



BAT SURVEY REPORT

BROAD OAK FARM BARNs, ROSSETT

SITE 2

Client: Mr S Trowbridge

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1 INTRODUCTION

1.1 Background Information

- 1.1.1 Sambrook Associates Ltd was instructed in February 2018 by Mr S. Trowbridge to undertake an update survey of barns in relation to the proposed development of Site 2 at Broad Oak Farm Barns, Rossett. Site 2 is part of a wider farmstead comprising a farmhouse, office and range of barns. The farmstead is divided into two Sites (excluding the farmhouse and office). The proposed development at Site 2 runs concurrently with the proposed development of barns in Site 1. A building survey was undertaken in February 2018.
- 1.1.2 A series of studies have been undertaken on the farmstead over the last few years. Bat surveys were undertaken in 2008 by The Tyrer Partnership on behalf of Environmental Research and Advisory Partnership in relation to a previous application on this site. The results of these surveys have been reviewed and utilised to provide contextual information for the formation of assessment, conclusions and mitigation design.
- 1.1.3 As part of the Ecology Appraisal for the current applications, Bowland Ecology undertook an external and internal inspection of the barns within Site 1 and 2 in September 2016. This survey highlighted the need to undertake follow up activity surveys in accordance with advice provided in the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016).
- 1.1.4 In 2017, Sambrook Associates Ltd undertook a series of activity surveys in relation to the proposals in Site 1. The surveys identified that buildings 9, 13 and 14 were roosts for brown long-eared *Plecotus auritus* and pipistrelle *Pippistrellus* species. Furthermore, a building inspection in building 14 found the presence of 12 brown long-eared bats, some smaller than others, indicating a maternity roost.
- 1.1.5 This report summarises the results and conclusions of the building inspection undertaken in buildings within Site 2 in February 2018. The aim of the report is to identify whether these buildings are potentially used by bats and provide an indication as to whether the current mitigation provisions for Site 1 would also be sufficient to provide whole site mitigation. This report will provide information for an application to Natural Resources Wales (NRW) for a derogation licence to develop Site 1, where necessary.

1.2 Site Description

- 1.2.1 The farmstead is located within a rural setting, on the fringe of the village of Rossett and comprises a farmhouse, attached office and a range of agricultural outbuildings. The majority of buildings comprise traditional red brick with either slate or corrugated fibre cement roofing. Some of the buildings are attached, others are single. The buildings have clearly had different uses from open fronted buildings for storing hay and straw, to enclosed sectioned buildings used for housing animals.
- 1.2.2 The farmstead is surrounded by arable and pasture fields and there are a number of mature trees in close proximity, many of which are within the garden of the farmhouse. The railway line that runs close to the farmstead and the adjacent lane provide potentially good commuting habitat.
- 1.2.3 Site 2 comprises entirely disused barns, mainly single storey piggeries, with two double storey buildings.

2 LEGISLATION

- 2.1.1 All bat species are protected in the UK under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The species is also protected under Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (the EC Habitats Directive). This has been transposed into UK law by the Conservation of Habitats and Species Regulations 2010 (as amended) in England and Wales. Bats are referred to as European Protected Species (EPS).
- 2.1.2 It is an offence to deliberately capture, injure or kill a bat; intentionally or recklessly disturb in a way that would affect their local distribution or abundance, or affect their ability to survive, or breed. It is also an offence to damage or destroy a bat roost and to possess, advertise, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.
- 2.1.3 If you wish to undertake works that would affect an EPS then you will need a licence. Natural Resources Wales (NRW), in exercise of the powers conferred under regulation 53(1) and 56(3)(a) of the Conservation of Habitats and Species Regulations 2010, may issue licences for the following purposes:
- Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
 - Preventing the spread of disease;
 - Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries; to allow people to carry out activities which would otherwise be illegal;
- 2.1.4 Before issuing a licence under the Habitats Regulations, the licensing authority must be satisfied that “there is no satisfactory alternative” to the work as proposed and, that the proposed actions “will not be detrimental to the maintenance of the population of the species at a favourable conservation status (FCS)”.
- 2.1.5 To ensure these requirements are met, the licensing authority must have enough information to complete an assessment of the application. This includes sufficient survey data so that the roost and how it is used by bats is understood and impacts upon the roost are appropriately assessed so that mitigation and/or compensation can be designed into the proposed development that will ensure the bat population can be incorporated and maintained in the long term.
- 2.1.6 Seven bat species are UK BAP Priority Species. These are as follows:
- Barbastelle *Barbastella barbastellus*
 - Bechstein’s *Myotis bechsteinii*
 - Brown long-eared *Plecotus auritus*
 - Greater horseshoe *Rhino ferrumequinum*
 - Lesser horseshoe *Rhinolophus hipposideros*
 - Common noctule *Nyctalus noctula*
 - Soprano pipistrelle *Pipistrellus pygmaeus*

3 METHODOLOGY

3.1 Introduction

- 3.1.1 A series of surveys have been undertaken of the buildings within the farmstead in 2008, 2016 and 2017, all of which were undertaken in accordance with guidance pertaining at the time of the surveys. Since the buildings in Site 2 have not been subject to detailed survey since September 2016, it was considered necessary to provide updated information on these barns. Hence, a building inspection was undertaken on 27 February 2018.
- 3.1.2 For ease, building reference numbers used in this report correspond with the numbers assigned by Bowland Ecology in 2016. Buildings 1, 3, 4, 5, 6, and 7 were subject to survey by Rebecca Sambrook MCIEEM (a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and adheres to that organization's Code of Professional Conduct, and with 15 years experience in bat surveys and assessment). Building 2 was surveyed by both Rebecca Sambrook and Carl Capewell gradCIEEM (NRW licence 78232:OTH:CSAB:2018). The weather was cold with an average temperature of 0°C, and snowy.
- 3.1.3 The surveys followed the methodology set out in the Bat Conservation Trust Handbook Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).
- 3.1.4 The barns were inspected both externally and internally for evidence of the presence of bats. The survey started with an examination of the external parts of the barn to locate potential roosting features such as lifted/missing tiles, gaps around soffits, barge boards and similar. Evidence such as staining, droppings, urine splashes and individuals were also searched for. With no evidence externally, an internal inspection was undertaken, searching for the same evidence.

3.2 Limitations

- 3.2.1 No limitations were encountered during the internal surveys. Externally, some of the ground immediately adjacent to barn walls was covered in snow and therefore may be covering evidence, however, due to the time of year it is unlikely that evidence such as droppings, staining etc would be present anyway.

3.3 Building Location

- 3.3.1 Plate 1 below shows location of buildings (taken from Bowland Ecology Ecological Appraisal).



Plate 1: Location of buildings

4 RESULTS

4.1 Introduction

- 4.1.1 The following section provides results and conclusions of the building inspection. Buildings 1 and 3-7 were originally recorded as low potential by the 2016 survey. The 2018 inspection concurs with these values with many of the potential roosting features for crevice dwelling species in a poorer state of repair than in 2016.
- 4.1.2 The 2016 survey identified building 2 as medium/high potential, however, the upper floor was not accessed and so a thorough survey could not be achieved. In 2018, the upper floor of the building was comprehensively surveyed and it was found that the building offered little potential for bats and with the exception of a single butterfly wing (which could be present coincidentally), no evidence of bats was identified. The building does not offer good roosting potential for crevice dwelling species, given the limited suitable features. Any loose or raised tiles may support individuals but are not substantial enough to support colonies. The ivy on the side of the building has good leaf foliage but the stem structure is not dense and so unlikely to support bat colonies. Void dwelling species such as brown long-eared would unlikely access the building since the only main upper level entrance point is covered by ivy. It is possible they could access the building through lower ground windows and fly up through the small loft hatch but there was no evidence in the form of droppings etc to support this. The timbers within the roof structure are relatively new (possibly within 30 years) and therefore unlikely to attract this species.
- 4.1.3 The occasional presence of butterfly wings could be coincidental, particularly given a live, hibernating adult peacock *Aglais io* butterfly was recorded in building 7. However, it is possible it may indicate that some of the barns may be used as feeding roosts by bats on a transient basis.

Table 1: 2018 Results (see photographs at back of report)

Building ref	Brief description	Potential to support bats	Comments
1	Two storey red brick building with corrugated fibre cement roof with single storey monopitch tiled roof extension on northern aspect.	Low	None
2	Two storey red brick building with pitched slate roof, ridge tiles, roof lights on northern and southern elevations. Internally, solid floors on ground, upper floor, access via loft hatch comprises intact floor boards, open to roof, no roof membrane present, broken gable window which is ivy covered which would block free flight into building, gaps at eaves.	Low	Single butterfly wing
3	Single storey red brick barn, fibre cement roof in poor condition. Roof part lined internally with fibreboard in poor state of repair.	Low	None
4	Single storey red brick barn, fibre cement roof in poor condition. Roof part lined internally with fibreboard in poor state of repair.	Low	None
5	Single storey red brick barn, fibre cement roof in poor condition. Roof part lined internally with fibreboard in poor state of repair.	Low	None

6	Single storey red brick barn, fibre cement roof in poor condition. Roof part lined internally with fibreboard in poor state of repair.	Low	Occasional butterfly wing
7	Single storey red brick long barn, fibre cement roof in poor condition. Roof part lined internally with fibreboard in poor state of repair.	Low	Occasional butterfly wing

- 4.1.4 The habitats on site provide commuting and foraging habitat for bats, albeit of low value. However, the adjacent mature roadside hedgerows, scattered scrub and mature trees provide good foraging and commuting habitat. Although the 2017 (Site 1) activity surveys did not explicitly cover each building in Site 2, a surveyor stationed between buildings 4 and 5, recorded passes of common pipistrelle, soprano pipistrelle and brown long-eared just above head height, commuting away from Site 1, between buildings 4 and 5 and into the fields to the north. Noctule were also recorded at height.

4.2 Incidental Observations

- 4.2.1 During the internal inspections, 25 swallow nests in various degradations were recorded within the buildings. Ecological mitigation will include provision of replacement nests within the proposed car port/garages.

4.3 Appraisal of Potential Effects

- 4.3.1 No evidence of roosting bats was identified during the survey and the Site offers very limited potential for roosting bat species. On this basis, direct effects of conversion and demolition of the buildings on bats are highly unlikely. Indirect effects on bats are likely, in the absence of mitigation. Bats that are sensitive to lighting will almost certainly avoid the area if a bright lighting scheme is installed. Although the buildings in Site 2 are unlikely to support bat roosts, the general area in Site 2 is known to be used by bats commuting through the whole farmstead, some of which will belong to the roosts in Buildings 9, 13 and 14. It is therefore important that the lighting scheme for Site 2 (as well as Site 1) is designed such that bats are able to continue to use Site 2 as a commuting route. The lighting scheme will be designed in consideration of current published guidance (bats.org.uk). Exterior lighting will be installed only where necessary and will be low level and capped so as not to cause upward glare.

5 CONCLUSION AND RECOMMENDATIONS

- 5.1.1 The farmstead as a whole, supports bats with Site 1 favoured for roosting with commuting and foraging occurring, and Site 2 used for commuting and probably low-level foraging.
- 5.1.2 Despite no evidence of roosting being recorded in Site 2, it is considered necessary, as a precaution, that the buildings are subject to Reasonable Avoidance Measures during the proposed works which will comprise:
- a tool box talk will be given to contractors to advise on what to look out for in respect of bats and what to do if a bat is found;
 - works to roofs is carried out by hand stripping of tiles; and
 - the exterior lighting scheme will be of a sensitive design to avoid effects on light sensitive bats. Exterior lighting will be low level, directed downwards and will not cast upward glare.
- 5.1.3 Site 2 has been the subject of surveys in 2008, 2016, 2017 and an update building inspection in 2018. This revealed that the Site is of limited potential for roosting bats and no evidence of roosting was identified. It is considered that given the limited potential of the Site and implementation of precautionary Reasonable Avoidance Measures, there will be no detrimental effects on the long-term viability of bats that are present in buildings 9, 13 and 14 of Site 1 and the local area, and the conservation of all bat species is maintained. The mitigation provision for Site 1 will provide an overall more secure opportunity for roosting bats in the long term. The monitoring and maintenance programme for Site 1 will become a 'collective plan' so that bat activity across Sites 1 and 2 can be monitored in a cohesive strategy.

6 REFERENCES

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PHOTOGRAPHS

Building 1



Building 2



Building 2 (eastern elevation)



Building 2 (internal)



Building 3



Building 4



Building 5



Building 6



Building 6 (wing centre of photo)



Building 7



Building 5 & 6



Building 7

