# WHITELANDS FARM BICESTER

## Wall whorl snail *Vertigo pusilla* Muller, 1774

## survey

## August 2005

**Dr.Jonty Denton**

**INTRODUCTION**

Survey brief was to search for Vertigo pusilla on a selection of walls. This diminutive snail was recorded on walls around the adjacent Bignell Park by Arthur Spriggs (John Campbell pers comm.)

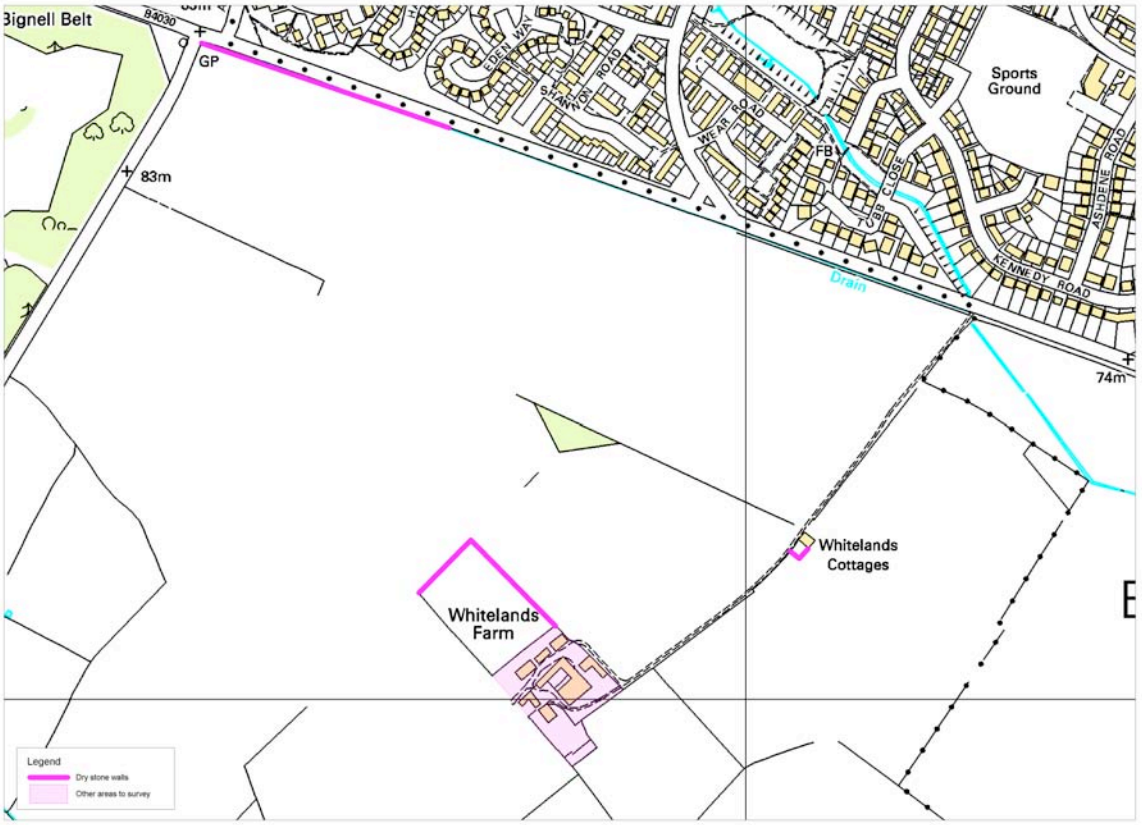
**Site visit and methods**

Site was visited on 15th August by myself and John Campbell (co-author of the Atlas of Oxfordshire Terrestrial Mollusca (Gregory & Campbell, 2000)

A petrol powered suction sampler was employed to collect invertebrates from the walls and their bases. Moss and debris was sieved and searched ona sheet, and stones were lifted and searched for attached molluscs.

**RESULTS**

Positions of sample areas are shown on map A




**Site A**

**Roadside wall adjacent to A4095.**

The eastern half of the section marked on the map hada dilapidated wall whch was largely shaded and which had a goofd covering opf ivy. The north side of this wall (Photo 1) looked the most suitable looking habitat for the wall whorl snail of any of the sites surveyed. The wall was adjacnt to a ditch which ran parallel to the road, the roadward side of the ditch also had lots of dumped stone and debris which was also extensively searched.

**SITE B**

**Whitelands Farm field boundary heading NW from farm buildings.**

This wall was made up of flat Cotswold limestone which was in parts consolidated with lime mortar. Three sections had abundant ivy growth and two had partial to full shade from small hawthorn / elder trees.

**SITE C**
**Wall around Whitelands Cottage**
This low wall was open and had very little vegetation growing on it.

**RESULTS**
No *Vertigo pusilla* were found, the commonest molluscs at Site 2 was *Lauria cylindracea* and *Vallonia costata.*

**Site A**

**Molluscs**

**Cochlicopidae**
Slippery Moss Snail *Cochlicopa lubrica* (Muller)

**Pyramidulidae**
Rock Snail - Pyramidula rupestris (Draparnaud)

**Pupillidae**
Common Chrysalis Snail *Lauria cylindracea* (da Costa )

**Valloniidae**
Ribbed Grass Snail *Vallonia costata* (Muller)

Rounded Snail - *Discus rotundatus* (Muller)

**Zonitidae**
Cellar Snail - *Oxychilus cellarius* (Muller**)**

**Clausilidae**
Common Door Snail - *Clausilia bidentata* (Strom)

**Helicidae**
Kentish Snail- *Monacha cantiana* (Montagu)

**Other Invertebrates**
**SPIDERS**
Amaurobius fenestralis
Tetrix denticulata (Local)
Oonops pulcher

**HEMIPTERA (BUGS)**
**Pentatomidae**
Legnotus limbosus (Local)
**Lygaeidae**
Taphropletus contractus (local)
Heterogaster urticae (Common)
Stygnocoris fuligineus

**COLEOPTERA**
**Carabidae**
Dromius linearis

**Staphylinidae**
Stenus impressus

**Scolytidae**
Kissophagus hederae (Natioanlly Scarce B) A small bark beetle which lives on Ivy.

**Site B**

**Molluscs**

**Pupillidae**
Common Chrysalis Snail - *Lauria cylindracea* (da Costa )

**Pyramidulidae**
Rock Snail - Pyramidula rupestris (Draparnaud)

**Valloniidae**
Ribbed Grass Snail *Vallonia costata* (Muller)

Rounded Snail - *Discus rotundatus* (Muller)

**Helicidae**
Wrinkled Snail - *Candidula intersecta* (Poiret)

Kentish Snail- *Monacha cantiana* (Montagu)

Brown Lipped Snail – *Cepaea nemoralis* (L.)

Garden Snail- *Helix aspera* Muller

**Other Invertebrates**

**SPIDERS**
Amaurobius fenestralis
Segestria senoculata
Harpactea hombergi

**HEMIPTERA (BUGS)**
**Pentatomidae**
Pied shield bug - *Sehirus bicolor* (Local)

**Lygaeidae**
Taphropletus contractus (local)
Heterogaster urticae (Common)

**Tingidae**
Ivy Lacebug – Derephysia foliacea (Fallen) a very local species in Oxon.

**COLEOPTERA**
**Carabidae**
Harpalus affinis
Harpalus rufipes
Pterostichus madidus
Bembidion lampros
Asaphidion curtum
Trechus quadristriatus
Dromius linearis

**Staphylinidae**
Stenus impressus
Stenus ossium
Sepedophilus marshami

**Byrrhidae**
Pill beetle – Byrrhus pilula - local

**Endomychidae**
Mycetaea hirta - local

**Lathridiidae**
Aridius bifasciatus

**Chrysomelidae**
Psylloides chrysocephala
Epitrix pubescens

**Curculionidae**
Ceuthorhynchus erysimi

**DISCUSSION**

All the walls examined are isolated from each other and surronding walls by at least 60m. The habitats present at Site 1 look the most likely to support the wall whorl snail, but none were found despite extensive searching.

*Vertigo pusilla* is a very small and difficult speices to find which often lives in very small colonies. It is impossible to be sure tha this species is absent from the survey area, but it is unlikely to be widespread given the search effort.

**ACKNOWLEDGEMENTS**

Thanks to John Campbell for assisting me with the search, and providing background records etc.

**REFERENCES**

Gregory, S.J. & Campbell, J.M. 2000. *An Atlas of Oxfordshire Terrestrial Mollusca.* Oxford County Council Occasional paper No.20.

ECOSA
Ecological Survey & Assessment

# WHITELANDS FARM, BICESTER

# OXFORDSHIRE

# PHASE I and II BAT SURVEYS

**Final Document**

September 2006

INVERTEBRATE, BIRD, MAMMAL, REPTILE, AMPHIBIAN, AND BOTANICAL SURVEYS •
MANAGEMENT PLANS • HABITAT APPRAISAL • MARINE• NVC • EIA •

ECOSA, PO BOX 272, ROMSEY, HAMPSHIRE, SO51 8WU.
Tel. 07990 546850 email; simon@ecosa.co.uk

## TABLE OF CONTENTS

# WHITELANDS FARM COTTAGES, BICESTER

# PHASE I AND II BAT SURVEYS

## 1.0 INTRODUCTION

### 1.1 Background

Ecological Survey & Assessment (ECOSA) was commissioned by Terence O'Rourke on behalf of Countryside Properties to carry out Phase I and II bat surveys fof two cottages along the northern access road to Whitelands Farm, Bicester, Oxfordshire.

### 1.2 Phase I and II Surveys

The Phase I bat survey was carried out on 25th November 2005. The results from the Phase I survey identified potential bat access points around the building and, due to the timing of the Phase I survey (being outside of the bat survey season) it was necessary to carry out a Phase II bat survey. The Phase II survey was carried out on 11th September 2006.

An outline of the legislation surrounding bats is provided within Appendix 1.

### 1.3 Site Setting

The cottages are set approximately halfway along the access road to Whitelands Farm and are isolated from the rest of the farm buildings. Apart from the two large conifers in the lawned garden and narrow vegetable plot belonging to the cottages, the habitat in the vicinity of the cottages consists of arable fields. There are two small hedgerows that run from the cottages in a westerly and northerly direction. These hedgerows could potentially provide commuting routes for bats travelling to and from the cottages should they be present.

This report presents the findings of the Phase I and II surveys.

## 2.0 METHODS

### 2.1 Introduction

This section outlines the methodology used during the Phase I and II surveys carried out in November 2005 and September 2006, respectively.

### 2.2 Phase I Survey

An assessment of the outside of the buildings was carried out to determine whether there were any features that may allow bat access into roosting locations within the buildings, such features may include gaps in fascia and soffit boards, loose lead flashing, holes in brickwork etc. An internal investigation was then carried out in the roof space above the living area. This investigation consisted of a search of the floor looking for any droppings, a search of the internal roof apex looking for any roosting animals or for any signs of wear caused by bats entering or leaving a roost hole. A four cell Maglite torch was used throughout the course of the internal survey. The external examination was carried out using a pair of Zeiss West 10 x 32 FL binoculars.

### 2.3 Phase II Survey

Phase II bat surveys were carried out on 11th September at 19:30. The weather conditions were mild and overcast with a force 3 south-west wind. The survey consisted of an emergence check of the cottages. Two surveyors (Simon Colenutt and Trevor Codlin of ECOSA) were on site 45 minutes before sunset to search for any bats exiting the buildings. The surveyors were positioned at opposite corners of the cottages to allow good surveillance coverage of the buildings.

The surveyors largely focused on the potential bat access points identified in the Phase I survey, these being the roof tiles, the areas of soffit and fascia board, the lead flashing around the chimney breast and the tiles at the gable ends of the buildings which have lifted.

Pettersson D240x time expansion bat detectors were used during the survey to record and identify bats. To confirm species identification the Pettersson bat detectors were connected to Sony mini-disks to enable echolocations to be recorded and later analysed on the current version of BatSound (Version 3.31).

### 2.4 Phase I Survey Limitations

When the internal roof survey was carried out, it should be noted that access to the eastern half of the roof space was not possible. It was only possible to look through a small hole in

the dividing wall from the western roof space to assess the condition of the eastern side and a detailed examination was not possible.

A detailed examination of certain potential bat access holes in the external walls was not possible due to the height and location of these features.

The timing of the survey was past the peak time for bat activity and most animals will be in hibernation, especially given that there was a spell of cold weather prior to the survey. However, despite this limitation bat droppings left in internal spaces would still be evident.

## 2.5 Phase II Survey Limitations

The emergence survey was carried out past the peak in the bat survey season and at a time when summer roost sites are starting to disperse for pre-hibernation sites.

In addition, a large number of long-winged coneheads *Conocephalus discolour* were calling in the grassland which created noise interference on the bat detector.

## 3.0 RESULTS

### 3.1 Introduction

This section discusses the findings of the Phase I and II bat surveys.

### 3.2 Phase I Bat Survey

The building consists of a stone construction with gable end design that has been partitioned in the middle creating two semi-detached cottages. The apex roof has an equal pitch on either side, is stone tiled and has a shared chimney breast built into the centre of the building. There are four single storey extensions added to the building, two on the northern elevation, one on the eastern elevation and one on the western elevation (see Figures 1 and 2).

**Figure 1** Southern and eastern elevation

**Figure 2** Northern and western elevation

The two extensions on the northern elevation have slate roofs and are currently being used as out-houses, one has no door, the other a loose fitting wooden door. Access was gained to the western most extension on the north side, no evidence of bat activity was found. The extensions on the eastern and western elevations are used as additional house space. Both extensions are comprised of stone walls with a corrugated asbestos roof. All of the windows have been replaced by UPVC doubled-glazing and there are no obvious gaps around any of the windows. This leaves no potential access to bats. The eaves are open ended with the roof timbers exposed and as a result there are no soffit boxes beneath the eaves. The protruding roof timbers are enclosed by stone work, however gaps have formed where the timber and stone meet. These gaps could not be inspected due to their height, however they could potentially offer bat access into the wall cavity.

The gable end on the western elevation of the building has holes beneath the tiles and a hole within the main wall that could offer access for roosting or hibernating bats. Again it was not

possible to examine these holes due to the height of the building and the presence of the extension on this elevation (Figure 3).

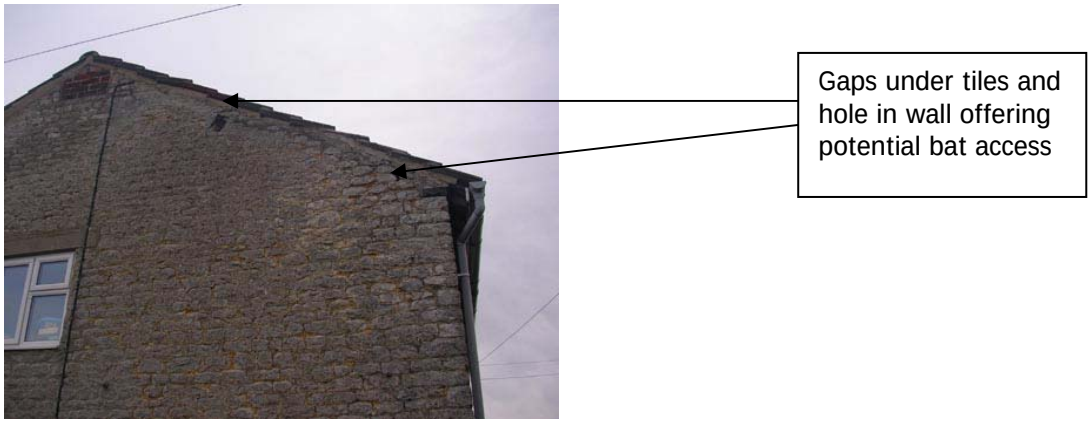



**Figure 3** Western elevation showing potential access

The southern elevation of the building is generally in a good state of repair offering limited bat access. However, there are two gaps beneath the eaves where the roof timbers meet the main wall. Around the chimney breast there are some raised ridge tiles and small gaps under lead flashing (Figure 4). These openings offer excellent opportunities for bats to gain access to the void between the tiles and under felt.

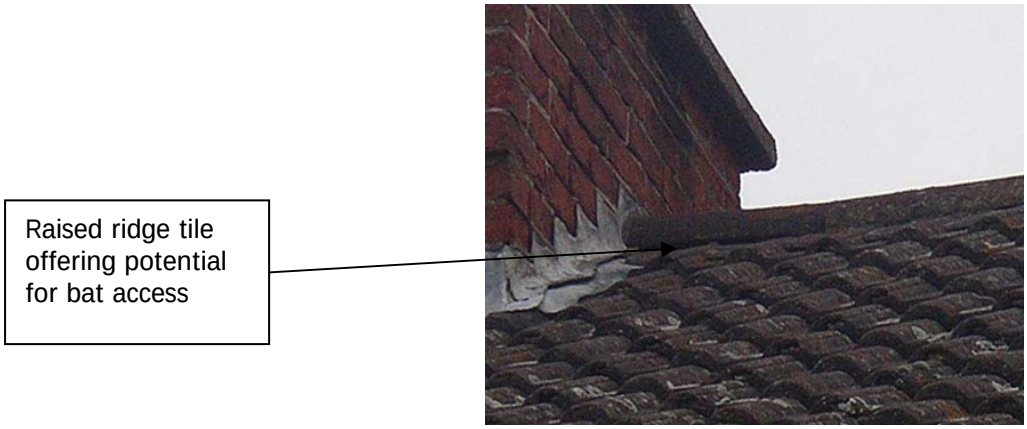



**Figure 4** Roof and chimney breast

The eastern elevation of the building contains four UPVC windows. These offer no potential bat access points, however, there are some holes (Figure 5) on the wall near to the apex that are sufficiently large to allow bat access.

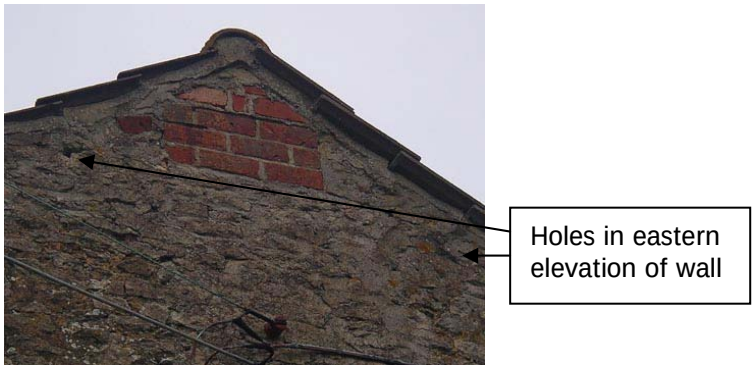



**Figure 5** Holes in eastern elevation

**Figure 6** Roof space

The roof space (Figure 6) is separated by a brick partition wall in the centre. As previously mentioned access was only possible to the western side of the roof space. However, it was possible to gain a restricted view of the east side. Both sides of the roof space are heavily festooned with cobwebs belonging to *Pholcus* spiders. The presence of these webs indicates little or no bat activity. Two wings of a small tortoiseshell butterfly were found beneath the chimney breast on its western side. This is often an indication of a long-eared bat feeding hang-up although sometimes rodents may eat hibernating butterflies. Despite intensive searching no bat droppings were recorded. A large number of boxes have been left in the loft space, these cover much of the floor. Boxes often collect bat droppings, however the survey recorded none.

## 3.3 Requirement for Phase II Bat Survey

Due to the presence of potential bat access points around the building, further survey work was required to be carried out at a time when bat activity is at a higher level (May to September). This will allow the determination of presence or absence of bats beyond reasonable doubt to be made.

## 3.4 Phase II Bat Survey

During the Phase II survey carried out on 11th September 2006 a noctule *Nyctalus noctula* was detected briefly and distantly at 19:55. As the bat was only heard briefly the direction of flight could not be confirmed, and a recording could not be made as the bat was too distant. Noctule bats are largely tree roosting bats and there are a number of potential bat roosting trees in and around the Whitelands Farm site. The small copses located on site and the Horse Chestnut *Aesculus hippocastanum* trees located adjacent to the Farmhouse could potentially provide Noctule roosting habitat. Noctule's often emerge early from their roost

sites with a median emergence time of 5 minutes after sunset (Jones & Rydell, 1994[1]). On the night of the survey the sunset time was at 19:28 and the timing of this record (19:55) suggests that this bat roosted some distance from the site.

A brief registration of a common pipistrelle *Pipistrellus pipistrellus* was recorded at 20:20, however the bat was distant and was not seen, and as a result the direction of flight could not be recorded. At 20:25 a common pipistrelle was recorded foraging around the cottages. There was no indication that these bats emerged from the building.

The bat detector survey was completed at 20:30, following this, the surveyors walked to Whitelands Farm to record levels of foraging activity. One common pipistrelle was recorded foraging around the Horse Chestnut trees located adjacent to Whitelands Farm.

[1] Jones, G. & Rydell, J. 1994. *Foraging strategy and predation risk as factors influencing emergence time in echolocating bats*. Philosophical Transactions of the Royal Society: Series B. 346, 445-455.

# 4.0 DISCUSSION

## 4.1 Introduction

This section discusses the implications of the Phase I and II survey results and outlines further work required.

## 4.2 Phase I Bat Survey

Although no bat droppings were located in the roof space the presence of some fresh butterfly wings suggests that a bat may possibly have been feeding in the roof space. The gaps in the ridge tiles above the butterfly wings may suggest that they had blown in from that area, however, this is only a speculative suggestion.

## 4.3 Phase II Bat Survey

A noctule was briefly seen over the recorded. The site holds a number of trees with the potential to support noctule bat roosts, however the late timing of this record suggests that this bat was roosting off site. Common pipistrelle's were recorded foraging on site but there was no indication that bats roosted within the farm cottages. The overall level of bat activity during the Phase II survey was assessed as being low.

## 4.4 Suggested Further Work

ECOSA were not commissioned to carry out transects or to assess the bat roosting potential of any trees on site. If any trees, and potential bat foraging habitat (for example hedgerows) are to be lost as a result of the development, then it is recommended that tree surveys and transect surveys are carried out during the summer months.

## 4.5 Additional Species of Note

Prior to the bat survey the northern water course was inspected for crayfish, a single immature signal crayfish was recorded.

A Little Owl *Athene noctua* was recorded twice calling from the Whitelands Farm buildings and to the north-east of the cottages during the Phase II survey.

## APPENDIX 1 - Protected Species and the Law

### Introduction

The following section provides the legislative background to the species considered during the field survey.

### Bats

The Wildlife and Countryside Act 1981 (WCA) protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Countryside and Rights of Way Act 2000 (CRoW) which applies only in England and Wales.

The Conservation (Natural Habitats, &c.) Regulations 1994 (better known as the Habitats Regulations) implements the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (better known as the Habitats Directive). All bats are listed as 'European protected species of animals'.

Bats may also be protected by site safeguard measures, for example by virtue of their roost site or feeding grounds being notified as a Special Area of Conservation (SAC) or a Site of Special Scientific Interest (SSSI).

#### *Bat Protection*

It is an offence for any person to:

- Intentionally kill, injure or take a bat. Under the Habitats Regulations it is an offence to deliberately capture or kill a bat.
- Possess or control a live or dead bat, any part of a bat, or anything derived from a bat. This is an offence of strict liability, in other words the onus of proof is on the person in possession of the bat to show, on a balance of probabilities, that they have it lawfully. An offence is not committed if the bat was not killed, taken, or sold to them or anyone else illegally.
- Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection. This is taken to mean all bat roosts whether bats are present or not. There is a defence that this is not illegal in a dwelling house, but the defence can only be relied on (other than in the living area of a dwelling house) if the Statutory Nature Conservation Organisation (SNCO), i.e. English Nature, the Countryside Council for Wales, or Scottish Natural Heritage was notified about the proposed action and allowed reasonable time to advise as to whether it should be carried out, and if so, how. Under the Habitats Regulations it is an offence to damage

or destroy a breeding site or resting place of any bat. This is an absolute offence - in other words, intent or recklessness do not have to be proved.

- Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection. There is a defence that this is not illegal in a dwelling house, but the defence can only be relied on (other than in the living area of a dwelling house) if the Statutory Nature Conservation Organisation (SNCO), i.e. English Nature, the Countryside Council for Wales, or Scottish Natural Heritage was notified about the proposed action and allowed reasonable time to advise as to whether it should be carried out, and if so, how. Under the Habitats Regulations it is an offence to deliberately disturb a bat (this applies anywhere, not just at its roost).
- Sell, offer or expose for sale, or possess or transport for the purpose of sale, any live or dead bat, any part of a bat, or anything derived from a bat. It is also an offence to publish, or cause to be published, any advertisement likely to be understood as conveying that they buy or sell, or intend to buy or sell, any live or dead bat, part of a bat or anything derived from a bat. Sale includes hire, barter and exchange.
- Set and use articles capable of catching, injuring or killing a bat (for example a trap or poison), or knowingly cause or permit such an action. This includes sticky traps intended for animals other than bats.
- Make a false statement in order to obtain a licence for bat work.
- Possess articles capable of being used to commit an offence, or to attempt to commit an offence. These are punishable in a like manner as for the actual offence.

It is not illegal:

- To take a disabled bat for the sole purpose of tending it and releasing it when no longer disabled, as long as that person can show that it was not disabled unlawfully by them.
- To kill a bat, as long as that person can show that the bat was so seriously disabled, other than by their own unlawful act, that there was no reasonable chance of it recovering.
- If the otherwise illegal act was the incidental result of a lawful operation and could not reasonably have been avoided. However this defence can only be relied on (other than in the living area of a dwelling house) if the Statutory Nature Conservation Organisation (SNCO), i.e. English Nature, the Countryside Council for Wales, or Scottish Natural Heritage was notified about the proposed action and allowed reasonable time to advise as to whether it should be carried out, and if so, how.

### *Police and Court Powers*

A police officer who suspects with reasonable cause that a person is committing or has committed an offence can stop and search them, search or examine any relevant thing in their possession, and seize it. They can also enter land other than a dwelling house without a warrant, or enter and search a dwelling house (with or without other persons) with a warrant. In England and Wales, the CRoW Act makes bat offences arrestable.

### *Defra Licencing*

Due to a recent ruling in the European courts a licence is now required for all 'non-domestic' developments which contain known bat roosts. This is obtainable from the Department of Environment Food and Regional Affairs (DEFRA) on the submission of a method statement detailing the works required and a mitigation package designed to 'maintain a favourable conservation status'. There are three conditions that have to be met before a licence can be granted to allow development to proceed:

1. There is no satisfactory alternative;
2. The development will not be detrimental to the maintenance of the populations concerned at a favourable conservation status in their natural range; and
3. The development must be for 'imperative reasons of overriding public interest including those of a social or economic nature.

If it is thought the work will have a direct effect on the bat roost and is unavoidable then advice must be sought from the Species Office for English Nature or DEFRA prior to the work proceeding. If bats are found whilst undertaking work as part of the development (at any stage, and even if planning permission has been granted), for example, if bats were found whilst felling trees or demolishing a building work must be stopped and English Nature contacted for further advice. A licence may be required from DEFRA before work may continue.

# National vegetation classification survey

## 1 Introduction

1.1 The survey area forms a small section of a wider farmland landscape that is the subject of a proposed planning application for mixed use development. The survey area comprises two fields bounded by the A41 and A4095 which contain a mix of improved grassland, semi-improved calcareous grassland and rush pasture. A stream flows across the site.

1.2 A phase 1 habitat survey of the site was undertaken in 2005 by Terence O'Rourke (TOR) which supplemented earlier survey work undertaken by Bioscan and Fauber Maunsell in 2004. However the county ecologist requested that a phase 2 survey be undertaken for the north-eastern fields and TOR were commissioned to do this in August 2006. This survey forms the basis of this report.

1.3 The aim of the survey is to provide detailed information on vegetation community types using the National Vegetation Classification and to assess the ecological value of each of these areas within a national, regional and local context.

## 2 Methodology

2.1 The field survey was carried out using the National Vegetation Classification (NVC) system (Rodwell, 1990, 1991, 1992,1995 and 2000). The site was walked around in such a way that a reasonable sample of all habitats and vegetation communities present were seen and the boundaries of each of these communities were drawn onto a map at 1:2500. The stream was not surveyed, as the phase 1 survey provides sufficient detail for this habitat.

2.2 Five or more samples of each community were taken at locations spread throughout the survey area, with each sample recorded on a standard NVC recording sheet (Rodwell 1990 etc.). All vascular plants were identified and the abundance of each was estimated using the DOMIN scale. Figure 1 shows the location of the sample points.

2.3 The data collected was then compared manually with the published NVC tables as well as the written descriptions provided (Rodwell et al, 1992).

## 3 Results of field survey

*3.1 The major habitats are summarised below and shown in figure 1.*

***MG6 Lolio-Cynosuretum cristati grassland***

*3.2* Constant species: *Lolium perenne, trifolium repens, Holcus lanatus, Cerastium fontanum, Festuca rubra, Cynosurus cristatus.*

3.3 Habitat and distribution: *Lolium perenne* dominated pasture with a short, tight, grass dominated sward recorded throughout the British lowlands, wherever there has been intensive improvement for pasturing.

3.4 *Lolio - Cynosuretum cristati* grassland covers the majority of the western field giving way to patches of calcareous semi-improved grassland on low fragmented mounds north of the brook. MG6 dominates the eastern field to the south of the Pingle Brook, a narrow band immediately to the north of the brook and along the hedgeline along the north of the site.

3.5 *Lolium perenne* is frequent to abundant in this community whilst *Holcus lanatus* and *Trifolium repens* are frequent. *Cynosurus cristatus* is occasional, with the samples containing less than 4% cover.

3.6 A number of associates were recorded including *Cirsium arvense* (locally abundant), *Pimpinella saxifraga* (occasional) *Taraxacum officinale* (locally frequent) and *Achillea millefolium* (occasional – locally frequent).

3.7 This community is typical of MG6 grassland containing all of the constant species and a number of associates. The grassland is frequently grazed, with significant patches of *Urtica dioica* and *Cirisium arvense* providing evidence of nutrient enrichment.

***CG7 Festuca ovina – Hieracium pilosella - Thymus praecox/pulegioides grassland***

3.8 Constant species: *Festuca ovina, Leontodon hispidus* and *Hieracium pilosella*.

3.9 Habitat and distribution: calcareous grassland with an open sward dominated by herbs and in particular *Hieracium pilosella*. Recorded in scattered localities over chalk of south-east England, Yorkshire Wolds, areas of Derbyshire, Mendips and the Brecklands.

3.10 This calcareous grassland is recorded on low, fragmented, raised earth banks and mounds, on what is thought to be an old limestone quarry. These mounds are isolated within a large expanse of MG6 grassland.

3.11 *Festuca ovina* is found in all samples and often comprises up to 50% of the sample area. *Leontodon hispidus* and *Hieracium pilosella* are also common, often occurring in large patches. However, the grassland lacks *Thymus praecox*, a constant species of CG7.

3.12 *Galium verum,* a preferential of CG7 was recorded in three of the five samples and varied in abundance from 4-25%. Associates include *Plantago media, Sanguisorba minor* and *Campanula rotundiflora*; however, many of the other species often closely associated with this community are lacking.

3.13 The grassland best fits with CG7 due to the frequency of *Hieracium pilosella* and *Leontodon hispidus* which are not found within CG10. Whilst many of the constant species recorded are also indicative of CG2, the sampled grassland lacks the species richness and diversity of this community.

***MG10b Holco – Juncetum effusi pasture (sub-community Juncus inflexus)***

*3.14* Constants: *Holcus lanatus*

3.15 Habitat and distribution: Characteristic of permanently moist sites in south and east of Britain and on more calcareous ill drained soils. Generally grazed and widely distributed in pastures, *Juncus inflexus* dominates the sub community with varying abundance of wetland plants.

3.16 This rush pasture dominates the eastern field, north of Pingle brook and extends into the western field at its eastern end.

3.17 It contains few of the constant species: only *Holcus lanatus* is represented (in low numbers). *Juncus inflexus* dominates the pasture, a species that is only attributable to the sub-community MG10b.

3.18 *Carex hirta* (a preferential of MG10b) was recorded in low abundance as was a number of other species including; *Filipendula ulmaria, Urtica dioica, Rumex crispus, Potentilla anserina, Equisetum arvense* and *Mentha aquatica*.

3.19 All areas of rush pasture within the two fields are a good fit for the MG10b sub-community, as all areas are dominated with *Juncus inflexus* and contain a range of associates common to this community.

## 4 Summary of ecological interest

4.1 The site comprises three main NVC communities (excluding the brook). These are:

- MG6 - *Lolio-Cynosuretum cristati* grassland
- CG7 - *Festuca ovina – Hieracium pilosella - Thymus praecox/pulegioides* grassland
- MG10b - *Holco – Juncetum effusi* pasture (sub-community *Juncus inflexus*)

***MG6***

4.2 The MG6 community represents agriculturally improved grassland of low species diversity. Such grasslands are common throughout Britain wherever land is used as pasture; the landscape character of Bicester includes significant areas of such habitat along with wooded estates and arable land (http://owls.oxfordshire.gov.uk). The MG6 grassland on site is considered to be of negligible ecological value at national, regional and local level.

***CG7***

4.3 The CG7 community falls within the habitat type 'lowland calcareous grassland' which has suffered a national decline of over 20% in extent over the last 50 years. This habitat is included within the *Festuco-Brometalia* grassland identified in Annex 1 of the EC Habitats Directive as of community interest; lowland calcareous grassland is also a UK Biodiversity Action Plan habitat (BAP) and an Oxfordshire priority BAP habitat (www.ukbap.org.uk). The Cherwell BAP states that calcareous grassland is a scarcity within the district, being restricted to quarries and railway cuttings; therefore the grassland on site is typical of the local area.

4.4 The CG7 grassland identified on site is less species rich than 'typical' calcareous grassland and does not contain nationally rare or scarce plants. Furthermore, the grassland lacks the scrub mosaics which are often associated with this habitat, which, where present are important areas for butterflies and birds. Therefore the calcareous grassland on site is considered to be of ecological importance at a local level only.

***MG10b***

4.5 The MG10b community recorded on site is fairly typical of this type. Whilst it contains a range of herbs, it is not considered particularly species rich, lacking the diversity of other types of rush pasture found in Britain. MG10 is a common habitat of poorly drained pasture land; rush pasture is not an Oxfordshire BAP habitat, indicating that it is fairly common within the county. Therefore this habitat is considered to be of ecological importance at site level only.

## 5 Conclusions

5.1 The improved grassland (MG6) is of negligible ecological value whilst the rush pasture (MG10b) is of value only at site level. The calcareous grassland (CG7) holds more interest and is of local value and therefore should be retained either in situ or re-created elsewhere within the development site. The Environmental Statement provides details on how this will be achieved.

# 6 References

Cherwell District Council (no date) *Cherwell Biodiversity Action Plan* [online] Cherwell District Council, UK http://www.cherwell-dc.gov.uk/talktous/publications.cfm/publication/658/

Oxfordshire County Council (2004) *Oxfordshire Wildlife and Landscape Strategy* [online] Oxfordshire County Council, UK http://owls.oxfordshire.gov.uk/wps/wcm/connect/OWLS/Home/Oxfordshire+Landscape+Types/Wooded+Estatelands/Wooded+Estatelands+Information/#c

JNCC (2006) *UK Biodiversity Action Plan* [online] JNCC, UK http://www.ukbap.org.uk/

Rodwell J.S. (1992) British Plant Communities. Volume 3. *Grasslands and Montane Communities* Cambridge University Press, UK.

Terence O'Rourke (2005) *Phase 1 Habitat Survey,* unpublished

Terence O'Rourke (2006) *South West Bicester Environmental Statement*, unpublished


**Bicester NVC survey NE fields**

Client / Project:
Countryside Properties

| | |
|---|---|
| August 2006 | Drawn By EO |
| 1:2500 Scale | Checked By: JP |
| Figure 1 | Revision No: |



Terence O'Rourke
*creating successful environments*

# Appendix A – quadrat summary tables

## Mg10b

| Quadrat number | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Grid ref | SP57560 22225 | SP57867 22194 | SP57821 22179 | SP57755 22225 | SP57713 22248 | SP57677 22251 | SP57671 22269 | SP57798 22225 | SP57632 22271 | | |
| Height cm (tall veg) | 20 | 80 | 70 | 70 | 70 | 120 | 70 | 100 | 80 | | |
| Height cm (low veg) | 3 | | | 7 | 10 | 5 | 8 | 10 | 15 | | |
| % cover tall veg | 40 | 100 | | 40 | 35 | 95 | 35 | 100 | 90 | | |
| % cover low veg | 60 | | 100 | 60 | 40 | 5 | 65 | 20 | 20 | | |
| | | | | | | | | | | | |
| Sample size | 1m x 1m | 1m x 1m | 1m x 1m | 1m x 1m | 1m x 1m | 1m x 1m | 1m x1m | 1m x 1m | 1m x 1m | | |
| Soil | | | | | | | | | | | |
| | | | | | | | | | | | |
| **Species** | | | | | | | | | | | |
| Holcus lanatus | 4 | | 4 | 7 | 4 | | | | | IV | (4-7) |
| | | | | | | | | | | | |
| Juncus inflexus | 7 | 9 | 9 | 7 | 7 | 9 | 6 | 10 | 9 | IX | (7-10) |
| Carex hirta | 5 | | | | | | | | | I | (5) |

**MG10b continued**

| Quadrat no. | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Filipendula ulmaria | | | | | | | 4 | | | I | (4) |
| | | | | | | | | | | | |
| Rumex crispus | | 1 | | | | | | | 5 | II | (1-5) |
| Rumex acetosa | | | | 4 | | | | | | I | (4) |
| Rumex obtusifolius | | 5 | | | 2 | | | 7 | 4 | IV | (2-7) |
| Potentilla anserina | 5 | | | | | | 6 | | | II | (5-6) |
| Dactylis glomerata | | | | 4 | | | | | | I | (4) |
| | | | | | | | | | | | |
| Stellaria alsine | | | 3 | | | | | 5 | | II | (3-5) |
| Taraxacum officinale agg | | | | 1 | | | | | | I | (1) |
| Cirsium palustre | | | | | | 4 | | | | I | (4) |
| Equisetum palustre | | | | | 1 | | 2 | | | II | (1-2) |
| Mentha aquatica | | | 5 | | | | | | | I | (5) |

**CG7**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Quadrat number | 1 | 2 | 3 | 4 | 14 | | |
| Grid ref | SP57277 22423 | SP57296 22403 | SP57341 22393 | SP57438 22343 | SP57519 22324 | | |
| Height cm (tall veg) | 7 | 8 | 10 | 3 | 3 | | |
| Height cm (low veg) | 2 | 5 | 2 | n/a | 1.5 | | |
| % cover tall veg | 85 | 50 | 25 | 100 | 10 | | |
| % cover low veg | 15 | 50 | 75 | | 90 | | |
| | | | | | | | |
| Sample size | 1m x 1m | 1m x 1m | 1m x 1m | 1m x 1m | 1m x 1m | | |
| Soil | | | | | | | |
| | | | | | | | |
| **Species** | | | | | | | |
| Festuca ovina | 6 | 6 | 7 | 6 | 6 | V | (6-7) |
| Hieracium pilosella | | | 5 | 7 | 4 | III | (4-7) |
| Leontodon hispidus | 2 | | | 1 | 6 | III | (1-6) |
| | | | | | | | |
| Galium verum | 4 | 5 | | | 3 | III | (3-5) |

**CG7 continued**

| Quadrat no. | 1 | 2 | 3 | 4 | 14 | | |
|---|---|---|---|---|---|---|---|
| Plantago media | | | | | 4 | I | (4) |
| Trifolium repens | | | 4 | 4 | | II | (4) |
| Achillea millefolium | 6 | | | | | I | (6) |
| Agrostis stolonifera | 6 | 4 | | | | II | (4-6) |
| Sanguisorba minor | | | 5 | 2 | 5 | III | (2-5) |
| Campanula rotundiflora | | | | 2 | | I | (2) |
| Cirsium vulgare | 3 | | | | | I | (3) |

**MG6**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Quadrat number | 15 | 16 | 17 | 18 | 19 | | |
| Grid ref | | | | | | | |
| Height (tall veg) | | | | | | | |
| Height (low veg) | 6 | 10 | 8 | 8 | 10 | | |
| % cover tall veg | | | | | | | |
| % cover low veg | 100 | 100 | 100 | 100 | 100 | | |
| | | | | | | | |
| Sample size | 1m x 1m | 1m x 1m | 1m x 1m | 1m x 1m | 1m x 1m | | |
| Soil | | | | | | | |
| | | | | | | | |
| **Species** | | | | | | | |
| Lolium perenne | 7 | 5 | 6 | 6 | 7 | V | (5-7) |
| Cynosurus cristatus | | 3 | | | 4 | II | (3-4) |
| Trifolium repens | 5 | | 5 | 4 | 4 | IV | (4-5) |
| Holcus lanatus | 4 | 4 | 5 | 5 | 4 | V | (4-5) |
| Cerastium fontanum | | 2 | | | | I | (2) |

**MG6 continued**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Quadrat number | 15 | 16 | 17 | 18 | 19 | | |
| Festuca rubra | 4 | | 5 | 4 | | III | (4-5) |
| | | | | | | | |
| Ranunculus repens | 4 | 4 | | | 4 | IV | (4) |
| Cirsium vulgare | | 4 | | 4 | | II | (4) |
| Descampsia cespitosa | | | 5 | | | 1 | (5) |
| Rumex acetosa | 4 | | 4 | | | II | (4) |
| | | | | | | | |
| Phleum pratense bertolonii | | | | | 4 | I | (4) |
| Pimpinella saxifraga | 4 | | | 4 | | II | (4) |
| | | | | | | | |
| Dactylis glomerata | 2 | | | 4 | 5 | III | (2-5) |
| Cirsium arvense | 1 | | 1 | 1 | | III | (1) |
| Taraxacum officinale agg. | 1 | | 4 | 4 | | III | (1-4) |

**MG6 continued**

| Quadrat no. | 15 | 16 | 17 | 18 | 19 | | |
|---|---|---|---|---|---|---|---|
| Achillea millefolium | 4 | | | 4 | 3 | III | (4-5) |
| Trifolium pratense | 4 | | 4 | 4 | | III | (1-7) |
| Potentilla anserina | | 3 | | | | I | (3) |

# Appendix B – species lists

## Rush pasture (MG10b)

| | |
|---|---|
| *Carex hirta* | Hairy sedge |
| *Chamerion angustifolium* | Rosebay willowherb |
| *Cirsium acaule* | Dwarf thistle |
| *Cirsium arvense* | Creeping thistle |
| *Cirsium palustre* | Marsh thistle |
| *Cirsium vulgare* | Spear thistle |
| *Dactylis glomerata* | Cock's foot |
| *Deschampsia cespitosa* | Tufted-hair grass |
| *Epilobium hirsutum* | Great willowherb |
| *Epilobium parviflorum* | Hoary willowherb |
| *Equisetum palustre* | Marsh horsetail |
| *Filipendula ulmaria* | Meadow sweet |
| *Geranium robertianum* | Herb Robert |
| *Holcus lanatus* | Yorkshire fog |
| *Hypericum sp.* | St John's wort sp |
| *Juncus inflexus* | Hard rush |
| *Mentha aquatica* | Water mint |
| *Polygonum persicaria* | Redshank |
| *Potentilla anserina* | Silverweed |
| *Potentilla reptans* | Creeping cinquefoil |
| *Pulicaria dysenterica* | Fleabane |
| *Ranunculus repens* | Creeping buttercup |
| *Rumex crispus* | Curled dock |
| *Rumex obtusifolius* | Broad-leaved dock |
| *Scrophularia nodosa* | Common figwort |
| *Solanum dulcamara* | Bittersweet |
| *Stellaria sp* | Stitchwort sp |
| *Taraxacum officinale* | Dandelion |
| *Veronica beccabunga* | Brooklime |

## Calcareous grassland (CG7) species list

| | |
|---|---|
| *Achillea millefolium* | Yarrow |
| *Agrostis stolonifera* | Creeping bent |
| *Campanula rotundifolia* | Bellflower |
| *Cirsium arvense* | Creeping thistle |
| *Cirsium vulgare* | Spear thistle |
| *Dactylis glomerata* | Cock's foot |
| *Festuca ovina* | Sheep's fescue |
| *Galium verum* | Lady's bedstraw |
| *Hieracium pilosella* | Mouse-ear-hawkweed |
| *Leontodon hispidus* | Rough hawkbit |
| *Leucanthemum vulgare* | Oxeye daisy |
| *Lolium perenne* | Perennial rye-grass |
| *Pimpinella saxifraga* | Burnet saxifrage |

## CG7 species list continued

| | |
|---|---|
| *Plantago media* | Hoary plantain |
| *Ranunculus repens* | Creeping buttercup |
| *Rumex acetosa* | Common sorrel |
| *Sanguisorba minor* | Salad burnet |
| *Taraxacum officinale* | Dandelion |
| *Trifolium pratense* | Red clover |
| *Trifolium repens* | White clover |

## Improved grassland (MG6) species list

| | |
|---|---|
| *Achillea millefolium* | Yarrow |
| *Agrostis tenuis* | Common bent |
| *Bellis perennis* | Daisy |
| *Calystegia sepium* | Hedge bindweed |
| *Cirsium acaule* | Dwarf thistle |
| *Cirsium arvense* | Creeping thistle |
| *Cirsium vulgare* | Spear thistle |
| *Cynosurus cristatus* | Crested dog's tail |
| *Dactylis glomerata* | Cock's foot |
| *Holcus lanatus* | Yorkshire fog |
| *Lolium perenne* | Perennial rye-grass |
| *Phleum bertolonii* | Small-leaved timothy |
| *Pimpinella saxifraga* | Burnet saxifrage |
| *Potentilla anserina* | Silverweed |
| *Ranunculus repens* | Creeping buttercup |
| *Taraxacum officinale* | Dandelion |
| *Trifolium pratense* | Red clover |
| *Trifolium repens* | White clover |
| *Urtica dioica* | Nettle |