



Robson Ecology Ltd.

Tel: 01787 248407 / 07443 620934

Email: Odette@RobsonEcology.co.uk



Bat Roost and Emergence Survey, Pond Assessment, and Bat Mitigation Strategy

of

**The Cottage, Upper Green,
Felsham, Suffolk, IP30 0PL.**

Survey Commissioned by:	Mr Joe Naughton
Project Number:	REP23033
Report issued:	13 th October 2023
Date of Surveys	3 rd and 17 th August, 3 rd September 2023
Lead Surveyor:	Odette Robson BSc (Hons) PhD MCIEEM

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REP23033	Bat Roost and Emergence Survey, Pond Assessment, and Bat Mitigation Strategy of The Cottage, Upper Green, Felsham, Suffolk, IP30 0PL.	Final (no changes made)	13 th October 2023
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Disclaimer

The findings detailed in this report are based on evidence from thorough survey, where every effort has been taken to provide an accurate assessment of the site at the time of the survey. No liability can be assumed for omissions or changes after the survey has taken place.

This report was instructed by Mr Joe Naughton and following the brief agreed. Robson Ecology Ltd has made every effort to meet the client's brief.

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A Protected Species Licence is required: Natural England (the licensing authority in England) require data from the most recent survey season. This report may not be relied upon beyond 12 months, and surveys may need to be updated before this time to inform a licence application.

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Summary

Site:	The Cottage, Upper Green, Felsham, Suffolk, IP30 0PL.
Grid Reference	TL 94531 57091
Report Commissioned by:	Mr. Joe Naughton
Date of Surveys:	Preliminary Roost and Pond Assessment: 29 th July 2023. Dusk Emergence Surveys (2023): 3 rd August, 17 th August, 3 rd September.

Considerations	Description	Timings, potential impacts and mitigation.
Preliminary Roost Assessment	Daytime assessment of Cottage	High roosting potential – three emergence surveys recommended to identify roost-status and design mitigation/compensatory roost provision and licensing requirements.
Bat Emergence Survey Results	Three emergence surveys in August and September 2023.	Surveys were undertaken within the optimal bat survey season. Survey results confirm a small common pipistrelle day-roost, used by two individual bats at the time of the surveys.
A small, occasionally used common pipistrelle day-roost was recorded: A Bat Mitigation Class Licence (BMCL) will be required to proceed with the proposed renovations.		
Mitigation	Roost replacement and precautionary working methods.	<p>Exclusion of bats prior to start of works and precautions during work in areas with potential for roosting bats will be carried out under licence. Roosting opportunities will be replaced on gable end of renovated dwelling.</p> <p>Precautionary timing restrictions will apply for implementing the BMCL, to avoid times when bats are in torpor. Spring and autumn are recommended for building works, however, as there will be no impact to a maternity roost, the licence can be implemented between April and October inclusive.</p> <p>F1-Type bitumen/hessian-backed felt must be used in areas which can be accessed by bats (where there are gaps over 1cm wide under tiles/eaves/wall-cladding). Alternatively, bat-safe breathable membranes can be used if these have passed a snagging propensity test and can be licensed by Natural England for use in roosts.</p>
Precautionary measures	Sensitive lighting.	External lighting must not be directed towards bat boxes/features and boundary vegetation/trees. Garden boundaries must be retained as dark corridors to be used by bats on leaving/entering roost features.
Preliminary Pond Assessment	Accessible known ponds within 250m.	Great crested newts could be present in local water bodies close to the site however, habitat within the working zone is unlikely to support newts in their terrestrial phase. If protected amphibians are present locally, it is unlikely that they would be impacted by the proposed works: No further surveys or precautions are required.

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1 Introduction

1.1 Background

Robson Ecology Ltd was commissioned by Mr Joe Naughton, to undertake bat activity surveys at The Cottage, Upper Green, Felsham, Suffolk, IP30 0PL (Grid Reference TL 94531 57091). A planning application is being submitted to renovate the Cottage, including removal of a single-storey brick lean-to extension, re-roofing, reconfiguration, and installation of new windows.

Surveys were designed to identify the current status of roosting bats at the Cottage, to inform proposals to renovate the residential property and to design appropriate compensation and mitigation to achieve a protected species licence from Natural England to facilitate the works.

1.2 Site Context and Local Habitats

The site lies on the edge of Upper Green in the village of Felsham, approximately 10km to the west of Stowmarket. The Cottage is surrounded by unmanaged and overgrown garden and trees to the north and west. Beyond the immediate curtilage are other residential properties with mature gardens, and an area of mown greenspace to the north. To the south is the Cockfield Road,

The wider landscape is dominated by arable farmland. Bradfield Woods National Nature Reserve lies 700m to the north-west. The nearest water body is a small lake within the grounds of a private house beyond the road, 20m to the south.

1.3 Legislation

Bats are strictly protected under European and UK legislation (Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act, 1981). Four UK species are also listed under Annex II of the Habitats Directive.

Seven species are all Species of Principal Importance in England (SPIE) - formerly UK Biodiversity Action Plan Priority (BAP): Barbastelle *Barbastella barbastellus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus*, soprano pipistrelle *Pipistrellus pygmaeus*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros* and Bechstein's bat *Myotis bechsteini*.

1.4 Aims and Objectives

- To carry out full bat surveys to inform the planning application.
- Assess the potential impact of proposed works to any roosting bats;
- Provide an overview of the legal obligations and precautions required to ensure that individual bats are not harmed, or the local conservation status of the species affected, by loss of the roosts through removal of roost features and renovation of the property.
- Detail appropriate and proportional mitigation and/or compensation.

2 Methods

2.1.1 Desk Study

A 2km radius search for statutory designated sites was conducted using “MAGIC”, the Multi-Agency Geographic Information system for the Countryside.

A datasearch was requested from Suffolk Biodiversity Information Service (SBIS): Records of all bat species within a 2km radius of the site were provided on 15th August 2023.

2.1.2 Preliminary Roost Assessment

The survey was undertaken in accordance with Bat Surveys for Professional Ecologists: Best Practice Guidelines (Collins, 2016). All parts of the Cottage and immediate surroundings were assessed externally and internally for potential bat roosting features using binoculars, high-powered torch, and a borescope inspection camera (Ridgid CA300).

Aerial photographs, available maps and survey of the area outside the immediate zone of impact (where access was available) was used to identify any bat habitat in the wider landscape which could be impacted by proposals. The likely impact of the proposals (operational phase) to bats using the surrounding area (foraging and/or commuting) was also assessed.

2.1.3 Pond Assessment

Ponds and waterbodies within 250m of the site were identified from available maps, and site survey. Those within impact distance of the site works and ecologically connected were surveyed (where access was available) for potential to support great crested newts using the Habitat Suitability Index (HSI; Oldham *et al.*, 2000). The HSI is a numerical index which uses specific habitat factors to assess whether the water body would be likely to support great crested newts, based on preferences for breeding ponds (see Table 2.1).

Table 2.1: Habitat Suitability Index (HSI) indicating suitability of ponds for breeding great crested newt.

HSI Score	Pond Suitability
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

2.1.4 Emergence Surveys

Surveys comprised three dusk emergence surveys with surveyors and cameras (infra-red) covering all elevations of the Cottage. The survey methodology followed standard techniques and guidance, as recommended by Natural England and the Bat Conservation Trust: *Bat Surveys for Professional Ecologists: Best Practice Guidelines 3rd Edn* (Collins, 2016), and the Interim Guidance to the 4th Edition.

Equipment used included full spectrum Echo Meter Touch bat detectors/recorders, Sionyx night-vision cameras, Nightfox Whisker, Nightfox Red, Canon XA11 Camcorder with IR torch (Nightfox XB5/XC5) and wide-angle illuminators, and a FlirE4 thermal imaging camera. Direct observation was also used to record bat activity on the site. Both surveyors had one of the night-vision aids (NVA) listed above during each survey. Footage was reviewed in real-time

post-survey. All surveyors were equipped with a walkie-talkie and remained in contact throughout the survey.

2.2 Surveyor Details

Surveys were undertaken by:

- Odette Robson BSc (Hons) PhD MCIEEM: A full member of the Chartered Institute of Ecology & Environmental Management (CIEEM); licensed by Natural England (Licence ref: CL18:2015 10940-CLS-CLS) to survey for bats (Level 2); a NE Registered Consultant under the *Bat Mitigation Class Licence*, *Bats in Churches Class Licence*, and *Bat Earned Recognition Class Licence* - CL47 (Accreditation Level 2 – Annexes A, B and C). Lead-surveyor – present on all surveys.
- Ben Robson, an experienced ecologist assistant in his 5th season of bat surveys assisted of all three emergence surveys.

3 Results

3.1 Desk Study

The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ); Consultation with Natural England is required for infrastructure/quarrying, composting, waste, combustion, and planning applications impacting air pollution. Consultation is not required for Householder or residential projects.

Two statutory designated wildlife sites lie within 2km of The Cottage (MAGIC, 2023): Bradfield Woods National Nature Reserve (NNR) and SSSI 700m to the north-west; and Thorpe Morieux Woods SSSI approximately 1.6km to the south-east.

The nearest European Protected Species (EPS) licence granted for bats is 4.6km to the east (2018-38137-EPS-MIT), for destruction of a common pipistrelle, soprano pipistrelle and brown long-eared resting place (MAGIC; 4th October 2023).

Suffolk Biodiversity Information Service (SBIS, 2023) provided records of six species of bats within 2km of the site the nearest from St Peter's Church, approximately 150m to the south-east (common pipistrelle and brown long-eared). Records of the following species were provided:

- Five brown long-eared bat records (2003 and 2021), the nearest from Felsham Church, approximately 150m to the south-east of the site.
- Five common pipistrelle records (2003-2018), the nearest approximately 150m to the south-east at Felsham Church.
- A single soprano pipistrelle record from Bradfield Woods in 2016.
- A single Natterers record from Bradfield Woods in 2016
- A noctule record from Bradfield Woods in 2016
- Two barbastelle records from Bradfield Woods (2016 and 2018)

3.1.1 Status of bats in Suffolk and the UK

Taken from The Mammals of Suffolk (Bullion, 2009), Suffolk Biodiversity Partnership (www.suffolkbis.org.uk) and Bat Conservation Trust (BCT) web-based information of population trends (www.bats.org.uk).

Of the 17 species of bat known to breed in Britain, 13 species are included within the Suffolk Grouped Biodiversity Action Plan (BAP) for bats.

The only bat species recorded roosting during the surveys was the common pipistrelle *Pipistrellus pipistrellus*. Occasional passes of soprano pipistrelle, *Myotis* (likely Natterers spp), noctule, and brown long-eared were also recorded.

The most common and widespread species in Suffolk are the common and soprano pipistrelles, which also reflects national trends. The common pipistrelle may be recovering nationally (Bullion, 2009; BCT).

After pipistrelles, brown long-eared bats are the most widespread species in Suffolk, and nationally they are found throughout the UK but have declined due to changing agricultural practices, insecticide use in roof voids, and barn conversions. This species is common in suitable, rural areas of Suffolk.

The noctule is listed in the Suffolk BAP (taken from SBRC records 2011) as 'widespread and uncommon' in Suffolk. Nationally, this species is widespread in England and Wales. BCT data on population trends list the noctule as 'likely to be stable' between 1998 and 2013, however, data is scarce and other sources list noctule as a declining species (Bullion, 2009).

3.2 Survey Results from Preliminary Roost and Pond Assessment

A preliminary roost and pond assessment was carried out at the property, including the loft, on 29th July 2023. Descriptions in Table 3.1 refer to numbers/locations shown in Figure 3.1 below.

Figure 3.1: Known water bodies within 250m of The Cottage

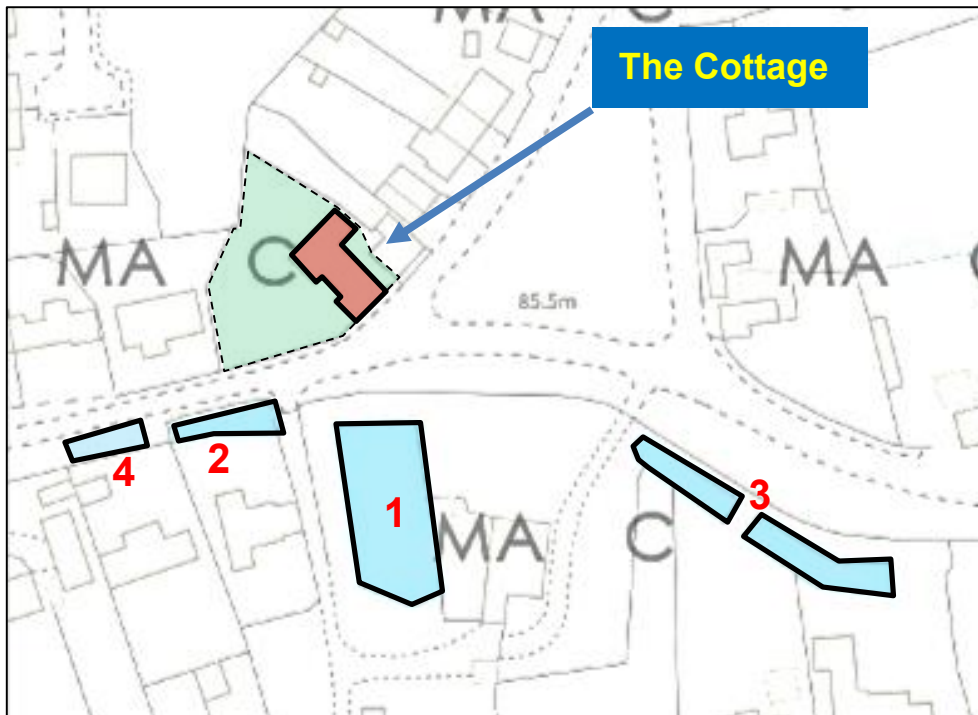


Table 3.1: Preliminary Roost and Pond Assessment (numbering as shown on Figure 3.1)

The Cottage - External.



Two-storey timber-framed gabled house, externally rendered, with a pan-tiled roof. Large number of broken, slipped, and missing roof tiles.

Slate-roofed single storey lean-to sections to the north-east and south-western elevations – well-sealed slates.

Two brickwork chimney stacks with sections of missing mortar. Glazed windows were broken/missing with rotting wooden frames and significant gaps between frames and surrounds.

The Cottage - Internal

Internally, only the northern end of the loft was accessible to survey: the void was heavily cobwebbed below the ridge with high light levels due to missing ceilings below. No bat droppings or other evidence of bats recorded.

The main roof void was reduced height due to being converted to living space, with no access hatch.



1) Pond/ Lake

Approximately area of lake: 500m²

Distance to The Cottage: 20m

No access for survey – separated from the site by a high brick wall and mown grass verge and road, which would obstruct movement of amphibians between the water body and site.



2) Pond

Approximately area of pond: 80m²

Distance to The Cottage: 23m

Well vegetated pond/ditch with good water quality. Moderate quantities of Duckweed *Lemna* spp., Reedmace *Typha latifolia*, and Water Lilies *Nymphaeales*. No shading and no evidence of fish or water fowl. Bank-sides well vegetated.



3) Pond/Ditch

Approximately area of pond/ditch: 250m²

Distance to The Cottage: 55m

Two separate ditch sections adjacent to the brick wall/road. Holding shallow water in places, but mainly dry at the time of the survey. Depressions overgrown with Iris and Woody Nightshade *Solanum dulcamara*. Heavily shaded by Yew *Taxus baccata*, Sycamore *Acer pseudoplatanus*, Elm *Ulmus* spp., Hawthorn *Crataegus monogyna*, and Elder *Sambucus nigra*.



4) Ditch

Approximately area of ditch: 50m²

Distance to The Cottage: 45m

Dry ditch adjacent to road overgrown with ruderals but with vegetation suggesting regular inundation: Marsh Marigold *Caltha palustris*.



3.3 Pond Assessment for Great Crested Newts

Distance from a potentially suitable water body/terrestrial connectivity is a major factor in determining the potential suitability of a site to be used by great crested newts during their terrestrial phase. Small numbers of great crested newts have been known to range significant distances (1km) to colonise new ponds. However, research undertaken by English Nature (2006) has shown that it is most common to encounter them within 50m of a breeding pond, with few moving further than 100m unless significant linear features or suitable terrestrial habitat is involved, when great crested newts can be encountered at distances of between 150m-200m. At distances, greater than 200-250m great crested newts are hardly ever encountered.

Known water bodies within 250m were addressed for potential to support breeding amphibians and connectivity. The two known ponds within a 250m radius search area, are detailed in Table 3.2. No other ponds were marked on available maps within 250m (MAGIC, 2023).

Table 3.2: Two nearest water bodies to the site (locations shown on Figures 3.1)

Pond	Distance to Site	Direction from Site	Connectivity to the Site
P1	20m	S	Moderate/Poor connectivity – a tall brick wall separates the site from P1 which would be a significant barriers to amphibian movement. Habitat surrounding the lake/pond is of high quality for foraging/commuting amphibians, which reduces the risk of movement from the ponds towards the Cottage and zone of impact.
P2	23m	SW	Moderate connectivity – no significant barriers to amphibian movement, though the intervening road forms a minor impediment to movement. Good quality habitat for foraging/commuting to the east of the pond reduces the risk of amphibians moving towards the Cottage and zone of impact.

Table 3.3: Habitat Suitability Index (HSI) of P2; the nearest accessible pond within 250m.

Suitability Index (SI)	P2
SI1 – Location	1
SI2 - Pond area	0.1
SI3 - Pond drying	0.5
SI4 - Water quality	0.8
SI4 – Shade	1
SI6 – Fowl	0.8
SI7 – Fish	0.8
SI8 – Ponds	1
SI9 - Terrestrial habitat	0.67
SI10 – Macrophytes	0.7
HSI score	0.64
Potential for GCN to use the ponds for breeding.	Average

A HSI between 0.6 and 0.69 indicates ‘average’ potential for the pond to support breeding great crested newts.

The HSI index is only a guide to the likely presence or absence of great crested newts and should be interpreted in conjunction with background information on habitats/connectivity in the area and knowledge of great crested newts’ ecology.

There is good terrestrial habitat surrounding, and immediately to the east of, the water body which is separated from the site by a road and narrow grass verge.

No ponds or ditches will be impacted by the proposed works: The site access is already in use and the working area immediately to the west of the Cottage which would be used during works for parking and storage of materials is short, disturbed grassland of low habitat value to amphibians.

The wider garden provides good-quality habitat for great crested newts during their terrestrial phase but will not be impacted, and there is a negligible risk that great crested newts could access the disused Cottage.

No high-quality terrestrial habitat for great crested newts lies within the clearance zone. Refuge and hibernation opportunities within the zone of impact were limited.

A European Protected Species Licence will not be required to carry out the proposals due to the low/negligible risk of impact to newts, and no loss of potential amphibian habitat. No further great crested newt surveys or precautions are recommended.

3.4 Bat Emergence Survey Results

All nocturnal surveys were conducted in optimal weather conditions (mild, dry, little wind). Emergence surveys started at 15 minutes before sunset and continued for approximately 1.75 hours after sunset.

Table 3.4: Weather conditions and timings of surveys

Date	Survey Type	Sunset or Sunrise Time	Temp.	Wind	Cloud cover
3 rd August 2023	Dusk Survey 20:30 – 22:30	Sunset: 20:45	15-14 °C	Beaufort 1-2	20%
17 th August 2023	Dusk Survey 20:00 – 22:00	Sunset 20:18	17-15 °C	Beaufort 3	20%
3 rd Sept 2023	Dusk survey 19:25 – 21:25	Sunset: 19:40	18-17°C	Beaufort 0-1	<10%

Roosting common pipistrelle bats were recorded using the cottage. Foraging and commuting activity in and around the site was predominantly common pipistrelles. An overview of each survey is given below.

3.4.1 Dusk Survey 3rd August 2023

OR – SW of Cottage (*Canon XA11 and Nightfox Red HD Infrared Night Vision Goggles with Nightfox XB5 Infrared Torch and 12-Led 90°Wide Angle IR Illuminators*).

The first bat recorded was a common pipistrelle at 22 minutes after sunset – a brief pass in the garden to the west of the Cottage. Regular passes in the garden and over the road towards the lake (to the east) throughout the survey. *Myotis* pass at 58 minutes after sunset (from the direction of the Church), and brown long-eared pass at 70 minutes after sunset. No emergence from the southern elevation.

BR – NE of Cottage (*with Canon XA11 and SiOnyx Aurora - Nightfox XB5 Infrared illuminators*).

The first bat recorded was a common pipistrelle emerging from the south-east facing gable end at 16 minutes after sunset: The bat flew directly eastwards towards the lake on the opposite side of the road. Regular common pipistrelle foraging passes over the Cottage and road for the duration of the survey. A single brown long-eared pass from over the road (south to north) at 71 minutes after sunset.

Roosting: 1x common pipistrelle emerged from the south-east facing gable end – southern slope barge-board - Plate 3.1.

3.4.2 Dusk Survey 17th August 2023

OR – SW of Cottage (*Canon XA11 and Nightfox Red HD Infrared Night Vision Goggles with Nightfox XB5 Infrared Torch and 12-Led 90°Wide Angle IR Illuminators*).

The first bat recorded was a common pipistrelle at eight minutes after sunset – flying west to east over the garden to the south of the Cottage. Several common passes during the first 30 minutes after sunset over the garden from west to east (possible off-site roost). Brief foraging

episodes throughout the survey (common pipistrelle). Two *Myotis* spp. passes at 54 and 57 minutes after sunset (from the north/Church). No emergence from the southern elevation.

BR – NE of Cottage (with Canon XA11 and SiOnyx Aurora - Nightfox XB5 Infrared illuminators).

The first bat recorded was a common pipistrelle at nine minutes after sunset, commuting over the site towards the west. Two common pipistrelle bats emerged from separate places on the south-east facing gable end (Plate 3.1) at 23 and 26 minutes after sunset – both heading straight over the road towards the lake. Regular common pipistrelle foraging passes around the Cottage and road throughout the surveys, and more prolonged foraging towards the end of the survey, around the streetlight. A single *Myotis* spp. pass was recorded at 63 minutes after sunset.

Roosting: 2x common pipistrelle emerged from the south-east facing gable end (southern and northern slope barge-boards) - Plate 3.1.

3.4.3 Dusk Survey 3rd September 2023

OR – SW of Cottage (Canon XA11 and Nightfox Red HD Infrared Night Vision Goggles with Nightfox XB5 Infrared Torch and 12-Led 90°Wide Angle IR Illuminators).

The first bat recorded was a common pipistrelle at 18 minutes after sunset – flying west to east over the garden to the south of the Cottage. A second common pipistrelle followed a similar route three minutes later. Regular foraging common pipistrelles (up to two bats at a time) in the garden to the south of the Cottage for the first half-hour after sunset. Constant foraging for five minutes (35 to 40 minutes after sunset), and more sporadic foraging passes for the remainder of the survey. No emergence from the southern elevation.

BR – NE of Cottage (with Canon XA11 and SiOnyx Aurora - Nightfox XB5 Infrared illuminators).

The first bat recorded was a common pipistrelle at 20 minutes after sunset, to the south-west of the Cottage. A single common pipistrelle emerged from the rake trim on the southern roof slope of the south-east facing gable end at 28 minutes after sunset. Frequent common pipistrelle activity throughout the survey – mostly common pipistrelle bats foraging over the Cottage and road, towards the lake. Two individual soprano pipistrelle passes were the only other species recorded.

Roosting: Single common pipistrelle emerged from the south-east facing gable end – southern slope barge-board (Plate 3.1).

Plate 3.1: Location of common pipistrelle emergences recorded on all surveys: South-eastern gable of Cottage (Photo: O. Robson 03.08.23)



Plate 3.2: SiOnyx Aurora with Nightfox XB5 Illuminator – south-eastern gable end – 03.09.23



Plate 3.3: Nightfox Whisker with Nightfox XB5 Illuminator – north-western elevation – 03.09.23

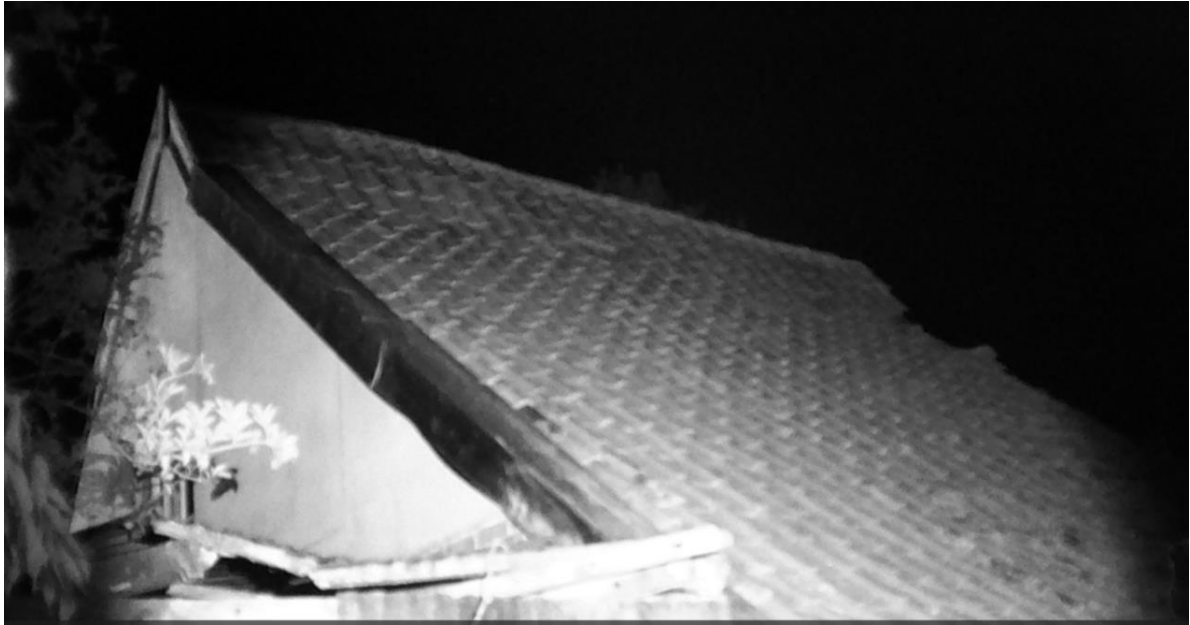


Plate 3.4: Canon XA11 with Nightfox XB5 and 12-Led 90°Wide Angle IR Illuminator – south-western elevation of Cottage – 03.09.23.



Plate 3.5: Canon XA11 with Nightfox XB5 and 12-Led 90°Wide Angle IR Illuminator – north-eastern elevation and south-eastern gable end of Cottage – 03.09.23.



3.5 Other Protected Species Issues - Nesting Birds

Nesting birds could access the Cottage, and there were crevices and ledges present internally which could provide opportunities for nesting birds.

To ensure compliance with wildlife legislation, a nesting bird survey should be carried out immediately prior to start of renovation works, if this is within the nesting bird season, to check for active bird nests and avoid infringing legislation which protects all nesting birds (WCA 1981). If nesting birds are identified, then works to that part of the structure (including an exclusion zone – the extent of which would be advised by the project ecologist), until all young birds had fledged and left the nesting area.

If works start outside the nesting period (end of August to end of February), then a survey is not necessary, if contractors adopt a precautionary approach and are made aware of the potential presence of nesting birds.

3.6 Constraints and Assumptions

The surveys represent a snapshot of the conditions and activity of bats on individual surveys during part of the 2023 survey season only. The weather conditions during all surveys were optimal and any bats present would have been active during these surveys. Bat emergence surveys were carried out towards the end of the optimal bat survey season and when maternity roosts of some species had started to disperse. However, there were no significant accumulations of bat droppings adhered to the walls or below the roost entrance, so it is unlikely that a much larger roost had been present and dispersed before the 3rd August survey. Surveyors achieved a good level of coverage and were confident no bats or roosting would have been missed. The survey gives a general indication of the level of bat activity during the bat active season, to design mitigation and enhancement of the site, and to inform a protected species mitigation licence.

The desk study used records and historical data provided by SBIS, which depend on the availability of recorders and survey effort in the area, and do not list all species likely to be present. Data supplement the site visit, but absence of records does not confirm absence of species.

Constraints encountered were within normal limits and have been taken into account when drawing conclusions and recommendations from the survey data.

4 Bat Licence and Mitigation Requirements

Due to the low conservation status of the roosts, the site can be registered under the *Bat Mitigation Class Licence* (BMCL) scheme: This licence must be achieved and implemented by a Natural England Registered Consultant (RC) before the start of any construction works on, or near to, the Cottage.

If a protected species licence for bats is achieved and implemented, and roosts replaced by the equivalent type and number of roosting opportunities, then any impact to protected bats from the proposed renovation works should be minimal and can be mitigated within the scope of the scheme.

If the project is delayed until the next bat survey season (May 2024), updating surveys may be required to inform the licence application: A licence application must be accompanied by survey data from the **current, or most recent**, bat survey season.

An overview of the mitigation strategy is presented below.

4.1 Derogation Tests

Renovation of the Cottage would result in permanent loss of a day roost of a common and widespread bat species. As such, an BMCL licence will be required to proceed. There are three tests which Natural England address when deciding whether to grant a bat licence:

1) *'The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety'*

The Cottage is currently derelict and uninhabitable. Full restoration is necessary to prevent complete loss of the building and restore the property as a functional dwelling.

2) *'There must be no satisfactory alternative'*

Alternative options were considered and found to be untenable. The Cottage is completely derelict with holes in roof and no ceiling or floorboards in places. Complete renovation is necessary to achieve basic standards of living and restore the property to an energy-efficient state.

3) *'Favourable conservation status of the species must be maintained'*

The mitigation and compensation strategy detailed within this document should enable the local conservation status of the species recorded at the site to be maintained. The pipistrelle roost is of 'low conservation significance' (low numbers of common bat species) (Mitchell-Jones, 2004 – see Table 4.1). Natural England advocate a 'like-for-like' strategy such that any loss is mitigated by provision of habitat/roosting opportunities of equivalent type and value. Additionally, the Local Planning Authority has an obligation under the NPPF, to enhance habitat. Recommendations suggested within this report, if implemented, could enhance the site for bats post development.

4.2 Proposed Mitigation

A Bat Mitigation Class Licence will be required before the works start on the Cottage. This will include timing constraints and precautionary working methods to avoid impact to the local population status and to individual bats.

Pipistrelle bats are crevice-roosters and regularly use bat boxes, such as the Schwegler 2F. A Schwegler 2F bat box (for pipistrelles) (Appendix B) will be erected in a tree close to the Cottage to facilitate the destructive search by providing a temporary re-location site for any bats encountered during a destructive search of the Cottage at the start of the construction works. The box will remain permanently for a minimum of five years and be retained after the licensed works are completed to enhance the site for bats by providing further roosting opportunities - this will help towards Suffolk biodiversity targets and enhancement, a requirement of the National Planning Policy Framework (MHCLG, 2021). If a bat-box is occupied by bats, it becomes a legally protected roost. Damage, disturbance, or removal of a box used by roosting bats could be a breach of legislation. Under wildlife legislation, boxes used by roosting bats can only be internally checked or moved by an appropriately licensed individual.

Tree bat boxes should be 3m to 6m above ground level, facing south-east or south-west, and out of reach of cats. There should be unobstructed flight access enabling entry/exit for bats, but with suitable flight-lines in close proximity. The access hole is at the base so that the boxes are self-cleaning and do not require any internal cleaning/maintenance however, the fixings should be checked at least annually and adjusted if necessary, to ensure that the boxes are safely and securely attached to the tree and kept clear of encroaching vegetation, such as Ivy and foliage.

To compensate for the loss of pipistrelle roosts, bespoke roost-features will be created under barge boards on the south-western gable end of the renovated Cottage (Appendix B).

Only F1-Type Bitumen/hessian felt, (or a 'bat-safe' membrane approved by Natural England) must be used in areas of the Cottage (wall and roof-lining) which could be accessed by bats. Most modern breathable membranes have been shown to be harmful to bats, though there are a small number of products which have passed the snagging propensity test and NE will allow use of these in roost buildings if approved at the licensing stage.

This is deemed appropriate and proportional mitigation, providing roosting opportunities of equivalent type and value, appropriate to the species and roost types impacted.

4.2.1 Timing Constraints

The implementation of the BMCL should avoid the sensitive hibernation period: Although the building has very low potential to support hibernating bats, there remains a low residual risk of bats using the building during the hibernation period. Disturbance of bats in torpor has high welfare implications and can be fatal. There was no evidence of a maternity roost therefore, the licence could be implemented at any time during the active bat season (April until October inclusive). Works should be scheduled to start no earlier than the beginning of April, and no later than mid-October, to minimise the risk of disturbance to bats. Weather must be appropriate for bats to be active at the time of works (temperatures of at least eight degrees Celsius over four consecutive day/nights, and minimal wind/rain).

4.2.2 Sensitive Destructive Search (Licence Implementation)

Once a Natural England licence (BMCL) has been achieved, this must be implemented before the building works start on the Cottage. The destructive search will be directly supervised by the Registered Consultant (RC) on the licence, who is licensed by NE to handle bats. Safe access must be provided to all parts of the roof and walls, internally and externally.

An exclusion will be carried out if safe and appropriate, using one-way flaps which will allow bats to leave, but not return to the roost locations. Once the exclusions have been in place for five days/nights, the destructive search (tile and barge-board removal) can start. The roosts will be inspected by the ecologist prior to start of the destructive search and any bats roosting (and covered by the licence) will be removed by the RC using a cloth bag and relocated to the mitigation bat box in the adjacent tree. Once the known roosts are free of bats, barge-board and roof-tile removal can begin: The ridge tiles and all areas of roof tiles surrounding any access point, including verges and eaves, will be sensitively removed by hand under supervision of the RC. Barge-boards on the south-eastern gable end will be removed. Once key high-risk areas have been searched, the remaining tiles and felt-lining can be removed.

4.2.3 Site Induction

All contractors and site staff will receive a toolbox talk by the RC prior to the start of works. A copy of this report and the licence/NE approval to proceed must be kept at all times on the site, along with contact details for the RC (Appendix A). The induction of all contractors should include information on bats, as detailed in this report, including:

- The legally protected status of all bat species.
- Roosting bat presence at the Cottage, and no work to start on the building without written confirmation from the RC (following implementation of the BMCL).
- Licensable activities.
- Measures that will be used to protect bats.
- Good working practices.
- All works to stop immediately if bats, or signs of bats, are found during works on any buildings: Site Manager and RC to be consulted for advice on how to proceed.

A written record of this should be kept, confirming that contractors have received induction relating to bats; All present should sign to confirm attendance at the toolbox talk / induction (Appendix A), confirming that they are aware of the potential presence of protected species, the implications of disturbance, and how to deal with a situation if bats are encountered during works.

4.2.4 Lighting Strategy

Changes in external light outside bat roosts can delay emergence times, which can cause a detrimental reduction in time spent foraging.

External Lighting around the site should be minimized to enable the bats to use the site, both during construction works, and on completion if new external lighting is proposed. This should include the following to protect bats. Guidance from the Institute of Lighting Professionals and the Bat Conservation Trust (IPL 2023, 2018; ILE 2012, BCT 2009) has been used to inform the following considerations:

- The garden boundaries (particularly to the north and west) should be maintained as dark corridors. No lighting should be directed towards boundary vegetation and mature trees.
- LED luminaires should be used where possible (No UV elements: Metal halide, fluorescent sources should not be used).
- A warm white spectrum (ideally <2700Kelvin) should be used to reduce the blue light component.
- Peak wavelengths higher than 550nm should be used to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered (where this is feasible and meets safety standards).
- Only luminaires with an upward light ratio of 0% and with good optical control should be used (See ILP 2011).
- Luminaires should be mounted on the horizontal to avoid upward tilt.
- Any external security lighting should be set on motion-sensors - sensitive to large moving objects only, and short (<1 minute) timers.
- All external lighting should be kept to the minimal feasible level and be directed downward: Baffles, hoods or louvres can be used to reduce light spill and direct it only to where needed.
- Lighting should be appropriately directed to avoid illuminating vegetated site boundaries and all mitigation/enhancement bat box and bat roost features on the renovated building and trees.
- Construction works should only be undertaken during daylight hours and task lighting should not be used during the construction phase.

4.3 Non-licensable Works

For non-licensable works which will not impact the cottage structure, contractors must be made aware of the protection afforded to bats and appropriate standard due diligence practices: This should be covered in a pre-start induction for all site contractors.

Works in the garden (e.g., service trenches, enabling works) can proceed under precautionary working methods and if agreed with the Registered Consultant (RC) to ensure that works do not directly or indirectly impact bats roosting in the Cottage (e.g., by noise, light, dust etc.), and ensure that wildlife legislation is adhered to.

If, at any time during the works, the presence of bats is suspected or identified, works should cease immediately, and the RC or Natural England contacted to enable further appropriate steps to be implemented.

5 Conclusions

The weather conditions during all surveys were optimal and any bats present would have been fully active during these surveys. A common pipistrelle day-roost was recorded, as summarised in Table 4.1 below.

Table 4.1 Summary of roosting recorded:

Survey Date	Roost-type	Species (# individuals)
3 rd August 2023	Common pipistrelle day roost	Common pipistrelle (1)
17 th August 2023	Common pipistrelle day roost	Common pipistrelle (2)
3 rd September 2023	Common pipistrelle day roost	Common pipistrelle (1)

It is likely that restoration of the Cottage can proceed with minimal impact on bats, birds, great crested newts, or other protected species, and in compliance with wildlife legislation, if:

- a bat-licence is achieved and implemented prior to start of works on the building.
- a pre-start nesting bird survey is carried out (or works timed to avoid the nesting season).

There is scope to further enhance the site for bats and birds through incorporation of roosting and nesting boxes, in line with planning objectives for positive gain for biodiversity through development.

6 References

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Bat Conservation Trust, 2021. The National Bat Monitoring Programme Annual Report 2021. Bat Conservation Trust, London. Available at: <https://cdn.bats.org.uk/uploads/pdf/Our%20Work/NBMP/National-Bat-Monitoring-Programme-Annual-Report-2021.pdf?v=1655151480>

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Mitchell-Jones, A. J. (2004). Bat mitigation guidelines.

Natural Environment and Rural Communities Act (NERC Act) (2006) HMSO London.

Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000). Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal Vol. 10 pp. 143-155

Stone, E.L., Jones, G., Harris, S. (2012). Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats. Glob. Change Biol. 18, 2458–2465.

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Suffolk BAP: <https://www.suffolkbis.org.uk/planning/BAP>

Wildlife and Countryside Act (1981). HMSO, London

Appendix A: Record of Induction

Record of attendance: Wildlife legislation/Protected Species briefing at The Cottage, Felsham.			
NAME:	COMPANY and POSITION:	Date:	Signed:

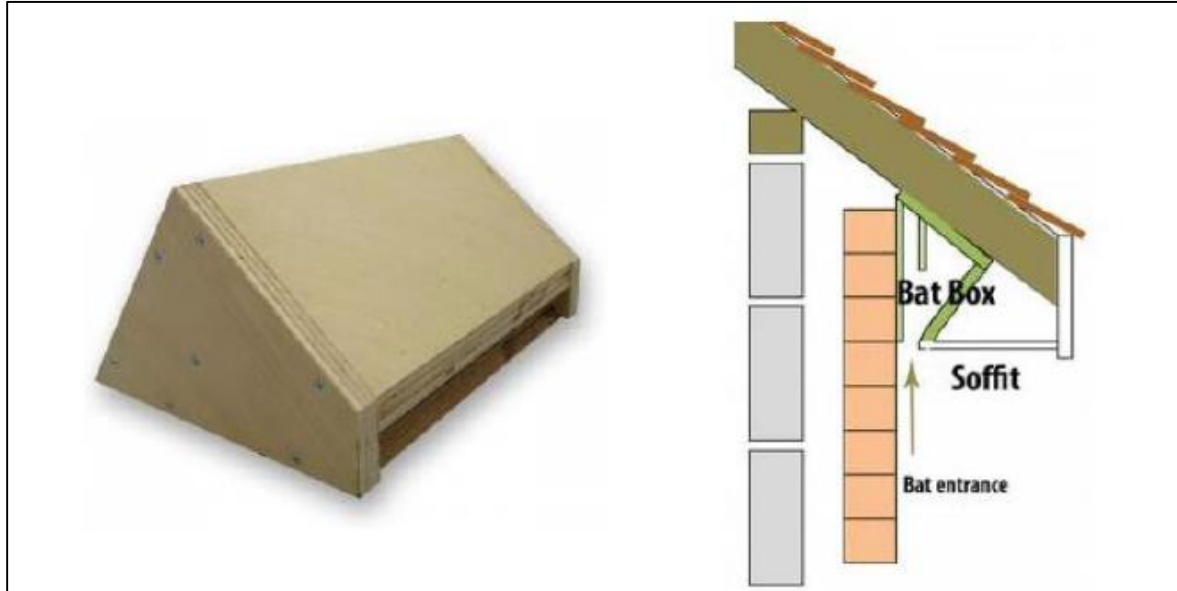
Ecology/Bat issues: If you find a bat during works, or have any other questions or concerns, please call Registered Consultant for advice on how to proceed:

Odette Robson (Licensed by Natural England to survey and handle bats under Class Licence CLS001262, bats (Level 2).
07443 620934
odette@robsonecology.co.uk)

Appendix B: Habitat Box/Feature Specification

ONLY Untreated, rough-sawn timber should be used on surfaces that bats could come into contact with.

Soffit Bat Box




Soffit Bat Box (rake/bergeboard design)



Important dimensions:

- Internal roosting chamber: **20mm wide**
- Roosting chamber up to **50cm in length**
- Slot (where soffit attaches to building wall) – 12mm wide and 100mm long.
- Gap between box side and baffles (limiting light and draughts) – minimum 40mm.

Schwegler boxes are built using wood-concrete; an exceedingly durable, rot-proof and breathable natural material designed to mimic the properties of natural nest sites.

Habitat Box Specification (or similar and approved)	Suggested Suppliers (other suppliers are available)
<p>Schwegler 2F Bat Box Multi-purpose bat box for pipistrelles – tree-mounted. Manufactured from long-lasting Woodcrete, a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years.</p>	 <p>https://www.nhbs.com/2f-schwegler-bat-box-general-purpose</p> <p>https://www.arkwildlife.co.uk/product/schwegler-2f-bat-box/</p> <p>https://gardenature.co.uk/product/2f-standard-bat-box</p>

Appendix C: Survey Results

