absolute ecology LLP wildlife surveys

Preliminary Ecological Appraisal

Highfield,
Macclesfield Rd,
Leek,
Staffordshire
ST13 8LD

James Porter

May 2016

Notice to readers

This report has been prepared by Absolute Ecology LLP with all reasonable skill, care and diligence, within the terms of the contract with the client. The actions of the surveyor on site, and during the production of the report were undertaken in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management (www. cieem.org.uk).

Non-technical summary

Absolute Ecology LLP were commissioned to undertake a Preliminary Ecological Appraisal of land at Highfield, Macclesfield Rd, Leek, Staffordshire ST13 8LD. The Preliminary Ecological Appraisal was undertaken on the 5th May 2016, by an experienced and licensed ecologist who is a member of the Chartered Institute of Ecology & Environmental Management (CIEEM).

The survey area is situated in a rural location, to the southwest of Leek in Staffordshire. A thin strip of woodland is present immediately to the east; containing the access road to the adjacent Leek Cricket Club. To the immediate north and south of the site are residential properties, with arable fields beyond and to the west, with hedgerows and ditches along the boundaries.

The site itself is split into two sections; the garden of a residential property to the south, and a sheep pasture to the north.

The habitats found on site are generally common and of limited ecological value, particularly as the proposed development includes gardens, thereby replacing much of the habitat that will be lost.

There is however potential for protected species to occur on site, specifically;

The habitats for foraging bats are limited within the site, and loss of grassland is unlikely to significantly impact local bat populations, particularly as any new residential development will also include gardens, which can be used by foraging bats. If the hedgerows are to be severed or removed, or likely to be affected by an increase in light spill, there may be significant impacts on commuting routes, particularly if there are roosts in existing houses nearby. It is recommended that the use of artificial lighting follows the protocols outlined in the Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and BCT’s “Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting” (2014) to minimise disturbance and sky-glow across the site. If this cannot be accommodated, then it is recommended that bat transects are undertaken to check whether any important commuting routes are present. It is understood that any proposed development would not include any impacts upon the existing building. Should this change, then further surveys will be required in order to establish presence or likely absence of roosting bats within the building.

Although no badger activity was observed on the site at the time of the survey, activity patterns of this species can change over a short time. It is recommended that contractors working on site be briefed regarding the potential for badgers to occur on site, and that a check for evidence of badger activity be carried out immediately prior to works commencing. Should such activity be found (at any time), then works must cease and the advice of a suitably qualified ecology sought.

Nesting birds may be present in the trees and hedgerows during the bird breeding season (March to August inclusive). If vegetation removal is planned during these months, then a prior check for nesting birds should be undertaken by an ecologist. Any active nests that are found must not be moved until fledglings have dispersed.

It is considered that this Preliminary Ecological Assessment provides a suitably detailed understanding of the baseline environment to inform an assessment of impacts on notable habitats and protected species, and so enable the Local Planning Authority to reach an informed planning decision.

Contents

1.0 Introduction

Background

1.1 Absolute Ecology LLP was commissioned to undertake a Preliminary Ecological Assessment of a site known as land at Highfield, Macclesfield Rd, Leek, Staffordshire ST13 8LD.

1.2 The Assessment was undertaken on the 5th May 2016 by James Porter BSc(Hons), MSc; an experienced ecologist who is a member of the Chartered Institute of Ecology & Environmental Management (CIEEM). He has 4 years' experience of conducting Preliminary Ecological Appraisals (Phase 1), and holds a Class 2 Bat Licence, with 5 years' experience of bat inspection, as well as a Class 1 Great Crested Newt Licence and 4 years' experience of GCN surveying.

1.3 The objective of this report is to provide the client with information on any known or potential protected or rare species that may be using the site, and to outline recommendations on how to proceed with the works in a legal and ecologically sensitive manner.

1.4 Unless the client indicates to the contrary, information on the species found to be present on the site will be passed to the county biological records centre to update records held for the area.

Site Description

The survey area is situated in a rural location, to the southwest of Leek in Staffordshire. A thin strip of woodland is present immediately to the east; containing the access road to the adjacent Leek Cricket Club. To the immediate north and south of the site are residential properties, with arable fields beyond and to the west, with hedgerows and ditches along the boundaries.

The site itself is split into two sections; the garden of a residential property to the south, and a sheep pasture to the north.

2.0 Methodology

Desk Study

2.1 In order to compile background information on the site and immediate surroundings the Staffordshire Ecological Record (SER) was contacted.

2.2 Information requested was as follows:-

- Records of protected species within the 2km of the site.
- Records of rare or notable species within the 2km of the site.
- Non-statutory site designations on or within 2km of the site.

2.3 Additionally, MAGIC (Multi-Agency Geographic Information for the Countryside, 2010) was used to establish whether any of the following were present:-

- Statutory site designations on or within 2km of the site.
- Statutory sites designated for bats within 5km of the site.

Habitat Survey

2.4 The site was visited on the 5th May 2016 and was surveyed in accordance with the Joint Nature Conservation Committee (JNCC) Phase I Habitat Survey methodology (JNCC, 2007). This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential that might warrant further study.

2.5 The observable higher plant species in each habitat type within the site, and their abundance, were recorded using the DAFOR scale:

D Dominant

A Abundant

F Frequent

O Occasional

R Rare

Fauna

2.6 Habitats present on the site were searched for obvious signs of faunal activity, *e.g.* presence of badger setts, mammal tracks or herpetofauna under refugia. Any buildings and mature trees on site were visually examined from the ground to identify features with the potential to support roosting bats.

Valuation of Ecological Features

2.7 The value of areas of habitat and plant communities has been measured against published criteria where available. Biodiversity Action Plans (BAPs) have been searched to identify whether action has been taken to protect all areas of a particular habitat and to identify current factors causing loss and decline of particular habitats. The presence of injurious and legally controlled weeds has also been taken into account.

2.8 When assigning a level of value to a species, its distribution and status (including a consideration of trends based on available historic records) has been taken into account. Other factors influencing the value of a species are: legal protection, rarity and Species Action Plans (SAPs). Guidance, where it is available, for the identification of populations of sufficient size for them to be considered of national or international importance has also been taken into account.

Survey Constraints

2.9 Data Search

Desk study data provides information on recorded species in the area and can be helpful for targeting survey. However, it is possible that protected species that have not been identified within the data search may occur on or adjacent to the site.

2.10 Field survey

Habitats within 50m of the site boundary were inspected as far as access allowed. Ponds up to 500m from the site were viewed where there was public access.

Fauna species present may not always leave field signs and in addition, species may take up residence on site subsequent to the survey. If no development takes place within 12 months of this survey report, the findings should be reviewed and may need updating, and a full survey should be repeated within three years

Nomenclature

2.11 The English name only of flora and fauna species is given in the main text of this report; however, scientific names are used for invertebrates where no English name is available. Vascular plants and charophytes follow the nomenclature of The Botanical Society for the British Isles (BSBI) 2007 database (BSBI, 2011) with all other flora and fauna following the Nameserver facility of the National Biodiversity Network Species Dictionary (http://www.nhm.ac.uk/nbn/), which is managed by the Natural History Museum.

3.0 Legislation

3.1 The United Kingdom Biodiversity Action Plan (BAP) 1994 sets out a strategy for implementing the Convention on Biological Diversity, which was signed by the United Kingdom at the Rio de Janeiro Earth Summit in 1992. The published report contains action plans for the United Kingdom's most threatened species and habitat plans for the most vulnerable areas.

3.2 The Local BAP sets out the county's part in the UK biodiversity planning process, in the form of local habitat and species action plans. Local BAPs are intended to focus resources, to conserve and enhance biodiversity, by taking account of national and local priorities.

3.3 Schedule 1 Part 1 of The Wildlife and Countryside Act 1981 (and amendments) – this lists birds protected by special penalties at all times. It prohibits intentional killing/injuring, taking, possessing, disturbing and selling (including parts and derivatives, eggs, nests, *etc.* as applicable) as well as damaging, destroying or disturbing nests in current use or dependent young, *etc.*

3.4 Schedule 5 of The Wildlife and Countryside Act 1981 (and amendments) – this prohibits deliberate killing, injuring, taking, possessing, disturbing and selling (including parts and derivatives) as well as damaging, destroying or obstructing any structure or place of refuge of listed fauna, such as Dormouse, Otter and bat species.

3.5 The Conservation of Habitats and Species Regulations 2010, consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994, in respect of England and Wales. It is illegal to kill, disturb, destroy eggs, breeding sites or resting places, to pick, collect, take cuttings, uproot or destroy in the wild as well as keep, transport, sell/exchange and offer for sale/exchange species listed.

3.6 The Countryside and Rights of Way Act 2000 – this increases protection given by The Wildlife and Countryside Act 1981 (and amendments). The offence to intentionally damage any structure or place that a wild animal listed in Schedule 5 of the Act uses for shelter or protection or deliberately disturbing any such animal while in such a structure or place is extended so that the offence also covers reckless damage or disturbance. The CRoW Act also places a duty on Ministers and Government Departments to have regard for the purpose of conserving biological diversity in accordance with the Convention on Biological Diversity.

3.7 The Protection of Badgers Act 1992 - this Act makes it illegal to wilfully kill, injure or take any Badger, or attempt to do so and it is an offence to intentionally or recklessly damage, destroy or obstruct access to any part of a Badger sett.

3.8 The Natural Environment and Rural Communities Act, 2006 - as well as creating Natural England, this act gives all public authorities the duty to have regard for conserving biodiversity within the commission of their duties. This includes a duty to restore and enhance as well as maintain biodiversity. The act also strengthens protection for Sites of Special Scientific Interest (SSSI) and makes authorities liable for allowing damage to such sites or their features.

4.0 Results

Desk Study

4.1 There is one statutory designated site within 2km of the site.

- Brough Fields Park LNR, approximately 925m east of the site.

4.2 There are no statutory designated sites for bats within 5km of the site.

4.3 There are eight non-statutory sites within 2km of the site.

- Harpers Gate Local Wildlife Site (SBI)
- Longsdon Wood & Cowhay Wood Local Wildlife Site
- Foker Grange Retained BAS
- Brough Park Fields Country Park Local Wildlife Site
- Ball Haye Green Disused Tip Local Wildlife Site
- Back Hills and Abbey Woods Local Wildlife Site
- Stare Wood Local Wildlife Site
- Rudyard Dismantled Railway Local Wildlife Site

4.4 SER provided the following records for protected and notable species within 2km of the site boundary:

Amphibians	
Bufo bufo	Common Toad
Triturus cristatus	Great Crested Newt
Birds	
Acanthis cabaret	Lesser Redpoll
Accipiter gentilis	Northern Goshawk
Actitis hypoleucos	Common Sandpiper
Alauda arvensis	Sky Lark
Alcedo atthis	Common Kingfisher
Anas acuta	Northern Pintail
Anas crecca	Eurasian Teal
Anas platyrhynchos	Mallard
Anser anser	Greylag Goose
Anser brachyrhynchus	Pink-footed Goose
Anthus pratensis	Meadow Pipit
Apus apus	Common Swift
Aythya ferina	Common Pochard
Aythya fuligula	Tufted Duck
Botaurus stellaris	Great Bittern
Branta bernicla subsp. bernicla	Dark-bellied Brent Goose
Bucephala clangula	Common Goldeneye
Charadrius dubius	Little Plover
Charadrius hiaticula	Ringed Plover
Chroicocephalus ridibundus	Black-headed Gull

Columba oenas	Stock Dove
Crex crex	Corn Crake
Delichon urbicum	House Martin
Egretta garzetta	Little Egret
Emberiza citrinella	Yellowhammer
Emberiza schoeniclus	Reed Bunting
Falco columbarius	Merlin
Falco peregrinus	Peregrine Falcon
Falco subbuteo	Eurasian Hobby
Falco tinnunculus	Common Kestrel
Ficedula hypoleuca	Pied Flycatcher
Fringilla montifringilla	Brambling
Gallinago gallinago	Common Snipe
Haematopus ostralegus	Eurasian Oystercatcher
Hirundo rustica	Barn Swallow
Larus canus	Common Gull
Larus fuscus	Lesser Black-backed Gull
Larus marinus	Great Black-backed Gull
Limosa limosa	Black-tailed Godwit
Linaria cannabina	Linnet
Locustella naevia	Common Grasshopper Warbler
Milvus milvus	Red Kite
Motacilla cinerea	Grey Wagtail
Muscicapa striata	Spotted Flycatcher
Numenius arquata	Eurasian Curlew
Oenanthe oenanthe	Northern Wheatear
Pandion haliaetus	Osprey
Passer domesticus	House Sparrow
Passer montanus	Eurasian Tree Sparrow
Phoenicurus phoenicurus	Common Redstart
Phylloscopus trochilus	Willow Warbler
Picus viridis	Green Woodpecker
Poecile montana	Willow Tit
Poecile palustris	Marsh Tit
Prunella modularis	Dunnock
Pyrrhula pyrrhula	Common Bullfinch
Riparia riparia	Sand Martin
Scolopax rusticola	Eurasian Woodcock
Sterna hirundo	Common Tern
Sturnus vulgaris	Common Starling
Sylvia communis	Common Whitethroat
Tachybaptus ruficollis	Little Grebe
Tringa totanus	Common Redshank
Turdus iliacus	Redwing
Turdus philomelos	Song Thrush
Turdus pilaris	Fieldfare
Turdus torquatus	Ring Ouzel
Turdus viscivorus	Mistle Thrush
Tyto alba	Barn Owl
Vanellus vanellus	Northern Lapwing

Crustaceans

Austropotamobius pallipes	Freshwater White-clawed Crayfish

Invertebrates

Acronicta rumicis	Knot Grass
Agrochola helvola	Flounced Chestnut
Agrochola litura	Brown-spot Pinion
Allophyes oxyacanthae	Green-brindled Crescent
Amphipoea oculea	Ear Moth
Amphipyra tragopoginis	Mouse Moth
Andrena (Andrena) clarkella	insect - hymenopteran
Apamea remissa	Dusky Brocade
Apis mellifera	Honey Bee
Atethmia centrago	Centre-barred Sallow
Bombus	a bumble bee
Bombus (Bombus) lucorum	White-tailed Bumble Bee
Bombus (Bombus) terrestris	Buff-tailed Bumble Bee
Bombus (Megabombus) hortorum	Small Garden Bumble Bee
Bombus (Psithyrus) sylvestris	Four Coloured Cuckoo Bee
Bombus (Pyrobombus) hypnorum	Tree Bumble Bee
Bombus (Pyrobombus) pratorum	Early Bumble Bee
Bombus (Thoracobombus) pascuorum	Common Carder-bee
Brachylomia viminalis	Minor Shoulder-knot
Caradrina morpheus	Mottled Rustic
Ceramica pisi	Broom Moth
Chesias legatella	The Streak
Chiasmia clathrata	Latticed Heath
Cirrhia icteritia	Sallow
Coenonympha pamphilus	Small Heath
Diarsia rubi	Small Square-spot
Diloba caeruleocephala	Figure of Eight
Dolichovespula (Pseudovespula) sylvestris	Tree Wasp
Ecliptopera silaceata	Small Phoenix
Ennomos erosaria	September Thorn
Epirrhoe galiata	Galium Carpet
Erynnis tages	Dingy Skipper
Eugnorisma glareosa	Autumnal Rustic
Graphiphora augur	Double Dart
Hepialus humuli	Ghost Moth
Hydraecia micacea	Rosy Rustic
Leucania comma	Shoulder-striped Wainscot
Litoligia literosa	Rosy Minor
Macaria wauaria	V-moth
Melanchra persicariae	Dot Moth
Orthonama vittata	Oblique Carpet
Pyrgus malvae	Grizzled Skipper
Pyrochroa coccinea	Black-headed Cardinal Beetle
Satyrium w-album	White-letter Hairstreak
Scotopteryx chenopodiata	Shaded Broad-bar
Spilosoma lubricipeda	White Ermine
Spilosoma lutea	Buff Ermine
Stenus (Stenus) pusillus	insect - beetle
Tholera cespitis	Hedge Rustic
Timandra comae	Blood-vein

Tyria jacobaeae	Cinnabar
Vespula (Paravespula) vulgaris	Common Wasp
Xanthorhoe decoloraria	Red Carpet

Mammals

Arvicola amphibius	European Water Vole
Erinaceus europaeus	West European Hedgehog
Lepus europaeus	Brown Hare
Lutra lutra	European Otter
Meles meles	Eurasian Badger
Micromys minutus	Harvest Mouse
Mustela putorius	Polecat
Myotis daubentonii	Daubenton's Bat
Myotis mystacinus	Whiskered Bat
Myotis nattereri	Natterer's Bat
Nyctalus noctula	Noctule Bat
Pipistrellus pipistrellus	Common Pipistrelle
Pipistrellus pygmaeus	Soprano Pipistrelle
Plecotus auritus	Brown Long-eared Bat

Reptiles

Anguis fragilis	Slow-worm
Natrix natrix	Grass Snake
Zootoca vivipara	Common Lizard

Plants

Buxus sempervirens	Box
Chenopodium bonus-henricus	Good-King-Henry
Genista tinctoria	Dyer's Greenweed
Hieracium acuminatum	Tall Hawkweed
Hyacinthoides non-scripta	Bluebell
Populus nigra subsp. betulifolia	Native Black Poplar
Rubus intensior	a flowering plant
Rubus painteri	a flowering plant
Viola tricolor	Wild Pansy
Viola tricolor subsp. tricolor	a flowering plant

Habitats

4.5 The following habitats or vegetation types were identified on the site during the course of the habitat survey.

- Improved grassland
- Introduced shrub
- Amenity grassland
- Buildings/Hardstanding
- Building
- Trees
- Hedgerow

Improved grassland

4.6 The grassland present on site shows signs of having been heavily affected by livestock grazing, in that it has lost many of the species expected in an unimproved sward. There is only a very limited range of grasses present; along with a few common forbs, mainly those demanding of nutrients and resistant to grazing.

4.7 Species present include perennial ryegrass (*Lolium perenne*), crested dog's-tail (*Cynosurus cristatus*), white clover (*Trifolium repens*), common sorrel (*Rumex acetosa*), dandelion (*Taraxacum officinale*), daisy (*Bellis perennis*) and common buttercup (*Ranunculus acris*). Occasional remnants of garden cultivars, such as daffodil or bluebell, are also present.

Introduced shrub

4.8 A number of introduced shrub specimens are present within the garden. This habitat contains several large, mature Rhododendron (*Rhododendron sp.*), which dominate due to their sheer size.

Amenity grassland

4.9 Present within the garden and at the eastern end (not actually on site, but contained within the red line boundary provided) are lawns. These are well-tended and regularly maintained, resulting in a short, species-poor sward; dominated by perennial ryegrass (*Lolium perenne*), with abundant white clover (*Trifolium repens*), occasional creeping buttercup (*Ranunculus repens*) and common dandelion (*Taraxacum officinale*).

Buildings/Hardstanding

4.10 There is one building within the red line boundary provided. This is a two-storey brick building, with rendered walls, and pitch roof clad in tile. On its eastern side is a single-storey extension.

4.11 Hardstanding is present in the north and west of site; formed from a mixture of tarmac driveway, gravel and paving slabs. These areas show encroachment by some of the adjacent amenity grassland species, as well as ordinary moss (*Brachythecium rutabulum*).

Trees

4.12 A number of trees are present across site; particularly at the boundaries. These are generally semi-mature, with only a limited number of more mature specimens. Species present include; sycamore (*Acer pseudoplatanus*), apple (*Malus sp.*), Common lime (*Tilia x europaea*), common holly (*Ilex aquifolium*), yew (*Taxus baccata*), common beech (*Fagus sylvatica*), pedunculate oak (*Quercus robur*), willow (*Salix sp.*) and pine (*Pinus sp.*).

Hedgerow

4.13 Hedgerow is present along the northern boundary, and in small fragments elsewhere. These are sparse and species-poor; dominated by common hawthorn (*Crataegus monogyna*), with occasional common holly, and locally abundant common beech. The hedgerow understorey is limited; containing species from the adjacent grassland.

Fauna

Bats

4.14 SER provided several records of bat species within 2km of the site. There is one building on site, which does appear to offer potential roosting sites for bats (hanging tiles, lifted tiles, missing mortar below ridge tiles, gaps around flashing), but it is understood that no works affecting this building are proposed.

4.15 None of the trees on site appeared to offer any features suitable for roosting bats such as rot holes, or cracked/split limbs, although a small number had a dense covering of Ivy. It should be noted however that the woodland fragment immediately to the east contains several trees with potential for use by roosting bats.

4.16 The site provides foraging habitat for a range of bat species. The tree-lines and hedgerows are likely to be used by foraging bats as well as navigational flight lines.

Badgers

4.17 SER provided records of Badger within 2km of the site. The site provides optimal foraging habitat for Badgers in the form of improved grassland and areas similar to woodland in character. No evidence of Badger activity, such as sett entrances, hairs, dung pits, latrines or snuffle marks, was discovered during the survey.

Other mammals

4.18 SER provided records of Water Vole, Hedgehog, Brown Hare, Otter, Harvest Mouse and Polecat within 2km of the site. The absence of any watercourse on or adjacent to site makes the presence of Otters or Water Voles unlikely. Typical habitats for Brown Hare, Harvest Mouse and Polecat are absent from site, although potential foraging areas and cover for

Hedgehogs is present. With regard to other mammals the whole site provides habitat with plenty of cover and as such is expected to support a good number of common small mammals.

Birds

4.19 Records of a large number of bird species were provided by SER. The following were all either observed or heard on site during the survey: Blue tit, Magpie, Robin, Blackbird and Feral Pigeon.

4.20 The site as a whole provides potential foraging and nesting habitat for a range of bird species. The trees and hedgerows, offer good foraging and nesting habitat for a range of common birds, and show high potential for this use, and several bird nests were observed during the survey.

Reptiles

4.21 SER provided records of Slow-worm, Grass Snake and Common Lizard within 2km of site. The site is generally unsuitable for reptiles and lacks extensive areas of scrub with open basking areas typically associated with reptiles. The hedgerows and small areas of introduced shrub provide the only cover and foraging habitat. There were no potential refugia on site available for inspection.

Amphibians

4.22 SER provided records of Common Toad and Great Crested Newt within 2km of the site. No ponds are present on site, although two are shown within 500m of the site on OS maps. Habitat for species of amphibians in the terrestrial phase of their life cycle, is generally lacking from site however, making the site is unlikely to be important for amphibians.

Invertebrates

4.23 SER provided a number of records of invertebrate species within 2km of site. These were mainly moths, butterflies and hymenoptera; none of which are particularly associated with the habitats or species found on site. Freshwater White-clawed Crayfish are known to occur within 2km of site, but the absence of a watercourse on or adjacent to site means they are likely absent. The habitats on site are generally common and do not provide much potential for rare invertebrate species, although they are expected to support a number of more common species.

5.0 Development Constraints and Recommendations

5.1 The site is the subject of a possible planning application for a residential development. Ecological constraints and recommendations with regard to any development are discussed below.

Designated Sites

5.2 There is one statutory designated site within 2km of the site.

- Brough Fields Park LNR, approximately 925m east of the site.

5.3 There are no statutory designated sites for bats within 5km of the site.

5.4 There are eight non-statutory sites within 2km of the site.

- Harpers Gate Local Wildlife Site (SBI)
- Longsdon Wood & Cowhay Wood Local Wildlife Site
- Foker Grange Retained BAS
- Brough Park Fields Country Park Local Wildlife Site
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- Rudyard Dismantled Railway Local Wildlife Site

5.5 The proposed development is well-removed from these designated sites, therefore no direct impacts are anticipated. The site has a history of residential use and is adjacent to residential properties, and so indirect impacts are not anticipated either; particularly as any potential development is likely to be limited in scale.

Habitats

5.6 Botanically, the site itself does not appear to have any rare species and it is not particularly diverse.

Potential Impacts of Works

5.7 There are no existing plans for the site; however, if residential development is undertaken in the future, potential impacts are likely to include the following.

5.8 Removal of grassland, hedgerows and trees may cause loss of bat foraging habitat. Loss or severance of hedgerows may affect bat commuting routes. An increase in general light levels could also affect bat foraging and commuting.

5.9 Although no badger setts were observed on site, badger activity can change over a short time. If any setts are created on site prior to works, tunnels could be affected by ground works and vegetation removal and badgers could be harmed.

5.10 Loss of grassland, hedgerows and trees may affect birds that use the site for breeding and foraging by causing a decrease in nesting sites and food resources. Loss of these habitats may directly harm nesting birds if carried out during the breeding season (March to August inclusive).

Recommendations

5.11 The following are general recommendations that are likely to be a minimum requirement for any future development of the site. Where further surveys for a particular habitat/complex or species are required prior to Planning Application, this is clearly stated.

Bats

5.12 The habitats for foraging bats are limited within the site, and loss of grassland is unlikely to significantly impact local bat populations, particularly as any new residential development will also include gardens, which can be used by foraging bats. If the hedgerows or tree-lines are to be severed or removed, or likely to be affected by an increase in light spill, then there may be significant impacts on commuting routes, particularly if there are roosts in existing houses nearby.

5.13 It is understood that any proposed development would not include any impacts upon the existing building. Should this change, then further surveys will be required in order to establish presence or likely absence of roosting bats within the building.

5.14 It is recommended that the use of artificial lighting follows the protocols outlined in the Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and BCT’s “Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting” (2014) to minimise disturbance and sky-glow across the site. If this cannot be accommodated, then it is recommended that bat transects are undertaken to check whether any important commuting routes are present. Following Good Practice Guidelines for sites of relatively low suitability for bats, one survey visit should be conducted per season (spring – April/May, summer –June/July/Aug, autumn – Sept/Oct) in appropriate weather conditions for bats. These survey visits should comprise of transect surveys, in conjunction with deployment of a static bat detector (data to be collected on five consecutive nights per season). Further surveys may be required if these survey visits reveal higher levels of bat activity than predicted by habitat alone.

5.15 Regardless of the results of these surveys, it would be of conservations benefit to provide additional roosting provision for bats on site; both on trees and within the fabric of the new buildings. This can prove a cost-effective way of enhancing the site for biodiversity.

Badgers

5.16 Although no badger activity was observed on the site at the time of the survey, activity patterns of this species can change over a short time. It is recommended that contractors working on site be briefed regarding the potential for badgers to occur on site, and that a check for evidence of badger activity be carried out immediately prior to works commencing.

Should such activity be found (at any time), then works must cease and the advice of a suitably qualified ecology sought.

Birds

5.17 Where possible, habitats suitable for nesting and foraging birds should be retained, enhanced or created within any new development. The hedgerow and tree habitats within the site are likely to be the most valuable to nesting birds, and should be retained as far as possible.

5.18 Nesting birds may be present in the trees and hedgerows during the bird breeding season (March to August inclusive). If vegetation removal is planned during these months, then a prior check for nesting birds should be undertaken by an ecologist. Any active nests that are found must not be moved until fledglings have dispersed.

5.19 It would be of conservation benefit to install a variety of nesting boxes for different bird species within the site in future (buildings and trees where suitable) to enhance the site for nesting birds and encourage bird diversity. Information on bird nesting boxes can be found at http://www.rspb.org.uk/advice/helpingbirds/nestboxes/. Enhancing existing hedgerows or planting new hedgerows and shrubs within any new development can benefit birds if a wide range of native species are used.

Other considerations

5.20 A lighting design around the new development should be considered at an early stage. Light spill can affect the foraging and commuting strategy of many species and thus should be avoided on nearby trees and hedges/shrubs and should not exceed 200 lumens (150 watts). Any security lighting should be on a timer setting and faced downwards to prevent spillage onto nearby habitats. The height of any lighting columns around the development should not exceed 8m to further reduce any ecological impact of light pollution. Low-pressure sodium lamps (SOX) fitted with hoods are recommended to direct light below the horizontal plane to minimize upward light spill. It is recommended that the use of artificial lighting follows the protocols outlined in the Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and BCT’s “Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting” (2014) to minimise disturbance and sky-glow across the site.

6.0 References

BSBI (2011). *BSBI 2007 List.* [Online]. Available at: http://www.bsbi.org.uk/html/database.html [accessed on 27th September 2011].

The Conservation of Habitats and Species Regulations 2010, SI 2010/490

The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007, SI 2007/1843, London: HMSO.

Countryside and Rights of Way Act 2000, (c.37), London: HMSO.

Institute of Ecology and Environmental Management (2007). *Guidelines for Ecological Impact Assessment in the United Kingdom*. [Online]. Available at: http://www.ieem.net/ecia/ [accessed on 27th September 2011].

Joint Nature Conservation Committee (2007) *Handbook for Phase I Habitat Survey – a Technique for Environmental Audit*. JNCC: London.

Multi-Agency Geographical Information for the Countryside (20010). MAGIC. [Online]. Available at: www.magic.gov.uk/ [accessed on 27th September 2011].

Natural Environment and Rural Communities Act 2006, (c.16), London: HMSO.

Office of the Deputy Prime Minister. (2005) *Planning Policy Statement 9: Biodiversity and Geological Conservation*, The Stationary Office, Norwich.

The Protection of Badgers Act 1992, (c.51), London: HMSO.

UK BAP (2008) *Priority Habitat Descriptions* [Online]. Available at: http://www.ukbap.org.uk/library/UKBAPPriorityHabitatDescriptionsfinalAllhabitats20081022.pdf [accessed on 27th September 2011]

Wildlife and Countryside Act 1981 (and amendments). (c.69), London: HMSO

7.0 Plans

Extended Phase I Habitat Survey

8.0 Photographic Plates

Image 1: Improved grassland field in north of site

Image 2: Residential garden in south of site

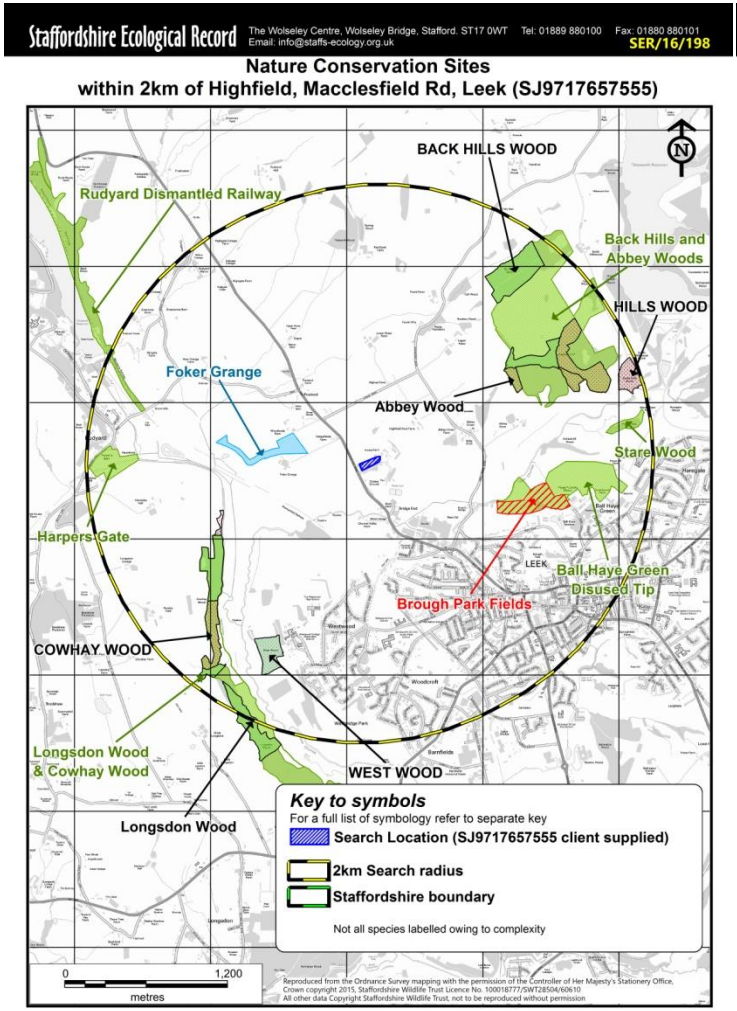
Image 3: Building partially within red line site boundary

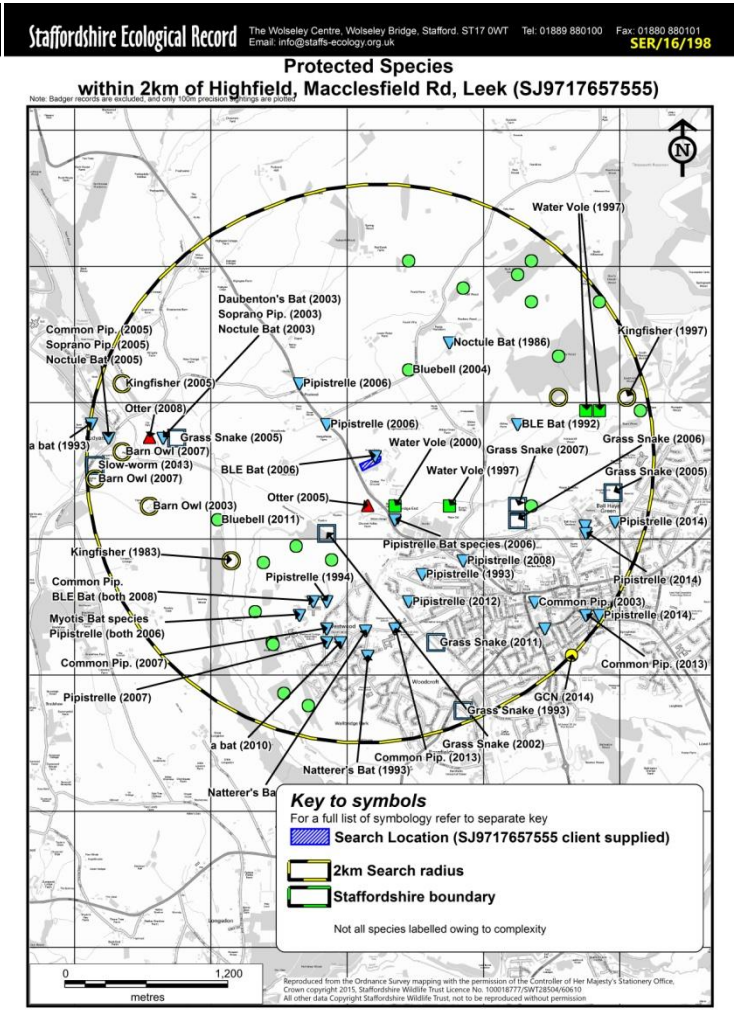
Image 4: Species-poor hedgerow on northern boundary

Image 5: Hardstanding and introduced shrub in northwest corner of site

Image 6: Tree within bat potential within woodland strip to east of site

9.0 Pre-survey desk study





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A legend to the map showing Nature Conservation Sites and Species

Introduction

These colours are used on the site alert mapping within the SWT GIS, but SER cannot guarantee the same colours are used in any other mapping system, particularly those based on ArcView.

Statutory Designations from Natural England's web-site

- National Nature Reserves — NNR (boundary not available owing to OS restrictions)
- Sites of Special Scientific Interest — SSSI (boundary not available owing to OS restrictions)
- Local Nature Reserves — LNR (boundary not available owing to OS restrictions)

Non-statutory Designations from the Staffordshire Grading System (1995 onwards)

- Site of Biological Importance (ex Grade 1 SBI) equivalent to "Local Wildlife Site"
- Biodiversity Alert Site (ex Grade 2 SBI)
- Proposed/potential Site of Biological Importance

Geological Sites

- Regionally Important Geological/geomorphological Site (= Local Geological Site)

Staffordshire Wildlife Trust Sites

- SWT Nature Reserves

Other Nature Reserves

- Royal Society for the Protection of Birds

Ancient Woodland Inventory

- Ancient & Semi-natural Woodland
- Ancient Replanted Woodland

Species Information

- Mammals excluding those listed below
- Otter (Lutra lutra)
- Badger (Meles meles) - not normally supplied
- Water Vole (Arvicola terrestris)
- All bat species
- All bird species
- Any other protected species (precise to 100m)
- All Protected Species Records (precise to 1km)
- Amphibians and reptiles excluding those below
- Great Crested Newt (Triturus cristatus)
- Native Crayfish (Austropotamobius pallipes)
- Flowering plants except those below
- Bluebell (Hyacinthoides non-scripta)
- Butterflies and Moths
- BAP Species Records (precise to 100m)
- BAP Species Records (precise to 1km)

Notes:

The Local Nature Reserve and other nature reserve boundaries can overlay the current grading when both layers are actively visible

Where there are multiple species records for the same grid reference the dot for one species may obscure the dots for other species - all species records will be displayed in the accompanying spreadsheet

Not all the above categories may be present on the accompanying map

Version 2.0 July 2011

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MAGIC

Habitats - Highfield, Leek