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Pelham Walled Garden Cumbria

AVISON YOUNG

Bat Survey Report

Final

VERSION 2

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1. Introduction

BiOME Consulting Ltd was commissioned by Avison Young in 2018 to undertake Preliminary Ecological Appraisal (PEA)¹ in relation to the proposed rebuild of the boundary wall (in sections) and some potential pointing to outbuildings located at Pelham Walled Garden, Cumbria (centred on National Grid Reference NY0371205540 (Figure 1)).

The PEA identified the requirement for further assessment in relation to the potential presence of roosting bats in areas to impacted, which are the focus of this report.

Figure 1. Site Location



1.1. Site Description

The site, located to the north of Sellafield Nuclear Power Station in western Cumbria (Figure 1), comprised the walled garden of Pelham House and includes

¹ BiOME Consulting (2019). *Pelham Walled Garden; Preliminary Ecological Appraisal*.

allotments (**Photograph 1**) with associated buildings. The site layout is shown on **Figure 2**; the following buildings were present within the site:

- **Building 1**; a long, narrow building adjacent to the northern garden wall. It comprised seven component sections. One of these sections was a former boiler room with the remaining sections used for storage. This building was constructed of red brick and stone, with a single pitched concrete-asbestos sheet roof. A small roof void was present in the former boiler room.
- **Building 2**; constructed of red brick, again with a single pitched concrete-asbestos sheet roof. Within this building a small roof void was present.

The garden wall, which formed the perimeter of the allotments, was approximately 3m high constructed of red brick and stone.

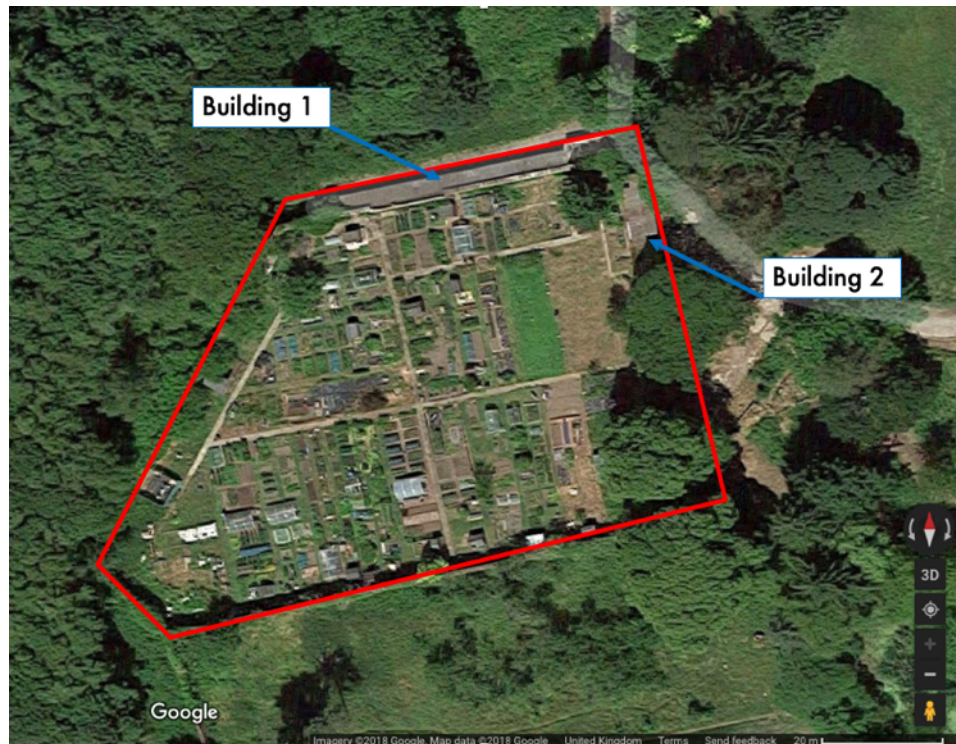
The site was accessed via a driveway to the east.

Habitats surrounding the site comprised mature deciduous woodland, arable farmland and semi-improved grassland and amenity grassland.

Photograph 1. The site



Figure 2. Site layout



2. Relevant Background Survey Data

The 2019 PEA identified the following ecological issues of relevance to this report:

- Evidence of bat use (droppings) was identified within both onsite buildings, and the buildings were considered to possess 'moderate' potential to support roosting bats.
- The perimeter wall surrounding the site possessed features with the potential to support roosting bats and was assessed to be of 'low' suitability for roosting bats.

3. Legislative Context

All British bat species are fully protected at national and European levels, through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended)² and in Schedule 2 of the Conservation of Habitat and Species Regulations 2010³. Under this legislation, it is an offence to deliberately kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or resting place used for shelter or protection by a bat or disturb an animal while it is occupying a structure or place which it uses for that purpose.

Four species of bat, Greater Horseshoe Bat *Rhinolophus ferrumequinum*, Lesser Horseshoe Bat *R. hipposideros*, Bechstein's Bat *Myotis bechsteinii* and Western Barbastelle *Barbastella barbastellus*, are included on Annex II of the Habitats Directive⁴, which requires the designation of Special Areas of Conservation to ensure the maintenance of favourable conservation status (and these are therefore generally considered as perhaps the most important UK species). Seven bat species are listed as Section 41⁵ priority species; Barbastelle, Bechstein's Bat, Noctule *Nyctalus noctula*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Brown Long-eared Bat *Plecotus auritus*, Greater Horseshoe Bat and Lesser Horseshoe Bat.

2 The Wildlife and Countryside Act 1981 (as amended)

3 The Conservation of Habitats and Species Regulations 2010

4 Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

5 Of the Natural Environment and Rural Communities Act 2006

4. Methodologies

4.1. Suitably Qualified Ecologist

The project was managed, and Preliminary Roost Assessment (PRA) completed, by Martyn Owen BSc (Hons) MCIEEM, NE bat licence no. 2022-10620-CL18-BAT.

Emergence/re-entry surveys were completed by Martyn Owen, Steven Forrester and Samuel Dreux. Steven and Sam are extremely experienced bat surveyors and have completed at least 150 emergence/re-entry surveys, along with many PRAs.

4.2. Update Preliminary Roost Assessment

An update Preliminary Roost Assessment (PRA) survey was completed of all buildings and the perimeter wall, in line with appropriate survey guidance⁶. Detailed endoscope inspection of all identified Potential Roost Features (PRFs) was also completed.

The survey involved an inspection of the interior and exterior of each building/perimeter wall to be impacted by the proposals to identify potential or actual bat access points and roosting sites, and to locate any evidence of bats such as live or dead specimens, bat droppings, urine splashes, fur-oil staining and/or squeaking noises. It should be noted that sometimes bats leave no visible sign of their presence on the outside of a building (and even when they do wet weather can wash away evidence).

The inspection was facilitated by the use of ladders, a high-powered torch, endoscope and small dental mirrors to inspect accessible PRFs

The potential suitability of the buildings/the wall for roosting bats was assessed in line with relevant guidelines² and allocated to one of the categories detailed within **Table 1**.

⁶ Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.). The Bat Conservation Trust, London

Table 1. Guidelines for assessing the potential suitability of proposed development sites for bats

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure/tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure/tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure/tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed Roost	Definitive evidence of roosting bats, i.e. live animals or accumulation of droppings associated with potential roost features.

4.3. Emergence/Re-Entry Survey

Single nocturnal surveys Building 1 and Building 2 were undertaken. In addition, following the identification of substantial PRFs that could not be fully inspected within the wall, a single nocturnal survey was completed of a section of the wall.

To ensure coverage of areas which could support bats, three surveyors were used during the nocturnal survey of Building 1, with three surveyors also used in relation to Building 2. The wall was substantial with many PRFs; to provide an indication of potential bat presence three surveyors were used to cover the apparently (based on the PRA) most suitable section.

Surveyors were equipped with electronic bat detectors (EM Touch Pro 2) and sound files were analysed with appropriate bat analysis software (Kaleidoscope) once the surveys were completed. InfraRed cameras were also used, covering PRFs and the footage reviewed at the conclusion of the surveys.

The nocturnal bat surveys were undertaken in weather conditions considered appropriate for surveys of this kind (**Table 2**).

Table 2. Nocturnal bat activity survey information

Date	Surveyors	Sunset/ rise	Time		Cloud (octets)	Wind (Beaufort/ Direction)	Temp (°C)	Precip.
			Start	Finish				
Building 1								
27/08/2022	MO/SF/SD	06:12	04:20	06:17	6	0-1 NE	11-13	Nil
Building 2								
27/08/2022	MO/SF/SD	20:17	20:02	22:17	7-8	0-1 NE	11-13	Nil
Wall								
28/08/2022	MO/SF/SD	06:13	04:35	06:28	2-3	0-1 N	12-13	Nil

4.4. Limitations

The findings presented in this study represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors which affect the presence of plants and animals, such as the time of year, migration patterns and behaviour.

The nocturnal surveys commenced towards the end of the bat active period. However, it is considered that the results of the surveys are an accurate reflection of the status of roosting bats in the areas surveyed.

5. Results

5.1. Building 1

5.1.1. Preliminary Roost Assessment

The results of the PRA surveys were consistent with those in 2019.

5.1.2. Nocturnal Survey

No bats roosted within Building 1.

Occasional foraging/commuting Common Pipistrelle, Soprano Pipistrelle, Noctule and *Myotis* bat sp. were logged.

5.2. Building 2

5.2.1. Preliminary Roost Assessment

The results of the PRA surveys were consistent with those in 2018.

5.2.2. Nocturnal Survey

No bats roosted within Building 2.

Occasional foraging/commuting Common Pipistrelle, Soprano Pipistrelle, Noctule and *Myotis* bat sp. were logged.

5.3. Wall

5.3.1. Preliminary Roost Assessment

Endoscope inspection of the wall identified many gaps in mortar leading to often substantial cavities within the wall fabric. PRFs were particularly prevalent on the eastern and northern wall sections, typically near the top of the wall.

No evidence of bat presence was found in any of the PRFs present, although it was impossible to inspect all due to the number of PRFs present and the presence of bee's nests at a number of locations.

Following detailed endoscope inspection, the wall was assessed to be of **HIGH** suitability for roosting bats (**Table 1**).

5.3.2. Nocturnal Survey

Surveys focussed on a section of the eastern wall. A SOPRANO PIPISTRELLE day-roosted in a small gap in brickwork (Photograph 2) near the capping stone.

Occasional foraging/commuting Common Pipistrelle, Soprano Pipistrelle and *Myotis* bat sp. were logged.

Photograph 2. Day roost location of single Soprano Pipistrelle on 28 August 2022



6. Conclusions and Recommendations

6.1. Building 1 and Building 2

A nocturnal survey of these buildings did not identify the presence of roosting bats. However, only a single survey was completed, and this was towards the end of the survey season. It is recommended that once the scope of work is determined in relation to the buildings the potential requirement for further survey work is considered by a SQE.

6.2. Wall

The PRA identified the presence of many, substantial PRFs and the presence of a roosting bat was confirmed during a single survey of a small section of wall.

No works to the wall should be completed until further survey work is completed. This survey work should comprise a minimum of two (maximum of three) nocturnal surveys of all sections of the wall with the potential to support roosting bats to determine roost locations, species present and numbers. These surveys should be completed between May and August (inc.).

The confirmation of a roosting bat within the wall means that a licence from Natural England will be required to enable the proposed works to proceed lawfully. This licence application can only be submitted when all survey data has been obtained.