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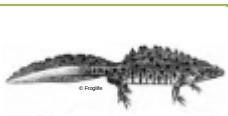
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Inspection & Assessment in relation to Bats & Breeding Birds

October 2022

Lynwood
Minera
Wrexham
LL11 3DE

National Grid Ref SJ2715851795



Lynwood, Minera, Wrexham LL11 3DE
Inspection & Assessment in Relation to Bats & Breeding Birds

Document Title	Inspection & Assessment in relation to Bats & Breeding Birds
Issue	1.0
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Date of Issue	07/10/2022

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Executive Summary

As part of a proposed planning application at Lynwood, Minera, Wrexham, Tyrer Ecological Consultants Ltd carried out a daytime inspection and assessment in relation to bats and breeding birds in November 2021. The survey was commissioned by Mr. R. Davies, the site owner; planning proposals are for the refurbishment of the brick barn to create a new dwelling. There are additional plans to extend the brick barn eastwards to meet the adjacent property joining the two buildings together to make one larger dwelling with associated landscaping and access.

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, the barn at Lynwood is determined to offer '**Moderate**' bat roost potential in accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016).

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

It is recommended that two dusk and/or 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. Two surveyors would be required to monitor the potential roost features described at the building.

Breeding Birds: In relation to common birds, the dwelling and vegetation provides nesting platforms that might be used by birds associated with rural and garden environments.

It is thus recommended that any demolition work is carried out outside of the breeding bird season (March-August inclusive). 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. If birds are found nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.

Net Biodiversity Benefit: A series of recommendations have been given within section 8.0 and Appendix III which provide opportunities for net biodiversity benefit at the development site and within the wider area. Enhancement opportunities include recommendations relative to the provision of favourable planting and landscaping, with wildlife boxes.

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1.0 Introduction & Reason for Survey

- 1.1. As part of a proposed planning application at Lynwood, Wrexham (see Figure 1.1), Tyrer Ecological Consultants Ltd carried out a daytime preliminary roost assessment in relation to bats with an inclusive inspection for breeding birds in November 2021. The survey was commissioned by Mr. R. Davies; proposals are understood to involve the refurbishment of the brick barn on site to create a new dwelling and to extend the brick barn eastwards to meet the adjacent property, creating one large dwelling with associated landscaping and access.

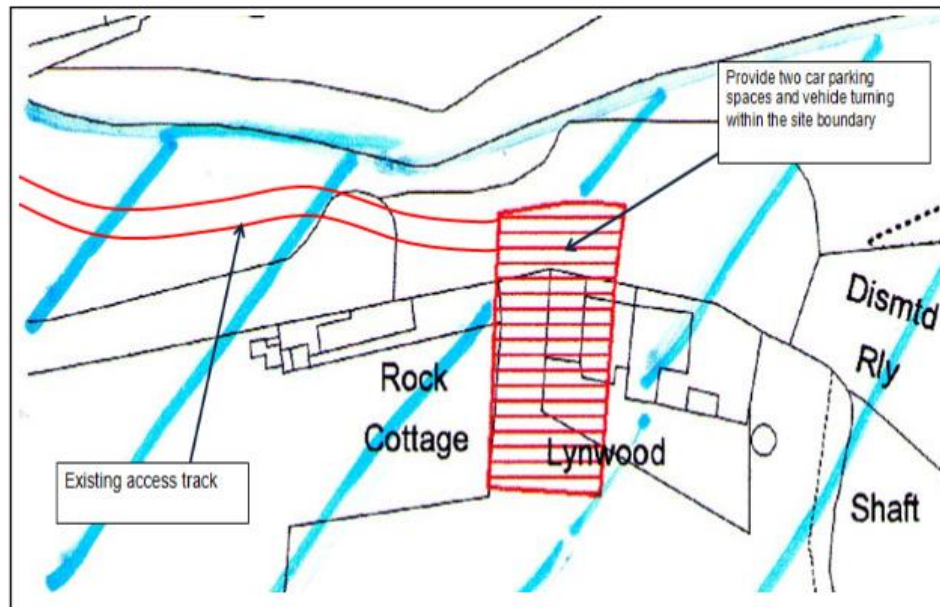


Figure 1.1 – Proposed site layout

- 1.2 The aim of the survey was to ascertain if the building was of value to bats whilst an assessment for birds was also carried out. If any potential roost features (PRF's) 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 requirements.
- 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

2.1 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.

2.2 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).

2.3 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.”

2.4 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.

2.5 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.

2.6 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.”

- 2.7 This is supported by Policy EC6 of the Wrexham Unitary Development Plan, which states:

“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.”

Bats

- 2.8 All British bats and their **roosts are afforded protection under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2017. 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 the Regulation 7 of the 2017 Regulations and therefore has a statutory duty to have due regard to the provisions of the Regulations in the exercise of its functions.
- 2.9 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.
- 2.10 Use of Buildings by Bats

- a) Summer breeding roost
- b) Hibernation roost
- c) Transitional or temporary roost

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 & Species Regulations 2017 (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

- 2.11 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 (1981) and Natural Environment and Rural Communities Act (NERC Act 2006). Any work that would damage an occupied nest, eggs or young of breeding birds must be avoided. Any damage to nests that may occur because of the development should be outside of the main breeding bird season (March-August). Only a suitably experienced ecologist can assess if any nest is no longer in use. On occasions nests can become unoccupied during the main breeding season but again this must be established only by a suitably experienced ecologist before any damage takes place.

3.0 Protected Species in Wrexham

- 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 The number of breeding Barn owls (*Tyto alba*) within rural parts of Wrexham is moderately high across areas of countryside where suitable environs exist; they are constantly under threat from loss of habitat and nesting opportunities.

4.0 Survey Methodology

- 4.1 As part of the Inspection & Assessment for 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 2.0km of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGIC – provided by DEFRA) was accessed to gather such information; this particular interactive mapping service was also used to locate any locally granted European Protected Species Mitigation Licenses (EPSML) to further inform conclusions concerning such species in the context of the study site and its proposed development.
- 4.3 Satellite imagery was reviewed using sources such as Google Earth (© 2019/20) to 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 of buildings 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 Exemptions as made **bold** above can be applied at the application site, in good practice, it is considered unnecessary to conduct a commercial data request following the desk study effort and daytime assessment at this time. Together these offer a proportionate level of survey effort. However, if a data search is considered to be necessary by the Local Authority 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 A diurnal inspection and assessment of the property in relation to bats and breeding birds was conducted on 23rd November 2021 in damp conditions (8°C) wind 1/12 (Beaufort scale), 80% cloud, by Mrs K. Wilding, holder of a (CLS-14227) Class 2 Natural England bat licence.
- 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 bird survey were conducted in tandem. The building was 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. The interior was inspected with the aid of a high-powered torch for evidence of bat use which mainly includes bat droppings and/or prey items, or incidental presence of live or dead animals. Inspection for evidence of breeding birds which involved 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 high-powered torch 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 (PRFs) concerning bats. There were constraints in surveying the south side of the building due to presence of dense vegetation right up to the south wall making access not possible.
- 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 Mature trees within the survey area were assessed for their potential to host roosting bats, with all aspects assessed for the presence of PRFs which typically might include, cracks, rot holes, peeling bark, woodpecker holes, and other crevices.

- 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	Communing 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 ^a 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 ^b). 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. ^c	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 ^a 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 back 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 ^a 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.

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

^b 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.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Figure 4.1 - BCT guidelines extract

- 4.13 The assessment of the building was conducted outside the bird breeding season (this is typically March-August inclusive). Elevations were inspected for evidence of abandoned 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 amber status
- Swift (*Apus apus*): BoCC amber status
- Swallow (*Hirundo rustica*): BoCC green status

- 4.14 The assessment included consideration of site's capacity to support specially protected species such as Barn Owl, a species protected under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended).

- 4.15 The results, conclusions and recommendations are based on several factors:

- 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 have been assessed by Mrs K. Wilding the Director of Tyrer Ecological Consultants Ltd.

5.0 Limitations

- 5.1 The survey was conducted at a time when bats are towards the end of their active season when evidence of bats is less apparent. Survey timing is therefore considered a constraint in this instance; however, the suitability of a building for roosting bats can generally be assessed conclusively all year round.
- 5.2 The survey took place outside of the breeding bird season (typically May-Sept) when evidence of bats can be less apparent, though bat roost potential of buildings and suitability of any potential roost features can be assessed all year round, therefore timing is not considered a constraint in this instance.
- 5.3 Access was not possible to the steep tree covered bank on the south side of the building; however, sufficient information was gathered from the internal inspection and assessment from other elevations on which to base sound ecological conclusions. Having considered possible 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 The existing Barn at Lynwood (referred to as “the application site”) is located at the head of the Clywedog wooded valley at the end of Maes-Y-Ffynnon Road.



Figure 6.1 - Location of Lynwood

- 6.2 The immediate environment is comprised of a densely deciduous wooded valley and mixed grassland divided by footpaths, small access routes, and occasional rows of residential dwellings at the foot of the Minera Mountain, with the Minera Quarry and River Clywedog lying close to the site.
- 6.3 The extending habitat is largely similar to that of the immediate, with large expanses of mountainous deciduous woodland and other natural and semi-natural environments; in contrast, to the east is the small village of Minera, with typical suburban environs comprising of residential developments serviced by typical amenities such as churches, restaurants and commercial properties. Minera adjoins the larger village of Coedpoeth and the surrounding hamlets of Gwynfryn and New Brighton.
- 6.4 A variety of bat species are associated with rural habitat such as that which surrounds the application site, utilising hedgerows and ditches for commuting and foraging purposes, and d abandoned Lime Kilns for hibernation.

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.*

- 6.5 Two statutorily designated site feature within 2.0 kilometres (Table 6.1).

Table 6.1- Designated sites in proximity to the survey area

Site name	Designation type	Interest features
Ruabon / Llantysilio Mountains and Minero (0.01 km south)	Site of Special Scientific Interest (SSSI)	A 4784 hectare site designated on biological grounds, primarily for its heather moor, limestone and neutral grassland habitats and for its species interest comprising a range of upland breeding birds, rare and uncommon plants and the use of mines and caves by bats. The site is also notified on geological grounds as it contains three sites of special interest within its boundaries.
Berwyn a Mynyddoedd De Clwyd / Berwyn and South Clwyd Mountains (0.06 km south)	Special Area of Conservation (SAC)	A 27209 hectare site designated for its numerous rare habitats, namely priority blanket bogs, calcareous and calchsist screes of the montane to alpine levels, calcareous rocky slopes with chasmophytic vegetation, European dry heaths, semi-natural dry grasslands and scrubland facies, and transition mires and quaking bogs.

- 6.6 The application site lies adjacent to the aforementioned statutorily designated sites; it is however considered highly unlikely that the proposed development will have any impact upon nearby designated sites or the qualifying species species/habitats for which they have been designated due to the low impact nature of the works.

Desktop study - Species records

- 6.7 **Bats:** No roost or activity records were found within the extensive Tyrer Ecological Consultants Ltd database; this data is from 2014-present and has been submitted to the relevant LERC for the area.

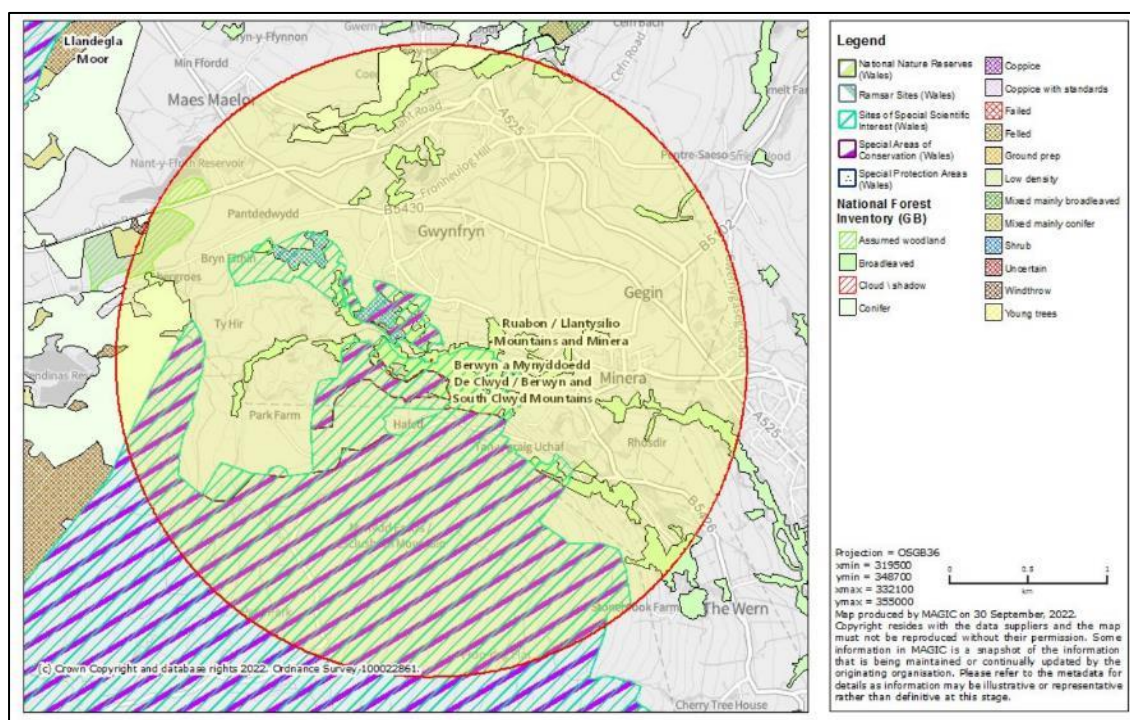


Figure 6.2 – Location of designated sites relative to the application site

7.0 Field Study Results

The Barn

- 7.1 The barn at Lynwood is an unoccupied detached brick-built structure with a recently replaced pitched slate roof, and is to the approximate maximum dimensions of 12m x 6m x 8m (length x width x height); whilst the surveyor is not qualified to assess the structural integrity of buildings, the barn was noted to be in a poor aesthetic condition with fire damage evident to the eastern elevation (see Figure 1.1).



Figure 7.1 - Exterior of the Barn from the East

- 7.2 Internally the building is absent of an upper floor and comprised of a single open space with new open truss beams, which is cool, draughty, and brightly illuminated via the windows on each elevation (See Figure 7.2). The building is thus considered unsuitable for the breeding requirements of loft-dwelling bat species such as the Brown Long-eared (*Plecotus auritus*) bat; this is a species which prefers dark, unrestrictive loft spaces with room for free flying, and a stable temperature free from draughts. This does not necessarily discount use of the building by such species for other purposes than breeding; and indeed, low numbers of droppings attributable to Brown Long-eared were identified scattered on the floor.

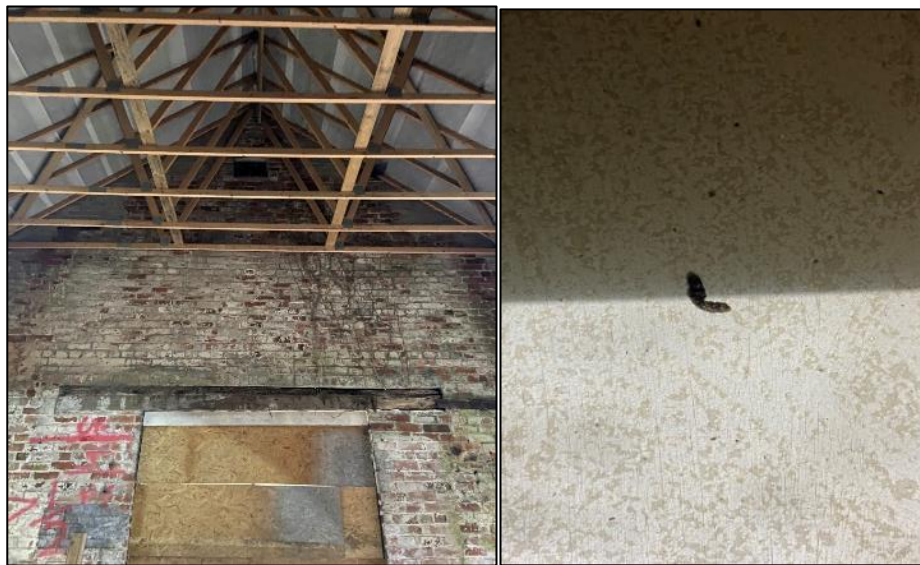


Figure 7.2 - Interior of the barn showing open truss designed beams (left) and bat droppings (right)

- 7.3 Typical roof lining such as bitumen 1F felt lining, favoured by crevice-dwelling bat species such as those of the *Pipistrellus* genus, is absent. Where present such linings can improve a buildings' value to bats, whereby they roost between linings and the roof cover material provided. Instead, a Breathable Roof Membrane (BRM) is present; while this membrane still provides crevice opportunity for bats, its fibrous nature can entangle the claws of bats leading to injury or death.

***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.*

- 7.4 Externally potential roost features (PRF's) were recorded at the north (see Figure 7.4), west and east elevations with wall vents and gaps to enter the building above the windows, along with gaps at wall-plate. On the basis of the character of the building as described, along with the favourability of the wider habitat for bats, the barn has been duly categorised as pertaining to '**Moderate**' bat roost potential in line with current Bat Conservation Trust (BCT) guidelines.

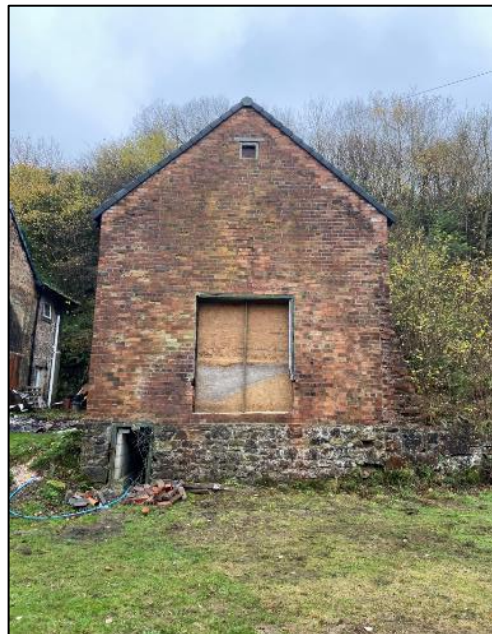


Figure 7.4 - North facing elevation of the Barn

Trees

- 7.5 There are several mature and immature trees within the site boundary of various species; these were assessed for bat roost potential, however, all were determined to be absent of any potential for roosting bats with a distinct lack of any suitable locations such as: 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, or partially detached Ivy with stem diameters in excess of 50mm or bat/bird boxes. The trees within the red line boundary should, however, be considered valuable to bats in a local context in that they provide valuable foraging/commuting habitat to bats, offering shelter, cover and habitat connectivity when in foliage.

Breeding Birds

- 7.6 In relation to WCA Schedule 1 specially protected bird species such as Barn Owl, no evidence was found to suggest any form of site use or historic nesting; and the dwelling and wider site is wholly unsuitable for this species breeding requirements.
- 7.7 There was historic evidence of nesting birds identified at the site in the form of old nests within the wall crevices on the interior of the dwelling; the nests were not being used at the time of the survey though this should be expected as the inspection took place outside the usual bird nesting season (March-August inclusive). In addition the surrounding dense tree and shrub vegetation should be considered as potential nesting habitat for birds.

8.0 Conclusions & Recommendations

- 8.1 Based upon the findings of the survey, covered through sections 6.0 – 7.0 of the report and supported by Appendix I, the barn at Lynwood is determined to offer '**Moderate**' bat roost potential in accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016). It is recommended that two dusk and/or 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. Two surveyors would be required to monitor the potential roost features described at the building.

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

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

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Figure 8.1: Bat Conservation Trust extract on Moderate roost potential requirements

- 8.2 In the event that the presence of roosting bats at the building is initially established 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 broadly May- end of August inclusive.
- 8.3 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.*

- 8.4 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, 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.

- 8.5 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.
- 8.6 In relation to common birds, whilst no current evidence of nesting birds was identified anywhere within the survey boundary, historic nests were identified within the interior walls, and a number of platforms suitable for use by a variety of bird species associated with rural and garden habitat are present in the form of vegetated areas and the roofs of the building themselves.
- 8.7 It is therefore recommended that any destructive works are carried out outside of the breeding bird season (March-August inclusive). For works undertaken 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. If birds are found nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.
- 8.8 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.*
- 8.9 As a means of enhancement and aiding the design of the scheme in keeping with local and national planning policy considering NBB 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 I.

9.0 Bibliography

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Appendix I: Biodiversity Enhancement Strategy

Birds

Breeding Birds - House Sparrow

The Sparrow Terrace has been designed to help redress the balance of falling House Sparrow numbers. The current UK population is now half of what it previously was in 1980 and this is widely attributed to habitat destruction and lack of suitable nesting spaces. House Sparrows are social birds and like to nest in company, therefore, this terrace provides ideal nesting opportunities for three families. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of buildings.



Breeding Birds - Other

This traditional design has proved to be highly effective in attracting Robins, as well as other small species such as Black Redstart, Spotted Flycatcher and Wren. It is designed to be installed on the walls of houses, barns, garden sheds or other buildings and should be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be easily removed for cleaning.

This type of box should not be made conspicuous on a tree or bush because small predators can enter through the unprotected opening. By hanging on a wall, predators won't be able to reach the box. Alternatively hide the box in Ivy, Honeysuckle or other climbing plants.



Invertebrates

Invertebrates - Bee bricks

The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.



Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used.

Available in a choice of four colours: white grey, dark grey, yellow and red.

Specification

- * Material: Concrete
- * Origin: Cornwall, UK
- * Dimensions: W 215mm x D 105mm x H 65mm
- * Weight: 2.9kg
- * Colours: White grey, yellow, dark grey and red

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.

Trees	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>)
Beech (<i>Fagus sylvatica</i>)	
Wild Cherry (<i>Prunus avium</i>)	