NashEcology

Dean Farm, Dean, Shepton Mallet

Bat & Bird Survey Report

Prepared for: Mr Christopher Jerram

Date: June 2023

This report has been prepared and provided in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management.

Limitations

Nash Ecology Ltd has prepared this Report for the sole use of Mr Christopher Jerram ("Client") in accordance with the Agreement under which our services were performed.

The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate.

The methodology adopted and the sources of information used by Nash Ecology Ltd in providing its services are outlined in this Report. The work described in this Report was undertaken in June 2022 and June 2023 and is based on the conditions encountered and the information available during the said period of time.

Nash Ecology Ltd disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to Nash Ecology attention after the date of the Report.

This report is considered 'valid' for up to two years from the date the walkover survey was conducted. If an application is made after this, then it is advisable to undertake an updated survey. In addition, any significant change to the project should result in consultation with an ecologist as reassessment of the ecological constraints may be required.

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1 INTRODUCTION

1.1 Background and Scope

Nash Ecology Ltd was instructed to carry out a bat and bird assessment of a barn located at 'Dean Farm, Dean, Shepton Mallet, BA4 4SA' (Figure 1). The assessment was commissioned in relation to current proposals to convert the barn into liveable space. As the works will be restricted to the footprint of the existing building and the adjacent areas of hard standing, the ecological receptors most likely to be encountered are bats and birds. As the proposed works have the potential to adversely affect both taxa, a targeted assessment was commissioned to ascertain whether either were present.

The remainder of this report provides methods, results and a discussion of potential impacts including, where necessary, a suitable mitigation strategy.

Figure 1: Site Location (Google Earth, 2021)

1.2 Legislation and Planning Policy Summary

1.2.1 Summary of Legislation Pertinent to Bats

All bats are protected under Schedule 2 the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). When taken together it is illegal to:

- Deliberately disturb, capture, injure or kill a bat;
- Obstruct, damage or destroy a bat roosting place (even if bats are not occupying the roost at the time); and
- Possess or advertise/sell/exchange a bat (dead or alive) or any part thereof.

Seven species of bat are included on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as 'Species of Principal Importance for Conservation in England'. These include:

- Barbastelle (*Barbastella barbastellus*);
- Bechstein's bat (*Myotis bechsteinii*);
- Noctule (*Nyctalus noctula*);
- Soprano pipistrelle (*Pipistrellus pygmaeus*);
- Brown long-eared (*Plecotus auritus*);
- Greater horseshoe bat (*Rhinolophus ferrumequinum*); and
- Lesser horseshoe bat (*Rhinolophus hipposideros*).

Section 40 of the NERC Act 2006 places a duty of care on competent authorities to consider biodiversity as a material consideration when discharging their normal functions.

1.2.2 Summary of Legislation Pertinent to Birds

Nesting birds are protected through their inclusion on the Wildlife and Countryside Act 1981 (as amended). Under the Act, it is an offence to harm a bird, its eggs or young whilst occupying a nest. For those species listed on Schedule 1 of the Wildlife and Countryside Act 1981, it is also an offence to intentionally or recklessly disturb a bird that is on or near an 'active' nest.

Forty-nine species of birds are listed on Section 41 of the NERC Act 2006 as 'Species of Principal Importance for Conservation in England'.

1.2.3 Planning Policy Summary

The National Planning Policy Framework (NPPF) 2021 was considered in the preparation of this report. The NPPF specifies the obligations that the Local Authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation and how this is to be delivered in the planning system. Protected or notable habitats and species should be considered as a material consideration in planning decisions and may therefore make some sites unsuitable for particular types of development. If the development is permitted, mitigation measures may be required to avoid or minimise impacts on certain habitats and species, or where impact is unavoidable, compensation may be required.

Relevant local planning policies for Mendip District Council are detailed in the following documents:

- Mendip District Local Plan (2006-2029) 2014 Part 1;
- Mendip Local Biodiversity Action Plan (BAP); and
- The Somerset Biodiversity Strategy 2008-2018.

Table 1 provides a summary of relevant local planning policies. For the precise wording of each specific policy please refer to the source document. This planning policy has been considered when assessing potential ecological constraints and opportunities.

Table 1: Summary of Local Planning Policy

Document	Planning Policy	Purpose
Mendip District Local Plan (2006-2029), 2014	Development Policy 5: Biodiversity and Ecological Networks	The Council will use the local planning process to protect, enhance and restore Somerset's Ecological Network within Mendip. 1. All development proposals must ensure the protection, conservation and, where possible, enhancement of internationally, nationally or locally designated natural habitat areas and species. 2. Proposals with the potential to cause adverse impacts on protected and/or priority sites, species or habitats are unlikely to be sustainable and will be resisted. Exceptions will only be made where: a) the impacts cannot be reasonably avoided, b) offsetting/compensation for the impacts can be secured, c) other considerations of public interest clearly outweigh the impacts, in line with relevant legislation. Offsets as mitigation or compensation required under criterion b) will be calculated using Somerset County Council's Biodiversity Offsetting methodology.
	Development Policy 6: Bat Protection	Planning Applications for development on sites within the Bat Consultation Zone will require a 'test of significance' under the Habitats Regulations to be carried out. Applicants must provide, with their application, all necessary information to enable compliance with the Habitats Regulations (or their successor), including any necessary survey work, reports and avoidance / mitigation measures.
Mendip Local Biodiversity Action Plan (BAP), 2008		This plan sets out targets and goals to halt and reverse the loss of biodiversity in the district including a large number of plans for particularly vulnerable species and habitats.
The Somerset Biodiversity Strategy 2008-2018		The Somerset Biodiversity Strategy and associated Local Biodiversity Action Plans-comprising Species Action Plans and Habitats Action Plans -help turn national targets into action, alongside meeting identified local biodiversity conservation priorities.

2 METHODS

2.1 Desk-based Study

A desk-based study was carried out to identify designated sites and biological records relating to the site. The online Multi Agency Geographic Information for the Countryside (MAGIC) website was consulted to identify statutory sites designated for bats or birds within 2 km. The MAGIC website was also used to review granted bat mitigation licences (EPSML) within 1 km. In both cases, the search was based on grid reference ST 6688 4440.

2.2 Field Survey

2.2.1 Initial Bat Inspection

A Natural England (Class 2) licensed bat ecologist undertook a full inspection (both external and internal) of the Barn on 22nd June 2022. During the survey, the surveyor inspected the Barn for exterior roosting locations and possible access points to the building's interior. Such features were accessed and inspected for signs of use using an endoscope. An internal inspection for suitable roost locations and evidence of bat occupancy (such as droppings, urine spots, an absence of cobwebs and bats themselves) was then undertaken.

As bats are a cryptic group and often move between roosts, both within and between years, their presence is not always easy to detect. The building was assessed for its Bat Roost Potential (BRP), following published guidance (BCT, 2016). The BRP categories are provided in Table 2 below.

Table 2: Bat Roost Potential Categories (BCT, 2016 and Mitchell-Jones, 2004)

Roost Potential	Description
Known or Confirmed	Confirmed signs of bat presence/ occupation (droppings, oily staining around entry points, insect remains, odour, scratching) and actual bat presence.
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.
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 but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
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). A tree of sufficient size and age to contain PRFs but with none seen form the ground or features seen with only very limited roosting potential.
Negligible	No features suitable for roosting bats. Includes structures constructed from unsuitable materials e.g. prefabricated with steel and sheet material. Structure is draughty, light and cool buildings with no roosting opportunities. High levels of regular disturbance including external lighting. Building is isolated for areas of foraging habitat. In the case of trees, no

Roost Potential	Description
	potential roosting features are present, or features have no potential to support roosting bats.

2.2.2 Bat Activity Survey

An activity survey was undertaken in line with published guidance (Mitchell-Jones, 2004; BCT, 2016). The survey involved a single dusk emergence survey, which utilised two surveyors (one of which was a licensed bat ecologist). The surveyors observed possible access points (identified during the initial inspection) during a key period (15 minutes prior to sunset and ended at least 1.5 hours after dusk). The surveyors were equipped with a specialist bat detector with recording capability (Batlogger M) and night vision aids (Canon XA40 camera). Where encountered, areas of significant bat activity were also recorded. The surveys were undertaken during suitable environmental conditions on 12th May 2023.

All recorded bat calls were analysed using BatExplorer (Batlogger) software following the survey. Calls were identified to species level where appropriate.

2.2.3 Initial Bird Inspection

Concurrent with the bat inspection, the Barn was inspected for evidence of nesting birds.

2.3 Survey Limitations

No constraints to the aims of the survey were encountered.

3 RESULTS

3.1 Desk-based Study

Excluding those designated for geological reasons, no statutory designated sites were identified within 2 km.

A single historical EPSML was identified within 1 km. Licence 2019-39751-EPS-MIT, awarded in 2019, permitted the damaging of a mixed breeding colony of brown long-eared bats and common pipistrelles (*Pipistrellus pipistrellus*). The EPSML was located immediately to the west of the barn.

3.2 Site Context

Dean Farm was a working farm located to the northwest of Dean, Somerset. The farm was accessed by a private driveway. The Barn was located within a complex of agricultural buildings. The wider landscape was dominated by agricultural land (pasture and arable) and quarries.

3.3 Field Survey

3.3.1 Preliminary Bat Roost Appraisal

The Barn was a stone building that was attached to another building in the east (Plates 1 & 2). The walls were constructed from stone and mortar and were in a good condition. A former doorway on the northern aspect had been blocked up. A small number of holes were present; these were inspected with an endoscope and no signs of bats were recorded (Plate 3). Intact doors and windows were present throughout. Open-bottomed soffit boxes were located on the northern and southern aspects. Fascia boards were present on the gable walls. Both the soffit boxes and fascia boards contained gaps that led into the roof (Plate 4). The roof was pitched and clad in double-roman tiles. The roof was in a good condition lacking any raised, slipped or missing tiles. The apex tiles were cemented in place.

Plate 1: Barn (Southern Aspect)

Plate 2: Barn (Northern Aspect)

Plate 3: Gaps in Walls

Plate 4: Gaps Behind Fascia Boards

The Barn contained two level: the ground-floor, which was access via a door in the south and the upper-floor, which was accessed from steps in the north.

The ground-floor was a disused milking parlour (Plate 5). The room was light due to the window in the southern aspect. The walls were rendered, painted and intact. A false-ceiling was suspended from the upper-floor. Occasional gaps were present in the ceiling that led to small enclosed spaces; these spaces were fully inspected and did not include any signs of bats. Indeed, no signs of bats were recorded from anywhere on the ground-floor. The only access point noted was a drainage hole located just above the ground (see Plate 2).

The upper-floor comprised an open-plan space (Plate 6). The walls comprised exposed stone and were in a good condition. The roof was lined with bitumen felt and supported by a sealed wooden frame. Cobwebs covered much of the apex. There were no obvious access points into the upper-floor and no signs of bats were recorded.

Plate 5: Barn – Interior (Ground-floor)

Plate 6: Barn – Interior (Upper-floor)

3.3.2 Bat Activity Survey

The surveys were undertaken at an appropriate time and during suitable environmental conditions (Table 3).

Table 3: Survey Timings and Environmental Conditions

Date	Sunset	Survey Times		Air Temperature (°C)		Wind Speed*		Cloud cover (%)	
		Start	End	Start	End	Start	End	Start	End
12/05/2023	20:49	20:34	22:19	18	14	2	2	95	100

No bats emerged from, or showed interest in, the Barn.

Species recorded during the survey included common pipistrelle, soprano pipistrelle, serotine (*Eptesicus serotinus*) and long-eared bat.

Birds

An active house martin (*Delichon urbicum*) nest, along with several crumpled nest cups, was present on the Barn's southern aspect (Plate 7). A dead swallow (*Hirundo rustica*) was found next to a window on the ground-floor (Plate 8). It is likely that the swallow accessed the Barn via the drainage hole and could not escape. A disused swallow nest cup was present in the upper-floor.

Plate 7: House Martin Nest (Circled)

Plate 8: Dead Swallow

4 DISCUSSION

4.1 Bats

No historical evidence of roosting bats was recovered from the Barn; however, the building included a small number of features that could not be fully inspected (i.e. behind the fascia boards and wall tops). No bats were observed emerging from, or showing interest in, these features (or indeed the Barn as a whole). Based on the combined data, the Barn did not contain a bat roost. No further survey or mitigation is recommended. This conclusion is valid for two years; if no works have been started within this time, a resurvey should be undertaken.

The Site was located within a dark area (i.e. no street lighting). The project should seek to limit any light spill. To this end, a sensitive lighting strategy is recommended. The sensitive lighting strategy should comprise the following broad elements (BCT, 2018):

- No excessive lighting - use only the minimum amount required for safety;
- Minimise light spill – use short columns and direct light downwards and in towards the Site;
- Use narrow spectrum bulbs that emit minimal ultra-violet light - avoid white and blue wavelengths of the spectrum, which can attract invertebrates;
- Lights should either peak higher than 550 nm or use glass lantern covers to filter UV light;
- Avoid using reflective surfaces under lights; and
- Minimise the amount of light spill by good design.

4.2 Birds

An active house martin nest was located at the eaves on the southern aspect. Effort will be made to retain this nest cup and avoid disturbance to the birds. Works will be undertaken outside of the nesting period (i.e. between October and March), when the house martins are absent.

4.3 Opportunities for Enhancement

The Barn could be fitted with a bat box. It is recommended that woodcrete boxes are used as these are long-lasting and often come with a 25-year guarantee. The box should be oriented between southeast and southwest in a dark location i.e. not subject to artificial lighting. Ideally, it should be placed in an uncluttered location so that bats can easily fly in and out (www.bats.org.uk).

5 REFERENCES

BCT (2016) Bat Surveys: Good Practice Guidelines 3rd Edition. BCT, London

BCT (2018) Bats and Lighting. Bat Conservation Trust, London

Mitchell-Jones, A.J. (2004) Bat Mitigation Guidelines. English Nature, Peterborough