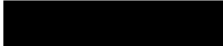


The Cider Barn,
Gastrells Farm

Bat Survey Report



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Project Name	The Cider Barn, Gastrells Farm
Report Type	Bat Survey Report
Client	Mr [REDACTED] Juggins
Site Address	Gastrells Farm, Portway, Upton St Leonards, Gloucestershire, GL4 8DS
Grid Reference	SO 87247 13922
Report Author	[REDACTED]
Revision Status	Final
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VALIDITY

Due to the dynamic nature of ecological conditions the results of the survey(s) and related conclusions and recommendations as contained within this document should only be considered valid until the start of the next ecology season. Gordano Ecology should then be contacted for advice, at which point survey work may be required to update the baseline ecological knowledge of the site, which may change our opinions, interpretations and recommendations.

Any alterations to the site proposals may invalidate the recommendations contained within this report.

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Summary

Gordano Ecology was commissioned to undertake a Preliminary Roost Assessment and Bat Activity Surveys in order to inform the Local Planning Authority of any ecological considerations relating to bats that were present at the Cider Barn, Gastrells Farm.

A small cluster of Lesser Horseshoe droppings were found within the vaulted first floor/roof space at the western end of the building during the Preliminary Roost Assessment. Prior to the second Bat Activity Survey a single Lesser Horseshoe was observed hanging above this cluster of droppings, and was later observed light sampling and emerging from the Cider Barn before commuting through the farm yard of Gastrells Farm. A single Common Pipistrelle was also observed emerging from the western gable at the tile end of the southern roof pitch.

It is understood that the proposed development includes repair works/renovations to the building on the Site. In the absence of mitigation, it is considered that the proposed works will result in the loss of bat roosts, and potentially the disturbance and accidental killing and/or injury of bats during the construction phase. This would be considered a significant adverse impact at a local level.

To mitigate for the loss of the undisturbed building interior within the first floor, which will be turned into accommodation, the western ground floor store room will be modified to enable the use by Lesser Horseshoe.

1. Introduction

1.1. Survey Objectives

- 1.1.1. Gordano Ecology was commissioned by Mr [REDACTED] Juggins, hereafter referred to as 'the Client' to undertake a Preliminary Roost Assessment (PRA) in order to inform the Local Planning Authority (LPA) of any ecological considerations relating to bats that were present at the Cider Mill, Gastrells Farm, hereafter referred to as 'the Site'. The survey was extended to include a desktop study of any nearby statutory sites, as well as examine nearby Natural England bat mitigation licence records.
- 1.1.2. The purpose of a PRA is to identify any habitats or features that could support bats, or identify any direct evidence of roosting bats, which would constitute potential constraints to the proposed development taking place, in order to make recommendations for ecological enhancements, and/or further survey work, as appropriate.
- 1.1.3. Following the PRA and the recommendations made, Gordano Ecology was commissioned by the Client to undertake Bat Activity Surveys on the Site, which was identified as being used by bats during the PRA.
- 1.1.4. The purpose of Bat Activity Surveys is to identify whether bats are using a building, and if it is confirmed as a bat roost to further categorise the roost by identifying how bats are using a building and in what numbers. This allows for an accurate assessment of the likely impacts of the proposed development on bats and to make recommendations for mitigation, compensation and/or licensing as appropriate.

1.2. Site Location & Description

- 1.2.1. The Site is located at The Cider Barn, Gastrells Farm, Portway, Upton St Leonards, Gloucestershire, GL4 8DS. The Site is centred on National Grid Reference SO 87247 13922.
- 1.2.2. The Site (approximately 0.001 hectares) consists of one building with an approximate footprint of 12m x 6m.
- 1.2.3. The building has a single storey lean to on its west elevation outside of the Client's land ownership, amenity grassland and small vegetable beds on its southern elevation outside of the Client's ownership and a grit/gravel parking area on its northern and eastern elevations forming part of the yard to Gastrells Farm. The residential property of Gastrells Farm is found to the north west, with further farm building found to the north east and east. A neighbouring residential property is to the west.
- 1.2.4. Within the wider landscape the site is surrounded by agricultural fields, scattered residential and farm buildings, pockets of woodland, and mature tree lines and hedgerows. 1km to the north west, the main residential area of Upton St Leonards is found, beyond which is the City of Gloucester.



Figure 1.1 – Site location

Accessed on 19/12/2023 from www.google.com/maps

1.3. Proposed Development

- 1.3.1. It is understood that the proposal is to convert the first floor of the Cider Barn, which extends into the roof space, into accommodation. The ground floor will largely be kept as existing, for low levels of storage and as a woodstore, and as a personal museum of sorts for the old cider press that is present. See Appendix D – Proposed Development Plan.

2. Methodology

2.1. Desk Study

- 2.1.1. A desk study of existing ecological records for the site and surrounding land was conducted on 19/12/2023.
- 2.1.2. Statutorily designated sites within 2km of the development site were obtained from the UK Governments Countryside Geographic Information Website (MAGIC). Data was used in conjunction with an assessment of site plans and aerial photographs.

2.2. Preliminary Roost Assessment

- 2.2.1. A PRA following standard methodology in accordance with current guidelines for bats, *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)* (Collins, 2023), was conducted on 11/08/2023 by Samuel Olney.
- 2.2.2. A PRA on its own cannot always determine the presence/likely absence of bats, nor does it provide a conclusive list of species. It is intended to inform the need for, as well as the choice and details of further surveys.
- 2.2.3. The building(s) on the site were inspected internally and externally in order to identify any evidence of use by bats. Signs of bats looked for include:
 - Bats
 - Droppings
 - Staining
 - Feeding remains
- 2.2.4. The building(s) were also inspected for their suitability to be used by roosting bats, with any potential features which could be used by roosting bats being recorded.

2.3. Bat Activity Surveys

- 2.3.1. As the PRA found evidence of bats/potential for the building to support roosting bats a set of two Bat Activity Surveys was carried out on the building to help categorise the roost type and find out in what numbers bats are using the building.
- 2.3.2. Bat Activity Surveys can aid a PRA by positive confirmation of access and egress points into and out of a structure. This method also allows recordings of bat echolocation calls for species identification to help determine the use and importance of a roost. Bat Activity Surveys may also identify new roost areas where no evidence of bats was found during the PRA.
- 2.3.3. Two dusk Bat Activity Surveys were undertaken by surveyors observing bats and their activity in the field using non-invasive and non-disturbing techniques. Bat Activity Surveys are based on standard methodology in accordance with current guidelines for bats, *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)* (Collins, 2023).
- 2.3.4. Two surveyors were present during the Bat Activity Surveys. The surveyors were situated at key locations to ensure that all aspects of the building were observed at all times, particularly those areas that had the highest potential to be used by bats and where evidence of bat use was found during the PRA. The Bat Activity Surveys commenced approximately 15 minutes prior to sunset and continued at least 1.5 hours after sunset.

2.3.5. Any bats observed interacting or passing over the building were recorded. Information included:

- Time
- Emergence or entry points
- Direction of flight
- Use of landscape
- Behaviour

2.3.6. The bat detectors used were Anabat Scout. These detectors automatically record time-stamped data suitable for later analysis. Analysis of calls was undertaken using Anabat Insight software. Each surveyor was also positioned with a Canon XA70 camcorder set to record the infrared spectrum of light (4k resolution at 50fps). Each camcorder was paired with a Elekon Batscanner, enabling a heterodyne audio track on the resulting video file, which could then be matched with the surveyor's time-stamped data. Multiple infrared flood lights and torches were positioned around the building to enable sufficient illumination of the building. Analysis of video files was undertaken in Da Vinci Resolve.

Table 2.1 – Personnel present during surveys

Date	Survey	Personnel	Experience
11/08/2023	PRA		
11/08/2023	Activity Survey		<p>All lead surveyors have multiple years' worth of experience conducting professional bat surveys, across a range of habitat and roost types. They are fully capable of conducting independent and/or leading a team of assistant surveyors.</p> <p>All assistant surveyors have been trained at conducting professional bat activity surveys, and will have relevant experience from shadowing a lead surveyor to undertake multiple surveys across a bat season. They are fully capable of being independent on site and using professional judgement to react to site conditions/bat activity on site to help achieve the objectives of the survey.</p>
28/08/2023	Activity Survey		

Table 2.2 – Weather conditions for activity surveys

Date	Sunset	Weather
11/08/2023	20:43	21°C, dry, clear, light breeze
28/08/2023	20:08	16°C, dry, clear, light breeze

2.4. Limitations and Assumptions

General Ecological Constraints

2.4.1. This survey only offers a “snapshot” of the site conditions and takes no account of seasonal differences, or of any species which may take up residence subsequently.

Site Specific Constraints

- 2.4.2. A search for any records held by the local record centre or bat group was not undertaken because a thorough survey was possible on the Site, and the project will not significantly impact any roosts on surrounding land if present. Furthermore, roost records held by record centres and bat groups generally exclude actual roost addresses due to privacy concerns, which limits their usefulness for small projects such as this. This decision was taken having regard to current Guidelines for Assessing and Using Biodiversity Data published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2023).
- 2.4.3. The ground floor portion of the external western elevation of the building could not be inspected due to land access arrangements, with this area being outside of the ownership of the Client.
- 2.4.4. None of these limitations or assumptions are deemed to make a material change to the results or recommendations contained within this report.

3. Results

3.1. Desk Study

- 3.1.1. The records search identified one Natural England licence record from within 2km of the site; 2019-43445-EPS-MIT. This licence record is approximately 1km to the west and includes non-maternity roost(s) for Lesser Horseshoe and Common Pipistrelle, along with Brown Long-eared and Soprano Pipistrelle.
- 3.1.2. It should be noted that the lack of other roost records does not constitute proof of the absence of a species from an area, and can often be put down to a lack of ecol recording.
- 3.1.3. The records search identified three statutorily designated site for nature conservation within 2km of the site. None of the sites have been designated for supporting bats, although some of the site citations note the present of bats within the site. However, even if not designated for bats, the habitats present within the sites will be important areas for bats.
- 3.1.4. All three designated sites form part of a woodland complex that runs from the east of the site along a ridge to the south west of the site.
- 3.1.5. The Site is also within the Cotswolds Area of Outstanding Natural Beauty.

Table 3.1 – Statutorily designated sites within 2km of the site

Site Name	Designation	Reason for designation	Approximate distance from site
Cotswold Commons and Beechwoods	Site of Special Scientific Interest (SSSI) – forms part of Cotswold Beechwood SAC (see below)	The site consists of ancient beech woodland and unimproved grassland lying over Jurassic limestones at the western edge of the Cotswolds. The woodlands are amongst the most diverse and species-rich of their type while grasslands typify the unimproved calcareous pastures for which the area is famous. It is noted that some disused limestone mines within the not area are used as winter roosts for several bat species.	750m south
Coopers Hill, Gloucester	Local Nature Reserve (LNR) – forms part of Cotswold Beechwood SAC (see below)	Mature beech woodland with pockets of orchid rich limestone grassland.	1000m west
Cotswold Beechwoods	Special Area Conservation (SAC)	The Cotswold Beechwoods represent the most westerly extensive blocks of beech forests in the UK. The woods are floristically rich with rare plant and rich in mollusc fauna. The wood	750m south

		<p>are structurally varied, including blocks of high forest and some are of remnant beech coppice.</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates, which can be important orchid sites, are also found here.</p>	
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3.2. Preliminary Roost Assessment

- 3.2.1. The following section describes the main habitats and bat species (or signs of) recorded during the PRA. Please refer to the following appendices:
 Appendix A – Site Photographs
 Appendix B – Surveyor/Camera Location Plan
 Appendix C – Survey Results Plan
- 3.2.2. The Cider Barn is stone built with two gable ends present on the western and eastern elevations. The building’s northern roof pitch is made of concrete roof tiles, with the southern roof pitch recently renovated from an historic roof collapse, and was reroofed to be made of stone tiles. Bitumen felt is present under both pitches and is open within the first floor, which is formed by the vaulted roof space.
- 3.2.3. A partially boarded window on the southern elevation provides potential flight access into the first floor. A hayloft door is present on the western elevation but this was closed with no flight access. The doorway on the eastern elevation is open to the elements, but a wire mesh has been placed over the doorway to prevent access by birds. The ground floor rooms both have a glazed window on the southern elevation (which is at ground level externally due to the levels of the site), and a wooden door to each ground floor room on the northern elevation. Access was possible internally between the ground floor rooms and the first floor, through damaged floor boards.
- 3.2.4. At the time of survey, the first floor was being used for low levels of storage of building materials. The eastern ground floor room was being used for low levels of storage for building materials, tools and also had an old cider press present within it. The western ground floor room was being used as a log store and a tool store.
- 3.2.5. No evidence of bats was identified during the building inspection within either of the ground floor rooms. However, the first floor/roof space had scattered Lesser Horseshoe droppings towards the western end of the space, with a small cluster underneath the ridge beam adjacent to the hayloft door. Access under the stone tiles was also available to crevice dwelling bats. The concrete tiles of the northern elevation were predominantly tight, but some areas were lifting.
- 3.2.6. There were no indications during the survey that any other protected or notable species may be using the site or may be impacted by the development.

3.3. Bat Activity Surveys

- 3.3.1. As the PRA found evidence of Lesser Horseshoe a set of two dusk Bat Activity Surveys were carried out on the building. Please refer to the following appendices:
 Appendix C – Survey Results Plan

Dusk Bat Activity Survey – 11/08/2023

- 3.3.2. During this survey, no bats were recorded entering or emerging from the building.

- 3.3.3. The following bat species were noted as using the site to commute through/over during the survey; Soprano Pipistrelle and Common Pipistrelle.
- 3.3.4. The following bat species were noted as using neighbouring land to commute through/over and/or forage in/over during the survey; Soprano Pipistrelle, Common Pipistrelle, Lesser Horseshoe, Noctule, Serotine, Myotis species and Long-eared species.
- 3.3.5. The farm yard to the north of the Cider Barn was highlighted as an important commuting area for multiple species of bats, but in particular for Soprano Pipistrelle due to the presence of a maternity roost of Soprano Pipistrelle that was known to be present within the main house (northwest of the Site) of Gastrells Farm.
- 3.3.6. The treelined green lane to the south of the Cider Barn was also highlighted as an important commuting route to multiple species of bats.

Dusk Bat Activity Survey – 28/08/2023

- 3.3.7. During this survey a single Lesser Horseshoe was observed hanging in the building prior to the survey. The Lesser Horseshoe was then observed light sampling before emerging at 21:20 from the first floor partially boarded window and then commuting north through the yard. A single Common Pipistrelle was also observed emerging from the tile end on the western gable at 20:53 before commuting further west.
- 3.3.8. The following bat species were noted as using the site to commute through/over during the survey; Soprano Pipistrelle, Common Pipistrelle and Lesser Horseshoe.
- 3.3.9. The following bat species were noted as using neighbouring land to commute through/over and/or forage in/over during the survey; Soprano Pipistrelle, Common Pipistrelle, Lesser Horseshoe, Noctule, Serotine, Myotis species and Long-eared species.

4. Wildlife Legislation & Policy

Bats

- 4.1.1. In the UK all bat species are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). It is illegal to kill, injure, disturb, capture, possess or trade bats (or parts thereof); disturb bats whilst in a place of shelter or rest; or damage, destroy or obstruct access to a breeding site or resting place whether bats are present or not.
- 4.1.2. Operations which may affect bats may require a development licence from Natural England, which provides derogation for an otherwise unlawful activity.

Nesting Birds

- 4.1.3. All birds, their eggs, dependant young and nests are protected, under the Wildlife Countryside Act 1981 (as amended), from taking, killing or disturbance while nesting. Certain species are protected by special penalties at all times (e.g. Barn Owl).

Planning Policy

- 4.1.4. National Planning Policy Framework (NPPF) sets out Government Policy on Biodiversity and Nature Conservation and places a duty on planners to make material consideration to the effect of a development on legally protected species when considering applications. NPPF also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

5. Evaluation and Impacts

Statutory Sites for Nature Conservation

- 5.1.1. It is considered that the proposed development will have no impact on any of these sites, due to the distance between them and the site, and the small scale of the development with impacts considered to be constrained to the site itself.

Bats

- 5.1.2. All bat species in the UK are protected by national and international legislation.
- 5.1.3. The Cider Barn is being used as a day roost by at least two species of bat; Lesser Horseshoe and Common Pipistrelle.
- 5.1.4. As a whole, the building is considered to be of low conservation importance for bats.
- 5.1.5. It is understood that the proposed development includes repair works/renovations to the building on the Site. In the absence of mitigation, it is considered that the proposed works will result in the loss of bat roosts, and potentially the disturbance and accidental killing and/or injury of bats during the construction phase. This would be considered a significant adverse impact at a local level.
- 5.1.6. With mitigation, it is considered that after an initial short term adverse impact, a long term positive impact could be achieved by enhancing and increasing the number of bat roosting features and spaces available on the site.

6. Recommendations

6.1. Bats

- 6.1.1. Bats are using the Cider Barn on the Site to roost.
- 6.1.2. A Natural England mitigation licence will be required in order to allow works which would otherwise be illegal. The licence must be in place prior to any works being undertaken which could impact on the bat roosts, and where consents are required (planning, listed building etc), these must be in place prior to applying.
- 6.1.3. Mitigation will be required and a recommended mitigation and compensation strategy for bats is included below. A detailed mitigation statement will be formulated concurrently with drawing up the final site designs and work plan and schedule and included within the Natural England licence application.
- 6.1.4. Natural England take a minimum of 30 working days to assess a licence.
- 6.1.5. Ecological supervision and timing constraints may be required for certain phases of the development, and will be included within the Natural England Licence application.
- 6.1.6. To mitigate for the loss of the undisturbed building interior within the first floor, which will be turned into accommodation, the western ground floor store room will be modified to enable the use by Lesser Horseshoe. Its dimensions are approximately 2000mm high (floor to rafters), 6000mm long and 3000mm wide. It will be used as a log store only post development works.
- 6.1.7. Two 'hot box' areas will be installed to provide pockets of secure and dark space suitable for use by roosting Lesser Horseshoe within the ground floor room, with additional rough sawn timbers installed within these areas to provide a surface for bats to hang from. These 'hot boxes' be creating by installing plyboard or similar down from the rafters, creating a boxed in area. They will have an approximate 500mm x 500mm footprint and a height of approximately 500mm. A flight entrance at the base of each 'hot box' will be created; approximately 300mm x 200mm.
- 6.1.8. Flight access to the western ground floor room will be created via a slot in the top third of the existing (or replacement) northern doorway (approximately 300mm x 200mm). The height of the access point in the doorway has been considered to reduce the risk of predation to Lesser Horseshoe, as cats are present on the wider site. This is also the reason providing access through the southern window was ruled out of consideration, as at the external point the window is at ground level, on land outside of the Client's ownership. The access point will be created at the start of works to allow the space to be used by Lesser Horseshoe throughout the development works.
- 6.1.9. In front of the building on the northern elevation a small wall with built in planters will be erected to artificially force space between the new roost entrance and the ongoing use of the farm yard for parking.
- 6.1.10. No new external lighting will be installed on site, with the exception of a PIR sensor security light on the eastern gable end of the building where the main access point to the accommodation will be located.
- 6.1.11. One Schwegler 2F bat box should be installed on a mature tree nearby. This will provide roosting space for Common Pipistrelle that may be affected by any roof stripping/repair works carried out. Post development this will remain in situ and act as an enhancement for the wider site.

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- 6.1.12. The roof repair/replacement works (which must be done under licence and supervised by a licenced bat ecologist) will include the replacement of the concrete tiles on the southern roof pitch with stone tiles, backed with bitumen felt. This is considered desired, as it will be improving the Site for bats.
- 6.1.13. A compliance check will be completed by a licensed bat ecologist following completion of all the mitigation works. As the Site is considered to have low conservation significance monitoring checks, involving a dusk activity survey, will be required in year 1 or 2 after all proposed development works on site have been completed.

6.2. Planning Policy

- 6.2.1. Enhancement features for wildlife should be included in developments (NPPF). A bird box and an additional bat box should be erected on nearby trees to provide secure roosting/nesting opportunities for these groups and improve the ecological potential of the wider site.
- 6.2.2. It is recommended that a variety of different designs are installed to provide habitats for multiple species.
- 6.2.3. It is recommended locally sourced native species should be incorporated into landscaping and planting design wherever possible.

7. References

CIEEM (2023). *Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK*. Chartered Institute of Ecology and Environmental Management (CIEEM) 43 Southgate Street, Winchester, Hampshire, SO23 9EH, UK.

Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London.

Appendix A – Site Photographs



Photograph 1 – North west corner of building. Doorway to the proposed mitigation roosting space within western ground floor can be seen open in this image



Photograph 2 – North east corner of the building. The concrete tiles that can be seen in this image will be replaced with stone tiles



Photograph 3 – South east corner of building. Window with flight access can be seen in centre of image



Photograph 4 – Distance between the Cider Barn (right of image) and the main house at Gastrell Farm. The wall that can be seen in the centre of the image has now been completed; however it is only marginally higher than what can be seen already



Photograph 5 – Eastern end looking west of first floor/roof space. Window with flight access can be seen to left of image



Photograph 6 – Eastern ground floor room



Photograph 7 – Western ground floor room



Photograph 8 – Example access between first and ground floors



Photograph 9 – Lesser Horseshoe found hanging in first floor on 28/08/2023



Photograph 10 – Lesser Horseshoe droppings at western end of first floor

Appendix B – Surveyor/Camera Location Plan



Accessed on 19/12/2023 from www.google.com/maps

Appendix C – Survey Results Plan

