

The Nook Bat Survey Report

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SURVEY AND REPORT VALIDITY

It is important that planning decisions are based on up-to-date ecological reports and survey data. However, it is difficult to set a specific timeframe over which reports or survey data should be considered valid, as this will vary in different circumstances. In some cases there will be specific guidance on this (such as for the age of data which may be used to support an EPS licence application) but in circumstances where such advice does not already exist, the Chartered Institute of Ecology and Environmental Management (CIEEM) has provided the general advice set out below.

<i>Age of Data / Survey / Report</i>	<i>Validity</i>
Less than 12 months	Likely to be valid in most cases.
12-18 months	Likely to be valid in most cases with the following exceptions: • Where a site may offer existing or new features which could be utilised by a mobile species within a short timeframe; • Where a mobile species is present on site or in the wider area, and can create new features of relevance to the assessment; and • Where country-specific or species-specific guidance dictates otherwise.
18 months to 3 years	A professional ecologist will need to undertake a site visit and then review the validity of the report. Some or all of the other ecological surveys updated.
Protected Species Licensing	Licence applications usually only possible using data less than 2 years old

The likelihood of surveys needing to be updated increases with time and is greater for mobile species or in circumstances where the habitat or its management has changed significantly since the surveys were undertaken. Factors to be considered include (but are not limited to):

- Whether the site supports, or may support, a mobile species which could have moved on to site, or changed its distribution within a site;
- Whether there have been significant changes to the habitats present (and/or the ecological conditions/functions/ecosystem functioning upon which they are dependent) since the surveys were undertaken, including through changes to site management; and
- Whether the local distribution of a species in the wider area around a site has changed (or knowledge of it increased), increasing the likelihood of its presence.

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1 INTRODUCTION

1.1 Purpose of Report

This bat survey report has been completed in connection with a proposal for works at The Nook, Church Broughton DE65 5AY (OS Grid Reference SK2026 3280 and *Figures 1 & 2*). The proposals are to complete a barn conversion to form an extension to the existing dwelling.

A Preliminary Roost Assessment Survey was completed on 13th May 2021 by Turnstone Ecology Ltd. Bat Activity Surveys were completed in June and July 2021. The activity surveys consisted of one dusk emergence survey and one dawn re-entry survey.

This report details survey and assessment methodology along with the results of on-site surveys. It also provides an assessment of potential impacts and appropriate mitigation to offset any impacts associated with the proposals.

Figure 1. Site Location

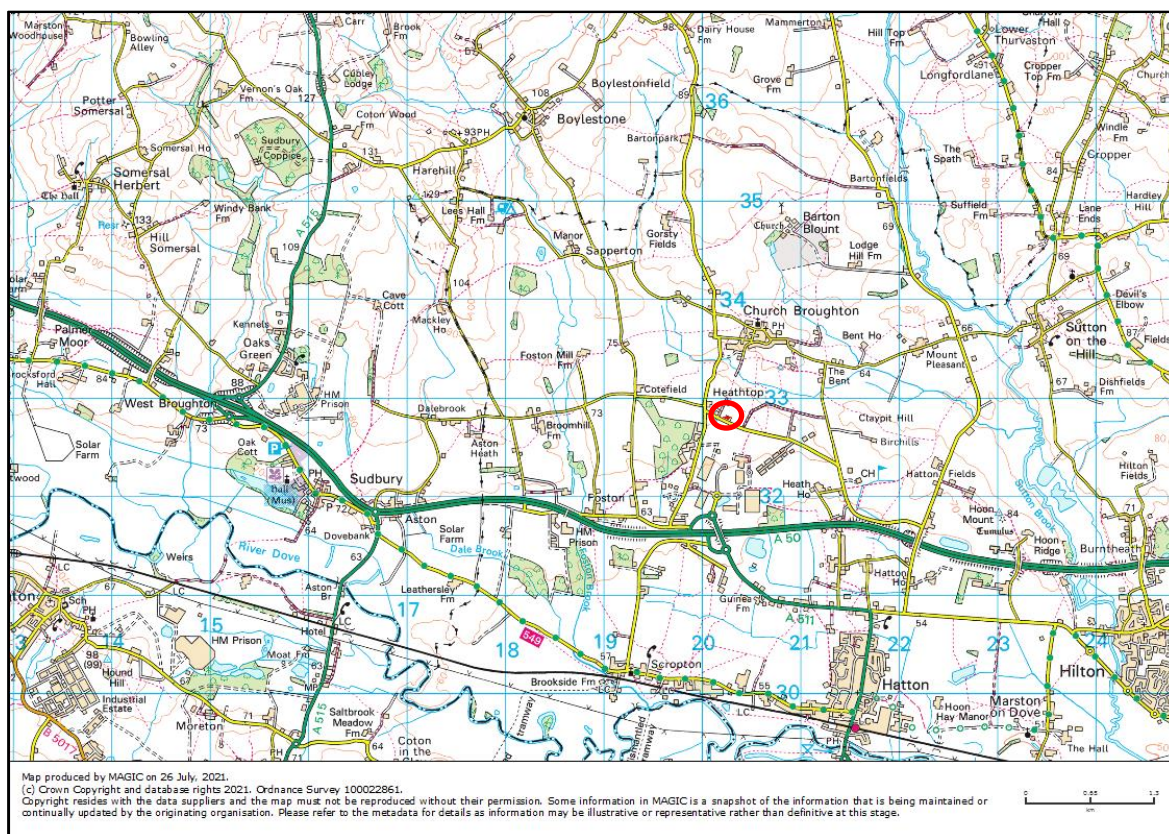


Figure 2. Aerial Photograph of the Site



1.2 Ecological Context

The Nook is located on the southern edge of Church Broughton, which is 1.8 km north-east of Foston and 3 km north-west of Hatton. The site is accessed from an unnamed road adjoined to Woodyard Lane to the west and Bent Lane to the east. The site consists of a domestic property, farmyard buildings, areas of grassland and hardstanding. Immediately surrounding the site in all directions is arable land. Further north is the village of Church Broughton, an industrial estate is located to the south of the site and the wider landscape in all directions is dominated by arable fields.

2 METHODS

2.1 Desk-based Study

Information relating to designated sites, sites where European Protected Species (EPS) Licences have been granted between 2009 and 2020 and historic records of protected species within 2 km of the proposed development site will have been obtained from Magic (www.magic.gov.uk) and other freely available information on the internet, such as planning portals.

Any species-specific historic records are detailed within the relevant species accounts in the Results Section.

2.2 Preliminary Roost Assessment (PRA)

A Preliminary Roost Assessment was carried out on the 13th May 2021 by Mark Gash of Turnstone Ecology. Mark was working as an agent to Tristan Evans who holds a Natural England Class Licence (2015-16545-CLS-CLS) for the disturbance of bats in all counties of England. The buildings were assessed for its suitability for use by roosting bats. The assessment involves a consideration of various factors including;

- Light levels;
- Temperature regime and protection from weather;
- Access to the interior or to other suitable roost sites;
- Potential roost sites;
- Building construction; and
- Habitat context.

Based on these factors, an assessment was made of whether the buildings might support bats and the type and number of roosts that might be present.

A detailed inspection was made of the exterior and interior of the buildings for any evidence of bat use, such as live or dead bats, droppings, scratch marks, staining and prey remains, and in some cases the absence of cobwebs. Large quantities of cobwebs in roof voids or at access points tend to be suggestive of no bat use, although this evidence is not conclusive.

Features identified as possible bat access points or potential roosting locations were thoroughly searched where possible, using powerful torches and binoculars to facilitate the process.

The survey was undertaken in good light conditions and no recent sweeping or other cleaning had been undertaken.

Buildings are categorised according to their suitability for roosting bats as follows (Bat Conservation Trust (BCT) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.) (2016¹):

Negligible – Habitat features on site with very low suitability to be used by roosting bats.

Low – A structure 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). Or a tree of sufficient size and age to contain potential roost features but with none seen from the ground, or features seen with only very limited roosting potential.

Moderate – A structure or 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).

High – A structure or 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. They could be suitable for maternity roosts or hibernation sites.

Confirmed – Roosting bats confirmed as being present, either by the discovery of live or dead bats, droppings, prey remains, scratching or fur-staining.

Habitats within and immediately adjacent to site were assessed for their suitability for use by foraging or commuting bats. Areas of particular interest vary between species, but generally include sheltered areas and those habitats with good numbers of insects, such as woodland, scrub, hedges, watercourses, ponds, lakes and more species-rich or rough grassland.

2.3 Bat Activity Surveys

Based on the results of the Preliminary Roost Assessment two bat activity surveys were completed on the buildings. The surveys consisted of one dusk emergence survey and one dawn re-entry survey. Both the dusk and dawn survey were completed by a team of two ecologists.

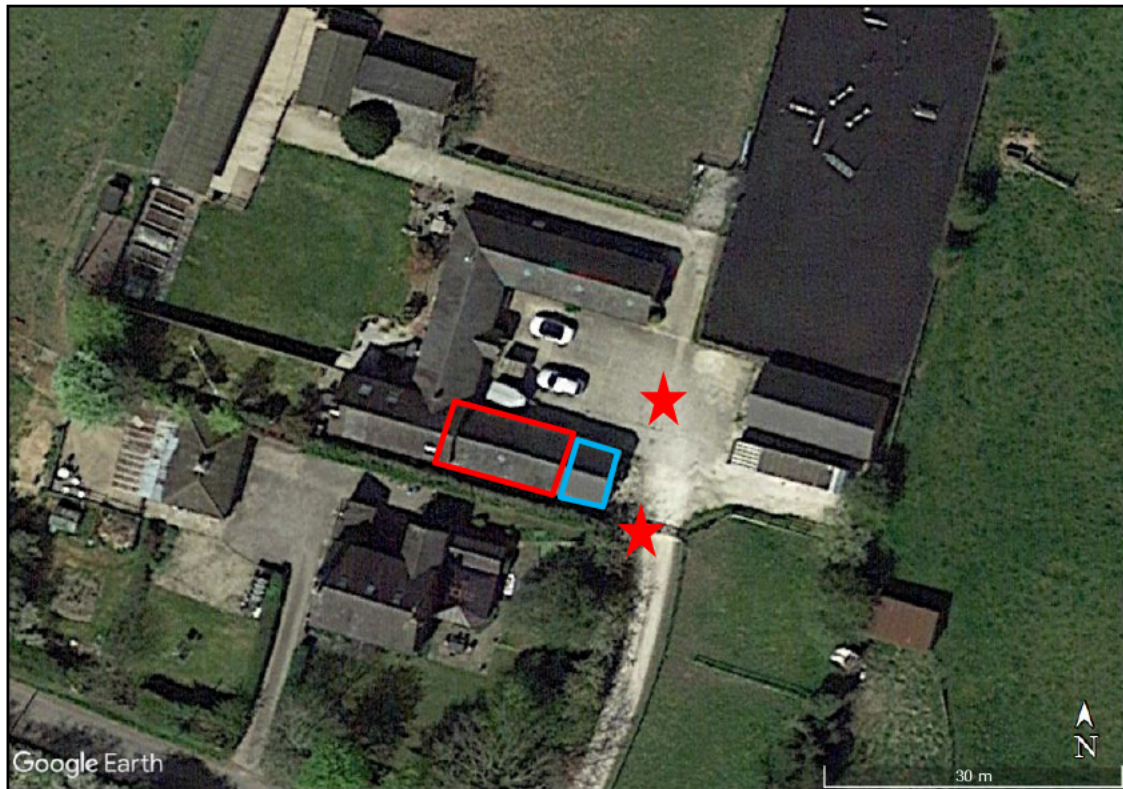
Dusk emergence and dawn re-entry surveys are the primary methods for locating roosts buildings or built structures, as bats are not always found by internal and external inspection surveys (*e.g.* if the bats roost in areas that cannot be searched and/or leave little or no visible trace). Dusk emergence and dawn

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

re-entry surveys can also give a reasonable estimate of the number of bats present and help understand how bats are using a site for foraging and commuting.

All suitable roosting features were fully covered during each visit with surveyors able to position themselves so any activity could be clearly observed (*Figure 3*) and general activity around the site could also be recorded from the surveyor's locations. Surveyor locations are shown below.

Figure 3. Surveyor Locations and barns one (red outline) and two (blue outline)



The surveyors used Wildlife Acoustics EchoMeter Pro 2 bat detectors attached to Apple iPad Mini 4 tablets. During the surveys bat activity was recorded on to survey forms including information on time, species recorded and behaviour. Continual recording was undertaken for the duration of each survey to ensure all bat activity was recorded. Audio tracks were downloaded and assessed using Wildlife Acoustics Kaleidoscope software to confirm the identity of bats recorded during the surveys.

The surveys at the proposed development site have been based on methods outlined in the Bat Survey Guidelines (BCT 2016) and covered the appropriate timings (starting 1.5 hours before sunrise until up to 15 minutes after sunrise). The surveys were carried out during appropriate weather conditions (details presented in *Table 1*).

Table 1. Survey Information

	Dusk Survey 21/06/2021		Dawn Survey 09/07/2021	
Time	Start	End	Start	End
	21:20	23:05	03:23	05:18
Temp (°C)	12	11	14	13
Wind (Beaufort)	3	2	1	1
Cloud (Octas)	8	8	0	1
Sunset/rise	21:35		04:53	
Precipitation	N/A		N/A	

2.4 Constraints

No constraints have been identified. All areas of proposed works could be accessed during the PRA survey and the activity survey was completed in ideal weather conditions with surveyors positioned such that all areas of the building requiring works could be observed.

3 RESULTS

3.1 Desk Study

There are no designated sites within 2 km of the proposed development site.

3.1.1 Protected Species Mitigation Licence Sites

There is one issued European Protected Species Licence within 2 km of the proposed site. EPSM2009-728 was issued for the destruction of a resting place of Common Pipistrelle (*Pipistrellus pipistrellus*) at a site 1.98 km south-west of the proposed development site.

3.2 Preliminary Roost Assessment

3.2.1 Building Description

The collection of buildings form a U shape and comprise of a larger barn (barn one) which is used for storage. A connected smaller barn (barn two) and a connected residential building. There is also a smaller room between the residential part of the building and the barns. The proposed works will only affect barn one.

Barn one is a of red brick construction with an unlined tile pitched roof with breathing ridge tiles and glass tile roof lights. It has well sealed windows and a double door on the northern aspect. Multiple lifted roof tiles are present on this roof. (*Plate 1*).

Plate 1. Northern Aspect of the barn one



The roof structure for the barn one is supported by multiple wooden beams and purlins, no gaps were found around these structures (*Plate 2*).

Plate 2. Roof structure and skylights located in barn one



Barn two is an adjoining extension on the eastern aspect of barn one and has a similar roof structure but is lower creating a tiered pitched roof where some lifted tiles were observed (*Plate 3*). It is constructed of rendered blocks and has a wooden door to the northern aspect.

Plate 3. Southern Aspect of the buildings



The eastern gable end of barn two is has wood cladding from halfway up, there is also a wooden barge board. There were also gaps found in between tiles on the verge (*Plate 4*).

Plate 4. Eastern gable end of barn two



Between the two structures, where the roofs meet gaps are present at the wall tops between the wall top and wooden frame (*Plate 5*).

Plate 5. Suitable features located at the wall tops on the southern aspect of the building



On the southern aspect of the building near where the barn one adjoins to the domestic property is a wooden door which leads to a doorway which has been sealed by bricks, behind the door is a large void which could be a potential roosting feature (*Plate 6*).

Plate 6. Door forming a void against the redbrick wall



A Swallow's nest was observed above the double doors to the larger barn. House sparrows were also observed nesting in the ridge tiles of the barn one during the PRA (*Plates 7 & 8*).

Plate 7. Swallow nest located above double barn door on the northern aspect



Plate 8. Ridge tiles where nesting house sparrows were observed



Between the domestic property and barn one was a small disused storage area. It is formed of red brick construction on either side and shares the same roofing structure as the larger barn (*Plate 9*).

Plate 9. Roof structure and walls of the small storage space



3.2.2 Summary of Evidence of Roosting Bats

No evidence of roosting bats was found on the exterior or interior of the building during the PRA.

Due to the number and type of suitable roosting features the building at The Nook, was assessed as being of *Moderate Potential* for roosting bats.

3.2.3 Evidence of Other Protected Species

Evidence of breeding birds was recorded on and within the building. Sparrows were noted nesting in the vented ridge tiles and old Swallow nests were noted in the smaller barn.

3.3 Bat Activity Surveys

A single dusk and single dawn survey were completed in June and July 2021.

One bat was recorded entering the between tiles on the eastern verge of the barn two on the dawn survey at 04:11, this bat was silent and not identified to the species level, however given the time of entry and lack of echolocation it is thought to have been a Brown Long-eared bat. Bat activity around the site was limited to very occasional passes of up to two Common Pipistrelle bats, a Soprano bat and a Brown Long-eared bat which were seen and heard around the site commuting and foraging.

4 EVALUATION

4.1 Summary of Results

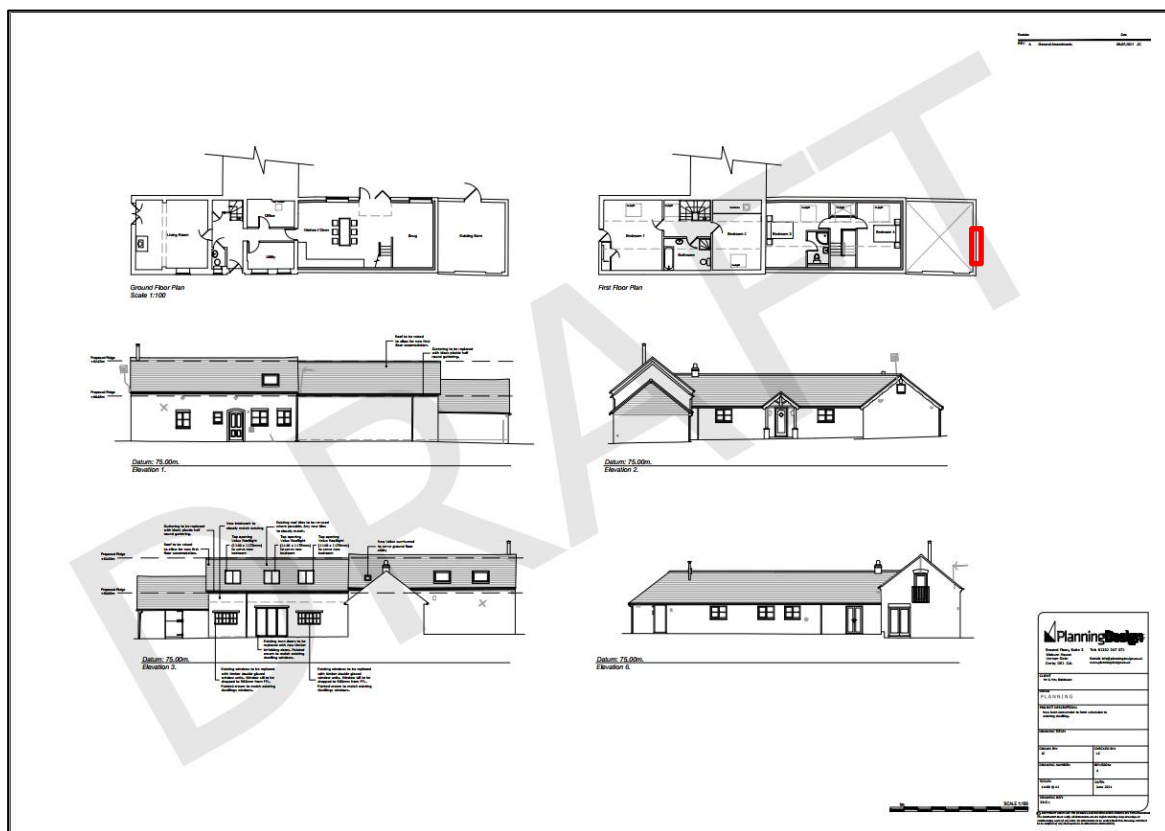
The buildings at The Nook were identified as being of *Moderate Potential* for roosting bats however no evidence of bats was noted either on the exterior or interior of the property. Two activity surveys were completed which is in accordance with the survey guidelines for properties of Moderate potential roosting. One bat was recorded entering the barn two which is not under proposal and low level of bat activity around the open areas and linear habitat features adjacent to the site was noted.

Based on the results of the Preliminary Roost Assessment and subsequent bat activity survey it is highly unlikely that the proposals at the property will impact bats or their roosts following current plans (*figure 5*) which do not impact the building of which a bat was recorded entering.

4.1.1 General

The proposed works are to convert barn one into an extension of the current dwelling.

Figure 5. Proposed works (site plan) at The Nook (Red box – location of bat entry)



4.2 Mitigation and Enhancement

The building was assessed as being *Moderate Potential* to support roosting bats and as such a two activity surveys were completed. One bat was recorded entering barn two, a building on the site which is not under proposal and as such it is considered that the works will not impact on bats or their roosts. Accordingly, mitigation specific for bats is not required as the works will not be directly affecting bats or their roosts.

It is recommended that two bat access tubes be included in the proposed designs to enhance the proposed development for bat species that were recorded during activity surveys (*figure 6*). Works must not obstruct the eastern gable end of barn two where a bat was found to be roosting as indicated on *Figure 5*. In the unlikely event that at any stage of the unsupervised works a bat is found, all works must stop, and a suitably qualified ecologist called to site.

As nesting House Sparrows were recorded onsite during the PRA works will need to be timed to avoid the breeding bird season, March to August or a suitably qualified ecologist can check whether there is nesting at the time of works. The vented ridge tiles where the House Sparrows were found to be nesting will also need to be reinstated. Along with this it is also appropriate that a three-hole sparrow box and two single hole sparrow boxes be included in the mitigation (*Figure 6*).

Figure 6. Proposed mitigation at The Nook (Red star – three-hole sparrow box, Blue star – bat tubes, Green star – single hole sparrow boxes)



5 LEGAL PROTECTION

This section briefly describes the legal protection afforded to the protected species referred to in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

5.1 Bats

All species of British bat are protected by *The Wildlife and Countryside Act 1981* (as amended) extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also further protected as they are listed on *Schedule 2* of the *Conservation of Habitats and Species Regulations 2017*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats in such a way as to be likely to (a) impair their ability to: (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or b), to affect significantly the local distribution or abundance of the species to which they belong; and
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.