

BAT SURVEY REPORT

10 LINLEYS, GASTARD

Client: Matt Bollen

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10 LINLEYS, GASTARD: BAT SURVEY REPORT

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SUMMARY

The owners of 10 Linleys in Gastard are seeking to renovate a barn in the grounds of the house, which will require work to the roof and walls. Bengrove Ltd were asked to undertake a Preliminary Roost Assessment for bats to determine whether any bat roosts are likely to be affected by the proposed work.

The property was inspected by an experienced surveyor on 30th of July 2025. The barn has several places where small numbers of bats could roost and overall, it has moderate roosting potential.

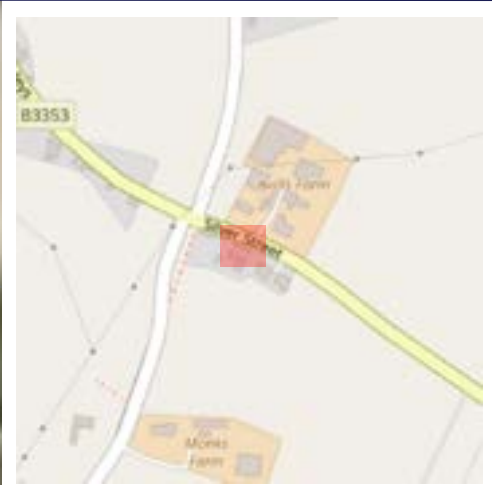
Two evening emergence surveys were carried out, on the 15th and 27th of August, which confirmed that the barn is not used as a roost. Care should be taken during any works to the barn as there are places that individual crevice-dwelling bats could roost. The barn should be re-inspected prior to the work commencing, and care should be taken when removing the tiles.

The project could ensure a net gain in bat roosting sites by providing two new bat boxes for crevice-dwelling bats, either built into the fabric of the new structure or on the outside of one of the nearby buildings.

1. INTRODUCTION

1.1. Scope and Purpose of the Report

- 1.1.1 Bengrove Ltd was commissioned by Matt Bollen to undertake a Preliminary Bat Roost Assessment of a barn at 10 Linleys in Gastard near Corsham, which was completed on the 30th July 2025. The roost inspection did not find any evidence of bats, but the barn had **moderate roosting potential**.
- 1.1.2 The owners of the property are seeking to renovate the barn, which will require work to the roof and walls. Therefore, **two evening emergence surveys** were carried out in August 2025 to determine if any bats use the barn.
- 1.1.3 This report sets out the results of the surveys and provides recommendations based on those results.



Project	10 Linleys, Gastard
Client	Matt Bollen
Title	Site Location Plan
Date	30/09/2025
Suitability	For issue
CRS	OSGB36 / British National Grid
Scale	1:200
QGIS	3.44.2-Solothurn



2. SURVEY METHODS

The survey methods followed those set out in the Bat Conservation Trust's guidelines and made use of the latest thermal imaging cameras and analysis software. The site layout, barn location, emergence survey camera positions, and still images of their fields of view, are all shown in the **PRA Viewpoints Plan** (overleaf).

2.1. Roost Inspection

2.1.1 Following the guidance and information in Collins et al. (2023) the barn was surveyed on the 30th of July 2025, with the aim of assigning it to one of the following roosting potential categories:

- **None:** No habitat features likely to be used by roosting bats at any time of year;
- **Negligible:** No obvious features, but a small element of uncertainty remains as bats can use apparently unsuitable features on occasion;
- **Low:** One or more potential roost sites that could be used by individual bats opportunistically, but which are unlikely to be used regularly by large numbers of bats;
- **Moderate:** One or more potential roost sites that could be used by several bats, but which are unlikely to be roosts of high conservation status;
- **High:** One or more potential roost sites that are obviously suitable for use by larger numbers of bats on a regular basis e.g. as maternity or hibernation sites.

2.1.2 The barn was inspected from ground level using a high-powered torch and binoculars. The exterior surfaces were systematically searched for potential roosting features, access points or evidence of bats (such as droppings or staining). The search for evidence included the ground around the edge of the barn, the floor inside the barn and the surfaces of objects stored in the barn. The surveyor was able to view the entire perimeter of the buildings.

2.1.3 The interior of the building was also searched for droppings, feeding remains or other signs of roosting, or areas where bats could roost. The survey was carried out by Matt Davies BSc, MSc, MCIEEM, an experienced ecologist with over 20 years' experience as an ecological consultant.

2.2. Bat Emergence Surveys

2.2.1 Two surveys were designed to answer these key questions about bat roosting:

- Are any bats roosting in the barn



 Mouse over for survey photos

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- If so, how many bats and which species
- Where are the roosts and access / egress points
- What type of roost does the barn support
- What flight lines do bats use to access / exit the roost

2.2.2 The first survey was completed on the 15th August 2025 by an experienced surveyor, using the following equipment:

- To ensure the best possible chance of detecting roosts and identifying bats, the latest thermal imaging cameras were used, specifically three **FLIR A70 thermal imaging cameras** with 51-degree fields of view, connected to a tablet equipped with FLIR's Research Studio software to record video files in GigE format, which provide thermal images suitable for further analysis (as opposed to the video files recorded by most other devices). The cameras were mounted on tripods and positioned to record footage of the three main potential roosting areas: the south-facing roof pitch and both internal gable walls, as shown in the PRA Viewpoints Plan.
- One **Nightfox Whisker Infra-red night vision camera** set to record to video files. Initially the unit was set to record in natural light, with the infra-red light switched on later as visibility decreased. The unit was set to video mode to record footage in high resolution (16MP; 4K; 10FPS). The unit was set on a tripod and positioned to give a field of view covering the rear wall, which had lower potential to be used as a roost than the other features.
- One **SM Mini static bat detector** left in the barn for the duration of the survey. This allowed for emergencies seen by surveyors or detected in the post-survey analysis to be synchronised with the timed calls on the detectors, and the species identified.
- An **EM Touch full spectrum detector** attached to an iPhone equipped with the EchoMeter app was also used to enable detection of species during the



Photo 2-1: Thermal camera setup with video recording software

surveys and aid the interpretation of bat activity. The surveyor watched key positions and moved around the site to observe bat activity.

2.2.3 The night vision equipment was used in the ‘thermal survey method’ described in the Bat Conservation Trust’s survey guidelines for thermal imaging (produced by Dr Kayleigh Fawcett Williams) as opposed to the ‘survey aid’ mode. In accordance with this guidance, the purpose of the night vision aids was to identify roosts and flight lines, and the acoustic recording and detection equipment combined with the surveyor observations were used to enable identification of species.

2.2.4 Outputs from the thermal cameras were analysed using FLIR Research Studio Professional software (version 2025.04.2). An example image is shown in **Photo 2-2**, and an example temporal plot is shown in **Photo 2-3**. The imagery was processed as follows:

- A ‘**region of interest**’ (ROI) is delineated around the potential roosting feature (these are shown as red outlines on the images in **Appendix 1**). The ROI includes the potential roosting feature and a certain amount of the surrounding area.
- **Analysis filters** within the software were set to ‘Window Average’ and ‘Sliding Subtraction’ to track any temperature differences observed from frame to frame throughout the footage, and the Image Enhancement was set to PE mode.
- A **temporal plot** is created using these filters. The output shows any temperature spikes within the ROI. These spikes can be where bats or birds fly across the ROI or because a bat emerged from the feature, but the software and camera combination is sensitive enough to also pick up insects such as bumblebees. Generally, insects can be differentiated from bats due to the size difference, the alternative flight patterns, and because of the difference in the temperature spike: bat activity tends to spike at around 5 degrees difference, whereas insects are closer to 2 degrees temperature difference.
- The **temperature spikes** from the temporal plot are then used as a guide to highlight sections of footage that require investigation. Each section is analysed, using a variety of filters and image enhancements, until it can be discerned whether a bat emerged from the feature.
- For each survey, a **sample image** is provided below, which shows the ROI.

2.2.5 The second survey was completed on the 27th August 2025, using the same methodology. The weather conditions for both surveys are set out in **Table 2-1**.

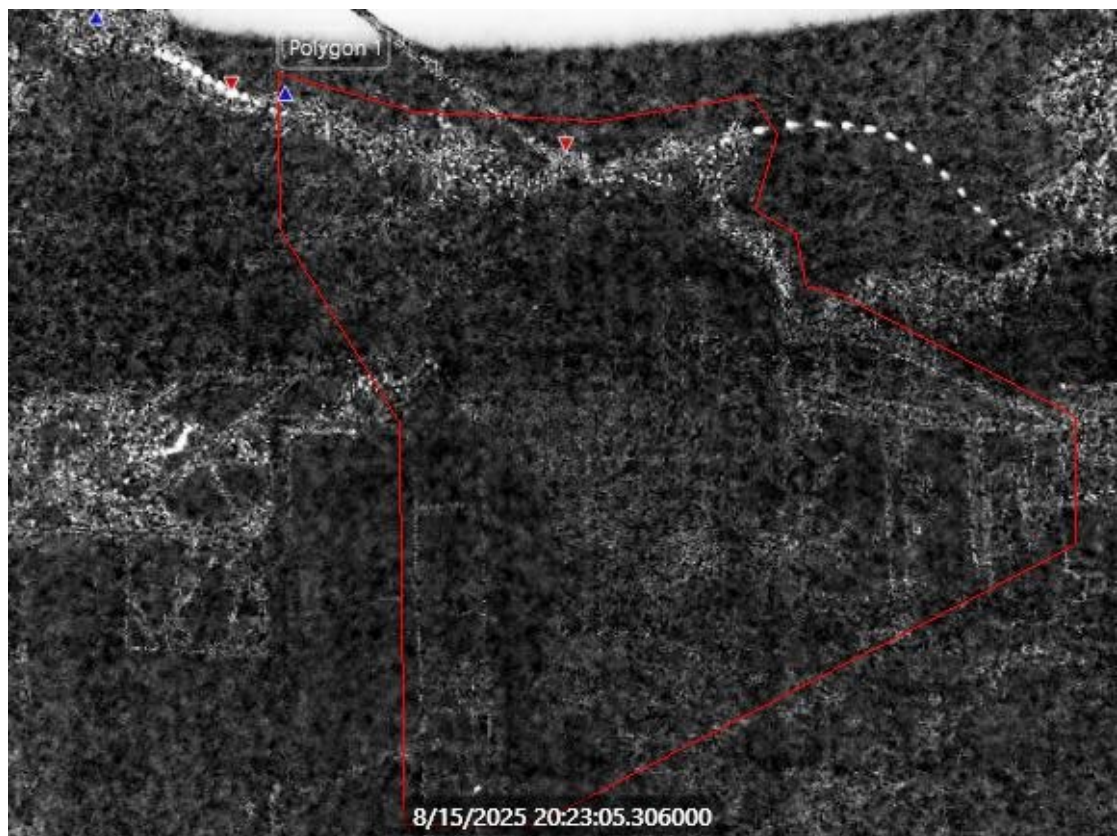


Photo 2-2: example output from image analysis, with bat flight path traced

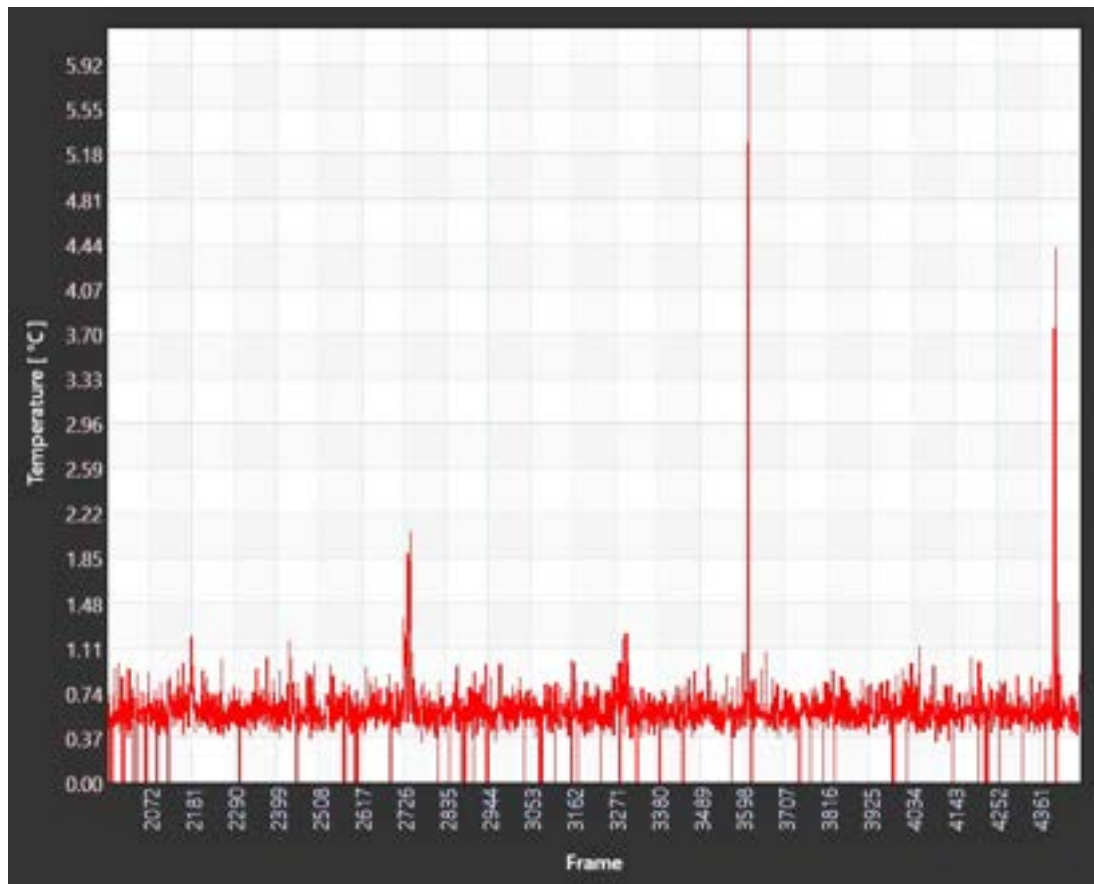


Photo 2-3: example temporal plot showing spikes representing bat passes

Table 2-1: Weather Conditions During Surveys

Survey Date	Sunset Time	Survey Start / End Time	Start Temp / End Temp (in °C)	Rain / Wind / Cloud
15 th August 2025	20:32	20:00 / 22:00	23 / 21	0 / 0 / 1
27 th August 2025	20:07	19:40 / 21:37	14 / 12	1 / 0 / 2

2.3. Limitations

- 2.3.1 The surveys were completed in August. Typically, at this time of year, female bats and their young are beginning to leave maternity roosts, and mating behaviour may be starting in non-maternity roosts. Two surveys at this time of year are therefore well suited to capturing this late-season behaviour but could miss roosts used earlier in the season. Whilst this might leave uncertainty over whether a maternity roost has been missed in some circumstances, the barn does not have any spaces suitable for maternity roosts so the risk is much reduced.

3. RESULTS

3.1. Building Description

- 3.1.1 The site is located between Corsham and the smaller settlement of Gastard in Wiltshire. This region is known for supporting a wide range of bat species, and some of the UK's rarer species are present in Wiltshire. For example, Box Mine Site of Special Scientific Interest, which is part of the Bath and Bradford on Avon Bats Special Area of Conservation, is 3.5km west of the site. Box Mine supports an important population of greater horseshoe bats (*Rhinolophus ferrumequinum*) as well as other species including lesser horseshoe bats (*Rhinolophus hipposideros*).
- 3.1.2 The barn has stone walls supporting a tiled roof with a single pitch. The front (facing to the south) is completely open and the roof on this side is supported on steel beams with timber uprights.
- 3.1.3 The roof tiles rest on timber battens and the roof is lined with bitumen roofing felt. The felt is ripped and falling away in places between the wooden rafters and purlins.



Photo 3-1: front (south facing) elevation of the barn

- 3.1.4 The Preliminary Roost Assessment noted the potential for bats to roost between the tiles and the roofing felt, in damaged areas of the internal gable walls, and amongst masonry gaps on the rear elevation.
- 3.1.5 The interior space of the barn could be explored by foraging bats at night and could be used as a feeding perch by species such as brown-long-eared bats, albeit there were no feeding remains. It is too open and well-lit to be used as a day roost.

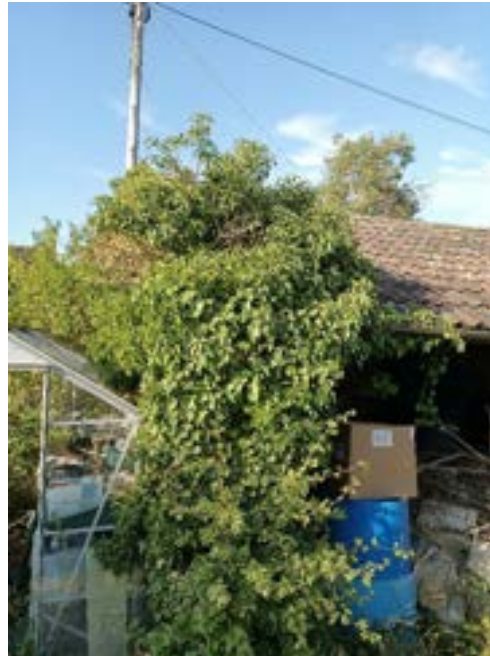
3.1.6 The potential roosting features in the fabric of the building could be used by small numbers of crevice-dwelling bats such as pipistrelles, but there are no open voids that would be used as day roosts by species such as brown long-eared bats or horseshoe bats. The space between the roof tiles and the bitumen felt is a typical roosting site and on some buildings this type of feature can be used by several bats or even maternity colonies. However, in this case the poor state of the felt and the loose tiles mean that much of the potential roosting space is open to the weather and less likely to be used for such an important roosting function. The absence of linear features leading to and from the barn, and the absence of tree cover over the barn, also reduce the likelihood of bats roosting here.



Photo 3-2: the immediate surroundings of the barn

3.1.7 Considering the context of the site, the type of potential roosting features and the condition of the barn, it would be classified as having moderate roosting potential.

Table 3-1: Preliminary Roost Inspection Results

Target Note	Description	Photo
TN1	Ivy covering the north-west gable end of the barn. The ivy stems are not thick enough to provide a roosting place, but they could obscure cavities in the stonework where bats could roost.	

Target Note	Description	Photo
TN2	One of the ridge tiles is slightly lifted and there is a gap that could allow bats to crawl underneath it to roost.	

Target Note	Description	Photo
TN3	There is a vertical crack in the stonework in the north-west corner of the barn. Most of this is exposed and unlikely to be used by bats but there are small areas where individual bats or small numbers of bats could roost.	

Target Note	Description	Photo
TN4	There are tears and gaps in the bitumen roofing felt that would allow bats to crawl into the gap between the felt and the tiles	

Target Note	Description	Photo
TN5	There is a gap between the end rafter and the wall: small numbers of bats could crawl into this space to roost	

Target Note	Description	Photo
TN6	The tiles on the rear roof pitch are mostly gap-free, but there are many small gaps in the mortar joints where small numbers of bats could roost	

3.2. Static Detectors

- 3.2.1 The static detectors recorded calls from serotines, Leisler's bat, noctules and common pipistrelles.

3.3. Emergence Survey 1

- 3.3.1 The observations of bat activity from the first emergence survey are listed in **Table 3-2**. Several bats flew over the site during the survey, but none were seen to emerge from anywhere on the barn. Serotines were flying low over the site, commuting towards open space and trees off-site. These bats were seen not long after sunset and may be roosting nearby (but not in the barn). Later in the survey there was some pipistrelle activity – bats flew overhead, and one flew into and out of the barn on its way through the yard.
- 3.3.2 Post-survey analysis of the thermal imagery confirmed that no bats emerged from anywhere on the barn.

Table 3-2: Emergence Survey 1 Observations

Project Name	Date	
10 Linleys	15/08/25	
Start Time	End Time	Duration
20:00	10:00	2hrs
Start Temp	End Temp	Wind / Rain/Cloud
23 deg	22 deg	0/0/1
Species	Time and Map Ref	Notes
Noctule	20:35	Flew high across the site west to east
Little Owl	20:48	Calling from trees to west of house
Noctule	20:49	Flew high above site from NW to SE
Noctule	20:56	Heard not seen
Noctule	20:59	Foraging high overhead to north
Serotine	20:59	Flew overhead from east to west at 3m heading towards trees to west of house
Serotine	21:01	Foraging around barns to south of the surveyed barn at 2m
P45	21:02	Flew into barn from south

Project Name	Date	
P45	21:04	Heard not seen
Serotine	21:09	Foraging over barn, garden and yard at 2m
Noctule	21:14	Foraging high overhead
Leisler's	21:15	Heard not seen
Noctule	21:17	Heard not seen
Noctule	21:18	Heard not seen
P45	21:34	Heard not seen
P45	21:36	Heard not seen
Leisler's	21:38	Heard not seen
P45	21:39	Heard not seen
Noctule	21:49	Heard not seen
P45	21:56	Heard not seen
P45	21:59	Heard not seen

3.4. Emergence Survey 2

- 3.4.1 The observations from the second emergence survey are described in **Table 3-3**. The levels of activity and species diversity were similar to the first survey. Post-survey analysis of the thermal imagery confirmed that no bats emerged from anywhere on the barn

Table 3-3: Emergence Survey 2 Observations by Surveyor 1

Project Name	Date	
Gastard	27/08/25	
Start Time	End Time	Duration
19:40 (sunset @ 20:07)	21:37	1:57
Start Temp	End Temp	Wind / Rain / Cloud
16	14	1 / 0 / 2
Species	Time and Map Ref	Notes
P45	20:00	Heard not seen
Unknown	20:19	Not heard seen on camera TVE014
P45/P55	20:30	Flew overhead to the east
Serotine	20:33	Flew overhead to the east
P45	20:41	Heard not seen
P45	20:46	Heard not seen
P45	20:48	Heard not seen
P45	20:55	Heard not seen
P45	20:57	Heard not seen
Greater Horseshoe	20:58	Heard not seen
P45	21:00	Heard not seen
Greater Horseshoe	21:05	Heard not seen
P45	21:12	Heard not seen
Myotis	21:20	Heard not seen
P45	21:21	Heard not seen
P45	21:26	Heard not seen

Table 3-4: Emergence Survey 2 Observations by Surveyor 2

Project Name	Date	
Gastard	27/08/25	
Start Time	End Time	Duration
19:40 (sunset @ 20:07)	21:37	1:57
Start Temp	End Temp	Wind / Rain / Cloud
16	14	1 / 0 / 2
Species	Time and Map Ref	Notes
Noctule	19:52	Heard not seen
P45	20:04	Heard not seen
P45	20:12	Heard not seen
Noctule	20:15	Heard not seen
P45	20:31	Heard not seen
P45	20:33	Heard not seen
P45	20:35	Heard not seen
Epster	20:35	Heard not seen
Common Serotine	20:36	Heard not seen
P45	20:46	Heard not seen
Common Serotine	20:47	Heard not seen
P45	20:50	Heard not seen
P45	20:53	Heard not seen
P45	20:55	Heard not seen
P45	20:58	Heard not seen
P45	21:00	Heard not seen
P45	21:02	Heard not seen
P45	21:03	Heard not seen
Brown Long Eared	21:04	Heard not seen
P45	21:05	Heard not seen
P55	21:09	Heard not seen
P45	21:15	Heard not seen
P45	21:16	Heard not seen
P45	21:21	Heard not seen
P45	21:22	Heard not seen
Common Serotine	21:23	Heard not seen
P45	21:26	Heard not seen
P45	21:28	Heard not seen
Nathusius Pip	21:33	Heard not seen

4. CONCLUSIONS

- 4.1.1 There was no evidence of bats roosting in the barn, despite there being places where crevice-dwelling bats could roost. The surveys are sufficient to conclude that the barn is not used as a roost, however as with all such surveys there remains the possibility that the features could be used by bats.
- 4.1.2 In order to mitigate the residual risk that a bat roost could be damaged or a bat harmed during the planned work to the barn, an updated inspection should be completed immediately prior to the work. This should consist of a thorough inspection of all potential roosting features by a suitably licenced ecologist using an endoscope. Assuming no evidence of bats is found the work would be able to proceed with caution, without an Ecologist needing to be present: the roof tiles should be removed carefully and checked underneath for signs of bats. In the unlikely event that any evidence of bats is found, work in that area should stop and an Ecologist should be consulted before proceeding. The Ecologist would check the area and advise whether a bat licence is required.

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APPENDIX 1 – SAMPLE SURVEY IMAGES



Photo 4-1: bat flying over in the distance



Photo 4-2: bird flying over the barn



Photo 4-3: serotine swooping down in front of barn



Photo 4-4: common pipistrelle flying into barn

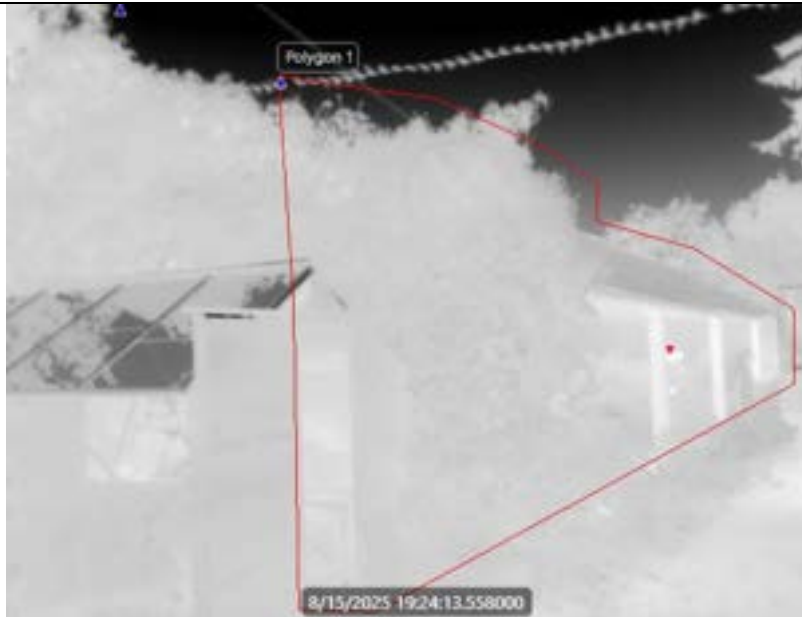


Photo 4-5: serotine flying overhead

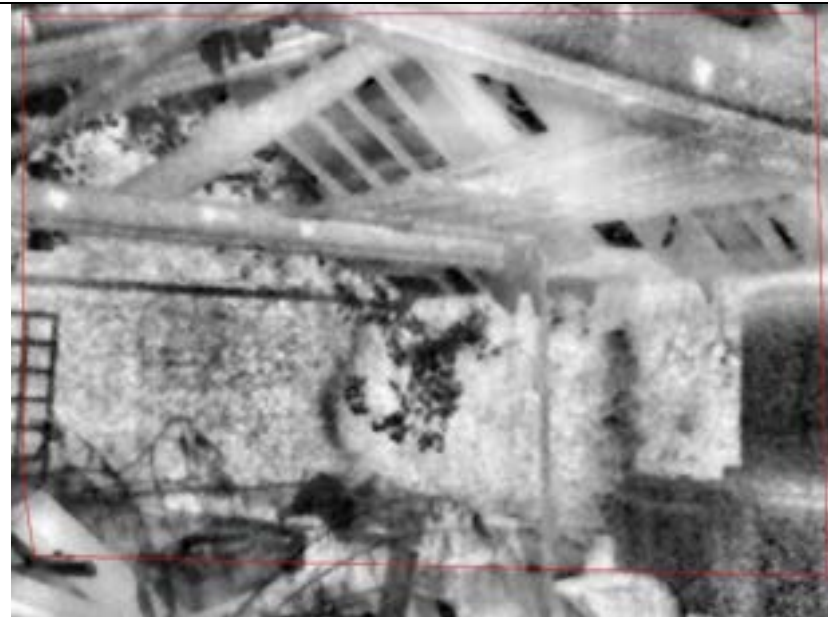


Photo 4-6: view inside the barn



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