

Ecological Impact Assessment of land and
buildings at Hill Farm

All Stretton
Church Stretton
Shropshire
SY6 6LQ

(SO46112.97233)

By Churton Ecology
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SUMMARY

Background

Churton Ecology was commissioned to carry out an Ecological Impact Assessment of land and buildings at Hill Farm, Church Stretton, Shropshire SY6 6LQ.

The site supports a derelict farmhouse, two outbuildings and an area of grazed improved grassland. The farmhouse will be rebuilt and the outbuildings will be converted to residential and ancillary use.

Method of study

A desktop search and general protected species walkover of the site and surrounds aimed to establish the presence or absence of bats, Badger, breeding birds and other protected species and habitats with potential to be negatively affected by the development.

Ecological features

The site supports habitats of low biodiversity value. Bats and breeding birds are considered to be important ecological features of the site and its potential area of influence.

Mitigation and enhancement measures

With mitigation measures in place for bats and breeding birds there will be no significant residual adverse effect on protected species.

With enhancements in place (hedgerow planting and installing bat and bird boxes) there could be a maintenance or increase in the biodiversity value of the site.

1 INTRODUCTION

1.1 Background and site description

Churton Ecology was instructed by Batch Valley Design to carry out an Ecological Impact Assessment of land and buildings at Hill Farm, All Stretton, Church Stretton, Shropshire SY6 6LQ (SO46112.97233).



Fig 1: Site location and site layout
OS map licence no. 100048619

A desktop search and general protected species walkover of the site and surrounds aimed to establish the presence or absence of bats, Badger, breeding birds and other protected species and habitats with potential to be negatively affected by the development.

The site supports a derelict farmhouse, two outbuildings and an area of grazed improved grassland.

1.2 Proposed works

The farmhouse will be rebuilt and the outbuildings will be converted to residential and ancillary use.

2 METHODOLOGY

2.1 Desk study

Sites of international and national conservation significance were sought within 1km of the site. Sites of local conservation significance were sought within 500m of the site. Searches were conducted using the following sources:

- MAGIC maps
- Shropshire Environmental Network (SEN)

OS maps and aerial photographs (Google Earth) were used to identify landscape features of potential ecological interest including hedgerows, tree-lines, ponds, streams, ditches and areas of likely (semi-)natural value.

2.2 Habitat survey

A building inspection and survey of the site and surrounds was conducted on 20/01/2022 by Mr. R.G.Thorne (Churton Ecology).

Habitats were assessed and their importance/value noted based on botanic diversity and/or their potential to support uncommon or rare species of flora and fauna (e.g. axiophytes/Red Data Book species).

2.3 Protected species survey

2.3.1 Bats

Field survey

Trees with features thought suitable to support bat roosts were identified on and adjacent to the site. A suitably high ladder was used to access elevated areas with potential to support roosting bats, including the undersides of all the hip-tiles. A roof ladder was used to access and inspect the undersides of all the ridge-tiles.

Searches were conducted using a fibrescope, extraction pooter, mirrors and torches to identify and collect signs indicating past or current bat use, such as the presence or not of live or dead bats, their droppings or urine splats, cobweb-free areas in cracks and crevices, grease stains or smoothed edges within or below potential roosts and/or their access points.

Habitat suitability assessment

A general habitat suitability assessment of the site and surrounds was carried out to determine the likely value of foraging and commuting habitats.

2.3.2 Great Crested Newt

Desktop search

Ponds and other potential breeding habitats were sought within 250m of the site using OS maps and aerial photographs.

2.3.3 Badger

Field survey

Burrows were sought within at least 30m of the site. Other evidence of site use, such as latrine pits, paths, snuffle holes, feeding remains and hairs (in burrow spoil or snagged along trails) was also sought.

2.3.4 Breeding birds

Field survey

Birds seen or heard during the survey were recorded and old nests were attributed to species where possible.

Habitat suitability assessment

Habitats, with potential to support common, priority or Schedule 1 species of nesting bird were identified within the site and the immediate surrounds.

2.3.5 Other protected and priority species

Habitat suitability assessment

Habitats thought suitable to support other protected or priority species potentially relevant to the site location were also sought. Where no suitable habitats exist and/or where no impacts can be reasonably predicted, species can be discounted from further survey, impact assessment and mitigation - in this instance Dormouse, Otter, White-clawed Crayfish, Reptiles and Water Vole.

3 RESULTS AND EVALUATION

3.1 Designated sites

Statutory and non-statutory sites

There are no sites of international conservation significance within 1km of the site and no sites of local conservation significance within 500m.

There is one site of national conservation significance within 1km of the site. The Long Mynd SSSI, located 110m to the south, is of particular interest for its acid grassland, heathland and variety of associated mires and flushes which provide habitat for a diverse flora including several uncommon species. In addition to its botanical interest, the site is also of high ornithological and invertebrate importance.

Evaluation and Discussion

The site does not support the type of habitats for which The Long Mynd SSSI has been designated so there is no intrinsic habitat that links the two sites. The site is also topographically lower and naturally drains away from The Long Mynd. Consequently, the proposal will not adversely affect the soil/water chemistry at this potential ecological receptor. Furthermore the scale and type of development proposed is below the threshold for adverse air pollution effects recommended in the recently published JNCC guidance (Guidance on Decision-making Thresholds for Air Pollution – published December 2021).

Ultimately all drainage matters will be considered by the relevant planning consultees with appropriate recommendations made and incorporated into the design of the scheme. It is not the remit of this report to consider the effects of pollution on statutory or non-statutory sites for nature conservation, since there is no reasonable likelihood of this occurring with the system of planning control in place.

3.2 Habitat survey

3.2.1 Overview

The site supports a derelict farmhouse, two outbuildings and an area of grazed improved grassland.

3.2.2 Building descriptions

The most southerly of the outbuildings (Building A) is used as a sheep shelter. The west end has collapsed and would have linked with an annexe of the main farmhouse (which has now also collapsed). The east end supports ground and first-floor areas. Due to the presence of a

number of permanently open windows and doorways (and its state of partial collapse), the interior is extremely light and draughty. The walls are random laid stone and rubble construction with some brick detailing – small numbers of cracks and crevices are present throughout the building, particularly around the widow and doorway lintels and their bearings.



P1: Building A: S + E elevations, viewed from the SE



P2: Building A: W + S elevations, viewed from the SW

The roof, which is not lined, is covered with small clay roof-tiles and a mix of half-round and angled clay ridge-tiles. The ridge-tiles are in poor condition, so much so that the ridge-tunnel is exposed and draughty. The east roof-verge is also damaged in places and there is potential flight access up and under the exposed end-rafter (i.e. with potential roosting habitat on top of the gable wall, under the tiles).



P3: Building A: Interior, W-end; looking E



P4: Building B: S + E elevations, viewed from the SE

The second outbuilding (Building B) to the east is used as a sheep shelter and shearing shed. The walls are vertical timber batten-and-board construction supported on a narrow gauge timber frame. The cladding passes cleanly over the structural members and there are no tight (potential roosting) niches typical of other types of cladding systems. The roof, which is not lined, appears to have been re-roofed relatively recently with flush-fitting small clay roof-tiles and half-round ridge-tiles. With the exception of two gaps, the ridge-tiles are

securely bonded and tight-fitting. The roof is also hipped on both gables and a few of the hip-tiles contain gaps suitable for bats to access.



P5: Building B: N + W elevations, viewed from the NW



P6: Building B: Interior, S-end; looking N

The derelict farmhouse (Building C) to the west burned down in 2002, or thereabouts. All that remains are the free-standing walls in their various stages of collapse. The original walls are random laid stone and rubble construction but the more modern south-annexe is of brick and timber-frame construction.



P5: Building C: E elevation, viewed from the SE



P6: Building C: W + N elevations, viewed from the NW

Small sections of the ground-floor roof remain on the west elevation. There are various cracks and crevices associated with the walls; however, there is now water ingress from the exposed wall-plates which has resulted in a pasty residue of dissolved lime mortar being present in much of the rubble matrix.

Being located on an exposed bluff, the buildings are in an extremely exposed location which is evident when present on the site.

3.2.3 Habitat descriptions

The buildings are surrounded by improved (sheep) grazed pasture, including the enclosed courtyard (or paddock) to the north.



P7: Courtyard area to the N, looking NW



P8: Courtyard area to the N, looking SE

Evaluation and discussion

None of the habitats present represent rare or priority habitat types and none are considered to be important ecological features of the site.

3.2.4 Habitats in the site surrounds

The site is bordered by (sheep) grazed pasture to the east, south and west and a wedge of wind-stunted trees and shrubs bordering the small lane to the north. The original larger (modern) agricultural buildings are located to the west of the site.

3.2.5 Flora

No rare or otherwise notable plant species were recorded in the survey area.

3.3 Protected species survey

3.3.1 Bats

Field survey

Surprisingly, not a single bat dropping or other field sign was recorded on the floors or walls of the three buildings. All the ridge and hip-tiles were accessed, lifted and the undersides inspected - no bats, droppings or other field signs were noted. Roof-tiles associated with the damaged roof verges on Building A were raised and the gable wall tops beneath were inspected - no bats, droppings or other field signs were identified. All cracks and crevices associated with the walls were searched for evidence of current or past bat use. Deeper crevices were searched using a fibrescope - the only feasible survey method to identify hibernating bats - but no bats, droppings or other field signs were noted.

Habitat suitability assessment

The site is very exposed and lacks any features that are likely to be of particular interest to foraging bats. This also explains why no roosts or evidence of foraging activity, were noted within the buildings.

The trees and shrubs flanking the lane to the north could provide foraging and commuting opportunities for small numbers of various common bat species that may use this area during favourable weather conditions.

Evaluation and discussion

The inspection survey was carried out thoroughly and all areas could be accessed and inspected closely and no evidence of a bat roost could be identified in any of the buildings. It is therefore the opinion of Churton Ecology that no further bat survey effort, impact assessment or mitigation is required in relation to roosting bats.

The Bat Conservation Trust's guidelines state in Section 5.2.9 that: 'if the structure has been classified as having low suitability for bats, an ecologist should make a professional judgement on how to proceed based on all 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 been hidden) then further surveys may not be appropriate. Information 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'.

The types of sheltered crevices available would retain droppings (and other field signs) from previous years and the equipment used ensured that no area was hidden from view or inaccessible and no field signs were recorded in or below any of the features identified. None of the buildings are suitable for swarming purposes and no hibernating bats were identified; therefore, it is reasonable to conclude that the building would not be occupied by bats at any time of year.

The site is small and the habitats present are common and widespread and better quality foraging habitats are available nearby. Accordingly the site is not going to be of intrinsic (sustenance) value to local bat populations.

3.3.2 Great Crested Newt

Desktop survey

There are no mapped ponds within 250m of the site and nothing to indicate the potential presence of any additional unmapped ponds (from aerial photography).

Evaluation and discussion

Great Crested Newt is not considered to be an important ecological feature of the site; therefore, no further survey effort, impact assessment or mitigation is required in relation to it.

3.3.3 Badger

Field survey

No signs of Badger were recorded within at least 30m of the site.

Evaluation and discussion

Badger is not considered to be an important ecological feature of the site; therefore, no further survey, impact assessment or mitigation is required in relation to it.

3.3.4 Birds

Field survey

Evidence of bird nesting activity was recorded in all three buildings. House Sparrow (UK BAP), Swallow, Tit, Blackbird, Wren, Robin and Jackdaw nests were noted.

Habitat suitability assessment

The site is unsuitable for ground nesting bird species. The buildings also have the potential to be used by small numbers of additional ledge and cavity nesting species (not recorded) such as Starling, Pied Wagtail and Redstart.

Evaluation and discussion

Nesting birds are considered to be an important ecological feature of the site but given the scale of potential habitat loss and commonality of the habitats present these are likely to be important at the site level only.

3.3.5 Other protected and priority species

There is limited potential for other protected or priority species to be negatively affected by the proposed development.

4 POTENTIAL IMPACTS

4.1 General

This section considers the potential impacts (and subsequent effects) which might arise from the development in the absence of avoidance measures and/or mitigation. Wherever possible, the negative ecological impact of a development must be avoided. Any residual effects and their level of significance are further discussed with mitigation and/or enhancements in place.

It is important to note that the purpose of an ecological impact assessment is to consider impacts and effects in relation to species and habitats that have some level of international, national or local conservation significance – broadly speaking rare, uncommon or declining species and habitats. These are variously protected by domestic law and priority species have some limited protection under the provisions of the NERC Act – species and habitats listed on the UK/Local biodiversity/habitat action plan and consequently S41 of the NERC Act.

4.2 Protected species

4.2.1 Bats

Significance of effects prior to mitigation

There will be no significant (direct) loss of potential bat foraging habitat; however, the illumination of any peripheral habitats could result in the disturbance or deterioration of roosting, foraging and commuting habitats. It would be difficult to quantify the significance of the impact of lighting and its effect on bats, since the species and status of any roosts potentially present nearby is unknown. Therefore, it must be assumed (on balance) that a significant effect at the site level is possible.

Significance of residual effects after mitigation

With lighting mitigation measures in place there should be no significant residual adverse effect on bats.

Significance of effects after enhancements

The provision of integrated bat tubes and ridge-tile roosts would have a beneficial effect on local bat populations.

4.2.2 Breeding birds

Significance of effects prior to mitigation

The development will result in the small scale loss of suitable nesting habitat. The impact of this is unlikely to have a significant adverse effect on local bird populations; however, works that have the potential to damage or destroy the (active) nesting site of a bird would constitute a legal offence.

Significance of residual effects after mitigation

With mitigation measures in place (creating new nesting habitats and timing any conversion and demolition operations) there would be no significant residual adverse effect on nesting birds (or risk of legal offences occurring).

Significance of residual effects after enhancement

The development could result in the provision of new bird nesting opportunities (boxes) for House Sparrow and other crevice nesting bird species. Hedgerow planting will provide new nesting habitats suitable for a wide range of scrubland birds including priority species such as Dunnock and Song Thrush. The impact of this could only have a significant beneficial effect on the local bird population.

4.3 Survey constraints

There were no significant survey constraints.

4.4 Protected species legislation

Bats

All UK bat species are protected under The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and The Wildlife and Countryside Act 1981 (as amended). Essentially this makes it unlawful to; deliberately capture, injure or kill a bat; intentionally or recklessly disturb a bat whilst it occupies a roost or deliberately cause disturbance to (a bat) or significant group of bats; damage or destroy the roosting site of a bat; intentionally or recklessly obstruct access to a bat roost.

Notably, legal protection gives absolute protection to bat roosts and their continued functionality, regardless of deliberate, intentional or reckless action. Legal protection also extends to seasonal roosts which are not always occupied by bats throughout the year.

Disturbance caused through excessive noise or lighting and/or alterations to the landscape could potentially impact on bat roosting, foraging and/or commuting habitats and may have legal implications with regards disturbance and roost deterioration laws. It is therefore the duty of the relevant competent authority to take habitat severance, disturbance and land use change issues and their potential for impact on bat populations into consideration when assessing applications for the relevant consent.

Birds

With the exception of Schedule 1 listed bird species, which receive a higher level of protection against breeding disturbance, all common species of bird are protected during their breeding activities under the Wildlife and Countryside Act 1981

Essentially, this makes it an offence to intentionally take, damage or destroy the nest of any wild bird whilst that nest is occupied or being built; intentionally take or destroy the egg of any wild bird.

4.5 Personnel

Rob Thorne BA (Hons) MRSB has seventeen years' experience surveying sites for development and conservation purposes, covering Ecological Impact Assessment, botanical and vegetation surveys, and is competent to survey for a wide range of protected and priority species. He holds NE and NRW bat (16yrs) and Great Crested Newt (14yrs) survey and numerous mitigation licences and is a long-time member of The Shropshire Bat Group. He holds, or is accredited to work under, survey licences for Barn Owl, White-clawed Crayfish and Dormouse. He is also an experienced reptile and Otter surveyor having undertaken large scale reptile surveys for Natural England (to inform SSSI designations) and the Wildlife Trusts and targeted Otter surveys of watercourses for The Shropshire Mammal Group (as well as for numerous development proposals). He is also experienced in reptile mitigation, habitat management and trans/re-locations and has carried out long-term studies of several Slow-worm populations.

5 PROPOSED AVOIDANCE MEASURES, MITIGATION AND ENHANCEMENTS

5.1 Avoidance measures and mitigation

5.1.1 Bats

If any external lighting is proposed, then a lighting plan may be requested as a condition of planning consent. Alternatively, a lighting plan can be submitted with the application to reduce the number of conditions attached to the decision notice. The plan submitted must take into account the following guidance and summary recommendations:

- Bat Conservation Trust (2018) *Bats and artificial lighting in the UK – Bats and the Built Environment Series* Bat Conservation Trust, London
- Bat Conservation Trust (2014) *Interim Guidance: Artificial lighting and wildlife – Recommendations to help minimise the impact of artificial lighting* Bat Conservation, London
- Institute of Lighting Professionals (2011) *Guidance notes for the reduction of obtrusive light* Institute of Lighting Professionals, London

As a matter of best practice, external lighting must be minimised or totally avoided if possible. Where used, lighting must be fixed on the lowest column practical with light spread kept well below the horizontal using cowls, hoods, screens or simply by downward directionality. It is particularly important not to allow any light spill onto any of the surrounding peripheral habitats, most notably the tree-lined lane to the north. There must be no allowance for permanent security. LED bulbs with a warm white colour spectrum (2700 Kelvins) must be used to reduce the blue light component most disturbing to bats. PIR systems must be set on a short timer (1 minute maximum) and responsive only to larger moving objects. There must be no allowance for permanent security lighting.

5.1.2 Breeding birds

The nests of actively breeding birds must be avoided during the works period. If nests are encountered then works must cease or avoid the area until the young have departed the nest. Construction activities that may affect nesting birds (building conversion and demolition works) must be carried out as follows:

- During the nesting season between March 1st and August 31st after an ecologist has inspected the feature for signs of nesting birds. **This is likely to result in delays to the project and is not recommended.**

- Between 31st August and March 1st - outside the breeding season - when birds are unlikely to be nesting. **This is the most suitable means of mitigation in this instance**

5.2 Enhancement recommendations

5.2.1 Habitats

New native hedgerows could be planted along the site boundaries. Scattered native trees and shrubs can also be planted around the site to attenuate transmitted light and to provide food sources, foraging areas and nesting habitats for bats and birds.

Native shrub species recommended for native shrub planting	
Taxon	Common name
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn (60% of planting stock)
<i>Quercus robur</i>	Oak
<i>Carpinus betulus</i>	Hornbeam
<i>Taxus baccata</i>	Yew
<i>Prunus avium</i>	Wild Cherry
<i>Sorbus aucuparia</i>	Rowan
<i>Viburnum opulus</i>	Guelder Rose
<i>Acer campestre</i>	Field Maple
<i>Cornus sanguinea</i>	Dogwood
<i>Rosa canina</i>	Dog Rose
<i>Sambucus nigra</i>	Elder

Note: Blackthorn is best avoided as its suckering habit will soon scrub over any margins. Hawthorn should comprise 60% of the planting stock. The remaining 40% of the planting stock should comprise an even or varied mix of interplanting using the other species listed in the table above.

All planting must be carried out within the recognised planting season (November to March) and plants must be of local origin/provenance. Plants should be set out in a double staggered row using a total of 5 plants per linear metre, with rows set 225mm apart. All newly planted stock must be fully protected from rabbit damage by the use of tree/shrub guards.

In the second or third year new hedging plants should be hand trimmed to an even height of approximately 750mm to encourage side shoots and the development of a sound base to the hedge. For the following two or three years, the leaders should be allowed to grow unhindered and the sides trimmed only if necessary. After the first 5 years, mechanical

hedge trimming can commence OR the native hedge could be allowed to grow up until tall enough to be laid/pleached (approximately 10 years).

5.2.2 Species

Woodcrete bat tubes, House Sparrow nesting terraces and Starling nesting boxes could be integrated into the (wall) fabric of the newly converted buildings. Schwegler 2HW open fronted nest boxes suitable for use by Wren could be installed in suitable locations on nearby trees or walls. Bat access points could also be provided under two ridge-tiles. Access to the ridge-tile roost would be a simple case of either propping up the ridge-tile, cutting out a 20mm (high) x 50mm (wide) notch in the foot of the ridge-tile or creating access through the mortar bed under the ridge-tile – depending on which type of ridge system is used. If there is any contact between the ridge-cavity and the breathable membrane (i.e. if the top batten is not tight up against the ridge-board or if the membrane is looped over the top of the ridge-board) then a layer of Type 1F bitumastic felt will be laid over the membrane (within the cavity) to stop bats getting entangled in the modern fibres. The tiles will need to be dabbed on at either end and mortared along the sides (leaving the access point open) to provide a suitable cavity inside.

The locations of these would typically be provided at the Reserved Matters (or a prior to first occupation condition); however, where bat roosting features are to be integrated into the fabric of the building (such as a bat tube/ridge-tile roost) it is advisable to include these in the architectural drawings submitted with the application to avoid the need to retro-fit at a later date.

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