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**Ecological Consultants
Environmental and Rural Chartered Surveyors**

BAT, BARN OWL & NESTING BIRD SURVEY AT

High Pole Barn, BD20 7BE



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Accuracy of report

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, bats, nesting birds and barn owls are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and or in their interaction with bat species, nesting birds and or barn owls. If bats, nesting birds or barn owls are found during a work programme and continuing the work programme could result in their disturbance, injury or death either directly or indirectly an offence may be committed.

These species may only be disturbed, injured or killed under licence.

If in doubt, stop work and seek further professional advice.

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Signed



Andrew Gardner BSc (Hons), MSc, MRICS, Dip NDEA
Director

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1. EXECUTIVE SUMMARY

It is proposed that the farm house/office building (building one) is developed to form additional residential accommodation. The newer garage barn (building two) is to be demolished or heavily adapted to provide residential dwellings. The remaining barn (building three) is to be demolished or heavily adapted to provide residential dwellings or improve and maintained as a barn.

A daytime inspection was undertaken on the 3rd May 2022. This involved a close inspection of the buildings for signs of use by bats, barn owls and birds both internally and externally.

A desk study and data search were also undertaken to ensure the reasonable probable use of the site by bats, barn owls and nesting birds could be determined.

The habitat around the site offers a low-moderate potential for foraging being open and exposed. There is moderate connectivity between the site and higher quality foraging areas.

The buildings two and three have negligible potential for use by bats. Building one has low potential.

Building one has no evidence of use by barn owls. Building two may be a barn owl nest but is confirmed as a barn owl roost. Building three is considered a barn owl temporary roost.

Building one has evidence of swallows nesting previously but no active nest sites. Building two has an old fallen bird nest (passerine), reports of pigeons using the barn as a nesting location and a possible barn owl nest. Building three has no evidence of past or current nesting birds, however is located close to a hedge.

On the basis of the survey work carried out, under guidance provided in respect of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, and considering the plans for the site, it is considered that a Protected Species Mitigation Licence (PSML) for bats will not be required prior to works being carried out.

A mitigation strategy has been prepared and should be followed in order to ensure that the welfare of the local bat and bird population is maintained during, and following the works.

2. INTRODUCTION

2.1 Site Description

The site lies in a rural location. The surveyed buildings comprise a stone-built farmhouse/office and a stone and breeze block barn and finally a large tin barn. One building is under a stone slate roof and the other buildings are under tin roofs.

There is fragmented woodland and moorland in the local area with a more sheltered stream to the North-west but the site is in an exposed position at SE 00882 41841 Figure 1 and 2.





- Site Boundary
- Building Number

Figure 2
Site Boundary



2.2 Proposed Works

It is proposed that the farm house/office building (building one) is developed to form additional residential accommodation. The newer garage barn (building two) is to be demolished or heavily adapted to provide residential dwellings. The remaining barn (building three) is to be demolished or heavily adapted to provide residential dwellings or improve and maintained as a barn. There will be significant internal and external alteration to the areas of the buildings affected.

The timing of work is unknown.

2.3 Aims of Study

To ensure that the proposed development does not affect any bat species, barn owls or nesting birds which are listed under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and or the Wildlife and Countryside Act (1981) (as amended) the survey will:-

- ⇒ Identify past and/or current use of the site by bat species, barn owls and nesting birds.
- ⇒ Assess the likely impact of the proposed development on these species.
- ⇒ Provide an outline mitigation/compensation scheme (if required) for bat species, barn owls and nesting birds affected by the development.

3. METHODOLOGY

3.1 Bats

3.1.1 Rationale of Survey

The methods used **comply with those described in** Hundt (2012) and Collins, J (ed) (2016). The following extracts from Collins, J (ed) (2016) are used to determine the appropriate level of survey in accordance with the guidelines.

Key point 1: Guidelines should be interpreted using professional expertise.

“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement.

*Equally, it would be inappropriate for someone with no knowledge or experience to read these guidelines and expect to be able to design, carry out, interpret the results of and report on professional surveys as a result, simply following the guidelines without the ability to apply any professional judgement.”*Section 1.1.3

Key point 2: Guidelines are descriptive rather than prescriptive and must be adapted on a case by case basis.

*“The guidelines should be interpreted and adapted on a case-by case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”*Section 1.1.3

Key point 3: Surveys should be undertaken where it is reasonably likely bats are present and may be affected by the proposal. Where bats are not likely to be present and or will not be affected by the proposal, survey could but need not be undertaken.

*“It is reasonable to request surveys where proposed activities are likely to negatively impact bats and their habitats. However, surveys should always be tailored to the predicted, specific impacts of the proposed activities (see Section 2.2.2). Excessive, speculative surveys are expensive and cause reputational damage to the ecological profession.”*Section 2.1

Key point 4: Surveys should be proportionate to predicated impacts.

*“When planning surveys it is important to take a proportionate approach. The type of survey (or suite of surveys) undertaken and the amount of effort expended should be proportionate to the predicted impacts of the proposed activities on bats. Clause 4.1.2 of BS42020 (BSI, 2013) states that ‘professionals should take a proportionate approach to ensure that the provision of information with the (planning) application is appropriate to the environmental risk associated with the development and its location’”*Section 2.2.5

3.1.2 Desk Study

“The aim of a desk study for bats is to collate and review existing information about a site and its surroundings to inform the design of subsequent bat surveys.” Section 4.2.1

“As a minimum, it is recommended that background data searches should be carried out upto 2km from the proposed development boundary.” Section 4.2.2

Key point 5: A records search was undertaken of the Envirotech dataset and NBN Atlas records. No additional data searches were considered necessary at this site as the bat species likely to be found in the local area could be adequately determined from the records searched.

“The desk study records provide contextual information for the survey design stage as well as the evaluation of the survey results. They should be interpreted to identify:

- *If proposed activities are likely to impact on a SAC or the qualifying feature of a SAC (this may trigger the need for a HRA);*
- *If the proposed activities are likely to impact on other designated sites and thus require consultation with relevant bodies;*
- *Any species (or genera) confirmed/thought to be present;*
- *Any bat roosts that will be impacted (on or off-site);*
- *If it is likely that the CSZs of bats from roosts off-site will be impacted (see Section 3.7);*
- *If there are any rare species in the area that may require species-specific survey methodologies.”* Section 4.2.3

Key point 6: Likely bat roosting and feeding sites on and adjacent to the site were identified from aerial photography and the use of Google Street View for ground level analysis. This allows us to identify habitat connectivity and potential foraging areas at a landscape level. We are also able to relate the results of the records search against habitat types and the species of bat which could and or are recorded in the local area. Identification of bat species which may occur locally allows for additional field based surveys to be correctly targeted.

3.1.3 Field Survey

Key Point 7: To ground truth the desktop data (Key point 5) a field assessment of habitat at and adjacent to the site was made. This allows us to cross check our interpretation of aerial photography with actual habitat on the ground. There is occasionally significant change between landscape detailed on aerial photographs and habitat on the ground. Buildings, hedgerows and roads may be built or removed. For example occasionally woodland is felled or has been replanted.

“A preliminary ecological appraisal for bats is a walkover of the proposed development site to observe, assess and record any habitats suitable for bats to roost, commute and forage both on site and in the surrounding area (it is important that connectivity within the landscape is also considered at this stage). The aim is to determine the suitability of a site for bats, to assess whether further bat surveys will be needed and how those surveys should safely be carried out.” Section 4.3.1

Key point 8: A thorough inspection of the walls and eaves was undertaken using a torch and short focus binoculars to locate potential bat roosts. Gaps and cracks in the walls or under the eaves and soffits may provide access to the buildings by bats. Where possible all gaps and cracks

judged to be of a suitable size for bats to take entry to the buildings were inspected either from the ground or the top of a ladder. Where appropriate an endoscope was used to fully inspect these gaps internally.

Key Point 9: A thorough inspection of the roof was undertaken using a torch and short focus binoculars to locate potential bat roosts. Gaps under the roof coverings, ridge lines and flashing may provide suitable roost sites for bats. All gaps and cracks judged to be of a suitable size for bats to take entry to the buildings were inspected either from the ground or the top of a ladder. Using short focus high quality binoculars and a torch to illuminate any gaps underneath the roof coverings it is often possible to see residual evidence of bats such as droppings, scratch, grease and urine staining, lichen build-up from increase nutrient levels or bats themselves.

Key Point 10: A thorough inspection of the interior and exterior of the buildings to look for signs of bats such as grease or scratch marks, bat droppings and feeding detritus was made. Windows and or other items in and around the site were inspected for urine staining.

Key Point 11: A thorough search for detritus associated with bat feeding perches and roosts was undertaken. These roosts are usually in roof voids, under eaves and open buildings.

Key Point 12: Internal voids and rooms were assessed where it was considered bats may be able to take access. Indications of use such as grease and scratch marks, urine staining, droppings, desiccated young bats, dead bats in water tanks and cobweb free areas under the roof and roof supports were all assessed.

*“The time needed for a preliminary roost assessment will vary according to the complexity of the structure and the number of ecologists deployed. Large structures with multiple roof spaces, multiple human access points and/or abundant voids and crevices will clearly take some time to understand and search thoroughly. Also, structures may contain several different bat roosts of different species each with their own access point and used at different times of the year. This all adds time to the survey.”*Section 5.2.7

Key Point 13: It is the considered opinion of the surveyor who undertook this survey that the time taken to undertake the survey was sufficient given the complexity of the buildings, methods used, time of year and species of bat which may be present.

“If the structure has been classified as having low suitability for bats (see Table 4.1), an ecologist should make a professional judgement on how to proceed based on all of the evidence available.

If sufficient areas (including voids, cracks and crevices) of a structure have been inspected and no evidence found (and is unlikely to have been removed by weather or cleaning or be hidden) then further surveys may not be appropriate.

Information (photographs and detailed descriptions) should be presented in the survey report to justify this conclusion and the likelihood of bats being present at other times of the year estimated. If there is a reasonable likelihood that bat roosts could be present, and particularly if there are areas that are inaccessible for survey, then further surveys may be needed and these should be proportionate to the circumstances (see Section 2.2.5).

*If no suitable habitat for bats is found, then further surveys are not necessary. In this scenario, it is necessary to document how this decision has been reached; photographs and detailed descriptions should be made available as evidence of a robust survey and assessment.”*Section 5.2.9

Key Point 14: The suitability of a sites potential for roosting is categorised by BCT Collins, J (ed) (2016) as Negligible, Low, Moderate and High and then suggests a level of survey effort required to be confident in the absence of bats. We consider this range to be too coarse, there being a transition between each level of suitability which is not reflected in the guidelines. We have a modified schedule of suitability using a risk level between 0 and 7. See Key points 1, 2, 3, 4 and 13 which justify this approach.

Suitability Collins (2016)	Description Roosting habitats	Risk Level	Survey level
	Modified from Collins (2016)		
Negligible	No features on site which could be used by roosting bats.	0	No additional survey required
	Negligible habitat features on site likely to be used by roosting bats.	1	
	Features on site could only be used by bats occasionally, habitual use in or between years is unlikely	2	Surveyor to make judgement as to if additional surveys likely to provide useful information about the site. RAM's and provision of new roosting provision to be recommended
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically but no evidence of use found, could provide roost sites which are used in or between years.	3	
	One or more potential roost sites. Potential for habitual use in or between years. Unlikely to contribute to long term favourable conservation status of the species.	4	
	Potential for habitual use in or between years, 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). May be used for transitional or day roost sites by common bat species. Function likely to support favorable conservation status of bats locally.	5	Single survey (dusk or dawn) between May and August. Roosts are often transitional, surveys early and late in season may be appropriate. Consider additional survey in transitional period April and September
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 – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	6	Two surveys (dusk or dawn) between May and August. Consider additional survey in transitional period April and September
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.	7	Three surveys (at least one dawn) between May and August. Consider additional survey in transitional period April and September

Table 1 Risk and need for additional survey following preliminary appraisal for bats.

3.1.4 Timing

A table showing the timing of the survey in relation to the bat year is shown on Figure 3.

This site was assessed at the following period in the bat year. Some roost types can be clearly identified when not in use or can be inferred from habitat type/residual evidence.

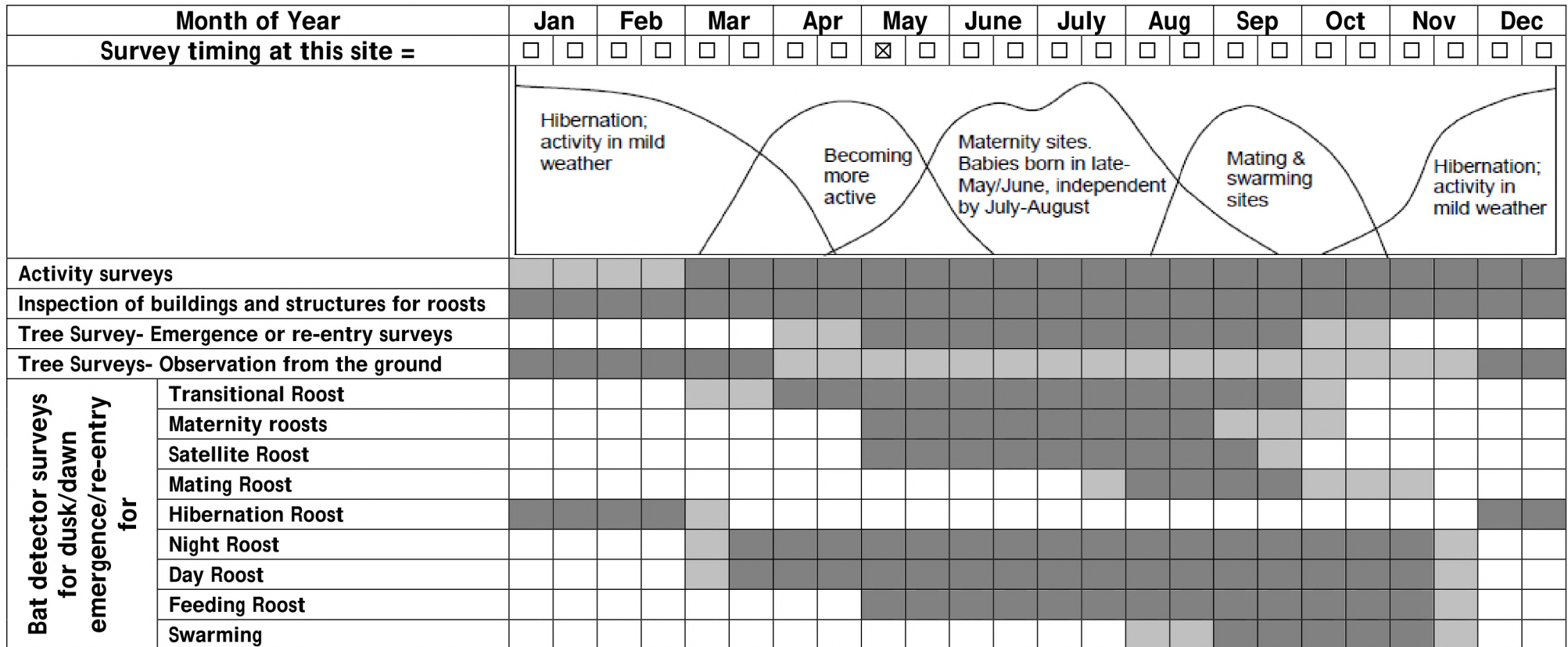


Figure 3 Survey timing in the bat year from Mitchell-Jones (2004).

Date of visit	5 th May 2022		Notes
Weather conditions	Cloud	50%	1
	Wind	10%	1
	Rain	Nil	1
	Temperature	10°C	1
Surveyors		EP	

Table 2 *Survey dates and times.*

1. Weather conditions were considered acceptable for a survey at the site given the potential for use of the site and species which may be present. Bats are usually active with temperatures above 7 degrees Celsius.

Surveyors

1. (EP) Miss Emily Peacock
Natural England Bat Class Licence Agent (Level 1)

3.2 Barn Owls

3.2.1 Rationale

Shawyer (2011) states

“Surveys are a sampling activity where discrete information is gathered from a specific site or wider area.

They usually represent a single case study but can involve repeat visits to a site. A survey is distinguishable from monitoring which usually takes place at regular intervals, often yearly, the main aim of which is to investigate the progress of a research or conservation objective and may involve the study of population dynamics in the species concerned.

The purpose of this survey is, in accordance with Shawyer (2011) to determine the:

- i. Distribution, abundance and breeding status of barn owls in the area of interest;
- ii. Extent to which barn owls are likely to be affected by a proposed development, and where the presence of this bird has been confirmed;
- iii. To enable an appropriate mitigation strategy to be designed and implemented.

In particular the survey is necessary for the purposes of:

- i. Ensuring legal compliance;
- ii. Determining a planning application;
- iii. Avoiding the enforced cessation of development work should an active breeding site be discovered that would be directly or indirectly damaged or disturbed through continuance of the work.

3.2.2 Desk Study

Key Point 15: A desk study was conducted within 2km of the site. The purpose of this initial study was to assess the probability of barn owl occurrence on the site and to provide an estimate of its population size and relative abundance at the local, regional and national levels. This enables the significance of any adverse effect from a proposed development to be determined not only on the site itself but within the wider area and provides important guidance for any future mitigation strategy.

Key Point 16: Where the initial desk study has revealed a reasonable likelihood that barn owls may be present in the general area of interest (and in many rural areas of Britain this will be a high probability) or where a barn owl recovery programme is suspected or has been identified there, a field survey must then be undertaken.

3.2.3 Field Survey

Field surveys are essential to determine the full status of the species in the study area, the potential effect of the development and the mitigation, compensation or enhancement measures to be applied. They should aim to locate and confirm the distribution, abundance and

breeding status of barn owls as well as the relative importance of the habitats they utilise within the survey area.

Cavities, mostly those located in the main trunk or crown of mature hollow trees, provide almost one third of natural breeding sites in the UK Shawyer (2011). Fissures in rock faces, including quarries, make up a small proportion of other breeding sites, particularly in northern Britain.

3.2.3.1 *Defining and recording a Potential Nest Site (PNS)*

Key Point 17: Trees and built structures were observed at close quarters to establish if they possess any holes, cavities or chambers and where these were identified, using appropriate techniques, they were checked to determine if they were of a suitable size and structure to provide a suitable barn owl nest site. Only those sites which possess a hole of at least 80 mm diameter (about tennis ball size) or vertical slot of this width backed by a sufficiently large and dark chamber with a floor area greater than 250 mm x 250 mm, were recorded, as a Potential Nest Sites (PNS).

3.2.3.2 *Defining and Recording an Active Roost Site (ARS)*

Key Point 18: These are defined as a place at which breeding does not occur, but where the bird is seen or heard regularly or its current or recent presence (last 12 months) can be recognised by signs of thick, chalky-white, streaky droppings (commonly referred to as 'splashing', 'whitewash', 'mutes' or 'liming') which is usually accompanied by regurgitated pellets and moulted feathers. Pellets and feathers are diagnostic and provide evidence that the roost site is that of a barn owl rather than another bird of prey such as a kestrel (*Falco tinnunculus*), little owl (*Athene noctua*) or tawny owl (*Strix aluco*) which also excrete, projectile chalky-white droppings but whose feathers and pellets differ in appearance.

Key Point 19: Any ARS were recorded as being occasionally-used or regularly-used, depending on the amount of pellets, droppings and feathers that are revealed at the site. ARS were also recorded as a winter, spring, autumn or summer roost. This can usually be determined by the age of pellets and the presence or absence of moulted wing and tail feathers at the site.

3.2.3.3 *Defining and Recording a Temporary Rest Site (TRS)*

Key Point 20: Small spots of thick, chalky cream-coloured droppings that can often be seen underneath a tree, in a building or on a fence post and which are sometimes accompanied by an occasional pellet or body feather, can indicate a temporary night-time stopping-off place of a barn owl. Although this level of observation is not an essential requirement of a barn owl survey, when these signs are identified they are best described and recorded as a Temporary Rest Site (TRS) rather than an ARS.

3.2.3.4 *Confirming an Occupied Breeding Site (OBS)*

Key Point 21: To confirm the presence of an Occupied Breeding Site (OBS), e.g. one where breeding was taking place or where it had done so in the recent past a detailed inspection of the PNS and ARS previously identified is carried out. This is accomplished by checking for the presence of adult barn owls, their moulted feathers, pellets, eggs, egg shells, chicks or down.

3.3 Nesting Birds

3.3.1 Rationale

The purpose of the survey is to determine the:

- i. Distribution, abundance and breeding status of birds in the area of interest;
- ii. Extent to which birds are likely to be affected by the proposed work; and where the presence of nesting birds has been confirmed;
- iii. To enable an appropriate mitigation strategy to be designed and implemented.

In particular the survey is necessary for the purposes of:

- i. Ensuring legal compliance;
- ii. Determining a planning application;
- iii. Avoiding the enforced cessation of development work should an active breeding site be discovered that would be directly damaged or disturbed through continuance of the work.

3.3.2 Desk Study

Key Point 22: A desk study was conducted for the area within 2km of the site. The purpose of this initial study was to assess the probability of nesting birds' occurrence on the site and to provide an estimate the population and relative abundance at the local, regional and national levels. This enables the significance of any adverse effect from a proposed development to be determined not only on the site itself but within the wider area and provides important guidance for any future mitigation strategy.

Key Point 23: Where the initial desk study has revealed a reasonable likelihood that nesting birds may be present in the general area of interest (and in many rural areas of Britain this will be a high probability) a field survey must then be undertaken.

3.3.3 Field Survey

Field surveys are essential to determine the full status of the species of nesting bird in the study area, the potential effect of the development and the mitigation, compensation or enhancement measures to be applied. They should aim to locate and confirm the distribution, abundance and breeding status of birds as well as the relative importance of the habitats they utilise within the survey area.

Key Point 24: Cavities, mostly those located in the main trunk or crown of mature hollow trees, gaps, cracks and the eaves and internal spaces of buildings, shrubs, scrub and hedges on and adjacent to the development area may all provide suitable nest sites. These were all inspected for indications of past or current nesting and roosting by birds. The species of bird and its relative abundance on site was also assessed where possible based upon droppings, nest shape, size and location, egg remains, feathers and birds seen on site which from their behaviour indicate nesting may occur.

4. DEFINITIONS

Definitions used in this report are detailed here, in reference to Hundt (2012) and Collins ed. (2016).

Building

A structure with walls and a roof, for example a residential property, block of flats, office block, warehouse, garden house, folly, barn, stable, lime kiln, tower, church, former military pill box, school, hospital or village hall. Some buildings have cellars (underground sites) beneath them.

Built structure

A structure that was made by humans but cannot be described as a building or as an underground site, for example a bridge, wall, monument, statue, free-standing chimney, or derelict building consisting only of walls.

Underground site

A human-made or natural structure that is entirely or partially underground, for example a cave, cellar, subterranean, mine, duct, tunnel, military bunker, well, or ice house.

Roost (breeding site / resting place)

The implementation of the EU Habitats Directive provides general definitions for breeding sites and resting places. For bats the two often overlap, which is why in many cases they are both referred to as roosts. Any interpretation of the terms 'breeding sites', 'resting places' and 'roosts' must take into account the prevailing conditions.

Natural England licensing guidelines (Natural England, 2011) discusses the age of roosts and mitigation requirements as well as the period of time bat roosts are protected when not used. The following is reproduced from this document.

“Q. The development site ceased to be inhabited last year and it is prone to vandalism. I found evidence of a maternity roost but all current signs suggest that the site is now abandoned by bats. What should I mitigate for?”

Wildlife Advisers do not use a tightly defined period within which bat need to have used a structure beyond which it is no longer regarded as a bat roost. A structure can be regarded as a bat roost even if not knowingly occupied by bats for a year or two.”

The Method Statements mitigation should reflect compensation for a roost at its highest status within recent years. For example, meagre mitigation for an occasionally used, summer, non-maternity roost that had declined from a maternity roost as a result of human induced change to the roosts conditions e.g. vandalism, may not be acceptable to the Wildlife Adviser.

A demolished structure, irrespective of its previous bat occupancy, clearly, ceases to be a bat roost. An intact structure without bat occupancy perhaps after a few years, and more assuredly after five years, also ceases to be a bat roost”. [Emphasis added]

Natural England’s guidelines are derived from the European Commission’s Article 12 guidance on the definition of resting places for European Protected species.

European Commission (2021), section (54) and (59) state

The 2021 guidance states of this offence: *“The protection applies all year round if these sites are used on a regular basis”* (pg 32). *It goes on to state: “Thus, it follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are used only occasionally or are even abandoned but where there is a reasonably high probability that the species concerned will return to these sites and places. If, for example, a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can reuse it in winter”* (pg 33).

The guidance also states that breeding sites and resting places “that are used regularly either within or between years, must be protected even when not occupied” (pg 33 and pg 35).

Resting places: a definition

Resting places are defined here as the areas essential to sustain an animal or group of animals when they are not active. For species that have a sessile stage, a resting place is defined as the site of attachment. Resting places will include structures created by animals to function as resting places, such as roosts, burrows or hides. Resting places that are used regularly, either within or between years, must be protected even when not occupied.

Resting places essential for survival may include one or more structures and habitat features required for:

1. thermoregulatory behaviour, e.g. *Lacerta agilis* (sand lizard);
2. resting, sleeping or recuperation, e.g. *Nyctalus leisleri* (Leisler's bat) roosts;
3. hiding, protection or refuge, e.g. *Macrothele calpeiana* burrows; and
4. hibernation, e.g. bat dormitories, and *Muscardinus avellanarius* (common dormouse) hides.

It is clear that for a site to be classified as a roost when not occupied there must have been past habitual and the probability of future use within at least a two year period as defined as “within or between years”.

European Commission (2021) summaries the requirement for the protection of resting sites thus

“Breeding sites and resting places must be strictly protected because they are crucial to the life cycle of animals and are vital elements of a species’ entire habitat. Article 12(1)(d) should therefore be understood as aiming to safeguard the continued ecological functionality of such sites and places, ensuring that they continue to provide all the elements needed by the animal to rest or to breed successfully. The protection applies all year round if these sites are used on a regular basis.” [Emphasis added]

As the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 derives and is guided by legislation and guidelines issued by the European Commission, this definition is still valid within the transition period.

Summary

“Breeding site”

Breeding is defined here as mating, giving birth to young (including egg laying) or production of offspring where reproduction is asexual. A breeding site is defined here as the areas needed to mate and to give birth in, and covers also the vicinity of the nest or parturition site, where offspring are dependent on such sites. For some species, a breeding site will also include associated structures needed for territorial definition and defence. For species that reproduce asexually, a breeding site is defined as the area needed to produce offspring. Breeding sites that are used regularly, either within or between years, must be protected even when not occupied.

The breeding site may thus include areas required for:

1. courtship;
2. mating;
3. nest construction or selection of egg laying or parturition site;
4. places used for the purpose of parturition or egg laying or production of offspring where reproduction is asexual;
5. places of egg development and egg hatching;
6. nest or parturition sites when occupied by young dependent on that site; and
7. wider habitats that make reproduction successful, including feeding grounds.

Resting place

Resting places are defined here as the areas essential to sustain an animal or group of animals when they are not active. For species that have a sessile stage, a resting place is defined as the site of attachment. Resting places will include structures created by animals to function as resting places, such as roosts, burrows or hides. Resting places that are used regularly, either within or between years, must be protected even when not occupied.

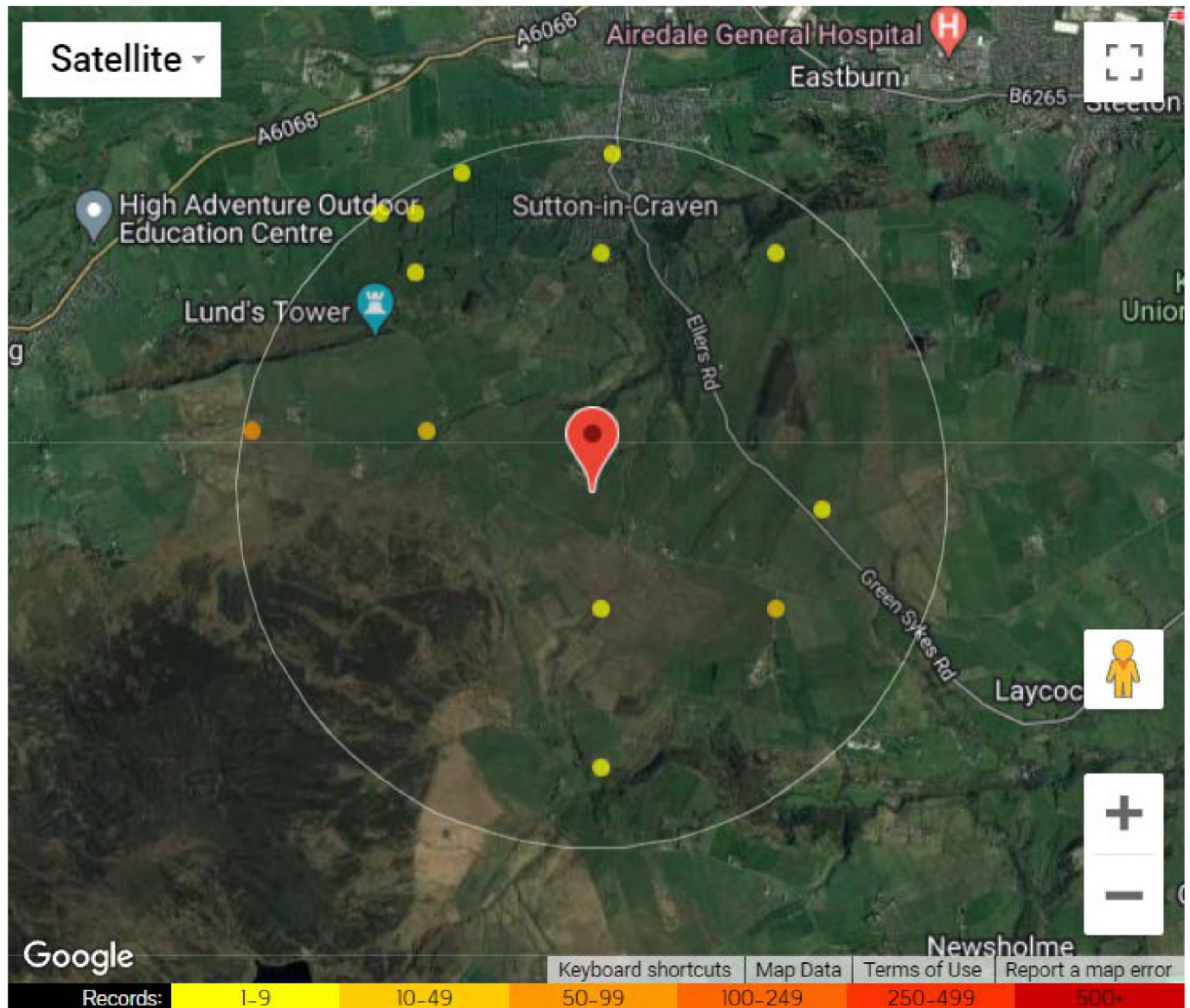
1. Thermoregulatory behaviour
2. Resting, sleeping or recuperation
3. Hiding, protection or refuge
4. Hibernation

5. RESULTS

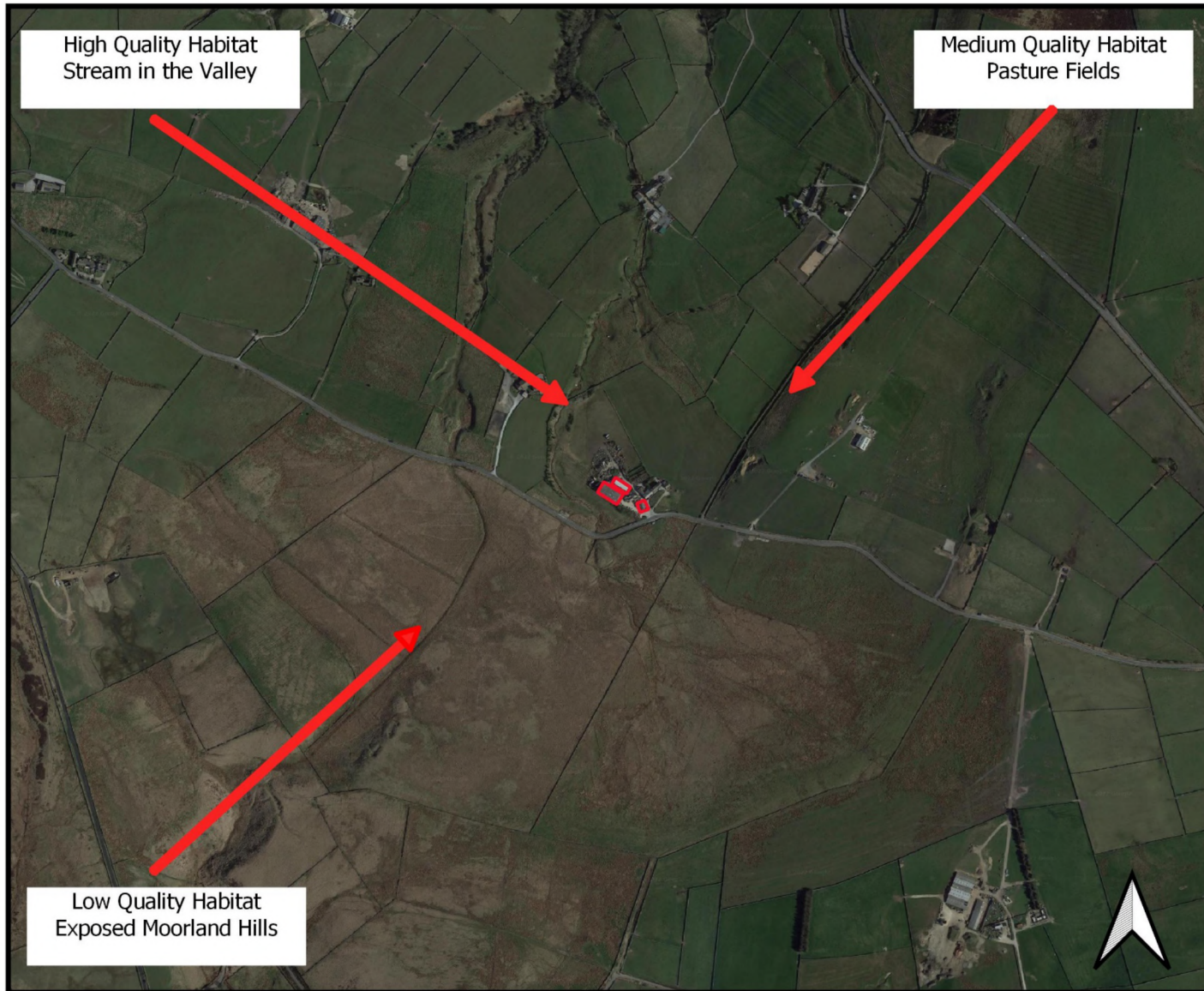
5.1 Desk Study

A search of the Envirotech dataset returned no records of bat species within 2km and no records for the site. The NBN Atlas returned 13 records of three bat species within 2km and no records for the site.

Records are shown on Figure 4.



The habitat at and adjacent to the site was assessed from satellite imagery this was then ground truthed, Figure 5.



Site Boundary



Figure 5
Habitat Adjacent
Site

From the pre-existing records, a review of aerial photography, a field assessment of the area adjacent to the site and the experience of the surveyor, bat species which may occur on or adjacent to the site and the rationale for this decision are detailed in Table 3. This assessment does not look at the roosting potential of the site. The assessment of bats which are indicated as potentially occurring on the site or local area is based on the initial largely desk based scoping survey. Additional site specific assessment is provided later in this report. This assessment does however allow for the scope of site survey to be refined.

BAT SPECIES	ROOST PREFERENCE*			NICHE*	SUITABLE HABITAT		RECORDED WITHIN 2KM
	Crevice	Void	Tree		Locally	On site	
Common pipistrelle <i>Pipistrellus pipistrellus</i>	✓	✗	✓	Generalist	☒	☒	☒
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	✓	✗	✓	Riparian/Generalist	☒	☒	☒
Nathusius pipistrelle <i>Pipistrellus nathusii</i>	✓	✗	✓	Enclosed woodland	☐	☐	☐
Brown long-eared <i>Plecotus auritus</i>	✗	✓	✓	Enclosed woodland	☐	☐	☐
Whiskered <i>Myotis mystacinus</i>	✓	✓	✓	Linear vegetation	☐	☐	☐
Brandt's <i>Myotis brandtii</i>	✓	✓	✓	Linear vegetation	☐	☐	☐
Natterer's <i>Myotis nattereri</i>	✗	✓	✓	Enclosed riparian	☐	☐	☐
Daubenton's <i>Myotis daubentonii</i>	✓	✗	✓	Open aquatic	☐	☐	☐
Alcathoe's <i>Myotis alcathoe</i>	✗	✗	✓	Enclosed woodland	☐	☐	☐
Noctule <i>Nyctalus noctula</i>	✗	✗	✓	Above woodland/water	☒	☐	☒

Table 3 Bat species whose geographical range extends to the region in which the site is located. *Typically but not exclusively.

Barn Owls

There are four records of barn owls within 2km of the site on the Envirotech and NBN datasets. The habitat around the site appears to be suitable for hunting barn owls as there are areas of rough grassland which are suitable for voles and other small mammal prey.

Birds

The surrounding habitat would offer suitable nesting and foraging areas for birds. Birds reliant upon buildings for nesting such as swallow are unlikely to occur at high densities on site due to its exposure and poor-quality foraging opportunities. The site is exposed moorland and pasture frequently with high winds. The area is not very suitable for insect prey.

5.2 Field Survey

5.2.1 Habitat Description

The habitat on and adjacent to the site identified from satellite images was ground truthed. Details of the habitats found on and adjacent to the site are detailed in Figure 5.

It is judged that the most suitable commuting route for bats into and out of the site is stream to the North-west. The surrounding habitat is considered to have moderate foraging potential in the lower valley areas and low potential on the peaks.

The site is not considered to offer optimal foraging opportunities. There are few animal manures associated with the surrounding land. There is limited vegetative diversity around the buildings which are in an exposed location. The area is too exposed for mature trees and the semi mature birch present was clearly suffering from wind burn. It is evident that the site experiences extreme weather conditions that limits the biodiversity of the site.

5.2.2 Bat Roost Survey

5.2.2.1 General description

There are 3 buildings on site which comprise a farm house/office and two barns.

5.2.3 Building 1 Farm House/Office

5.2.3.1 External walls/Eaves

The walls of the building are made from natural stone and are in excellent condition. There are no structural gaps or cracks, the pointing between the dressed stone is in excellent condition.

There no soffit or eaves boards. There were no indications of roosting by bats.

5.2.3.2 Roof

The roof of the building is made from stone slate and the underside is completely boarded out and not accessible. There were a few raised slates on both roof pitches, as well as ridgeline gaps. The full extent of the gaps could be seen from the ground with close focus binoculars and a 1,000,000 candle power torch. No indications of use by bats could be found.

5.2.3.3 *Internal walls*

The internal walls of the house are unavailable to roosting bats as they form part of the residence/office space. Within a small store on the North elevation, the walls are also well sealed. There is a garage space below more suited to nesting birds than roosting bats as it is open, exposed and single story.

5.2.3.4 *Roof Voids/Roof structure*

There is no accessible roof void present. The interior is boarded out and there is no accessible void between the interior rooms and the interior of the roof.

5.2.3.5 *Summary*

To summarise the building is of moderate size and the external walls are in excellent condition. The roof is in good condition and is the only area of the building which offers any potential. Due to the extreme weather conditions of the area and the shallow and exposed gaps under the stone slates it is a low-risk building. The building has no heating and is almost identical to the surrounding farm houses in roof structure and opportunity. Therefore, if bats were present, it is likely they would opt for the more sheltered and warm roofs of the surrounding buildings over the exposed and cold roof of the farm house/office. Overall, this building has low potential for use by bats, our categorisation would be 3. Further details of our categorisation can be found in Table 1.

5.2.4 *Building 2 Stone and tin barn*

5.2.4.1 *External walls/Eaves*

The walls of the building are made from natural stone and are in excellent condition. There are no structural gaps or cracks, the pointing between the dressed stone is in excellent condition.

Some walls are made from breeze blocks and metal and again are in excellent condition. There are no soffit or eaves boards. There were no indications of roosting by bats.

5.2.4.2 *Roof*

The roof of the building is corrugated metal and offer negligible potential for roosting bats. The support beams are largely metal with wood storage in the interior of the open section of the barn. The roof appears very well sealed.

5.2.4.3 *Internal walls*

The internal walls of the first-floor part of the barn are unavailable to roosting bats as they form part of the office space.

The internal proportion of the barn that is open is being used to store wood. This section is too open for bats and in addition is being utilised by a barn owl. Barn owls have been known to predate on bats.

5.2.4.4 *Roof Voids/Roof structure*

There is no internal roof void the metal roof open in to the main parts of the barn.

5.2.4.5 Summary

To summarise the building is of moderate to large size and the external walls are in excellent condition. The corrugated metal roof offer negligible protentional and the interior is sealed off. With the exception of the open part which houses an owl and is too open and exposed to be considered optimal for use by bats. Overall, this building has low potential for use by bats, our categorisation would be 2. Further details of our categorisation can be found in Table 1.

5.2.5 Building 3 Corrugated metal barn

5.2.5.1 External walls/Eaves

The base of the walls are made from breeze blocks and the tops are corrugated metal and are in moderate-poor condition. There are no soffit or eaves boards. There were no indications of roosting by bats.

There is lots of internal access through gaps in the metal panels and an open front to the barn.

5.2.5.2 Roof

The roof of the building is corrugated metal and offer negligible potential for roosting bats. The support beams are largely metal with a considerable amount of dust and debris covering them.

5.2.5.3 Internal walls

The internal proportion of the barn that is open is being used as storage, a workshop and sandblasting. It is too open for bats and in addition is being utilised by a barn owl. Barn owls have been known to predate on bats. In addition to this the sandblasting has made the barn incredibly dusty and full of debris. The resident reported the owl favouring the other barn and similarly bats would struggle to tolerate this level of dust.

5.2.5.4 Roof Voids/Roof structure

There is no internal roof void the metal roof opens in to the main parts of the barn.

5.2.5.5 Summary

To summarise the building is of moderate to large size and the external walls are in moderate to poor condition. The corrugated metal roof offer negligible protentional. The barn is open, extremely dusty and occasionally used by an owl. Considering the neighbouring buildings are far superior in terms of roosting potential it is very unlikely bats would be present in this barn. Overall, this building has low potential for use by bats, our categorisation would be 2. Further details of our categorisation can be found in Table 1.

5.2.6 *Barn Owls*

5.2.6.1 *Potential Nest Sites (PNS)*

Building one is not suitable for use by owls. Buildings two and three have more potential and shall be the focus of the following sections.

Building two has some potential as a nest site. This could not be confirmed as a large stack of wood was present and could not be searched, climbed or traversed in order to confirm if a nest was present. The resident reported seeing owls using building two and building three. However due to the dust from sand blasting it is unlikely owls are nesting in building three.

5.2.6.2 *Active Roost Sites (ARS)*

There was “white wash” but no obvious collections of fresh barn owl pellets on the floor or on surfaces inside the buildings which suggests that barn owls may have an active roost site within building two. As mentioned above the wood pile was in assessable and therefore it was not possible to confirm if the owls are nesting or roosting in building two.

There was no evidence found of owls using building three, other than the resident’s testimony.

5.2.6.3 *Temporary Roost Sites (TRS)*

There was no “white wash” or old barn owl pellets on the floors or on surfaces inside building three. The resident did report seeing owls in building three but suggested that this was less frequent. The evidence matches this statement as building two has the classic “white wash” but building three does not. It is likely therefore that building three is a temporary roost site.

5.2.6.4 *Occupied Breeding Sites (OBS)*

There were no significant collections of barn owl pellets, chick down, chick leg bones, moulted feathers or other indications of an occupied breeding site in the buildings. As mentioned above building two has some potential as a nest site however there was no evidence found to confirm its use as a nest site.

5.2.7 *Nesting birds*

An old swallow nest was found under the eaves of the garage section of building one. The nest was found to be vacant at the time of the survey.

An old nest was found on the wood pile in building two but again was found vacant at the time of the survey.

No nest sites were found in building three. The hedge around the buildings is teeming with bird life and this should be taken in to account during the construction phase to avoid disturbing the birds should they be nesting.

Overall, it was not considered that the buildings offer significant nesting potential for birds due to the sub-optimal feeding opportunities surrounding the site. In particular the openness and exposure to extreme weather up on the moors.

6. CONSTRAINTS

6.1 *Bats*

We judge that the site survey is sufficient to address the risk to bats at the site based on the species present in the local area, construction of the buildings and nature of the proposed work. The level of survey effort accords with the recommendations of Collins ed. (2016). The reasonable probable use of the site by bats has been determined.

6.2 *Barn Owls*

No constraints. Apart from the mentioned wood pile potentially obscuring evidence of a potential nest site.

6.3 *Nesting Birds*

Surveys were undertaken at the beginning of the nesting season but this is not considered to be a significant constraint as old nest sites were still identifiable and site conditions are not likely to have changed since the previous breeding season.

7. INTERPRETATION

7.1 *Presence / absence*

There was no past or current evidence of bats roosting found at the site during the survey.

We consider that the buildings are unlikely to be used by significant numbers of bats for roosting. It is highly unlikely the buildings are essential for species survival. Precautionary mitigation would be appropriate.

7.2 *Population size class assessment*

From a review of adjacent habitat the maximum number of bats that are likely to use an area within 250m of the site is of the magnitude 1-9 (small).

Barn owls are currently considered to be present.

There was no indication of current use of the site by nesting birds. Apart from the hedges which will remain intact.

7.3 *Site status assessment*

Whilst the site itself is unlikely to be used as a roost by a significant number of bats, there is use of the adjacent landscape. Bats are likely to rely on a number of roost sites in buildings and trees in the local area. It is therefore likely that the site has a low significance for bats. We consider the Continued Ecological Functionality of the site is unlikely to be affected as a result of the proposal.

We are of the opinion that buildings two and three may currently be used by barn owls. Barn owls are considered absent from building one. It was not possible to determine if the owls are nesting or roosting.

The buildings may be used by low numbers of swallow and other nesting birds. The buildings are however likely to have a low significance for these species.

8. POTENTIAL IMPACTS

8.1 *Bat Roosts*

8.1.1 *Pre and mid-activity impacts*

A worst-case scenario will be considered in addressing potential impacts at the site without mitigation.

8.1.1.1 *Maternity Roosts*

No signs of past maternity or gathering roosts were found at the site during the survey. The potential for a maternity or gathering roost in the buildings is judged to be very low due to the absence of highly suitable roost sites. Evidence of past use of the site by large numbers of bats such as would occur in a maternity or gathering roost, such as staining on the roof or walls, was absent. Evidence of intensive/ regular use such as occurs in such roosts can usually be found at any time of year. **We judge there is low risk to a maternity colony or gathering roost at this site from the proposed work.**

8.1.1.2 *Satellite Roosts*

We do not consider that satellite roosts will be affected by the proposal. We consider the local environs are unlikely to support linked maternity roosts. There was no indication of elevated use of the site such as would occur if this roost type were present. **We judge there is low risk to a satellite roost at this site from the proposed work.**

8.1.1.3 *Transitional and day roost sites*

We judge there is a low risk of disturbing bats in or loss of transitional or day roost sites. We judge that on balance it is unlikely this sites potential for use for these purposes will be degraded by the proposed work. There are likely to be numerous other more suitable sites in other buildings and trees in the wider area. The buildings are unlikely to offer significant roosting potential.

8.1.1.4 *Night Roosts*

We do not consider the site is sufficiently close to or linked with high quality foraging habitat such that bats may use it for night roosting.

8.1.1.5 *Feeding roosts*

We do not consider the site is sufficiently close to or linked with high quality foraging habitat such that bats may use it for feeding roosts.

8.1.1.6 *Lek sites*

In our experience lek sites are commonly found in proximity to the main feeding and commuting routes. The primary commuting and feeding area at the site was judged to be the stream some distance from the site to the North. There were no potential lek sites identified in the buildings facing this commuting route which are also close enough to it to be used by male bats for leks. It is therefore unlikely there will be use of the buildings by bats for lekking.

8.1.1.7 Hibernation

There are no areas of rotten wood in the buildings and or damp walls which also offer crevices which could be suitable for hibernating *Pipistrelle* spp. bats.

There are no areas of the buildings which are sufficiently damp, cool and darkened which would be ideal for hibernating *Myotis* spp. bats. There is very little evidence and limited potential for hibernation at the site; it is therefore unlikely there will be loss of hibernation sites.

8.1.1.8 Swarming

There is unlikely to be any loss of a swarming site. Swarming sites are generally found at or near hibernation sites. We judge that the site is unlikely to be used by *Myotis* spp. bats and brown long-eared bats which have been known to swarm as there are no hibernation sites for these species in the buildings.

8.1.1.9 Summary

Without mitigation, there is considered to be only a low potential for the alteration or loss of occasional, unconfirmed roost sites for bats at the site and this is unlikely to have a significant impact on their local distribution.

8.1.2 Long term impacts

There is on balance a low risk of long-term negative impacts on the favourable conservation status of bats in the local area as a result of the proposed work.

8.1.3 Post activity interference impacts

There is unlikely to be disturbance to roosting bats during the post construction phase of the project. There is already significant disturbance at the site from existing use of the site and surrounds.

8.1.4 Other impacts

It is our opinion that there will be no significant other negative impacts relating to the proposed work which may affect bat species.

8.1.5 Bat Foraging and Commuting Habitat

There is unlikely to be a disruption to any commuting routes at the site. The site does not lie on or near to a high-quality commuting route.

There is unlikely to be a disturbance to feeding bats during and after the construction phase of the project. It is judged that the foraging areas near the site will be unaffected by the proposed work.

8.2 Barn Owls

Evidence of barn owl use was present in building two and it is likely building three is being used as a temporary roost. With this in mind the following mitigation should be followed.

No work is to take place at the site whilst barn owls have an active nest (March – September). A check of the site to ensure that nesting is complete should be undertaken before commencing work

We do not consider it appropriate to incorporate Barn Owl nest site into the structure of building one. Barn Owls can be both very noisy and very messy at nest sites and there is significant potential for this to become an issue if the newly created nest site becomes taken up by the species. The most appropriate mitigation for this species would be to erect two Barn Owl nest boxes in or on poles adjacent to the site or on the exterior of building two or in the interior of building three. If building three is to be developed, heavily disturbed or use for sand blasting then other locations may be preferable.

The Barn Owl nest sites should be available to the species before work commences. The owls on site may then become accustomed to the nest boxes over the winter.

8.3 Nesting birds

A low number of old swallow and other bird nest sites were found at the site. There is the potential for a disturbance to nesting birds during the construction phase. It is unlikely that the loss of potential nest sites would have significant long-term impacts on local bird populations. The habitat around the site is open and exposed; it offers low quality foraging opportunities.

The construction phase will need to be completed outside of the breeding season (March till September) due to the presence of owls. Therefore, the any potential birds that could be nesting in the other buildings or hedges should not be disturbed by the construction phase.

In addition to this bird boxes such as sparrow boxes, artificial swallow/house martin nests and swift boxes could be voluntarily incorporated in to the design or erected on the outside of the buildings post construction. This is not a requirement; it is something that could voluntarily be done to improve the conservation status of local bird populations.

There are a range of bird charities such as The Barn Owl Trust and Swift Conservation that may wish to be involved in this and may even offer help or funding.

9. RECOMMENDATIONS AND MITIGATION

9.1 *Further Survey*

We consider that the risk to bats in the buildings will remain low and no additional survey work is required prior to the determination of the planning application.

The work is not to commence in the period March- September inclusive. If work commences close to the nesting season a visual check for nesting birds should be carried out before work commences.

9.2 *Mitigation Measures*

9.2.1 *Bats*

Natural England requires that mitigation addresses the impacts picked up by the site assessment, as follows:-

- Quantitative characteristics: There should be no net loss of roost sites, and in fact where significant impacts are predicted there will be an expectation that compensation will provide an enhanced resource compared with that to be lost. The reasoning behind this concept is that the acceptability of newly created roosts by bats is not predictable.
- Qualitative characteristics: the plans should aim to replace like with like. As an extreme example, it would be unacceptable to replace maternity roosts with hibernation sites.
- Functional characteristics: compensation should aim to ensure that the affected bat population can function as before. This may require attention to the environment around the roost.

Natural England also recommends that precautions are taken to avoid the deliberate killing or injury of bats during development work at the site.

The site survey found no evidence of habitual use of the buildings by roosting bats in or between years, although there is a possibility of a low level of opportunistic use at some times of the year. The survey effort was sufficient to allow for an assessment of this to be made.

9.2.1.1 *Bat Roosts*

As a precautionary approach the following guidelines will be adhered to.

1. All contractors on the site will be made aware of the possible presence of bats prior to the commencement of work.
2. Contractors will be provided with the contact details of an appropriately qualified individual who can provide advice in relation to bats at any time during work. In the event that bats are found during work, unless the action has already been cleared by a suitably qualified individual, **all work will cease** and an appropriately qualified individual will be contacted for further advice.
3. Contractors will be observant during demolition work for bats which may use the buildings if new areas of the roof are exposed and left open overnight. Bats are

opportunistic and may make use of gaps opened up during work overnight.

4. If it is necessary to remove a bat to avoid it being harmed, gloves should be worn. It should be carefully caught in a cardboard box and kept in the dark in a quiet place until it can be released at dusk near to where it was found, or moved to an undisturbed part of the building, with outside access, and placed in a location safe from predators.
5. **If bats or bat roosts are found during work, all work should cease.** The site will need to be re-assessed in regard to its use by bats. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of roost site.
6. Remove all roof coverings by hand only.
7. Retain at least 8 gaps along the eaves lines of the buildings which allow access to the wall tops under the eaves during any re-roofing which is undertaken. A plan for this type of roost is shown on Figure 7. These potential roost sites will be a significant improvement on existing site conditions.
8. There is no need to restrict the timing of work. Use of the structure by bats is equally likely to occur at any time of the year but will be at low levels.

Following English Nature (Natural England) guidance Mitchell-Jones (2004), if these guidelines are followed we would consider that on balance, a disturbance to bat species which could be contrary to the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Wildlife and Countryside Act (1981) (as amended) is unlikely. **If bats are found prior to or during work a licence application may be required.**

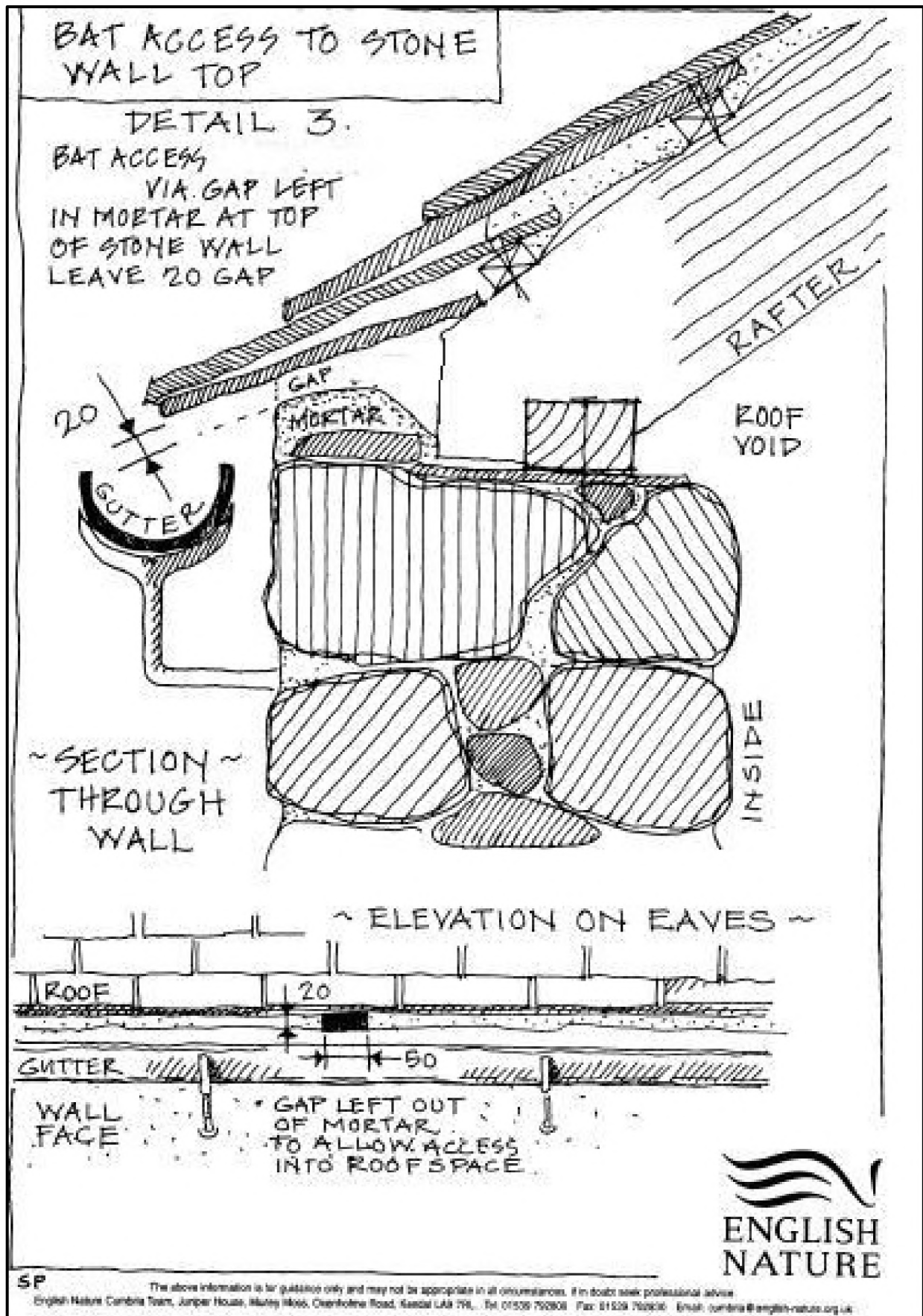


Figure 7 New roost site creation.

9.2.1.2 Mitigation for Foraging and Commuting Habitat

No specific mitigation for foraging and commuting habitat is necessary. The habitat surrounding the site does not change significantly.

9.2.1.3 Requirement for Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 Licence

At this stage, we judge that a Natural England licence will not be required to cover work on the buildings. No bats were confirmed as breeding or roosting at the site, the loss of potential roost sites will be avoided and no significant disturbance to bats will occur, so long as the recommendations of this report are followed.

If bats are likely to be significantly disturbed or bat roosts or breeding sites are found as a result of work, all work must cease and the site will need to be re-assessed by a suitably qualified person with regard to its use by bats. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of a roost or breeding site.

9.2.2 Barn Owl Roost / Nest sites

If barn owls are seen nesting at the site, all work should cease. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance of nesting barn owls or their killing or injury. The probability of barn owls using this site for nesting is very low outside of nesting season.

9.2.3 Bird Roost / Nest sites

Work should not commence while any swallow or other bird nests are still in use. Birds usually finish nesting by early September. A check of the site for active nest sites should be made prior to work commencing if this is in the period March -September. A delay in the start of work may be required if active nest sites are located.

10. MITIGATION SUMMARY

The site survey found no evidence of bats roosting although there is a possibility of opportunistic use by low numbers of bats at some times of the year. The level of use is not considered likely to be significant and with the retention/creation of gaps at the eaves and precautionary mitigation, a significant disturbance and or the loss of roost sites is unlikely to occur.

There was no evidence of birds currently nesting. Work will not be commenced or undertaken in such a way as active nest sites are disturbed.

There is evidence of past use of the buildings two and three by barn owls for roosting. It was not possible to determine if building two has or is in use for nesting. Work will not be commenced or undertaken in such a way as active nest sites are disturbed.

On the basis of survey information, specialist knowledge of bat species and the mitigation that has been proposed, it is considered that on balance the proposed activity is reasonably unlikely to result in an offence under regulation 39 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. We do not consider there to be a need for a Natural England licence at this time.

11. REFERENCES

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APPENDIX 1 PHOTOGRAPHS

Photograph	Notes
	<p>Building one with building three behind</p> <p>Building one has well sealed walls</p> <p>Roof verge well sealed</p> <p>Boarded out inside, no roof void or cavity</p>
	<p>Building two, this half of the building is office like inside. With a garage section</p> <p>Negligible potential in this half of building two</p>
	<p>Open end of building two</p> <p>Barn owls using this area</p> <p>Other evidence of birds found</p> <p>Unable to fully search due to the pile of wood</p>



Building two wall tops
Evidence of “white washing”
Not suitable for bats



Building three has negligible potential for bats
It is open fronted and breezy
Owls have been witnessed using it, unlikely to be main roost/nest



Building three is very dusty and open inside
Being used as a workshop and for sandblasting



Possible location for owl nest box
 At the back of the barn with low risk of disturbance



Interior of building one, too light for bats with no loft space or roof void



Roof of building one offers low potential for bats
 The building is not heated and the neighbouring houses offer equal or superior potential
 This building is up hill from the others and is more exposed
 Garage area has previous years swallow nests