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

Dusk Survey Results

June 2021

No 35 Moreton Inn

Ruabon Road

Wrexham

LL14 6PD

National Grid Ref: SJ30174548



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Dusk Survey Results

Document Title	Dusk Survey Results
Prepared for	Blueprint Architectural Ltd
Prepared by	Tyrer Ecological Consultants Ltd

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1.0 Background and Introduction

- 1.1 As part of a proposed planning application regarding the former Moreton Inn located off the Ruabon Road, Wrexham, Tyrer Ecological Consultants Ltd conducted a preliminary ecological appraisal which included a daytime inspection and assessment in relation to bats and breeding birds during February 2021. During this survey a preliminary roost assessment of the existing former public house (B1) and outbuilding (B2) was undertaken on site for bats.
- 1.2 Proposals are understood to involve the demolition of the buildings followed by the subsequent redevelopment into 9 new dwellings with associated landscaping.
- 1.3 The results of the daytime survey concluded the following (see Figure 1.1):

Both the former Moreton Inn (B1) and associated outbuilding (B2) have been classified to possess 'moderate' roost suitability in line with best-practice guidance (Collins, 2016), on the basis of identified PRFs and quality of the surrounding habitat (see Figure 8.1 below). All mature trees on the site have been classified to possess 'low' suitability.

Based upon the categorisation of buildings and the potential impacts of the proposed works to bats, it is recommended that two dusk/dawn emergence or/and dawn re-entry surveys are conducted in the main active season of bats (May - August) in order to establish if/how the buildings are being used by bats and if so identify the species, abundance, roost locations and flight lines following emergence/re-entry. No further surveys are required in relation to the trees.

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 1.1 - Extract from Summary of Appendix I

- 1.4 Tyrer Ecological Consultants Ltd were commissioned by Blueprint Architectural Ltd to undertake the further two bat surveys recommended from the daytime visit; the surveys (two dusk surveys) were carried out during May 2021, in accordance with the Bat Conservation Trust (BCT) - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) during the active season of bats.
- 1.5 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.
- 1.6 This report should be read, understood and presented to the local authority as an addendum document to Appendix I (see Contents page).
- 1.7 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 Planning Policy Wales, 11th Edition (2021) is the Welsh Government's policy document and it describes the land use context for using land sustainably. The document supports every strategy published by the Welsh Government and it is supplemented by a variety of Technical Advice Notes (TAN's) and any circulars.

2.2 There are several plans, strategies and national, sub-regional and local policy statements which provide a framework for development in the Plan area. The Planning and Compulsory Purchase Act (2004) makes it a requirement for local planning authorities in Wales to prepare a Local Development Plan (LDP) for their areas.

Wrexham Borough Council prepared a plan, namely the 'Wrexham Unitary Development Plan (1996 – 2011)', which was formally adopted in February 2005 and supersedes any previous development plans for the area. A new plan, the 'Wrexham Local Development Plan 2 (2013 - 2028)', which will replace the current adopted plan, is currently under review. Until this new plan is adopted, the Wrexham Unitary Development Plan remains in effect.

2.3 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.

2.4 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.

2.5 Planning authorities should ensure that features and elements of biodiversity value are retained on site, and enhanced or created where ever possible, by adopting best practice site design and green infrastructure principles. The provision of up to date ecological survey information will assist in this process. Where necessary, planning authorities should seek to modify the development proposal through discussion with the applicant at the earliest possible stage. Biodiversity and green infrastructure modifications should draw on the issues and opportunities identified in a preliminary assessment. In some circumstances, it will be appropriate to attach planning conditions, obligations or advisory notes to a permission, to secure biodiversity outcomes.

2.6 When all other options have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes, offsite compensation for unavoidable damage must be sought. This should normally take the form of habitat creation, or the provision of long-term management arrangements to enhance existing habitats and deliver a net benefit for biodiversity.

Where the adverse effect on the environment clearly outweighs other material considerations, the development should be refused.

2.7 The Environment (Wales) Act 2016 ("the Act") - requires local planning authorities to have regard to area statements in the development of Local Development Plans.

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.”

- 2.8 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 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, whichever terminology is used is legally protected whether or not bats are in occupation.

3.0 Bats in Wrexham

- 3.1 Up to eleven bat species have been recorded in Wrexham, 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.

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 May thus within the main active period of bats, at a time when maternity colonies have formed / returned to summer roosts and bats are in a highly active and social stage.

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 the Former Moreton Inn 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 the Former Moreton Inn there are no significant 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 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

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dawn survey would not record them anyway. Dawn surveys are more productive when “back tracking” bats to a roost from foraging grounds.

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 i.e. ‘Moderate’ for B1 and ‘Low’ for B2, and requiring four surveyors to accurately monitor potential roost features (PRF’s) across both buildings at any one time.
- 4.4 Surveyors were strategically positioned so that all elevations with bat roost potential, as described in the daytime report, could be observed without limitations. The surveys were aided with Anabat electronic bat detectors that enable the locating and recording of the high frequency calls that are emitted by bats; echolocation calls were analysed the next day using Analook computer software to verify field observations

5.0 Survey Results

Two dusk emergence surveys were undertaken on the 13th May 2021 and 27th May 2021 by a combination of six surveyors. Surveyor credentials have been given within Table 5.1. Tables 5.2 and 5.3, alongside Figure 5.1 and 5.2 document the results of the dusk surveys.

Table 5.1 - Surveyor Credentials

Surveyor(s)	Experience	Surveyor Credentials
Mr. J. Pescod Qualifying CIEEM	4 years	A Consultant Ecologist with Tyrer Ecological Consultants Ltd and accredited agent on the Class 2 Natural England bat license of Mrs K Wildling (CLS-14227)
Mrs. P. Pescod	1 year	A seasonal ecological consultant with experience of undertaking professional bat surveys
Mr. H. Green	30+ years	Highly experienced bat surveyor whom has professional surveying experience spanning many years with Tyrer Ecological Consultants Ltd - Class 2 Natural England Bat Licence (CLS-03290)
Mr. M. Smith	6 years	An experienced bat surveyor with Tyrer Ecological Consultants Ltd
Mr. L. Moat	6 years	A highly experienced surveyor currently working as a sub-contractor for Tyrer Ecological Consultants Ltd
Dr. T. Doherty-Bone BSc MSc DIC PhD Qualifying CIEEM	12 years	A highly experienced freelance Ecologist working as a sub-contractor for Tyrer Ecological Consultants Ltd

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Table 5.2 - Survey dates, times and weather conditions

Times of Survey	Date	Weather Conditions
Dusk survey 2041 - 2230	13 th May 2021	Sunset: 2101: Dry, Light Air, 100% cloud cover Start temp: 13 ° C End temp: 13 ° C
Dusk survey 2102 - 2252	27 th May 2021	Sunset: 2122: Dry, Calm, 10% cloud cover Start temp: 20 ° C End temp: 19 ° C

Table 5.3 – Dusk Survey Results

Dusk Survey	Time	Activity
13/05/2021	2041 - 2230	Summary: No bat emergence for the duration of the survey. 2118 hrs: a Soprano Pipistrelle (SP) passed east to south along the south of the site. 2131 hrs: a Common Pipistrelle (CP) passed west to east over the building. Activity comprised of occasional commuting by one Common Pipistrelle and one Soprano Pipistrelle bat at any one time.
27/05/2021	2102 - 2252	Summary: No bat emergence for the duration of the survey. 2123 hrs: a Noctule was recorded but not observed. 2145 hrs: an SP was recorded but not observed. 2154 hrs: a CP was recorded but not observed. 2203 hrs: an SP was recorded but not observed. 2205 hrs: an SP foraged around the southern end of the site. Activity comprised of commuting and foraging by one CP, one SP, and one Noctule bats at any one time.

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Dusk Survey 1 – 13/05/2021

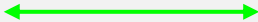
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		

Figure 5.1 - Visual Aid - Dusk Survey 1 Results with Key

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Dusk Survey 2 – 27/05/2021

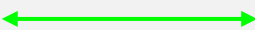
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		

Figure 5.2 - Visual Aid - Dusk Survey 2 Results with Key

6.0 Dusk Survey Conclusions & Recommendations

- 6.1 From the two dusk survey results, it can be concluded that whilst using best practice survey methodology, emergence of bats was absent at both buildings at the Former Moreton Inn; activity was occasional in the wider area including commuting and foraging by Soprano Pipistrelle and Common Pipistrelle bats, and commuting by a Noctule bat.
- 6.2 As bats are a highly transient species and can use buildings that offer potential roost features at any time of the year, it should be stated that if bats, or evidence of bats (see Figure 6.1), is found at any stage during the works then as a legal requirement the work at the site should immediately cease and a bat ecologist contacted for further advice.



Figure 6.1 - *Bat droppings (left) and pipistrelle bat (right)*

- 6.3 If bat(s) or their roost will be affected then a Mitigation licence will be required to legally continue with the work. Notwithstanding the granting of a licence works that would affect a roost cannot take place if a maternity colony is in occupation.
- 6.4 Notwithstanding absence of roost behaviour observed, the proposed development scheme might consider enhancement for bats as part of its biodiversity net-gain goals, in accordance with local and national planning policy.

See Figures overleaf for indicative ideas which could be integrated during the proposed new development at the Former Moreton Inn.

Enhancing a development site for Bats

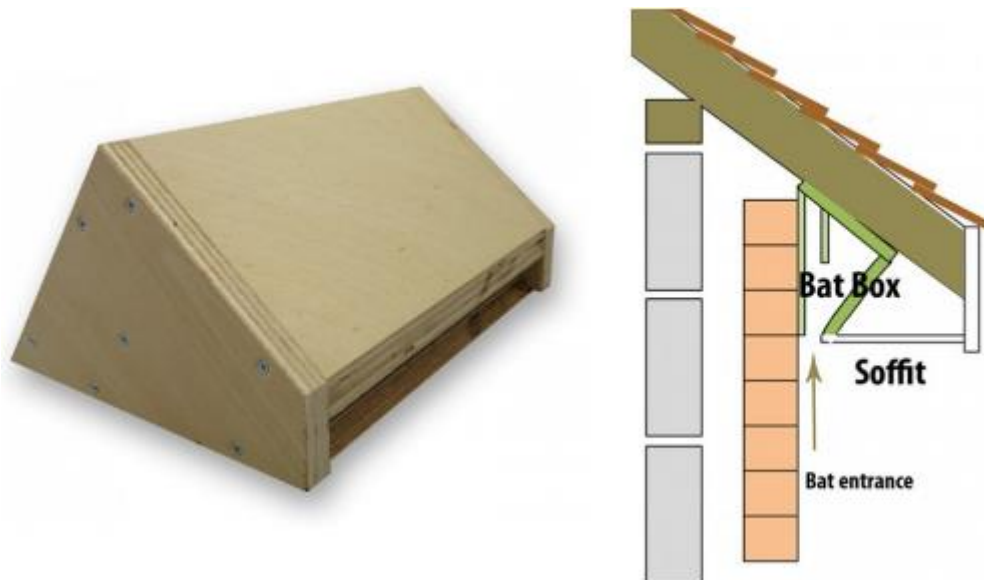
Integrated bat box

The Habibat Bat Box is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into brick-built properties and may be incorporated into the fabric of buildings, being best placed on gable elevations.



Soffit access

Where soffits are instated at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.



Externally fitted boxes

A large number of externally fitted box models for bats exist for buildings and trees. Suitable models for both buildings and trees may include the Eco Kent Bat Box.

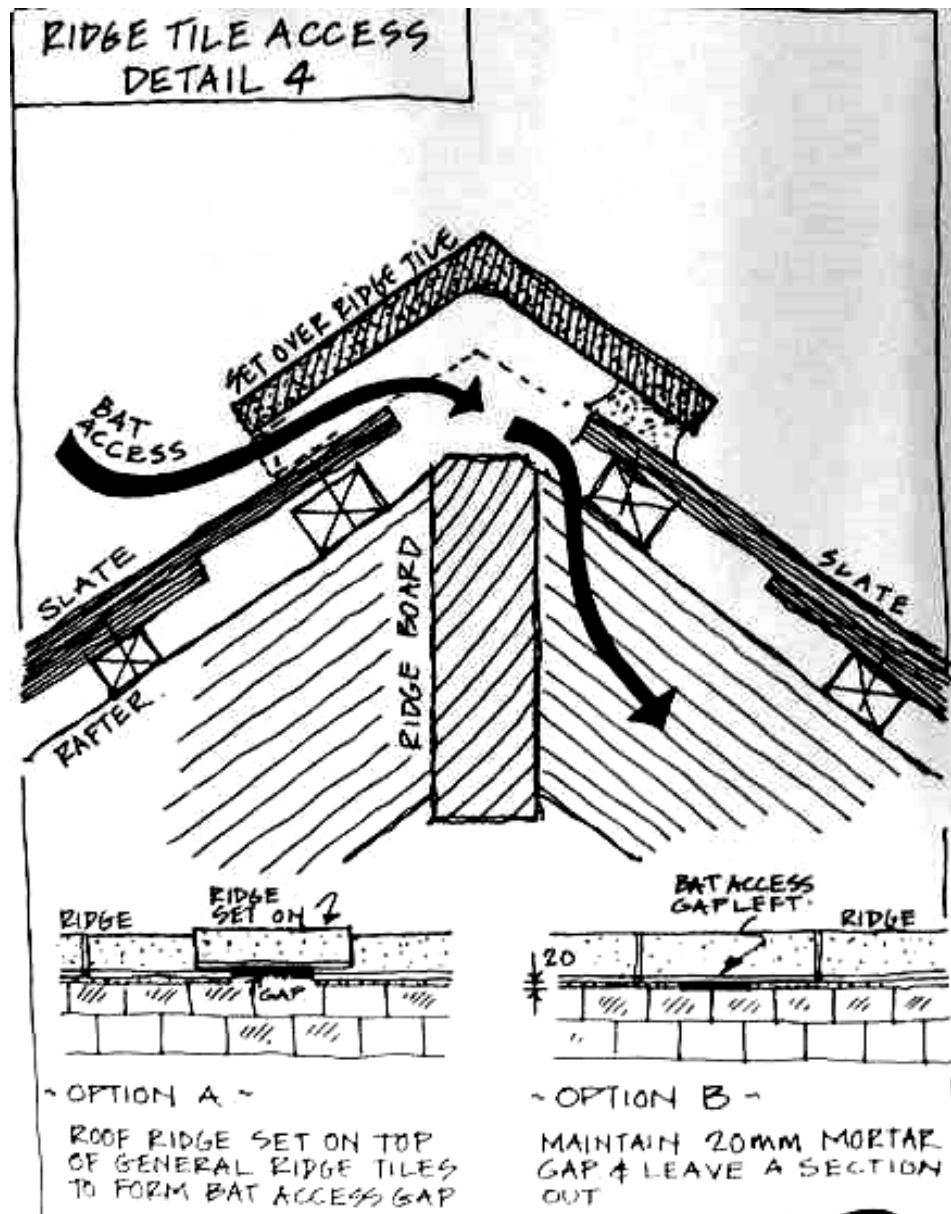


Ridge access

Where appropriated, ridge tile access should be made with the incorporation of traditional Bitumen 1F underfelt immediately beneath ridge tiles. 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.

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7.0 References

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Appendix I: *Preliminary Ecological Appraisal* (Tyrer Ecological Consultants Ltd, March 2021)