



Bat Survey Report Stephen Park, Gisburn Forest, Lancashire

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1 INTRODUCTION

Background

- 1.1 Flight Ecology were commissioned by Forestry England to undertake a bat survey of Stephen Park, a residential centre within Gisburn Forest, in Lancashire. The proposed works comprises the repairing of the roof around the existing chimney, where the lead flashing has become dislodged.
- 1.2 This survey was therefore conducted to assess the site's potential for supporting roosting bats and to inform any necessary ecological considerations as part of the repair process.

Survey Objectives

- 1.3 The purpose of the survey was therefore to:
 - Identify whether bats are roosting within internal or external features of the building proposed for development;
 - Identify any access points within external features of the building;
 - Assess the value of habitats on and off site for their potential as bat foraging and commuting habitat;
 - Assess the potential for bats to be roosting within the remaining areas of the building;
 - Make recommendations regarding appropriate avoidance, mitigation or compensation measures.
- 1.4 The instructed works entailed an inspection followed by two dusk emergence surveys.



Site Description

- 1.5 The survey site is a moderate-sized house and attached barn conversion that lies within the southern end of Gisburn Forest, a large area of plantation forestry, located in north-west Lancashire.
- 1.6 The site lies within a relatively small open area, amongst the well-established forestry parcels. Immediately to the north is an open field, while to the south lies an area of gravel hardstanding followed by a wet grassland area. The site is used as visitor facilities for Forestry England and therefore there is a car park to the south-west and some activity facilities nearby. The survey buildings themselves are used as residential areas for groups staying within the forest.
- 1.7 Given the location, there is naturally an abundance of trees in the area; these are mostly commercial conifers. Within the open clearing around the survey building are occasional mature deciduous trees. The nearest open water are some small ponds to the south of the survey building, although Stocks Reservoir, a large open waterbody, lies 900m to the west. The nearest identified watercourse is Bottoms Beck, a moderate-sized watercourse approximately 400m to the north-west. There are numerous smaller streams and ditches that flow through the forest that have not been mapped.
- 1.8 The site lies at the end of a minor access road into the forest, beyond which it becomes a gravel forest track. The closest notable road is the B6478, which lies 1.5km to the south, while the closest area of urban or built-up land is Settle, approximately 10km to the north-east. All other settlements that are closer than that comprise farms, isolated houses, or small villages.

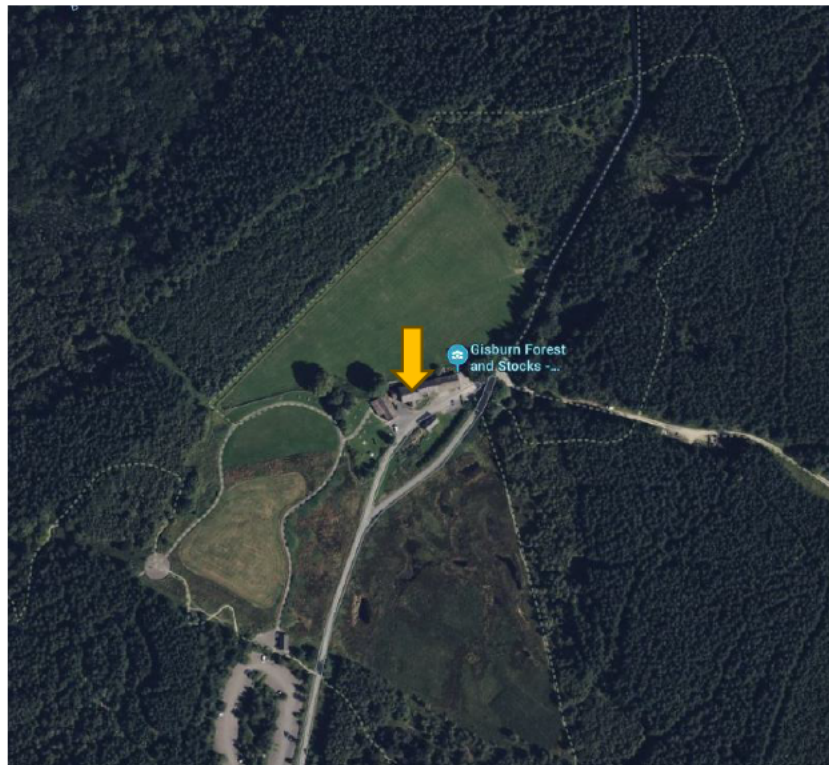


Figure 1: Overhead of site (arrowed)

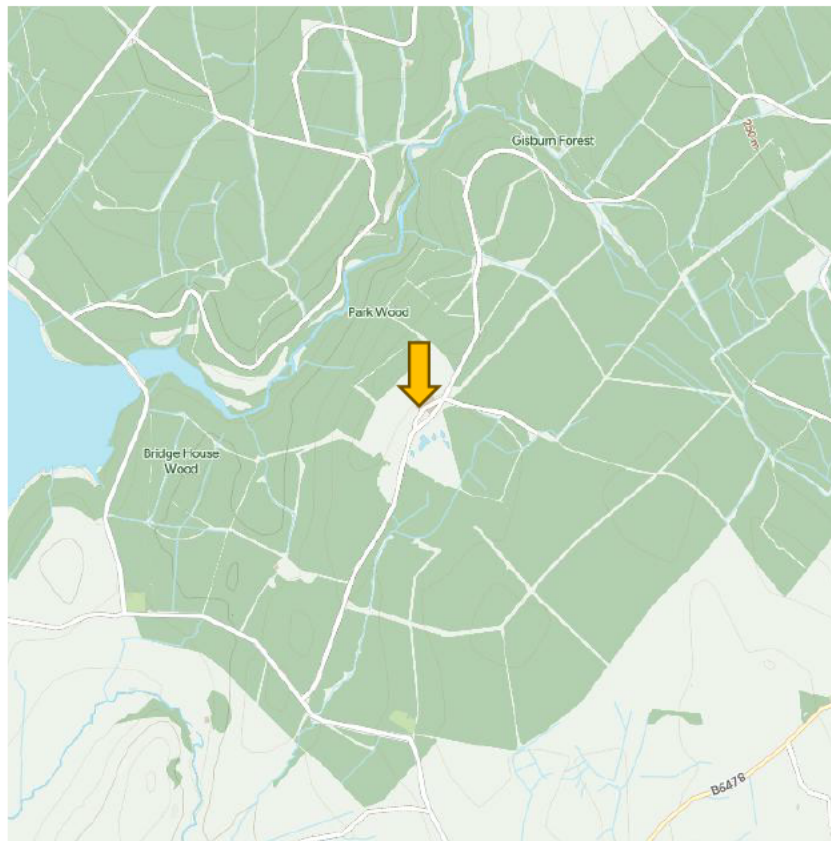


Figure 2: Site Location (arrowed)

2 METHODOLOGY

Inspection

- 2.1 An external and internal inspection was undertaken on 5th June 2026, to search for evidence of bat roosts was made of the buildings.
- 2.2 Where necessary, binoculars, a high-powered torch and an endoscope were used, to observe the features of the building in more detail. A drone was also used to view the property from above and to inspect hard-to-reach locations.
- 2.3 Evidence of bat presence could include:
 - bats;
 - bat droppings;
 - signs of feeding; and
 - staining.
- 2.4 An assessment was also made of the site for the potential to support bats, based on the habitats present on and within the immediate surrounds of the survey site.

Activity Surveys

- 2.5 Two evening emergence surveys were undertaken on the 25th June and 30th July 2026. The aim of the surveys was to observe any bat roosting activity within the impacted areas.
- 2.6 Surveyors used EchoMeter Touch 2 bat detectors, which record all calls in high detail full spectrum. The site was comprehensively filmed with thermal imaging and/or infra-red cameras. Recordings were analysed post survey, either using direct observation or using more optimised analysis from Wildlife Imaging Systems, to track motion and confirm emergence/re-entry locations.
- 2.7 The emergence survey started at least 15 minutes prior to sunset and continued for at least 1.5 hours after sunset. The surveyors were on site at least 15 minutes prior to the surveys commencing. This is in accordance with the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition).

Legislation and Planning Policy

Bats

- 2.8 The Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended) provide legal protection to all UK bat species.
- Damage or destroy a breeding or resting place of bats;
 - Deliberately capture, injure or kill a bat/s;
 - Deliberately disturb bats, and in particular disturbance likely to impair animals' ability to survive, breed or nurture young, their ability to hibernate and migrate and disturbance likely to have a significant effect on local distribution and abundance;
 - Intentionally or recklessly disturb a bat/s while occupying a structure or place used for shelter and/or protection (Wildlife and Countryside Act 1981 (as amended)); and
 - Intentionally or recklessly obstruct access to any structure or place that a bat/s use for shelter or protection (Wildlife and Countryside Act 1981 (as amended)).
- 2.9 The legislation applies to bat roosts even when they are not occupied.
- 2.10 Maximum penalties are punishable with fines up to £5,000 per offence and up to 6 months' imprisonment. Actions affecting multiple animals may be construed as separate offences and therefore there is potential for penalties to be applied per animal impacted.
- 2.11 Under certain circumstances licences can be granted by the Statutory Nature Conservation Organisation (Natural England in England) to permit actions that would otherwise be unlawful.
- 2.12 Local authorities have obligations under sections 40 and 41 of the Natural Environment and Rural Communities Act (NERC) 2006 to have regard to the purpose of conserving biodiversity in carrying out their duties. Seven species of bat are listed on Section 41 the NERC Act.

Limitations

- 2.13 The proposed works are limited to the base of the eastern chimney, which lies on the southern roof pitch. The survey effort was therefore predominately focused on this side of the roof, with limited resources devoted to bat activity on the rear of the property, as this area will not be directly impacted by the proposed works.
- 2.14 There were no significant limitations to the survey; the weather was suitable for the emergence survey and plenty of bat activity was recorded.



3 RESULTS

Desk Study

- 3.1 Eight species of bats have been recorded breeding in Lancashire; whiskered *Myotis mystacinus*, Brandt's *Myotis brandtii*, Natterer's *Myotis nattererii*, Daubenton's *Myotis Daubentoni*, noctule *Nyctalus noctula* and brown long-eared bats *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle and *P. pygmaeus*.
- 3.2 Further bat species have been identified in Lancashire through auditory detection alone, with no roosts being found: Nathusius' pipistrelle *Pipistrellus nathusii*, Leisler's bat *Nyctalus leislerii*, lesser horseshoe bat *Rhinolophus hipposideros* and Serotine bat *Eptesicus serotinus*.

Inspection

- 3.3 The building comprises a moderate-sized house with an adjoining barn conversion. These two buildings form a single unit of accommodation for residential groups visiting the park. As the proposed works are focussed on the repairs to the chimney of the house section, the survey work is focussed on the house itself.
- 3.4 The building is constructed from rough-hewn limestone blocks, which are generally well pointed throughout. There were no obvious gaps or crevices in the walls that could be seen. The roof is slate-covered and again appears to be intact and does not feature any apparent damage, gaps or openings where bats could enter. This is with the obvious exception of the damaged chimney, where the lead flashing has come away from the base, revealing the stone-work beneath and a clear gap into the underlying wall and roof void.
- 3.5 Aside from this clear opening, the roof also has other occasional potential access points, including a gap to the side of the western chimney, possible small crevices between the gable slates on the southern end, and occasional risen slates.
- 3.6 Internally, the building features a single roof void that spans the entire house roof (there is a different void over the adjoining barn conversion). The house roof void is partially divided in two, but there is a large gap around the dividing wall so the two sides are accessible to each other. The roof void is large and tall and is only partially boarded; the ceiling is insulated with fibre-glass insulation. The roof is lined with bitumen roof felt throughout which is in a relatively good condition; there are some locations where the felt has been torn or pulled loose. Although there are cobwebs draped over some of the roof beams, there are numerous timbers that are free from cobwebs.
- 3.7 Although no bats were found roosting within the roof void, large piles of droppings were found within the area, mostly in the eastern portion of the void, although there were droppings scattered throughout the loft. The droppings were medium-sized and resembled either those of a brown long-eared bat or a *Myotis* bat, such as a Natterer's or Daubenton's bat. Further droppings were found on the gable walls, including close to the chimney area, where the works are planned for.

Emergence survey – 25th June 2026

- 3.8 During the first emergence survey, a moderate level of bat activity was recorded. Activity was dominated by common pipistrelle bats, with a slightly lesser number of soprano pipistrelles, which were observed primarily commuting through the site and foraging around the nearby trees. *Myotis* bats were also recorded on site. *Myotis* bats are a Genus of bats that are all acoustically and morphologically similar and therefore, they are often recorded to genus level only.
- 3.9 During the survey, nine bats were observed emerging from the building, from three different locations, while one bat was seen re-entering the building later in the survey.
- Roost A – 1x Soprano pipistrelle bat emerged from the eaves of the building, above the right-hand window;
 - Roost B – 6x *Myotis* bats emerged from the southern side of the east-facing gable end, and one bat re-entered;
 - Roost C – 2x *Myotis* bats emerged from a loose slate on the southern roof pitch, beneath the western chimney.
- 3.10 *Myotis* bats were recorded regularly flying around inside the roof void of the house. A camera was trained on the chimney area and no bats were observed using this area, either to roost near or to exit the property via. Due to the limit in the amount of area that the internal cameras were able to cover, emerging bats were unfortunately not recorded in frame.
- 3.11 Weather conditions were warm (25°C), with <5% cloud cover, a light breeze, and no rain.

Emergence survey – 30th July 2026

- 3.12 During the second emergence survey, a moderate level of bat activity was again recorded. The bat activity was again dominated by common pipistrelle bats, with only occasional soprano pipistrelle bats present.
- 3.13 Again, numerous *Myotis* bats emerged from the building. On this occasion 16 bats emerged, and three returned again;
- Roost B - 8x *Myotis* bats emerged from the southern side of the east-facing gable end, and 1x *Myotis* bat entered;
 - Roost D - 1x *Myotis* bat emerged from a loose slate on the southern roof pitch;
 - Roost E - 2x *Myotis* bats emerged from a loose slate on the southern roof pitch;
 - Roost F - 2x *Myotis* bats emerged from the damage flashing of the eastern chimney, and 1x entered;
 - Roost G - 1x *Myotis* bats emerged from a loose slate on the southern roof pitch;
 - Roost H - 1x Common pipistrelle bat emerged from the south-western corner of the porch roof
 - Roost I - 2x *Myotis* bats entered the western end of the southern eaves;
 - Roost J - 1x *Myotis* bats emerged from the western gable;



- 3.14 Again, *Myotis* bats were recorded flying within the roof void of the house. On this occasion, footage showed an adult and a juvenile bat landing on the underside of the roof and then proceeding to suckle the juvenile and groom it.
- 3.15 Weather conditions were mild (13°C), with negligible cloud cover, no wind or rain.

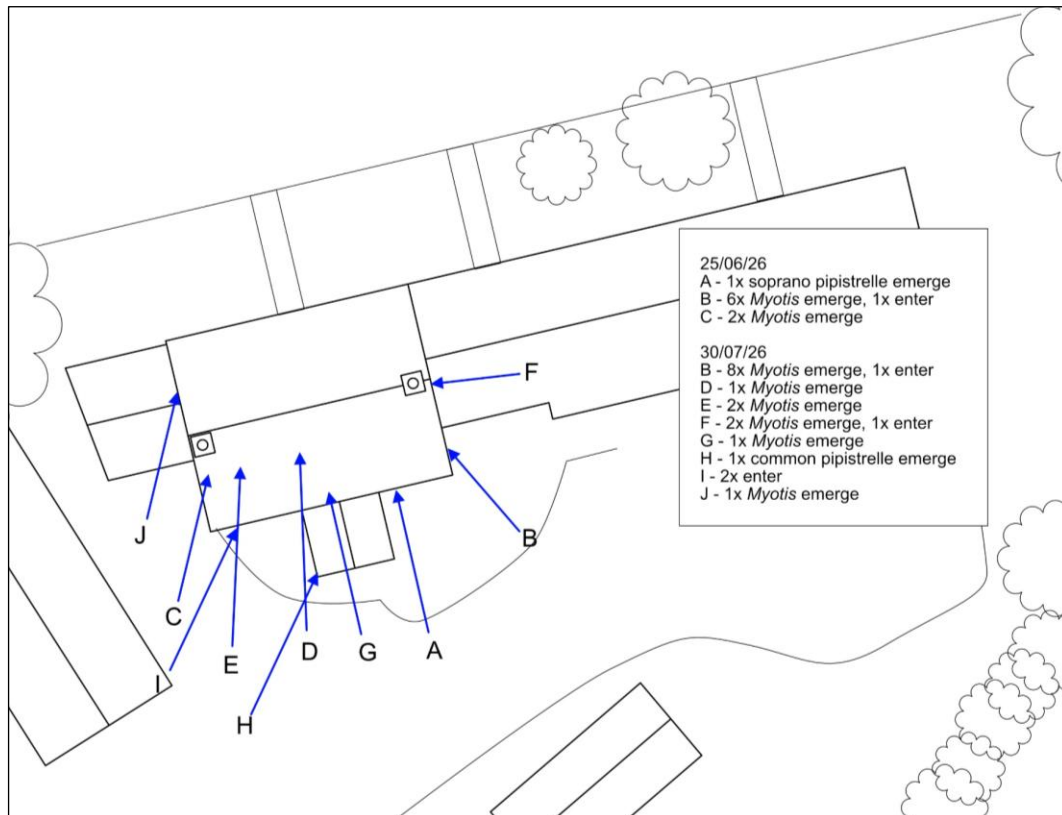


Figure 3: Plan of roost locations

4 DISCUSSION AND CONCLUSIONS

- 4.1 The surveys conducted in 2026 have shown that the survey building is used by numerous *Myotis* bats to roost in. Although no bats were observed during the inspection, large volumes of droppings were found within the roof void, often in piles beneath roof beams. Two emergence surveys were carried out, both of which featured *Myotis* bats emerging from the roof in numerous locations. In total, ten roost locations have been identified, eight of which were used by *Myotis* bats.
- 4.2 The maximum number of emerging *Myotis* bats was identified on the second survey, with 17 bats exiting the roof. These numbers of bats indicate a colonial roost of bats, and not just individual bats roosting on their own. In the summer months, female bats congregate into maternity roosts to give birth and raise their young. It is therefore very likely that Stephen Park is the location of a small maternity colony. This was supported by the observation of bats re-entering the building before the end of the survey. This type of behaviour is indicative of mother bats returning to feed their young.
- 4.3 Conclusive proof of this was obtained using the internal cameras that recorded a mother with her smaller juvenile landing on the underside of the roofing membrane and proceeding to suckle and groom for several minutes.
- 4.4 *Myotis* bats are a Genus of bats that are all very similar. Distinguishing them apart from each other is often best done using DNA analysis or observation in the hand. However, recordings of their calls can provide a good indication of species. The bats that were recorded at Stephen Park appear to be Daubenton's bats. These are a medium-sized that often roost near water, as they feed on semi-aquatic insects. The colony of bats present here are therefore most likely to forage either around the small ponds to the south or within Bottoms Beck and Stocks Reservoir.
- 4.5 Also found roosting in the building were individual common and soprano pipistrelle bats. These were roosting on their own and were not found within a colony. They are therefore day roosting male or non-breeding female bats. These are less roost faithful, and with therefore switch roosting locations regularly.
- 4.6 The proposed works are to carry out repair works to the eastern chimney, predominantly to repair the flashing at the base of it. During the surveys, two Daubenton's bats were seen to emerge from the chimney base and one returned to it. This shows that the proposed works would have a direct impact on the bat roost. However, what was also determined during the surveys was that there are numerous other entry and exit points for the colony of bats, as bats were seen emerging from at least seven locations.
- 4.7 Although the repair of the lead flashing could impact one access point, numerous others will remain. In addition, it would be a simple task to ensure that the flashing is replaced in such a way that bat access could be retained. If works were carried out while bats were present then there may be some disturbance issues. However, if works were undertaken once the bats had vacated the property, at the end of the summer, then the flashing could be replaced, ensuring that access was retained, and no bats would be actively disturbed by the process. In this way, works could be carried out without the need for a license from Natural England, as no roosts would be materially impacted, and no bats would be disturbed. Indeed, it can reasonably be argued that the repair of



the flashing is in fact reinstating the roost access point to how it was previously, after it was recently damaged.

- 4.8 Neither of the pipistrelle roosts are in locations that are close enough to the works that they would be impacted, either directly or indirectly.
- 4.9 In order to ensure that no bats are harmed or that the roost are not inadvertently impacted, the recommendations below should be adhered to.



5 RECOMMENDATIONS

- 5.1 It has been concluded that the property is the location of a maternity colony of Daubenton's bats and individual day roosts of common and soprano pipistrelle bats. These roosts are unlikely to be directly impacted by the proposed repair works. However, there is potential for bats in this roost to be impacted, most notably through disturbance to any bats that might use the chimney flashing for access.
- 5.2 Therefore, the following recommendations have been made;
- Works must be carried out at a time of year when bats are not present in the building (October – March, inclusive);
 - Any invasive works to the chimney should be undertaken slowly, carefully and by hand;
 - Initial invasive works to the chimney should be supervised by a Suitably Qualified Ecologist (SQE).
 - If any bats are discovered during works then work should stop in that area immediately, the bat should be carefully re-covered and an SQE should be consulted with as soon as possible;
 - Replaced lead flashing on the eastern chimney should include an access vent to retain access for roosting bats;
 - Works should be restricted to the chimney flashing and no slate replacement or re-roofing should be carried out. If further works are required then a license may be required, as the impacts to the maternity or day roosts may be too great;
 - If a license is needed at any point, then droppings from the roof void should be sent for DNA analysis, to determine with certainty what species of *Myotis* bats the colony are;
 - Internally, no access points should be sealed within the roof void, as these may be used as bat access locations;
 - Night-time lighting should not be installed on site, either during works or post works, in such a way that would illuminate the roost location, as this would likely deter bats;
 - As bats are mobile opportunistic animals, if the start of works is delayed by more than one year (into the summer of 2027 or later) then an update survey should be carried out.

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PHOTOGRAPHS



Photograph 1: Southern elevation



Photograph 2: Southern elevation



Photograph 3: Western gable elevation



Photograph 4: Northern elevation



Photograph 5: Northern elevation



Photograph 6: Southern elevation of barn conversion



Photograph 7: Aerial view, looking north



Photograph 8: Aerial view, looking south



Photograph 9: Aerial view of southern elevation



Photograph 10: Damaged chimney flashing



Photograph 11: Damaged chimney flashing



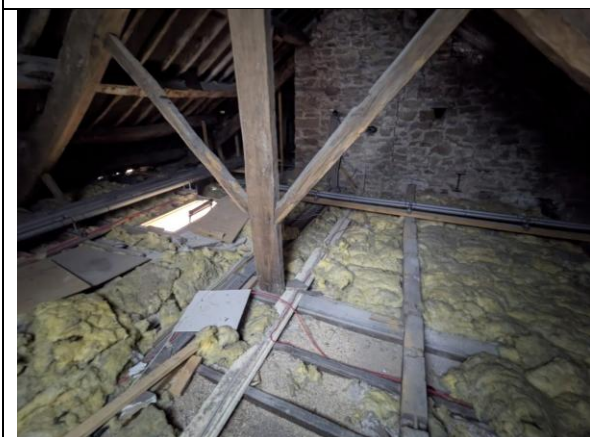
Photograph 12: Gap in western gable



Photograph 13: Western chimney flashing



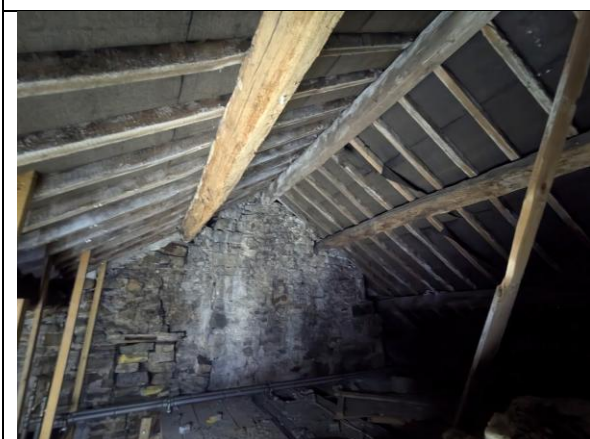
Photograph 14: Western gable



Photograph 15: Roof void (western end)



Photograph 16: Roof underside



Photograph 17: Roof void (eastern end)



Photograph 18: Roof underside



Photograph 19: Boarding in eastern side



Photograph 20: Pile of droppings in eastern end



Photograph 21: Clean and clear beams above dropping pile



Photograph 22: Detail of droppings



Photograph 23: Example of thermal image of southern elevation of property



Photograph 24: Example infrared image from within the roof void

APPENDIX 1: ROOST ACCESS DESIGN

