Apex ecology
limited

SMITHY FARM, DILHORNE, STAFFORDSHIRE

BAT AND BIRD SURVEY OF A BARN

Prepared for
MALCOLM SALES

June 2009

09/00[illegible] 2009 - SMD

SMITHY FARM, DILHORNE, STAFFORDSHIRE

BAT AND BIRD SURVEY OF A BARN

Prepared for

MALCOLM SALES.

Prepared by

APEX ECOLOGY LIMITED

1 Grosvenor Avenue
Oakhill
Stoke-on-Trent
Staffordshire
ST4 5BQ

Survey undertaken by
Helen Ball and Max Robinson

Report produced by
Helen Ball

Report checked by
Max Robinson

June 2009

CONTENTS

1. INTRODUCTION

2. METHODOLOGY

2.1 Search of Existing Bat Records
2.2 Survey Methods
2.8 Constraints to the Survey

3. SURVEY FINDINGS & INTERPRETATION

3.1 Review of Existing Bat Records
3.7 Survey Findings
3.9 Interpretation of Survey Findings
3.11 Other Species Evidence

4. RECOMMENDATIONS

5. REFERENCES

TABLE

I Descriptions of Building Sections, Bat Roosting Potential and Evidence, Smithy Farm, Dilhorne

FIGURE

I Site plan for Smithy Farm Barn, Dilhorne

PLATES

I External view of the barn, showing lean-to and breezeblock barn.
II Internal view of barn
III Surrounding habitats

APPENDIX

I Legislation Relating to Bats and Birds

1. INTRODUCTION

1.1 This report presents the results of a bat survey of a barn at Smithy Farm, near Dilhorne in Staffordshire undertaken by Apex Ecology Limited. The report is based on a field survey that was undertaken in 29th April 2009, which comprised a visual inspection of the building for evidence of roosting bats and other protected species.

1.2 The project was commissioned by Malcolm Sales, on behalf of his client Mr M. Brassington, the owner of the barn, in April 2009 in support of a planning application to convert the barn into a residential dwelling.

1.3 Bats and their roosts are legally protected under both European and domestic legislation and they are, therefore, a material consideration when determining the planning application. A summary of the key legislation protecting bats and their roosts is provided in Appendix I at the end of the report.

1.4 The building surveyed for bats is a brick built barn comprising of four sections. The barn itself exhibits a timber framed pitched tiled roof. Additional to this are a small brick built lean to with asbestos cement roof and a larger breezeblock and timber barn, also with corrugated asbestos cement roof. The farm is situated near to the village of Dilhorne along the A52, around 2.9km from the village of Werrington on the edge of the city of Stoke-on-Trent and 5km from the town of Cheadle to the east. The OS grid reference is SJ 974 470.

1.5 The land immediately surrounding the farm consists of grazed pasture and meadow with hedgerows. An area of broad-leaved woodland can be seen to 230m to the south east. The Churnet Valley SSSI woodland is also situated 500m to the north of the site. This is an extensive area of semi-natural ancient woodland.

1.6 The report describes the methods used for the survey and any constraints encountered, along with the results of the survey, including a description of the barn and any associated evidence of bats found. It then provides an assessment of the suitability of the building for roosting bats and makes recommendations.

2. METHODOLOGY

Search of Existing Bat Records

2.1 Staffordshire Ecological Record (SER) was contacted for existing records of bats within a 2km radius of the barn. Such information is valuable as it can help put the site and survey findings into the context of the surroundings.

Survey Methods

2.2 The survey was undertaken on the 29th April 2009 by Helen Ball and Max Robinson, both licensed bat ecologists (Natural England licence numbers 20082339 and 20083818).

2.3 An assessment of the barn was made in terms of its suitability to support roosting bats. A number of factors were considered, including internal conditions, presence of features suitable for use by crevice dwelling and free hanging bats, proximity to foraging habitats/cover and potential for disturbance. A description of the barn was made and it was assigned to high, medium or low grade according to its assessed potential to support bats.

2.4 A detailed visual inspection of the interior (where accessible) and exterior of the barn for evidence of bat use was undertaken. This followed standard methodologies set out in the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004) and the *Bat Workers' Manual* (JNCC, 2004) and *Bat Surveys – Good Practice Guidelines* (BCT, 2007).

2.5 Externally, the barn was walked around and a visual inspection of features such as windows and window ledges and gaps in the brickwork was made for evidence of bat use. Evidence searched for included droppings and staining from fur-oil and urine. The survey was undertaken from the ground and aided by the use of close-focusing binoculars, ladders, an endo-scope and high-powered torches where necessary.

2.6 The internal survey of the barn followed a similar approach, with a search made (where possible) for bat droppings, prey residues (such as fly or moth wings) and urine stains, as well as actual bats. The surveyors paid particular attention to dark, sheltered locations and gaps in the brick work.

2.7 Notes were also taken where evidence of use by other species such as breeding birds was found.

Constraints to the Survey

2.8 Internally some of the rooms were dusty and cobwebbed with debris on the floors meaning any evidence of bats may have been masked and, therefore, under-recorded.

2.9 As the survey was a building inspection only, evening surveys (often referred to as an 'emergence' survey) or a morning survey (often referred to as a dawn

'swarming' survey) to watch for bats emerging or returning to roosting sites were not undertaken. This is important to note, as alone, physical inspections of buildings are not always sufficient to detect the full extent and nature of roosting by bats.

3. SURVEY FINDINGS

Review of Existing Bat Records

3.1 SER holds no records of bats from the site. However, there are 8 records of bats relating to at least three species (a pipistrelle species *Pipistrellus* sp., single records for brown long-eared *Plecotus auritus* and Brandt's *Myotis brandtii*) within 2km of the barn. Two of these records relate to a pipistrelle *Pipistrellus* sp. roosts, both recorded in 1989. The nearest record of bats is in the consall woodlands at a distance of around 1.5km to the northeast. There are several species known here including the Brandt's record, along with brown long eared, common pipistrelle *Pipistrellus pipistrellus* and noctule *Nyctalus noctula*. Other records pertain to pipistrelle species around the Cellarhead and Wetley Rocks areas around 2km to the northwest and the west.

Survey Findings

3.2 The barn is built of brick with straight-forward pitched roofs. For the purposes of the report, the main barn has been divided into four sections S1-S4. There are also a small brick built lean-to attached to the main barn and a larger open sided shed constructed from breezeblock both of these sections S5 and S6 both have corrugated sheet asbestos roofs. The four sections of the main barn all have a similar building structure; this being single storey brick building with a timber A frame supported tiled roof. There is no torching or under felt present below the tiles.

3.3 Sections S1 to S4 are constructed in a south-west orientation. Table 1 provides descriptions of the building and any evidence of bats found associated with it; a summary of the key findings is given below. Plates I-II show external views of the barn.

3.4 Evidence of bat use was found in Sections S2 and S3 of the barn. A single bat dropping was noted below a hole in a window infilled with breezeblock in S2. Additionally a scattering of feeding remains (moth wings) and a single brown long-eared *Plecotus auritus* dropping were noted on the floor below the ridge in S3. Also in S3 discrete collections of pipistrelle *Pipistrellus* sp. droppings were noted, with scatterings of droppings throughout the section.

Interpretation of Field Survey Results

3.5 The survey has established that the barn is used by bats for roosting. The evidence indicates use is by brown long-eared and pipistrelle bats. The evidence was limited to Sections S2 and S3 and consisted of scatterings of droppings and prey remains on the floors.

3.6 The evidence is consistent with individual or small numbers of brown long-eared bats using the barn for 'feeding perches' and also by bats seeking cool conditions for roosting (such as males or non-breeding females during the summer months). The larger amounts of pipistrelle droppings suggest that larger numbers maybe using the building. This usage may potentially be as a maternity roost (where female bats gather together in the summer months to each give birth to a single

young). Bats may roost along the ridge boards or in gaps underneath ridge tiles, as well as in gaps within the brick walls. It is also possible bats roost in other locations within the barn, such as beneath the ridge tiles or under-felt. Further survey would, however, be required to confirm the type of usage of the barn by bats.

Other Species Evidence

3.7 A number of disused barn swallow *Hirundo rustica* nests were found throughout the building and barn swallows were noted to be beginning to use the building during the survey. Other evidence of nesting birds was also found with the beginnings of a moss-based nest in section S3. A single dead wren *Troglodytes troglodytes* was noted in section S3, suggesting the species may have nested here in the past. Furthermore pied wagtail *Motacilla alba* and goldfinch *Carduelis carduelis* were also noted to potentially use the building for nesting.

4. RECOMMENDATIONS

4.1 Given that evidence was found during the survey that bats were using the barn, it is recommended that the barn is subject to further survey to establish the extent and nature of bat use and to confirm the presence and status of any roosts. The recommendation for further assessment follows the advice on assessment of buildings contained within English Nature's *Bat Mitigation Guidelines* (Mitchell-Jones, 2004) and *Bat Surveys – Good Practice Guidelines* (BCT, 2007).

4.2 The further survey should consist of two-three evening emergence or early morning (dawn swarming) surveys, with surveyors present externally and internally watching for bat emergence from, and activity associated with, the barn. The surveys would need to be undertaken during a time of year when bats are most active and coincide with the maternity roosting season (late May to early August).

4.3 In view of the legal protection afforded to bats (see Appendix I), a statutory licence may need to be sought from Natural England (NE) to undertake any works to the barn that could affect bats or their roost sites. In order to issue a licence, NE would require further detailed information about the status of bat roosts and bat use of the barn and a commitment to mitigation measures. In addition, full planning permission will have to have been granted for the development (if applicable). The appropriate mitigation measures would need to be designed to ensure that, overall, there were no detrimental effects on bats.

4.4 In order to obtain a licence from NE, the following three tests need to be satisfied:

- there is no satisfactory alternative;
- the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range; and
- the action authorised preserved public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.

4.5 Given the size of barn, it should be possible to incorporate compensation and mitigation measures to off-set impacts to roosting bats into the proposed development. Any mitigation and compensation would require the input of a bat ecologist at the design and implementation stage. Mitigation options would need to be planned and discussed with the client in regard to the design of the building and the timing of works well in advance. It may also be beneficial to discuss proposed mitigation and compensation measures with NE

4.6 The survey showed that the building had previously supported nesting birds, notably barn swallow, an amber listed species. Mitigation for these and other species that nest within buildings would be considered highly beneficial. Swallows can be mitigated for by providing covered areas, such as carports, for nesting. The presence of breeding birds can be avoided as a constraint to the proposed development, by timing works to avoid the bird-breeding season. Should any works be timed to coincide with the bird breeding season, then a

breeding bird survey should be undertaken prior to any works commencing. The subsequent findings of the survey would then be used to ascertain whether areas of the barn could be worked on, when and how. The bird-breeding season is generally deemed to run from March to August inclusive. All wild birds are given protection under the Wildlife and Countryside Act, 1981 (as amended) (see Appendix I).

5. REFERENCES

Bat Conservation Trust (2007). *Bat Surveys – Good Practice Guidelines.* Bat Conservation Trust, London.

JNCC. (2004). The Bat Workers' Manual (3rd edition). NCC, Peterborough.

Mitchell-Jones, A. J. (2004). The Bat Mitigation Guidelines. English Nature, Peterborough.

TABLE

Table 1. Descriptions of Building Sections, Bat Roosting Potential and Evidence, Smithy Farm, Dilhorne

Building/ Section Number	Description	Evidence of Bat and Bird Use	Potential for Bat Roosting
Main barn (Sections S1-S4)	A single storey brick built with pitched roof, approximately 5.5m high. The roof exhibits timber A frame supports and tiles without torching. Many of the tiles have slipped and many laths are rotten, as such a number gaps into the building are evident. Gaps are also present below the ridge tiles, where a thin timber ridge board is present. Some dust and cobwebbing is present on the ridge. Numerous gaps are present within the walls and a cavity in the walls appears to be present. The windows and doors (where not bricked up) are timber framed. Floors are concrete. The brick barn is divided into 4 sections and the additional notes for these can be seen below:		**Roost confirmed**
S1	On the southwest end and closest to the farm house. Subdivided into 2 sections with a large wide open doorway between. Used to store tools and appears to be regularly swept. The northern roof pitch extends lower in this section, and internally the lower half of the roof is clad in sheets of wooden chipboard below the tiles.	No evidence found	High
S2		1 bat dropping was noted to be stuck on the back wall below a gap on the window infilled with breezeblock. The hole appears to lead to the outside. The beginnings of a birds nest, using moss, was also noted.	High
S3		Approximately 5 moth wings and a single brown long-earred dropping was noted below the ridge. An additional 15 pipistrelle droppings were noted stuck on a partition below the gap in the window that has been breezeblocked-up. Another 4 droppings were also recorded on the floor beneath a purlin and 1 dropping was stuck to the partition wall. Other droppings were also noted to be scattered about. Droppings were noted on the partition wall below the gaps with a rafter. (N.B. holes in walls provide access to wall cavity.) A single dead wren was noted in a trough in the milking parlour. The remains of swallow's nests were noted and swallows, pied wagtail and goldfinch were noted to be potetially using the site to nest.	Roost confirmed
S4		No evidence found	High
S5 Lean to	A small brick lean-to with corrugated asbestos cement roof and timber door. The window has been bricked-up.	No evidence found	Low
S6 Shed	A large shed constructed with breeze block walls and corrugated asbestos cement roof. Attached to the main brick built barn, with all windows bricked up	No evidence found	Low

FIGURE

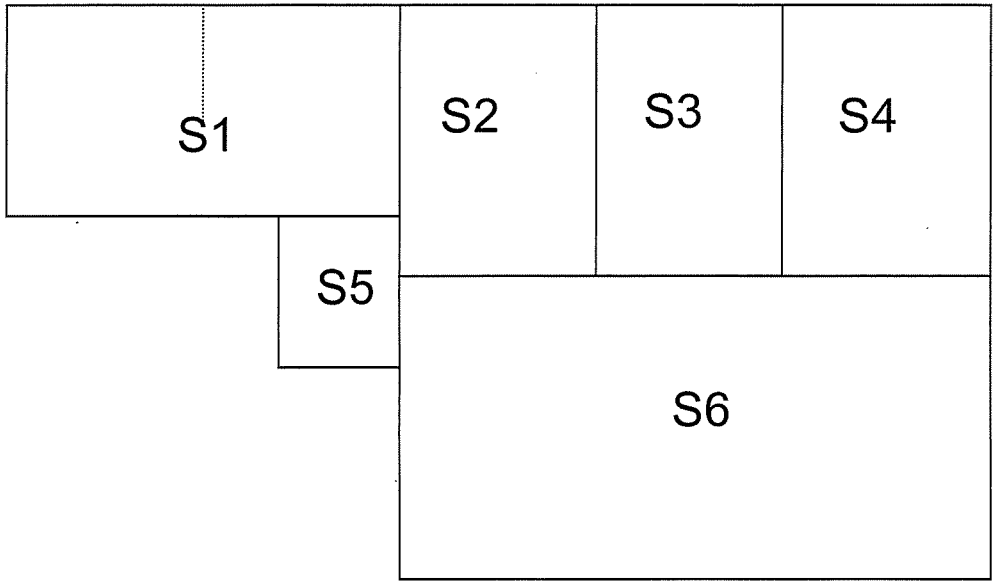


Figure 1. Site plan for Smithy Farm Barn, Dilhorne

Site: Smithy Farm , Dilhorne

Date of survey: May 2009

Surveyor: MR HB

Apex ecology limited

PLATES

PLATES



Plate I - External view of the barn, showing lean-to and breezeblock barn.



Plate II - Internal view of barn

09/0273/ 24 MAR 2009 MD



Plate III - Surrounding habitats

APPENDIX

APPENDIX – LEGISLATION RELATING TO BATS AND BIRDS

The information below is intended only as guidance to the legislation relating to these species. The legislative documents themselves should be referred to for the correct legal wording.

Bats

There are seventeen different species of bat in the UK; some are very rare whilst others are widespread. However, because the populations of most species have declined in past decades, all British bats have been protected by law.

Bats are protected under the Conservation (Natural Habitats and Wild Fauna and Flora (92/43/EEC)) Regulations 1994 (Statutory Instrument No. 2716 known as the Habitats Regulations), which have been amended by the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007 (Statutory Instrument 2007/1843). The amended regulations largely came into force on the 21st August 2007, with further amendments made in January 2009 (Statutory Instrument 2009/6). Due to their inclusion on Schedule 2 of the Habitats Regulations, bats are considered 'European Protected Species'

In summary, this legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb a bat;
- damage or destroy a breeding site or resting place of any bat;
- possess a bat (alive or dead) or any part of a bat.

Disturbance of bats includes in particular any disturbance which is likely:

(a) to impair their ability:

(i) to survive, to breed or reproduce, or to rear or nurture their young; or

(ii) to hibernate or migrate; or

(b) to affect the local distribution or abundance of the species to which they belong.

Bats are also protected under the Wildlife and Countryside Act 1981 (as amended), which has also been amended by the Countryside and Rights of Way (CRoW) Act, 2000.

In summary, this legislation makes it an offence to:

- intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection;
- intentionally or recklessly obstruct access to any structure or place which any bat uses for shelter or protection.

In addition, under UK's Biodiversity Action Plans seven British bat species are listed as 'Priority Species'. These include barbastelle *Barbestella barbestellus,* Bechstein's *Myotis bechsteinii,* noctule *Nyctalus noctula,* soprano pipistrelle *Pipistrellus pygmaeus,* brown long-eared *Plecotus auritus*, greater horseshoe *Rhinolophus ferrumequinum* and lesser horseshoe *Rhinolophus hipposideros.*

Birds

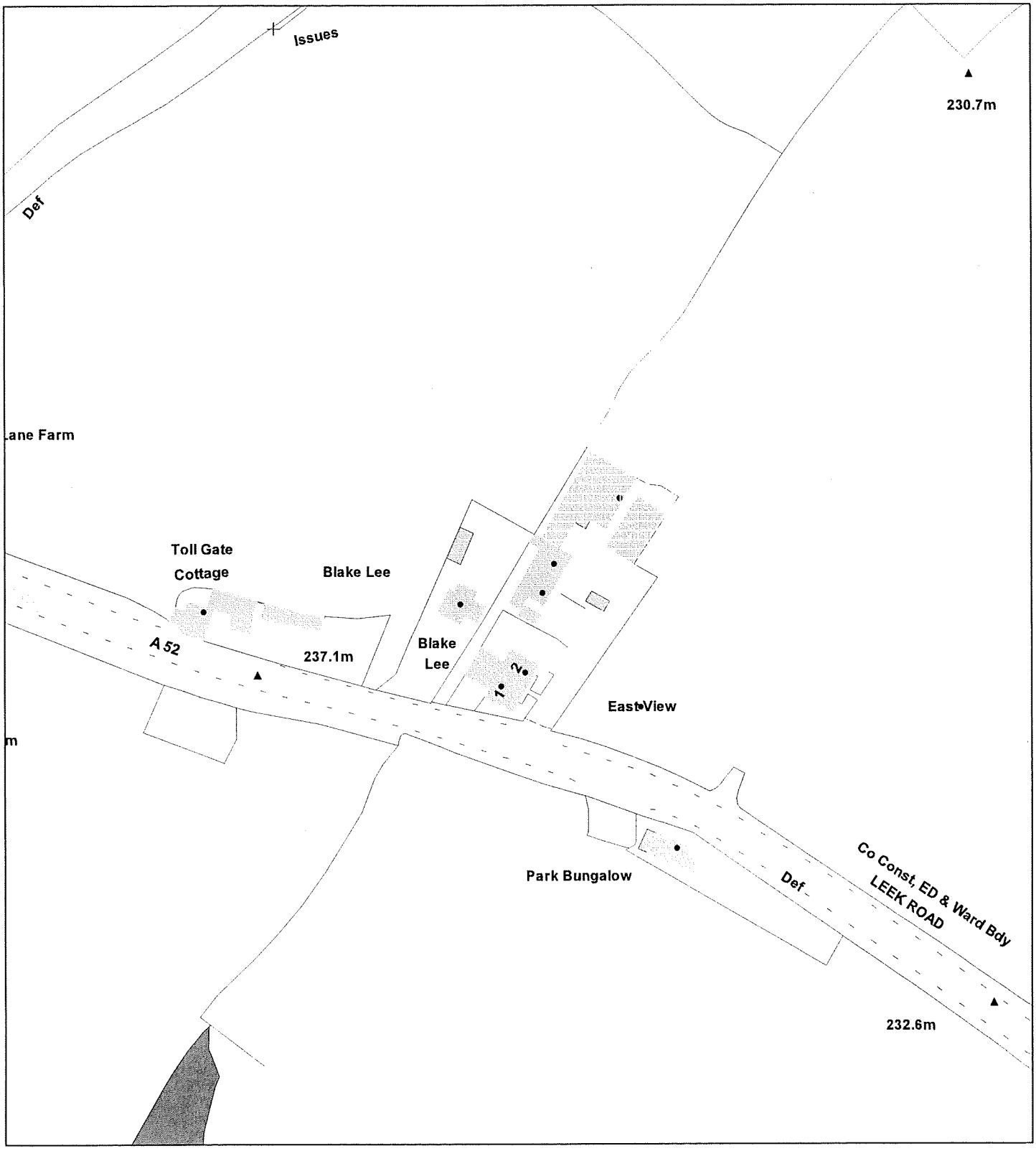
All wild birds, their nests and eggs are protected by law under the WCA 1981 (as amended). It is, therefore, an offence (subject to certain exceptions) to:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird whilst it is in use or being built;
- take or destroy the egg of any wild bird.

In addition, in accordance to amendments of the WCA by the Countryside and Rights of Way Act 2000, it is an offence to:

- intentionally or recklessly disturb any species listed on Schedule 1 of the WCA whilst building a nest, or whilst it is on, in or near a nest containing eggs or young; and
- disturb the dependant young of a Schedule 1 bird.

Reference:	09/00273/FUL Kingsley



Date	27 July 2009
Organisation	Not Set
Department	Not Set
Comments	Not Set

Scale : 1:1250

© Crown copyright. All rights reserved.
Staffordshire Moorlands District Council.
Licence no. 100018384. 2009.