Large Barn at Written Stone Farm, Longridge

PRELIMINARY BAT ROOST ASSESSMENT & GENERAL ECOLOGY WALKOVER

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1 INTRODUCTION

1.1 Instruction & Background

Knight Sky Ecology was commissioned to undertake a preliminary bat roost assessment and general ecology walkover at Written Stone Farm, Written Stone Lane, Longridge, Preston, PR3 2ZN. The assessment was undertaken in relation to the proposed conversion of the 'large barn' at the site to form a single dwelling. Other development proposals include the partial demolition of the adjacent outbuildings, the creation of garden curtilage and parking area, the construction of new access off Written Stone Lane and the provision of a package treatment plant.

1.2 Site Description

The large barn forms one of a cluster of buildings at the farm and is located at grid reference SD 62583 37857. The barn is surrounded by pasture land bound by occasional hedgerows and treelines and is approximately 125m Above Ordnance Datum (AOD). Spade Mill Reservoir No.1 is located 420m west and the centre of Longridge is located 2.1km west. Figure 1.1 provides an aerial image of the property location.

Figure 1.1. Large barn location (red border) and outbuildings (yellow border)

1.3 Purpose of Report

The framework of this report and its main aims are to:

- inform the proposals of all considerations relating to bats;
- provide an ecological baseline for the site;
- document any potential ecological constraints to the proposal (e.g., nesting birds) where found;

- identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy';
- identify any additional surveys that may be required; and
- identify opportunities for ecological enhancement.

Appendix A provides details of the legislation afforded to bats for further context. The development proposal will also be subject to a Biodiversity Net Gain assessment which is to be submitted separately.

2 METHODS

2.1 Desk Study

Data Search

The Multi-Agency Geographic Information for the Countryside (MAGIC) mapping tool (Available from: https://magic.defra.gov.uk/) was used to search for relevant ecological information for the site including:

- Statutory sites designated for nature conservation within a 2km radius of the site (e.g., Site of Special Scientific Interest (SSSI)).
- Habitats of principal importance (as listed within Section 41 of the NERC Act 2006) within a 250m radius. Such habitats are referred to as 'priority habitats' within this report and incorporates ancient woodland designations.
- Granted European Protected Species (EPS) mitigation licenses for bats and great crested newts[1] within a 1km radius.
- Survey licence returns for great crested newts within a 1km radius.

Basic initial information about the site and surrounding area was also obtained from aerial imagery (Google Earth – aerial imagery dated 2023) and Ordnance Survey maps in order to provide further contextualised information to the site survey findings.

2.2 Survey Personnel

The preliminary bat roost assessment and general ecology walkover was undertaken by Ryan Knight MCIEEM who holds a Level 2 Natural England Class Licence (ref. 2015-12611-CLS-CLS) for bats and has held this licence for over 10 years. Ryan has also acted as the named ecologist on numerous European Protected Species (EPS) mitigation licences issued by Natural England which covered several bat species and roost types.

2.3 Overarching Guidance

The preliminary bat roost assessment was primarily based on the methods described in '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). Bat Conservation Trust, London.' (Collins, J., (ed.) (2023).* Any deviation from standard practice is justified where required.

2.4 Field Surveys

Preliminary Bat Roost Assessment

A preliminary bat roost assessment of the property was undertaken on 12th April 2024. The assessment involved a visual inspection of the property to search for bats and evidence of bats (e.g., droppings) and an appraisal of the extent and suitability of any potential bat roost features present. The assessment included the use of binoculars, a torch, a digital endoscope and ladders.

Other considerations which would influence the suitability of the property for use by bats were also taken into account. This included the site location, expected night time lighting levels and the suitability

[1] English common names for species of fauna and flora are used throughout this report unless otherwise stated.

of the surrounding habitats. This information was gathered from the site survey and web-based mapping sources (i.e., Google Earth). Following the assessment, the building was assigned a bat roost suitability category of none, negligible, low, moderate, high or confirmed roost based on the collated information.

General Ecology Walkover

A site walkover was also undertaken on 12th April 2024. The aim of the site visit was to gather general baseline information on the habitats within the site and to identify any habitats or features of potential ecological significance. In addition, the walkover included a search for incidental evidence of protected / notable species and an assessment of the sites potential to support protected / notable species.

2.5 Assessment Comments

The preliminary bat roost assessment was undertaken at the start of the main active season for bats (April to October). Bats do use a range of different roosts over the course of the year (e.g., roosts used for hibernation, roosts used temporarily in spring or autumn and roosts used in summer). If roosts are not used for a prolonged period, evidence of bats (i.e., droppings) do degrade overtime and can disappear. However, such evidence can also persist in dry, sheltered locations long after bats have switched roosts. Bat droppings are commonly found on barn floors, building lofts, under roof eaves and within wall cavities. However, it should be noted that the main purpose of the assessment was to evaluate the potential of the property for use as a bat roost – not to confirm presence / absence. The lack of evidence of a bat roost does not fully confirm absence of bats when undertaking preliminary bat roost assessments.

The upper floor (hayloft) of the extended section of the barn was rotted and structurally unsound. It was accessed from the side with ladders only. The upper walls of the large barn were also outside of standard ladder height and were not closely viewed. Binoculars were used to gain a better view of any potential roost features.

This report will remain valid for a period of 18 months from the date of issue. An ecologist should be contacted for advice on the revalidation requirements of the report if planning permission is not obtained (if required) or works do not commence within this time period.

3 RESULTS

3.1 Desk Study

EPS Mitigation Licenses

No EPS mitigation licenses for bats or great crested newts were identified within a 1km radius.

Other Ecological Information

There are no nationally designated sites within 2km of the barn. No priority habitats (excluding hedgerows) were located within 250m of the site. The nearest priority habitat was a deciduous woodland located 300m east.

The nearest standing waterbody to the site is a pond located 185m south-west. The site habitats (hardstanding, buildings and agriculturally improved pasture) are not conducive to the presence of amphibians including great crested newt. No other potential ecological constraints were encountered.

3.2 Preliminary Bat Roost Assessment

3.2.1 Building Description and Potential Bat Roost Features

Photos of the property are provided in Appendix B for a general overview and an illustration of any identified potential bat roost features**.**

Large Barn

The large barn is stone built and has a slate roof. A date stone of 1892 was built into the wall. The large barn also features a stone-built, single storey, livestock pen on the north-west facing elevation and brick and stone built, two storey extension on the south-west gable. Parts of this section of the barn appeared to have been rebuilt. The livestock pen has a corrugated sheet roof and the extension has a stone tile roof.

Externally, the stonework of the barn appeared in good condition overall. However, there were several small areas of the stonework in which the mortar had decayed which had resulted in gaps and crevices in the stonework in these locations. Gaps were particularly evident under the roof verge across the south-east facing aspect of the barn.

The extended section of the barn comprised a part stone and part brick-built construction. The brick was rendered and this rendering was loose and falling away in places. As is typical of such roof types (i.e., traditional stone tiles), there were several gaps in the roof due to misshapen, missing and slipped tiles. This results in potential roost locations within the roof and access into the internal space of the barn.

All window and door apertures were boarded or covered with wire mesh aside from one upper window on the south-east facing aspect. This opening would allow fly-in access for bats.

Internally, the underside of the large barn roof was lined with sarking boards. This sarking did appear to be in good condition. However, the sarking was missing at the ridge and there is likely to be a suitable gap for roosting bats between the sarking and the roof slates. There were also possible gaps between the gable walls and the rafters. The internal stone work of the barn appeared in good repair with no gaps identified.

The livestock pen featured rendered internal walls and no potential roost features for bats were observed in this section. The internal walls of the extended section were a mix of stone, brick and concrete block. The roof did not have an underlining and the timbers and roof appeared in very poor repair with numerous gaps for rain ingress.

Outbuildings

There was a small, rendered brick outbuilding facing the south-east elevation of the large barn. This outbuilding featured a single pitched, corrugated roof. Half of the roof had collapsed. The internal walls were also rendered. No potential roost features were identified.

There was also a further outbuilding on the south corner of the large barn. However, this structure did not have a roof and only three brick walls remained. As a result, this structure was unsuitable for bats.

3.2.2 Habitat Suitability

The large barn forms one of several buildings located around the courtyard of the farm and is surrounded by agriculturally improved pasture land. The buildings and the mature trees in the garden of the farmhouse will provide sheltered foraging opportunities for bats. The treelines and hedgerows which bound the pasture fields do provide a network of connective foraging features for bats and there are several woodlands in the wider area. Night-time lighting levels around the farm are expected to be low. No significant constraints to the presence of bats at the site were encountered. In respect of the surrounding habitats, a moderate level of bat activity and species diversity is expected in the location of the property.

3.2.3 Evidence of Bats and Bat Roost Suitability

No bats or evidence of bats was recorded. In respect of the above-described roost features along with the property location and surrounding habitats, a high roost suitability category is assigned to the large barn. Photos 3.1 to 3.4 provide an overview of the potential roost features observed. No potentially suitable bat roost features were observed on the outbuildings.

Photo 3.1 Gaps in the stonework under the eaves.	

Photo 3.2 Large gaps on the south corner of the barn.	
Photo 3.3 Gaps behind the sarking boards and the ridge and gaps under the rafter at the gable.	
Photo 3.4 Gaps within the roof	

3.3 Nesting Birds (including Barn Owl)

Buildings

Barn owl pellets were observed in the large barn with numerous pellets on the floor and several pellets in hayloft and in the livestock pen. These pellets were likely to be associated with an occasional to frequently used roosting site. No suitably sized ledges for use as potential breeding sites were observed.

In addition, barn owl pellets were observed under a timber post in the outbuilding. Whilst not forming part of the scope of assessment within this report, a smaller barn at the farm also contained barn owl pellets.

No direct evidence of nesting birds was observed. However, given the size and complexity of the barn, suitable nesting features were present throughout.

Other Habitats

No open-ground nesting species were observed within the grassland to the immediate south of the large barn and the area of grassland to be affected by the proposals was of low suitability for use by such species. The hedgerow along Written Stone Lane provides suitable nesting opportunities.

3.4 Habitats

The new access for the large barn would be positioned in the top corner of a modified grassland field (UK Habitat classification (UKHab) ref – g4). In addition, the new access would require the loss of a section of hedgerow on Written Stone Lane. This hedgerow was species rich and contained frequent hawthorn with occasional elder, hazel and blackthorn (UKHab – h2a5). The other remaining habitats within the site were sealed surface (UKHab - u1b) and buildings (UKHab - u1b5)

3.5 Other Ecological Considerations

No other potential constraints to the proposed development were identified.

4 EVALUATION & CONCLUSIONS

4.1 Bats

No evidence of a bat roost was encountered during the preliminary roost assessment. A number of potential roost features were observed in the upper elevations of the large barn and within the roof. Due to the height of the barn, the suitability of such features could not be individually assessed. The building was categorised as **high** in its suitability to support bats.

It is assumed that the conversion of the barn will result in the loss of all potential bat roost features identified during the preliminary roost assessment. In respect of the roost suitability classification, there is considered to be a risk that the proposed development would result in contravention of the legislation afforded to bats including The Conservation of Habitats and Species Regulations 2017 (see Appendix A for context).

The potential presence of bats is a material consideration when a local planning authority is considering a development proposal and the local planning authority has a biodiversity duty to consider potential impacts to bats. Therefore, the presence or absence of bats needs to be established prior to any planning decisions being made. Recommendations relating to this are provided in Section 5.

4.2 Barn owl

The large barn and outbuilding were used by barn owl. The evidence suggests that both structures are used for roosting and not as a breeding site. Nationally, barn owl populations can fluctuate year by year and it is thought that previous historical declines have been halted via conservation efforts (e.g., the Barn Owl Trust). Populations are affected by intensive farming, road mortality and loss of roosts/nest sites. In Lancashire, barn owls are more abundant in the lowlands of west Lancashire and are thought to be sparsely distributed in the uplands (Knight Sky Ecology observations). The loss of the roost is considered to be significant at no more than site level. Mitigation for the loss of the roosting sites is provided in Section 5.

4.3 Nesting Birds

It is considered reasonably likely that the barn and the hedgerow would be used by nesting birds. The proposed development should therefore be aware of the legislation afforded to nesting birds:

- *All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs.*

The nesting bird season is generally accepted as March to September. Mitigation to avoid impacts to nesting birds is detailed in Section 5.

4.4 Habitats

The proposals for the site include the construction of a new access track from Written Stone Lane which will require a loss of a section of hedgerow and loss of a section of modified grassland. The hedgerow is a priority habitat (as listed in Section 41 of the NERC Act 2006).

5 RECOMMENDATIONS

5.1 Bats

Further Survey Requirements

In accordance with good practice guidelines (Collins, 2023), it is recommended that further surveys are required in order to establish the presence or absence of a bat roost at the large barn. These surveys would comprise dusk emergence surveys which can be undertaken between May and August (inclusive).

Enhancements

The development presents a good opportunity to increase roosting provision for bats via the fixing of bat boxes within the site. It is advised that a bat box scheme is incorporated into any follow up report for the surveys listed above.

5.2 Barn owl

It is recommended to install a barn owl nest box on one of the mature trees located to the immediate north of the barn. Barn owl boxes can be bought ready-made (https://www.nhbs.com) or can be built using specific guidance. Figure 5.1 shows a box installed on a tree. Box specifications and an installation guide can be found via https://www.barnowltrust.org.uk/barn-owl-nestbox/owl-boxes-for-trees/.

As stated in the above Barn Owl Trust website, an ideal tree for the siting of a box would be:

- A mature tree with a thick trunk.
- Isolated, in a hedgerow or on the woodland edge.
- With a high canopy.
- With few or no low branches.
- Where a nest box can be placed at least 3 metres above ground level.
- Where the nest box access hole would be visible to a passing owl, even when the tree is in full leaf and seen from a distance.
- Quite close to strips or patches of rough grassland.

Figure 5.1. Example of barn owl (tree) box design

5.3 Nesting Birds

Any works which will potentially impact bird's nests should be undertaken outside of the main nesting bird season of March to August (inclusive). If this is not possible, any works potentially affecting bird's nests must be preceded by a nesting bird check, undertaken by a suitability qualified ecologist. If an active nest is found, it must be left in-situ until no longer in use. This may potentially delay the works programme.

5.4 Habitats

In England, biodiversity net gain is required under a statutory framework introduced by Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021). A small sites statutory biodiversity metric is to be submitted separately to detail the measures which will be undertaken on the site to achieve at least a 10% gain in habitat units and 10% gain in hedgerow units.

APPENDIX A. LEGISLATION FOR BATS

The Wildlife and Countryside Act 1981

All bat species in England are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Section 9 of the Act make it an offence to intentionally or recklessly kill, injure or take any wild animal included in Schedule 5. In addition, it is an offence to (intentionally or recklessly):

- Damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection;
- Disturb any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- Obstruct access to any structure or place which any such animal uses for shelter or protection.

In addition, under this legislation there are offences relating to sale, possession and control of bats.

The Conservation of Habitats and Species Regulations 2017

Bats are listed within Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) as European Protected Species of animals. Part 3 (Protection of animals); Regulation 43 (1) of the Habitats Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of a European protected species;
- Deliberately disturb wild animals of any such species;
- Deliberately take or destroys the eggs of such an animal; or
- Damages or destroy a breeding site or resting place of such an animal.

For the purposes of the legislation, the disturbance of wild animals includes any disturbance which is likely to impair their ability to survive, to breed or to reproduce, or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

In addition, under this legislation there are offences relating to possession, control sale and exchange of European Protected Species.

Natural Environment and Rural Communities (NERC) Act 2006

Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of the living organisms and types of habitats which in the Secretary of State's opinion are of principal importance for the purpose of conserving or enhancing biodiversity. The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their general biodiversity objective under Section 40 of the NERC Act 2006. Bat species listed under Section 41 and known to be present within Lancashire comprise soprano pipistrelle, brown long-eared bat and noctule bat.

APPENDIX B. PHOTOS

Photo 1. South-east and north-east elevations.	
Photo 2. Extended section. West / south-west elevations.	

Photo 3 Attached building with livestock pens.	
Photo 4. South-east elevation.	
Photo 5. View of inside of barn.	

Photo 6. Barn owl pellets on barn floor.	
Photo 7. Upper floor of barn extension.	
Photo 8. Roof of extension.	

Photo 9 Internal view of livestock pens.	
Photo 10 Outbuilding.	
Photo 11 Remains of other outbuilding.