

Tarn Cottage Sellafield Cumbria

Ecological Constraints Study; 2023

AVISON YOUNG

Final

VERSION 2

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Contents

1.	Intro	1	
	1.1.	Development Proposal	2
2.	Meth	odologies	3
	2 .1.	Preliminary Ecological Appraisal Survey	3
	2.2.	Bats	3
	2.2.1.	Preliminary Roost Assessment	3
	2.2.2.	Emergence/Re-entry Surveys	5
	2.3.	Limitations	5
3.	Resu	7	
	3.1.	Site Survey	7
	3.2.	Emergence Bat Survey	7
4.	Conclusions and Required Actions		
	4.1.	Designated Sites	8
	4.2.	Habitats and Species	8
	4.3.	General Mitigation	9
	4.4.	Opportunities for Enhancement	10



1. Introduction

BiOME Consulting Ltd was commissioned by Avison Young to undertake an Ecological Constraints Study (ECS) and nocturnal bat emergence survey in relation to the proposed demolition of Tarn Cottage (**Figures 1** and **2**) (the 'site'). This report details the methods employed, results obtained and recommendations to enable the lawful progression of the project from an ecological perspective.

Figure 1. Site Location



Tarn Cottage, Sellafield, Cumbria; Ecological Constraints Study; 2023 1 | P a g e



Figure 2. Site layout, buildings to be demolished in red, approx. property boundary in blue



1.1. Development Proposal

It is proposed to demolish all buildings within the site (Figure 2).



2. Methodologies

2.1. Preliminary Ecological Appraisal Survey

An update PEA survey¹,² was undertaken on 26 June 2023 by an experienced ecologist, Martyn Owen MCIEEM, in excellent weather conditions. Martyn holds survey licenses in relation to GCN (2016-19752-CLS-CLS), bats (2022-10620-CL18-BAT) and a variety of Schedule 1 birds (including Barn Owl Tyto alba). During the survey all areas within the site and site boundaries were walked and habitat types assessed. Signs of protected species, invasive plants (*i.e.* those included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) and other notable species were also searched for during the survey, as well as noting habitats considered to have the potential to support protected species.

2.2. Bats

2.2.1. Preliminary Roost Assessment

An update Preliminary Roost Assessment (PRA) survey³ was completed by Martyn Owen MCIEEM on 26 June 2023. This survey was completed in suitable weather conditions (overcast and dry). Prior to the completion of the site survey, aerial imagery was reviewed⁴.

The survey involved an inspection of the interior (where accessible) and exterior of the buildings 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/scratching 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).

4 Google Maps [online] available at: https://www.google.co.uk/maps (accessed 1 June 2023)

3 | P a g e

¹ Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London

² CIEEM (2017) Guidelines for preliminary ecological appraisal [online] available at: <u>https://www.cieem.net/guidance-on-preliminary-ecological-appraisal-gpea-</u> (accessed 1 June 2023)

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



The inspection was facilitated by the use of ladders, binoculars, a high-powered torch, endoscope and small dental mirrors to inspect accessible crevices with the potential to support bats.

The potential suitability of the survey area 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 proposeddevelopment 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>i.e.</i> 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 present.			

4 | P a g e



2.2.2. Emergence/Re-entry Surveys

One update nocturnal survey (dusk emergence) of the buildings on site was undertaken (Table 2).

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. Infra-red cameras (Canon XA60) and additional infrared lighting (Nightfox XB5 IR and flood lamps) were used, with cameras positioned to ensure that all areas with the potential to support roosting bats were covered. Following the survey, recorded footage was analysed.

To ensure coverage of all areas which could support bats the nocturnal surveys of the were completed by four surveyors (**Table 2**), Richard Moores MCIEEM (NE bat licence no. 2015-12257-CLS-CLS), Samuel Dreux QCIEEM, Laura Owen and Steve Forrester, all of which are highly experienced nocturnal bat surveyors.

The survey was undertaken in weather conditions considered appropriate for surveys of this kind (**Table 2**).

Table 2.	Survey details	
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Date	Surveyors	Sunset/	Time		Cloud	Wind	Temp	
		rise	Start	Finish	(octets) (Beautort	(Beautort/ Direction)	(°C)	Precip.
28/06/23	SF/SD/RM/ LO	21:52	21:37	23:52	6-7	2 SW	13	Nil

2.3. 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.

Access to all areas outwith the site boundary was not possible; however, it was possible to adequately assess these areas from within the site or from public rights of way.

Tarn Cottage, Sellafield, Cumbria; Ecological Constraints Study; 2023 5 | Page



Access to the interior of the house was not possible due to health and safety concerns. However, external inspections and nocturnal surveys have been completed. This is not therefore considered a significant constraint and does not affect the validity of the conclusions of this report.

The inspection of buildings and built structures for evidence of bats can be conducted at all times of year. The daytime inspection was completed in the main period of bat activity (May-September inclusive) but it is possible that previous evidence of low-level bat usage may have not been apparent. However, the buildings were not in regular use and any bat evidence inside the buildings would very likely have been visible to the surveyor, if present.



3. Results

3.1. Site Survey

The updated PEA/ECS conducted on 26 June 2023 did not suggest any significant changes to the observations made during the previous PEA conducted on 8 April 2021⁵.

3.2. Emergence Bat Survey

No bats roosted within the House or Outbuilding.

Foraging activity was low, with infrequent passes of Common Pipistrelle Pipistrellus pipistrellus and Soprano Pipistrelle Pipistrellus pygmaeus logged along with five Myotis sp. passes.

7 | P a g e

Tarn Cottage, Sellafield, Cumbria; Ecological Constraints Study; 2023

⁵ BiOME Consulting Ltd (27 September 2021). Tarn Cottage, Sellafield, Cumbria Ecological Constraint Study



4. Conclusions and Required Actions

4.1. Designated Sites

Nine non-statutorily designated sites are present within 2km of the site. Taking into account the nature of the proposed works, no effects to these locally designated sites are predicted, assuming all works strictly follow pollution prevention best practice.

4.2. Habitats and Species

None of the **habitats** identified on-site were considered to be of significant ecological value and are not considered to represent a constraint to the proposed works.

Retained trees on/near site should be protected in line with BS 5837:2012⁶. Where vegetation clearance is required, vegetation should be reinstated on at least a like-for-like basis. Standard pollution control measures should be implemented during construction to protect all habitats.

No evidence of **roosting bats** was identified during surveys and bat activity in the general area was low. No further survey work is required; in the apparently unlikely event that bats are encountered during demolition, all works must cease and the advice of a Suitably Qualified Ecologist (SQE) obtained. No further survey work in relation to the on-site trees present is required. However, in the unlikely event that bats are disturbed during tree removal, works must cease and the advice of a SQE sought.

As some limited scrub clearance is likely to be required on site, the works have the potential to cause disturbance, killing and injury of **reptiles** and/or common **amphibians**. Further surveys are not necessary given the scale/nature of the habitats affected, but careful vegetation clearance to temporarily displace animals should be implemented.

8|Page

⁶ British Standards Institute BS 5837:2012. Trees in relation to design, demolition and construction.



Vegetation clearance should be undertaken over winter (November-February). Alternatively, if carried out outside of this period, a two-stage clearance should be implemented, subject to an ecological watching brief by a SQE, with vegetation cut to 150 mm and then to ground level.

No **Badger** setts were present within the site or adjacent accessible areas. Nevertheless, the occasional presence of foraging Badgers is considered possible; it would therefore be prudent to consider Badgers during renovation works, this may include (if relevant):

- covering trenches at the conclusion of each working day, or include a means of escape for any animal falling into excavations, and
- any temporarily exposed open pipe system should be capped in such a way as to prevent Badgers gaining access.

If possible, any vegetation clearance/building works should be completed outside the **nesting bird** season (1 March to 31 August), although it should be noted that the nesting period may extend beyond these dates (for example, pigeons can breed in any month of the year in the UK). Should an occupied bird nest or a nest in the process of being constructed be encountered during works, clearance must cease in this area and should only re-commence once the birds have fledged or the nest is abandoned.

If works must be undertaken during the nesting season, a survey to identify any nests which may be impacted will be required. This survey should be undertaken by a SQE. Again, should an occupied nest or nest under construction be found, works must cease in this area until the birds have fledged or the nest has been abandoned.

4.3. General Mitigation

All works should be undertaken in accordance with Guidance for Pollution Prevention (GPP5) and PPG1 Understanding your Environmental Responsibilities.

If any protected species are encountered during the works, all works in the vicinity should stop immediately and a SQE contacted for advice on how to proceed.



4.4. Opportunities for Enhancement

The National Planning Policy Framework (NPPF) sets out national planning policies for the protection of biodiversity (and geological) conservation through the planning system. A key principle of NPPF is that, 'Opportunities to incorporate biodiversity in and around developments should be encouraged'. Taking the requirements of NPPF into account, opportunities should be sought where possible for nature conservation enhancement at this site, potentially including:

- The creation of habitat areas through landscape planting using native, locally sourced plants/trees.
- The planting of native fruiting species to provide a food source for invertebrates, birds and mammals.
- The installation of bird and bat boxes on retained tree/s. S41 priority species such as the House Sparrow (which were noted in the area) and Barn Owl Tyto alba could potentially benefit from the provision of appropriate boxes.
- Pond creation.

Such measures would be beneficial to nature conservation and show compliance with the latest policy guidance. It would be prudent to include details of enhancements within an Ecological Enhancement Plan.

The findings of this report are considered valid until 1 May 2024⁷. If the project is delayed beyond this period, an updated assessment of potential impacts will be required.

10 | P a g e

⁷ CIEEM (2019). Advice Note on The Lifespan of Ecological Reports and Surveys [online] available at: https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf