



Excelsior Ecology

Thornhedge, Poulton Ecological Appraisal

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Executive Summary

Excelsior Ecology Limited was commissioned in July/August 2023 to undertake ecological walkover and an assessment of the potential presence/ absence of roosting bats at a property proposed for redevelopment; Thornhedge, Poulton, near Cirencester.

Thornhedge is a bungalow with bedrooms in the roof, with a small loft space. It is of late 20th century construction with dormer roof windows, two gable ends and has a link attached double garage of brick construction. The main habitats are vegetated domestic garden front and rear gardens, sealed surface and individual trees and hedges.

No protected or priority habitats were present on site. The site was assessed for its potential for protected and priority species. Potential for bats using the bungalow to roost was scoped into the assessment and required further survey. GCN and bats in trees were scoped out of the assessment due to small site and nearest pond being 250m from site and negligible potential from a lack of features for bats, respectively. No evidence of badger was found and the site was unsuitable for resident reptiles.

The Preliminary Roost Assessment, PRA, was carried out in July 2023, and determined the building on site to be of moderate bat roost potential, according to relevant survey guidelines, due to the presence of several potential roost features (gaps in brickwork/around tiles, damaged soffit boxes and lifting lead flashing) that could support roosting bats. No evidence of bat presence was recorded during the PRA. Consequently, two dusk emergence surveys were conducted during July and August 2023 in line with relevant survey guidelines.

No bats were recorded emerging from the building. Foraging/commuting records of five bat species were detected, associated with boundary hedges. Hedgehog was also recorded incidentally during these surveys. *See Bat Report, 2023, by Excelsior Ecology Limited.*

Foraging bats and resident hedgehog were the priority species to be considered in the project.

Mitigation to protect nesting birds, transient amphibians and reptiles, and hedgehog during proposed works has been stated.

It is recommended that a bat box be installed on the existing trees before the demolition, as a suitable enhancement as would a hedgehog hibernacula box

1 Introduction

1.1 Background

Excelsior Ecology Limited were instructed to undertake a ecological walkover and appraisal to inform proposals for the demolition of a domestic property; Thornhedge, Ashbrook Lane, Poulton, GL7 5HQ (the 'site') centred at OS grid reference SP 10146 01241.

Scoping out species from assessment

Due to the nature of this redevelopment (minor development), and the distance to the nearest pond being greater 250m (430m SW), great crested newt *Triturus cristatus*, GCN, were scoped out from the appraisal as they would be unlikely to be present at this distance. Precautionary mitigation for GCN has been stated in case of the unlikely event transient animals cross the site.

All trees on site were ground assessed to have negligible bat potential bats and therefore were scoped out, due to the species and age of the trees (no sign of decay). Ivy was growing on several trees onsite however the ivy was too thin to create cavities behind. See Appendix B, Figure 7.

One mature broadleaved tree, assumed *Salix* sp, and two ornamental trees had been removed prior to the proposed scheme and the assessment commission.

Assessment of zone of influence to Designated sites was scoped out due to nature of the development, demolition and potentially a replacement dwelling, as there would be no net gain of residential units, and therefore the proposals do not qualify as a development description in the DEFRA/NE IRZ Impact Zones: See Appendix 3 of SSSI Impact Risk Zones User.Guidance.¹

1.2 Site Description

The site contains a 1970s bungalow with a dormer roof on the northern aspect with tree and hedge-lined domestic garden to the north. The site is located on the northern edge of the Poulton village. Arable fields are to the east of the site and the gardens of the neighbouring properties are present over the north and eastern boundaries and a double hedge of Ashbrook Lane is across the southern boundary.

1.3 Survey Objectives

The survey objectives were:

- To carry out a UK Habitats survey;
- To record and assess any features used by protected and priority species.

1.4 Legislation

Protected Species

¹ https://magic.defra.gov.uk/Metadata_for_magic/SSSI%20IRZ%20User%20Guidance%20MAGIC.pdf

Bats and the sites that they use for breeding or resting are afforded protection through the provisions of the Wildlife and Countryside Act 1981 (as amended), Environment Act 2021, and the Conservation of Species and Habitat Regulations 2017 (as amended). It is an offence, without a licence from Natural England, to:

- kill, injure or capture a bat;
- damage, destroy or obstruct access to any bat breeding site or resting place;
- disturb a bat if it is likely to:
 - impair its ability to:
 - survive, breed or reproduce or rear/nurture young; or
 - hibernate or migrate; or
 - significantly affect the local distribution or abundance of the species to which they belong.

A roost is protected whether or not bats are present. Works affecting a roost, even when bats are absent, are likely to require a European Protected Species (EPS) licence from Natural England to authorise actions that would otherwise be illegal.

Priority Species

Priority species, such as European hedgehog *Erinaceus europaeus*, are afforded due regard in local planning applications, as part of local planning authorities' legal duty towards biodiversity under the NERC Act 2006, schedule 41.

Mitigation would be required if there is deemed to be an impact from the development to ensure the conservation of the priority species.

2 Methodology

2.1 Data Search

Pre-existing species records from within 2km of the site during the last ten years were obtained from Gloucestershire Centre for Environmental Records (GCER) in August 2023.

Magic Map (DEFRA)² data was assessed within 2km of site for known protected species Natural England licence information.

Designated site search was scoped out of the assessment. See Section 1.1.

2.2 Preliminary Roost Assessment

A Preliminary Roost Assessment (PRA) survey was undertaken to identify any trees or structures with the potential to support roosting bats within the site boundary. The building was assessed for features which could support roosting bats, classing the potential roosting features, PRF, based on the current Bat Conservation Trust (BCT) Good Practice Guidelines³ as follows:

- Negligible – Negligible features likely to be used by bats;
- Low – A structure with one or more potential roost features that would be used by individual bats opportunistically;
- Moderate – A structure with one or more potential roost features that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to hold a roost of high conservation status;
- High – A structure with one or more potential roost features that are obviously suitable for the use by large numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and the surrounding habitat.

Internal inspection of the building loft space was conducted by Martyn Owen MCIEEM (NE Bat licence No. 2022-10620-CL18-BAT) on 13th July 2023. The inspection of external features of the building was carried out by Martyn and Nick Bolton MCIEEM. The PRA of the building was established by Martyn and Nick. Nick has seven years of professional experience surveying bats, and has designed and supervised the creation of bat roosts as an accredited agent.

2.3 UK Habitats survey

Habitats on site were recorded and mapped in UK Habitats.

2.4 Walkover for protected and priority habitats and species

Target notes were made to capture any reference notes on the present of evidence of protected and notable species. GCN and bats in trees were scoped of the assessment (see Section 1.1.).

Survey Limitations:

² www.magic.defra.gov.uk/MagicMap.aspx - accessed August 2023

³ Collins J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

The walkover survey was conducted in optimum weather conditions and time of year.

3 Results

3.1 Data Search

GCER returned eight records of bats within 2km of the site since 2013. The closest records were from a farm just over a kilometre to the north of the proposed site, including lesser horseshoe *Rhinolophus hipposideros* (Annex II species) and from a farm/ trading estate gardens and vegetated lane just over a kilometre to the south of the site. These included one record of lesser horseshoe.

Other notable records were great crested newt (1.2km SW closest record of transient individual and nearest recorded GCN breeding pond was 1.7km NW), common toad, grass snake, badger, one otter spraint (2014, 1.2km SW) and hedgehog. See Appendix A for details of the species records.

3.2 UK Habitats survey

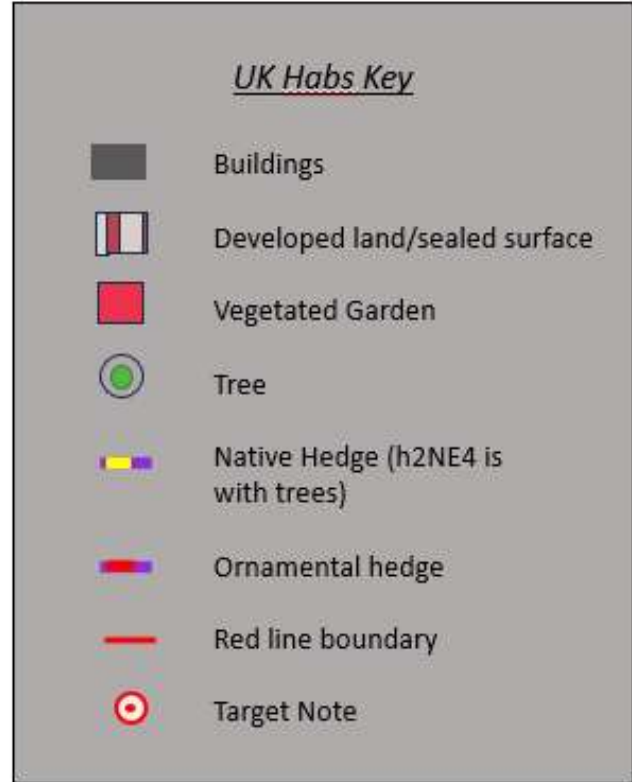
Table 1: Summary of the habitats onsite

UK Habitat (phase 1)	Description	Protected/ priority habitat?	Location
U1b - Developed/sealed surface (Buildings and hardstanding)	1970s bungalow with patio slabs and gravel driveway	N/A	Central and southern area
231 - Vegetated garden (improved grassland/ species poor semi-improved grassland and ornamental shrub)	Modified grassland lawn dominated by ryegrass <i>Lolium perenne</i> with occasional dandelion <i>Taraxacum ag. Spp.</i> , creeping buttercup <i>Ranunculus repens</i> and ornamental plants/shrubs	N/A	Northern area and around the boundary
11 - Scattered trees (urban and rural scattered trees)	Apple <i>Malus domestica</i> and ornamental cherry <i>Prunus sp.</i> , Scots pine <i>Pinus sylvestris</i> , silver birch <i>Betula pendula</i> and sycamore <i>Acer pseudoplatanus</i> to the eastern boundary. Two trees had been felled before assessment due to subsidence issue (TN2).		Northern boundary and domestic garden trees – see hedge with trees also.
H2NE4 – Native hedge with trees [H1]	Hawthorn <i>Crataegus monogyna</i> dominant hedge with occasional hazel <i>Corylus avellana</i>	Not classed as important hedge (Hedgerow Regulations 1997)	Western boundary and part of northern boundary

	and blackthorn <i>Prunus spinosa</i> . Trees include mature sycamore, silver birch and Scots pine.		
H2NE3 – Ornamental hedge	Laural <i>Laurus nobilis</i> hedge	N/A	Northern boundary
H2NE3 – Ornamental hedge	Laurel hedge	N/A	Western boundary
H2NE3 – Ornamental hedge	Box <i>Buxus sempervirens</i> hedge	Not classed as important hedge (Hedgerow Regulations 1997)	Southern boundary

Table 2: UK Invasive Non-Native Species present on site

Species	Description	INNS	Location	Target note
<i>Cotonaster</i> sp.	2015	Wildlife and Countryside Act 1981, Schedule 9	Established under the northern aspect of bungalow by the conservatory	TN1




 Excelsior Ecology	
Drawing Title:	UK Habitats mapping
Project:	Poulton 005-001
Date/ Revision:	Aug-Sep'23 – R1

Figure 1: UK Habitats Mapping

3.3 Protected and priority species

Bats

The internal PRA found two sides of the loft void, west and east, were cobweb-free and no bat droppings were found. The external inspection identified numerous PRFs on the building, detailed in Table 4. The garden shed was discounted as negligible bat potential due to holes in the roof. See photographs of the PRF features in the Appendix.

Table 3. Ground-based building (Preliminary Roost Assessment, PRA) assessment results

PRF number	Height	Location	Description of Potential Roost Features	Bat Roost Potential
PRF_1	2m	SE, Garage front wall	Brick gap, between the doors, access into the roof void.	Moderate
PRF_2	2m	SE, End of roof tiles	Mortar gap	Low
PRF_3	4.5m	SE	Chimney lead flashing gap	Low
PRF_4	4m	E, Gable end	Brick gaps with access to the cavity/loft	Moderate
PRF_5	4m	W, Gable end	Brick gap with access to the cavity and loft	Moderate
PRF_6	2.5+3m	NW, soffit	Soffit end hole from the bottom of the northern roof, and in corner where down pipe enters	Low
PRF_7	2m	NE, soffit	Soffit end – newly broken from wood decay	Low

From the PRA, a total of 3 moderate and 4 low potential features was identified that required further survey. Overall, the building was classed as having moderate bat potential, requiring two emergence/ return surveys.

No bats were recorded emerging from the building during the two emergence surveys. No bats were recorded emerging on the Infra-Red night vision video recording. See *Bat Report – Thornhedge Poulton, 2023, by Excelsior Ecology Limited*.

Five bat species were recorded/observed using the site during the emergence surveys comprising common and soprano pipistrelle, *Myotis* sp., brown long eared, BLE, and noctule. A summary of incidental activity recorded during the dusk surveys is provided in Table 5 of *Bat Report – Thornhedge Poulton, 2023, by Excelsior Ecology Limited*.

Common and soprano pipistrelle were the most frequent bats detected on site during the emergence surveys, recorded foraging and commuting using the trees and hedges of the southern and western boundaries and over the driveway.

Other species detected were brown long eared, recorded on the south-eastern boundary along the bushes. *Myotis* sp. were detected along the eastern boundary. Noctule were heard not seen over the site and along the eastern boundary of the site.

Other species

Table 4: Protected/priority species scoping assessment

Protected/ priority species	Scoped in/ out to assessment	Rationale	Protection
Nesting birds	Scoped in	Bird species observed on site likely to nest in the hedges and ornamental shrubs on site were wren, blackbird.	Wildlife and Countryside Act, W&C act, 1981
Badger	Scoped out – due to lack of signs on site.	Badger data on request – three records. No evidence of badger present. No field signs or setts were present on site.	Protection of Badgers Act 1992, W&C act 1981
Great crested newt	Scoped out – due to distance from nearest pond being over 250m from site and small domestic development.	5 records within 2km of site. One transient record in a car-park 1.2km south of the site. The nearest pond was over 250m from the site.	Habitats and Species Regulations 2019 as amended, W&C Act 1981
Reptiles	Scoped out – scoped out due to lack of suitable habitat.	Two grass snake records within 2km of site. Habitats present were of low suitability for resident populations of reptiles. Transient slow worms/ grass snake may be present – informative.	W&C Act 1981
Hedgehog	Scoped in	13 records of hedgehog within 2km of site. Hedgehog were present on site using the garden habitats to forage during both dusk bat surveys.	NERC act 2004, Wild Mammals Act 1996(as amended).

4 Conclusions and Recommendations

4.1 Roosting Bats

Following the PRA, the building was assessed to be of moderate potential value to roosting bats and consequently two nocturnal emergence surveys were completed. No bats roosted in the building during the surveys and bat activity was relatively low.

4.2 Incidental records

Hedgehog - Both emergence surveys recorded the incidental record of hedgehog using the site.

Nesting birds – Birds were detected using the boundary vegetation and the ornamental bushes around the house, including blackbird (*Turdus merula*), woodpigeon (*Columba palumbus*) and wren (*Troglodytes troglodytes*).

4.3 Recommendations

It is recommended that the boundary vegetation, existing trees and hedgerow are retained due to five species of bat using the vegetation onsite for commuting and foraging.

4.3.1 Mitigation

No bats were observed during two survey visits, however in the unlikely event that bats start using a feature, and that other transient protected and priority species are found during construction, it is recommended that the following mitigation is followed as an informative:

Bats - *In the unlikely event that protected species bats or are found during works, then works must cease and the advice of a Suitably Qualified Ecologist (SQE) must be sought immediately.*

Nesting birds – *Any vegetation clearance, or taking down the nest box feature on the building, should take place outside the main nesting bird season (March-August inclusive). If this cannot be avoided, then a suitably qualified ecologist would be required to check for nests, or nesting activity, 24 hours before the works was completed.*

Hedgehog - *To ensure that hedgehogs are not harmed during construction, it is recommended that trenches should have planks in the holes to provide escape for any animals that fall in overnight, and that the excavations are checked the morning. A hedgehog house would be appropriate feature to install ahead of any clearance of the brash/log piles onsite.*

Transient reptiles and great crested newt – *transient slow worm, grass snake or great crested newt may be present from nearby gardens and dispersing through the landscape. During construction, check for reptiles in any excavations and carefully move any that have dropped in to a safe location such as hedgerow or garden corner. If great crested newts are found then all works must cease and a Suitably Qualified Ecologist (SQE) must be sought immediately.*

Invasive species – *to ensure that the cotoneaster plant is not spread from the site, it is recommended that if the plant is cleared then the plant and roots remain on site. Burying the material is also recommended.*

4.3.2 Enhancement

Bats - *A suitable enhancement would be the installation of a bat and bird box on the existing trees would make a suitable planning condition.*



Figure: Schwegler 2F bat box (left), woodcrete bird box (28mm or 32mm hole)

Appendix A

Local Environmental Records Search Data (GCER)

Appendix A – Local Environmental (biodiversity) records

Table 2. Summary of species records within 2km of the Site

Common Name	Latin Name	Date	Description	Grid Reference	Distance from site
Bat species	<i>Chiroptera sp.</i>	May 2019	One was seen flying around under lights. Probably Pipistrelle. Only occasionally seen. No more than two spotted; Adult; 1 Count ; Sighting; Field Observation	SP095000	1.35km SW
Lesser horseshoe	<i>Rhinolophus hipposideros</i>	September 2015	Aural bat detector; Field Observation	SP107025	1.35km NE
Natterer's bat	<i>Myotis nattereri</i>	August 2015	Confirmed by DNA analysis; aural bat detector ; Field Observation	SP107025	1.35km NE
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	August 2015	Aural bat detector; Field Observation	SP107025	1.35km NE
Whiskered bat	<i>Myotis mystacinus</i>	August 2015	Aural bat detector ; Field Observation	SP107025	1.35km NE
Noctule bat	<i>Nyctalus noctula</i>	August 2015	Bat in flight; aural bat detector ; Field Observation	SP107025	1.35km NE
Brown long-eared bat, BLE	<i>Plecotus auritus</i>	August 2015	Confirmed by DNA analysis ; aural bat detector ; Field Observation	SP107025	1.35km NE
Bat species	<i>Chiroptera sp.</i>	March 2014	Surprisingly early-disturbed from hibernation? Flew up high, then appeared to head for trees on the other side ; field record ; Field Observation	SP098003	970m SW
Badger	<i>Meles meles</i>	2014	Omitted	Omitted	Omitted
Badger	<i>Meles meles</i>	2019	Omitted	Omitted	Omitted
Badger	<i>Meles meles</i>	2014	Omitted	Omitted	Omitted
Otter	<i>Lutra lutra</i>	2014	1 spraint	SP094002	c.1km SW
European hedgehog	<i>Erinaceus europaeus</i>	2014-2017	13 records	Poulton and surrounds	<1km
Great crested newt	<i>Tristurus cristatus</i>	July 2019	Adult; male ; 2 Count ;Field Observation	SP08210131	1.9km NW
Great crested newt	<i>Tristurus cristatus</i>	October 2013	On tarmac ; Found wandering in the carpark ; 1 Count of Adult; 1 unsexed	SP095000	1.2km South

			Count of Adult ; Field Observation		
Great crested newt	<i>Tristurus cristatus</i>	April 2018	NE original object ID: 1096. eDNA score: 12 ; Various methods	SP1168200040	1.9km SE
Great crested newt	<i>Tristurus cristatus</i>	August 2016	Together under a rock next to St Mary's Churchyard (which didn't look any good for slow worms) and a large pond. ; 4 Count; unknown ; Field Observation	SP1168200040	1.9km SE
Great crested newt	<i>Tristurus cristatus</i>	March 2014	Found in the centre of the car park of the business units ; Field Observation	SP095001	1.2km South
Common toad	<i>Bufo bufo</i>	2016	2 counted	SP095001	<1km
Common toad	<i>Bufo bufo</i>	2014-2020	Toads on Roads survey: 7 records	SP09910006	<1km
Common toad	<i>Bufo bufo</i>	2014	Few alive/10 dead	SP099000	<1km
Common toad	<i>Bufo bufo</i>	2018	1 dead	SP09550008	<1km
Grass snake	<i>Natrix helvetica</i>	2018	Found by compost heap	SP09780101	<1km
Grass snake	<i>Natrix helvetica</i>	2013	Found on lane	SP097003	<1km

Appendix B

Site photos

Appendix B: Site photos



Figure 2: Site habitats of residential plot with building (1970s bungalow) and sealed surface (gravel drive with assumed root barrier), vegetated garden, ornamental shrubs and existing trees (e.g. silver birch, Scots pine, crab apple, cultivated apple and sycamore).



Figure 3: Boundary linear habitats and features clockwise from top-left – native hedgerow (hawthorn dominant) western boundary; ornamental hedge northern boundary; native beech hedge (not shown) eastern boundary; and ornamental shrub planting along the southern section of the western boundary.



Figure 4: Rabbit holes in an old compost heap by northern boundary (NW) – pencil is to show scale.



Figure 5: Rabbit holes by the southern (SW) boundary (Target Note 4)



Figure 6: Old shed with holes in the roof (by western boundary), no signs of bats roosting and negligible roost potential due to the holes in the roof.



PRF1 – Brick gap in between the garage doors



PRF2 – gap in the roof tile mortar (left). PRF3 - gap in the chimney base flashing, second from top (right).



PRF 4 & 5 – gable end gap in bricks, east and west aspects respectively



PRF 6 – Hole in the soffit end of NW (left), and gaps in soffit as it joined the down pipe (centre). PRF 7 soffit on NE corner (right).



Internal main house roof void from internal PRA



Internal double garage PRA (left, centre) and garden shed (right)



Figure 7: Trees on site were classed as negligible potential for bat roosts due to age of tree, absence of features and no sign of decay to form suitable roosting features.