Ecologically Bats

mammal specialists * protected species surveys * habitat surveys * conservation projects

Site walk over summary :

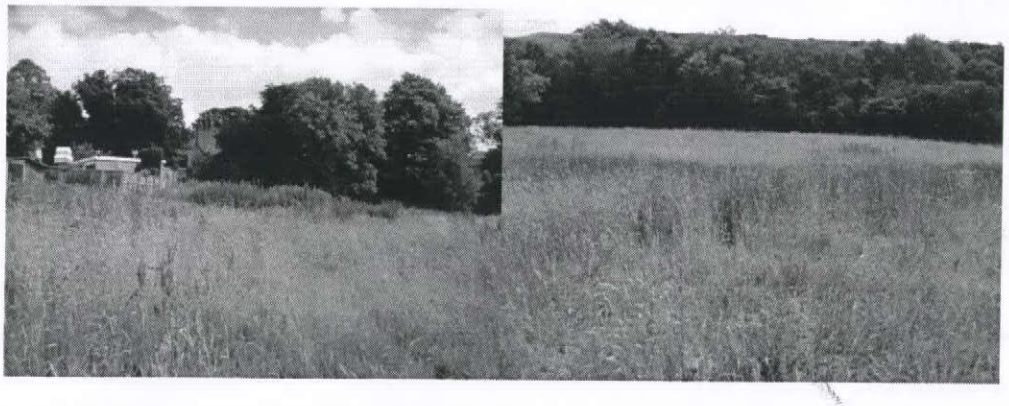
Habitat and protected species assessment at the site on Swallow House Lane, Hayfield

A walk over site assessment was conducted by Elizabeth Barratt on 19th July 2010 and was repeated on 24th June 2012 .

Dr Elizabeth Barratt is an ecologist and bat specialist. She is a professional consultant with over 25 years experience in conservation and survey work, specializing in bat ecology. She has been a licensed bat worker and member of the Cheshire Bat Group since 1986, and is a Voluntary Bat Warden for Natural England, participating in the annual National Bat Monitoring Programme of the Bat Conservation Trust. Dr Barratt is a full member of the Institute of Ecology and Environmental Management.

SITE DESCRIPTION

The site is a pasture field, previously used to graze sheep but unused for 6+ months. It is sited on the outskirts of Hayfield in a rural setting with a woodland to the south; housing with mature gardens to the north and east; school and amenity grassland to the west. The site boundaries are marked by dry stone walls and rail/post fencing. The Ordnance Survey co-ordinates are SD.032872



The river Sett runs through the Bluebell Woods to the south of the site, a designated LNR. 1km to the north east of the site is the Dark Peak SSSI.

Site habitat assessment

The habitat value was assessed as low. The field has been used as sheep pastureland, but the sheep have been absent for 6+ months so the flora has developed into that of rank improved grassland (JNCC Phase 1 habitat classifications) with low species biodiversity. Grasses (eg

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com

Yorkshire fog, cocks foot and timothy), herbs (eg sorrel), flowering plants (birds foot trefoil, ragwort, foxglove and cranesbill were the dominant species within the sword. Along the field boundaries were areas of tall ruderal where the dominant species were thistle and nettle with willow herb following in succession. In June 2012 hogweed was found to be the dominant species in the south east of the site.

Although limited in number of species the sword supported a diverse insect flora which would provide an excellent food source for foraging bats. Retention of this food source should be considered when planning the landscaping design for the site and the inclusion of insect attracting plants should be of high priority (see list in Appendix 1)

BATS

Desk Top Study

A record search at Derbyshire Wildlife Trust was carried out by TEP in January 2012 and identified two bat roosts within the Hayfield Area

- Unidentified species SK037869, Hayfield 2009
- Unidentified species SK0387, Little Hayfield 1989

There were no records for the meadow at Swallowhouse Lane, or in the area immediately adjacent to the site.

Roost Assessment

The mature trees on the site were assessed for presence of bats/signs of bat activity and potential bat roost sites :

1. Silver Birch ~ no evidence of bat activity or presence. No suitable roosting sites identified in association with this tree. This tree was re-examined in June 2012 and there was found to be no material change to the original assessment made in July 2010
2. A line of mature Hawthorne along the southern site boundary adjacent to Bluebell Wood ~ no evidence of bat activity or presence. No suitable roosting sites identified in association with these trees. These trees were re-examined in June 2012 and there was found to be no material change to the original assessment made in July 2010
3. Ash sited on the eastern side of the site towards the centre. ~ potential roost site identified in a broken limb. This section showed signs of damp and probably retains water when it rains as it was exposed to the elements. There was no evidence of staining, fur rubbing or droppings in association with feature. It is recommended that this area be checked immediately prior to felling but is considered low potential. This tree was re-examined in June 2012 and there was found to be no material change to the original assessment made in July 2010
4. Mature Oak ~ this tree was difficult to survey due to the presence of foliage. However no holes/cracks were evident on the main truck or substantial branches. This tree was re-examined in June 2012 and there was found to be no material change to the original assessment made in July 2010. This tree is now to be retained as part of the proposed redevelopment of the site.



Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com

When carryout a work on trees contractors should be aware that if bats or signs of bats are found during works, all work should cease and Natural England or a licensed bat consultant contacted immediately and their advice followed. Failure to do so may result in an offence under the legislation in relation to bats as described in the Wildlife and Countryside Act (1981). On no account should the bat(s) be handled by anyone other than a licensed bat worker.

Foraging

The trees and meadow grassland provide a good foraging habitat for bats, having a high biomass of insects associated with them. The retention of the oak will provide a continued biodiversity of insect species on site. Landscaping for the proposed development should include the planting of insect attracting native species to provide foraging opportunities and the planting of native species hedgerows to provide connectivity across the site.

Nesting Birds

There is potential for nesting birds in association with the oak and hawthorne and therefore work should take place outside f the breeding season for birds, which is March to September, although this may be dependent on weather conditions. Cold weather may delay the onset of nest-building or warm weather may bring it forward.

Birds are declining due to loss of roost and nesting places. The erection of artificial nests within the proposed development will provide alternative sites and make a positive contribution to their conservation. Swallows prefer building nests between rafters and some form of canopy, which can be provided by an area of an open garage port with a suitable roof structure. Other birds prefer a ledge or gap in brickwork to build. These features can be incorporated into a garage or below the gable apex on new build housing, and artificial nests can be put up to encourage occupation of the new area.

PROTECTED SPECIES ASSESSMENT

The site was assessed for its potential to support protected species. The nearest water body is the river Sett and a drainage ditch that run to the south-west of the site in the woodland leading to a mill pond to the west to the site. No evidence of water vole or otter activity was found in the section of water accessible from the site.

The presence/absence of GCN on the site is addressed in a separate report compiled by TEP.

The trees on site were considered unsuitable for barn owl nesting sites.

There was no evidence of badger setts within the site boundary at the time of survey, however there is evidence of badger foraging activity on site and latrines at the south-western corner on a path entering the woodland to the south of the site. In June 2012 paths were found across the site, running along the site boundary and across the centre of the site. Many paths connected the Bluebell woodland on the south to the mature gardens along the north of the site. Latrines were found in the garden of Orchard House.

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com



Badger Latrine



Badger foraging sign

CONCLUSIONS & RECOMMENDATIONS

The repeated survey carried out in June 2012 found no material change to the biodiversity of the site.

The site has limited biological diversity within the flora and is considered to be of low conservation value as rank improved grassland. Within 1km of the site there are areas of lowland dry acid grassland, lowland meadow and upland calcareous grassland, all of which have high biodiversity value. Therefore the inclusion of native species appropriate to the location will increase the biodiversity of the site and provide habitat linkage for insects, bats, badgers and birds.

Bats

The insect flora on the site provides a feeding source for foraging bats and this should be retained Landscaping for the proposed development should include the planting of insect attracting native species to provide foraging opportunities and the planting of native species hedgerows to provide connectivity across the site (see Appendix 1 for species lists).

The trees in the east/centre of the site showed no evidence of bat presence or activity, however in the long term mature trees may provide bat roost sites therefore compensation for the loss of these potential roosts should be considered in the form of bat boxes such as the Schwegler 1FR bat tube, which can be built into the walls of houses or 1FF bat box which can be attached to surrounding trees. The best time for work on trees is late autumn/winter avoiding active seasons for bats and nesting seasons for birds. The mature oak in the north east of the meadow is to be retained as part of the proposed development.

Badgers

Badgers are using the site as a foraging area and are reported foraging in the gardens on the northern site boundary (evidence seen in the garden of Orchard House June 2012). There was no evidence of a sett in the area of Bluebell Wood immediately adjacent to the site boundary on the southern side, however the sett may be sited further into the woodland. A record search of the Derbyshire Wildlife Trust badger database returned no results for the meadow or adjacent area. When work is to commence, the working site should be fenced off to protect the badgers from injury on the construction site. If possible a corridor should be created to link the south west corner of the woodland to the gardens at the north of the site. Alternative foraging areas are available to the west of the woodland but the proposed development should retain landscape connectivity where possible and through the use of hedgerows, as opposed to fencing, allow badgers access to gardens for foraging activity.

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com

Best practice close to watercourse and bodies

Best practice must be employed to avoid any degradation of habitat close to the watercourse or of the watercourse itself.

- All building waste is properly disposed of and no use is made of the canal or stream for any building activities
- No materials, waste or other polluting substances are discharged into the watercourse
- No riparian (river) habitat is damaged during the work
- Any incidental or accidental damage is repaired as soon as possible.

It is recommended that if further guidance is required then the Environment Agency must be contacted to ensure that best practice is employed during the clearance and development work.

The conclusions and recommendations in this report in respect to surveys for protected species are based upon the results from surveys in July 2010 and June 2012. These data will only be of use for 12 months following the survey, after which further survey to establish the current position and possible changes in status, will be necessary to ensure all activities are informed and guided by the most recent data on site status

Dr Elizabeth Barratt
28th June 2012

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com

Appendix 1: Landscaping and the conservation of bat populations

Planting to enhance a site for bats should aim to provide a habitat rich in insects, and with the potential for alternative roosting sites. The construction of shelter belts, especially around a pond will create areas with high densities of insects.

Trees and Shrubs

Oak	*Quercus robur*
Ash	*Fraxinus excelsior*
Silver Birch	*Betula pendula*
Field Maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Alder	*Alnus glutinosa*
Goat Willow	*Salix caprea*
Guelder Rose	*Viburnum opulus*
Hazel	*Coryllus avellana*
Blackthorn	*Prunus spinosa*
Elder	*Sambucus nigra*
Butterfly-bush	*Buddleja davidii*

Night-scented flowers

As bats usually feed at dusk and dawn it is advantageous to use night-scented flowers which will attract moths and other night-flying insects.

Nottingham Catchfly	*Silene nutans*
Night -flowering Catchfly	*S. noctiflora*
Bladder Campion	*S. vulgaris*
Night-scented Stock	*Matthiola bicornis*
Dame's-violet	*Hesperis matronalis*
Common Evening-primrose	*Oenothera biennis*
Soapwort	*Saponaria officinalis*
Tobacco plant	*Nicotiana affinis*
Cherry pie	*Heliotopum x hybridum*

Scented herbs

Chives	*Allium schoenoprasum*
Sage	*Salvia officinalis*
Marjoram	*Origanum vulgare*
Borage	*Borago officinalus*
Mint	*Mentha* sp.

Climbers

Perfoliate Honeysuckle	*Lonicera caprifolium*
Italian Honeysuckle (garden)	*L. etrusca*
Japanese Honeysuckle	*L. japonica*
Honeysuckle (native)	*L. periclymenum*
White jasmine	*Jasminium officinale*
Dog-rose	*Rosa canina*
Sweet-briar	*R. rubiginosa*
Field-rose	*R. arvensis*
Ivy	*Hedera helix*
Bramble	Rubus fruticisos agg.

Leaving areas of grass uncut allows larval stages of these insects to develop.

Source:

Bats in the garden by Shirley Thompson, 1989. School Garden Company. Spalding Lincs
Bat Conservation Trust leaflet 'Garden for Bats'

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com

Appendix 2: Legislation

Bats are offered special protection under the following legislation:

- **The Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9**. This Act transposes into UK law the **Convention on the Conservation of European Wildlife and Natural Habitats** (commonly referred to as the "Bern Convention". The WCA was recently amended by the **Countryside and Rights of Way [CroW] Act 2000.** This makes it is an offence to:
  - Intentionally kill, injure or take any species of bat [Section 9(1)]
  - Possess or control any live or dead specimens or anything derived from a bat [Section 9(2)]
  - Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat [Section 9(4)(a)]
  - Intentionally or recklessly disturb a bat while it is occupying a place or structure which it uses for that purpose [Section 9(4)(b)]

- **The Conservation (Natural Habitats &c) Regulations 1994** (The Habitats Directive) transposes into UK law **Council Directive 92/43/eec** of 21st May 1992 on the **Conservation of Natural Habitats of Wild Fauna and Flora** (referred to as the Habitats [and Species] Directive). Bats are listed on Annex II and Annex IV of the Directive. Inclusion in Annex II serves to underline their (the bats') conservation significance; inclusion in Annex IV (European Protected Species) means that member states are required to put into place a system of strict protection as outlined in Article 12. This is done through inclusion in Schedule 2 of the Regulations. Regulation 39 makes it an offence to:
  - deliberately capture or kill a bat [Regulation 39 (1)(a)]
  - deliberately disturb a bat [Regulation 39(1)(b)]
  - deliberately damage or destroy a breeding site or resting place of a bat [Regulation 39(1)(d)].

There are several exceptions to the provisions listed above. Licenses permit unlawful activities and are granted for certain purposes by Natural England for scientific, education or conservation purposes (including survey). Natural England issues licenses through the Wildlife Licensing Unit for the purposes of "*preserving public health or 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*" [Regulation 44(2)(e)].

Barn owls, *Tyto alba*, are protected under the **Wildlife and Countryside Act 1981**, in which they are classified as a schedule one species, under this special protection it is an offence to:

- Kill, injure, or take (handle) any wild barn owl.
- Take, damage or destroy any wild barn owl nest whilst in use or being built (Barn owls do not build a nest but make a scrape).
- Take or destroy a wild barn owl egg.
- Have in one's possession a wild barn owl (dead or alive), or egg, unless one can show it was obtained legally.
- Disturb any wild barn owl whilst "building" a nest or whilst in or near a nest containing eggs or young.
- Disturb any dependant young of wild barn owls.

Great crested newts, *Triturus cristatus*, are offered special protection under the following legislation:

- **The Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9**. This Act transposes into UK law the **Convention on the Conservation of European Wildlife and Natural Habitats** (commonly referred to as the "Bern Convention". The WCA was recently amended by the **Countryside and Rights of Way [CroW] Act 2000.** This makes it is an offence to:
  - intentionally kill, injure or take a great-crested newt [Section 9(1)]
  - possess or control any live or dead specimens or anything derived from a great-crested newt [Section 9(2)]

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com

- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great-crested newt [Section 9(4)(a)]
- intentionally or recklessly disturb a great-crested newt while it is occupying a place or structure which it uses for that purpose [Section 9(4)(b)].

- **The Conservation (Natural Habitats &c) Regulations 1994** (The Habitats Directive) transposes into UK law **Council Directive 92/43/eec** of 21st May 1992 on the **Conservation of Natural Habitats of Wild Fauna and Flora** (referred to as the Habitats [and Species] Directive). The great-crested newt is listed on Annex II and Annex IV of the Directive. Inclusion in Annex II serves to underline the animal's conservation significance; inclusion in Annex IV (European Protected Species) means that member states are required to put into place a system of strict protection as outlined in Article 12. This is done through inclusion in Schedule 2 of the Regulations. Regulation 39 makes it an offence to:
  - deliberately capture or kill a great crested newt [Regulation 39 (1)(a)]
  - deliberately disturb a great crested newt [Regulation 39(1)(b)]
  - deliberately take or destroy the eggs of a great crested newt [Regulation 39(1)(c)]
  - deliberately damage or destroy a breeding site or resting place of a great crested newt [Regulation 39(1)(d)].

This legislation applies to all life stages of great crested newts.

Exceptions for licensing

There are several exceptions to the provisions listed above under Regulation 44(2)(e). The Wildlife Licensing Unit of Natural England issues licences for a number of purposes, including "*preserving public health or 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* . Licences permit unlawful activities under and in accordance with the terms of a licence granted by the appropriate authority.

Regulations 39 does not apply to anything done (under appropriate licence) for any of the following purposes

- scientific or educational purposes;
- ringing or marking, or examining any ring or mark on, wild animals;
- conserving wild animals or wild plants or introducing them to particular areas;
- protecting any zoological or botanical collection;
- preserving 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;
- preventing the spread of disease; or
- preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries.

The appropriate authority shall not grant a licence under this regulation unless they are satisfied-

(a) that there is no satisfactory alternative, and

(b) that 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.

Wild Birds: Wildlife legislation through the Wildlife & Countryside Act 1981 states it is an offence to

- Intentionally kill, injure or take any wild bird
- Intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built
- Intentionally take or destroy an egg of any wild bird

The Wildlife & Countryside Act 1981 has several subsequent amendments the most important being the Countryside and Rights of Way Act 2000 (CROW) which under Schedule 12 of the Act strengthens the legal protection for threatened species. It also makes certain offences 'arrestable' and importantly and

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com

significantly creates a new offence of reckless disturbance. It also confers greater powers to police and wildlife inspectors for entering premises and obtaining wildlife tissue samples for DNA analysis, and also enables heavier penalties on conviction of wildlife offences.

Schedule 12 amendment states:
1. In section 1(5) of the 1981 Act (offence of intentional disturbance of wild birds) after "intentionally" there is inserted "or recklessly".

Badgers (*Meles meles*): LEGISLATION AND POLICY GUIDANCE

The Protection of Badgers Act 1992 is based primarily on the need to protect badgers from baiting and deliberate harm or injury. It also contains restrictions that apply more widely and it is important for developers to know how this may affect their work. All the following are criminal offences:

- to willfully kill, injure, take, possess or cruelly ill-treat a badger;
- to attempt to do so; or
- to intentionally or recklessly interfere with a sett.

Development should not be permitted unless it is possible to take steps to ensure the survival of the badgers in their existing range and at the same population status, with provision of adequate alternative habitats **if setts and foraging areas are destroyed.**

Best practice

- The need to comply with the law is obvious. However, there are other more practical benefits in taking
- adequate account of badgers when planning a development. Public affection for this species means that
- the cost of mitigation to accommodate badgers may be small compared with that of dealing with
- protests or adverse publicity if badgers are not catered for. Natural England recommends that when any
- protected species is thought to occur on site, early advice be sought from an appropriately experienced
- adviser, as this can prevent costly delays at a later date. Following the advice below will help developers
- to avoid committing offences:
- It may take a period of many weeks or months to obtain adequate information about how
- badgers are using a site. Bait marking (a method used to map territorial ranges) and other
- survey techniques are usually effective only at certain times of the year.
- Foraging areas should be maintained or new foraging areas should be created.
- Access between setts and foraging / watering areas should be maintained or new ones
- provided. Development that isolates a badger territory by surrounding it with roads or housing
- results in problems such as increased road traffic collisions, and badger damage to gardens and
- houses.
- Natural setts are usually favoured over artificial setts, so unnecessary closure of natural setts
- should be avoided.
- Badger tunnels can extend to 20m from the entrance holes and are located between 0.2 and
- several metres deep, depending on the soil and topography. Excavation work and heavy
- machinery should be kept well away from where it could result in damage to the sett or
- disturbance to any badger occupying the sett. Guidelines recommend that :
- heavy plant can used at 30m and over
- small mechanical digger up to 10 metres
- hand-digging only at <10m
- These measurements are from the closest known hole, active or not.
- Fires and chemicals should not be used within 20 metres of a sett Trees should be felled so that
- they fall away from active setts and badger paths should be cleared of felled timber and scrub
- Appendix 2b: **Badgers (*Meles meles*): LEGISLATION AND POLICY GUIDANCE**
- wherever possible. Disturbances, such as loud noise or vibrations, that might agitate badgers

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com

- occupying a sett should be avoided or limited to areas well away from the sett.
- If this guidance cannot be followed and the work you are proposing is likely to cause sett interference
- you will need to apply for a licence. In considering your licence application you should note:
- Sett interference should be avoided between the beginning of December and the end of June,
- which is when badgers are breeding. Badgers are particularly vulnerable at this time of year and
- sett interference can result in dependant cubs being left on their own.
- The law does not permit licences to capture badgers for development purposes, so physically
- moving them out of the way of development is not an option.
- The person to be licensed should be competent and will, ideally, have previous, relevant
- experience in carrying out this type of work.
- Taken from:
  Natural England (2007) *Badgers and Development: A Guide to Best Practice and Licensing* Version 09/07

Dr. E. Barratt MIEEM

Telephone: 07894 518259 **Email:** ecobats@btinternet.com