# Elite Ecology

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## The Pole Barn at Longhurst Farm, Dimmingsdale



## Bat Activity Survey Report

**July 2022**


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## 0. Executive Summary

0.1 This report has been prepared at the request of Mr. Chris Hankinson (Proprietor). It relates to the potential presence of bats and birds at the proposed re-development site located at The Pole Barn, Longhurst Farm, Dimmingsdale, Oakamoor, Staffordshire, ST10 3AS (Central OS Grid Reference: SK 05035 43479). To fulfill this brief, Elite Ecology undertook both a desktop study and field surveys.

0.2 The current planning proposal will see the barn demolished.

0.3 Due to the amount of potential ingress/egress points and suitable roosting features, the structure at Longhurst Farm was deemed as having **negligible** potential for bats to roost and **negligible** bird nesting potential. Following the results from the scoping survey, no further bat activity surveys are required. However, one activity survey was undertaken as a precaution. This survey was subsequently undertaken by Elite Ecology during in June 2022.

0.4 Summary

Bat presence/absence

From the survey visit undertaken on the site, it can be concluded that the surveyed structure contains no bat roosts. However, foraging and commuting common pipistrelle (*Pipistrellus pipistrellus*) bats are present in the area.

Bird presence/absence

From the survey visit undertaken on the site, it can be concluded that the surveyed structure contained no evidence of birds. The surrounding landscape provides all of the necessary habitat elements that birds require, and their presence can be assumed.

Ecological value of building units

The ecological value of the buildings has been deemed as **negligible** to bats due to no current bat roosts being present. The ecological value of the buildings to birds has been deemed as **low** due to absence of any nesting specimens, but potential nesting spaces apparent.

0.5 Recommendations

The recommendations for 'Longhurst Farm' can be summarised as follows (please refer to section **'5 – Recommendations'** for a more in-depth description):

- No compulsory recommendations are apparent for this site.
- Artificial lighting should be avoided where possible. If this is not possible, this should be sensored for large bodies only and pointed downwards.
- **Enhancement:** Enhance the site for bats by installing Eco Bat Boxes, Integrated Eco Bat Boxes or Bat Access Tiles on appropriate elevations (southern, eastern and/or western) – these must avoid artificial lighting.
- **Enhancement:** Incorporate a bat friendly planting scheme post development.

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# 1 Introduction

## 1.1 Report rationale

This report has been prepared at the request of Mr. Chris Hankinson (Proprietor). It relates to the potential presence of bats and birds at the proposed re-development site located at The Pole Barn, Longhurst Farm, Dimmingsdale, Oakamoor, Staffordshire, ST10 3AS (Central OS Grid Reference: SK 05035 43479). To fulfill this brief, Elite Ecology undertook both a desktop study and field surveys.

## 1.2 Site description

The site itself is situated within a rural setting approximately 1km to the south of Oakamoor. Hard standing ground, pastureland, arable land, corrugated metal farm buildings, a residential dwelling (and its associated garden) and woodland are situated in the immediate vicinity of the building. This report relates to one large stone barn structure. The structure measures approximately 275m$^2$. The habitats on site are considered to contain potential to support the local bat and bird populations by offering roosting/nesting, commuting and foraging opportunities.

**Figure 1:** An aerial photograph of the surveyed structure at The Pole Barn, Longhurst Farm, Dimmingsdale (as shown by the red outline).




## 1.3 Proposed works

The current planning proposal will see the barn demolished.

## 1.4 Aims of surveys

The aims of the surveys were to undertake an assessment of the building(s), vegetation and surrounding area to establish whether any bats and birds may be present and, if so, in what way they are using the site. The actions of the surveyors on the site and during the production of this report were conducted in accordance with Bat Conservation Trust (BCT) guidelines (3rd edition).

1.4.1 This survey effort considered the potential for all **bat and bird species (including barn owls)** onsite:

- To establish the possibility of bat roosts and bird nests being present at the proposed development site.
- To assess any roost/nest status (i.e. what type and numbers of individuals).
- To assess suitable food, resources and habitat requirements on site and in the local landscape.

1.4.2 The information will subsequently be used in conjunction with the knowledge of the proposed works at the site to determine the potential need for further survey effort, the impacts of the proposed scheme of works, to establish whether a Natural England Development Licence is required along with species-specific mitigation and compensation. This is done in order to keep any protected species at a favourable conservation status on site.

# 2 Survey Methodology

## 2.1 Desktop Survey Methodology

2.1.1 A variety of resources were independently consulted to assess the known local records within the nearby area and the importance of the site within the local landscape from an ecological perspective. The resources used were the Local Records Centre, www.naturalengland.org.uk, www.ordnancesurvey.co.uk, Google Maps, Google Earth and Bing Maps. A search of other relevant nature conservation information was made through the use of the Multi-Agency Geographic Information for the Countryside (MAGIC) database.

2.1.2 The local records centre was contacted to provide data on all bat and bird species within 2km of the proposed development site. Staffordshire Ecological Record (SER) were the relevant local record centre for this project.

## 2.2 Field Survey Methodology

2.2.1 Initial Site Survey

This is done by assessing the site by visually inspecting all building/s/structures and any trees/vegetation to be impacted by the proposed works. This is done to assess the resource availability for protected species on site and in the immediate area. Particular reference is made to:

- The presence or absence of bats and birds' onsite.
- Any evidence of potential bat roosts and birds' nests onsite.
- Whether any additional survey effort will be required.

During the initial survey, an internal and external inspection of the building(s) is undertaken to look for signs of bat activity. This is done in accordance with BCT guidelines for the assessment of building(s) and built structures.

2.2.2 External Inspection

This survey method is used to locate potential ingress and egress points around the structures that both bats and birds could use to gain access into the building. It also aims to identify any areas where cracks and crevices are present to be used as roosting/nesting features. This visual inspection is carried out in full daylight using binoculars, endoscope, torches and ladders.

This will allow for the determination of the following information:

- The type of building(s) surveyed.
- The approximate age of building(s) surveyed.
- The construction type and materials used.
- The presence of potential roost features (e.g. missing roof tiles, raised ridge tiles, air vents, cracks and crevices within the mortar).
- The presence of suitable ingress and egress points (e.g. missing windows and doors, missing mortar, lifted tiles).
- The location of any annecdotal evidence for the presence of protected species (e.g. nests, droppings or food remains).

2.2.3 Internal Inspection

This survey method aims to locate and examine areas which potentially provide suitable environmental conditions for bats. This visual inspection was undertaken by using binoculars, endoscope, torches, ladders and bat detectors to inspect internal features of the building(s).

This will allow for the determination of the following information:

- The presence of warm areas, dark areas, joints, crevices, beams and cavities that could be used for roosting and nesting purposes by bats and birds.
- To locate possible bat roost and bird nest sites.
- To listen for social calling bats.
- To locate any evidence of bat and bird presence through the identification of live or dead specimens, grease marks, droppings, food remnants, urine stains and/or the characteristic smell of bats.

2.2.4 Building/Vegetation Classification

A building/vegetation classification will be assigned to each surveyed feature that is proposed to be impacted by the scheme of works. This classification is based on the features potential to support roosting bats. The rating is also influenced by the location of the structure(s) in the local landscape, along with the number of suitable alternative roosting features, the type of features present in the landscape and the surveyor's experience. For example:

A structure that has a high level of anthropogenic disturbance with limited opportunities for access by bats, that is also situated within an urbanised area with few or no mature trees, parkland, woodland or wetland would generally equate to having negligible/low potential.

Conversely, an older structure (e.g. pre 20th century or early 20th century) with multiple features suitable for use by bats that is close to optimal foraging habitat would equate to having high potential.

The amount of additional survey effort required for each feature will depend on its rating:

- Negligible – No further survey effort is required
- Low – One further activity survey is required (structures only).
- Moderate – Two further activity surveys are required.
- High – Three further activity surveys are required.

2.2.5 Roost Categories

Any structures with evidence of bats will be further evaluated to assess which of the following roost categories may be present onsite:

- **Day Roost:**
  A place where individual bats or small groups of males, rest or shelter during the daytime. These bats are rarely found at night at these sites.

- **Feeding Roost:**
  A place where individual bats rest or feed during the night, but are rarely present in the day.

- **Hibernation Roost:**
  A place where bats may be found either individually or together during the winter months. These roosts often have a constant cool temperature and high humidity.

- **Maternity Roost:**
  A place where female bats give birth and raise their young to independence.

- **Mating Roost:**
  A place where mating/copulation takes place between male and female bats. These can continue through the winter months.

- **Night Roost:**
  A place where bats rest and/or shelter during the night, but will rarely be found here during the day. These can be used colonially or individually by the bats.

- **Satellite Roost:**
  These are alternative roosting sites that are found within close proximity to the main nursery colony within the maternity roost. These are used throughout the breeding season by individual or small groups of female bats.

- **Swarming Site:**
  A place where large numbers of bats come together during the latter summer months through until Autumn. These sites are classed as being important mating areas.

- **Transitional/Occasional Roost:**
  A place that is used by individuals or small groups of bats for a small period of time. These are used by the bats prior to hibernation and/or shortly after hibernation.

2.2.6 Bat Detector Survey (presence/absence survey)

If required, the object for this survey method is to detect any bats leaving or returning to their roost sites within the surveyed features. This is achieved by undertaking dusk and dawn activity surveys under the following protocol:

- Commencing the survey 15 minutes before sunset (dusk survey) and 2 hours before sunrise (dawn survey).
- Listening for any social calls at potential roost sites using bat detectors.
- Standing at different survey points around the building(s) and/or vegetation using bat detectors to hear the bat echolocation.
- The survey will attempt to witness the first bats emerging (dusk) and the bats returning (dawn) to their roosts.
- Standing at different transect points at foraging/commuting areas around the site.
- Carrying out this survey methodology for up to two hours after sunset (dusk) and up to 15 minutes after sunrise (dawn). This will cover the emergence and re-entry of the bats at the potential roost site, for some bat species.

2.2.7 In order to comply with the required legislation, the results from the surveys will be collated to establish whether a European Protected Species (EPS) development licence will be required. If required, project appropriate species-specific compensation and mitigation measures will be devised to ensure the species remains at a favourable conservation status at the impacted site.

## 2.3 Surveyors Information

2.3.1 The survey was undertaken by licensed bat ecologist/s, members of the Chartered Institute of Ecology & Environmental Management (CIEEM) and Elite Ecology staff members:

**Mr. Matthew Hodgson**, Ecologist, Natural England Bat Licence Number: 2019-41695-CLS-CLS Bat Survey Level 2.

**Mr. Lewis Simpson:** BSc (Hons), Assistant Ecologist.

## 2.4 Field surveys

2.4.1 Site Surveys

Elite Ecology were not made aware of any previous site surveys.

2.4.2 Roost Surveys

The structure at The Pole Barn, Longhurst Farm, Dimmingsdale was externally and internally inspected for the presence of bats and birds with the use of various types of equipment (including binoculars, torches, and ladders) in full daylight. Subsequent activity surveys use a variety of bat detectors that include Bat Box Duet, SSF Bat2 and the EcoObs Batcorder. The following table outlines the environmental variables from the survey visits:

| Environmental variables | PRA and Activity Survey – 27th of June 2022. Dusk |
|---|---|
| Temp Start: | 15°C |
| Temp Finish: | 12°C |
| Humidity Start: | 52% |
| Humidity Finish: | 65% |
| Cloud Cover Start: | 65% |
| Cloud Cover Finish: | 100% |
| Wind Speed Average: | 5.5mph |
| Precipitation: | None |

# 3 Results

## 3.1 Desktop Survey Results

The ecological data search provided by SER revealed several protected bat and bird species within the 2km search radius of Longhurst Farm, Dimmingsdale.

### 3.1.1 Bats:

The ecological data search revealed several bat records within the 2km search radius. The UKBAP species recorded in the search were brown long-eared (*Plecotus auritus*), noctule (*Nyctalus noctula*), and soprano pipistrelle (*Pipistrellus pygmaeus*) bats. The non-BAP species recorded in the search were common pipistrelle (*Pipistrellus pipistrellus*), Daubenton's (*Myotis daubentonii*), lesser noctule (*Nyctalus lesleri*), Natterer's bat (*Myotis nattereri*) and whiskered/Brandt's (*Myotis mystacinus/brandtii*) bats. In addition to these, a few records of unidentified bats (Chiroptera), unidentified Myotis (*Myotis* sp.) and unidentified pipistrelle (*Pipistrellus* sp.) specimens were revealed in the search.

The closest records to the site were of pipistrelle (*Pipistrellus pipistrellus* sensu lato), Daubenton's (*Myotis daubentonii*) and lesser noctule (*Nyctalus leisleri*) bats from 1990 located approximately 465m to the south of the surveyed structure.

The most recent records were of common pipistrelle (*Pipistrellus pipistrellus*), Daubenton's (*Myotis daubentonii*), Natterer's (*Myotis nattereri*) and whiskered/Brandt's (*Myotis mystacinus/brandtii*) bats. These records were from 2018 and were located approximately 1177m to the north of the surveyed structure.

### 3.1.2 Birds:

Numerous protected bird species have been identified within the 2km search radius. These birds can be split into three categories of conservation importance (red, amber and green – please see RSPB for more information). The bird species revealed within the 2km search radius are listed within the table below.

| Birds | |
|---|---|
| **Common Name** | **Latin Name** |
| Barn Owl | *Tyto alba* |
| Black-headed Gull | *Chroicocephalus ridibundus* |
| Brambling | *Fringilla montifringilla* |
| British Dipper | *Cinclus cinclus subsp. gularis* |
| Bullfinch | *Pyrrhula pyrrhula* |
| Common Crossbill | *Loxia curvirostra* |
| Common Sandpiper | *Actitis hypoleucos* |
| Cuckoo | *Cuculus canorus* |
| Curlew | *Numenius arquata* |
| Dipper | *Cinclus cinclus* |

| | |
|---|---|
| Dunnock | *Prunella modularis* |
| Fieldfare | *Turdus pilaris* |
| Garganey | *Anas querquedula* |
| Goldeneye | *Bucephala clangula* |
| Goshawk | *Accipiter gentilis* |
| Grasshopper Warbler | *Locustella naevia* |
| Grey Wagtail | *Motacilla cinerea* |
| Greylag Goose | *Anser anser* |
| Herring Gull | *Larus argentatus* |
| Hobby | *Falco subbuteo* |
| House Martin | *Delichon urbicum* |
| House Sparrow | *Passer domesticus* |
| Kestrel | *Falco tinnunculus* |
| Kingfisher | *Alcedo atthis* |
| Lapwing | *Vanellus vanellus* |
| Lesser Black-backed Gull | *Larus fuscus* |
| Lesser Redpoll | *Acanthis cabaret* |
| Lesser Spotted Woodpecker | *Dendrocopos minor* |
| Linnet | *Linaria cannabina* |
| Mallard | *Anas platyrhynchos* |
| Marsh Tit | *Poecile palustris* |
| Meadow Pipit | *Anthus pratensis* |
| Merlin | *Falco columbarius* |
| Mistle Thrush | *Turdus viscivorus* |
| Mute Swan | *Cygnus olor* |
| Osprey | *Pandion haliaetus* |
| Peregrine | *Falco peregrinus* |
| Phoenicurus phoenicurus subsp. phoenicurus | *Phoenicurus phoenicurus subsp. phoenicurus* |
| Pied Flycatcher | *Ficedula hypoleuca* |
| Pink-footed Goose | *Anser brachyrhynchus* |
| Red Kite | *Milvus milvus* |
| Redstart | *Phoenicurus phoenicurus* |
| Redwing | *Turdus iliacus* |
| Reed Bunting | *Emberiza schoeniclus* |
| Skylark | *Alauda arvensis* |
| Snipe | *Gallinago gallinago* |
| Song Thrush | *Turdus philomelos* |
| Spotted Flycatcher | *Muscicapa striata* |
| Starling | *Sturnus vulgaris* |
| Stock Dove | *Columba oenas* |
| Swallow | *Hirundo rustica* |
| Swift | *Apus apus* |
| Tawny Owl | *Strix aluco* |
| Tree Pipit | *Anthus trivialis* |

| | |
|---|---|
| Tree Sparrow | *Passer montanus* |
| Whinchat | *Saxicola rubetra* |
| Whooper Swan | *Cygnus cygnus* |
| Willow Tit | *Poecile montana* |
| Willow Warbler | *Phylloscopus trochilus* |
| Wood Warbler | *Phylloscopus sibilatrix* |
| Woodcock | *Scolopax rusticola* |
| Yellowhammer | *Emberiza citrinella* |

The closest records to the site were of kestrel (*Falco tinnunculus*) sighted approximately 217m to the east of the survey site, and kingfisher (*Alcedo atthis*) sighted approximately 256m to the south of the survey site. The majority of the records (44 out of 61) were sighted within approximately 465m of the survey site to the south.

3.1.3 Designated sites

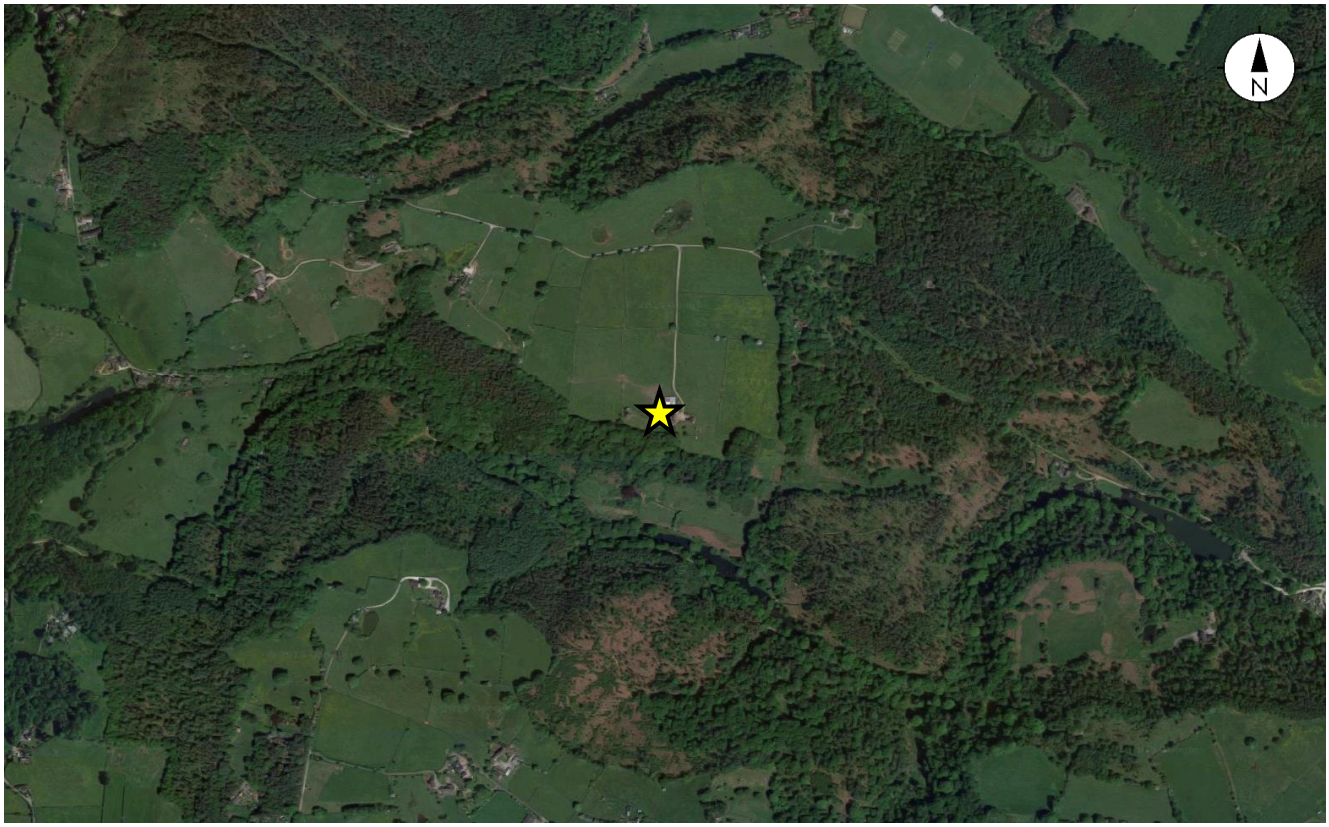
As the current proposals remain within the site boundary, it was not necessary to obtain any further information regarding both Statutory and Non-Statutory Nature Conservation Designations. This is due to the proposed works not altering any of the landscape surrounding the site.

## 3.2 Field surveys

3.2.1 Habitat description

The site itself is situated within a rural setting approximately 1km to the south of Oakamoor. Hard standing ground, pastureland, arable land, corrugated metal farm buildings, a residential dwelling and its associated garden, and woodland are situated in the immediate vicinity of the building. Within the wider landscape further habitats are present. In addition to those above, these include stone walls, standing water, running water, and a wooden lodge. The habitats on site are considered to contain potential to support the local bat and bird populations by offering roosting/nesting, commuting and foraging opportunities.

**Figure 2:** An aerial photograph of the surveyed site (yellow star) and some of the nearby habitats to the structures at Longhurst Farm, Dimmingsdale.




3.2.2 Building survey

External Inspection:

The walls of the barn are constructed of breezeblock, with wooden poles supporting the roof structure. The roof is pitched, with a corrugated metal roof. Clear access is apparent to the interior of the barn, where clear access to the interior for bats and birds is apparent on the southern elevation. Two of the elevations are corrugated metal walls, with a corrugated wooden slat wall on the other. No evidence of nesting birds was evident externally.

Internal Inspection:

The roof of the structure is supported by steel beams, with exposed metal roofing sheets visible. A lack of roosting features are present, with no evidence of any bat or bird presence noted.

3.2.3 Summary of the building inspection

Due to the amount of potential ingress/egress points and suitable roosting features, the structure at Longhurst Farm was deemed as having **negligible** potential for bats to roost and **negligible** bird nesting potential.

Following the results from the scoping survey, no further bat activity surveys are required. However, one activity survey was undertaken as a precaution.

**Table 1:** Low/Moderate/High potential building(s) survey recommendations. The full guidance can be found in the Bat Conservation Trust Good Practice Survey Guidelines. These guidelines are what all local authorities abide by.

Bat Conservation Trust

**Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).**

| Low roost suitability | Moderate roost suitability | High roost suitability |
|---|---|---|
| One survey visit. One dusk emergence or dawn re-entry survey[a] (structures).<br><br>No further surveys required (trees). | Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.[b] | Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.[b] |

[a] Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.
[b] Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

### 3.2.4 DNA Results

No DNA Analysis was undertaken for this project as the number of droppings discovered was insufficient after the droppings were crumbled to confirm their identification.

### 3.2.5 Activity surveys

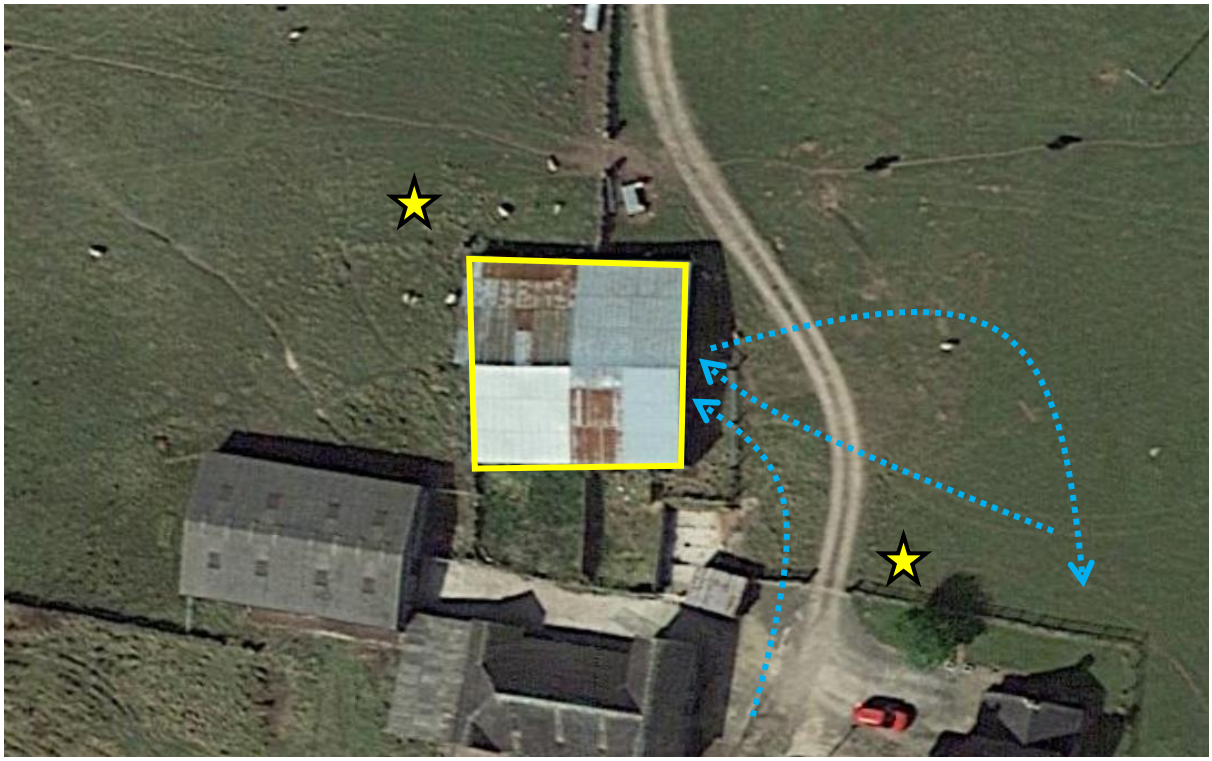
One activity survey was undertaken on the building by Elite Ecology surveyors in June 2022.

**Activity survey 1 (27th of June 2022)**

The activity survey was undertaken at dusk, with sunset being recorded at 21.36. During this survey, bats were seen to enter the building, however this was to forage inside of the barn rather than to roost as the door to the barn was open.

Commuting and foraging common pipistrelle (*Pipistrellus pipistrellus*) bats were also identified around the site.

**Figure 3:** An aerial photograph of the surveyed buildings (yellow outline), the surveyor locations (yellow stars) and the common bat flight paths (dotted blue lines).



**Summary:**

In summary, the surveyed structure at Longhurst Farm, Dimmingsdale contains a **no bat roost**. However, foraging and commuting common pipistrelle (*Pipistrellus pipistrellus*) bats were identified around the site.

# 4 Impact Assessment

## 4.1 Constraints

| Constraints on: | Survey Information | Equipment Used |
|---|---|---|
| Constraint (Yes or No): | No | No |
| Explanation of Constraints: | N/A | N/A |
| Action Taken: | N/A | N/A |

## 4.2 Potential Impacts of the re-development

The current planning proposal will see the barn demolished. The unmitigated impacts of these works have been deemed as follows:

### 4.2.1 Designated sites

As the proposed works are due to remain within the site boundary, the presence of any designated sites nearby is not applicable to this project. This, therefore, means that any building works would be of no detriment to the surrounding habitats and landscape.

### 4.2.2 Bat Roosts

| Impact | Short-term Impacts: Disturbance | Long-term Impacts: Roost Modification | Long-term Impacts: Roost Loss |
|---|---|---|---|
| Classification: | **Negligible** | **Negligible** | **Negligible** |
| Justification: | No bat roosts are located within the surveyed structure. The proposed scheme of works will not alter the wider landscape and will not disturb foraging or commuting bats. | No bat roosts are located within the surveyed structure. The proposed scheme of works will not alter the wider landscape and will not disturb foraging or commuting bats. | No bat roosts are located within the surveyed structure. The proposed scheme of works will not alter the wider landscape and will not disturb foraging or commuting bats. |
| Any further action: | No further action required. | No further action required. | No further action required. |

### 4.2.3 Bird Nests

Due to the absence of bird nests in relation to the surveyed structure, the proposed scheme of works will be of a **negligible** effect to the local bird populations.

4.2.4 Foraging and commuting habitat

It is considered that the re-development of the site would have a **'negligible'** effect on potential foraging and commuting habitat. Whilst the site itself does offer some foraging habitat, this will not be altered or lost by the proposed works. Most of the foraging activity was further away in the distance near to the wooded area to the south. Post development, all foraging and commuting habitats will be maintained, thus not negatively affecting the local landscape.

# 5 Recommendations

From the site survey, it has been established that structure has **no bat roosts**. Therefore, there are no compulsory measures needed.

However, it is recommended that optional site enhancement measures could be included into the scheme of works. These could include the installation of Eco Bat Boxes, Integrated Eco Bat Boxes or Bat Access Tiles on the redeveloped structure. These features should avoid any artificial lighting, with **no modern breathable felt** to be used around any bat access tiles.

A soft landscaping plan should incorporate some wildlife attracting species. The table below outlines species recommended by the Bat Conservation Trust, all of which could be incorporated into the site post development:

| Flowers for borders | Trees, shrubs & climbers |
|---|---|
| Aubretia | Bramble |
| Candytuft | Buddleia |
| Cherry pie | Common alder |
| Corncockle | Dogrose |
| Corn marigold | Elder |
| Corn poppy | English oak |
| Echniacea | Gorse |
| English bluebell | Guelder rose |
| Evening primrose | Hawthorn |
| Field poppies | Hazel |
| Honesty | Honeysuckle (native) |
| Ice plant ‘pink lady’ | Hornbeam |
| Knapweed | Ivy |
| Mallow | Jasmine |
| Mexican aster | Pussy willow |
| Michaelmas daisy | Rowan |
| Night-scented stock | Silver birch |
| Ox-eye daisy | **Herbs** |
| Phacelia | Angelica |
| Poached egg plant | Bergamot |
| Primrose | Borage |
| Red campion | Coriander |
| Red valerian | English marigolds |
| Scabious | Fennel |
| St. John’s Wort | Feverfew |
| Sweet William | Hyssop |
| Tobacco plant | Lavenders |
| Verbena | Lemon balm |
| Wallflowers | Marjoram |
| Wood forget-me-not | Rosemary |
| Yarrow | Sweet Cicely |
| | Thyme |

# 6 Summary

## 6.1 Bat presence/absence

From the survey visit undertaken on the site, it can be concluded that the surveyed structure contains no bat roosts. However, foraging and commuting common pipistrelle (*Pipistrellus pipistrellus*) bats are present in the area.

## 6.2 Bird presence/absence

From the survey visit undertaken on the site, it can be concluded that the surveyed structure contained no evidence of birds. The surrounding landscape provides all of the necessary habitat elements that birds require, and their presence can be assumed.

## 6.3 Ecological value of building units

The ecological value of the buildings has been deemed as **negligible** to bats due to no current bat roosts being present.

The ecological value of the buildings to birds has been deemed as **low** due to absence of any nesting specimens, but potential nesting spaces apparent.

## 6.4 Recommendations

The recommendations for 'Longhurst Farm' can be summarised as follows (please refer to section **'5 – Recommendations'** for a more in-depth description):

- No compulsory recommendations are apparent for this site.
- Artificial lighting should be avoided where possible. If this is not possible, this should be sensored for large bodies only and pointed downwards.
- **Enhancement:** Enhance the site for bats by installing Eco Bat Boxes, Integrated Eco Bat Boxes or Bat Access Tiles on appropriate elevations (southern, eastern and/or western) – these must avoid artificial lighting.
- **Enhancement:** Incorporate a bat friendly planting scheme post development.

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# 8 Appendices

**Appendix A:** Site Plans

**Appendix B:** Eco Data Map

**Appendix C:** Artificial Light and Bats

**Appendix D:** The Annual Bat Year (BCT)

**Appendix E:** Legislation

## **Appendix A:** Site Plans

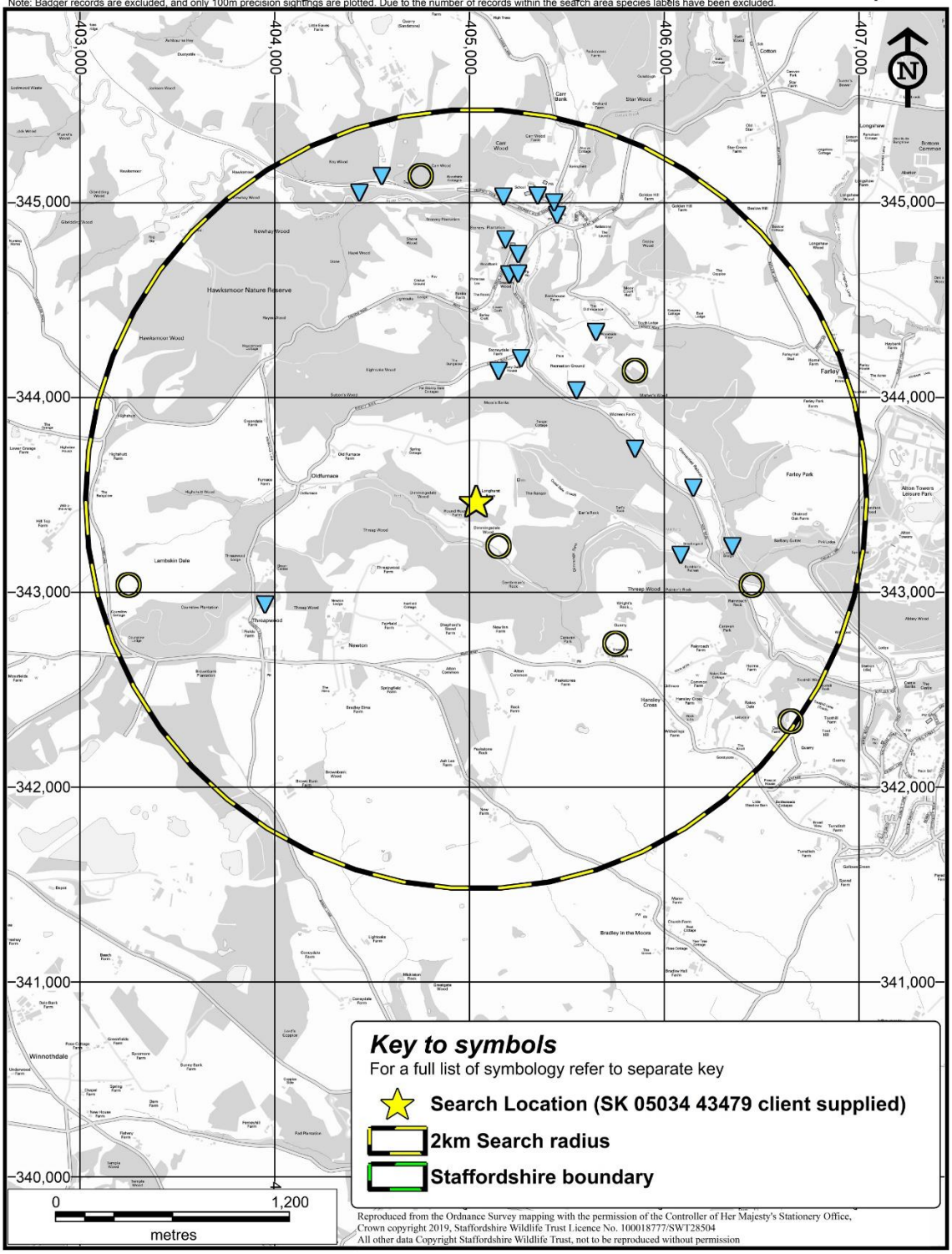
No site plans have been made available to Elite Ecology at the production of this report.

## **Appendix B:** The Ecological Data Search Maps

Staffordshire Ecological Record The Wolseley Centre, Wolseley Bridge, Stafford. ST17 0WT Tel: 01889 880100 Fax: 01880 880101
Email: info@staffs-ecology.org.uk SER/19/359

**Bats and Birds**
**within 2km of Longhurst Farm, Dimmingsdale (SK 05034 43479)**

Note: Badger records are excluded, and only 100m precision sightings are plotted. Due to the number of records within the search area species labels have been excluded.




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## **Appendix C:** Artificial Lighting and Bats

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotid bats (Myotis spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

**Current recommendations for all bat species specifies that no bat roost should be directly illuminated.**

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

- To introduce lighting curfews or use of PIR sensors.

  Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

- To consider no lighting solutions where possible.

  Options such as white lining, good signage and LED cats eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

- To use only high pressure sodium or warm white LED lamps where possible.

  High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

- To minimise the spread of light.

  The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

- To consider the height of the lighting column.

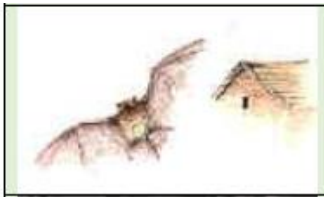
  While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

- To avoid reflective surfaces below lights.

  The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

**Appendix D:** The Annual Bat Year (BCT)

| A Year in the Life of a Bat | | |
|---|---|---|
|  | **January** | Hibernating; using up fat reserves. |
|  | **February** | Still hibernating; few fat reserves left. |
|  | **March** | Some activity; occasional bat seen feeding. |
|  | **April** | Awake and feeding at night. |
|  | **May** | Females looking for nursery sites. |
|  | **June** | Young born, usually only one. |
|  | **July** | Young still suckling. |

| | | |
|---|---|---|
|  | **August** | Young start catching insects; females leave nursery to find males. |
|  | **September** | Mating season begins; start building fat reserves for hibernation. |
|  | **October** | Search for suitable hibernation site. |
|  | **November** | Hibernation begins although still some activity in warm weather. |
|  | **December** | Hibernating. |

## **Appendix E:** Legislation and Policy

All species of bat are fully protected under a variety of domestic, European and international legislation and conventions. These include:

- Bern Convention (Appendix II)
- Bonn Convention (Appendix II)
- Conservation Regulations (Northern Ireland) 1995
- Conservation of Habitats and Species Regulations 2017
- Countryside Rights of Way Act 2000
- Eurobats Agreement
- Habitats Directive (Annexes IV and II)
- Habitats Regulations 1994 (as amended) Scotland
- NERC Act 2006
- Wildlife and Countryside Act 1981 (as amended)
- Wild Mammals Protection Act

In addition to this, some species have additional protection by being listed on the UK Biodiversity Action Plan (UKBAP).

The legislation afforded to bats makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which protects birds, nests, eggs and nestlings from harm. In addition to this, some rarer species, such as barn owls are afforded extra protection.

National Planning Policy Framework, Section 15:

In early 2012, the National Planning Policy Framework (NPPF) replaced much previous planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. The government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System, which accompanied PPS9, still remains valid. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives. The latest National Planning Policy Framework was updated in February 2019, with the section in relation to conserving the natural environment being located within section 15.

Section 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and, where possible, provide net gains in biodiversity. Opportunities to incorporate biodiversity gains into a development should be encouraged.

Biodiversity 2020:

This sets out to halt overall biodiversity loss and support healthy well-functioning ecosystems by establishing coherent ecological networks, with more and better places for nature, to the benefit of wildlife and people. The government's policy is aimed at individuals, communities, local authorities, charities, business and government, which all have a role to play in delivering Biodiversity 2020.

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The survey results purport the current status of the site and its potential for protected species utilisation at the time of surveying. It should not be viewed as a complete list of the possible flora and fauna species that could be using the site at different times of the year.

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No reliance should be made on any such comments in relation to the structural integrity of the features located on the surveyed site. All information within the report is based solely on evidence that has been found on site during the service provided. No individual opinion or inference will be made other than that of the suitably qualified ecologist appointed to the project.