Holmes Farm, Balderstone

BAT SURVEY & GENERAL ECOLOGY REPORT

July 2025

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1 INTRODUCTION

1.1 Instruction and Report Aims

Knight Sky Ecology Ltd was commissioned to undertake bat surveys of agricultural buildings located at Holmes Farm, Higher Commons Lane, Balderstone, BB2 7LR.

These surveys were undertaken in connection with the proposed development plans for the site which are to include the conversion of the barn and demolition of outbuildings including a small lean-to on the farmhouse. The farmhouse itself is not subject to development and was omitted from the scope of the surveys.

The bat surveys included a preliminary roost assessment and dusk emergence surveys. The primary aim of these surveys was to determine the presence or absence of bat roosts at the property. This report presents the survey results, providing the necessary data, assessment, and guidance to meet relevant planning and conservation policy obligations and legislative requirements. Details of the legislation afforded to bats are provided in Appendix A for further context.

In addition to bats, all other potential ecological constraints to the proposal were assessed and are documented where required. The development proposal is also subject to the mandatory Biodiversity Net Gain condition and this information is to be submitted separately.

1.2 Site Description

The farm is directly adjacent to Higher Commons Lane at grid reference SD 64169 31648. The surrounding landscape is predominantly agricultural, comprising a mosaic of pasture fields enclosed by hedgerows and tree lines, interspersed with occasional woodlands. The villages of Osbaldeston, Mellor Brook and Balderstone are located within the surrounding area. Figure 1.1 provides an aerial image of the property location.

Figure 1.1. Property location (approximate site boundary)

2 METHODS

2.1 Desk Study (General Ecology)

The Multi-Agency Geographic Information for the Countryside (MAGIC) mapping tool (Available from: https://magic.defra.gov.uk/) was used to search for ecological information contained within the relevant datasets including:

- Site of Special Scientific Interest (SSSI) Impact Risk Zones - to determine whether the proposal poses a risk to the notified features of any SSSI located within the wider area.
- Priority habitats (as listed within Section 41 of the Natural Environment and Rural Communities Act 2006) within a 250m radius. This included certain priority habitats also referred to as 'irreplaceable'.
- Granted European Protected Species (EPS) mitigation licenses for bats and great crested newts within a 1km radius.

Mapping information for locally designated sites and the Lancashire Ecological Network was obtained from the Nature Recovery Interactive Map accessed via:

- https://experience.arcgis.com/experience/d429aa6435b849838af1d2cef68de43b

2.2 Survey Personnel

The preliminary bat roost assessment and dusk emergence surveys were led by Ryan Knight MCIEEM who holds a Level 2 Natural England Class Licence (ref. 2015-12611-CLS-CLS) for bats and has held this licence for over 12 years. Ryan has also acted as the 'named ecologist' on numerous European Protected Species (EPS) mitigation licences issued by Natural England which covered several bat species and roost types including maternity, hibernation and day roosts.

Ryan also holds a Level 1 licence for great crested newts (ref. 2015-16727-CLS-CLS).

All other personnel who were involved in the surveys have been trained by Ryan or hold Natural England licenses and / or have several years of experience in bat surveys.

2.3 Overarching Guidance

The preliminary bat roost assessment and dusk emergence surveys were primarily based on the methods described in '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). Bat Conservation Trust, London.' (Collins, J., (ed.) (2023).* Any deviation from standard practice is justified where required.

2.4 Preliminary Bat Roost Assessment

A preliminary bat roost assessment of the property was undertaken on 23rd December 2024. The assessment involved a visual inspection of the property to search for bats and evidence of bats (e.g., droppings) and an appraisal of the extent and suitability of any potential bat roost features present. The assessment included the use of binoculars, a torch, ladders and a digital endoscope.

Other considerations which would influence the suitability of the property for use by bats were also taken into account. This included the site location, expected night time lighting levels and the suitability of the surrounding habitats. This information was gathered from the site survey and web-based mapping sources (i.e., Google Earth).

Following the assessment, the buildings were assigned a bat roost suitability category of none, negligible, low, moderate, high or confirmed roost based on the collated information.

2.5 Dusk Emergence Surveys

Two dusk emergence bat surveys were undertaken on 20th May and 19th June 2025.

With respect to the size and differing aspects of the barn, three survey positions were required to gain clear sightlines of all potential roost features identified during the preliminary roost assessment and to record the species and numbers of bats emerging from the property if present. All other non-emergence bat activity was also recorded including flight direction, type of activity, time of activity and species. The survey commenced at least 15mins before sunset and continued for at least 1hr and 30mins after sunset.

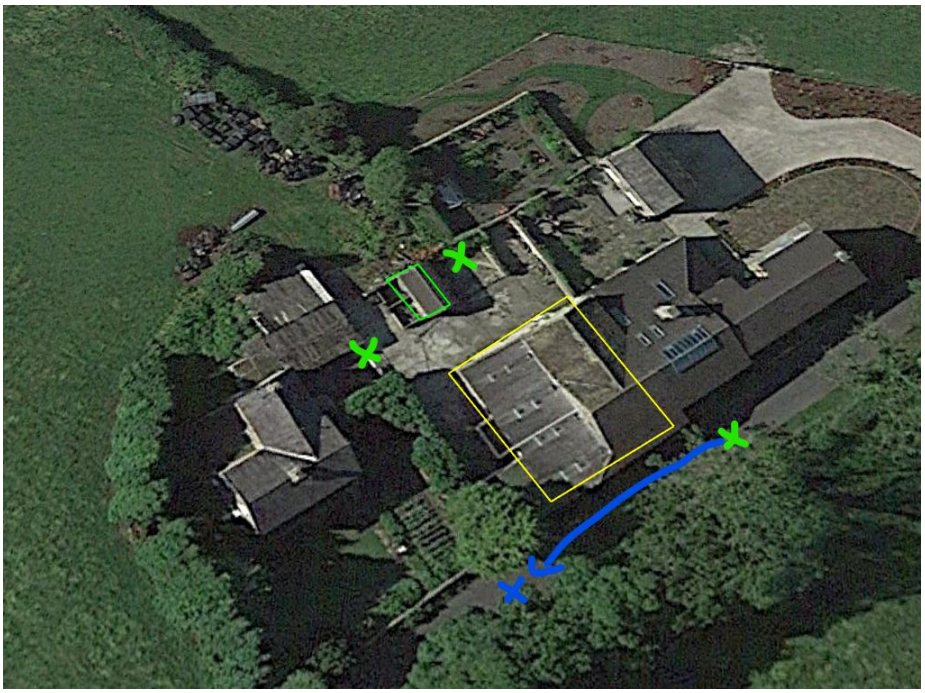
Each survey position during each dusk emergence survey comprised a surveyor with a full spectrum bat detector supplemented by an infra-red camera with a sufficient level of lighting (this recording system is referred to as a Night Vision Aid (NVA)).

All footage from the NVAs was fully reviewed via a desktop media player following the completion of the surveys. In addition, all bat calls were downloaded and checked with use of the relevant software (e.g., BatExplorer) in the event that any notable bat activity was missed during the site survey. Table 2.1 details the survey times, weather conditions, equipment used and survey positions.

In addition to the above-described methods, during the second survey on 19th June, a bat detector (Elekon Batlogger M2 (full spectrum)) was placed inside the barn to gather further information on the use of the barn by bats.

Table 2.1. Survey data and conditions

Date	20 May 2025	19 June 2025
Sunset	21:13	21:45
Survey duration	20:58 to 22:48	21:30 to 23:20
Weather conditions	• Dry throughout • 14°C at survey start • 11°C at survey end • 15% cloud cover • Wind 1 (Beaufort scale) • No significant weather changes were encountered throughout the survey	• Dry throughout • 21°C at survey start • 19°C at survey end • 10% cloud cover • Wind 1-2 (Beaufort scale) • No significant weather changes were encountered throughout the survey

Personnel & equipment	• Ryan Knight (RK) - Elekon Batlogger M2 (full spectrum) and 1no. Canon XA15 IR camera with 2no. Nightfox XC5 torches. • Matthew Knight (MK) – Echometer Touch 2 Pro with Tablet and 1no. Canon XA15 IR camera with 2no. Nightfox XC5 torches. • Catherine Wood (NE Class bat licence: 2016-24176-CLS-CLS (CW)) – Peersonic RPA3 (full spectrum) and 2no. Nightfox whisker with x1 Nightfox XC5 torch on each unit.	• Ryan Knight (RK) - Elekon Batlogger M2 (full spectrum) and 1no. Canon XA15 IR camera with 2no. Nightfox XC5 torches. • Catherine Wood (NE Class bat licence: 2016-24176-CLS-CLS (CW)) – Peersonic RPA3 (full spectrum) and 2no. Nightfox whisker with x1 Nightfox XC5 torch on each unit. • Bek Stobbart (BS) – Pettersson U series and Canon XA10 with IR spotlights.
Survey positions (X) **Survey position adjusted on second survey (blue X)** **Yellow line = barn** **Green line = piggery**		

2.6 Great Crested Newt Environmental DNA (eDNA) Test

The extent of land take for the development included a small area of pasture field in front of an existing field gate entrance approximately 55m south-east of a pond. Therefore, it was considered prudent to undertake a water test for great crested newt (GCN) Environmental DNA (eDNA) within this pond. In aquatic environments eDNA is diluted and distributed in the water where it persists for 7-21 days. Research has shown that the DNA from a range of aquatic organisms can be detected in water samples at very low concentrations using qPCR (quantitative Polymerase Chain Reaction) methods (Biggs *et al.*, 2014). It is a useful method to determine the presence or absence of GCN in waterbodies.

An eDNA survey was completed on the pond on 20th May 2025. Water samples were taken from the pond at 20 evenly spaced points around the pond perimeter. These water samples were then combined into a single container, with six samples being extracted from this and placed into tubes containing a DNA preservative. These tubes were then sent to the SureScreen Scientifics laboratory for analysis in accordance with the Natural England guidelines (Biggs *et al.,* 2014).

2.7 Nesting Birds

The buildings within the site were assessed for their suitability for use by nesting birds including barn owl.

2.8 Assessment Comments

Preliminary Bat Roost Assessment

The initial preliminary bat roost assessment was undertaken outside the main active season for bats (April to October) when signs of a bat roost are less evident. In addition, the internal floor space of the barn contained a high degree of detritus which inhibited the sighting of any evidence of bats (i.e., droppings). Overall, the constraints did not present a significant limitation to the recommendations made following the assessment. The main aim of the assessment was to evaluate the suitability of the buildings for use by bats.

Dusk Emergence Surveys

The surveys were undertaken within the main bat activity period during weather conditions deemed suitable to conduct bat surveys in accordance with the guidance (Collins, 2023). Overall, no significant constraints to the surveys were encountered.

General

This report will remain valid for a period of 18 months from the date of issue. An ecologist should be contacted for advice on the revalidation requirements of the report if planning permission is not obtained or works do not commence within this time period.

3 RESULTS

3.1 Desk Study

Nationally Designated Sites

No nationally designated sites are located within 2.5km. The Impact Risk Zones for SSSI indicate that at the location selected, the proposed development is unlikely to have a harmful effect on any designated area and the development type does not meet the criteria for requiring further consultation with Natural England (Natural England, 2023[1]).

Locally Designated Sites

Mammon Wood and Carter Fold Wood Biological Heritage Site (BHS) is located 210m south-west. The site is likely to be designated for its ancient woodland (see below).

Priority & Irreplaceable Habitats

There are no priority or irreplaceable habitats on the site. As confirmed via the relevant MAGIC mapping layer, the nearest priority habitat comprises a large area of deciduous woodland located 210m south-west. Part of this wood (Mammon Wood) is also listed as Ancient & Semi-Natural Woodland (irreplaceable habitat).

Lancashire Ecological Network

The site is not within Lancashire Ecological Network.

EPS Mitigation Licenses

No EPS mitigation licenses for bats or great crested newts were identified within a 1km radius. There was a record of a great crested newt survey licence return located over 300m south-west.

3.2 Preliminary Bat Roost Assessment

3.2.1 Building Description and Potential Bat Roost Features

Photos of the property are provided in Appendix B for a general overview and an illustration of any identified potential bat roost features.

Barn with attached stable and utility rooms

The barn is a stone-built structure which is attached to a converted private residence on the north-east side. The barn has two intersecting roofs and a lower mono-pitched roof which slopes down to a single storey level on the south-west aspect. The main barn area has a large entrance (with timber doors) on the north-west aspect along with upper floor window and door apertures on the second floor. These apertures were boarded.

On the south-east aspect of the roof of the barn (facing Higher Commons Lane) were more modern concrete roof tiles. On the intersecting roof were traditional stone slates. The roof appeared to be in very poor condition and was sagging. Props had been placed on the inside to stabilise the roof from collapsing. The mono-pitched roof over the attached stable block and utility rooms comprised slate

[1] Natural England (2023). Natural England's Impact Risk Zones for Sites of Special Scientific Interest. User Guidance. Version: v4.1. Issue Date: 7 March 2023.

tiles. The large majority of the external stonework of the barn was in good condition. There were however several areas in the mid to upper stonework on the north-west side in which, pointing mortar had decayed or was missing. It is estimated that there were 6-8 sufficiently recessed gaps for bats in the stonework. In addition, there were gaps under the verge coping stones on the north corner of this aspect of the barn.

On the south-east aspect, potential bat roost features were limited to gaps under the roof tiles on the corner verge.

Internally, the barn is split over two levels. The whitewashed stonework did appear to be in good repair with no cavities identified. Only the south aspect of the roof had an underlining which comprised a traditional bitumen-based membrane. Conditions were relatively dark; however, numerous daylight gaps were observed in an upper floor room due to the lack of an underlining and poor condition of the roof.

The attached stables and utility rooms were of limited height and no potential roost features were observed in these sections.

Piggery

The piggery was a small, single storey, stone-built structure located to the north-west of the barn. It had a shallow pitched, concrete tiled roof and a bitumen-based underlining. The stonework appeared to be in good repair both inside and out. Whilst, the pointing mortar was degraded, no sufficiently recessed cavities for bats were observed. There were gaps under the roof verge; however, no suitable cavities were observed.

Other Outbuildings

There is a small, stone-built lean-to on the north-west aspect of the farmhouse which is proposed to be cleared. No potential roost features were observed on this structure. All other built structures within the site had collapsed and were in the process of being cleared at the time of the assessment.

3.2.2 Habitat Description

The property is situated in a rural location and the surrounding area is dominated by agriculturally improved pasture. However, the surrounding fields and lanes are bound by hedgerows and mature tree lines which provide sheltered foraging features and connective habitats for bats. In addition, there are several field ponds in the surrounding area. The buildings within the site will also provide some shelter for foraging bats. A notably large woodland area is located 210m south-west and this provides a high value foraging resource for bats.

Overall, and prior to the dusk emergence survey, bat activity levels and species diversity were expected to be moderate within locality of the property.

3.2.3 Evidence of Bats and Bat Roost Suitability

No evidence of a bat roost was observed during the preliminary bat roost assessment (see Assessment Comments).

Barn

Potential roost features or roost access features (to internal areas) included:

- Access via gaps around the main barn door and small apertures on the north-west and south-west elevation.

- Several recessed gaps in the stonework on the north-west elevation.
- Gaps under the roof verges (south-east aspect).
- Gaps between stone slates.
- Gaps between the roof lining and slates.

With respect to the findings of the preliminary roost assessment, the barn was categorised as **moderate** in its suitability to support bats.

Piggery

Whilst there were no immediately observable roost features, the piggery was considered to offer low roost suitability and the dusk emergence surveys of the barn could adequately cover the piggery.

3.3 Dusk Emergence Surveys

The barn was confirmed to support a bat roost comprising a single common pipistrelle bat. The barn was also confirmed to be used as a night roost by low numbers (1-2) of common pipistrelle. The most relevant findings of the dusk emergence surveys are outlined below and within Table 3.2 and a summary of general activity is provided in Table 3.3

20 May 2025

The survey position on the north-west side recorded common pipistrelle frequently entering and exiting the barn through the main entrance between 21:45 to 22:15. No clear indication of a roost site within the barn was observed although due to the frequency of activity, such evidence was difficult to obtain.

A Myotis species also briefly flew within the entrance passage of the barn at 22:01 but no evidence of roost activity was observed.

Bat foraging activity was generally low with most foraging loops recorded along Higher Commons Lane. Species recorded included common pipistrelle, soprano pipistrelle, noctule and Myotis species (likely whiskered bat).

19 June 2025

A single common pipistrelle was observed flying in the barn 20mins before sunset. This bat emerged from the barn and re-entered at 21:49 and emerged at 22:00. Common pipistrelle was the only bat species recorded within the barn (as confirmed on the recordings of the detector). The survey coincided with a very warm evening which would explain this very early and non-typical common pipistrelle bat activity.

In addition to this, two common pipistrelles entered the barn at 22:18 but no re-emergence was observed by any surveyor or on NVA footage. At 22:26, a further common pipistrelle entered and exited at 22:30. Calls of soprano pipistrelle, Myotis species and a noctule bat were also recorded.

Table 3.2. Main Findings

Date	Description	Location
19 June 2025	Emergence of single common pipistrelle from the barn entrance. Two common pipistrelle also entered and did not re-emerge.	

Table 3.3. Summary of bat activity

20/05/2025 (sunset 21:13)
General activity (all aspects): • 21:27 – Soprano pipistrelle (first recording). Not seen. • 21:41 – Common pipistrelle activity. • 21:45 to 22:25 – Regular activity of common pipistrelle around building. Bats flying in and out of entrance. No activity could be attributed to emergence from a roost in the barn. • 22:01 – Myotis species (possibly whiskered bat) briefly entered main doorway before exiting. • 22:05 – Brief noctule pass. • 22:20 to survey end. Activity decreased with occasional foraging passes of common pipistrelle.
19/06/2025 (sunset 21:45)
Barn entrance: • 21:25 – Common pipistrelle flying on the inside of the barn. • 21:40 – Common pipistrelle emerged over doorway and re-entered. • 22:00 – Common pipistrelle emerged from over doorway. • 22:18 – Common pipistrelle x 2 entered over doorway. • 22:26 – Common pipistrelle entered over doorway and exited at 22:30 • 22:40 – Common pipistrelle entered barn and exited. • 22:39 – Soprano pipistrelle pass. • 23:10 – Noctule bat pass. **Other aspects:** • 21:51 to 22:51 – Several common pipistrelle passes close to building on south-west side. • 21:56 to 22:50 – Constant soprano and common pipistrelle foraging activity on road.

- 22:38, 22:52, 23:09 – Myotis species passes

3.4 Nesting Birds

Evidence of previous use of the barn by nesting birds included an old jackdaw nest and an unknown species nest within the roof timbers. Old swallow nests were also observed in the piggery although no active use of the nests was recorded during the dusk emergence surveys.

The barn was confirmed to be an active roost site for a single barn owl. Numerous pellets were observed on the floor space of the barn and a single barn owl was recorded exiting the barn through small, circular apertures in the upper floor during both dusk emergence surveys (it did not return). No evidence of a barn owl nest site was observed.

3.5 eDNA Test for GCN

The collected water samples returned positive results for GCN. DNA was identified within the sample, which was indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location. A GCN report is provided in Appendix C.

In addition, whilst not subject to eDNA testing, there was a further pond, which was in a very similar condition to the tested pond located 214m west of the site. Further to this, there was a field pond located 75m south-west (outside of the landholding of Holmes Farm). It is likely that one or both of these untested ponds are also used by GCN. Figure 3.1. provides an illustration of the locations of these ponds.

Figure 3.1. Pond locations

4 EVALUATION, IMPACT ASSESSMENT & CONCLUSIONS

4.1 Bats

The main findings derived from the bat surveys are as follows:

- The property was confirmed as a bat roost with a single common pipistrelle recorded emerging from the barn. The roost is classified as a day roost (a place where individual bats or small numbers rest or shelter during the day). Such a roost types have a low conservation status and mitigation can be easily applied to avoid and minimise impacts to bats (under licence).
- The barn was used as a foraging site but also, the emergence survey recorded two common pipistrelle bats entering the barn but not exiting. Whilst this activity is not typical for such species, it can be associated with a night roost (a place where individual or small numbers of bats rest during the night but are rarely present by day).
- Other bat activity included soprano pipistrelle, noctule and Myotis species.

The proposed works (i.e., conversion of the barn) will result in the loss of the bat roosts. In the absence of mitigation, the work also risks direct harm to the bats via the potential crushing of bats during the roof work.

All bat species and their roosts are legally protected through The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) as a European Protected Species (EPS). They also receive protection through inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Appendix A provides details of this legislation.

Derogation from the legislative prohibitions is transposed into the Habitats Regulations by way of a licensing regime that allows what would otherwise be an unlawful act to be carried out lawfully. Natural England are the relevant licensing authority in England and issue such licences on receipt of certain information including a robust assessment of the roost type, species and numbers of bats using the roost.

It should be noted that for this particular proposal and roost type, the Natural England licence application will not require the completion of a Reasoned Statement and therefore, information relating to two of the three licensing tests (overriding public interest and satisfactory alternatives) is not required. The Method Statement in Section 5 seeks to address the Favourable Conservation Status test only. It should also be noted that in this instance, the roost type and low scale of impacts also qualifies for the low impact licence scheme which offers a more streamlined licensing approach.

The licensing authority require the most up to date survey information for the licence application. Standard mitigation measures as stated within the licence MUST be followed and overseen by the named applicant and named ecologist who are legally bound by the terms and conditions of the licence. Such mitigation measures are outlined within Section 5.

4.2 Nesting Birds

Evidence of nesting birds was observed and the proposed development should be aware of the legislation afforded to nesting birds:

- *All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs*.

Mitigation recommendations are provided in Section 5.

4.3 Barn Owl

The barn was used as a roosting site for a single barn owl. The barn appears to be used on a very regular basis throughout the year. Nationally, barn owl populations can fluctuate year by year and it is thought that previous historical declines have been halted via conservation efforts via such organisations as the Barn Owl Trust. Whilst the loss of the roost is not considered to result in a significant negative affect to barn owl populations, mitigation for the loss of the roosting site is recommended in Section 5.

4.4 GCN

The proposal would be located 55m to the south-east of a pond, in which, GCN have been confirmed to be present. This species is afforded the same strict protection as bats via the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended) (Appendix A).

It is illegal to damage or destroy a breeding site (pond) or resting place (suitable terrestrial habitat) of such an animal.

However, it is important to assess if and to what extent the land within the development site can be classed as suitable terrestrial habitat. The development is proposed to be undertaken within the curtilage of the farm which comprises buildings, hardstanding and gardens to the front, rear and sides of the farmhouse. The hedges and trees within the gardens have been removed and the gardens contained lawns, bare soil and low growing shrubs (see Appendix B: Photos).

There will also be a requirement to undertake development within a small (40-50m^2) area of grassland habitat located adjacent to a field access gate, adjacent to the residential curtilage. This area comprised a short grassland sward with bare ground and some common nettle cover.

Based on its current condition and likely future condition (regardless of development), the land in which the proposed is to be sited is not suitable for use as a resting site by great crested newts. It forms a regularly used farmland access route and is disturbed ground. There are no potential refuge habitats or suitable features for hibernating.

It is advised that the proposal (including initial earthworks and subsequent construction) would not constitute ‘damage to a resting site’ and good practice mitigation measures can be undertaken to avoid individual animals. These measures are detailed in Section 5. Provided that mitigation measures are strictly implemented; it is not considered that GCN present a significant ecological constraint to the proposed development.

<u>BNG Field Area</u>

The site is to be subject to a BNG assessment and an area of land has been site aside within the field to the direct southwest. This land will be used for tree and hedgerow planting. The area comprised agriculturally improved pasture which is used for grazing and for silaging purposes. This land will be within 30m of a pond, in which, the presence of GCN is unknown. It is recommended that the BNG related work (i.e., tree planting) is undertaken in accordance with

the mitigation measures described in Section 5. The tree planting represents a biodiversity enhancement for GCN and other amphibians.

5 RECOMMENDATIONS

5.1 Bat Method Statement

The below information is provided to demonstrate how the favourable conservation status of the identified bat species will be maintained following the approval of an EPS mitigation licence application:

- There are no restrictions in the timing of the development work. This mitigation procedure follows standard guidance as set out in the Bat Mitigation Guidelines[2] (Reason, P.F. and Wray, S. (2023)).
- Before works commence, the licensed ecologist will provide a toolbox talk to the contractors in order to explain the presence of bats, their legal protection, roles and responsibilities, the proposed method of working, basic identification of bats and procedures should bats or evidence of bats be found.
- A bat box is to be placed on an adjacent tree in order to provide roosting provision throughout the duration of the works. This bat box is to be left in perpetuity and will comprise a Greenwoods two crevice bat box or a Beaumaris Woodstone Bat Box (Maxi).
- The licensed ecologist will supervise the soft destruction of the bat roost via the careful hand stripping of the roof slates. If the bat is present during the supervision, it will be captured by the ecologist who will assess the condition of the bat before transferring to the bat box.
- In the unexpected event that a bat is discovered outside of times where works will be supervised, contractors will be advised to contact the licensed ecologist who will travel to site to collect. Contractors will be specifically forbidden to handle bats. Contractors will be advised that if it is necessary to remove a bat to avoid it being harmed, gloves MUST be worn. It should be carefully placed in a cardboard box and kept in the dark in a quiet place until the licensed ecologist arrives on site.

Upon completion of the work, two bat boxes are to be fitted on the property. These bat boxes will comprise a Greenwoods two crevice bat box or a Beaumaris Woodstone Bat Box (Maxi). The boxes are to be fitted under the direct supervision of the licensed ecologist.

5.2 Nesting Birds

The barn roof removal, piggery demolition and other initial ancillary work affecting the buildings should be undertaken outside of the nesting bird season (March to August inclusive). If it is necessary to conduct work within this period, it should be preceded by a nesting bird check conducted by a suitably qualified ecologist. Active nests found at any time must remain unaffected until the nest is no longer in use (i.e., all chicks have fledged).

5.3 Barn Owl

It is recommended to install a barn owl nest box on one of the mature trees located within the wider landholding. Barn owl boxes can be bought ready-made (https://www.nhbs.com) or can be built using

[2] Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.1. Chartered Institute of Ecology and Environmental Management, Ampfield.

specific guidance. Figure 5.1 shows a box installed on a tree. Box specifications and an installation guide can be found via https://www.barnowltrust.org.uk/barn-owl-nestbox/owl-boxes-for-trees/.

As stated in the above Barn Owl Trust website, an ideal tree for the siting of a box would be:

- A mature tree with a thick trunk.
- Isolated, in a hedgerow or on the woodland edge.
- With a high canopy.
- With few or no low branches.
- Where a nest box can be placed at least 3 metres above ground level.
- Where the nest box access hole would be visible to a passing owl, even when the tree is in full leaf and seen from a distance.
- Quite close to strips or patches of rough grassland.

Figure 5.1. Example of barn owl (tree) box design

5.4 GCN – Method Statement

The following good practice mitigation measures should be adopted to avoid potential impacts to GCN:

- Before works commence, a suitably qualified ecologist should provide a toolbox talk to the contractors in order to explain the potential presence of GCN, their legal protection, roles and responsibilities, the proposed method of working, basic identification of GCN and procedures should GCN be found.
- The field conditions should remain as existing.
- Construction storage compounds and vehicles should keep to the hardstanding areas within the farm.
- The ecologist will conduct a hand search within the small field area until a satisfactory conclusion can be reached that GCN are absent.
- Trenches and other excavations should be back-filled before nightfall, or a ramp should be left within a trench to allow GCN to easily exit.
- Stored materials (that might act as temporary resting places) should be raised off the ground, e.g. on pallets.

- If frogs or toads are encountered within the development site, construction operatives are advised to remove the animal and transferred to a suitable habitat (i.e. land to the north). Wet gloves must be used whilst handling amphibians.

APPENDIX A. LEGISLATION

Legislation relating to European Protected Species (e.g. bats, great crested newt)

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to:

- Intentionally or recklessly damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection;
- Intentionally or recklessly disturb any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any structure or place which any such animal uses for shelter or protection.

In addition, under this legislation there are offences relating to sale, possession and control of wild animals listed in Schedule 5.

Under the Conservation of Habitats and Species Regulations 2017 (as amended) it is an offence to:

- Deliberately capture, injure or kill any wild animal listed as a European Protected Species;
- Deliberately disturb wild animals of any such species in such a way as to be likely:
  - to impair their ability:
    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;
  - to affect significantly the local distribution or abundance of the species to which they belong.
- Deliberately take or destroy the eggs of such an animal; or,
- Damage or destroy a breeding site or resting place of such an animal.

Natural Environment and Rural Communities (NERC) Act 2006

Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. There are 56 habitats and 943 species of principal importance, often referred to as priority habitats and priority species respectively, which were initially identified as requiring conservation action under the UK Biodiversity Action Plan and which continue to be regarded as priorities under the UK Post-2010 Biodiversity Framework. The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 "to have regard" to the conservation of biodiversity in England when carrying out their normal functions.

An amendment to the Natural Environment and Rural Communities Act 2006 (NERC Act) section 40 duty, provided for in the **Environment Act 2021**, extends the biodiversity duty on public authorities to include the enhancement of biodiversity alongside conservation by way of creating "the general biodiversity objective".

Legislation relating to breeding birds

The Wildlife and Countryside Act (WCA) 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. All bird species are protected under elements of Section 1 of the Act and it is an offence, with certain exceptions, to:

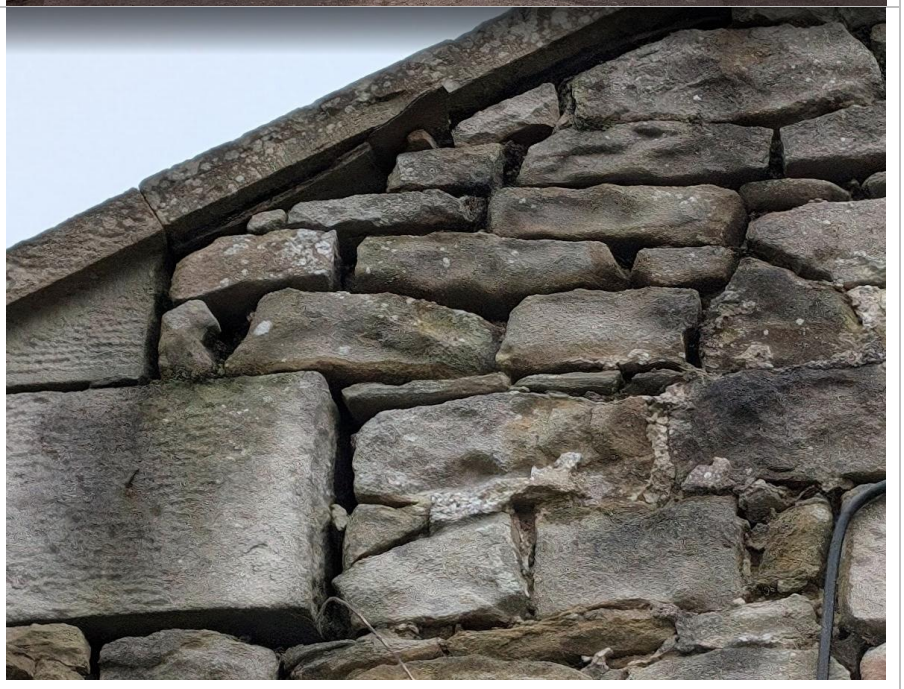
- Intentionally kill, injure or take any wild bird;
- Intentionally takes, damages or destroys the nest of any wild bird included in Schedule ZA1 (for specific birds that reuse their nests)
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;

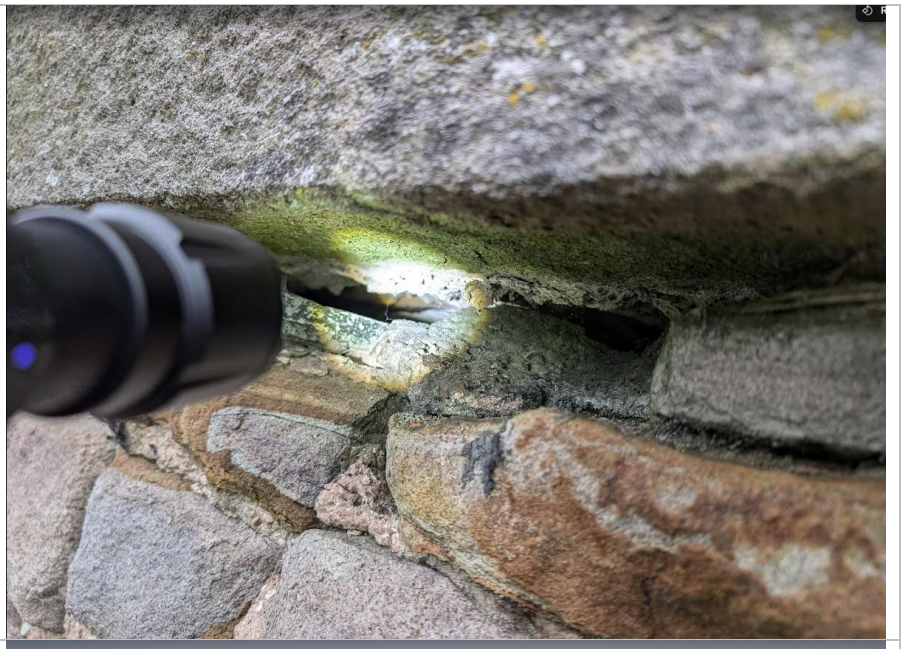
- Intentionally take or destroy the egg of any wild bird.

Schedule 1 of the Wildlife and Countryside Act 1981 provides further protection for selected species (e.g. peregrine falcon, barn owl, little ringed plover, kingfisher and red kite during the breeding season). If any person intentionally or recklessly disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird, that person shall be guilty of an offence.

APPENDIX B. PHOTOS & NVA SCREENSHOTS

Photos

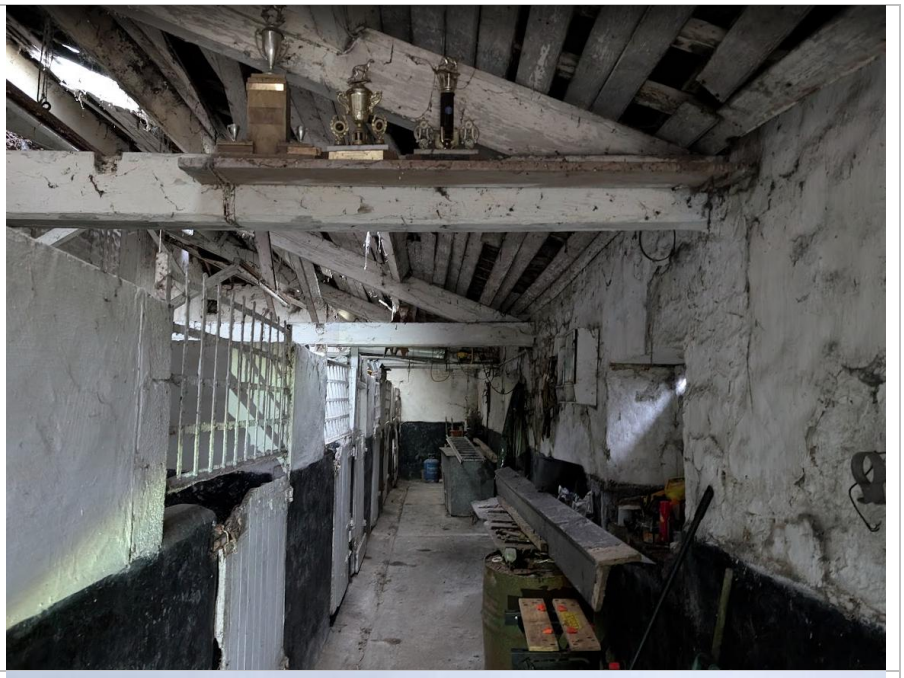
Photo 1. North-east elevation of barn	
Photos 2a & 2b Examples of gaps in stonework of barn on corner of north-east elevation and along main wall.	

	
Photos 3a & 3b. Attached stable and utility rooms on south-west aspect.	

	
Photos 4a & 4b South-east aspect with gaps under roof verge tiles.	

	
Photo 5. Collapsing barn roof	

	
Photo 6. Centre column of barn.	

Photo 7. Inside of stable.	
Photo 8. Piggery.	

Photos 9a & 9b Areas of former outbuildings (stone lean-to in background).	

Photo 10. Pond with confirmed GCN presence.	
Photos 11a & 11b. Farmhouse garden.	

NVA Screenshots

Screenshot 1. North-west elevation.	

Screenshot 2 South-west & south-east elevation	
Screenshot 3. South-west elevation.	

APPENDIX C. GCN REPORT

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Folio No:	1752-2025
Purchase Order:	233
Contact:	Knight Sky Ecology
Issue Date:	06.06.2025
Received Date:	22.05.2025

GCN Report

Technical Report

SureScreen Scientifics

Folio No: 1752-2025
Purchase Order: 233
Contact: Knight Sky Ecology
Issue Date: 06.06.2025
Received Date: 22.05.2025

SureScreen Scientifics

GCN eDNA Analysis

Summary

When great crested newts (GCN), *Triturus cristatus* , inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN25 6291	Holmes Farm - P1	SD 64109 31712	Pass	Pass	Positive	12/12

Matters affecting result: none

Reported by: Amy Bermudez

Approved by: Vanessa Hind

Folio No:	1752-2025
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Contact:	Knight Sky Ecology
Issue Date:	06.06.2025
Received Date:	22.05.2025

SureScreen Scientifics

Methodology

The samples detailed above have been analyzed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample tube which then undergoes DNA extraction. The extracted sample is then analyzed using real-time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded. Analysis of eDNA requires attention to detail to prevent the risk of contamination. True positive controls, negative controls, and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added analytical security.

SureScreen Scientifics Ltd is ISO9001 accredited and participates in Natural England's proficiency testing scheme for GCN eDNA testing.

Interpretation of Results

Sample Integrity Check: When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results. Any samples which fail this test are rejected and eliminated before analysis.

Degradation Check: **Pass/Fail**. Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.

Inhibition Check: **Pass/Fail.** The presence of inhibitors within a sample is assessed using a DNA marker. If inhibition is detected, samples are purified and re-analyzed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.

Result: **Presence of GCN eDNA (Positive/Negative/Inconclusive)**
Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.
Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with the WC1067 Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.
Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.
Inconclusive: Controls indicate inhibition or degradation of the sample, resulting in the inability to provide conclusive evidence for GCN presence or absence.