

Detailed daytime building assessment at Bicester Heritage, Bicester

Draft Report

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LEPUS CONSULTING
LANDSCAPE, ECOLOGY, PLANNING & URBAN SUSTAINABILITY



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Photo: Building 123 at Bicester Heritage

Contents

| | | |
|------|--------------------------------------|---|
| 1 | Introduction | 1 |
| 1.1 | Background..... | 1 |
| 1.2 | The Site | 1 |
| 1.3 | Summary of proposed works..... | 1 |
| 1.4 | Aims of the assessment..... | 1 |
| 1.5 | Legislation and policy | 2 |
| 2 | Methodology..... | 3 |
| 2.1 | Approach to the survey | 3 |
| 2.2 | Professional expertise..... | 3 |
| 2.3 | Constraints | 3 |
| 3 | Survey Results..... | 4 |
| 3.1 | Building 101..... | 4 |
| 3.2 | Building 103..... | 4 |
| 3.3 | Building 104..... | 4 |
| 3.4 | Building 119 | 4 |
| 3.5 | Building 121 | 5 |
| 3.6 | Building 123 | 5 |
| 3.7 | Building 129 | 5 |
| 3.8 | Building 130..... | 6 |
| 3.9 | Building 131..... | 6 |
| 3.10 | Building 133 | 6 |
| 3.11 | Building 137 | 7 |
| 4 | Evaluation and Recommendations | 8 |
| 4.1 | Evaluations | 8 |
| 4.2 | Recommendations..... | 8 |

Appendix

Appendix A Map of the Site

Abbreviations

BCT Bat Conservation Trust

Executive Summary

- E1** Lepus Consulting Ltd was commissioned by Bicester Heritage Ltd to undertake a detailed daytime assessment of buildings for presence of bats. Professionally qualified ecologist Neil Davidson and assistant Joseph Evans carried out the survey.
- E2** Detailed daytime building assessments were undertaken for eleven buildings at Bicester Heritage. Buildings surveyed were 101, 103, 104, 119, 121, 123, 129, 130, 131 and 137. Each building was explored in detail for presence of bats or evidence of bats. Any features which have the potential to support bats were also identified.
- E3** Buildings 101, 103, 104, 119, 121, 129 and 133 were identified as having low suitability for supporting bat species. No evidence was found to suggest these buildings were being used by bats.
- E4** Buildings 130, 131 and 137 were identified as having a moderate suitability for supporting bats. Very limited evidence was found to suggest these buildings were being used by bats.
- E5** Building 121 was identified as having a high suitability for supporting bats. Strong evidence was found to suggest the loft space was being used by at least one bat for feeding.
- E6** It is recommended that construction on buildings 130, 131, 137 and 121 be completed before April when female bats start establishing maternity roosts. It is also recommended that contractors 'proceed with caution' when working on these buildings and consult an ecologist should a bat emerge. The implementation of artificial roosts, such as bat boxes, is recommended for these buildings to ensure the overall suitability of each building is not diminished as a result of the construction work.

1 Introduction

1.1 Background

1.1.1 Lepus Consulting Ltd was commissioned by Bicester Heritage Ltd to carry out a detailed daytime building assessment for bats of eleven buildings at Bicester Heritage, Bicester (hereafter referred to as 'the Site').

1.1.2 The need for a detailed daytime building assessment was highlighted following previous inspections of other buildings at the Site. These building assessments aimed to identify the presence of bat roosts and likely impacts of repair works or redevelopment of the Site.

1.2 The Site

1.2.1 The Site lies off the A4421 road, at the junction with Skimmingdish Lane to the north east of Bicester, national grid reference SP593244. The surrounding countryside comprises a belt of low-lying land running through south central England from Somerset to Lincolnshire. The countryside mostly consists of gentle rolling vistas with a mixture of arable and grass fields.

1.2.2 The Site consists mostly of parkland area with tall trees and buildings being within the redline boundary. The grassland is mown regularly and sward height is kept short in most parts of the redline area.

1.2.3 The eleven buildings assessed vary in size, shape and function.

1.3 Summary of proposed works

1.3.1 The potential development proposal at this Site concerns the change of use of buildings 101, 103, 104, 119, 121, 123, 129, 130, 131, 133 and 137.

1.3.2 The majority of the planned construction work relates to replacing walls, windows, doors and ceilings as well as the removal of asbestos.

1.4 Aims of the assessment

1.4.1 Lepus assessed the suitability of the eleven buildings on site for supporting bats. Evidence of use by bats was also identified. Recommendations for further survey work or mitigation/avoidance/ will be made where appropriate.

1.5 Legislation and policy

1.5.1 All species of bat are listed on Schedule 5 of the Wildlife and Countryside Act (1981)¹. This means that they receive protection under Section 9 of the Act. They are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations (2010)². It is an offence to:

- Deliberately capture, kill or injure a bat;
- Deliberately disturb a bat, including any disturbance which is likely:
 - To impair bat's ability to survive, to breed or reproduce, or to rear or nurture their young;
 - In the case of hibernating or migratory species, to impair their ability to hibernate or migrate; or
 - To affect significantly the local distribution or abundance of the species to which they belong.;
- Damage or destroy a breeding site or resting place of a bat; and
- Keep, transport, sell or exchange or offer for sale any bats or anything derived from bats.

¹ Wildlife and Countryside Act (1981), <http://www.legislation.gov.uk/ukpga/1981/69>

² The Conservation of Habitats and Species Regulations (2010), <http://www.legislation.gov.uk/uksi/2010/490/contents/made>

2 Methodology

2.1 Approach to the survey

2.1.1 The methodology for the detailed daytime building assessment follows that outlined in the Bat Conservation Trust (BCT) Good Practice Guidelines (3rd Edition, 2016).

2.1.2 A systematic search was undertaken of the exterior of the building, for any features likely to form potential access points for bats or areas likely to show evidence of bats such as butterfly wings and droppings. These areas include windowsills, door and window frames and hanging tiles.

2.1.3 Once the inspection of the exterior of the building was complete, an internal inspection was carried out. Each room of every building, and roof voids (where accessible) were inspected for bats and evidence of bats.

2.1.4 Each building was assessed in terms of suitability for bats in accordance with the current guidance³ and evaluated as:

- Low, wherein the building lacks obvious features for supporting bats and no evidence of use by bats is found;
- Moderate, wherein the building is identified as having features suitable for supporting bats but no obvious evidence of use by bats is found;
or
- High, wherein the building is identified as having suitable features for supporting bats and evidence of bat use.

2.2 Professional expertise

2.2.1 The survey was undertaken on Friday 6th January 2017 by professionally qualified ecologist Neil Davidson and assisted by Joseph Evans. Weather conditions were overcast with light rain.

2.3 Constraints

2.3.1 It is considered that there were no significant constraints to the survey work, although the weather inhibited high quality photography.

³ Bat Conservation Trust (2016) Bat surveys for Professional Ecologists, Good Practice Guidelines, 3rd edition

3 Survey Results

3.1 Building 101

3.1.1 Building 101 is made largely from corrugated iron. It was surrounded by fencing at the time of the survey due to asbestos. The building was relatively small in comparison to other buildings at the site and is not currently in use. In conclusion:

- No evidence of use by bats was identified; and
- The building is considered to be of low suitability for supporting bats.

3.2 Building 103

3.2.1 Building 103 is a relatively small, square and single storey former teaching building made from red brick. The roof is flat and concrete with no loft or appropriate void for bats. The building has multiple windows and doors which create a draught inside the building. Several small droppings were found that may suggest that at some point the building was used by a bat. In conclusion:

- Limited evidence of use by bats was found; and
- The building is considered to be of low suitability for supporting bats.

3.3 Building 104

3.3.1 Building 104 is a former single storey cottage with an asbestos metal roof. It is a small, square building of comparable size and shape to buildings 101 and 103. Several small rooms comprise the inside of the building. A small number of suitable crevices were identified between the outside wall and the roof. In conclusion:

- No evidence of bats was found; and
- The building is considered to be of low suitability for supporting bats.

3.4 Building 119

3.4.1 Building 119 is a former warehouse and was the second largest building surveyed on site. Suitable crevices were identified where the outside wall meets the roof whilst the void space inside the building provides suitable roosting locations for bats. Inside the building is three rooms, one of which is very large and empty and no evidence of use by bats was found. The building also has a boiler room which is well sealed off with limited access points. In conclusion:

- No evidence of bat use was found; and
- The building is considered to be of low suitability for supporting bats.

3.5 Building 121

3.5.1 Building 121 was the smallest building surveyed on site. The building was largely made from corrugated iron and at the time of survey the roof had collapsed and caved inwards. In conclusion:

- No evidence of use by bats was identified; and
- The building is considered to be of low suitability for supporting bats.

3.6 Building 123

3.6.1 Building 123 is a long and rectangular former school building with multiple storeys. The building has good access points for bats between the roofing and soffit board. Bat droppings were found on window ledges and suitable crevices identified between the outer wall and roof. On the first floor multiple tortoiseshell butterfly (*Aglais urticae*) wings were found, suggesting the building was used by bats. In the loft space a concentrated pile of butterfly and moth wings (orange underwing, *Archieans parthenias*) was accompanied by a concentrated distribution of bat droppings, suggesting the loft has been used by a single bat for feeding. Samples of dropping were collected and sent for analysis. In conclusion:

- Strong evidence of use by bats was found;
- The rooms on the ground and first floors are considered to be of low suitability for bats; and
- The loft space is considered to be of high suitability for supporting bats.

3.7 Building 129

3.7.1 Building 129 is a small and rectangular building on site used for the storage of cars. One side of the building is open with no doors. The building is well maintained, clean and in regular use. Some suitable crevices were identified where the walls meet the ceiling. No evidence of use by bats was found. In conclusion:

- No evidence of bats was found; and
- The building is considered to be of low suitability for supporting bats.

3.8 Building 130

3.8.1 Building 130 is a small and square building in close proximity to buildings 129 and 131. It comprises two rooms that are in regular use and store tools and equipment used on site. Some suitable crevices were identified in the wooden beams of the ceiling. The large doors made the rooms draughty whilst the loft space had limited access points for bats. In conclusion:

- No evidence of bats was found; and
- The building is considered to be of low suitability for supporting bats.

3.9 Building 131

3.9.1 Building 131 is comprised of several rooms. One room functioned as an office in regular use and is not suitable for supporting bats. The other rooms were used for storing cars, were well maintained and were in semi-regular use. A wood pigeon nest was found near the ceiling in one of the rooms. Suitable crevices were identified in the wooden beams of the ceiling. The boiler room at the back of 131 was a small room with a low ceiling and appeared to be of low suitability for supporting bats. As this room was inaccessible a conclusive statement cannot be drawn. In conclusion:

- Limited evidence of bats was found; and
- The building is considered to be of low suitability for supporting bats.

3.10 Building 133

3.10.1 Building 133 is a small and square building that is currently used by a prestige car cleaning company. It is single storey, made of brick with roll top metal doors and a flat concrete roof. In conclusion:

- No evidence of bats was found; and
- The building is considered to be of low suitability for supporting bats.

3.11 Building 137

3.11.1 Building 137, being an airplane hanger, was the largest building surveyed on site. On the outside of the building was a separate toilet room on the floor of which some small butterfly wings were found. The main room of the building was very large with a high ceiling. It is currently used to store a variety of gliders and airplanes. The asbestos from some areas of the ceiling had recently been removed revealing roof voids suitable for supporting bats, although evidence of use by bats was entirely lacking. The roof was predominantly intact with one area at which the roof had rotted away. In conclusion:

- No evidence of bats was found; and
- The building is considered to be of low suitability for supporting bats.

4 Evaluation and Recommendations

4.1 Evaluations

4.1.1 Previous ecological and bat surveys have confirmed that bats use the Site for commuting and foraging. In 2014, Lepus Consulting conducted an emergence survey that identified populations of Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Noctule (*Nyctalus noctule*) and Brown Long-Eared (*Plecotus auritus*) using trees surrounding the buildings of the Site.

4.1.2 The loft space of building 123 was considered to be of high suitability for supporting bats. Strong evidence was also found suggest the loft was currently being used by at least one bat.

4.2 Recommendations

4.2.1 When carrying out development work that may impact on the habitat of a protected species such as bats, Natural England recommend following an avoid-mitigate-compensate hierarchy. Should mitigation or avoidance be required, it should be to an extent whereby there is an overall benefit to the local species population and/ or habitat.

4.2.2 Bats are in hibernation during the winter months of December, January and February. As the climate warms bats begin to feed in March and females start to establish their maternity roosts in April. Should a female bat select a building on site for this purpose it would present additional challenges for the construction process. It is therefore recommended that all construction work, particularly on buildings 123, 130, 131 and 137 is carried out prior to the end of March.

4.2.3 When working on buildings 123, 130, 131 and 137, contractors should 'proceed with caution' to ensure any bats that may be using the buildings are not disturbed. Extensive work is planned for the roof of each building. Contractors should be diligent in looking for bats under tiles and boards prior to, and during, their removal.

- 4.2.4 Features of buildings 130, 131 and 137 that make them suitable for supporting bats, such as crevices and void spaces, may be lost because of building work. Implementation of artificial roosts, such as bat boxes, in each building is therefore recommended to mitigate the loss of suitable habitat and ensure the overall suitability of each building is not diminished.
- 4.2.5 It is recommended that an ecologist is 'on call' during the construction process to assist with any bat related queries. If a bat is seen at any time during construction, it should be left in situ and building work in that area should be paused. The ecologist should review the evidence in cooperation with Natural England and advise on the way forward.
- 4.2.6 It is recommended that the loft space of building 123 be untouched throughout construction. Changes to the loft are not currently within the scope of the planned construction work. Whilst the remainder of the building is less suitable for supporting bats, it is important to ensure good access points to the loft remain. Planned work such as upgrading all rainwater outlets and making good all fascia and soffit boards poses a threat to current access points. If the loft remains unchanged by developers, a bat derogation license would not be required for working on building 123. Should the loft space undergo any changes that may diminish its suitability or may disturb the bat(s), a license may be required for any planned changes.
- 4.2.7 It is considered that small scale and low impact maintenance on the roof of building 123 would pose no risk to bats should it be carried out in the months of April to October. Whilst there is currently no work planned for the roof or void space of 123, any work impacting the roof or roof void should firstly be discussed with the ecology team.
- 4.2.8 It is also recommended that during construction lighting faces away from the trees in order to minimise the disturbance of foraging areas for the bats.

References

Bat Conservation Trust, 2012, Bat Surveys Good Practice Guidelines

Institute of Ecology and Environmental Management (IEEM, 2006) Guidelines for Ecological Impact Assessment in the United Kingdom.

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APPENDIX A

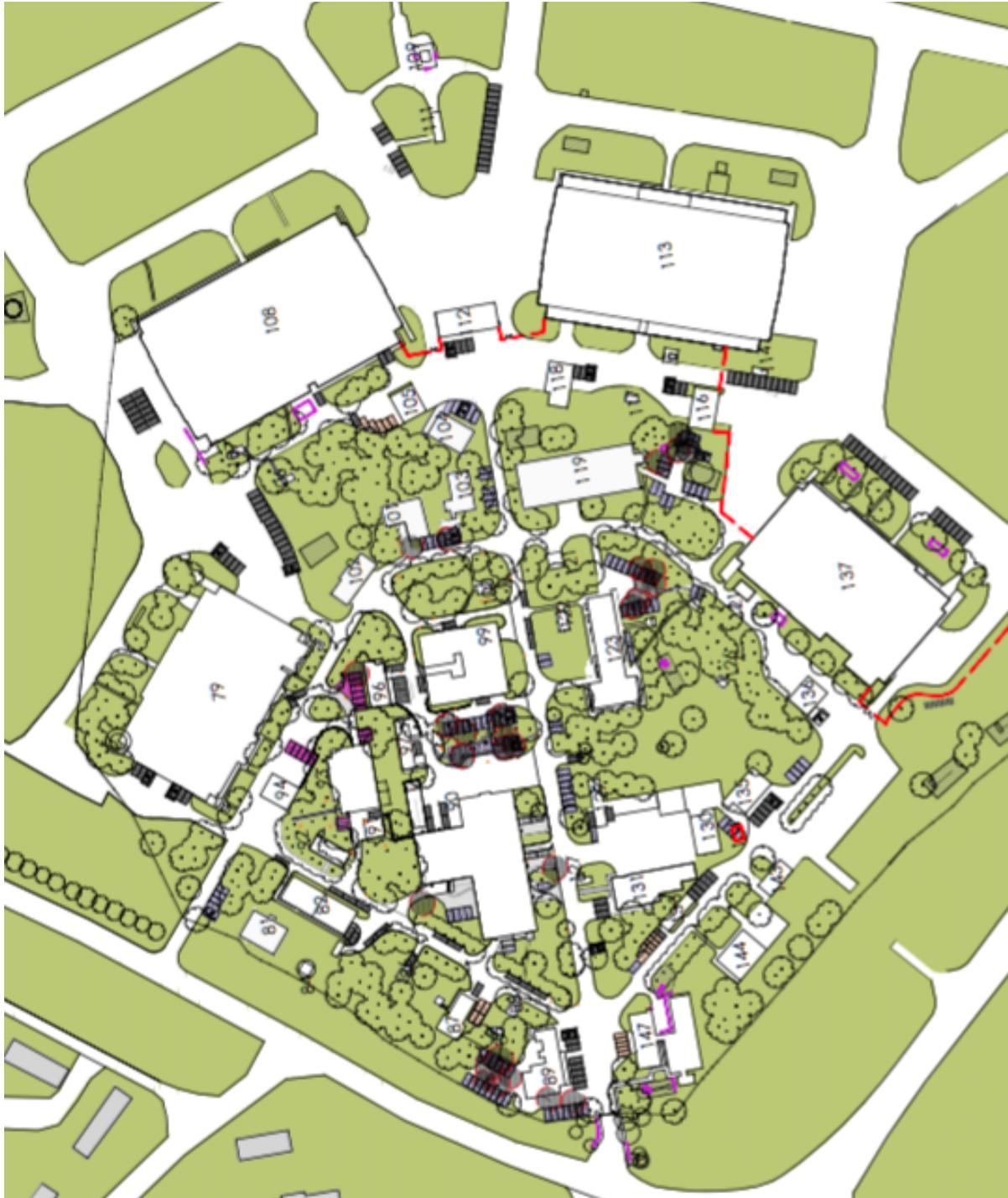


Figure 1: Map of the Site (adapted from the Proposed Site Wide Car Parking map received from Bicester Heritage).



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