

THE TYRER PARTNERSHIP



Ecology Consultants/Surveyors Specialising in Protected Species

Formby Business Centre, 42 Duke Street, Formby L37 4AT

Tel: 01704 875781 Mobile: 07719 108429

Email address: stan@tyrer-ecologicalconsultants.co.uk
kylee@tyrer-ecologicalconsultants.co.uk



Ley Farm, Sycamore Drive, Chirk, LL14 5BG

Inspection and Assessment of on Site Trees in Relation to Bats

Prepared for:

Greenspace Architects Ltd
3 Wharf Road
Ellesmere
Shropshire
SY12 0EJ

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1.0 Introduction

- 1.1 Following a preliminary ecological assessment undertaken by Solum Environmental during April 2014, it was recommended that two oak trees located on, and immediately adjacent to, the site should be surveyed in order to:

“Establish if bat roost is present within either of the two trees identified as having bat roost potential”.

It was further recommended that:

“An examination of the cavities to confirm their potential is recommended, followed by an emergence survey if required.”

Therefore, in relation to the above extracted recommendation, Greenspace Architects, on behalf of their client, commissioned the Tyrer Partnership to undertake a detailed investigation of the trees at Ley Farm.

2.0 Bats and Trees

- 2.1 All bats rely upon woodland and tree patches for either foraging or roost sites; some species are more dependent on trees than others. Places used by bats vary from small crevices, behind loose bark, cracked or rotted limbs and natural/woodpecker holes. At times exterior staining can be present where a roost has been used over a long period of time and during warm weather conditions audible sounds may be located from an occupied tree. The identification of tree roosts tends to be more difficult in relation to buildings as evidence quickly degrades and bats often will have more than one roost within woodlands. Where woodland or individual trees are affected by works it is important to assess its value to local bat populations and how best to mitigate during and following those works.

3.0 Bats in North Wales

- 3.1 Up to thirteen bat species have been recorded in North Wales, most of which use built structures, notably occupied residential properties, for roosting. The most frequently encountered species is the Pipistrelle bat (*Pipistrellus*) and its abundant status in North Wales is reflected throughout the UK.

4.0 Survey Methodology

- 4.1 The survey was conducted on the 14th of October 2014 when the identified trees were inspected for potential places that may be of value to bats and if evidence of use was present. The trees were inspected from ground level using binoculars and a high powered torch for features that are frequently utilised by bats as for roosts or the presence of ingress points that may provide access into further cavities within the tree/s. Any tree features considered to offer potential for roosting bats were subjected to further investigation by a specialised arboriculturist ‘tree climber’ who has previously undertaken this type of inspection with the bat ecologist. The inspection was conducted under the guidance of a bat licensed ecologist and was aided with an endoscope and narrow beam torchlight.

4.2 The survey was conducted by Mr J Thomson, an experienced bat surveyor and holder of a Natural England Class 2 bat licence (CLS3985). The inspection was undertaken at a time when bats have completed their breeding season and are at a point of transition from breeding to hibernation sites. The results, conclusions, and recommendations have been assessed by Mr Irwin who has thirty years of bat ecology experience, and his assessment concurs with that of Mr Thomson.

4.3 The results, conclusions and recommendations are based on a number of factors i.e.

Practical experience of surveyor

Knowledge of bat species relevant to the site location

Nature of the immediate and surrounding habitat in relation to foraging opportunities

Condition of the trees (age and species can be pivotal in overall roost potential)

Presence/absence of roost potential

Value of roost potential – if present

4.4 During the survey the surrounding habitat was evaluated in relation to bats as very often roost selection is closely correlated with the surrounding habitat.

5.0 Constraints

5.1 The inspection was undertaken at a time when bats will have dispersed from breeding sites and are beginning to enter transitional and hibernation roosts. However, are still largely active, particularly during suitably mild weather conditions.

5.2 Taking the above constraints into the context of the survey it is considered that there were no significant survey constraints that would prevent the gathering of information on which to base conclusions and recommendations.

6.0 Results

6.1 The trees within in the current application site are located immediately to the north east of Chirk amid a predominantly rural landscape.

6.2 The habitat surrounding the Ley Farm consists largely of open agricultural parcels, which are subdivided by mature hedgerow, linear tree and woodland (e.g. Pen-y-park Wood). Collectively, the aforementioned semi-natural features represent a valuable ecological network of notable value that is anticipated to provide connectivity and suitable habitat for bats. Other landscape elements of high value to bats include the River Dee to the north of the site, the course of which flows through sections of mature riparian woodland.

6.3 Therefore, the habitat as described can be considered to be of high value for the species for which the survey was undertaken i.e. bats. Where such habitat is present close to trees, then the percentage use of those trees, by bats increases, given that roost opportunities are available and vice versa.



Location of surveyed trees & immediate landscape

- 6.4 During the daytime inspection it could be conclusively established that the two mature oak trees documented as offering potential by Solumn Environmental during April 2014 could be fully investigated and do not feature potential roosting opportunities for bats, notwithstanding this, an additional Sycamore tree located immediately adjacent to the site within Chirk Green Wood, was found to possess a number of woodpecker holes that may be of value to bats. During the further inspection, all features identified were fully investigated by way of endoscopic analysis, during which time no actual bats or evidence of use which would suggest the presence of bats was located; furthermore, the areas within the Sycamore tree do not extend any great distance, and thus could only support a small number of/singular bats, and do not offer value for a maternity colony.

7.0 Conclusions

- 7.1 From the survey results it can be concluded that the two, initially identified oak trees are absent of bat roost potential, however a single sycamore tree located immediately adjacent to the site features a number of woodpecker holes which could support singular or small number of bats, however, it is understood that the woodland within Chirk Green Wood will not be affected by the proposed creation of a number of new dwellings; the removal of trees would reduce and fragment foraging/commuting habitat for bats in the locality.

8.0 Recommendations

- 8.1 There are no recommendations in relation to the Oak trees previously identified in relation to bats, and the removal of the tree centrally located within the site will have no impact upon bats. However, in respect to the LPA's objectives in relation to the enhancement of biodiversity it is recommended that specialised bat boxes are selected and strategically positioned by a bat ecologist within trees to the woodland edge of Chirk Green Wood which are to be retained and identified as being suitable by the ecologist.
- 8.2 As artificial lighting is largely absent on the site and spillage of light from other surrounding sources is very limited, there is likely to be an adverse impact upon bats if inappropriate and ill designed lighting is proposed as part of any future development (See extract below from Bat Conservation Lighting Guidelines).

Extract Bat Conservation Lighting Guidelines

In addition to causing disturbance to bats at the roost, artificial lighting can also affect the feeding behaviour of bats. There are two aspects to this. One is the attraction that light from certain types of lamps has to a range of insects; the other is the presence of lit conditions.

Lighting can be particularly harmful if used along river corridors, near woodland edges and near hedgerows used by bats. In mainland Europe, in areas where there are foraging or 'commuting' bats, stretches of road are left unlit or lighting is designed in such a way as to avoid isolation of bat colonies.

Type of lamp (light source)

The impact on bats can be minimised by the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics.

Luminaire and light spill accessories

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.

Lighting column

The height of lighting columns in general should be as short as is possible as light at a low level reduces the ecological impact. However, there are cases where a taller column will enable light to be directed downwards at a more acute angle and thereby reduce horizontal spill. For pedestrian lighting this can take the form of low level lighting that is as directional as possible and below 3 lux at ground level. The acceptable level of lighting may vary dependent upon the surroundings and on the species of bat affected.

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, don't light.

Timing of lighting

The times during which the lighting is on should be limited to provide some dark periods. Bats are most likely to forage/commute at field boundaries where hedgerow and woodland edge feature, and therefore lighting in these areas should be avoided or limited as much as possible.