

28 Kirlegate, Meare, Somerset BA6 9TA

Mr. Joseph Willmott

Bat Survey - Preliminary Roost Assessment

26th September 2022

Status	Issue	Name of Author/Reviewer	Date
Draft	0	Ella Colenso, BSc (Hons) – Assistant Ecologist	28/07/2022
Reviewed	0	Simon Pidgeon, BSc (Hons) MRSB – Director/Principal Ecologist	15/08/2022
Final	1	Ella Colenso, BSc (Hons) – Assistant Ecologist	26/09/2022

Limitations

Quantock Ecology Limited has prepared this report for the sole use of the above named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Quantock Ecology Limited. The assessments made assume that the sites and facilities will continue to be used for their current purpose without significant change. The conclusions and recommendations contained in this report are based upon information gathered by Quantock Ecology Ltd and provided by third parties. Information obtained from third parties has not been independently verified by Quantock Ecology Limited.

Copyright

© This report is the copyright of Quantock Ecology Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Contents Page

Executive Summary	5
1.0 Introduction and Context	6
1.1 Background	6
1.2 Scope of the Report	6
1.3 Site Context	7
1.4 Project Description	7
2.0 Methodology	8
2.1 Desk Study	8
2.2 Site Survey	8
2.2.1 Breeding birds and other incidental observations	8
2.3 Suitability Assessment	8
2.4 Limitations	9
3.0 Results and Evaluation	
3.1 Desk Study Results	
3.1.1 Designated sites	
3.1.2 Landscape	11
3.1.3 European Protected Species Licencing	
3.1.4 Historical records	
3.2 Survey Results	12
3.2.1 Weather parameters	
3.2.2 Building description	
3.2.3 Breeding birds and other incidental observations	13
3.3 Evaluation – Likelihood of bats being present	14
4.0 Conclusions and Recommendations	

4.1 Conclusions and Impact Assessment	15
4.1.1 Breeding birds and other incidental observations	15
4.2 Recommendations	15
4.2.1 Survey and assessment	15
4.2.2 Breeding birds	16
4.2.3 Enhancements	16
5.0 Bibliography	17
Appendix 1: Survey Plan	19
Appendix 2: Proposed Site Plan	20
Appendix 3: Photographs	21
Appendix 4: Legislation and Planning Policy related to bats	26
Appendix 5: Desk Study Information	28

Executive Summary

Quantock Ecology Ltd undertook a Preliminary Roost Assessment at 28 Kirlegate, Meare, Somerset BA6 9TA on the 23rd June 2022. The aim of the assessment was to consider the value and suitability of the structures for roosting bats. The development proposals briefly comprise the conversion of the existing building for residential use.

Table 1: Summary of results

Building reference	Value of building		Recommendations for further survey and assessment
	for roosting bats		
B1 – Existing building	Moderate	Habitat	Two further surveys comprising a dusk emergence and
	Value		dawn re-entry survey should be undertaken on the
			building between May and September, to suggest the
			presence or likely absence of roosting bats. At least one
			of the surveys should be undertaken during the optimal
			survey season (May to August). Two surveyors should be
			used to provide suitable coverage of all elevations of the
			structure.

The survey concluded that building B1 provides a moderate habitat value for roosting bats. As such, two emergence surveys are required on building B1. Due to the areas of impact and the size and shape of the building, two surveyors will be sufficient to cover all relevant aspects of the building. However, if bats are recorded roosting within the building, further assessment may be required to inform a licence from Natural England.

1.0 Introduction and Context

1.1 Background

Quantock Ecology were commissioned by Mr. Joseph Willmott to undertake a Preliminary Roost Assessment (PRA) at 28 Kirlegate, Meare. The assessment is informed by the Bat Conservation Trust publication: *Bat Surveys – Good Practice Guidelines* (Collins, J. 2016).

No previous ecological assessments are understood to have been undertaken at the site.

1.2 Scope of the Report

This report provides a description of all structural features suitable for roosting bats and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It provides information on constraints to the proposals as a result of roosting bats, and summarises the requirements for any further surveys, to inform subsequent mitigation proposals, achieve planning or other statutory consent, and to comply with wildlife legislation.

The aim of the assessment was to determine the presence or evaluate the likelihood of presence of roosting bats, and to gain an understanding of how they could use the building or structure. To achieve this, the following steps have been taken:

- A desk study has been carried out, including the use of freely available resources such as Google Earth and the MAGIC online database.
- A field survey has been undertaken, including an external and internal inspection of the building.
- An outline of likely impacts on any known roosts has been provided, based on current development proposals.
- Recommendations for further survey and assessment have been made, along with advice on European Protected Species Mitigation Licensing if appropriate.

A survey plan is presented in Appendix 1 and the proposed project plan will be included in Appendix 2 upon receipt. Photographs taken during the site survey are included in Appendix 3, and a summary of relevant legislation can be found in Appendix 4. Desk study records can be provided on request (if applicable), with a summary presented in Appendix 5.

1.3 Site Context

The site is located at National Grid Reference ST 447 417 and comprises an area of approximately 0.01ha. There is one building within the survey boundaries.

The site is situated to the west of the village of Meare, Somerset. The village comprises low density housing with connected gardens containing scattered trees. The local landscape surrounding the village is predominantly a mixture of arable and pastural farmland, bordered by mature hedgerows and Rhynes. Substantial areas of woodland are lacking within the wider landscape, however several orchards are present around the fringes of the local villages. The River Brue runs ~460m north of the site at its closet point. Large wetland areas connected by a network of Rhynes are found ~1km south and ~1.5km north of the site. Connectivity to and from the site into the wider landscape is present; mostly in the form of the residential gardens surrounding the site, leading to mature tree heavy hedgerows and Rhynes.

1.4 Project Description

This report is prepared to accompany a planning application to be submitted to Mendip District Council. It is proposed that the existing building will be converted for residential use. The plan showing the proposed works is included in Appendix 2. The programme for the scheme is yet to be confirmed.

All works areas, storage and haul routes will be included within the site boundaries; access will be provided by existing roads and as such, no additional working footprints are anticipated.

2.0 Methodology

2.1 Desk Study

Existing bat records relating to the site and a surrounding 2km radius (the study area) were not requested from Somerset Environmental Records Centre. This is primarily due to the relatively small scale of the proposed development.

A review of the following information sources has also been undertaken to inform the assessment:

- Landscape structure using aerial images from Google Earth
- Designated sites, habitat and species data held on Magic.gov.uk
- Information on the surrounding area using OS Opendata 2022

2.2 Site Survey

The survey was undertaken by Assistant Ecologist Ella Colenso, BSc (Hons) on 23rd July 2022. Licence number: 2022-10564-CL17-BAT.

All buildings that will be impacted by the project proposals (the survey area) were assessed for their potential to support roosting bats. The surveyor systematically searched for features suitable for roosting bats and signs of bat activity, by conducting a non-intrusive visual appraisal from the ground using binoculars, inspecting the external features of the buildings for potential access/egress points, and for signs of bat use. An internal inspection of the building was also made, including the living areas of derelict or abandoned buildings and the roof spaces of all buildings, using a torch and ladder. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames (where applicable), lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

2.2.1 Breeding birds and other incidental observations

The surveyor also made note of any other ecological constraints observed during the survey, notably the likelihood of presence or signs of breeding birds, and the suitability of the site for breeding barn owls *Tyto alba*.

2.3 Suitability Assessment

The building was categorised according to the likelihood of bats being present, in line with best practice guidelines (Collins, J. 2016); the features of the building that dictate the likelihood of roosting bats are

summarised in Table 2. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 2: Features og	f a building i	that are correlated	with use by b	oats during the summer
----------------------	----------------	---------------------	---------------	------------------------

Likelihood of bats	Feature of building and its context
being present	
Higher	Buildings/structures with features of particular significance for roosting bats e.g.
	mines, caves, tunnels, icehouses and cellars.
	Habitat on site and surrounding landscape of high quality for foraging bats e.g.
	broadleaved woodland, tree-lined watercourses and grazed parkland.
	Site is connected with the wider landscape by strong linear features that would
	be used by commuting bats e.g. river and or stream valleys and hedgerows.
	Site is proximate to known or likely roosts (based on historical data).
Lower	A small number of possible roost sites/features, used sporadically by more
	widespread species.
	Habitat suitable for foraging in close proximity, but isolated in the landscape. Or
	an isolated site not connected by prominent linear features.
	Few features suitable for roosting, minor foraging or commuting.

2.4 Limitations

It should be noted that whilst every effort has been made to describe the features on site in the context of their suitability for roosting bats, this does not provide a complete characterisation of the site.

This survey provides a preliminary view of the likelihood of bats being present. This is based on suitability of the habitats on the site and in the local area, the ecology and biology of bats as currently understood, and the known distribution of bats as recovered during the desk study.

Access onto the small mezzanine floor within the main building was not possible during the survey due to safety concerns. No further site specific limitations were recorded during the survey.

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of desk study results is provided below; further details are included in Appendix 5.

3.1.1 Designated sites

The MAGIC database suggests there is four statutory designated sites and one non-statutory site within 2km of the site (the study area). Their location and extent are illustrated in Appendix 5. Table 3 provides details of the designated sites including their reasons for notification.

Designated Site Name	Distance and direction from Site (approx.)	Reasons for Notification and integral value
Statutory Sites	S	
Somerset Wetlands National Nature Reserve (NNR)	910m south	"This new NNR in Somerset combines 6 existing reserves (managing bodies shown in brackets): Bridgwater Bay (NE and EA), Ham Wall (RSPB), Huntspill River (EA), Shapwick Heath (NE), Somerset Levels (NE), Westhay Moor (SWT)." – Taken from the Natural England designation.
Somerset Levels and Moors Ramsar site, Special Protection Area (SPA)	1.4km northwest	The Somerset Levels and Moors is the largest area of lowland wet grassland and associated wetland habitat remaining in Britain' – Taken from the Natural England designation.
Shapwick Heath Site of Special Scientific Interest (SSSI)	1.4km northwest	'Shapwick Heath, part of the Somerset Levels Wetlands, is a former raised bog lying below 4 metres ODN in the basin of the River Brue. The site includes the last remnant of active raised bog on the Somerset Levels and Moors. A variety of grassland communities has developed in the unimproved pastures and hay meadows. There are good examples of the nationally rare and threatened species rich 'mire' type meadows characterised by Common Sedge Carex nigra, Carnation Sedge Carex panicea, Purple Moor-grass Molinia caerulea, Meadow Thistle Cirsium dissectum and Devil's-bit Scabious Succisa pratensis' – Taken from the Natural England designation.
Non-statutory	Sites	
Ham Wall RSPB Reserve	1km southeast	"Ham Wall is a wetland teeming with wildlife - from rare species like water voles and otters to magnificent birds like bitterns and kingfishers." – Taken from the RSPB.

Table 3: Designated sites within 2 km of the site

3.1.2 Landscape

The MAGIC database shows an extensive area of coastal and floodplain grazing marsh covers most of the surrounding landscape, this lies ~80m northwest of the site at its closest point. A large area of purple moor grass and rush pasture is found ~1.8km to the south. Lowland fens can be found ~1.8km southwest of the site while lowland raised bogs are located ~1.5km to the north. A patch of reedbeds lies ~1.9km to the southeast. Traditional orchards are found within the villages to the east and west of the site, the closest of which lies beyond the road to the north of the site. Small patches of deciduous woodland are found sparsely scattered around the search area, predominantly to the south of the site. The closest woodland to the site lies ~410m to the east.

A review of aerial photographs (Figure 1) and OS maps shows how the site is situated in relation to the wider landscape.



Figure 1: Aerial photo of site, showing landscape structure

3.1.3 European Protected Species Licencing

The MAGIC database shows no granted European Protected Species Mitigation Licences (referring to bats) within 2km of the site.

3.1.4 Historical records

The Somerset Environmental Records Centre were not contacted to provided bat records for within 2km of the site. This was primarily due to the small scale of the proposed development.

3.2 Survey Results

3.2.1 Weather parameters

The weather conditions during the survey are detailed in the table below.

Table 4: Environmental variables during survey

	23/06/2022
Temperature	27°C
Relative Humidity	35%
Cloud Cover	90%
Wind	1/8
Precipitation	No Rain

3.2.2 Building description

The building within the survey area comprised an old stone barn with a small, mono pitched lean-to situated off the southern elevation. The barn was connected to a neighbouring property on its eastern elevation. Each building or structure is referenced, as illustrated in the map in Appendix 1.

B1 – Existing Building

Building description

Building B1 comprised a stone barn with a conventionally pitched, corrugated metal roof (see Appendix 3, photo 1). Some gaps were noted under the metal ridgeline due to the corrugated design of the roof sheets, however these were shallow and exposed. Three roof lights were present on the southern roof pitch. These were tightly fitted with no gaps around their frame. The wooden fascia around the building was lifted away from the stone walls, leaving large gaps beneath it (see Appendix 3, photo 2). The gap beneath the fascia on the northern elevation was generally either sealed by a wooden beam or full of cobwebs (see Appendix 3, photo 3). It was assessed that the opening present in the blockwork at the apex of the western gable end led directly into the interior of the building. The remaining stonework on the western gable end had a number of gaps and cracks in the mortar (see Appendix 3, photo 2). A section of missing stonework was also noted at the eastern end of the southern elevation (see Appendix 3, photo 4). The gap created was very open and did not appear to form any deeper crevices upon inspection. The

stonework on the northern elevation was generally in good condition however, the western end had some gaps and cracks where the wall had bowed (see Appendix 3, photo 5). The wooden door on the western gable end had some gaps around the lintel however the door itself was well fitted with no large gaps around its frame. The door on the southern elevation was also tightly fitted. The wooden 'window' on the northern elevation had a number of large gaps and cracks around the frame, which either led directly into the interior or into the stonework of the surrounding walls (see Appendix 3, photo 6). A small mono pitched lead to was present off the southern elevation of the main building (see Appendix 3, photo 1). This was ~2m tall at its apex and was in use as a wood store. The roof comprised a mixture of corrugated metal and plastic sheets. The eastern, southern and western elevations of the lean-to were all open. Due to the piles of wood within the building, most of the southern elevation of the main building was obscured.

Internally the main building lacked a loft space, leaving the wooden structure exposed (see Appendix 3, photo 7). The roof was partially boarded by plaster board with some sections of corrugated metal left exposed. The space was light due to the southern facing roof lights. The breezeblock wall comprising the eastern elevation was in good condition, however large gaps were present along the wall top where this met the metal roof (see Appendix 3, photo 8). The northern and southern wall tops were exposed and the internal stonework was in good condition with no gaps or cracks. The mezzanine floor at the western end of the building created two small, darker rooms beneath it. These were full of cobwebs at the time of the survey. Access onto the mezzanine was restricted due to safety concerns. Internally the roof of the lean-to was exposed and the space was light and open due to the lack of walls (see Appendix 3, photo 9).

Evidence of bats

A single, fairly old bat dropping was found within the main building by the southern elevation (see Appendix 3, photo 10). Although full access to the mezzanine floor as not possible at the time of the survey, two small older bat droppings were identified within the debris on the mezzanine floor. No further evidence of bats, such as urine staining or discarded insect wings/casings was noted during the survey.

3.2.3 Breeding birds and other incidental observations

An old, disused bird nest (species unknown) was present under the southern lean-to extension where the corrugated roof met the southern elevation of the main building.

3.3 Evaluation – Likelihood of bats being present

Taking the desk based assessment and site survey results into account, the following value for roosting bats has been placed on each building.

Table 5: Evaluation	of	buildings/structures	on	site
---------------------	----	----------------------	----	------

Reference	Value for / Likelihood	Brief summary of justification
	of bats using the	
	building for roosting	
B1 – Existing	Moderate	Some suitable roosting features noted across the building
Building		under fascias and in cracks in the external stonework. Likely
		suitable for a small number of more widespread crevice
		dwelling species only. A very small number of bat droppings,
		which appeared to be fairly old were identified within the
		main building. Access into the building is present via a gap
		in the stonework at the western gable end of the barn.
		Landscape connectivity is provided by the hedgerow along
		the lane to the north of the site. Although substantial
		wooded areas are lacking within the local landscape;
		hedgerows, Rhynes and nearby orchards provide suitable
		foraging and commuting habitats.

4.0 Conclusions and Recommendations

4.1 Conclusions and Impact Assessment

The PRA concludes that building B1 has a moderate likelihood of supporting roosting bats. It is considered likely that bats could utilise the crevices made by the lifted fascia and gaps in the stonework for roosting. A low number of fairly old bat droppings was also identified within the building. As the proposals include a change of use, including the re-roofing of the building, any roost present would be disturbed/destroyed. Bats are protected under the Wildlife and Countryside Act and Conservation Regulations; see Appendix 4 for a summary of legislation protecting bats in the UK.

4.1.1 Breeding birds and other incidental observations

A bird nest (species unknown) was observed under the lean-to off the southern elevation of the main building. It is likely that this will be utilised during the breeding season. As a result, works to the building should be undertaken outside the breeding season to reduce impacts on birds whilst they are breeding. Legislation protects all wild birds whilst they are breeding, and prohibits the killing, injuring or taking of any wild bird or their nests and eggs. Certain species of bird, including the barn owl, are subject to special provisions; it is an offence to disturb any bird or their young during the breeding season.

4.2 Recommendations

4.2.1 Survey and assessment

Best practice survey guidelines (Collins, J. 2016) recommend additional surveys for all buildings assessed as having low to high suitability for roosting bats. The survey effort recommended at this stage is iterative and if bats are recorded emerging from the buildings, the survey effort should be adjusted to provide sufficient information to inform European Protected Species Mitigation licensing (EPSML). Buildings assessed as comprising negligible suitability for roosting bats do not normally require further surveys. Appropriate justification for this assessment is provided in Section 3.0 and Table 5 of this report. Those known to support roosting bats may require further survey to inform a EPSML application, depending on the proposed works and assessment of impacts, and the species present/likely to be present. However, if bats are found during any stage of the development, work should stop immediately and a suitably qualified ecologist should be contacted to seek further advice.

Careful consideration should be given to any future lighting across the site. Although not confirmed, it is likely that bats are using the hedgerow and orchard to the north of the site for foraging/commuting. As such, a dark corridor should be maintained along this area. Any future lighting should be kept to a

minimum, and in like with guidance produced by the Bat Conservation Trust and Institute of Lighting Professionals: <u>https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/</u>. However, this can be confirmed during the recommended further surveys.

Recommendations for further survey or assessment associated with each building are provided in Table 6.

Building Ref	Value for / Likelihood of supporting roosting bats	Recommendations
B1 – Existing	Moderate Habitat	Two further surveys comprising a dusk emergence and dawn
building Value	Value	re-entry survey should be undertaken on the building
		between May and September, to suggest the presence or
		likely absence of roosting bats. At least one of the surveys
		should be undertaken during the optimal survey season (May
		to August). Two surveyors should be used to provide suitable
		coverage of all elevations of the structure.

4.2.2 Breeding birds

It is recommended that the works to the building are undertaken outside the breeding bird season (March to September). However, if this is not possible, the building should be surveyed for breeding birds immediately prior to clearance. If active nests are found, they will need to be retained in situ until the young have fledged. No works should be undertaken within 5m of an active nest.

4.2.3 Enhancements

Accurate recommendations for enhancements can be made following the completion of the recommended further surveys.

5.0 Bibliography

- British Trust for Ornithology (2022) <u>https://www.bto.org/how-you-can-help/providing-birds/putting-nest-boxes-birds</u>
- Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected?
- Google Earth (2022) accessed on 28/07/2022.
- Magic database (2022) <u>http://www.magic.gov.uk/MagicMap.aspx</u> accessed on 28/07/2022.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework (2019) <u>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_dat</u> a/file/810197/NPPF_Feb_2019_revised.pdf

Appendices

Appendix 1: Survey Plan



Appendix 2: Proposed Site Plan

To be added upon receipt.

Appendix 3: Photographs











Appendix 4: Legislation and Planning Policy related to bats

LEGAL PROTECTION

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 through their inclusion on Schedule 2.

Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species as:

a) to impair their ability:

(i) to survive, breed, or reproduce, or to rear or nurture young

(ii) to hibernate or migrate

b) to affect significantly the local distribution or abundance of the species

• Damage or destruction of a breeding site or resting place

Bats are also protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

Effect on development works:

A European Protected Species Mitigation (EPSM) Licence issued by the relevant statutory authority (e.g. Natural England) will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored.

The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008)

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

Appendix 5: Desk Study Information

MAGIC

Designated Sites



MAGIC

Priority Habitats





PRELIMINARY ROOST ASSESSMENT

BACK PAGE

Contact details:

Quantock Ecology Ltd 01823 414457 enquiries@quantockecology.co.uk

Quantock Ecology Ltd https://quantockecology.co.uk