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Inspection & Assessment in relation to Bats & Breeding Birds

August 2023

Hillside

Erbistock

Wrexham

LL13 0DW

National Grid Ref: SJ35114210



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Executive Summary

As part of a proposed planning application at Hillside in Erbistock, Tyrer Ecological Consultants Ltd carried out a daytime preliminary roost assessment in relation to bats with an inclusive inspection for breeding birds in July 2023. Proposals for the site are understood to involve the renovation of the existing buildings onsite.

Detailed methods, findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following **Key** points:

Bats:

Based upon the findings of the survey, covered through sections 6.0 – 7.0 of the report and supported by **Appendix I**, both the house and outbuilding at Hillside are determined to offer **'Moderate'** bat roost suitability in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), warranting the requirement for further survey effort at the site before an impact assessment can be concluded.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey* (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.*	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.*

It is recommended that two dusk / dawn emergence / re-entry surveys are conducted at the site during the active season of bats (May – August, extending into September), in order to establish if / how the building is being used by bats, and if so, identify the species present, abundance, roost locations and flight lines around the site following emergence / re-entry. Four surveyors would likely be required to monitor the potential roost features described across the two buildings, and the surveys should be spaced at least two weeks apart in accordance with BCT guidelines.

Breeding Birds:

No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as barn owl and no further surveys or recommendations are necessary in relation to specially protected birds at this time. In relation to common birds, evidence of swallows and blue tits using the outbuilding was observed by the surveyor in the form of historic and active nesting, while the vegetation present onsite provides numerous nesting opportunities.

In the interests of potential impact avoidance it is therefore recommended that the proposed works to the building, alongside any works incorporating any of the mature vegetation onsite, should be undertaken outside of the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March – August). For works within the breeding bird season, any areas that can support nesting birds should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing.

Given the presence of swallow and blue tit nests within the building set to be converted, it is considered that the inclusion of a swallow shelter with x2 nest cups in the rear garden and several 1B Schwegler nest boxes would enhance opportunities for local priority breeding birds and adequately compensate for the loss of nesting sites. See Appendix II for indicative design; however, the LPA should stipulate the specific nature of said measures within a condition.

Invasive Non-Native Species (INNS):

A single INNS was identified on site by the surveyor – Himalayan cotoneaster.

Whilst it is not illegal to host this species within your garden, it is an offence, under current legislature, to knowingly permit the spread of a registered INNS beyond the confines of your site, either via allowing it to grow unchecked or through the irresponsible removal and dumping of waste. In this case the INNS in question spreads by seed dispersal usually after being ingested by birds. It is recommended this species be treated/removed as part of the planning permission process with measures outlined by planning condition.

Biodiversity Enhancement:

As a means of enhancement and aiding the design of the scheme in keeping with local and national planning policy considering biodiversity net-gain principles, the proposals may consider incorporating wildlife friendly provisions in addition to those described.

*Further recommendations, regarding birds, native species and invertebrates are provided within **Appendix II**.*

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1.0 Introduction & Reasons for Survey

- 1.1 As part of a proposed planning application at Hillside in Erbistock, Tyrer Ecological Consultants Ltd carried out a daytime preliminary roost assessment in relation to bats with an inclusive inspection for breeding birds in July 2023. Proposals for the site are understood to involve the renovation of the existing buildings onsite. See **Figure 1.1** for existing site plans.

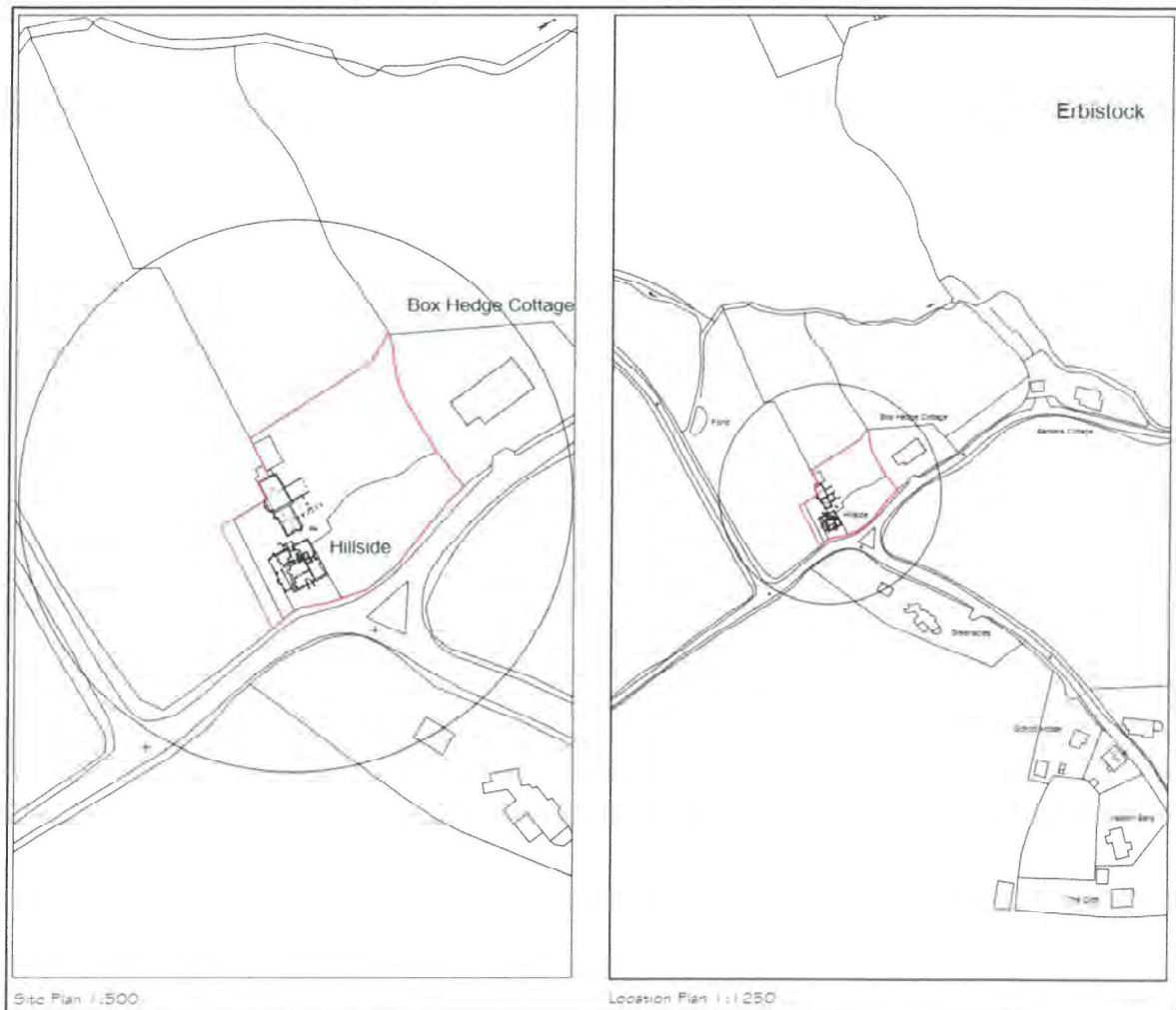


Figure 1.1 – Existing site plans at Hillside (© Blueprint Architectural Services)

- 1.2 The aim of the survey was to ascertain if the buildings onsite were of value to bats whilst an assessment for birds was also carried out. If any potential roost features (PRFs) were found to be suitable for bats, or signs of use were observed, then more detailed surveys would be recommended i.e. dusk / dawn emergence / re-entry surveys during the main active season of bats which is May – August (extending into September).
- 1.3 If additional surveys are required following the initial site visit, this report will outline the details of those further recommendations.
- 1.4 If it was determined that bat(s) or their roost / place of rest / shelter will be subsequently impacted by the works then a European Protected Species Mitigation Licence (EPSML) would be legally required to proceed with the development.
- 1.5 If evidence indicated breeding birds may be impacted by proposals, tailored recommendations would be made accordingly, species pending.

- 1.6 As part of the local authority's planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted where protected / priority habitats and species are, or may be present, that could be affected by the proposals for which the application seeks consent. Where more detailed surveys are recommended by the ecologist, following an initial daytime investigation, then Local Planning Authorities (LPA), on the advice of their ecological advisors, will not grant permission until such time that all relevant information is gathered.
- 1.7 In accordance with *Biodiversity Net Gain: Good practice principles for development* (CIEEM *et al*, 2019) the site visit also aims to identify enhancement opportunities for biodiversity in line with national and local planning policy.

2.0 Protected Species & Their Requirements

Bats

- 2.1 All British bats and their ****roosts** are afforded full protection under the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of the Conservation of Habitats and Species Regulations (2019) (EU Exit). When dealing with cases where a European Protected Species (all UK bats) may be affected, a planning authority is a competent authority within the meaning of Regulation 7 of the Regulations, and therefore has a statutory duty, as the local authority, to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Uses of Buildings by Bats

- a) Summer breeding roost (May – August)
- b) Hibernation roost (October – March)
- c) Transitional or temporary roost (other months)

- 2.3 Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance; climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

*** The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to "a breeding site or resting place of such an animal" and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.*

Birds

- 2.4 All wild birds, no matter how common, their eggs, young and nests, whilst being built or occupied, are protected under both the Wildlife and Countryside Act (WCA 1981) and Natural Environment and Rural Communities Act (NERC Act 2006). Birds listed on Schedule 1 of the WCA 1981, for example barn owl (*Tyto alba*), are afforded a greater level of protection and are protected also from disturbance.
- 2.5 Any work that would damage an occupied nest, eggs or young of breeding birds must be avoided; any damage to nests that may occur as a result of the development should be outside of the main breeding bird season (March – August). On occasions nests can become unoccupied during the breeding season but the status of the nest(s) should be determined by a suitably experienced ecologist before any damage takes place.

Policy

- 2.6 Planning Policy Wales (PPW) 11th Edition (2021) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.
- 2.7 PPW and the National Development Framework (published as Future Wales – the National Plan 2040) set out how the planning system at a national, regional and local level can assist in delivering these requirements through Strategic Development Plans (SDPs) and Local Development Plans (LDPs).

2.8 PPW (2021) states:

"The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained. Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned. An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre."

2.9 Planning authorities must therefore follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

2.10 The first priority for planning authorities is therefore to avoid damage to biodiversity and ecosystem functioning. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites that would result in less harm, no harm or pro-gain have been fully considered.

2.11 The Environment (Wales) Act 2016 ("the Act") – requires local planning authorities to have regard to area statements in the development of Local Development Plans. The Act introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around objectives for habitats and species. Part 1 of the Act promotes sustainable management of natural resources, and in Part 1 section 6 states:

"A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions."

2.12 This is further supported by PPW (2021) which requires developments to achieve a Net Benefit for Biodiversity (NBB):

*"Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a **net benefit for biodiversity**. In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the follow aspects:*

- *diversity between and within ecosystems;*
- *the connections between and within ecosystems;*
- *the scale of ecosystems;*
- *the condition of ecosystems including their structure and functioning; and*
- *the adaptability of ecosystems."*

- 2.13 There are several plans, strategies and national, sub-regional and local policy statements which provide a framework for development in the Plan area. The Planning and Compulsory Purchase Act (2004) makes it a requirement for local planning authorities in Wales to prepare a Local Development Plan (LDP) for their areas.
- 2.14 Wrexham Borough Council prepared a plan namely the 'Wrexham Unitary Development Plan (1996 – 2011)', which was formally adopted in February 2005 and supersedes any previous development plans for the area. A new plan, the 'Wrexham Local Development Plan 2 (2013 - 2028)', which will replace the current adopted plan, is currently under review. Until this new plan is adopted, the Wrexham Unitary Development Plan remains in effect.
- 2.15 Policy EC6 of the Wrexham Unitary Development Plan mirrors these statements within PPW 2021 and goes on to state the following:

"Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves will be supported."

3.0 Protected Species in Wrexham County

- 3.1 Up to eleven bat species have been recorded in Wrexham County, many of which use built structures for roosting. A variety of building types and features are utilised by bat species at different times of year ranging from occupied residential dwellings to disused barns and bridges. The most frequently encountered species is the common pipistrelle bat (*Pipistrellus pipistrellus*); its abundant status in Wrexham is mirrored throughout the UK.
- 3.2 Barn owl (*Tyto alba*) are a distinctive, widespread species of raptor protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); they are distributed throughout the UK and will use tussock-forming grasslands, rough field margins, ditches and roadside edges for hunting purposes, they typically use barns / abandoned buildings and tree hollows for nesting or roosting use. In rare instances occupied dwellings can support owls. Additional to protection from nest destruction, Schedule 1 listed species nest sites are also protected from disturbance.

4.0 Survey Methodology

- 4.1 As part of the Inspection & Assessment in relation to Bats & Breeding Birds report, a desk-top and field-based study is conducted. Methods for both components of the appraisal are given below.

Desktop study

- 4.2 Prior to a site visit a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations within 2.0 kilometres of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGiC – provided by DEFRA) was accessed, alongside DataMapWales, which holds protected species and habitat information for Wales. These sites were utilised to further inform conclusions concerning such species in the context of the study site and its proposed development.
- 4.3 Historic satellite imagery was reviewed using sources such as Google Earth (© 2022/23) to help establish past use of the land and determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.
- 4.4 A commercial data request to the Local Environment Records Centre serving the area – Cofnod – has not been sourced and is justified through application of the following recent guidance:

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states:

“It is generally expected that a desk study, including a data search, will be a key part of the ecological surveys or reports produced to inform a planning application. Freely available web-based sources of data and contextual information should always be used; in some cases, it may be acceptable to not undertake a data search with the LERC or other relevant NSS or local interest groups, for example:

- ii) Situations where the **data search would be extremely unlikely to provide information needed to inform the assessment, due to the scale and location of the proposed development**. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact. It can be very difficult to demonstrate that a data search would not have provided relevant information without obtaining and reviewing those data.*
- iii) In some cases for Preliminary Roost Assessments in **low impact / small-scale scenarios**, such as an extension to a residential property, loft conversions (full or partial), installation of Velux/dormer windows, **single modern agricultural or similar building conversion or demolition**; however, it should not be assumed that data searches are never required for such scenarios and this must be judged on a case by case basis and justified accordingly.*

2) The Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) also states:

“Very occasionally it might be possible to carry out a robust PEA without obtaining LERC/NBDC/CEDaR data; this will usually only apply to low impact or small-scale projects (e.g. by virtue of size, extent, duration of works, magnitude and locality), and should be determined on a case-by-case basis.”

- 4.5 As exemptions as made **bold** above can be applied at Hillside, whilst following best practice, it is considered unnecessary to conduct a commercial data request following the desk study effort and daytime assessment at this time, which offers a proportionate level of survey effort. If, however, a data search is considered necessary by the Local Authority advisory body to inform the ecological impact assessment following any further surveys recommended in this report, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued / updated report.

Field survey

- 4.6 In context with the above, a diurnal inspection and assessment of the buildings and the immediate environment in relation to bats and breeding birds was conducted on 19th July 2023 in sunny, clear conditions (15°C), wind 1/12 (Beaufort scale), 50% cloud, by the following surveyor (see **Table 4.1**):

Table 4.1 – Site surveyor credentials

Name	Description of most relevant credentials
Mr. H. Mulligan	• Junior Ecologist with a range of training and experience, • 1 year as a professional ecologist, • MBiolSci in Biological Sciences (Zoology), • Qualifying CIEEM, • Accredited agent on the Natural England Class 2 bat licence of Mrs K Wilding (CLS-14227), • Accredited agent on the Natural Resources Wales bat licence of Mrs. K. Wilding (S086297/1)

- 4.7 Bat Conservation Trust (BCT) – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) states:

“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.”

- 4.8 The bat and breeding bird survey was conducted in tandem; the buildings were inspected for potential places that may be of value to bats or breeding birds, and to determine if evidence of use by either group was present. An internal assessment of the buildings took place with the aid of a high-powered torch for evidence of bat use, which mainly includes bat droppings and / or prey items, or the incidental presence of live or dead animals, and investigated for evidence of breeding birds, which broadly involves a search for nesting materials, presence of pellets or accumulated faeces and / or dead juveniles / hatchlings.
- 4.9 External elevations were investigated with the aid of a high-powered torch and close focus binoculars (where necessary) for places that can be used as a roost by bats or as a means of ingress for bats and birds leading to areas of roosting/nesting potential. These features are typically referred to as potential roost features (PRF) concerning bats. All external features were able to be surveyed without constraint.
- 4.10 The surrounding habitat was also considered in terms of general suitability for bat and bird species associated with the local habitat types.

- 4.11 Trees on site, subject to their presence, were inspected for places that may be of value to bats and to determine if evidence of use was present; this typically involves a search for potential roost features along with an investigation of those features using a high-powered torch or close focus binoculars. Potential roost features can include woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed lifted bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached lvy with stem diameters in excess of 50mm or bat / bird boxes. Trees (where present) were also checked for evidence of nesting birds and suitability for relevant species.
- 4.12 Criteria for roost assessment are based upon the determinants given in the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016): (see Figure 4.1).

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ¹ 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 ²). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. ³	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
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 ¹ 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).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked bank gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
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 ¹ and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

¹ For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

² Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

³ This system of categorisation aligns with BS 8506:2016 Surveying for bats in trees and woodland (BS, 2015).

Figure 4.1 – BCT guidelines extract

- 4.13 An assessment of the building was conducted when birds are within their breeding season (this is typically March – August inclusive). Elevations were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example:

- Starling (*Sturnus vulgaris*): Birds of Conservation Concern (BoCC) red status
- House sparrow (*Passer domesticus*): BoCC red status
- House martin (*Delichon urbica*): BoCC red status
- Swift (*Apus apus*): BoCC red status

- 4.14 Additional to the site's capacity to support common species of bird, the area was subject to an assessment for capacity to support specially protected bird species.
- 4.15 The results, conclusions and recommendations are based on a number of factors i.e.
- Practical experience of surveyor,
 - Knowledge of bat / bird species relevant to the site location and geographical range,
 - Nature of immediate/surrounding habitat in relation to foraging / commuting,
 - Condition of the building,
 - Presence / absence of a loft space or cellar and reasonable practicality of use,
 - Presence / absence of roost potential,
 - Value of roost potential – if present.
- 4.16 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, the Director of Tyrer Ecological Consultants Ltd, and her assessment is consistent with that of the surveyor Mr. Mulligan.

5.0 Limitations

- 5.1 The survey was conducted within the active season of bats and within the breeding season of birds. Survey timing is not considered a constraint in this instance.
- 5.2 All areas of the site were fully accessible and there were no external visual constraints. In considering all survey constraints, no significant limitations were experienced that might adversely influence the results, conclusions, and recommendations of this report.

6.0 Desk Study Results

- 6.1 Hillside (referred to in-part as “the application site” and “the site”) is situated north of Cae Adda Lane in rural Erbistock, approximately 8.0 kilometres south of Wrexham town centre (see Figure 6.1 below).

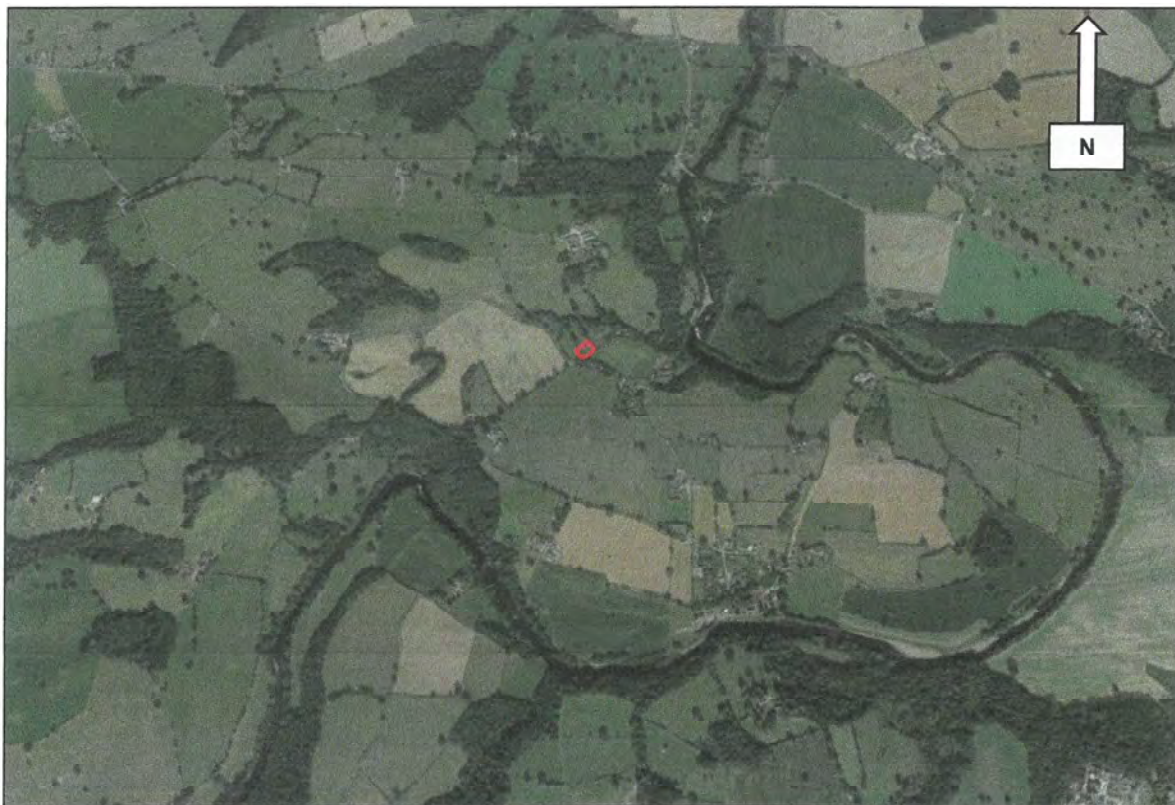


Figure 6.1 – Location of the application site (red boundary) within the landscape (© Google Earth Pro 2022/23)

- 6.2 The application site consists of a house and outbuilding alongside a landscaped garden and access; the immediate habitat consists of rural grassland fields divided by tree lines and hedgerows, interspersed by occasional isolated dwellings, minor roads and patches of deciduous woodland; a stretch of the River Dee passes approximately 250 metres to the east of the site, which is a multi-designated site for nature conservation (see Table 6.1).
- 6.3 The extending environment is consistent with that of the immediate, being almost entirely rural and dominated by an expanding patchwork of agricultural and arable fields, aside from small developments such as Erbistock and Overton which feature typical rural township environments. The River Dee passes 900 metres to the south of the site before meandering to the east as stated above, bordered by linear stretches of deciduous woodland, and this acts as the English/Welsh border. Various priority habitats are present within 2.0 kilometres of the application site including traditional orchards, ancient semi-natural woodland and wood pasture and parkland.
- 6.4 Collectively, the immediate and extending aforementioned ecological features should be considered highly favourable, with well-connected ecological networks for bats and birds and connectivity between the application site and areas of grassland, wooded areas and water bodies surrounding the site. These corridors of connectivity provide areas for commuting and foraging for bats, with the protected species most typically associated with the habitats described being the common pipistrelle, frequently associated with using buildings in sub-

urban and rural areas, the brown long-eared which is often located in rural structures, and Daubenton's which are frequently located close to waterbodies.

NB: *Where quality habitat is present close to buildings then the percentage use of those buildings, by bats, increases given that roost opportunities are available and vice versa.*

Statutory designated sites

- 6.5 There is one statutory designated site for nature conservation within 2.0 kilometres of the application site (see **Table 6.1**) and **Figure 6.2**.

Table 6.1 – Statutory designation type and reason for designation within 2.0 kilometres buffer

Site name	Designation type	Interest features
River Dee and Bala Lake (0.3 kilometres east)	Site of Special Scientific Interest (SSSI) Special Area of Conservation (SAC)	This site forms SSSIs in both Wales and England and is notified for its transition through a range of river types from mesotrophic to eutrophic and for the species it supports including club-tailed dragonfly (<i>Gomphus vulgatissimus</i>). The lower reaches of the River Dee support Britain's only known population of the stonefly (<i>Isogenus nubecula</i>). Between Llangollen and Bangor-on-Dee, sandstone, mudstone and hard limestone river type vegetation again predominates, this time with the unusual hybrid crowfoot (<i>Ranunculus x bachi</i>) (<i>R. fluitans x aquatilis</i>) occurring in large stands. The Dee is one of only two known UK localities for this hybrid. In this section the river shows signs of nutrient enrichment with the introduced Canadian waterweed (<i>Elodea canadensis</i>) becoming more prevalent.

Records

- 6.6 Tyrer Ecological Consultants Ltd have no records of bats or protected bird species within 2 kilometres of the application site, nor have any EPSMLs been granted within this range.

Hillside, Erbistock, Wrexham, LL13 0DW
Inspection & Assessment in relation to Bats & Breeding Birds

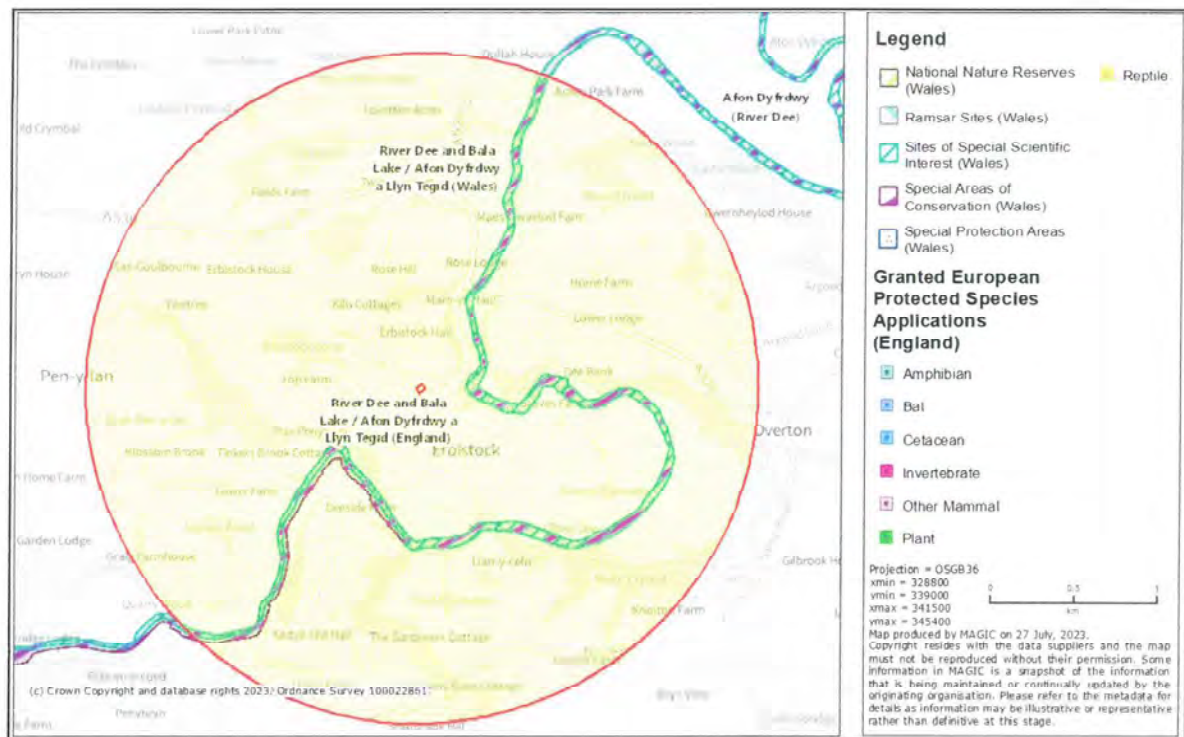


Figure 6.2 – Designated site data for the area within 2.0 kilometres of the application site (© MAGIC Maps 2023)

7.0 Field Study Results

Bats

- 7.1 Two buildings are located at Hillside, and both were surveyed for their potential to offer roost features for bats both internally and externally. See **Figure 7.1** for the respective locations of the buildings within the application site boundary.

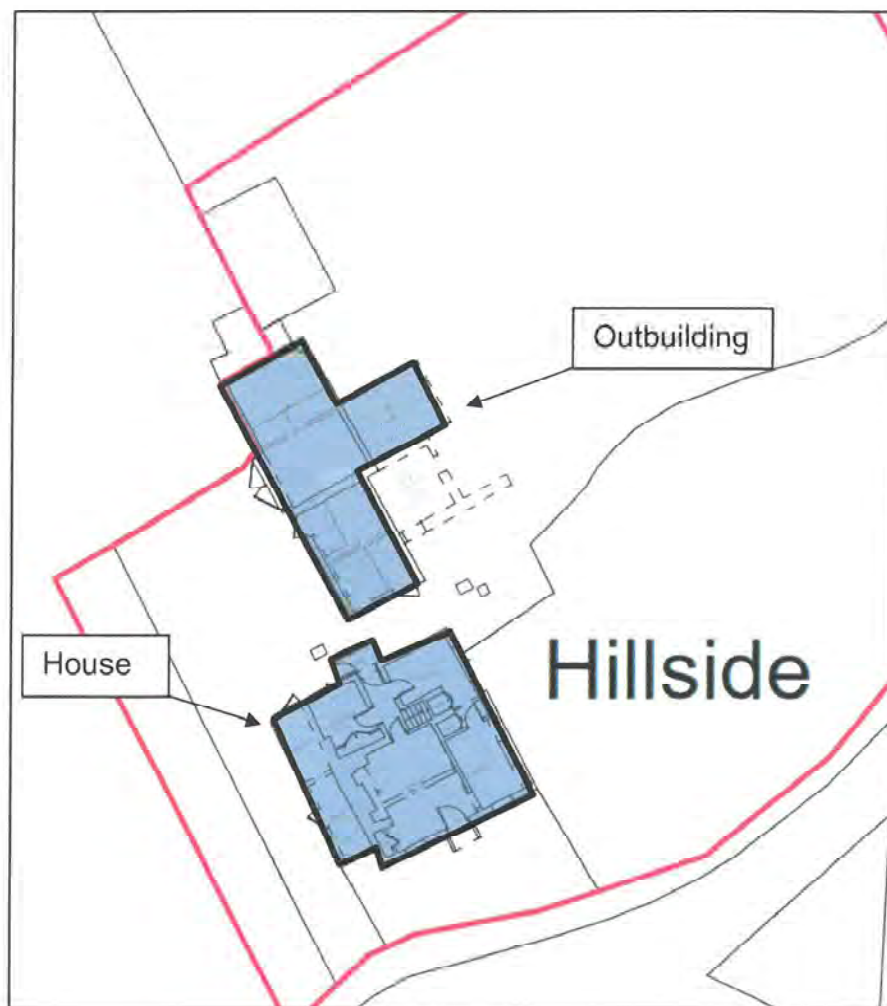


Figure 7.1 – Location of the surveyed buildings in relation to the site (Adapted from Blueprint Architectural Services)

House

- 7.2 The house at Hillside is a brick-built and rendered building with a complex slate roof structure, featuring a pitched section to the south and a hipped section to the north, to approximate maximum dimensions of 9 metres x 9 metres x 5 metres (Length x Width x Height). Structural components include glass windows with timber frames and stone sills, timber doors and timber soffits. In respect of its condition, whilst the surveyor is not qualified to assess structural state, the aesthetic condition of the building was adjudged to be moderate, with the roof noted to be partially degraded and many slates slipped or lifted.
- 7.3 Internally, no roof void is present beneath the pitched roof section, with this area open to a plastered roof, however a loft space is present beneath the hipped roof section; this space has an apex of approximately 2.0 metres, and was dark, non-draughty and notably warm, with rockwool insulation throughout.

- 7.4 The house is considered broadly suitable for the breeding requirements of loft-dwelling species such as brown long-eared bat (*Plecotus auritus*, BLE), as this is a species which prefers dark, open loft spaces with consistent thermal conditions and open areas for free flight; however, no evidence was encountered despite a meticulous search.
- 7.5 A bitumen 1f roof lining was observed beneath the roof slates in the majority of the surveyed loft space as well as the areas beneath the pitched roof and above the plastered ceiling (observed through a small airing cupboard), while a small portion of the loft space is lined with a breathable roof membrane (BRM); where present, underfelt or other such roof lining typically improves a buildings value to bats, notably for crevice-dwelling bats of the *Pipistrellus* genus, whereby the bats roost between the lining and the roof cover material provided external opportunities exist. However, BRM can be harmful to bats where ingress opportunities exist, whereby the bats claws become tangled in the fine fibres of the membrane, leading to entrapment and potentially death. Despite being potentially harmful to bats, the presence of BRM does not deter bats from roosting between such a lining and the roofing material hence is considered to increase the perceived value of a structure for crevice dwelling bats. Again, no evidence of crevice dwelling bats was identified at the site, however this is often the case due to the crevice-dwelling nature of these species.

NB: *The breeding roosts of Pipistrelle bats are proportionally higher in occupied residential dwellings where the warm, dry conditions favour the requirements of a maternity colony but other structures are also used, especially for hibernation or by male bats which do not need the same conditions as a maternity colony.*

- 7.6 Externally, a wide range of potential roosting features (PRFs) were identified on the building throughout, given the number of lifted/slipped roof slates, gaps where the hipped roof section meets the pitched roof section, and a gap in the soffit box to the south, all of which provide small crevice opportunities and are typical features favoured by bats for ingress. As such, the building offers a large number and wide variety of features that could provide roosting potential for bats.
- 7.7 Taking into account the number of potential roosting features, the character of the loft space as well as the highly favourable habitat in the vicinity, the house at Hillside is duly categorised as offering 'Moderate' bat roost suitability, in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016).

Outbuilding

- 7.8 The outbuilding at Hillside is a brick-built structure with a pitched slate roof structure, featuring a breezeblock-built lean-to to the north with a pitched corrugated metal roof, to approximate maximum dimensions of 16 metres x 8 metres x 3 metres (Length x Width x Height). Structural components include open timber eaves and timber fascia. In respect of its condition, whilst the surveyor is not qualified to assess structural state, the aesthetic condition of the building was adjudged to be very poor, with the roof noted to be highly degraded and sunken, with many slates slipped, lifted or missing entirely.
- 7.9 Internally, no loft void is present in any part of the building, with it being open to the roof throughout; as such, the space is partially illuminated by the gaps in the roofing, and is cool and draughty.
- 7.10 The open conditions of the outbuilding are favourable for the roost conditions of free-hanging lesser horseshoe (*Rhinolophus hipposideros*) which prefers to fly directly into roost sites and is known to be present in rural North Wales. Draughty conditions, however, may negate the maternity value of the barn to bats which favour warmer, more consistent temperatures for raising offspring.

- 7.11 No underlining is present in the outbuilding, with a highly degraded lath and plaster flashing instead present. Again, no evidence of crevice dwelling bats was identified within the outbuilding.
- 7.12 Externally, a wide range of potential roosting features (PRFs) were identified on the building throughout, given the number of lifted/slipped/missing slates and numerous gaps in the ridge tiles, which provide small crevice opportunities and are typical features favoured by bats for ingress; although there is no roof lining for the majority of the building, which may reduce roosting at roof level, there are also numerous gaps at the open eaves, in the mortar at the roof verge, and beneath the fascia's, all of which would provide suitable crevice opportunities. As such, the building offers a large number and wide variety of features that could provide roosting potential for bats.
- 7.13 Taking into account the number of potential roosting features as well as the highly favourable habitat in the vicinity, the outbuilding at Hillside is duly categorised as offering **'Moderate'** bat roost suitability, in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016).

Breeding Birds

- 7.14 In relation to WCA Sch.1 specially protected bird species, such as barn owl, no evidence to indicate use of the site by such species was identified by the surveyor, however the outbuilding and wider environment are considered broadly suitable for this species breeding and hunting requirements.
- 7.15 In relation to more common bird species, evidence of nesting was observed in the outbuilding, with a single nest cup attributed to swallows (*Hirundo rustica*) and two nests attributed to blue tit (*Cyanistes caeruleus*), with fledglings observed within a nest alongside abundant nesting material. There is also a wide range of mature shrubbery within the site boundary that could offer a plethora of further nesting opportunities.

Invasive Non-Native Species (INNS)

- 7.16 A single INNS, listed as such under Schedule 9 of the Wildlife & Countryside Act (1981) (as amended) was located within the site, namely **Himalayan cotoneaster** (*Cotoneaster simonsii*). This species was encountered incidentally by the surveyor whilst assessing the site for its bat and breeding bird suitability. See **Figure 7.2** below for an indicative location of the INNS.



Figure 7.2 – Location of the aforementioned INNS (marked in green) in relation to the site (Adapted from Blueprint Architectural Services)

8.0 Conclusions & Recommendations

Bats

- 8.1 Based upon the findings of the survey, covered through sections 6.0 – 7.0 of the report and supported by **Appendix I**, both the house and outbuilding at Hillside are determined to offer 'Moderate' bat roost suitability in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), warranting the requirement for further survey effort at the site before an impact assessment can be concluded.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ¹ (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ²	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ³

Figure 8.1 – BCT extract on roost suitability criteria

- 8.2 It is recommended that two dusk / dawn emergence / re-entry surveys are conducted at the site during the active season of bats (May – August, extending into September), in order to establish if / how the building is being used by bats, and if so, identify the species present, abundance, roost locations and flight lines around the site following emergence / re-entry. Four surveyors would likely be required to monitor the potential roost features described across the two buildings, and the surveys should be spaced at least two weeks apart in accordance with BCT guidelines.
- 8.3 In the event that the presence of roosting bats at the building is initially established within the active season, then an additional survey may be required and the granting of a European Protected Species Development Licence (EPSDL) from Natural Resources Wales will be required for the development to legally proceed where bat roosts will be destroyed, altered, obstructed or damaged or if bats will be disturbed or capture/exclusion is required prior to demolition. However, it should be noted that if a breeding roost is discovered then work that will result in any of the above actions cannot take place until after the breeding season, which is widely accepted as running from May – August inclusive.
- 8.4 Natural Resources Wales provide online information and guidance concerning the requirement for EPSDL's and the following extract is included in that guidance:

"When would works require a licence?"

A licence is required for anything that would be an offence under the Regulations (covered in section 2.9 of this report). For example, this could include works which would disturb (as defined in the legislation) bats, damage a bat roost, or damage or destroy a breeding site.

NRW can only grant a licence if the following three tests are met:

1) The purpose of the work is for preserving public health or public safety or other imperative reasons of over-riding public interest (IROPI) including those of a social or economic nature and beneficial consequences of primary importance for the environment,

2) There is no satisfactory alternative,

3) The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range; this last

test might require that the work is modified to avoid or minimise adverse effects (mitigation), or that an alternative breeding site/resting place or habitat is provided instead to safeguard the FCS (compensation). Either way, you will need the advice of an ecological consultant. Along with filling in the licence application form, the ecological consultant will need to write a method statement (within the EPSML) explaining how the work will be done to minimise any detrimental effects.

If the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably unlikely to result in an offence being committed then no licence is required. However, in these circumstances Natural Resources Wales would urge that reasonable precautions be taken to minimise the effect on European protected species should they be found during the course of the activity. If protected species are found, cease the work until you have assessed whether you can proceed without committing an offence.

When might I work without a licence?

There might be situations in which you could continue without a licence. If the work can be organised in such a way that there would be no offences committed (i.e. no damage or destruction of a breeding site/resting place, no capturing, killing or injuring of individuals) then there is no need for a licence. This is a difficult area legally and your ecological consultant will be able to advise you further.

Developers should be aware that if work is held up or modified and there is a possibility that animals will be disturbed, or a breeding site / resting place will be unavailable to them (even if only temporarily), they should apply for a licence in good time.

Example: If a building with a bat roost requires re-roofing or repair work, you would not need a licence if:

- the existing materials are replaced like-for-like (i.e. similar type of roofing slates, similar felt or membrane),
- the same access points are retained and there are no structural changes made to the roost,
- the work is done whilst bats are absent and is completed before they would normally return to the roost."

NB: Where more detailed bat surveys are recommended, following an initial investigation, then Local Authorities on the advice of their ecological advisors, may not determine the application until such time that all relevant information is gathered, i.e. by conducting dusk/dawn surveys. The advice that is provided by the ecological advisors is also in accordance with the obligations placed upon Local Authorities by way of its duties under the Conservation of Habitats & Species Regulations 2017. Therefore, it would be prudent to make enquiries to the relevant departmental Planning Officer before submitting a Planning Application that includes an ecological survey report that recommends more detailed surveys.

- 8.5 Installation of overly harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging / commuting bats in the landscape, subject to their presence, particularly if increased light spillage occurs in areas of that are currently free from illumination. A bat-sensitive lighting plan is therefore recommended in order to avoid potential impacts to bats that may use the surrounding treelines. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Lighting Guidelines for further information.

Appropriate luminaire specifications: Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires.

All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. Lighting should be directed to where it is needed, and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Predicting where the light cone and light spill will occur: There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels: The light should be as low as guidelines permit. If lighting is not needed in any particular area, do not light. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site.

Please refer to the 'Landscape and urban design for bats and biodiversity' (Gunnell *et. al.*, 2012, Bat Conservation Trust) Guidance Note 8 'Bats and Artificial Lighting' 2018, Bat Conservation Trust for further information.

- 8.6 No recommendations are necessary in relation to bats and trees, with no trees with bat roost potential within or in close proximity to the buildings. Nonetheless, any trees within the immediacy should be considered valuable to bats in a local context in that they provide cover and shelter for commuting bats. If any trees are set to be removed / re-planted as a part of the landscaping proposals, then they should be constituted of native species, with suitable individuals shown in **Appendix II**.

Breeding Birds

- 8.7 No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as barn owl, and no further surveys or recommendations are necessary in relation to specially protected birds at this time.
- 8.8 In relation to common birds, evidence of blue tits and swallows using the outbuilding was observed by the surveyor in the form of historic and active nesting, while the vegetation present onsite provides numerous nesting opportunities.
- 8.9 In the interests of potential impact avoidance it is therefore recommended that the proposed works to the building, alongside any works that may incorporate the mature vegetation onsite, should be undertaken outside of the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March – August). For works within the breeding bird season, any areas that can support nesting birds

should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing.

- 8.10 Where active nests are / have been located by the Ecologist, then any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, this can be aided, for example, via implementation of appropriate buffer zone(s) around the nest site (typically 5 – 10 metres) in which no disturbance is permitted until the nest is no longer in use. This would have to be coordinated through the expert judgement of the professional ecologist and species pending.

Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as: *"a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management."*

NB: *All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected from destruction, damage and disturbance under the Wildlife & Countryside Act 1981 (as amended). It is a punishable offence to interfere in any way with an active nest.*

- 8.11 Given the presence of swallow and blue tit nests within the building set to be converted, it is considered that the inclusion of a swallow shelter with x2 nest cups in the rear garden and several 1B Schwegler nest boxes would enhance opportunities for local priority breeding birds and adequately compensate for the loss of nesting sites. See **Appendix II** for indicative design; however, the LPA should stipulate the specific nature of said measures within a condition.

Invasive Non-Native Species (INNS)

- 8.12 A single INNS was identified on site by the surveyor – Himalayan cotoneaster. Whilst it is not illegal to host any of these species within your garden, it is an offence, under current legislature, to knowingly permit the spread of INNS beyond the confines of your site, either via allowing it to grow unchecked or through the irresponsible removal and dumping of waste. In this case the INNS in question spreads by seed dispersal usually after being ingested by birds. It is recommended this species be treated/removed as part of the planning permission process with measures outlined by planning condition.

Biodiversity Enhancement

- 8.13 As a means of enhancement and aiding the design of the scheme in keeping with local and national planning policy considering biodiversity net-gain principles, the proposals may consider incorporating wildlife friendly provisions in addition to those described. Further recommendations, regarding birds, native species and invertebrates are provided within **Appendix II**.

Appendix I: Site Photographs



Plate 1 – *The house at Hillside as seen from the south*



Plate 2 – *Northern aspect of the house*



Plate 3 – *The eastern elevation of the house*



Plate 4 – *Interior of the pitched roof section of the building*



Plate 5 – Character of the loft void beneath the hipped roof section, with BRM evident at rear



Plate 6 – Bitumen roof lining in loft space



Plate 7 – PRFs where the hipped roof meets the pitched roof, alongside several slipped slates



Plate 8 – Gap in soffit on southern elevation



Plate 9 – *Numerous lifted slates on western aspect*



Plate 10 – *The outbuilding as seen from the west*

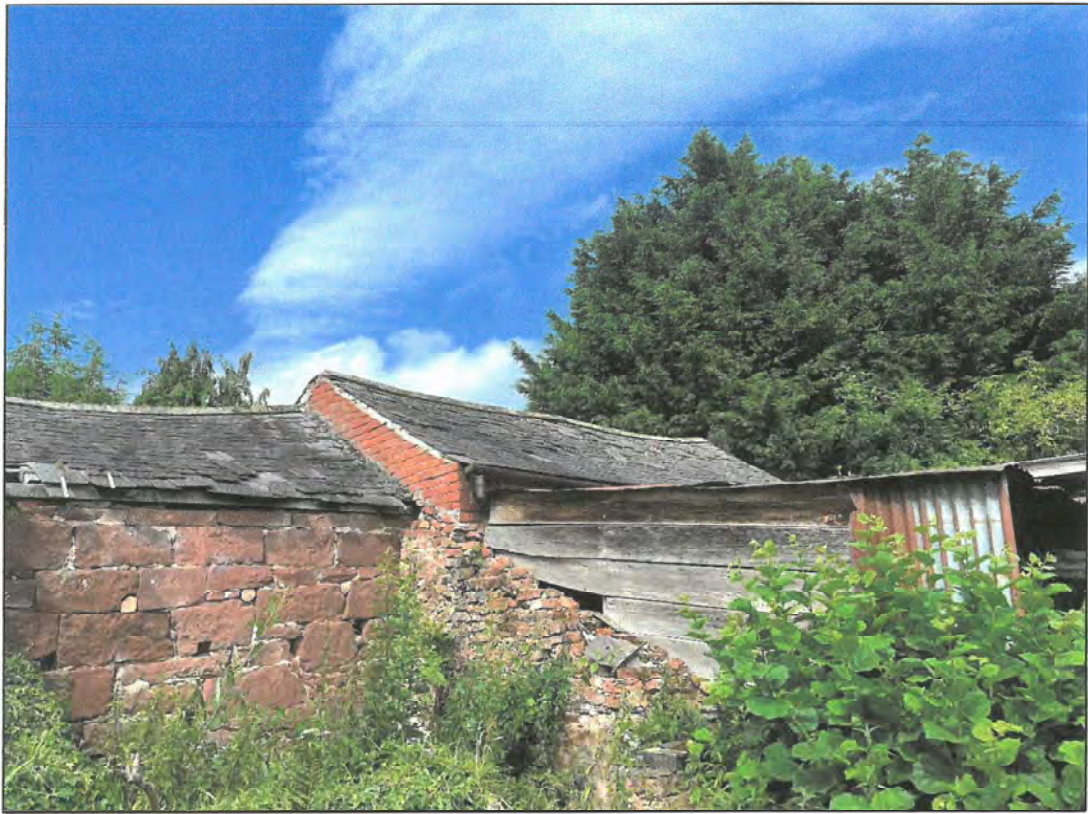


Plate 11 – *Eastern aspect of the outbuilding, with many slipped and missing slates*



Plate 12 – *Internal character of the outbuilding*



Plate 13 – *Blackbird nest observed in outbuilding and abundant nesting material*



Plate 14 – *Swallow nest within the structure*



Plate 15 – *Degraded mortar in outbuilding and gaps in slates evident*



Plate 16 – *PRFs in the slates and ridge tiles on the outbuilding*



Plate 17 – *INNS Himalayan cotoneaster* at west of the house



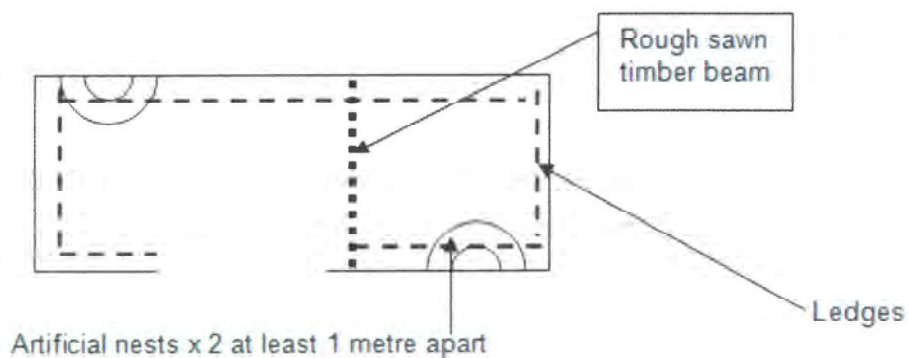
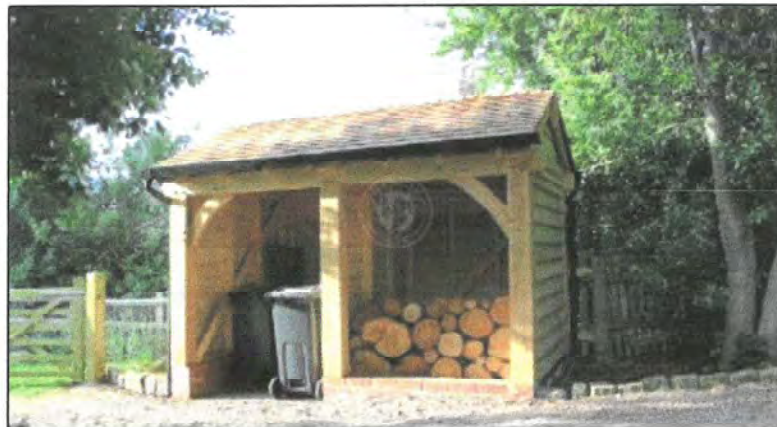
Plate 18 – *Himalayan cotoneaster* at the east and north of the house

Appendix II: Biodiversity Enhancement: General Recommendations

Swallow provision

The following measures can create swallow provision:

- Creation of an open style shed (timber, with a pitched or flat roof) as shown below to replicate the conditions of the compartmented outbuilding and offer swallows a means of nesting below shelter following their summer migration.
- Artificial Swallow nest cups will be placed inside. Two Swallow cups to be spaced inside to compensate for the two nest cups lost.
- Several 1B Schwegler Nest Boxes should also be placed within the structure (see overleaf)
- The shelter will be placed close to the converted outbuilding structure



1B Schwegler Nest Box

These Woodcrete nest boxes are famous for their durability - lasting for at least 20-25 years.

Woodcrete is a breathable blend of wood, concrete and clay which will not rot, leak, crack or warp, whilst preventing condensation and maintaining more constant temperatures inside than wooden boxes. Schwegler bird boxes are backed by conservation organisations, government agencies and forestry experts and experiments have shown that the highest density of bird populations (i.e. breeding pairs per hectare) is achieved with Schwegler nest boxes. They are carefully designed to provide a stable environment and to mimic natural nest and roost sites with internal brood chamber dimensions that are similar to natural woodpecker cavities.



Schwegler have a patented method of installation on trees that prevents the tree trunk from growing over the hanger from which the box is suspended. A separate replacement front panel is also available.

Native Planting and/or Landscaping

New feature landscaping should incorporate native woody plants as opposed to non-native species that are of significantly less benefit to biodiversity. Species such as Blackthorn (*Prunus spinosa*), Honeysuckle (*Lonicera periclymenum*), Rowan (*Sorbus aucuparia*), Guelder-rose (*Viburnum opulus*) and Hawthorn (*Crataegus monogyna*) are native and will provide a valuable resource for a myriad of wildlife as opposed to non-native, exotic species which are generally much less effective, particularly to pollinator groups including bees, butterflies and moths.

Suitable Trees	Suitable Woody Shrubs
English Oak (<i>Quercus robur</i>)	Hawthorn (<i>Crataegus monogyna</i>)
Rowan (<i>Sorbus aucuparia</i>)	Honeysuckle (<i>Lonicera periclymenum</i>)
Wild Service Tree (<i>Sorbus torminalis</i>)	Guelder Rose (<i>Viburnum opulus</i>)
Silver Birch (<i>Betula pendula</i>)	Elder (<i>Sambucus nigra</i>)
Ash (<i>Fraxinus excelsior</i>)	Wild Privet (<i>Ligustrum vulgare</i>)
Goat Willow (<i>Salix caprea</i>)	Blackthorn (<i>Prunus spinosa</i>)
<u>Beech (<i>Fagus sylvatica</i>)</u>	
<u>Wild Cherry (<i>Prunus avium</i>)</u>	

