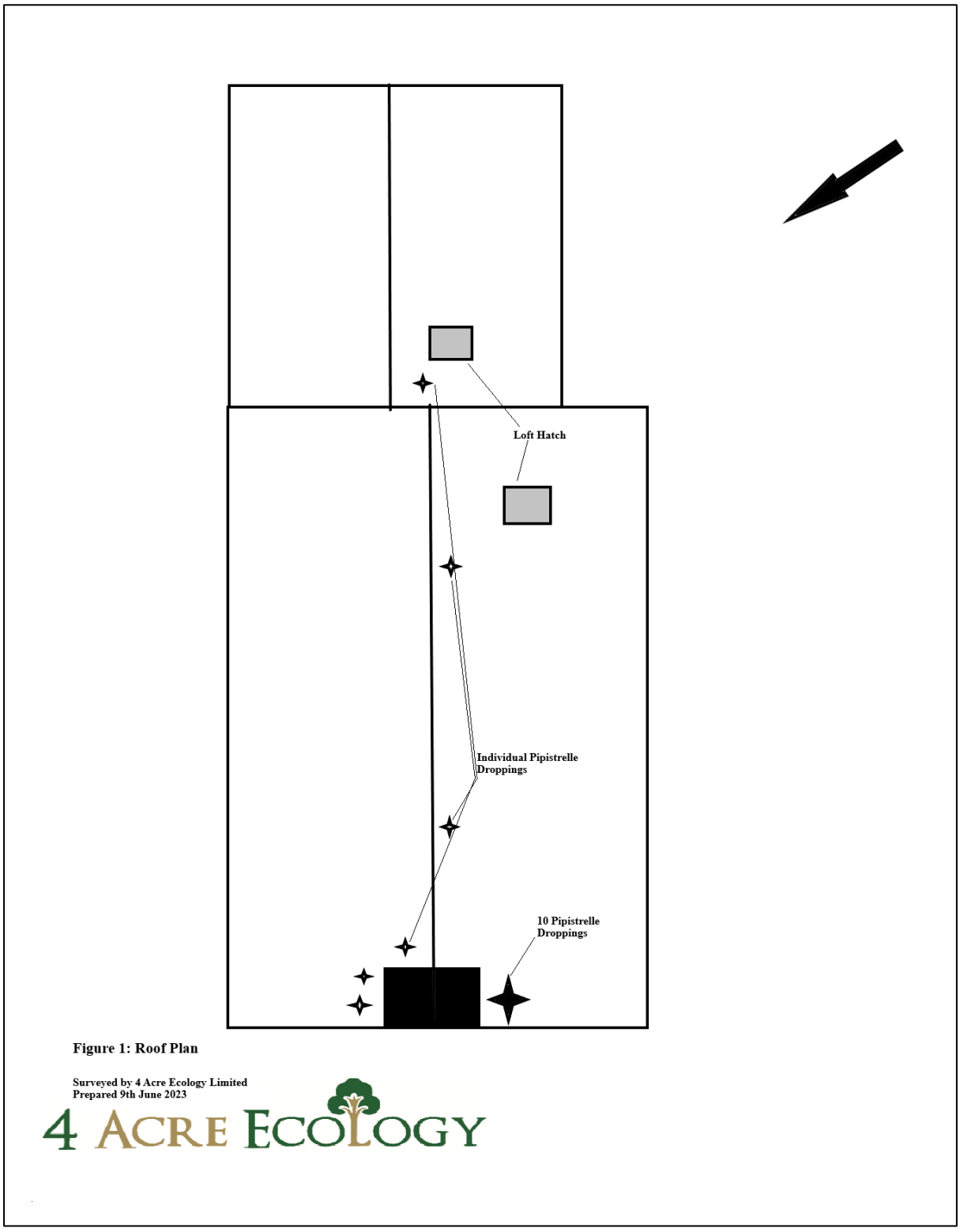

Figure 2: Images

1. House from the south

2. House from the north

3. Eastern gable ends

4. Air slit and barge board

5. Loft space with membrane and webs

6. Bat droppings caught in web by chimney

7. Bat dropping on insulation

8. Meshed slit with cobwebs

9. References

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Appendix 1: Information on British Bats

There are 18 species of bat in the UK (17 of which are known to be breeding here). They range from the tiny **Pipistrelle**, weighing in at around 5g (less than a £1 coin), to our biggest bat, the **Noctule**, which is still smaller than the palm of your hand.

All British bats eat insects exclusively, a **Pipistrelle** bat eating as many as 3,000 midges in one night, while **Long-eared** bats eat moths and **Noctule** or **Greater Horseshoes** also eat larger beetles.

The **Alcothoe** bat is the latest addition to the UK bat family, only being confirmed as a resident species in 2010 due to its similarity to the **Whiskered** and **Brandt's** bat species.

The **Daubenton's** bat is known as the 'water bat', as they fish insects from the water's surface with their large feet or tail. In England and Wales the majority of known summer colonies are in humid, more or less underground sites near water. These may be tunnels or bridges over canals and rivers, or in caves, mines and cellars. They are only occasionally found in buildings, usually old stone structures such as moated castles and waterworks.

Bats do not build nests, but use small spaces to shelter and rest in during the day, or hibernate in during winter. These places are known as roosts. There are a variety of different types of roost, from winter hibernation roosts, spring and autumn transitory roosts to summer maternity roosts. However, not all bats will roost within buildings, with the following being those most likely to:

Pipistrelle bats (both Common and Soprano species) are the most common bats in this country. They prefer to roost in very confined spaces around the outside of buildings, typically behind hanging tiles, soffits and barge boards, under roofing felt or in cavity walls. They do not usually enter roof spaces, although well-established large colonies in older buildings may do so.

Brown Long-eared bats are the third most commonly occurring species, after the two **Pipistrelle** species. They roost singly or in small groups among the roof timbers at the apex, particularly around ridge ends and chimneys, and in crevices in ridge tiles. These medium sized bats spend more time inside the roof space than many other bats, and are generally very quiet inside the roost, not leaving until after dark.

The **Serotine** bat, one of the largest bat species in the UK, is almost exclusively found roosting in houses across southern England and Wales. Rarer than **Pipistrelles** and **Brown Long-eared** bats, **Serotines** usually roost in crevices around chimneys and in cavity walls. Their favoured prey is large beetles, which they find over farmland and grassland.

Horseshoe bats, probably the most unusual looking of the UK's bats, are sometimes found roosting in houses in south-western England and Wales. **Greater** and **Lesser Horseshoe** bats hang free in the roost from their feet.

(Find further details from the Bat Conservation Trust Website at: www.bats.org.uk)