

Ecological Assessment

of land at

Lydbury North

Shropshire

(SO352861)

By Churton Ecology
(R.G. Thorne and Dr A.K. Thorne MCIEEM. Contact 01743718270)
Commissioned by Balfours LLP
April 2014

CONTENTS

	Page
Summary	2
1. Introduction	4
1.1 Background, site description and survey objectives	4
1.2 Proposed works	4
2. Methodology	5
2.1 Baseline ecological conditions	5
2.2 Desk study	5
2.3 Habitat survey	5
2.4 Protected species survey	5
3. Results	7
3.1 Desk study	7
3.1.1 Designated sites	7
3.1.2 Protected and priority species	7
3.1.3 Schedule 9 species	8
3.2 Habitat survey	8
3.2.1 Site habitat types	8
3.2.2 Site habitat descriptions	8
3.2.3 Habitats in site surrounds	9
3.2.4 Flora	9
3.3 Protected species survey	10
3.3.1 Bats	10
3.3.2 Great Crested Newt	10
3.3.3 Otter and Water Vole	10
3.3.4 Dormouse	10
3.3.5 Badger	10
3.3.6 Reptiles	10
3.3.7 Birds	10
3.3.8 Other priority species	10
4. Ecological evaluation	11
4.1 Baseline ecological criteria	11
4.2 Statutory and non statutory nature conservation sites in the locality	11
4.3 Habitats within and close to site	12
4.4 Protected species	12
4.4.1 Bats	12
4.4.2 Great Crested Newt	12
4.4.3 Otter and Water Vole	12
4.4.4 Dormouse	12
4.4.5 Badger	13
4.4.6 Reptiles	13
4.4.7 Birds	13
4.5 Survey limitations	13
4.6 Legal status	13
5. Potential impacts and Recommendations	15
5.1 Introduction	15
5.2 Habitats	15
5.3 Protected species	15
5.3.1 Bats	15
5.3.2 Birds	16
5.4 Habitat compensation and enhancement recommendations	16
5.5 Further survey recommendations	17
6. References	17
Appendix 1 Phase 1 map	
Appendix 2 Plant list	
Appendix 3 Map of historical wildlife data	

SUMMARY

Background

Churton Ecology was commissioned to carry out an Ecological Appraisal of land (approximately 0.2 ha) proposed for residential development in the village of Lydbury North, Shropshire.

Method of study

A desk study and Extended Phase 1 habitat survey were carried out in order to assess the current ecological value of the site and to identify potential impacts and ecological constraints and make recommendations for general mitigation, compensation and further surveys, as appropriate.

Baseline Ecological Conditions

There are no statutory sites for nature conservation within 1km of the site but there are two County Wildlife Sites (Walcot Park Lake and Lower Down), to the south. These will not be affected by proposed works.

The site comprises poor semi-improved grassland with hedgerow boundaries (east and north-west).

The grassland is of low ecological value but the hedgerow boundaries are of slightly higher ecological value. Hedgerows are a UK priority habitat but the hedgerows do not class as 'important' under the Hedgerow Regulations.

The main features of current ecological interest on the site are the boundary hedgerows which have the potential to support breeding birds; the east hedgerow is likely to be used by bats as commuting and foraging habitat since it more or less links the church (likely to support roosts) to woodland in the north.

Ecological issues

Potential ecological issues associated with the proposed development, on or near the site include i) the disturbance of nesting birds within the breeding season if there is any hedgerow removal ii) the disturbance of bat foraging and commuting habitats caused by artificial lighting situated close to the east hedgerow iii) damage to the root systems of the east hedgerow if work encroaches on its root protection zone; this could negatively affect breeding bird habitat as well as bat foraging and commuting habitat in the longer term.

Key recommendations

- Any clearance of hedgerow, tree or scrub should, where possible, be carried out in the late summer or winter months to avoid the main bird-nesting season.
- As much hedgerow as possible should be retained, with the minimum removed (e.g. limited to providing access). To avoid damaging the root systems of the hedgerows, root protection measures or appropriate working methods should be implemented.
- External lighting should be minimised throughout the site and should specifically aim to avoid illuminating the hedgerows.
- Opportunities for enhancement of the site post development include planting of native hedgerow along the north boundary and planting of shrubs and trees on site that provide food for wildlife. Erection of bird boxes on buildings is another option.

1 INTRODUCTION

1.1 Background, site description and survey objectives

Churton Ecology was commissioned by Balfours LLP to carry out an Ecological Assessment of land proposed for residential development on the southern edge of the village of Lydbury North in Shropshire (SO352861). The site is currently a small field.

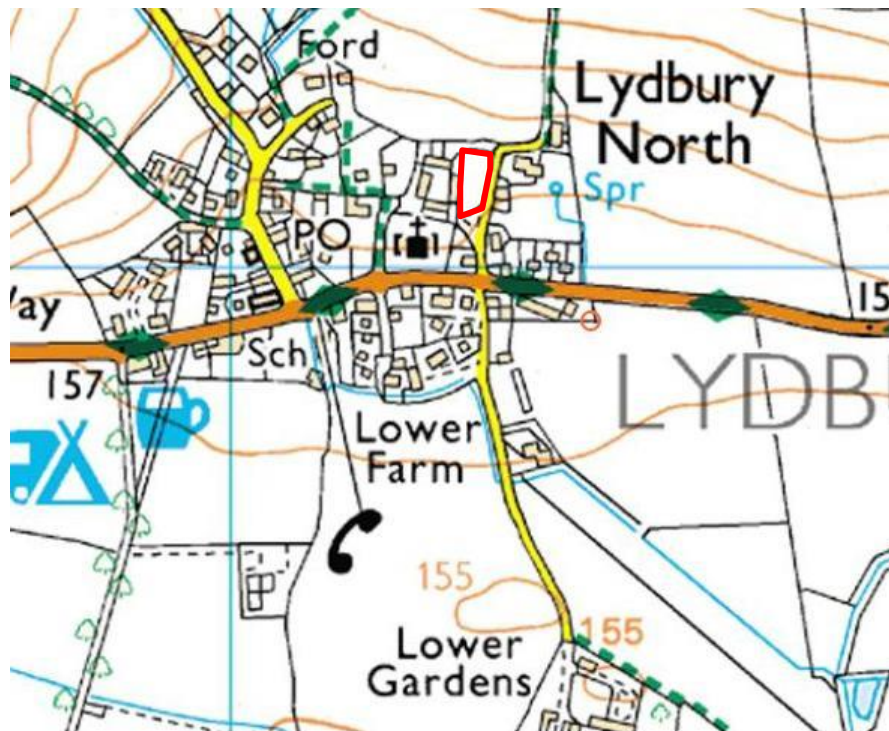


Figure 1: Site location (red)
OS map licence no.100048619

The survey aimed to provide ecological information with relevance to the proposed works by a) analysing previous biological records within a 1km radius of the site centre ii) identifying the presence of special sites for conservation within the 1km surround c) identifying habitats within the site and surrounds, their ecological significance and function d) identifying the presence of protected, priority or notable species and habitats or the potential for these e) assessing the likely significant impacts of the proposed works e) identifying any further survey work or mitigation that might be necessary prior to the submission of a planning application .

1.2 Proposed works

Proposals include the construction of 6 houses and associated infrastructure. The site covers approximately 0.2 ha.

2 METHODOLOGY

2.1 Baseline Ecological Conditions

The ecological baseline was established through a desk study and site survey.

2.2 Desk study

A desk study was carried out to identify protected species and habitats as well as national and local designated sites for nature within 1km of the site. Searches were conducted using the following sources:

- Shropshire Ecological Data Network
- OS maps

OS maps and aerial photographs were used to identify landscape features of potential interest including ponds, streams and ditches, and areas of apparent (semi-) natural value. This is particularly useful when considering links between important areas and potential Great Crested Newt breeding habitats within 250m of the site.

2.3 Habitat survey

A phase 1 survey of the site and immediate surrounds was conducted on 24/4/2014 by Kate Thorne following the JNCC (2010) Phase 1 methodology, see Appendix 1 for habitat map.

The habitats were assessed, and their importance/value noted based on botanic diversity and/or their potential to support uncommon or rare species of fauna (e.g. axiophytes/Red Data Book species).

All hedgerows that might either be removed or otherwise impacted were assessed according to the Hedgerow Regulations (1997).

2.4 Protected species survey

Bat species

Hedgerow trees were assessed for their potential to support bat roosts; only a ground level search was required.

A general habitat suitability assessment of the site and surrounds was also carried out to determine their value as foraging habitat.

Great Crested Newt (*Triturus cristatus*)

Suitable aquatic habitats with the potential to support breeding Great Crested Newt were sought on OS maps, within 250m of the site. Only a 'spring' at 90m distance was noted and assessed.

The habitats on site were assessed for their suitability to provide resting places or areas suitable for shelter or protection (referred to as terrestrial habitats) and a limited search of refugia (stone piles) was made. The potential for newts to traverse the site and any dispersal limitations that might interrupt such migrations were also considered.

Otter (*Lutra lutra*) and Water Vole (*Arvicola amphibious*)

No search was conducted for this species since no suitable habitat was encountered.

Dormouse (*Muscardinus avellanarius*)

Suitable woodland and hedgerow habitats were noted within or adjacent to the site. Dispersal links and barriers to suitable woodland habitats were also considered in relation to hedgerow/woodland links.

Badger (*Meles meles*)

Burrows and surface nests were sought on the site and within a 50m surround (at least). Other evidence of activity, such as latrine pits, paths, snuffle holes, feeding remains and hairs (in burrow spoil or snagged along trails) were also sought.

Reptiles

Suitable habitat within the site and adjacent surrounds, with potential to support the 'widespread' reptile species, was sought. Areas were assessed for their potential to provide permanent, seasonal and/or temporary reptile habitats. Dispersal links and barriers between more abundantly suitable habitats were also considered in relation to mobile and/or transient species.

Birds

Habitats with potential to support common, priority or Schedule 1 species of bird were sought within the site and surrounds. A list of bird species using the site and adjacent surrounds was established during the survey and old nests encountered were attributed to species, where possible.

Other protected or priority species

The walkover process is generally designed to pick up on anything that may be encountered or inferred from habitat suitability. However, for protected and priority species that might require specialist survey, (e.g. invertebrates, nocturnal, cryptic or migratory animals) a botanical/habitat feature survey generally provides a sound basis for predicting any further survey work that may be necessary.

3 RESULTS (Baseline Ecological Conditions)

3.1 Desk study

3.1.1 Designated Nature Conservation Sites

There are no statutory sites for nature conservation in the 1km surround but there are two County Wildlife Sites.

Table 1: non statutory sites for nature conservation in the 1km surround				
Site name	Legislation	Ecological value	Distance	Details
Walcot Park Lake WS	N/A	County	850m at nearest point	Large artificial lake and wet woodland; 22.09 ha. SO348853
Lower Down WS	N/A	County	1km plus, at nearest point	Unimproved MG5 pasture with species rich ponds; 14.5ha. SO343847

3.1.2 Protected and priority species

Note: the site falls within the monad SO3585.

The findings of both protected and priority species have been summarised below, also see map of their distribution in Appendix 3.

Protected species

Otter (*Lutra lutra*) has been recorded from the River Kemp (SO3685) and Walcot Lakes/Park (SO3485), in 2000.

There are recent records for several specially protected birds from the site monad and the wider surround: Common Kingfisher (Walcot Park, SO3585), Eurasian Hobby (SO3585 and SO3587), Red Kite (SO3585, SO3785, SO3586 and SO3587), Common Crossbill (SO3585 and SO3785) and Barn Owl (SO3587).

There are no records for any bat species, Great Crested Newt (*Triturus cristatus*), Dormouse (*Muscardinus avellanarius*), Water Vole (*Arvicola terrestris*), Badger (*Meles meles*) or any reptiles.

UK priority species

There are recent records from the site monad and the wider surround for Tree Pipit, Lesser Spotted Woodpecker, **Yellowhammer**, Grasshopper Warbler, Spotted Flycatcher, **House Sparrow**, Grey Partridge, **Tree Sparrow**, **Dunnock**, Marsh & Willow Tit, **Bullfinch**, **Song Thrush**, **Starling**, Wood Warbler and Northern Lapwing; those highlighted are the species that are most relevant to this development.

Pine Martin (2 animals) has been recorded from Lydbury North (SO3586) in 2006.

White-letter Hairstreak (butterfly) has been recorded in SO3687 (in 2003) and from SO3485 (in 1996).

There are two old records for Spreading Bellflower in SO3687/SO38; this species still survives in the South Shropshire Hills and is often associated with hedgerows.

Local priority species

There are recent records for several local priority bird species in the area: Mallard, Teal, Shoveler, Tufted Duck, Meadow Pipit, Swift, Stock Dove, **House Martin**, Snipe, Kestrel, Grey Wagtail, Wheatear, Redstart, Willow Warbler, Green Woodpecker, Golden Plover, Sand Martin, Mistle Thrush and Woodcock.

The most relevant local priority plants (axiophytes) in the area are grassland species [Common Lady's-mantle, Slender Parsley-piert, Betony, Spring Sedge, Woolly Thistle, Wild Basil, Changing Forget-me-not, Bird's-foot, Burnet-saxifrage, Flattened Meadow-grass, Common Fleabane, Devil's-bit Scabious, Hop Trefoil and Yellow Oat-grass] and woodland ones [Moschatel, Wood Anemone, Hard Fern, Hairy Brome, Wood-sedge, Climbing Corydalis, Alternate-leaved Golden-saxifrage, Golden-scaled Male-fern, Bearded Couch, Broad-leaved Helleborine, Wood Horsetail, Spindle, Sweet Woodruff, Bluebell, Slender St John's-wort, Yellow Archangel, Hairy Wood-rush, Great Wood-rush, Common Cow-wheat, Wood Melick, Wood-sorrel, Hard Shield-fern, Soft Shield-fern, Goldilocks Buttercup, Sanicle, Greater Chickweed, Small-leaved Lime, Large-leaved Lime and Wood Vetch]. In addition, there are records for 2 arable axiophytes, 4 heathland ones and 19 wetland ones. Other species include Brittle Bladder fern (walls) and Trailing St John's-wort (hedge banks).

There are 1996 records for several priority beetles in Walcot Park (SO3485).

3.1.3 Schedule 9 ('invasive') species

Non-native invasive plants recorded in the area include Japanese Knotweed, Himalayan Balsam, Few-flowered Garlic and Rhododendron.

Invasive fauna species include Chinese Water-deer (old records in SO3484), Black Swan and Canada Goose.

3.2 Habitat survey

3.2.1 Site habitat types

The range of habitats on the site can be summarised as follows:

- Poor semi-improved grassland
- Hedgerow

These are represented on the habitat map in Appendix 1, with numbered target notes. All plants are listed in Appendix 2. In the text species are referred to using their English names

(Appendix 2 provides a list of their scientific names). Nomenclature follows Stace, C. (2011) New Flora of the British Isles.

3.2.2 Site habitat descriptions

Poor semi-improved grassland

The site is largely a small grassland field which has been agriculturally improved (TN7). The sward is being grazed (by sheep) and is species-poor with only a few grasses [Yorkshire-fog (dominant), Red Fescue, Cock's-foot and Crested Dog's-tail] and herbs [Dandelion, Creeping Buttercup and Hogweed]. A few 'nuisance' weeds are present: Nettle (locally frequent) and Dock.

Grassland continues to the south of the field (off site) as an open area of mown grassland.

Hedgerow

A hedgerow (TN3) runs along the east boundary on the top of a steep bank which descends to a dry ditch beside a track; Blackthorn is dominant for much of its length with some Wych Elm, Elder, Holly and Hawthorn. At either end the hedge continues around the south-east and the north-east corners as over-mature shrubs with some coppiced Ash. A negative feature to this hedgerow is that it is fragmented at either end from other hedges although the canopy more or less links to over-mature scrub/hedge to the north. Positive features are i) it has a couple of trees (Ash) ii) there are five woodland ground flora species – Wood Avens, Wild Arum, Male-fern, Common Dog-violet and Dog's Mercury iii) it runs with a ditch. However, it does not class as an 'important' hedgerow (as per the Hedgerow Regulations).

A hedgerow (TN2) along part of the west boundary is a modern one alongside a garden but is largely native with Hazel, Hawthorn, Blackthorn/Plum, Honeysuckle, Maple, Beech, Holly and Guelder Rose.

3.2.3 Habitats in the site surrounds

The field lies on the northern edge of the village and is flanked by housing, with old tracks on three sides. Arable land and some over-mature hedgerow lie to the north and the church (and churchyard, TN6) lie to the south-west.

A spring (TN4), which is just a small trickle emerging out of the ground, beside an old Yew tree, lies to the east.

3.2.4 Flora

All the plant species found during the survey are common species, see Appendix 2 for full list.

3.3 Protected species survey

3.3.1 Bats

There are no bat roost features in the hedgerow Ash or in any other trees close to the site. The site hedgerows, although fragmented, have potential to provide foraging habitat and commuting routes for bats. The canopy of the east hedge more or less links to hedge/scrub to the north.

3.3.2 Great Crested Newt

No suitable standing water-bodies were noted near the site. The site itself comprises poor terrestrial habitat and no potential refugia were noted.

3.3.3 Otter and Water Vole

There is no habitat present on or close to the site which is suitable for these species.

3.3.4 Dormouse

The fragmentation of the site hedgerows, makes the site unsuitable for Dormouse.

3.3.5 Badger

No signs of Badger were noted on or close to the site and no setts were found in the wider surround..

3.3.6 Reptiles

The habitat present on site is unsuitable for all the 'widespread' reptile species, being too intensively managed.

3.3.7 Birds

Only a very few common bird species were seen, using the hedgerow and plantations and/or the immediate surrounds e.g. Blackbird, Chiff-chaff and Blackcap. The field appears unsuitable for ground nesting birds (too small).

3.3.8 Other priority species

Since the plant diversity is low to moderate, it may be reasonable to assume that no important invertebrate habitats will be affected by the proposed works.

4 ECOLOGICAL EVALUATION

4.1 Baseline evaluation criteria

An ecological evaluation was undertaken using a combination of criteria for habitats and species based on the results obtained through desk study and field survey. The general framework follows that described by the Institute of Ecology and Environmental Management (IEEM, 2006) (see Table 1 below).

Where relevant, the evaluation was made with reference to the statutory protection afforded to species and habitats.

Legal protection does not always correspond to conservation value. Some species (e.g. badgers) are protected for reasons of animal welfare rather than conservation. Others are of national conservation value but are not protected by law (e.g. some Red Data Book species and UK BAP species).

Ecological Value	Description and Examples
High	Habitats or features that have high importance for nature conservation, such as statutory designated nature conservation sites of international or national importance or sites maintaining viable populations of species of international or national importance (e.g. Red Data Book species; European protected species).
Medium	Sites designated at a county or district level, e.g. Local Wildlife Site (LWS), ancient woodland site, ecologically 'important' hedgerows or ecological features that are notable within the context of a region, county or district (e.g. a viable area of a Priority Habitat on the county BAP or a site that supports a viable population of a county BAP species).
Low	Sites of nature conservation value within the context of a parish or neighbourhood, low-grade common habitats, such as arable fields and improved grasslands and sites supporting common, widespread species.

4.2 Statutory and non statutory nature conservation sites in the locality

There are no statutory sites one within 1km of the site but there are two County Wildlife Sites; these are considered to be of medium ecological value.

4.3 Habitats within and close to the site

Grassland

The main habitat to be lost is poor semi-improved grassland which is not a priority habitat and is considered to be of low ecological value.

Hedgerows

The site supports hedgerow which is unlikely to be disturbed.

Hedgerows are a UK priority habitat but the site hedgerows do not class as important (as per the Hedgerow Regulations). However, the east hedgerow is moderately diverse and is likely to be old; the garden hedgerow in the west appears to be modern. Neither hedge links directly to any other hedge but the canopy of the east hedgerow more or less links with over-mature hedgerow/scrub to the north. The hedges have potential for breeding birds (scrubland species); the east hedge is likely to be used by foraging and commuting bats.

The hedge is, therefore, considered to be of low to medium ecological value.

4.4 Protected species

4.4.1 Bats

No potential bat roost features were noted in any of the trees or buildings on or close to the site.

The semi-improved grassland provides poor foraging habitat but the hedgerows are likely to provide better foraging opportunities. The east hedgerow, although fragmented, is likely to be used by commuting bats since it more or less links to good habitat; it may be the main link between the church (likely to support roosts) and good habitats to the north.

4.4.2 Great Crested Newt

Given the lack of a pool in the 250m surround and of existing records it is considered highly unlikely that Great Crested Newt is present within the site.

4.4.3 Otter and Water Vole

Otter has been recorded in the surrounds but, given the lack of suitable habitat on or close to the site, it is considered highly unlikely that these two species are present within or close to the site.

4.4.4 Dormouse

Given the lack of suitable habitat, habitat links and any existing records, it is considered highly unlikely that this species is present on the site.

4.4.5 Badger

Although there was a lack of any signs for this species, on or close to the site, trails were noted at some distance from the site (to the south); Badger may sometimes (opportunistically) use the site for foraging.

4.4.6 Reptiles

Although there are no past records, Slow-worm may be present in the churchyard. However, this species is considered unlikely to use the intensively managed grassland on or close to the site.

4.4.7 Birds

A number of priority and common scrubland/hedgerow bird species are likely to use the boundary hedgerows for nesting (and/or foraging). The site lacks suitable habitat for specially protected birds e.g. Barn Owl (which has been recorded in the area). The site also appears unsuitable for ground nesting birds to breed (too small).

4.5 Survey limitations

There were no significant survey limitations.

4.6 Legal status

Bats

All UK bat species are protected under both UK and European Law. Essentially this makes it unlawful to; deliberately capture, injure or kill a bat; intentionally or recklessly disturb a bat whilst it occupies a roost or deliberately cause disturbance to a bat or group of bats; damage, destroy or cause deterioration to the roosting site of a bat; intentionally or recklessly obstruct access to a bat roost.

Notably, legal protection gives absolute protection to bat roosts and their continued ability to function, regardless of deliberate, intentional or reckless action. A roost is defined loosely as a place used for the purposes of breeding, resting or sheltering. Legal protection also extends to seasonal roosts which are not always occupied by bats throughout the year.

Disturbance caused through excessive noise or lighting and/or alterations to the landscape could potentially impact on bat roosting, foraging and/or commuting habitats and may have legal implications with regards European disturbance/roost deterioration laws. It is therefore the duty of the competent authority to take habitat severance, disturbance and land use

change issues and their potential for impact on bat populations into consideration when assessing applications for the relevant consent/s.

Birds

With the exception of Schedule 1 listed bird species, which receive a higher level of protection against breeding disturbance, all common species of bird are protected during their breeding activities under the Wildlife and Countryside Act 1981.

Essentially, this makes it an offence to intentionally take, damage or destroy the nest of any wild bird whilst that nest is occupied or being built; intentionally take or destroy the egg of any wild bird.

5 POTENTIAL IMPACTS AND RECOMMENDATIONS

5.1 Introduction

Wherever possible, negative ecological impacts from developments should be avoided. Where these are unavoidable then mitigation and compensation measures should be proposed. This is of particular importance where there is any presence of or potential for protected species. In addition, it is best practice to seek positive biodiversity benefits through enhancement measures, in particular with regard to Priority Habitats and Species listed on the national and local Biodiversity Action Plans and the NERC Act 2006, and protected species.

The Local Planning Authority is now required to actively seek in development proposals, measures that aim to promote appropriate Priority Habitats and Species listed in the UK Biodiversity Action Plan. The provision of compensation/enhancements helps local planning authorities in meeting requirements as stipulated under the National Planning Policy Framework (2012), which states that sustainable development should seek to achieve net gains in bio-diversity for nature.

5.2 Habitats,

The County Wildlife Sites are highly unlikely to be affected.

On site there will be small scale loss of low value habitat (grassland); this will result in a temporary negative impact of negligible significance. There will be no direct loss of hedgerow (a habitat of low to medium ecological value) but the east hedgerow may become compromised if construction is carried out too close to it, see protected species,

5.3 Protected species

No development related impact on Great Crested Newt, Otter, Water Vole, Dormouse, Badger or reptiles can be reasonably predicted and no further survey or assessment is required.

5.3.1 Bats

There will be no direct loss of bat foraging or commuting habitats since the hedgerows will be largely retained. However, inappropriate illumination of the east hedgerow post development could cause disturbance to bats, potentially resulting in the severance of flyways and deterioration of favoured foraging areas. In addition, there is potential for the east hedgerow to be compromised if construction is carried out too close to it.

Although there are no past records for bats it is likely that some common species roost in the church. Any negative impact on bats, through indirect loss or disturbance of hedgerow, is likely to be temporary and of very minor significance.

This impact can be fully mitigated through i) protection of the root protection zone during construction works, allowing a clearance of around 2m, 5m close to trees. ii) avoid/reduce illumination (post development) of the hedgerows and trees; where used, lighting should be reduced to its most practical level. Bulbs should be low intensity with a narrow or UV reduced spectrum (<150W, high or low pressure sodium types with glare filters). Lights should be sited on the lowest lighting columns possible with light spread kept at, or below, the horizontal using cowls, hoods, screens or by downward directionality. PIR systems should be set on a short timer and responsive only to large moving objects.

Note: refer to Bats and Lighting (Bat Conservation Trust).

5.3.2 Birds

Any negative impact on birds, through small scale habitat loss, is likely to be temporary and of negligible significance. However, development work that may remove, damage or destroy a nest of a wild bird whilst it is in use should be avoided as it may constitute an offence.

Any clearance of hedgerow, scrub or trees should, therefore, be carried out i) within the bird nesting season, after a negative inspection for nests has been undertaken ii) outside the bird nesting season between July 31st and March 1st iii) after access into the hedge/tree has been suitably obstructed with netting prior to March 1st.

5.4 Habitat compensation and enhancement recommendations

Habitats

Scattered shrub/small tree planting across the site could include species that flower and/or fruit profusely (to provide food for birds) with care taken to avoid invasive species e.g. Dogwood and Snowberry, or species that are poor for wildlife e.g. Cypress species. Any garden hedgerow planting should avoid use of Cypress or Privet (poor for nesting); Hornbeam and/or Beech are recommended as they are native species (although not native to Shropshire) and produce a tidy manageable hedge.

Species

Several priority birds recorded in the area are dependent on buildings. Bird boxes could be placed on any new building e.g. a Sparrow 'terrace', House Martin nest cups and/or

traditional boxes for small birds. Internal nestboxes can be fitted for Swifts, House Sparrow or Starling.

5.5 Further survey recommendations

No further surveys are recommended.

6 REFERENCES

Altringham J. (2009) *British Bats* Collins

Bat Conservation Trust (2012) *Bat Surveys Good Practice Guidelines 2nd ed.* BCT

Beebee, T. and Griffiths, R. (2000) *Amphibians and Reptiles* Collins New Naturalist

English Nature (2009) *Badgers and Development*

English Nature (2001) *Great Crested Newt Mitigation Guidelines*

Gent T. and Gibson S. (2003) *Herpetofauna Workers' Manual* Joint Nature Conservation Committee

Hedgerow Regulations (1997) Crown Copyright.

JNCC (1993). *Handbook for Phase 1 Habitat Survey. A technique for environmental audit* (reprint). Joint Nature Conservation Committee, Peterborough.

Mitchell-Jones A.J. and McLeish A. (2004) *Bat Worker's Manual* Joint Nature Conservation Committee

Mitchell-Jones A.J. (2004) *Bat Mitigation Guidelines* English Nature

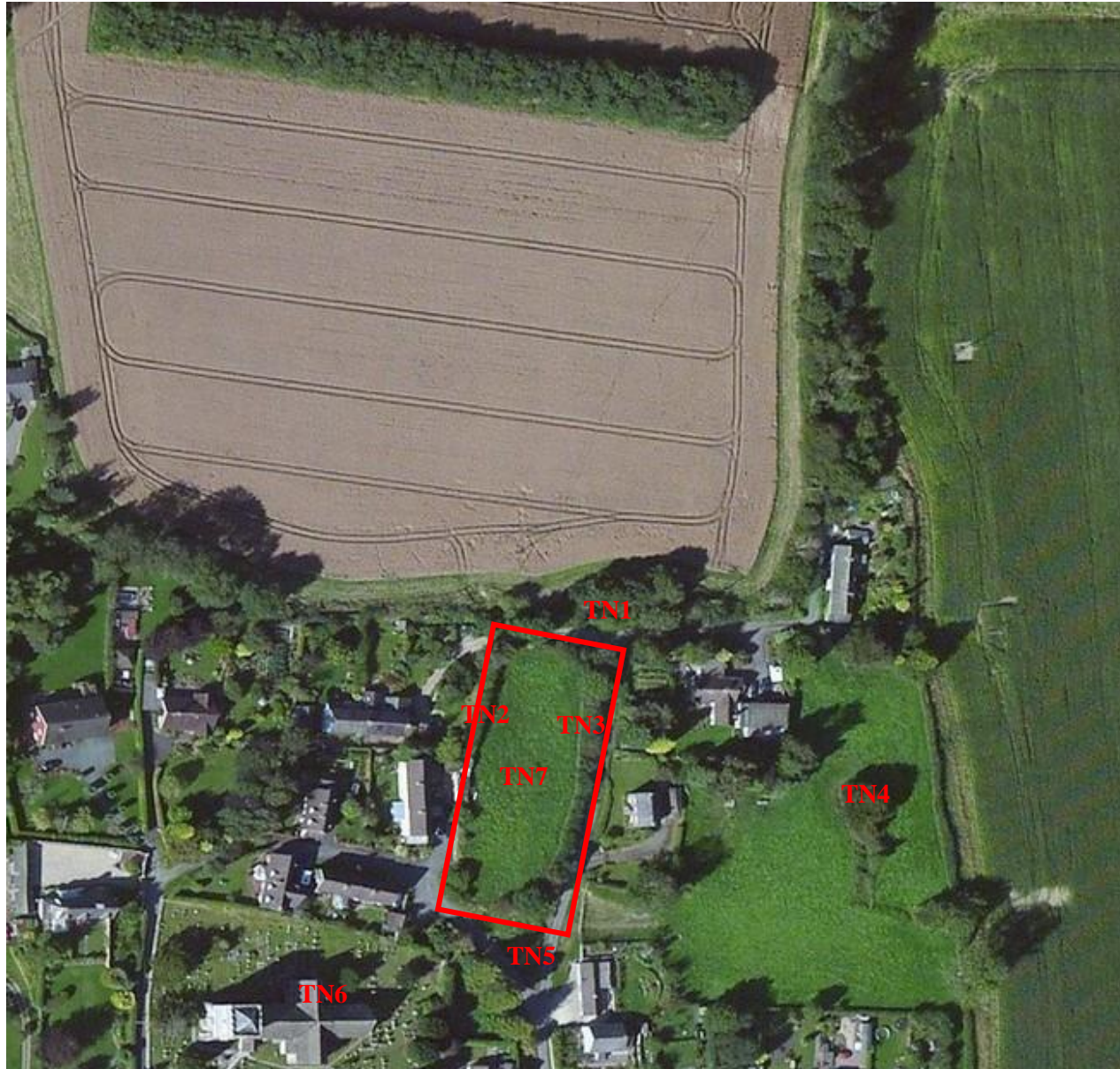
Natural England (2009) *Interpretation of 'Disturbance' in relation to Badgers occupying a sett*

Stace, C (1991). *New Flora of the British Isles*. Cambridge University Press

JNCC (2007) *UK BAP species and habitats* jncc.defra.gov.uk www.nbn.org.uk (National Biodiversity Network website for protected species distribution).

Bright, P., Morris, P., Mitchell-Jones, T. (2006) *The Dormouse Conservation Handbook 2nd edition* English Nature

Appendix 1
Phase 1 habitat map



Aerial photograph showing site habitats and links to woodland in the north, by A.K. Thorne, May 2014

Target/habitat notes

TN1: scrub and tree line just north of site

TN2: short section of garden hedge

TN3: east hedge curving around site in the north-east and south-east, some immature Ash at either end

TN4: spring and old Yew

TN5: amenity grassland on open land by existing field access

TN6: church

TN7: poor semi-improved grassland field

— site boundary (approx.)

Appendix 2

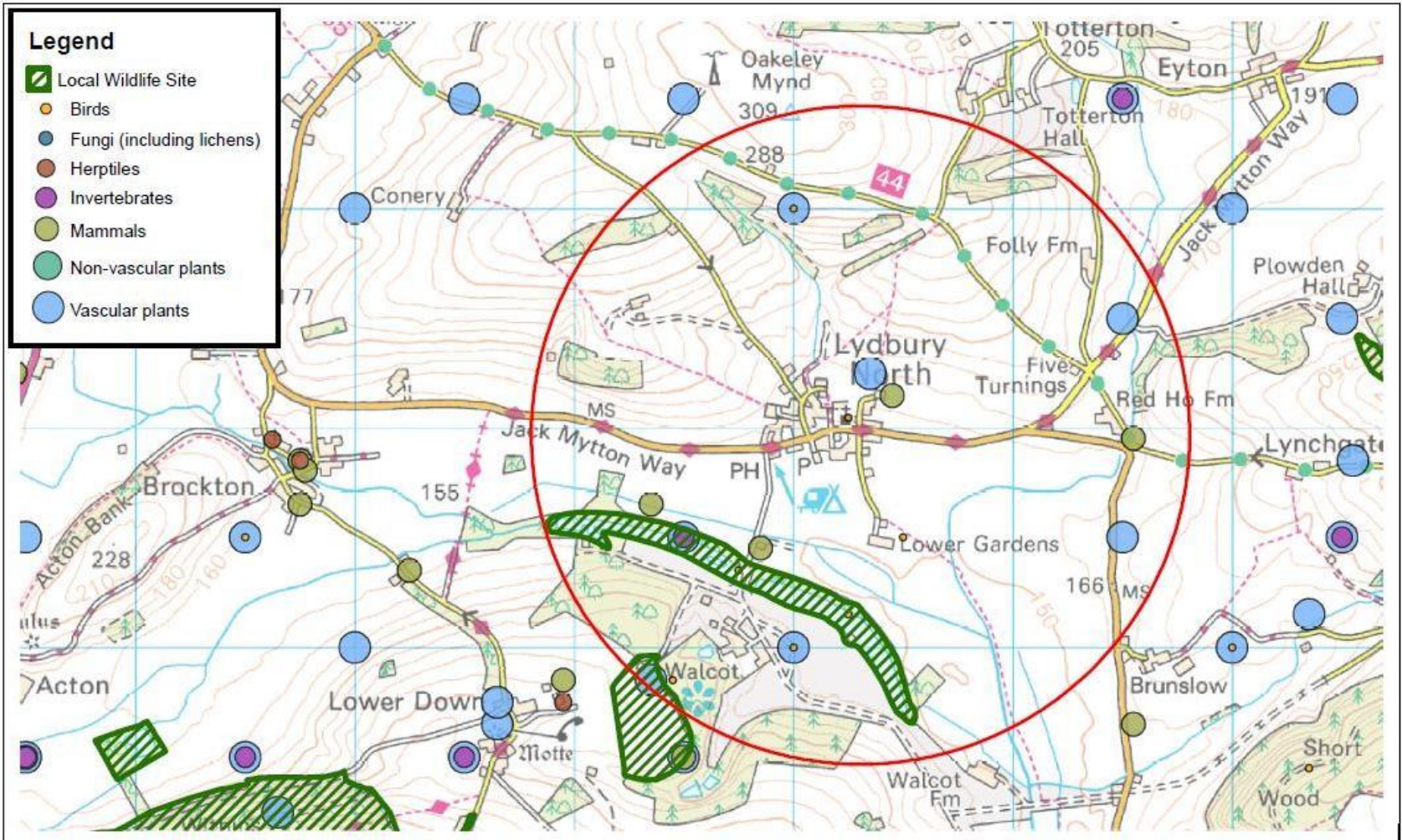
Plant list

Vascular plant list, Lydbury North, SO3586, 24/4/2014 by AK. Thorne		
Taxon	Vernacular	Comment
<i>Acer campestre</i>	Field Maple	modern hedge
<i>Arum maculatum</i>	Lords-and-ladies	hedge
<i>Corylus avellana</i>	Hazel	modern hedge
<i>Crataegus monogyna</i>	Hawthorn	modern hedge
<i>Cynosurus cristatus</i>	Crested Dog's-tail	grassland
<i>Dactylis glomerata</i>	Cock's-foot	hedge
<i>Dryopteris filix-mas</i>	Male-fern	hedge
<i>Fagus sylvatica</i>	Beech	modern hedge
<i>Festuca rubra</i> agg.	Red Fescue	grassland
<i>Ficaria verna</i>	Lesser Celandine	hedge
<i>Galium aparine</i>	Cleavers	hedge
<i>Geranium robertianum</i>	Herb-Robert	hedge
<i>Geum urbanum</i>	Wood Avens	hedge
<i>Glechoma hederacea</i>	Ground-ivy	hedge
<i>Hedera helix</i> agg.	Ivy	hedge
<i>Heracleum sphondylium</i>	Hogweed	hedge, grassland
<i>Holcus lanatus</i>	Yorkshire-fog	grassland
<i>Ilex aquifolium</i>	Holly	hedge
<i>Lamium purpureum</i>	Red Dead-nettle	grassland
<i>Prunus avium</i>	Wild Cherry	modern hedge
<i>Prunus spinosa</i>	Blackthorn	hedge
<i>Ranunculus repens</i>	Creeping Buttercup	grassland
<i>Rosa arvensis</i>	Field Rose	hedge
<i>Rubus fruticosus</i> agg.	Bramble	hedge
<i>Rumex obtusifolius</i>	Broad-leaved Dock	grassland
<i>Sambucus nigra</i>	Elder	hedge
<i>Silene dioica</i>	Red Campion	hedge
<i>Stachys sylvatica</i>	Hedge Woundwort	hedge
<i>Stellaria holostea</i>	Greater Stitchwort	hedge
<i>Stellaria media</i>	Common Chickweed	grassland
<i>Taraxacum</i> agg.	Dandelion	grassland
<i>Ulmus glabra</i>	Wych Elm	hedge
<i>Urtica dioica</i>	Common Nettle	hedge, grassland
<i>Viburnum opulus</i>	Guelder Rose	modern hedge
<i>Viola riviniana</i>	Common Dog-violet	hedge

Appendix 3

Map showing the location of county Wildlife Sites and protected species on the site and surrounds at Lydbury North

Note: detail of records available on request.




Shropshire Ecological Data Network


Shropshire Wildlife Trust, 193 Abbey Foregate, Shrewsbury SY2 6AH.
 Tel: 01743 284280 www.shropshirewildlifetrust.org.uk

Shropshire Ecological Data Network
Data search for SO3530485967.

Date: 06/05/2014

© Crown copyright and database rights Ordnance Survey 100050351



