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Dusk Survey Results

October 2022

Lynwood
Minera
Wrexham
LL11 3DE

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N.B. *Bat emergence/re-entry surveys are typically valid for a period of 12-18 months, at the discretion of the Local Planning Authority and/or Natural England. Should your planning application not achieve consent, or a licence application (where required) not be applied for within this time period, updated surveys may be required.*

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1.0 Background and Introduction

- 1.1 As part of a proposed planning application at Lynwood, Minera, Wrexham (see Figures 5.1-5.2 for site layout), Tyrer Ecological Consultants Ltd conducted an inspection and assessment in relation to bats and breeding birds during November 2021. As part of this survey a Preliminary Roost Assessment (PRA) was carried out, which concluded the following:

“Based on the findings of the survey covered in sections 6.0-7.0 of the report, the Barn is categorised to offer ‘Moderate’ bat roost suitability in accordance with the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), whilst the immediate environment offers favourable environment for foraging and commuting bats. It is recommended that that in order to obtain further information on for a conclusive assessment, two dusk and /or dawn emergence/re-entry surveys should be conducted at the site during the active season of bats (May-August).”

- 1.2 Tyrer Ecological Consultants Ltd were therefore re-commissioned by Mr. R. Davies to undertake the bat surveys in 2022; two surveys were undertaken within the months of August and September 2022 with the first occurring within the main active season of bats (May-August); the surveys comprised two dusk emergence surveys and were carried out in accordance with the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) edition (see Figure 1.1).

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

Figure 1.1 - Extract from *Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016)*

- 1.3 Proposals are understood to entail 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.
- 1.4 The surveys aimed to identify the presence or reasonably conclude the absence of bats within the building. The results, conclusions and recommendations following the surveys, including any indicative mitigation to inform an application to Natural Resources Wales for a European protected species mitigation licence (EPSML), where necessary, will be supplied within this report.
- 1.5 This report should be read, understood and presented to the local authority as an addendum to Appendix I (see Contents page).
- 1.6 In accordance with *Biodiversity Net Gain: Good practice principles for development* (CIEEM *et al*, 2019), measures have been recommended proportionate to anticipated impacts to ensure that the proposed development results in a biodiversity net gain.

2.0 Bats - Legislation & Policy

2.1 All British bats and their ****roosts**¹ 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 and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579). When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the Regulations, that 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 Use of Trees by Bats

- a) Summer breeding roost (May-August)
- b) Hibernation roost (October-March)
- c) Transitional or temporary roost (Mainly spring/summer months)

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.

Policy

2.3 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 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, Minerals TANs and policy clarification letters comprise national planning policy.

2.8 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

¹ ******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.

delivering these requirements through Strategic Development Plans (SDPs) and Local Development Plans (LDPs).

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 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.”

3.0 Protected Species in North Wales

- 3.1 Up to eleven bat species have been regularly recorded within North Wales, most of which use built structures, notably occupied residential properties, for roosting. All bats feature on the local Biodiversity Action Plan for the area; the most frequently encountered bat species is the Soprano Pipistrelle (*Pipistrellus pygmaeus*) and its abundant status throughout North Wales is reflected throughout the UK.

4.0 Survey Methods

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

“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. The guidance 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.”

Relative to the above, the survey protocol has been determined using the collective and long standing experience of Tyrer Ecological Consultants Ltd and knowledge of the specific nature of the site.

Survey Protocol

- 4.2 The timing of the surveys took place in August - September; the first survey was thus within the main active period when bats are in a highly active and social stage. The second survey was carried out in September; whilst the main activity period is considered to be May-August, surveys carried out during September - October can be more useful in detecting mating bats or transitional roosts.

In accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), it is specified that:

“The bat active period is generally considered to be between April and October inclusive”, though the period of May - August is the optimal most productive period that Natural Resources Wales accept bat surveys and grant European Protected Species Mitigation licences (EPSML).

When considering survey protocol, the decisions about whether dusk or dawn surveys are selected are based on the extensive experience of the Tyrer Ecological Consultants Ltd, the nature of the building and species that can be anticipated as being present either at the property or in the locality and how complex a building is relative to observations.

In this case the bat roost potential that exists at Lynwood presents no problems for dusk observations; if a building is complex, or observations were restricted, or species that are difficult to detect at dusk are suspected then dawn surveys would be conducted. At Lynwood there are no visual constraints and to date there is no evidence to suggest the presence of such species.

It should also be noted that at dawn temperatures are usually lower than at dusk and as a result bat activity can, in some locations, be less frequent. Additionally, where singular/small numbers of bats are present and there are no survey constraints then dawn surveys are of no more value than dusk surveys; singular bats can and do return to a roost before dawn and as a result a dawn survey would not record them anyway. Dawn surveys are more productive when “back tracking” bat to a roost from foraging grounds. BCT issued an Interim Guidance Note in May 2022 in advance of a 4th edition of bat survey guidelines to be published in Summer 2022, which supersedes existing guidelines and states in relation to dawn surveys that:

“Whilst dawn surveys can reward surveyors with displays of dawn swarming behaviour, there is a concern that bats that have returned earlier will be missed...”

The 4th edition of the survey guidelines will therefore transition away from the standard use of dawn surveys, particularly as a method for presence/absence surveys...”

Survey protocol should not be determined by parties who are 1) not familiar with the site 2) do not have a sufficient level or experience in relation to the undertaking of dusk/dawn bat surveys.

- 4.3 The number of surveys and surveyors was adequate relative to the roost potential that was identified at the site i.e. ‘Moderate’ and requiring two surveyors to adequately monitor potential roost features (PRF’s) on the building any one time.
- 4.4 Surveyors were strategically positioned so that all elevations that were identified as exhibiting bat roost potential, as described in the daytime report, could be observed without limitations. The surveyors were aided with electronic bat detectors that enable the locating and recording of the high frequency calls that are emitted by bats; i.e. Anabat 2, Echo Touch Meter. All echolocation

calls were subsequently analysed using Analook computer software or equivalent professional analysis software to verify field observations.

- 4.5 An Anabat Express was placed in the building during the first dusk survey, and collected at the end of the second survey. The data was analysed using Analook computer software.

5.0 Survey Results

- 5.1 Two dusk emergence surveys were respectively undertaken on the 31st of August and the 21st of September 2022 by two of the four surveyors below, with two operating at any one survey, as per Table 5.1 below. See Table 5.2 - 5.3 for raw data. Figures 5.1-5.3 documents the results of the dusk and dawn surveys, whilst Figure 5.4 provides emergence location visual aids.

Table 5.1 - Surveyor Credentials

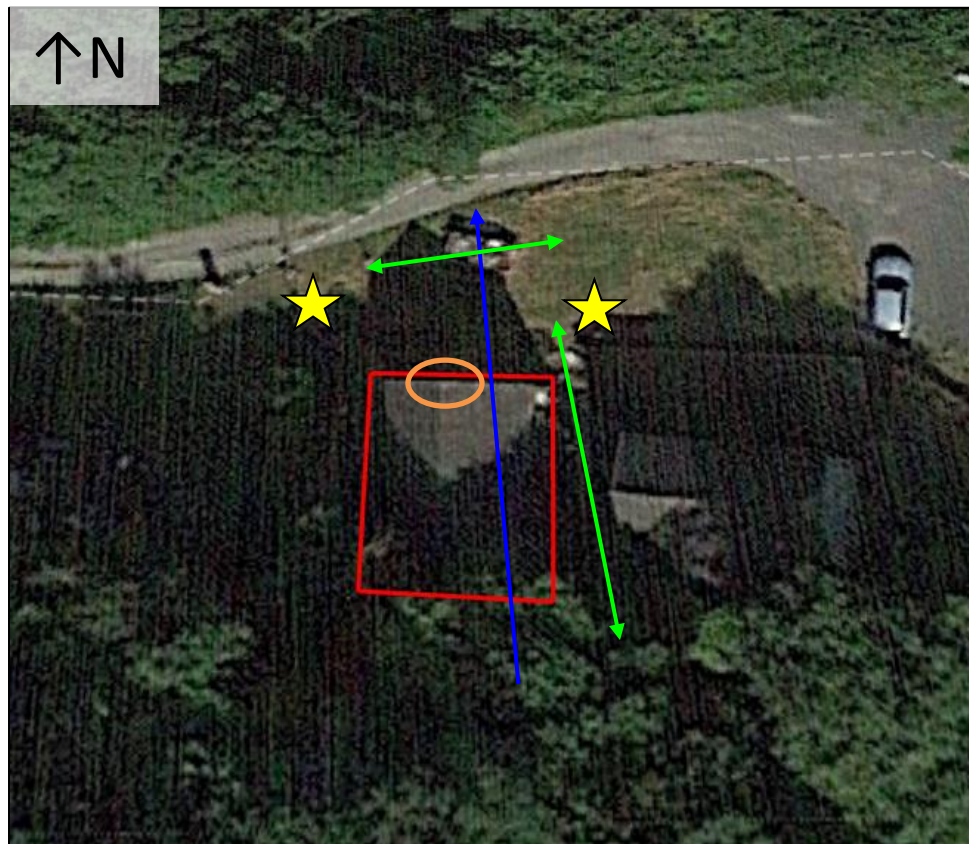
Name	Experience	Details
Miss. K. Judson	3 years	An experienced Junior Ecologist. BSc (Hons.) Biology, MSc Conservation Management (a CIEEM accredited course), Qualifying CIEEM.
Mr. H. Mulligan	1 year	Trainee Ecologist with Tyrer Ecological Consultants Ltd, undergoing extensive training. MBiolSci in Biological Sciences (Zoology), Qualifying CIEEM
Mr. H. Green	30+ years	Highly experienced Bat Specialist and carer who has professional surveying experience over decades with Tyrer Ecological Consultants Ltd - Class 2 Natural England Bat Licence (CLS-03290)
Mr. M. Smith	7 years	An experienced seasonal bat surveyor with Tyrer Ecological Consultants Ltd

Table 5.2 – Survey dates, times and weather conditions

Times of Survey	Date	Weather Conditions
Dusk survey 1 1943 – 2123	31/08/2022	Sunset: 2003: Dry, Light air, 20% cloud cover Start temp: 17 ° C End temp: 16 ° C
Dusk survey 2 1853 – 2033	21/09/2022	Sunset: 1913: Dry, Light air, 5% cloud cover Start temp: 12.5 ° C End temp: 9.5 ° C

Table 5.3 – Raw data from the surveys

Dusk Survey	Time	Activity
31/08/2022 Dusk 1	1943 – 2123	Summary: Emergence of a Common Pipistrelle from the apex of the northern gable 2013 hrs: Common Pipistrelle (CP) commuting south to north over site 2021 hrs: Emergence of CP from apex of northern gable 2024 – 2048 hrs: Constant foraging activity by up to three CP around building especially at north 2056 hrs: Foraging Soprano Pipistrelle (SP) heard but not seen 2059 - 2100 hrs: Commuting activity from west to north by two Daubenton's at a time General activity comprised of foraging and commuting by three Common Pipistrelle, one Soprano Pipistrelle, and two Daubenton's bats at a time.
21/09/2022 Dusk 2	1853 – 2033	Summary: No emergence for the duration of the survey. 1920 – 2014 hrs: CP foraging between buildings and at north 1938-2010 hrs: Commuting SP heard but not seen 1938 hrs: Noctule heard but not seen 1952 hrs: Brown Long-eared (BLE) heard but not seen 2000 hrs: Natterer's bat heard but not seen 2005 hrs: Daubenton's bat heard but not seen General activity comprised of foraging and commuting by one Soprano Pipistrelle, one Common Pipistrelle, one Noctule, one Brown Long-eared and one Daubenton's bat at a time.



Dusk Survey 1 – 31/08/2022

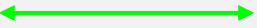
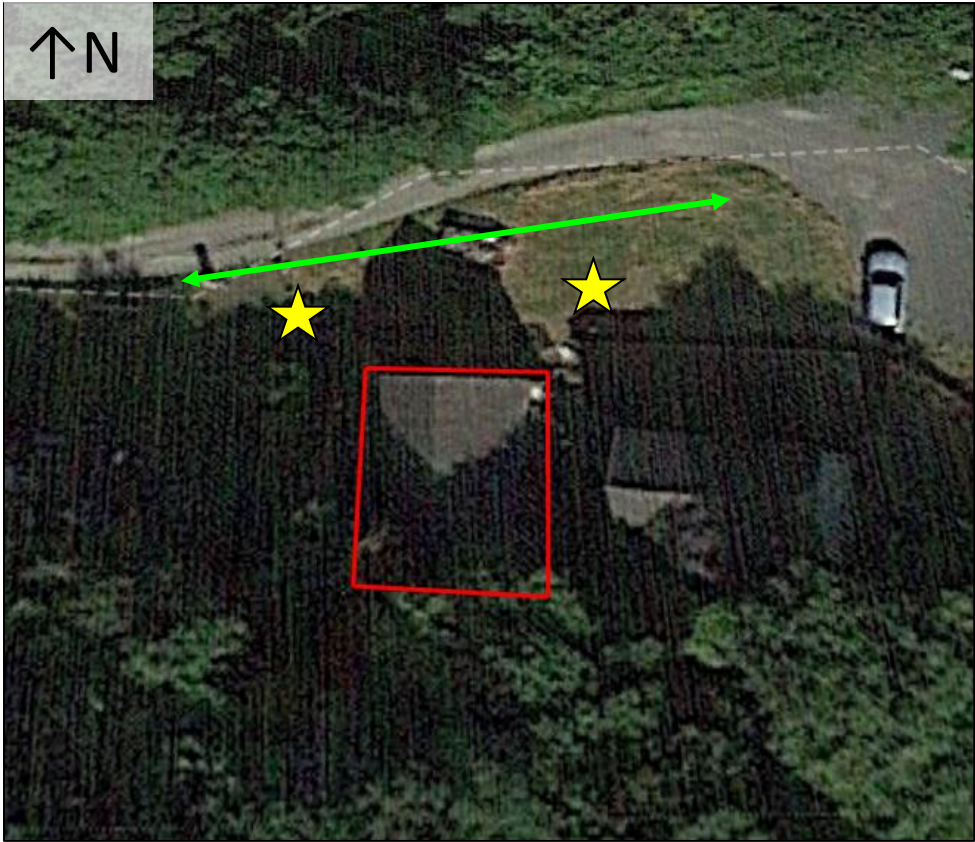
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		Emergence point

Figure 5.1 - Dusk Survey 1 Results with Key



Dusk Survey 2 – 21/09/2022

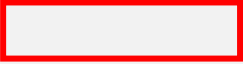
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		

Figure 5.2 - Dusk Survey 2 Results with Key



Figure 5.3 – *Visual aid – Emergence point beneath at apex of the northern gable, from which a single Common Pipistrelle emerged during the Dusk Survey on 31/08/2022*

6.0 Conclusions & Recommendations

- 6.1 From the survey results gathered by Tyrer Ecological Consultants Ltd, it can be concluded that, using best practice survey methodology, the surveyed building at Lynwood is being utilised by one Common Pipistrelle (*Pipistrellus pipistrellus*) bat for roosting purposes. Based upon the evidence gathered during the surveys, the building is determined to be host to a single '**Day roost**' for this species located at the apex of the north-facing gable. Activity around the site was occasional, and a maximum of three Common Pipistrelles, two Daubenton's, one Soprano Pipistrelle, one Natterer's, one Brown Long-eared and a single Noctule were seen or heard utilising the site for foraging and commuting during the surveys.
- 6.2 Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), describes a day roost as:
- “a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer”.*
- 6.3 The proposals entail the refurbishment of the brick barn to create a new dwelling, as well as extending the barn eastwards to meet the adjacent property joining the two buildings together to make one larger dwelling with associated landscaping and access.
- 6.4 Close study of the formal drawings provided by Mr. R. Davies to be submitted to the LPA as part of the planning application, and, from direct liaison with Mr. Davies about the nature, scale of operations and timings of the proposals to be carried out, strongly suggests that the bat roost can be retained, not destroyed, damaged, or modified, which would effectively maintain the status-quo for bats at site level, and, maintain the favourable conservation status of bats long term.
- 6.5 Furthermore, if reasonable avoidance measures were applied that crucially included timing certain noise and vibration works to avoid the sensitive active season of bats (May-September), then no disturbance would take place to bat(s), as bats are likely to be absent from day roosts in the hibernation months of October-April.
- 6.6 Therefore, based on survey information, the experience of a Class 2 licenced Ecologist with 15 years of experience, and specialist knowledge of the species concerned, on balance the proposals are reasonably unlikely to result in any offence being committed. As such a European Protected Species Mitigation Licence (EPSML) is not required at this time.
- 6.7 **If at any point proposals change to include works to additional areas of the property, that may affect bats, specifically any areas at/around the roof, section of loft or the apex of an acute triangle gable elevation to the north-east facing aspect, a Natural Resources Wales Mitigation licence will be required to legally continue with the work.**
- 6.8 As a reasonable precaution following the surveys timings are recommended to avoid the active season of bats (May-September) in as much as possible, with works that are likely to generate the loudest noise carried out within the period of October 1st to April 30th.
- 6.9 It should be borne in mind that whilst the recommendations have been based on sound scientific evidence, Bats are a highly transient species and can often have multiple roosts in a locale, and can use buildings that offer potential roost features at any time of the year, therefore, it should be stated that if bats, or evidence of bats (see Figure 6.1) is discovered at any stage during the works

to the other areas of Lynwood, then as a legal requirement the work at the site should immediately cease and a Bat licenced ecologist should be contacted for further advice.



Figure 6.1 - Indicative evidence of bats - Bat droppings (left) and pipistrelle bat (right)

7.0 References

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Appendix I: Inspection & Assessment in Relation to Bats & Breeding Birds - *Tyrer Ecological Consultants Ltd* (October 2022)