



Bat Assessment
Preliminary Roost Assessment & Roost
Characterisation Surveys

of

Land at New Parks Farm
Kirkby Mallory
Leicestershire

for

Mr R.G Rutter

(5th August 2021)

2021-03(15)

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Survey dates: 15th April 2021, 19th May 2021 and 10th June 2021.

Report Version	Date	Author:	Quality check by:	Approved by:
Original	05/08/21	George Burton, MCIAT., C.Env., ACIEEM Director	George Burton, MCIAT., C.Env., ACIEEM Director	George Burton, MCIAT., C.Env., ACIEEM Director

This report has been prepared in accordance with the CIEEM Guidelines for Ecological Report Writing Second Edition (2017) and is compliant with the CIEEM Code of Professional Conduct.

Summary

- An initial bat assessment, undertaken on 15th of April 2021, found that the Site had moderate potential to support roosting bats.
- Therefore, two nocturnal bat surveys were carried out on the buildings at New Parks Farm, Kirkby Mallory, Leicestershire on the 19th of May 2021 and the 10th of June 2021. This was followed by a dusk emergence camera survey on the 22nd of July 2021.
- The proposed development involves the demolition of two stable blocks at the Site, to be replaced by two dwellings for residential use.
- Foraging opportunities for bats nearby was considered average and records confirmed six bat species were found within a 1km radius of the site.
- Foraging and bat activity was high, with emergences and entries recorded on both the dusk and dawn surveys indicating that a day roost(s) for small numbers of common pipistrelle bats is present, associated with stable block 1 and the barn.
- As bat roosts have been identified, the proposed demolition of the buildings will result in the destruction of the roosts; consequently, a Natural England derogation licence is necessary for works to proceed legally. This can only be applied for once planning permission has been granted and any bat-related conditions have been discharged.
- Detailed bat mitigation has been recommended in section 5 and should form the basis of a Natural England licence application, although it should be noted that if works cannot be completed before April 2022, it is likely that updated bat activity surveys will be required May–August to further inform a bat licence application.
- Specific mitigation has been detailed in this report regarding bats comprising the temporary erection of bat boxes, a soft-strip approach to roof stripping work supervised by a licensed bat ecologist, sensitive timing of works, permanent replacement roost features and advice regarding the implementation of a sensitive lighting scheme (if lighting is to be installed as part of the new build).
- It is also recommended that, immediately prior to demolition, there should be a check of the buildings for nesting birds, to ensure that none are present when works commence.

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1 Introduction

1.1 Instruction

Ecolocation were commissioned by Mr Rutter to undertake a preliminary roost assessment and bat roost characterisation surveys on an area of land at New Parks Farm, Kirkby Mallory in Leicestershire (hereafter referred to as the 'Site'), which was understood would be subject to a future planning application involving the redevelopment of this building for residential use.

1.1.1 Site Location

The Site (grid reference SK 44360 00307) is located within the rural setting of Kirkby Mallory between the town of Atherstone and the village of Peckleton in Leicestershire, c. 14.5km west of Leicester.



Figure 1: Survey boundary.

1.1.2 Proposed Plans

At the time of survey and report writing no detailed plans for the proposed works were available. It was understood that future proposals would involve the demolition of the current building so that two new dwellings could be built.

1.2 Survey Purpose

The purpose of the survey and report was to:

- identify presence/absence of bat roosts at the Site;
- determine species, access and egress points, roost type and size if bat roosts are present;
- assess the impact of the proposed works on bats;
- provide details of a bat mitigation strategy to maintain the favourable conservation status of the bat species in question if bat roosts are present;
- determine the need for a bat mitigation licence from Natural England; and
- determine the need for any further bat surveys to inform a mitigation scheme or a bat mitigation licence.

1.3 Legislation & Planning Policies

A number of UK and European legislation and policies deal with the conservation of biodiversity. This section briefly outlines the legal and policy protection afforded to bats and their habitats.

Bats and their roost sites are protected under UK and European legislation including the Wildlife and Countryside Act 1981 (as amended), Countryside Rights of Way Act 2000, the Conservation of Habitats and Species Regulations 2017¹ and the Habitats Directive. The legislation makes it an offence for any person to:

- deliberately capture, injure or kill a bat.
- intentionally or recklessly disturb bats, where that disturbance may affect the ability of those bats to survive, breed, rear or nurture their young, or is likely to significantly affect the local distribution or abundance of any bat species, whether in a roost or not.
- damage or destroy a place of shelter (roost) of a bat, be that a resting or breeding place.
- possess a bat, whole or in part, alive or dead.
- intentionally or recklessly obstruct access to a roost
- sell or offer for sale or exchange whole or parts of bats, alive or dead.

All species of birds are protected from disturbance under the Wildlife and Countryside Act 1981 (as amended) from the time when they begin nest construction until all of the young have naturally fledged. Barn owls benefit from additional protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), making it an offence to capture or kill barn owls at all times or disturb them whilst nesting.

The ODPM Circular 06/05 makes the presence of a protected species a material consideration within the planning process. It states that it is essential for the presence of protected species and the extent they may be affected by proposed development be established through appropriate surveys before the planning permission is granted and encourages the use of planning conditions to secure the long-term protection of the species.

The National Planning Policy Framework (NPPF) section 15 outlines how applications need to conserve and enhance the natural environment. Paragraphs 174 to 182 state that sites with biodiversity value should be protected and enhanced, minimising impacts on biodiversity and establishing ecological connectivity. Furthermore, the protection of priority sites and species through developments is outlined and states where significant harm is unavoidable through alternatives or mitigation, planning permission should be refused. Finally, this section concludes that developments with aims to conserve or enhance biodiversity should be supported and any improvement around developments should be encouraged to achieve net gains for biodiversity.

Leicester City Council Core Strategy (adopted July 2014) contains policy CS.Policy 17. Biodiversity relating to the natural environment. This policy states that the council will require ecological surveys and assessments of proposed Sites to establish the potential impact upon biodiversity, protected species and habitats of particular value prior to any development, in order to avoid harm to wildlife.

¹ The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 amended the 2017 Regulations, in response to the UK's exit from the EU. The requirements and processes of the Regulations remain the same and the level of protection afforded by the Regulations remains unchanged. Current EU guidance and case law remain valid.

2 Methodology

2.1 Desk Study

Prior to the site visit a desk-top data gathering exercise was undertaken. The MAGIC website was accessed to search for statutory designated sites within a 1km radius of the Site. The Leicestershire and Rutland Environmental Records Centre (LERC) was contacted for information on bat species records within a 2km radius of the Site.

2.2 Preliminary Roost Assessment

The Site was visited by suitably experienced ecologist, Tamsin Harper (working as an Accredited Agent under N.E. WML-A34 - Level 2 (Class Licence) held by George Burton, registered no. 2015-14474-CLS-CLS), on Thursday 15th of April 2021. The survey took approximately 2 hours and weather conditions at the time of survey were recorded.

The daytime inspection was carried out in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition (BCT, 2016). The survey comprised two parts: an evaluation of suitability for roosting and a search for evidence of bats. The inspection was aided by a one million candlepower torch. Extendable ladders, binoculars. On this occasion, an endoscope was not used due to the lack of potential access points identified.

Bat evidence:

The interior and exterior of the building was systematically searched for evidence of bats including:

- live or dead bats;
- droppings;
- staining from bat urine;
- feeding remains, such as moth wings; and
- an absence of cobwebs on suitable flight lines or access points.

Evaluation of roosting suitability:

This comprised a detailed external and internal assessment of the building to determine the suitability for bats and the likely species, type of roost and numbers of bats the building could support. A number of factors were considered including:

- surrounding habitats – connectivity for flight lines to the building and areas for foraging;
- internal light levels and temperature;
- weather-proof properties;
- building construction;
- potential access into the building (e.g. into a roof void, cavity in brickwork, between tiles and lining); and
- roosting features in roof void (e.g. roof timbers, ridge, wall plate).

Following a systematic survey of the building and consideration of possible factors, each building was assessed as having negligible, low, moderate or high suitability for roosting bats, in accordance with the BCT guidelines.

2.3 Nocturnal Bat Surveys

Two nocturnal bat surveys (one dusk and one dawn) were carried out in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition (BCT, 2016) with an additional survey to capture additional details via infra-red cameras only. Surveyors were positioned to give the best coverage of the building

and potential access points to observe bat activity in the area and identify any bats emerging from or re-entering a roost during the first two surveys. The final survey comprised the positioning of two night vision cameras within the structures on Site to determine emergence and re-entry points within the buildings. The time and weather conditions were recorded at the start and end of each survey (see results section). Dusk surveys started 15 minutes before sunset and continued until 1.5 hours after sunset. Dawn surveys started 1.5 hours before sunrise and continued until 15 minutes after sunrise.

2.3.1 Dusk Emergence Survey

The dusk emergence survey was undertaken on Wednesday the 19th of May 2021 by the following surveyors, led by Leah Tardivel:

Table 1: Survey personnel and qualifications

Map ID	Personnel	Relevant licences held	Relevant survey experience (years)	Equipment used
LT	Leah Tardivel Senior Field Surveyor	-	21	Pettersson 240x
GR	Gemma Retallick Seasonal Field Surveyor	-	-	Magenta Bat5
-	-	-	-	Sony HDR - SR5E 40GB
-	-	-	-	Sony HDR - SR5E 40GB

Locations of surveyors are shown with the results of the survey in Figure 3.

Two cameras were used to focus on the north-east and west elevations (see location in Figure 3). At 21:02 hours these were set to record in night shot mode.

2.3.2 Dawn Re-entry Survey

The pre-dawn re-entry survey was undertaken on Thursday the 10th of June 2021 by the following surveyors, led by Richard Anderton:

Table 2: Survey personnel and qualifications

Map ID	Personnel	Relevant licences held	Relevant survey experience (years)	Equipment used
RA	Richard Anderton Subcontractor	-	10	Pettersson 240x
GR	Gemma Retallick Bsc (Hons) CIEEM member Seasonal Field Surveyor	-	-	Magenta Bat5
SR	Steve Roderick Subcontractor	-	-	Magenta Bat5

A camera was used to focus on the west elevation (see location in Figure 4). At 03:12 hours this was set to record in night shot mode.

2.3.3 *Dusk Emergence Camera Survey*

The camera only, dusk survey was undertaken on Thursday the 22nd of July 2021 at which time Gemma Retallick positioned two night vision cameras within the large barn associated with stable block 1.

2.4 Limitations

There were no significant limitations at the time of survey.

3 Results & Evaluation

3.1 Desk Study

3.1.1 Habitat Connectivity

The immediate landscape surrounding the Site comprised of arable and pastoral fields, plantation and broadleaved woodlands and a number of large waterbodies.

The Site was located 0.54 km east of an unnamed stream which could provide good connectivity to the wider landscape and better foraging habitat. Four distinct waterbodies were located within a 1 km radius of the Site, with the closest one being located 0.47 km south-east of the Site. These waterbodies increase the likelihood of water-associated bat species, such as Daubenton's bats (*Myotis daubentonii*), being present within the surrounding area. They also provide good foraging opportunities for various bat species.

Stapleton Lane was located through the centre of the Site and Bosworth Road was located 0.82 km north of the Site. The noise and light disruption from cars along these roads could deter commuting bat species, however, these roads were minor roads, unlikely to have heavy traffic during peak foraging, emergence, and re-entry times for bats.

Mallory Park Racing Circuit was located 0.39 km east of the Site. However, this is unlikely to disturb roosting bats as it is unused during the periods of peak bat activity.

When considering the surrounding features, the habitat connectivity for the area was considered to be of high potential for foraging and commuting bats and a wide range of other species.

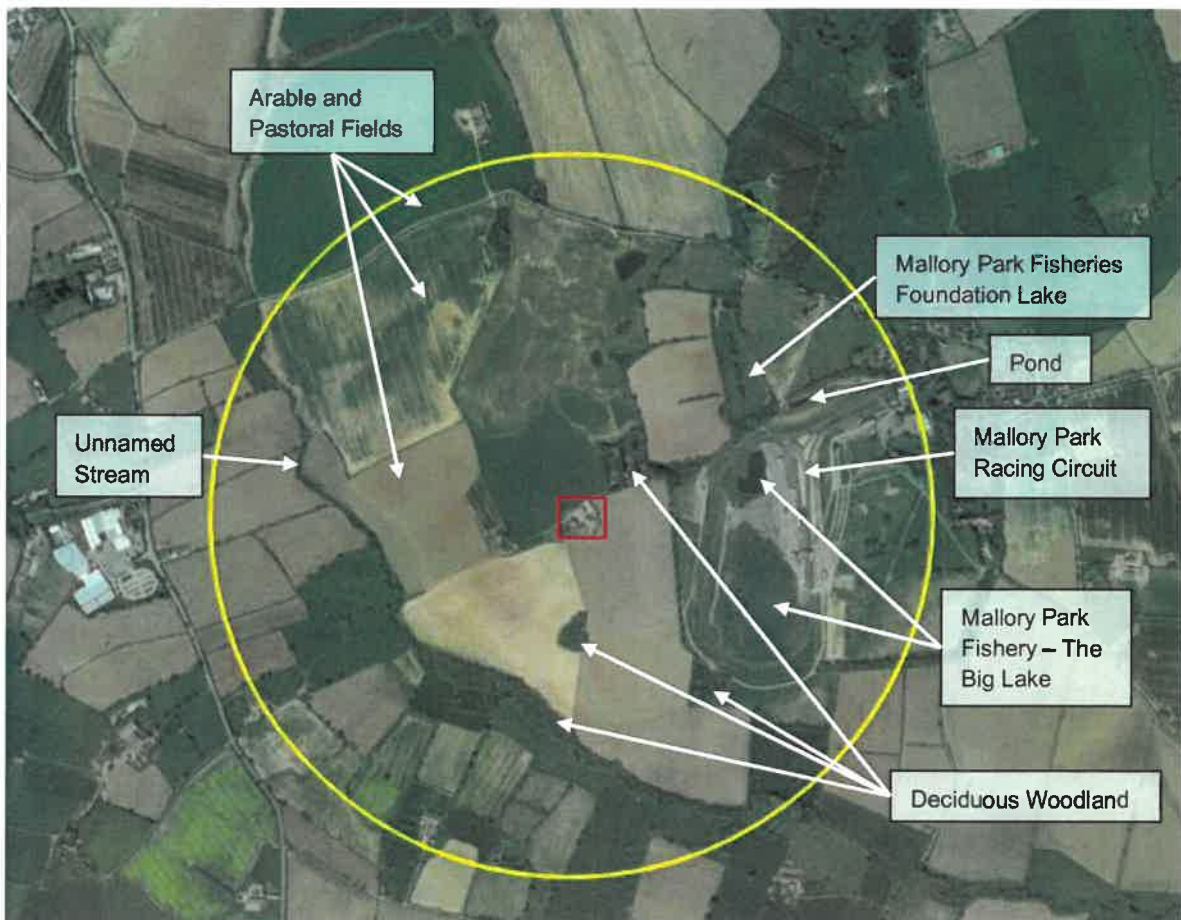


Figure 2: Habitat connectivity features within a 1km radius of the Site.

3.1.2 Bat Records

Table 3: Source – Leicestershire and Rutland.

Species	No. of records	Most recent	Proximity of most recent record to Site.	UK Bap	Local Bap
Brown Long-eared Bat (<i>Plecotus auratus</i>)	7	2017	0.01 km	Y	Y
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	3	2018	0.96 km	Y	Y
Pipistrelle Species (<i>Pipistrelle sp.</i>)	15	2015	1.04 km	N/A	N/A
Bat (<i>Chiroptera</i>)	11	2018	1.05 km	N/A	N/A
Common Pipistrelle (<i>Pipistrellus pipistrellus</i>)	5	2018	1.66 km	N (in England)	N
Nathusius's Pipistrelle (<i>Pipistrellus nathusii</i>)	1	2015	1.88 km	N	N
Noctule Bat (<i>Nyctalus noctule</i>)	2	2015	1.88 km	Y	Y
Nyctalus Bat species (<i>Nyctalus sp.</i>)	2	2015	1.88 km	N	N
Myotis Bat species (<i>Myotis sp.</i>)	2	2015	1.88 km	N	N

3.2 Preliminary Roost Assessment

3.2.1 Weather

The weather conditions during the Site visit on the 15th of April 2021 were as follows:

Table 4: Weather conditions during preliminary roost assessment

Parameter	Recorded Figure
Temperature	12°C
Cloud cover	0%
Precipitation	None
Wind speed (Beaufort scale)	1 – light air

3.2.2 Site Description

The Site consisted of two L-shaped stable blocks and accompanying barn associated with a residential dwelling and large agricultural sheds, with the development focussing on the two stable blocks and accompanying barn. The immediate surroundings consisted of arable fields in all directions with trees adjacent to the Site and plantation and broadleaved woodlands within 200-500m of the Site.

3.3 Building

The two stable blocks and accompanying barn were gable-ended structures occupying mirroring L-shaped footprints. Both stables were comprised of red brick, single-skinned whilst the barn was noted to comprise double skinned-walls walls finished with an interlocking tiled roof, supported by wooden beams and rafters.

3.3.1 Stable Block 1 and Barn

3.3.1.1 External

Stable block 1 was directly connected to the large barn located to the north-eastern corner of the Site. Two further structures were associated with this block, both were constructed of cinder blocks with iron corrugate roofing. Both additional structures were directly connected to the stable block 1 and the associated barn. One structure adjoined stable block 1 from the southern end of the eastern elevation and was found to be in good condition with no potential ingress points (Photo 1) other than those noted around the wooden door, the second abutted the barn from the northern elevation. The iron roof of the second structure was noted to have a large rot hole, allowing open flight access (Photo 2). Further features providing open flight access were identified in both the barn and stable block 1. These took the form of a large open doorway and window along the eastern elevation of the barn (Photo 3), the collapsed roof of the barn from the northern elevation (Photo 4), missing tiles creating a large hole in the roof of the stables from the eastern and western elevation (Photo 5), raised ridge tiles along the roof for ventilation and large ventilation pipes leading directly into the stable blocks from the eastern elevation (Photo 6). Further ingress points suitable for crevice dwelling bat species were noted in the form of cracks in the brick work where the barn adjoined the neighbouring structure to the northern elevation (Photo 7), loose tiles along the roof on both the eastern and western elevations as well as crumbling brickwork and mortar (Photo 8, 9 and 10).



Photo 1: Additional structure



Photo 2: Second cinder structure adjoined to barn along northern elevation.



Photo 3: Open doorway and window along eastern elevation of the barn.



Photo 4: Collapsed roof of barn from northern elevation.



Photo 5: Missing tiles in stable 1 roof from eastern elevation.



Photo 6: Ventilation pipes in walls of stable 1 from eastern elevation.



Photo 7: Cracks in brickwork between barn and adjoining cinder structure.



Photo 8: Crumbling brick work along barn roof.



Photo 9: Crumbling brick work from western elevation.



Photo 10: Missing mortar in barn roof from eastern elevation.

3.3.1.2 Internal

Both stable block 1 and the barn were noted to provide light sampling opportunities within the structure and open flight access out into the surrounding environment due to the partition walls creating each stable compartment extending only 6ft from the floor, leaving a large open roof space and holes in the roof created by missing tiles (Photo 11). Both the barn and stable roof structures were comprised of beams and rafters with occasional joists which may provide roosting opportunities for larger bat species such as brown long-eared bats. The structure of the roof provided some opportunities for crevice dwelling species of bats, however, the roof was unlined allowing for extreme temperature fluctuations within both the barn and the stable blocks.

Five active swallow nests were identified within stable block 1 and the barn (Photo 12).



Photo 11: Open roof space created within stable block 1 and hole in roof.



Photo 12: Swallow nest within roof space of stable block 1.

3.3.2 *Stable Block 2*

3.3.2.1 *External*

Stable block 2 mirrored that of stable block 1, associated with a small car port constructed of cinder block with a iron corrugate roof along the western-most side of the northern elevation. Stable block 2 appeared to be in better condition than stable block 1 with minimal damage to the walls and roof. However, loose and occasional missing tiles were noted along the roof of stable block 2 from the western elevation, the stable doors allowed open flight access into three of the stable compartments from the eastern elevation and the raised ridge tiles were present again.

3.3.2.2 *Internal*

The internal structure of stable block 2 was in good condition although did display gaps in the unlined roof. Much like stable block 1 the stable compartments were created using 6ft high partitioning walls creating open flight space.

Stable block 2 was also noted as being important for swallows as two nests were identified within the rafters of the roof space.

Overall, both stable block 1 and 2 and the associated barn were considered to provide moderate roosting potential for bats although no evidence of bats, such as droppings, feeding remains, urine stains or fur marks, were found during the internal or external surveys. However, temperature fluctuations between seasons are likely to be high due to the derelict state of the structures so it is unlikely to be suitable for hibernation roosting. The site has good connectivity to suitable foraging and commuting habitats. In line with BCT guidance (Collins, 2016) for moderate potential buildings, two follow up emergence / re-entry surveys and a further camera emergence survey were undertaken to identify the presence and location of bat roosts, if any. Due to lack of sufficient detail to fully characterise the roost in these two surveys, a further dusk was undertaken.

Potential for roosting bats: Moderate

3.4 Bat Activity Surveys

Following the results of the initial bat survey, two bat activity surveys were carried out to encompass stable block 1 and the associated barn (X) and stable block 2 (Y).



Figure 3: Stable block 1 and 2 from aerial view.

3.4.1 Dusk Emergence Survey

The dusk emergence survey was undertaken on the 19th of May 2021, using two surveyors and two night vision cameras. Sunset was at 21:02 hours.

Table 5: Weather conditions during the dusk survey on 19.05.2021.

Parameter	Start	End
Time	20:48 hours	22:32 hours
Temperature	9°C	7°C
Cloud cover	90%	80%
Precipitation	0%	0%
Wind speed (Beaufort scale)	4 – Moderate Breeze	4 – Moderate Breeze

Common pipistrelle (*Pipistrellus pipistrellus*) were continuously active, passing and foraging near the buildings and going in and out of the stable blocks. Two possible emergences were noted, near the window and holes in the roof in the right corner nearest Stapleton Lane, north-eastern elevation. Soprano pipistrelles (*Pipistrellus pygmaeus*) were recorded but not seen.

Please refer to figure 3 below for the results.



3.4.2 Dawn Re-Entry Survey

The dawn re-entry survey was undertaken on the 10th of June 2021, using three surveyors and one night vision camera. Sunrise was at 04:42 hours.

Table 6: Weather conditions during the dawn survey on

10.06.2021.

Parameter	Start	End
Time	03:12 hours	04:42 hours
Temperature	9°C	8°C
Cloud cover	85%	85%
Precipitation	0%	0%
Wind speed (Beaufort scale)	3 – Gentle Breeze	3 – Gentle Breeze

Multiple common pipistrelle (*Pipistrellus pipistrellus*) were seen passing continuously for most of the morning, with some foraging. Indeterminate bats (*Chiroptera sp.*) were heard by all surveyors but not seen. Four possible and six confirmed re-entries were seen near the right corner closest to Stapleton Lane, on the north-eastern elevation of the building, all common pipistrelles. No bats were seen after 04:00 hours.

Please refer to figure 4 below for the results.



KEY

- E** : Entry
- ?E** : Possible Entry
- ▲** : Night vision camera position
- ★** : Surveyor position
- : Common Pipistrelle

Figure 4: Bat Activity Map - Dawn on 10.06.2021

Project: 2021-03(15)

Date: 01.07.2021

Scale: Not to scale

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3.4.3 Dusk Emergence Survey

The dusk emergence camera survey was undertaken on the 22nd of July 2021, using two night vision cameras. Sunset was at 21:13 hours.

Table 7: Weather conditions during the dawn survey on 22.07.2021.

Parameter	Start	End
Time	20:58 hours	22:43 hours
Temperature	19°C	18°C
Cloud cover	30%	30%
Precipitation	0%	0%
Wind speed (Beaufort scale)	2 – light Breeze	2 – light Breeze

More than 10 individual sightings of indeterminate bats were identified on camera 1. Three of these were identified entering the building via the open hay loft door and 5 emerged from the building via the hay loft door. The behaviours displayed indicated foraging and / or light sampling within the western area of structure X on the below plan. The flight pattern was indicative of pipistrelle species. No emergence points within the structure were identified. Camera 2 returned no bat activity.

Please refer to the following insert for the results.



KEY

- E: Emergence
- ▲: Night vision camera position
- 2E: Possible Emergence
- : Indeterminate bat

Figure 5: Bat Activity Map- Dusk 22/07/2021

Project: 2021-03(15)

Date: 04.08.2021

Scale: Not to scale 2018

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4 Discussion & Conclusions

The preliminary roost assessment (PRA) indicated the buildings had moderate potential for roosting bats, however no evidence of bats was identified at the time of the survey. Dusk emergence and dawn re-entry surveys of the structures identified two possible emergences of unidentified bat species (likely pipistrelle species given the activity recorded) associated with stable block 1 and the barn (19th May 2021), four possible and six confirmed re-entries associated with the north-eastern elevation of stable block 1 and the associated barn (10th June 2021) and likely pipistrelle species identified foraging or light sampling² within stable block 1 on the camera survey (22nd July 2021). Given that the activity recorded on the dawn survey, in line with the dusk, predominantly comprised common pipistrelle species, it is reasonable to assume that the entries observed were associated with this species. No potential roosting behaviour was recorded in association with stable block 2 during any of the surveys.

Although the precise roost feature or features were not identified during the surveys, the observations of behaviour associated with roosting bats points to the presence of small numbers (peak count of six) of common pipistrelle bats using stable block 1 and the associated barn for day roosting purposes. Common pipistrelle bats are common and widespread; therefore, the Site is considered to be of local value for this species in addition to brown long-eared bats which have been recorded within 100m of the Site.

As roosts have been identified, the proposed demolition of stable block 1 and the associated barn will result in the destruction of these roosts and a Natural England derogation licence is therefore necessary for demolition works to proceed legally. Details of any licence requirements and recommended mitigation can be found in sections 9 and 10 below and will allow the works to proceed in a sensitive manner, avoiding harming or injuring the bats and securing replacement roosting opportunities in the replacement dwellings for the longer term, such that the favourable conservation status of these bat species in the locality should remain unchanged.

Whilst roosting behaviour has not been identified associated with stable block 2, given the potential for bats to use this structure and the confirmed presence of bats nearby, associated with stable block 1 and the barn, their presence and future potential to use stable block 2 for roosting cannot be discounted and a precautionary approach to this building should be adopted during the demolition phase.

Bats are highly mobile and when not in hibernation can occupy a building opportunistically for a few minutes, a day or overnight. It is essential therefore that due vigilance be maintained before and during any works to ensure their protection. The lack of evidence of more significant roosting at this stage does not constitute confirmation that this is not taking place intermittently or may not take place in the future. Please note that if a bat mitigation licence from Natural England is not secured immediately with demolition works completed before April 2022, it is likely that an application to Natural England will need to be supplemented with additional bat activity surveys between May and early August.

Derogation Licence or Method Statement

Under The Conservation of Habitats and Species Regulations 2017 it is an *absolute offence* to damage or destroy a bat roost. The Regulations fully protect bats and their breeding sites or resting places, making it an offence to:

- deliberately capture (take), injure or kill bats;
- deliberately disturb bats; and
- damage or destroy a bat breeding site or resting place.

In addition, the Wildlife & Countryside Act 1981 (as amended) (WCA) makes it an offence to intentionally or recklessly:

- disturb any bat whilst it is occupying a structure or place which it uses for shelter or protection; and
- obstruct access to any structure or place which any bat uses for shelter or protection.

The proposal was assessed against these criteria and it was concluded that the demolition of buildings would constitute destruction of the roosts and would, therefore, be **licensable**.

² Light sampling refers to behaviour observed by many bat species whereby they are seen at dusk to fly around the internal roost void of a structure (e.g. barns, churches, bridges) before emerging from the building or structure, where they often fly around as light levels decrease (often with brief foraging behaviour) and then return to the roost structure again. This is repeated until a certain point is reached and the bats disperse away from the structure to commence foraging away from the roost.

A licence application in respect of bats must be made to Natural England in order to ensure that the proposed works are conducted in a legal manner. Further details are provided in section 10 below but please note that a licence application can only be made once planning permission has been granted and any relevant planning conditions have been discharged. Please note: Natural England generally take a minimum of 30 working days to respond to a licence application and should a re-application or further information need to be made then this would incur the potential for a further minimum delay of 30 working days before a decision is issued.

In addition, due to the presence of nesting birds within the buildings on Site due diligence prior to and during works is recommended.

5 Mitigation & Compensation

5.1 Bats

Certain mitigation in respect of day roosts of common pipistrelle bats at the site will be required. The following mitigation is based on a licence application being made to Natural England immediately, but if demolition works are delayed past April 2022, it is advised that updated bat activity surveys of the site be undertaken May–early August in order to inform a licence application. On the basis of the current information, mitigation for day roosts of common pipistrelle should include:

5.1.1 *Install temporary boxes*

In advance of any works to any building commencing, and to ensure that bats are not left without a roost during the course of the works, no works will commence until three temporary bat boxes, suitable for pipistrelle species, have been erected within the immediate vicinity of the buildings on a retained tree or suitable structure to which any bats found during the works can be translocated. The boxes will be orientated south or east facing, at a minimum height of 3.5m from the ground and away from sources of artificial lighting.

In addition, in advance of any works buildings that may be considered potentially disturbing to birds, a check for nesting birds will be made by a suitably qualified Ecologist. Should evidence of nesting birds be noted, no disturbing works should take place within 5 metres (species dependent) until all chicks have fledged.

5.1.2 *Dismantling of the roof under supervision of a licensed ecologist*

A watching brief by a Licensed Bat Worker will be commissioned during the course of any roof stripping works and works to any potential roost features associated with all buildings. Such works will be undertaken upon the instructions of the Licensed Bat Worker and involve a 'soft-strip' of roof tiles, until demolition works have reached such a stage that the Bat Worker is confident that no bat presence is likely to be identified beyond that point. Any bats found during the course of this process should be taken into the care of the Bat Worker and released into the already sited bat boxes. Should more bats be found than are approved on the Natural England licence, works would have to cease whilst Natural England are contacted for advice on how best to proceed. This can occasionally happen as bats do move roosts regularly and sometimes more bats are found during the roof strip than were observed on the dusk or dawn surveys.

5.1.3 *Sensitive timing of works*

Timing of works are to be set out in the licence application to Natural England. It is not considered *absolutely necessary* to avoid works during the summer months as no maternity roost of bats was found, although this is a strong preference for minimising impacts to the bats. Timing of works are therefore *preferred* between March and April or mid-August and September of any given year. Hibernation opportunities are considered to be low. If there were other works to be undertaken that would not constitute disturbance to bats (seek advice from an ecologist) then these may proceed without timing restrictions, albeit they may be subject to other planning conditions.

5.1.4 *Permanent replacement roosting opportunities*

During the construction of the replacement building(s), it is advised that integrated bat roosting features are included – the European Protected Species licence application documents will detail proposed features, which are likely to comprise either bat access tiles and/or wall-mounted bat boxes. The licensed ecologist will conduct a site visit to ensure that these are installed correctly. Bitumen 1F roofing felt must be utilised to line the roof of any replacement building(s), as non-bituminous roofing membranes have been found to fray over time, causing bats to

become entangled and die within the fibres. Non-bituminous linings will not be permitted as part of bat licensed projects by Natural England or where bat roosts have been confirmed, for this reason.

5.1.5 Artificial lighting

The use of artificial lighting can lead to significant adverse effects (disturbance) to bats. Any lighting to be installed at the Site should be designed to minimise impacts by following the Bat Conservation Trust's guidance³ on lighting. This must include the avoidance of any artificial lighting being directed upon new bat roosting features.

5.1.6 Monitoring

As there are day roosts of common species on Site, no monitoring is required.

5.2 Birds

Evidence of nesting swallows were recorded during the surveys, therefore there remains a good suitability for birds to access all buildings and nest under tiles, and within the building itself. The majority of species of nesting bird are protected under the Wildlife & Countryside Act 1981 and as amended by the Countryside & Rights of Way Act 2000. The site should therefore be surveyed for nesting birds prior to commencement of works by a person competent to do so and due vigilance also be maintained during construction to ensure that no breeding birds are disturbed during the construction process should nesting commence thereafter. Birds typically nest between March and September inclusive though some species will nest at any time of year. If evidence of nesting birds is found, no works should be undertaken that may cause disturbance until after all the chicks have fledged.

5.3 Enhancement Opportunities

The National Planning Policy Framework paragraph 180d states that "opportunities to improve biodiversity in and around developments should be integrated as part of their design". As such, opportunities to incorporate landscape features and bird boxes as part of any new development should be explored in conjunction with an ecologist.

³ Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

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