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Tyrer Ecological Consultants Ltd, Formby Business Centre, 42 Duke Street, Formby, L37 4AT

Dusk Survey Results

October 2022

Barn at Middle Sontley Farm

Sontley

Wrexham

LL13 0YP

National Grid Ref: SJ32284679



Barn at Middle Sontley Farm, Sontley, Wrexham, LL13 0YP
Dusk Survey Results

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Tyrer Ecological Consultants Ltd will however consider forwarding data that is collected as part of its reports to the relevant wildlife records centre.

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 Resources Wales. 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.*

Table of Contents

1.0 Background and Introduction

2.0 Bats - Legislation & Policy

3.0 Bats in North Wales

4.0 Survey Methods

5.0 Survey Results

6.0 Conclusions & Recommendations

7.0 Indicative Mitigation

8.0 References

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

1.0 Background and Introduction

- 1.1 As part of a proposed planning application concerning the barn at Middle Sontley Farm in Sontley, Wrexham (see Figures 5.1-5.2 for site layout), Tyrer Ecological Consultants Ltd conducted a daytime inspection and assessment in relation to bats and breeding birds during August 2022. As part of this survey a Preliminary Roost Assessment (PRA) was carried out, which concluded the following:

“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 Middle Sontley Farm 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.”

- 1.2 Tyrer Ecological Consultants Ltd were therefore re-commissioned by Blueprint Architectural Service to undertake the further bat surveys recommended in the Preliminary Survey; the surveys (two dusk emergence surveys) were carried out in August-September 2022 in accordance with current Bat Conservation Trust (BCT) Guidelines during the active season of bats (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 conversion of the existing barn for residential use including creation of a new amenity garden and parking area.
- 1.4 The surveys aimed to identify the presence or reasonably conclude the absence of bats at building B1 at the application site. 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 was in August-September; thus, the second survey was just outside of the typical breeding season of bats. Notwithstanding this, the building offers moderate potential and is not considered to offer the conditions suitable for a maternity roost; furthermore, no recent or historic evidence was located during the daytime inspection to suggest the property had been/is being used for this purpose. 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 tree and species that can be anticipated as being present either at the tree or in the locality, and how complex a tree is relative to observations.

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) at the tree at 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.

Survey limitations

- 4.5 Following the completion of the surveys and having carefully considered the results and conclusions derived, no significant constraints were experienced that might hinder the gathering of ecological data on which to base sound conclusions and recommendations.

5.0 Survey Results

5.1 Two dusk emergence surveys were respectively undertaken on the 24th of August and the 7th of September 2022 by two surveyors as per Table 5.1 below. See Table 5.2 - 5.3 for raw data. Figures 5.1-5.2 documents the results of the dusk and dawn surveys, whilst Figures 5.3-5.4 provide emergence location visual aids.

Table 5.1 - Surveyor Credentials

Name	Experience	Details
Mr. J. Pescod Qualifying CIEEM	5 years	MRes Advanced Biological Sciences, BSc (Hons) Senior Ecologist, with extensive training and experience. Accredited agent on the Class Natural Resourced Wales bat license of Mrs K Wilding (S0906060-1).
Ms. E. Thomas	2 years	A seasonal ecological consultant with experience of undertaking professional bat surveys

Table 5.2 – Survey dates, times and weather conditions

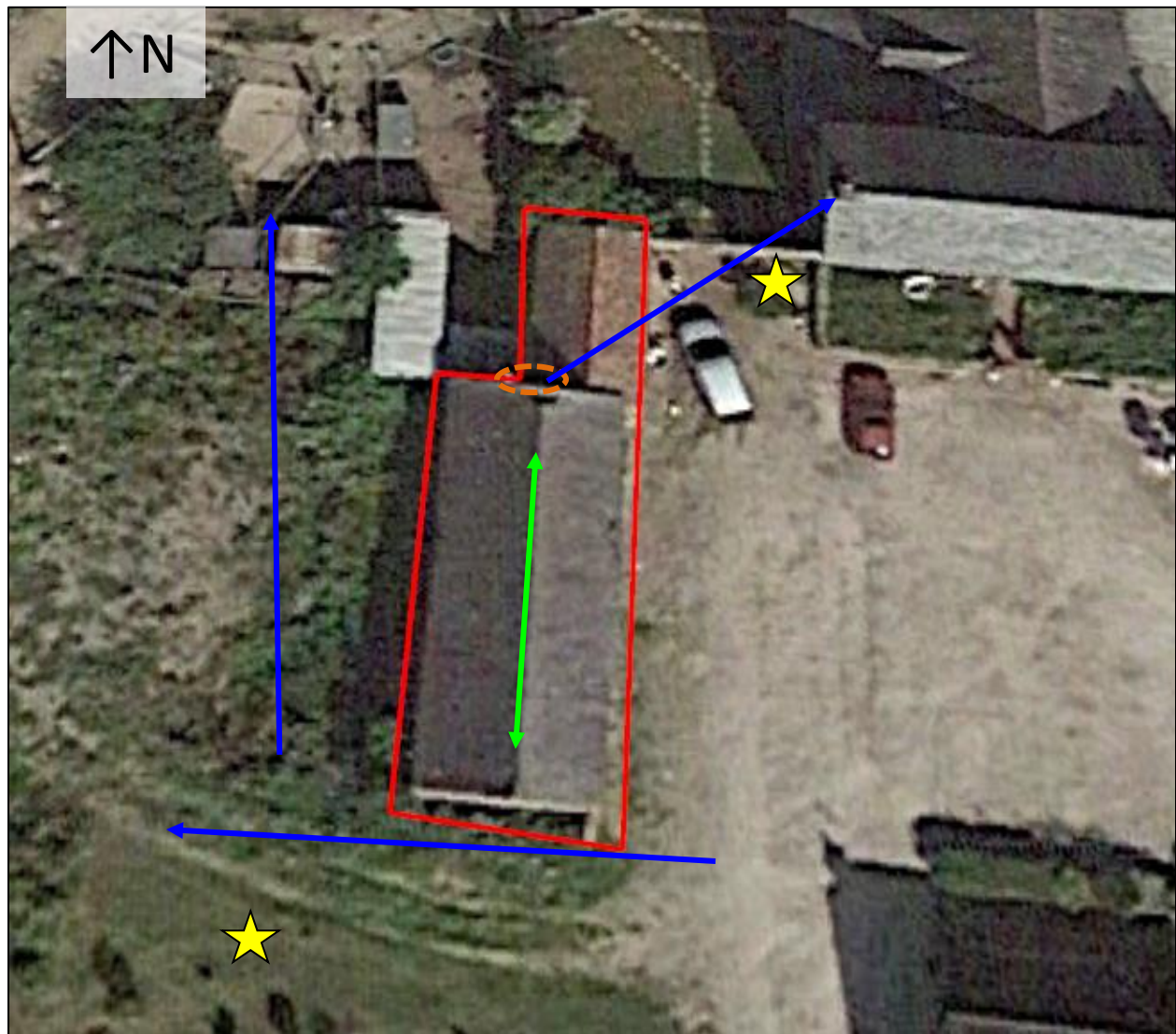
Times of Survey	Date	Weather Conditions
Dusk survey 1 2000 – 2140	24/08/2022	Sunset: 2020: Dry, Fresh breeze, 85% cloud cover Start temp: 18 ° C End temp: 18 ° C
Dusk survey 2 1928 – 2108	07/09/2022	Sunset: 1948: Showery, Still, 95% cloud cover Start temp: 15 ° C End temp: 15 ° C

Table 5.3 – Raw data from the surveys

Dusk Survey	Time	Activity
24/08/2022 Dusk 1	2000 – 2140	Summary: Emergence of two Soprano Pipistrelles from apex of northern gable elevation. 2037 – 2045 hrs: Several commuting passes by Soprano Pipistrelle (SP) at south of building 2037 hrs: Noctule (Noc) heard but not seen 2047 – 2049 hrs: Emergence of 2 SP from open window of northern gable elevation of building (EM1)

Barn at Middle Sontley Farm, Sontley, Wrexham, LL13 0YP
Dusk Survey Results

		2050 – 2110 hrs: SP entering building at south and foraging within before exiting 2054 – 2055 hrs: Re-entry at northern gable elevation by single SP and subsequent re-emergence 2058 hrs: Commuting pass south to north at west of building by Brown Long-eared (BLE) 2103 hrs: Commuting Daubenton's heard but not seen General activity comprised of frequent foraging by up to two Soprano Pipistrelle at a time, and sporadic activity by BLE, Daubenton's and Noctule.
07/09/2022 Dusk 2	1928 – 2108	Summary: Emergence of a Soprano Pipistrelle from the open window on the northern gable elevation, a Soprano Pipistrelle from the gap at the ridge at the north of the building and a Brown Long-eared from the broken south-eastern corner wall. 1958 – 2009 hrs: Several commuting passes at south of building by Common Pipistrelle (CP) 2021 hrs: Emergence of Soprano Pipistrelle from open window on northern gable elevation and heading north (EM1) 2022 hrs: Commuting pass east to west over site by Noctule 2023 hrs: Emergence of Soprano Pipistrelle from large gap at the ridge at north of the building (EM2) 2036 hrs: Emergence of a BLE from broken south-eastern corner wall (EM3) General activity comprised of activity by two CP, two SP, one BLE and one Noc.



Dusk Survey 1 – 24/08/2022

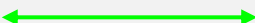
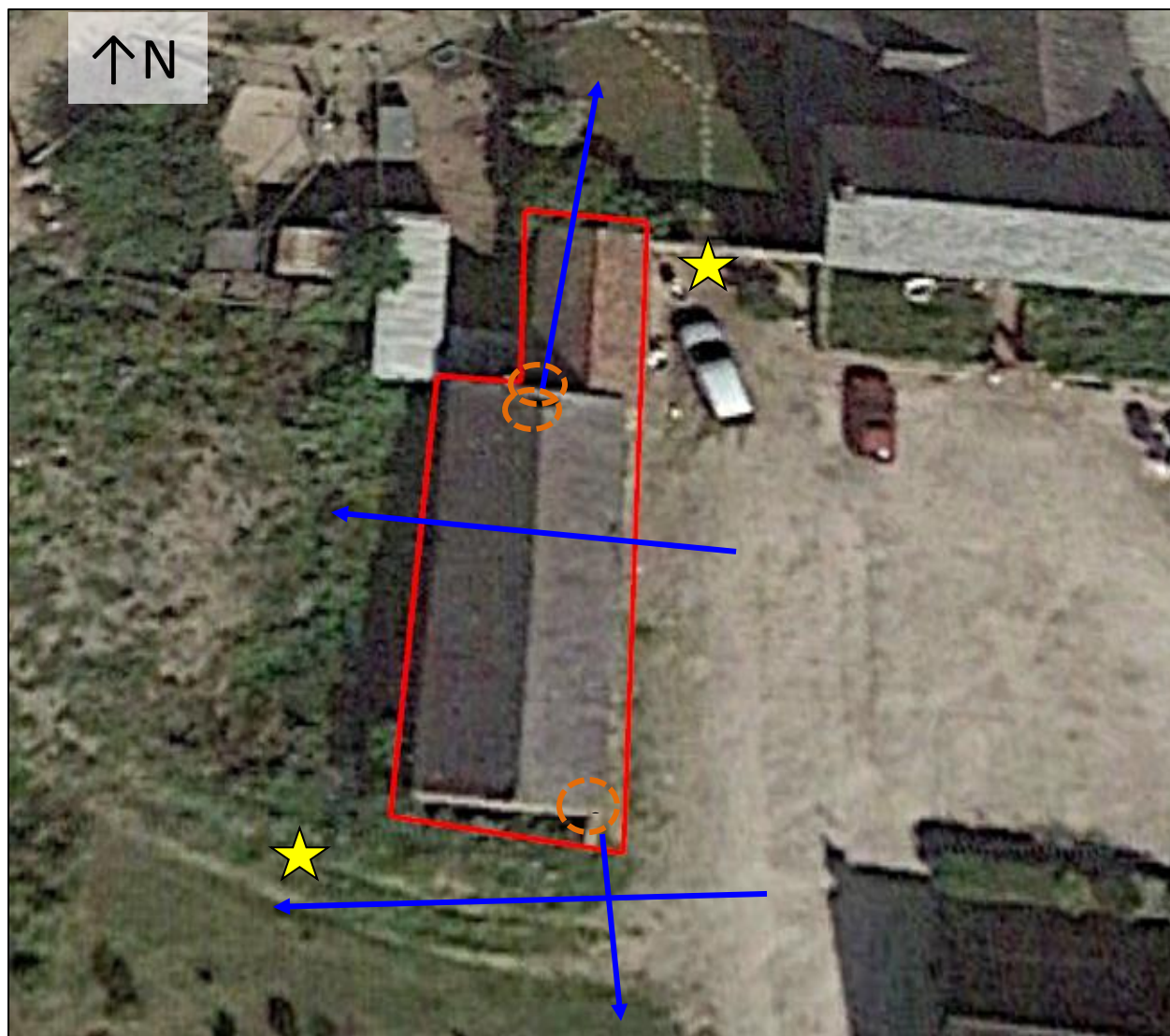
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		Emergence point

Figure 5.1 - Dusk Survey 1 Results with Key



Dusk Survey 2 – 07/09/2022

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

Figure 5.2 - Dusk Survey 2 Results with Key

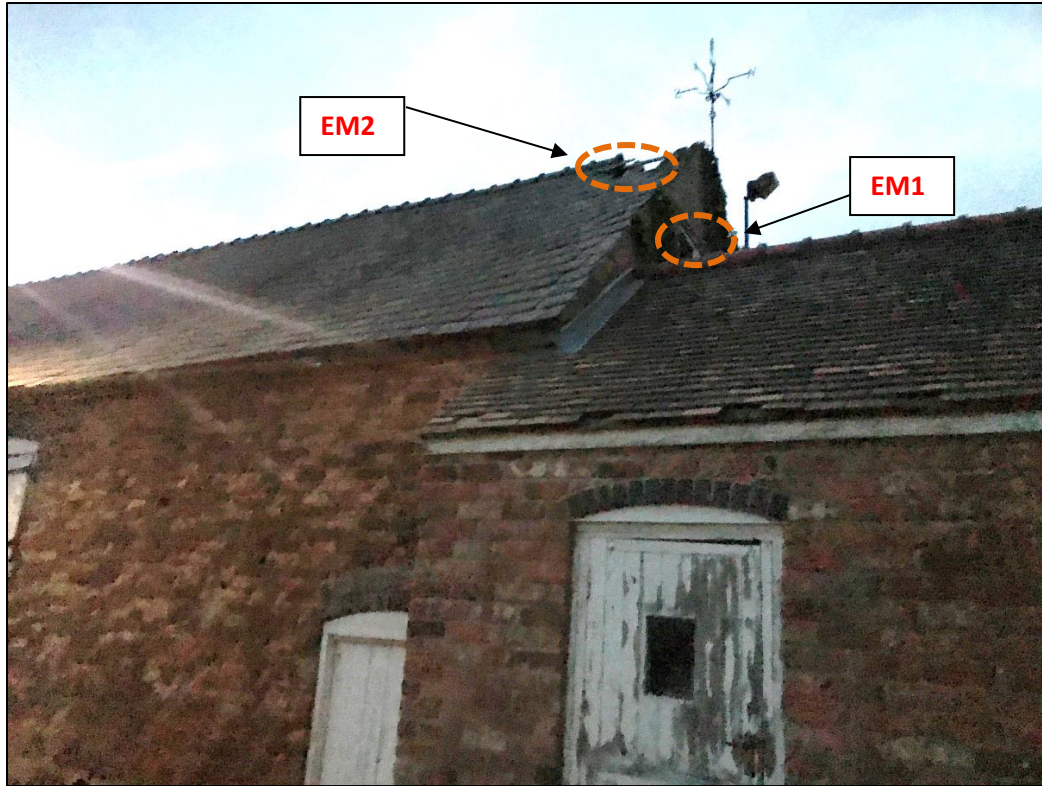


Figure 5.3 – Separate emergence locations of three Soprano Pipistrelle across both dusk surveys, from the northern gable apex, northern open window and the large gap at the verge



Figure 5.4 – Emergence location of Brown Long-eared bat from broken south-east corner wall on second dusk survey

6.0 Conclusions & Recommendations

- 6.1 From the dusk survey results, it can be concluded that whilst using best practice survey methodology, the barn at Middle Sontley Farm is being used by singular low numbers of Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Brown Long-eared (*Plecotus auritus*) bats for roosting purposes. Based upon the evidence, the building is host to several 'Day roosts' of the named species in singular/small numbers. Whilst it is not possible to determine whether the Pipistrelle bats emerged from a single internal crevice via two gaps in the building, or two-three separate crevices, based on the two Pipistrelle emergence locations it has been assumed that two separate internal crevices are being utilised as 'Day roosts' by singular/low numbers of Soprano Pipistrelle, with a further internal crevice being utilised by singular numbers of Brown Long-eared as a 'Day roost'.
- 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 destruction/modification/damage of multiple bat roosts will therefore need to be addressed from both a conservation and legal perspective along with the application of appropriate mitigation. A European Protected Species Mitigation Licence (EPSML) will be required to legally destroy a place that is actively used for breeding, rest or shelter (roost) by bats, however, before a licence can be applied for all planning issues need to be resolved.
- 6.4 In order that the LPA can implement its obligations under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), appropriate and proportionate mitigation will need to accompany the planning application which will demonstrate that the "*favourable conservation*" of the species concerned can be maintained.
- 6.5 Installation of new lighting as part of a development scheme that exceeds current levels may have a negative impact upon foraging/commuting bats confirmed as present in the vicinity, particularly if increased light spillage occurs in areas currently free from illumination such as illumination of boundary features. There are several measures that can be used to offset impacts upon bats, where lighting is unavoidable; these include, however are not limited to, the light source used and luminaire design, and accessories to direct light at its intended target. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site. Refer to the Bat Conservation Lighting Guidelines for further strategic information if applicable.

7.0 Indicative Mitigation

- 7.1 From the evidence gained during the dusk surveys, the use of the barn at Middle Sontley Farm by bats is considered to be of 'low' level significance relatable to Soprano Pipistrelle and Brown Long-eared bats and their current status (as according to - English Nature: Bat Mitigation Guidelines 2004); the proposed mitigation is proportionate to that use. However, if at any time that assessment is revised to a higher level, then the mitigation will also be accordingly revised.
- 7.2 The following procedures and mitigation recommendations are designed to allow the Local Planning Authority (LPA), in association with their ecological advisers, to determine a Planning Application where a European Protected Species has been identified and will be affected by the work for which the Planning Application seeks consent.

In addition Local Planning Authorities in accordance with the obligations placed upon them by way of their duties under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579) have to take into consideration the presence of a European Protected species (EPS) before determination of an application where it/they have been identified.

- 7.3 The LPA need to consider the mitigation in relation to the potential success of a Natural Resources Wales licence application and/or if in their opinion the mitigation is considered as being appropriate, or if it is over and above what is required; if they determine that the mitigation is appropriate then a Planning Condition should be attached requiring the roost provision to be implemented.

If the LPA consider that the mitigation is over what is necessary but require “enhancement” as part of their Local Biodiversity/Net-Gain Planning Policies this should be included in the terms of Consent. The acting bat ecologist deems the proposed new roost creation as appropriate and not over and above what is required.

- 7.4 **Notwithstanding that Planning Consent is granted or equally if the work is undertaken outside of the planning system, whereby projects that do not require planning consent may affect bats or their roost, including disturbance, it does not absolve the applicant, site owner, developer or any other party involved with the work from ensuring that an application is made for a Natural Resources Wales development licence, to legally undertake work that will affect bat(s) or their roost(s).**

If work is undertaken without a licence and bat(s) or their roost(s) is/are affected then a breach of current wildlife legislation will occur for which penalties are severe.

- 7.5 Under Regulation 53(1) and 56(3)(a) of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), a licence is required prior to disturbing bats or destroying/damaging or obstructing any place that is used by bats as a resting place or breeding site. The licence is issued by the EPS Licensing Team of Natural Resources Wales.

Summary of Mitigation

- 7.6 The conversion of the barn on site for residential use is the key component of the applicant's plans; however, it is acknowledged that the presence of roosting bats needs to be addressed from both a legal and conservation perspective.

The mitigation proposals outlined in this report are seen to be the most productive way forward that will retain long term roosting opportunities for bats.

- 7.7 No foraging habitat will be lost as a result of the proposals. Existing foraging habitat in the form of nearby trees and hedgerows will mean all proposed new roost(s) will not be at any further distance from valuable foraging areas of the site.
- 7.8 To ensure that bats are not left without a roost while works take place two tree, wall, or pole-mounted (as appropriate) bat boxes (Figure 7.1) will be erected site boundary or wider ownership boundary (see Figure 7.2 for indicative location), away from the works but within direct line of sight of the roost areas. The boxes should be erected prior to any roofing or demolition works and will serve as receptor bat boxes should bats need to be captured by hand and translocated to them by a suitably licenced Ecologist or named agent during the works schedule; they will be retained permanently following the works.



Figure 7.1 - Typical tree-mounted bat boxes and pole-mounted box, to be erected prior to any works at Middle Sontley Farm



Figure 7.2 - Proposed location of receptor roosts [🚫] (Google Earth, 2021)

Assigned Ecological Clerk of Works - EcOW

- 7.9 At the pre-commencement stage a suitably qualified Ecologist is to undertake an induction 'toolbox talk' on possible bat presence and present/discuss document features taken from the license i.e. License, Method Statement, Mitigation Figures and Work Schedule to be kept on site for the duration of the work.

Prior to any work being undertaken the presence/absence bats as far as is possible will be established by undertaking detailed investigation of the areas at which bats have been observed using the building; typically the large openings at windows and damaged brickwork providing access to internal crevices, lifted/missing slates, and gaps at wall-plate beneath fascia and at roof verge at crumbled mortar. The ecologist will supervise careful dismantling of all places that will be removed as part of the proposed work which have been identified as offering roost access or roost potential at the ecologist discretion. In addition, wherever opportunities for bats exist in other parts of the building the supervised dismantling will extend to these areas with strategies for safely removing bat(s), as long as a maternity colony is considered not to have taken up occupancy of the building.

All dismantling of roost features will be undertaken during favourable weather conditions.

No increase in external lighting is expected during the conversion; should additional lighting be installed it must be directed away from any bat roost access points, flight paths and foraging areas.

Mitigation proposed is subject to the approval of the Natural Resources Wales EPS team; all proposed roost provisions outlined hereafter will be dedicated for bats and permanent.

7.10 Work undertaken by the Ecologist

Capture/Exclusion: Once an EPSML licence is in place the contractor will provide a safe means of access to allow the ecologist to investigate the confirmed roost area for bat presence at Middle Sontley Farm.

In addition wherever opportunities for bats exist in other parts of the building the supervised dismantling will extend to these areas at the discretion of the ecologist in attendance. In the event of bat(s) being present, it/they will be removed, placed in a secure box with soft tissue and immediately transferred into a receptor bat box that will have previously been erected on a tree nearby as indicated in Figure 7.2. Once it has been established by the ecologist that bat(s) are absent the building works will continue to completion.

In the unlikely event that bats are found outside of supervision time, then as legal requirement and conditions of the granted licence work will immediately cease and the ecologist contacted for further advice; contractors must not touch, handle or in any way cause bats to move.

7.11 Work undertaken by the Contractor

A number of viable ingress points and roosting opportunities were identified at Middle Sontley Farm, including the various large openings, damaged brickwork, lifted and missing roof slates, and gaps at wall-plate beneath the fascia, which will likely be lost during the works on the building; new roost provision is therefore recommended to be built into the design of the developed dwelling at Middle Sontley Farm (subject to finalisation during the EPSML application process):

- New roosting provision will be re-created in the form of two access points for bats installed at the roof verge/or wall plate (as permitted via the design on the development); the access points will permit ingress to areas of underfelt to be instated below the roof cover for bats. The access points are to be instated on the west facing elevation, the gaps will be 25mm long by 50mm wide; to create the access point/s plastic pipes will/can be used initially, as illustrated below, which will be removed once the verge/wall plate has been rendered and

roofing slates or tiles fitted. The access points can be covered over with fascia/barge boards if necessary, though it must be ensured that bats can freely access the gaps.

- One lifted ridge tile will be incorporated along with bitumen underfelt into the reroofing of the barn, whereby a ridge tile is placed on two adjacent ridge tiles with a gap between them to create an ingress point.
- The incorporation of traditional Bitumen 1F underfelt immediately beneath ridge tiles is essential. Breathable BRM membrane can cause significant problems where bats are in contact with it, whereby their fine claws become entangled within the fibres of the membrane, entrapping and killing bats.
- See figures below/overleaf for illustrative aids



Ridge tile access creation



Breathable BRM membrane can cause significant problems where bats are in contact with it, whereby their fine claws become entangled within the fibres of the membrane, entrapping and killing bats; bitumen 1F underfelt should be utilised instead.



8.0 References

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Appendix I: Preliminary Ecological Appraisal, *Tyrer Ecological Consultants Ltd* (September 2022)