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

Dusk Survey Results

May 2022

Mosside Cottage

Hewitt's Lane

Knowsley

Prescot

L34 8HH

National Grid Ref: SJ44039718



Mossie Cottage, Hewitt's Lane, Knowsley, Prescot, L34 8HH
Dusk Surveys in Relation to Bats

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Prepared by	Tyrer Ecological Consultants Ltd

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Table of Contents

1.0 Background and Introduction

2.0 Bats - Legislation & Policy

3.0 Bats in Merseyside

4.0 Survey Methods

5.0 Dusk Survey Results

6.0 Dusk Survey Conclusions & Recommendations

7.0 References

Appendix 1: Inspection & Assessment in Relation to Bats & Breeding Birds

1.0 Background and Introduction

As part of a proposed planning application at Mossie Cottage, Hewitt's Lane, Knowsley, Prescot Tyrer Ecological Consultants Ltd undertook a daytime inspection and assessment in relation to bats and breeding birds in January 2022. The survey was commissioned by Mr. T. Williams and proposals are understood to include the demolition of the existing unfit extension and construction of a new extension which is compliant with current buildings standards.

- 1.1 Based upon the findings of the survey covered through sections 6.0-7.0 of the daytime report, whilst following best practice guidance, the Cottage was categorised as 'Moderate' roost suitability and outbuilding as 'Low' in accordance with the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016). (Table 1)
- 1.3 It was therefore recommended that two dusk and/or dawn emergence/re-entry surveys at the Cottage and one inclusive survey at the outbuilding are conducted during the active season of bats (May - August) in order to establish if the buildings are being used by bats, and if so, identify the species, abundance, roost locations and flight lines around site during any emergence/re-entry.

Table 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

Bat Conservation Trust (BCT) extract on Low roost potential requirements

The Applicant should be aware that where bat(s) or their roost(s) are found and will be impacted, then an EPSML may be required to legally commence with the works.

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 England 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.

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

- 1.4 The results, conclusions and recommendations following completion of the recommended surveys are contained within this report.
- 1.5 This report should be read, understood and presented to the local planning authority as an additional document to Appendix I.

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 Buildings 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 Paragraph 180 of the National Policy Planning Framework (as revised in July 2021) states:

180. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and,

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

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.

3.0 Bats in Merseyside

- 3.1 Up to nine bat species have been recorded in Merseyside, many of which use built structures and trees 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*) and its abundant status in Merseyside 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 was in May during the typical breeding season of bats (May-August) and within the typically recommended survey window for structures categorised as 'Moderate' (see Figure 1.1) Where bats are roosting they are likely to be detected by ecologists at dusk and dawn who are trained in the use of bat detector hardware and call analysis software e.g. Analook / Kaleidoscope, in how to detect bats and how to correctly identify/disseminate bat calls.
- 4.3 The number of surveys and surveyors was adequate relative to the roost potential that was identified at the site i.e. 'Moderate' & 'Low' that required three and two surveyors respectively to accurately monitor potential roost features (PRF's) at both buildings 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 to verify field observations.
- 4.5 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 dawn survey would not record them anyway. Dawn surveys are more productive when "back tracking" bats 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...”

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

Survey Limitations

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

5.0 Dusk Survey Results

- 5.1 Two dusk emergence surveys were undertaken on the 4th and 18th May 2022 by three and two surveyors. Surveyor credentials are contained within Table 5.1 Tables 5.2 and 5.3 document the results of the dusk survey.

Table 5.1 - Surveyor Credentials

Surveyor(s)	Experience	Surveyor Credentials
Dusk survey 1		
Mr M Pritchard	5 years	Senior Ecologist who holds a range of protected species licences, with extensive training and experience. Bats: (2020-5039-CLS-CLS) (Class 1) and accredited agent on the (Class 2) Natural England bat licence of Mrs. K. Wilding (CLS-14227).
Mr. M Moss	3 years	An experienced bat surveyor with several years' experience with Tyrer Ecological Consultants Ltd
Mr L Moat	7 years	An experienced bat surveyor with several years' experience with Tyrer Ecological Consultants Ltd
Mr J Pescod	5 years	Consultant Ecologist, with extensive training and experience. Accredited agent on the Class 2 Natural England bat license of Mrs K Wildling (CLS-14227)
Miss T Hesketh	2 years	An experienced Junior ecologist with 2 years professional training and experience; holding a BSc in Biology and MSc in Conservation Management a course accredited by CIEEM. Accredited agent on the Class 2 Natural England bat license of Mrs K Wildling (CLS-14227)

Table 5.3 – Survey dates, times and weather conditions

Times of Survey	Date	Weather Conditions
Dusk survey 1 2027 – 2215	04/05/2022	Sunset: 2046: Dry: Wind strength 1 & 90% cloud cover Start temp: 11°C End temp: 11°C
Dusk survey 1 2050 – 2240	18/05/2022	Sunset: 2111 Dry: Wind strength 3 & 100% cloud cover Start temp: 16°C End temp: 15°C

Table 5.3 – Dusk Survey Results

Dusk Survey	Time	Activity
04/05/2022	2027 – 2215	Summary: No bat emergence for the duration of survey and general activity comprised of limited foraging/commuting by up to 5 Common/Soprano Pipistrelle bats Combination of Common and Soprano Pipistrelle to an estimated number of 5 foraging and commuting along hedgerow to the south of the site
18/05/2022	2050 – 2240	Summary: No bat emergence for the duration of survey and general activity comprised of limited foraging/commuting by up to several Common/Soprano Pipistrelle bats. One acoustic recording attributive to a Noctule bat Combination of several Common and Soprano Pipistrelle foraging and commuting around the site

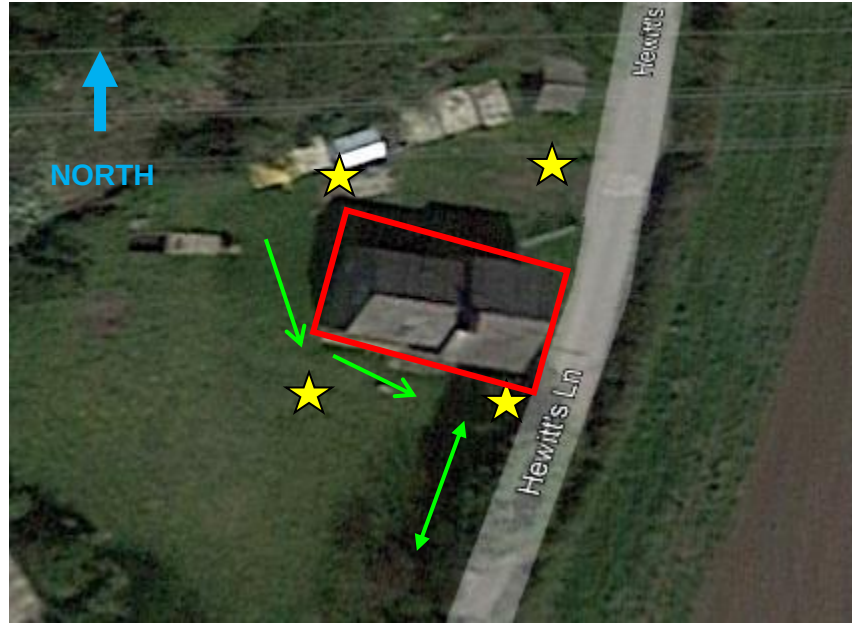


Figure 5.1: Dusk Survey Results 03/05/2022 (adapted over Google Earth Pro 2022)

KEY

	Survey boundary		Foraging/Commuting Activity
	Surveyor Positions		Directional Compass

6.0 Dusk Survey Conclusions & Recommendations

- 6.1 From the dusk survey results, it can be concluded that whilst using best practice survey methodology, emergence of bats over two surveys was absent at Mossie Cottage and outbuilding general activity during the surveys was limited to foraging/commuting by up to 5 Common/Soprano Pipistrelle (*Pipistrellus pipistrellus/ pygmaeus*) around the site and one acoustic contact of Noctule (*Nyctalus noctula*).
- 6.2 Bats are a highly transient species often with multiple roosts in a locale, and can use buildings that offer potential roost features at any time of the year, therefore, despite no roost behaviour being observed across the survey, it should be noted that if bats, or evidence of bats (see Figure 6.1) is discovered at any stage during the works, then as a legal requirement the work at the site should immediately cease and a Bat licensed ecologist should be immediately 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 Natural England 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 Regardless of whether presence or 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. The following figures provide indicative suggestions for bats which could be integrated during the proposed work at Mossdie Cottage specific advice as to where the boxes should be located can be obtained from Tyrer Ecological Consultants Ltd.

Enhancing a development site for Bats

Externally fitted boxes

There are a number of external bat box models for buildings and trees; suitable models may include the Beaumaris Bat Box.



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.



7.0 References

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Appendix I:

Inspection & Assessment in Relation to Bats & Breeding Birds; Tyrer Ecological Consultants
January 2022