



Calder Town End, Cumbria

AVISON YOUNG

Bat Survey Report; 2020

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Executive Summary

In 2018 BiOME Consulting Ltd was commissioned by Avison Young to undertake a Preliminary Ecological Appraisal (PEA) of two buildings (house and stone barn) proposed for demolition at Calder Town End, Cumbria.

This PEA identified features with potential to support roosting bats within both the house and the stone barn and all these buildings were considered to be of moderate suitability for roosting bats. Nocturnal surveys were recommended to evaluate if/where bats are roosting in the buildings to be impacted by the proposed works, in addition to identifying which bat species are present and numbers/type of roosts.

Following the completion of these surveys, it was decided to demolish the sole other building within the site; the stables. Consequently, this building was assessed to determine its suitability for roosting bats and was classed as being of moderate potential.

The nocturnal bat surveys, completed in 2020, recorded day-roosting bats within all buildings with the site:

House– peak count of one Soprano Pipistrelle *Pipistrellus pygmaeus*.

Stone Barn– peak count of three Soprano Pipistrelle.

Stables– peak count of two Soprano Pipistrelle.

The confirmation of the day-roosting bats detailed above means that for works on site to proceed legally to these buildings, a European Protected Species (EPS) mitigation licence, issued by Natural England (NE), will be required.

The proposed works are likely to cause disturbance to the roosting bats, including the likely destruction of roosting sites, which would be deemed a legal offence without such a licence.

1. Introduction

1.1. Background

In December 2018 BiOME Consulting Ltd was commissioned by Avison Young to undertake a Preliminary Ecological Appraisal (PEA) (including a desk study) of two buildings (house and stone barn) proposed demolition at Calder Town End (the 'site'), Cumbria. The site is centred on National Grid Reference NY04117 03409 (Figure 1).

Figure 1. Site location



This PEA identified potential bat roost features within the house and stone barn, and both buildings were considered of moderate suitability for roosting bats. Nocturnal surveys were recommended to evaluate if/where bats are roosting in the buildings to be impacted by the proposed works, in addition to identifying which bat species are present and numbers/type of roosts.

Following this PEA survey, it was decided to demolish the sole other building within the site; the stables. Consequently, this building was assessed to determine its

suitability for roosting bats and was classed as being of moderate potential and nocturnal surveys of this building were also completed.

These nocturnal bat surveys have now been completed, and form the basis of this report.

1.2. Site Description

The site is located between the village of Gosforth and Sellafield Nuclear Power Station, western Cumbria (**Figure 1**).

The site layout is shown on **Figure 2**, three buildings were present within the site:

House; The house was fabricated in stone with a rendered outer wall and a double-pitched slate roof. A roof void was present, which was lined with wood. A small open-fronted building adjoined the southern façade of the house.

Stone barn; This two-storey barn was constructed in stone with an unlined cement-bound asbestos roof (with clear panels to provide illumination) supported by wooden timbers.

Stables; Metal sheeting shed.

External areas were largely amenity grassland and hardstanding.

Figure 2. Site layout



1.3. Proposed Works

It is proposed to demolish all buildings within the site.

2. Methodologies

2.1. Desk Study

Biological records data were obtained from Cumbria Biodiversity Data Centre (CBDC) on 16 November 2018. The provided data included:

- Protected and notable species records within 2km.
- Information in relation to non-statutorily designated sites within 1km.

Information in relation to nationally and internationally designated sites within 2km was obtained from Magic.gov.uk (accessed 18 November 2018).

Habitats and Species of Principal Importance¹ and the Local Biodiversity Action Plan (LBAP) priority habitats and species were also reviewed to compare to those habitats and species either recorded within the site during the survey or recorded as having potential to be present (due to habitat suitability). The LBAP which covers this site is the Cumbria Biodiversity Action Plan².

2.2. Bat Roost Potential Assessment

Due to the proposed demolition of the stables, in addition to the house and stone barn (reported on in the PEA report referenced previously), a Preliminary Roost Assessment (PRA) inspection of this building was completed.

A systematic search of the exteriors of the building was completed 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. The external inspections also included the examination of the ground, particularly beneath any potential bat access points, for example any windowsills, window panes, walls, behind any peeling paintwork or lifted rendering, hanging tiles, weatherboarding, eaves, soffit boxes, fascias,

¹ Habitats and Species of Principal Importance are listed under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006.

² Cumbria County Council (2016). Cumbria Biodiversity Action Plan [online] available at: http://www.cumbria.gov.uk/planning-environment/conservation/biodiversity/bio_bap.asp (accessed 1 November 2018)

lead flashing, gaps under felt, and under tiles/slates where present and accessible.

A systematic search of accessible areas within the building interior was also completed, again searching for actual/potential bat access points, roosting sites and to locate any evidence of bats. It should be noted that occasionally bats leave no visible sign of their presence in a building's interior or on its exterior, particularly when there are hidden cracks, crevices and/or voids.

The potential suitability of the building for roosting bats was assessed in line with relevant guidelines³ and allocated to one of the categories detailed within **Table 1**.

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).

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

Suitability	Description of Roosting Habitats
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.

2.3. Nocturnal Bat Surveys

The nocturnal bat activity surveys were managed by Mr Richard Moores in line with appropriate survey guidance⁴. Richard is an experienced and qualified ecologist, and full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Richard holds Natural England licences (2015-12257-CLS-CLS/2015-12259-CLS-CLS) to survey bats, which derogate the law with regard to disturbance of these species. All surveys were completed in appropriate conditions (**Table 1**).

Table 1. Nocturnal bat survey times and weather data

Date	Sunset/ Sunrise	Time	Weather			
			Cloud (Octets)	Wind	Temp (°C)	Rain
20/05/2020	21.20	21.05-23.20	0	1 S	12-11	-
20/07/2020	05:08	03.00-05.23	7	1-2 SW	11-15	-
06/08/2020	21.06	20.50-23.06	8	1 SE	15-17	-

Survey assistance was provided by Dominic Rigby, Izzie Spall, Mark Smith, and Natasha Reece, also experienced nocturnal bat surveyors. Surveyors were positioned so as to ensure all potential bat access points could be observed (**Figure 3**).

⁴ Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.). The Bat Conservation Trust, London

Figure 3. Surveyor positions



2.4. 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.

Due to the concerns on relation to Covid-19, it was only possible to complete an external inspection of the stables. However, this was followed by a comprehensive suite of nocturnal surveys and is therefore not considered to represent a significant limitation.

3. Results

The results of the desk study (Section 3.1) and the nocturnal bat surveys (Section 3.2) are presented below.

3.1. Desk Study

There are no statutorily designated sites within the search area. One non-statutorily designated site is present; details are provided within **Table 3**.

Table 3. Designated site details

Site	Approx. Distance from Site Centre/Direction	Description
Non-Statutorily Designated Sites		
Ponsonby Tarn County Wildlife Site (CWS)	0.6km/west	No information available

The desk study returned the following records:

- Unidentified bat – 36 records.
- Common Pipistrelle *Pipistrellus pipistrellus* – four records, most recently in 2016 including a roost of 89 at Newton Manor in 2008 (1.0km from the site) and 102 at Sellafield, North Drive in 2015 (1.9km from the site).
- Unidentified pipistrelle species – 19 records, most recently in 2017.
- Soprano Pipistrelle – 13 records, most recently in 2016 including a roost of 242 at Sellafield, North Drive in 2015 (1.9km from the site) and numerous records of fewer than ten using bat boxes at Sellafield.
- Brown Long-eared Bat *Plecotus auritus* – three records, most recently in 2011.
- Daubenton's Bat *Myotis daubentonii* - four records, most recently in 2015.

- Noctule *Nyctalus noctula* - eight records, most recently in 2016 including a roost of seven at Sellafield in 2014 (1.1km from the site), nine at Sellafield, North Drive in 2015 (1.9km from the site) and records of roosting bats within boxes at Sellafield (1.2 from the site).

3.2. Preliminary Roost Assessment – Stables

It was only possible to complete an external inspection of this building (due to precautions relating to Covid-19).

This building was constructed in rendered concrete and corrugated metal. The roof was metal the eastern section being flat with a pitched roof over the western section.

A small wooden building was attached to the southern aspect, which was clad with feather board.

A number of potential roost features were noted:

- Open access to interior.
- Overhanging/overlapping metal sheets.

The building was assessed to be of moderate suitability for roosting bats (Table 1).

3.3. Nocturnal Bat Surveys

The results of the nocturnal surveys are detailed below.

3.3.1. 20th May 2020 – Dusk

House: One Soprano Pipistrelle emerged (21.44) from a day roost in the house, from the northern elevation (immediately adjacent to the Stone Barn) from beneath a tile at the verge (**Photograph 1**). It is considered highly likely that this bat roosted in close proximity to its emergence point.

Stone Barn: No bats emerged.

Stables: Two Soprano Pipistrelles emerged (21.36) from the northern gable (**Photograph 2**). The precise roost location could not be established.

General bat activity was low, with Common and Soprano Pipistrelles noted foraging infrequently within the survey area.

3.3.2. 20th June 2020 – Dawn

House: No bats returned to roost sites.

Stone Barn: No bats returned to roost sites.

Stables: No bats returned to roost sites.

Regularly registrations of foraging Common and Soprano Pipistrelles were noted within the survey area until 04.40, when these bats were observed to fly off-site to the north.

A single Brown Long-eared Bat was logged within the farmyard to the east of the Stone Barn (03.38).

3.3.3. 6th August 2020 – Dusk

House: No bats emerged.

Stone Barn: Three Soprano Pipistrelle emerged (21.21, 21.29 and 21.40) from the south-eastern corner of the roof. The roost location was adjacent to a wooden beam between the stone wall and roof slates (**Photograph 3**)

Stables: One Soprano Pipistrelle emerged from the eastern elevation, from the top of the corrugated iron façade (**Photograph 4**). The precise roost location could not be established.

General bat activity was low, with Common and Soprano Pipistrelles noted foraging infrequently within the survey area.

Photograph 1.
2020

House - Emergence Location of single Soprano Pipistrelle; 20th May



Photograph 2.
2020

Stables - Emergence Location of two Soprano Pipistrelles; 20th May



Photograph 3.
2020

Stone Barn – Roost Location of three Soprano Pipistrelles; 6th August



Photograph 4.
2020

Stable – Emergence Location of one Soprano Pipistrelle; 6th August



4. Conclusions and Recommendations

4.1. Summary

Day-roosting bats were recorded in all three of the buildings to be demolished:

House – peak count of one Soprano Pipistrelle.

Stone Barn – peak count of three Soprano Pipistrelles.

Stables – peak count of two Soprano Pipistrelles.

No evidence of larger or more important (e.g. maternity) roosts were identified and it is considered that the results accurately reflect the status of roosting bats during summer 2020.

4.2. Next Steps

The confirmation of the day-roosting bats detailed above means that for works to proceed legally, a European Protected Species (EPS) mitigation licence, issued by Natural England (NE), will be required.

The proposed works are likely to cause disturbance to the roosting bats, including the likely destruction of roosting sites, which would be deemed a legal offence without such a licence. In terms of mitigation, given the relatively low conservation significance of the buildings as bat roosting sites⁵, no restrictions on the timing of the works are considered necessary. The destruction of the roosting sites should be completed by hand, under the supervision of an appropriately licenced ecologist.

There would also be a need to provide compensation for the loss of bat roosting sites. A full program of mitigation would be finalised at the licence application stage.

This report is the result of survey work undertaken in summer 2020. This report

⁵ Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. English Nature

refers, within the limitations stated, to the condition of the site at the time of the surveys. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. No warranty is given as to the possibility of future changes in the condition of the site.