

Extended Phase 1 Habitat Surveys and Local Wildlife Site (LWS) Assessments

Staffordshire Moorlands District Council

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August 2017

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Report to: Staffordshire Moorlands District Council

Report Title: Extended Phase 1 Habitat Surveys and Local Wildlife Site (LWS)
Assessments for Staffordshire Moorlands District Council

Revision: Final

Issue Date: August 2017

Report Ref: 8586

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Summary

Ecus Ltd was commissioned in August 2016 to undertake ecological appraisals of 11 sites in the Staffordshire Moorlands. These sites were Local Plan sites ref:

- ADD01,
- ADD03,
- ADD04,
- ADD09,
- BD076A (northern part),
- Bolton Copperworks,
- BM014A + BM014B (southern part),
- CH085D (southern part),
- KG049A,
- Northern Gateway Opportunity Site, and
- WE013 + WE027 (combined).

The purpose of the surveys was to carry out extended Phase 1 habitat surveys of these potential Local Plan allocations to ascertain present and potential ecological value. As per paragraph 114 of the National Planning Policy Framework (NPPF) which directs Local Planning Authorities to set out a strategic approach in their Local Plans for the creation, protection, enhancement and management of biodiversity networks, all sites were also assessed for their potential to be designated as local wildlife sites (Site of Biological Importance (SBI) or Biodiversity Alert Site (BAS)) according to criteria outlined in 'Guidelines for the selection of sites of county biological importance in Staffordshire' (Webb *et al.*, 2014). Note that, at the same time Ecus was also commissioned by Staffordshire Moorlands District Council to undertake a follow up Phase 1 habitat survey at the 'Cornhill' Local Plan site in Leek following an earlier 2015 survey (as part of the emerging Masterplan proposals for that site). The Cornhill survey accompanies this main study.

Secondly Ecus was also commissioned to undertake similar local wildlife site evaluations for all existing 2016 'Preferred Options' sites from the Council's emerging Local Plan; and additionally the following four Local Plan sites, which had already undergone Phase 1 ecological surveys in 2014 (but without LWS evaluations): refs EN007, EN0019, EN101 and UT007 (FID62).

The sites can be broadly divided into three groups according to dominant land status: improved grassland for pasture (ADD01, ADD03, ADD04, ADD09, BM014A, CH085D, EN007, EN019, EN101, KG049A, Northern Gateway Opportunity Site, WE013 + WE027) brownfield (BD076A, Bolton Copperworks) and garden UT007 (FID 62).

The majority of site habitats were considered to be of importance to nature conservation at the site level only. However, eight sites contained habitats considered to be of importance to nature conservation at the local level:

- ADD01, hedgerow*;
- ADD04, mature trees* and pond*;
- ADD09, hedgerow*;
- Bolton Copperworks, broad-leaved semi-improved woodland and river;
- EN007, mature trees*;
- EN101, mature trees*;
- Northern Gateway Opportunity Site, hedgerow*
- UT007(FID 62), amphibians and reptiles*.

Those habitats marked with an asterisk were additionally considered to be potential candidates for designation as an SBI or BAS.

All sites except EN019 showed potential to support notable or protected species. Appropriate surveys for these species should be conducted before any future development of the sites.

An additional 57 sites were assessed for their potential for SBI/BAS status with LWS evaluations. The sites were assessed using data from the Phase 1 habitat reports by Lockwood Hall Associates (2014), with further data acquired through Staffordshire Ecological Records Centre, NBN gateway and Magic Map.

These sites were predominantly in the Biddulph (BD), Cheadle (CH) and Leek (LE) areas of Staffordshire.

Contents

SUMMARY	III
1. INTRODUCTION	1
2. METHODOLOGY	3
2.1 DATA CONSULTATION	3
2.2 EXTENDED PHASE 1 HABITAT SURVEY	3
2.3 LIMITATIONS	6
2.4 LWS ASSESSMENTS	7
3. FINDINGS AND EVALUATION	8
3.1 ADD01	8
3.2 ADD03	19
3.3 ADD04	28
3.4 ADD09	38
3.5 BD076A (NORTHERN PART)	49
3.6 BM014A & BM014B (SOUTHERN PART)	58
3.7 BOLTON COPPERWORKS	65
3.8 CH085D (SOUTHERN PORTION)	79
3.9 EN007	87
3.10 EN019	89
3.11 EN101	91
3.12 UT007 (FID62)	93
3.13 KG049A	95
3.14 NORTHERN GATEWAY OPPORTUNITY SITE	104
3.15 WE013 & WE027	115
4. LWS ASSESSMENTS	123
4.1 BD016 (FID 115)	123
4.2 BD055 (FID 117)	128
4.3 BD062 (FID 122)	133
4.4 BD063A (FID 28)	138
4.5 BD068 (FID 22)	143
4.6 BD069 (FID 21)	148
4.7 BD071 & BD071A (FID17)	155
4.8 BD076 (FID 25 & 226)	161
4.9 BD076A (FID 25/226)	166
4.10 BD087 (FID 24)	171
4.11 BD106 & BD156 (FID 118)	176
4.12 BD108 (FID 119)	181

4.13	BD117 (FID 210)	186
4.14	CH001 (FID 140)	193
4.15	CH002A (FID 150).....	199
4.16	CH02B (FID 151).....	206
4.17	CH004 (FID 145)	213
4.18	CH009 (FID 191)	219
4.19	CH013 (FID 142)	226
4.20	CH015 (FID 143)	232
4.21	CH019 EM2 (FID 209)	238
4.22	CH020 (FID 160)	243
4.23	CH024 (FID 161)	249
4.24	CH085A (FID 156).....	256
4.25	CH085B & CH085C (FID 155).....	262
4.26	CH085D (FID 154).....	268
4.27	CH127 EM1 (FID 218)	274
4.28	CH128 (FID 195)	280
4.29	LE022 (FID 29).....	286
4.30	LE064 (FID 33).....	292
4.31	LE127 (FID 40).....	298
4.32	LE128A (FID 39).....	304
4.33	LE140 (FID 41).....	310
4.34	LE142A (FID 72).....	316
4.35	LE142B (FID 73).....	322
4.36	LE150 (FID 207)	328
4.37	LE249 (FID 43).....	335
4.38	LEEK EM2 (FID 208)	341
4.39	WE052 (FID 11).....	348
4.40	WE069 (FID 71).....	353
4.41	AL012 (FID 129)	357
4.42	BE041 (FID 98).....	363
4.43	BM013 (FID (PART OF) 108).....	369
4.44	BM014B (FID (PART OF) 110)	374
4.45	BM029 (FID 109)	379
4.46	CD002 (FID 180)	383
4.47	CD003 (FID 181)	388
4.48	CD017 (FID 182)	393
4.49	EN012 (FID 3)	398

4.50	EN033 (FID 4)	404
4.51	EN126 (FID 172)	410
4.52	IP019 (FID 135)	417
4.53	TR002 (FID 61).....	424
4.54	UT019 (FID 65).....	430
4.55	WE003 (FID 12).....	434
4.56	WA004 (FID 205).....	439
4.57	WR015 (FID 7)	446
5.	ECOLOGICAL ASSESSMENTS SUMMARY	451
6.	REFERENCES	457
	FIGURES: SURVEY FINDINGS.....	458
	APPENDIX 1: PHASE 1 HABITAT COLOUR CODES.....	470
	APPENDIX 2. SITE IMAGES	474
	APPENDIX 3. GREAT CRESTED NEWT HABITAT SUITABILITY CALCULATIONS	492
	APPENDIX 4: HSI CALCULATION INFORMATION.....	493
	APPENDIX 5. GLOSSARY.....	496

1. Introduction

1.1.1 Ecus Ltd was commissioned by Staffordshire Moorlands District Council in August 2016 to undertake surveys of 11 sites in the Staffordshire Moorlands District as part of its emerging Local Plan. These sites were:

- ADD01,
- ADD03,
- ADD04,
- ADD09,
- BD076A (northern part),
- Bolton Copperworks,
- BM014A + BM014B (southern part),
- CH085D (southern part),,
- KG049A,
- Northern Gateway Opportunity Site
- WE013 + WE027 (combined).

1.1.2 The purpose of the surveys was to carry out extended Phase 1 habitat surveys of these potential Local Plan allocations to ascertain present and potential ecological value as per paras 7, 9, and 109 of the NPPF. As per paragraph 114 of the NPPF which directs Local Planning Authorities to set out a strategic approach in their Local Plans for the creation, protection, enhancement and management of biodiversity networks these sites were also reviewed for their potential to contain, or be used by, species protected under both UK and European nature conservation legislation, namely the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (as amended). An assessment of each site's potential for designation as a local wildlife site (i.e. Site of Biological Importance (SBI) or Biodiversity Alert Site (BAS)) was made in accordance with the 'guidelines for the selection of sites of county biological importance in Staffordshire', henceforth referred to as 'Staffordshire SBI guidelines' (Webb *et al.*, 2014).

1.1.3 Secondly, ECUS was also commissioned to undertake similar local wildlife site evaluations for all existing 2016 'Preferred Options' sites from the Council's emerging Local Plan; and additionally the following 4 Local Plan sites, which had already undergone Phase 1 ecological surveys in 2014 (but without LWS evaluations): refs EN007, EN0019, EN101 and UT007(FID62).

1.1.4 The conclusions of all individual reports will be used by the Council as evidence to assess the ecological characteristics of these sites as part of its emerging Local Plan work in accordance with NPPF, to assist in

selecting sites for future development (and also in the determination of planning applications).

- 1.1.5 This report details the findings of the survey work and subsequent assessment. Methodologies employed are described including site surveys and evaluation and the need for any further survey work are included, where appropriate. The first part of the report sets out each of the individual site reports, whilst the second part of the report contains the LWS assessment of the other Preferred Options sites.

Table 1. Abbreviations and acronyms

Abbreviations/acronyms	Explanation
BAS	Biodiversity Alert Site
HEGS	Hedgerow Evaluation and Grading System
HSI	Habitat Suitability Index
LWS	Local Wildlife Site (Non-statutory designations inc. Site of Biological Interest (SBI); Biodiversity Alert Site (BAS))
NPPF	National Planning Policy Framework
SBI	Site of Biological Importance

2. Methodology

2.1 Data Consultation

- 2.1.1 Data consultation was undertaken by Ecus Ltd in October and November 2016 with Staffordshire Ecological Record (SER). This process helped to determine whether there were any existing recent biological records or locally (non-statutory) designated sites of nature conservation interest within 2 km of the survey areas.
- 2.1.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website (<http://magic.defra.gov.uk>) was consulted for information on statutory designated sites of nature conservation interest (in this case, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR), within 2 km of the survey areas in September 2016.
- 2.1.3 Information returned from SER and MAGIC is incorporated in this report in the relevant sections. In all cases the most up to date records were used.

2.2 Extended Phase 1 Habitat Survey

- 2.2.1 The 11 sites listed in para 1.1.1 were surveyed following an extended Phase 1 habitat survey methodology (JNCC, 2010) by Ecus ecologist Dermot McKee (Level 2 bat licence: 2015-12585-CLS-CLS, GradCIEEM). The habitats and vegetation types present were recorded on to a field map. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all plants occurring across the site.
- 2.2.2 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey. Species recorded are included in the report as appropriate.
- 2.2.3 Habitats present that are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Natural England, 2010) or Staffordshire Biodiversity Action Plan (SBAP), were noted. The full list of priority habitats included on the Section 41 is available via the following weblink: <http://webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx>
- 2.2.4 The value and sensitivity of ecological features present on site were determined based on the guidance given in 'Guidelines on Ecological Impact Assessment' (CIEEM, 2016). Individual ecological receptors (habitats and species that could be affected by any development of the site) were assigned levels of importance for nature conservation. The highest level is international, then decreasing in order of importance through national, regional, county, local and site level.
- 2.2.5 Habitats and species recorded on site were compared with the criteria listed in the Staffordshire SBI guidelines (Webb *et al.*, 2014) to

determine whether the site, or features of the site, qualified for consideration as an SBI or BAS.

2.2.6 Protected and Key Species

2.2.7 Any evidence of protected species or groups encountered during the survey was recorded. This included observations of field signs and an assessment of the suitability of the habitats present to support protected species. For full details of legislation relating to all habitats and species discussed within this report visit <http://www.legislation.gov.uk>.

Amphibians

2.2.8 Ponds within 250 m of the sites, and not separated from the site by a major barrier to dispersal (for example, a main road or extensive housing estate), were searched for using Ordnance Survey (OS) and Google maps. These ponds were assessed for their suitability for great crested newts (*Triturus cristatus*) using **Habitat Suitability Index (HSI)** calculations (Oldham *et al.*, 2000). The calculations used in determining the indices expressed in the site record tables, are set out in Appendix 2.

2.2.9 Great crested newt is a habitat specialist and its status in a given water-body is influenced by the existence of particular features (e.g. fish, heavy shading) and/or the absence of others (e.g. suitable terrestrial habitat within 500 m). The HSI provides a numerical value (ranging from 0 to 1) that indicates the suitability of a waterbody for great crested newts. The higher the HSI score, the more suitable (or closer to optimum habitat conditions) the waterbody may be considered for great crested newts.

2.2.10 HSI calculation is a geometric mean of ten suitability indices:

$$\text{HSI} = (\text{SI1} \times \text{SI2} \times \text{SI3} \times \text{SI4} \times \text{SI5} \times \text{SI6} \times \text{SI7} \times \text{SI8} \times \text{SI9} \times \text{SI10})^{1/10}$$

Further information on the indices used can be found in Appendix 3. It should be noted that the HSI score is no substitute for the judgement of an experienced surveyor.

2.2.11 Site habitats were assessed for their suitability to support amphibian species.

Badger

2.2.12 Signs of badger activity were searched for within the survey areas. Suitable areas of adjacent habitat, up to 30 m from each survey area boundary, were also searched. The badger assessment followed standard methodology (Harris *et al.*, 1989), including looking for setts and examining linear features and boundaries for signs of badger activity (e.g. latrines, foraging marks, feeding signs and pathways).

Bats

2.2.13 Buildings and trees within each survey area were assessed for their potential suitability to support roosting bats. Buildings and trees were inspected, using binoculars where necessary, for signs of bat presence (e.g. droppings, urine and fur oil staining) and for potential roost

features (e.g. access points into the structure of the building, rot holes, split limbs, old woodpecker holes).

2.2.14 An individual building or tree may have several features of potential interest to roosting bats associated with it. It is not always possible to confirm usage of a feature by bats as often the animals may be present on one day and no evidence of occupation may be found on the next. Consequently it is customary when undertaking such surveys to assign each feature to a defined category of roosting potential as follows: negligible, low, moderate, high, confirmed (Collins, 2016).

2.2.15 The survey areas were also assessed for their suitability for foraging and commuting bats.

Birds

2.2.16 Detailed bird surveys were not undertaken as part of this assessment, however, whilst on site all bird species encountered were recorded and habitats were assessed for their value to nesting and foraging birds.

2.2.17 In 2015, a re-assessment of Birds of Conservation Concern (BoCC) was published by Eaton et al. (2015), which defined rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.

2.2.18 “Red” is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50%) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. “Amber” is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25%) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more. These categories are followed by Green, indicating that the species are relatively unthreatened.

Reptiles

2.2.19 The habitats present on site were assessed for their suitability to support basking, foraging and hibernating reptiles, with reference to their connectivity with other suitable habitat in the surrounding area.

Riparian mammals and white-clawed crayfish

2.2.20 A desk based search for watercourses on each site, and within 30 m of each site, which were not separated from each site by a major barrier to dispersal, was undertaken using an Ordnance Survey (OS) map.

Other protected and key species

2.2.21 The opportunity was taken whilst on site to assess habitats for their potential to support other protected species, search for signs of nationally or locally scarce or notable species, or any species protected under national or international nature conservation law.

Invasive species

2.2.22 During the extended Phase 1 habitat survey any evidence of invasive non-native species, as listed on Schedule 9 Part II of the Wildlife and Countryside Act 1981 (as amended), was recorded.

2.3 Limitations

2.3.1 The absence of a species from desk study data does not necessarily mean that that species is absent from the study area. It may simply be a reflection of the quality and / or extent of data held by the local records centre.

2.3.2 Extended Phase 1 habitat surveys are intended to provide a rapid assessment of habitats present within a site at any time of year. The walkovers were undertaken in September and October by an experienced ecologist and are therefore considered an accurate assessment of site habitats and a robust evaluation of their importance to nature conservation has been made.

2.3.3 Extended Phase 1 habitat surveys are not intended to provide a definitive list of species present nor a precise estimate of population sizes. Varying plant phenology, mowing and heavy grazing mean that it is not possible to identify all plant species within a site during a single visit. Animals and birds are generally secretive, mobile and may be migratory. Again, therefore, it is not possible to identify all such species within a site during a single visit. Protected or notable species may visit the site at any time during the future. However, professional judgement and experience allows for the likely presence of these species to be predicted with sufficient certainty so as not to significantly limit the validity of the survey findings.

2.3.4 The LWS assessments made by Ecus were based on Extended Phase 1 habitat surveys undertaken by Lockwood Hall Associates (2014) and more recent consultation of the Staffordshire Ecological Record (SER), NBN Atlas and MAGIC website. These surveys were carried out in September and October 2014. Species of plants may be under-recorded due to vegetation die-back at that time of year.

2.3.5 When calculating the percentage cover of different habitats on site linear habitats were excluded from the calculations, with the length of these habitats provided in metres instead. The area covered by scattered trees cannot be accurately measured and consequently this habitat was not included in area calculations.

2.3.6 Bird species do not usually breed between the months of September to March, therefore a lower number of breeding bird species were present.

2.4 LWS assessments

Data consultation

- 2.4.1 Staffordshire Moorlands District Council commissioned Ecus to carry out desk studies of 57 sites across the Staffordshire Moorlands to assess their potential to be designated as BASs/SBIs. The preferred Options sites the subject of LWS assessment can be viewed on the Council's website.
- 2.4.2 Data consultation was undertaken by Ecus Ltd in April 2017 with Staffordshire Ecological Record (SER) and NBN Atlas. This process helped to determine whether there were any existing recent biological records or locally (non-statutory) designated sites of nature conservation interest within 1 km of the sites. These were classified as LWS, SBI, or BAS by SER
- 2.4.3 The Multi-Agency Geographic Information for the Countryside (MAGIC) website (<http://magic.defra.gov.uk>) was consulted for information on statutory designated sites of nature conservation interest (in this case, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR), within 2 km of the survey areas in September 2016.
- 2.4.4 Information from SER, NBN Atlas and Magic is incorporated into this report.

Phase 1 Habitat surveys

- 2.4.5 The sites were surveyed following an extended Phase 1 habitat survey methodology (JNCC, 2010) by ecologists from Lockwood Hall Associates (2014). The habitats and vegetation types present were recorded on to a field map. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all plants occurring across the site.

Assessment

- 2.4.6 The sites were assessed by Ecus using a combination of Lockwood Hall Phase 1 Habitat survey results and data search results to assess which habitats and protected species are likely to be present and whether they could meet BAS/SBI criteria.

3. Findings and Evaluation

3.1 ADD01

Site Description

3.1.1 The site consists of approximately 0.89 ha of farmland (central grid reference SJ 99091 57627) on the north-eastern outskirts of Leek. Churnet View Middle School and the Haregate housing estate are located immediately to the east and south respectively. Expansive farmlands with pockets of woodland surround the site to the north and west. Stare Wood lies 135 m north, on the edge of the River Churnet escarpment. The River Churnet flows south-west, 300 m north of the site.

3.1.2 The site was surveyed on 15th September 2016.

Designated Sites

3.1.3 One statutory and 10 locally designated sites are located within 2 km of the study site (Table 3.1.1).

Table 3.1.1. Records returned within study area.

Site name	Status	Location	Notes
Stare Wood	SBI	0.13 km north	Deciduous woodland.
Ball Haye Green Disused Tip	SBI	0.37 km south-west	Marshy grassland, semi-improved neutral grassland, broad-leaved semi-natural woodland and scrub.
Brough Park Fields	LNR	0.63 km south-west	Urban fringe meadow and woodland.
Edge End Wood	SBI	0.74 km north-east	Species-rich marshy grassland and ancient semi-natural broad-leaved woodland.
Brough Park Fields Country Park	SBI	0.79 km south-west	Unimproved and semi-improved neutral grassland.
Edge End Farm (north of)	SBI	1.08 km east	A brook with steeply sloping sides.
Solomon's Hollow	BAS	1.27 km north-east	Species-rich verges either side the A53 Leek to Buxton Road.
Back Hills and Abbey Woods	SBI	1.37 km north-west	Woodland and rank grassland.
Ladydale Wood Pasture	SBI	1.68 km south	Semi-improved neutral grassland with a scattering of broad-leaved trees. Also areas of marshy grassland.
Kniveden Hall (east of)	SBI	1.7 km south-east	Marshy grassland with adjoining semi-improved neutral grassland and broadleaved woodland.

Ballington Wood	SBI	1.94 km south	Ancient semi-natural woodland and mixed plantation.
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Habitats

3.1.4 Habitats identified within the site are presented in Table 3.1.2 and are discussed in order of dominance below.

Table 3.1.2. Habitats present within the site

Habitat	Species Present	Area or length	% cover of site
Improved grassland	Ribwort plantain, common sorrel, dandelion, meadow buttercup, soft rush	9298 m ²	97
Hedgerow and scattered trees	Hawthorn, blackthorn, dog rose, dogwood, hazel, guelder rose, ash, apple, elder, goat willow, rowan, holly, oak, sycamore, horse chestnut.	231 m	N/A
Tall ruderal and scrub	Nettle, great willowherb.	252 m ²	3

Improved grassland

3.1.5 The majority of the site consists of improved grassland (Figure 4.1.1; Plates A1.1 - A1.3) used for pasture. There are no appreciable field margins. Frequent forbs include ribwort plantain (*Plantago lanceolata*), common sorrel (*Rumex acetosa*), dandelion (*Taraxacum* spp. agg.) and meadow buttercup (*Ranunculus acris*). Occasional soft rush (*Juncus effusus*) indicates areas of damper ground.

3.1.6 This habitat is common and widespread both locally and throughout the UK and, as such, is considered to be of importance to nature conservation at site level only. This habitat is not listed as an important habitat in the Staffordshire SBI guidelines.

Hedgerow and scattered trees

3.1.7 The northern and eastern boundaries of the site have species rich intact hedgerow with occasional scattered trees (Figure 4.1.1; Plates A1.2 & A1.3).

3.1.8 Species recorded along the northern boundary comprise hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), dog rose (*Rosa canina*), dogwood (*Cornus sanguina*), hazel (*Corylus avellana*), guelder rose (*Viburnum opulus*), ash (*Fraxinus excelsior*) and apple (*Malus* sp.). This length of hedgerow is approximately 85 m.

3.1.9 Species recorded along the eastern boundary comprise hawthorn, blackthorn, dog rose, hazel, apple, elder (*Sambucus nigra*), goat willow (*Salix caprea*), rowan (*Sorbus acuparia*), holly (*Ilex aquifolium*), ash (*Fraxinus excelsior*), oak (*Quercus robur*), sycamore (*Acer pseudoplatanus*) and horse chestnut (*Aesculus hippocastanum*). This length of hedgerow is approximately 160 m.

3.1.10 A group of four mature sycamores and a single mature ash are located on the boundary in the north-eastern corner of the site.

3.1.11 This species rich hedgerow habitat is considered a habitat of principal importance under Section 41 of the NERC Act 2006. In addition, it may be considered 'important' under the Hedgerow Regulations 1997 due to the probable presence of an average of six woody species per 30 m length, and may also qualify for SBI or BAS status dependent on further survey following the hedgerow evaluation and grading system outlined in the Staffordshire SBI guidelines. Good connectivity to Stare Wood and the River Churnet valley is provided via further hedgerow to the north. Nevertheless, as this habitat is not uncommon in Staffordshire or the wider UK landscape it is considered to be of importance to nature conservation at local level only.

Tall ruderal and scrub

3.1.12 A small area of tall ruderal vegetation is located in the north-east corner of the site, associated with an old manure heap. Nettle (*Urtica dioica*) and great willowherb (*Epilobium hirsutum*) are dominant.

3.1.13 A small area of encroaching blackthorn scrub is located in the north-west corner of the site.

3.1.14 Both habitat types are common and widespread locally and throughout the UK and, as such, were considered to be of importance to nature conservation at site level only.

Species

3.1.15 Table 3.1.3 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 3.1.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific name
BAP	a bumble bee	<i>Bombus</i>
	a flowering plant	<i>Rubus painteri</i>
	a willow tit	<i>Poecile montana subsp. kleinschmidti</i>
	Autumnal Rustic	<i>Eugnorisma glareosa</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Brent Goose	<i>Branta bernicla</i>
	Broom Moth	<i>Ceramica pisi</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Brown Trout	<i>Pipistrellus pipistrellus sensu stricto</i>
	Brown-spot Pinion	<i>Melanitta nigra</i>
	Buff Ermine	<i>Salmo trutta subsp. fario</i>
	Buff-tailed Bumble Bee	<i>Agrochola litura</i>
	Centre-barred Sallow	<i>Spilosoma lutea</i>

	Cinnabar	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Atethmia centrugo</i>
	Common Carder-bee	<i>Tyria jacobaeae</i>
	Common Cuckoo	<i>Lutra lutra</i>
	Common Grasshopper Warbler	<i>Arvicola amphibius</i>
	Common Pipistrelle	<i>Pyrrhula pyrrhula</i>
	Common Scoter	<i>Natrix natrix</i>
	Common Snipe	<i>Botaurus stellaris</i>
	Common Starling	<i>Triturus cristatus</i>
	Common Toad	<i>Bombus pascuorum</i>
	Common Wasp	<i>Cuculus canorus</i>
	Dark-bellied Brent Goose	<i>Locustella naevia</i>
	Dingy Skipper	<i>Aythya marila</i>
	Dot Moth	<i>Gallinago gallinago</i>
	Double Dart	<i>Circus cyaneus</i>
	Dunnock	<i>Sturnus vulgaris</i>
	Dusky Brocade	<i>Bufo bufo</i>
	Dyer's Greenweed	<i>Vespula vulgaris</i>
	Early Bumble Bee	<i>Branta bernicla subsp. bernicla</i>
	Eurasian Curlew	<i>Erynnis tages</i>
	Eurasian Tree Sparrow	<i>Melanchnra persicariae</i>
	European Otter	<i>Graphiphora augur</i>
	European Turtle Dove	<i>Prunella modularis</i>
	European Water Vole	<i>Apamea remissa</i>
	Figure of Eight	<i>Genista tinctoria</i>
	Flounced Chestnut	<i>Bombus pratorum</i>
	Four Coloured Cuckoo Bee	<i>Numenius arquata</i>
	Grass Snake	<i>Passer montanus</i>
	Great Bittern	<i>Streptopelia turtur</i>
	Great Crested Newt	<i>Nyctalus noctula</i>
	Greater Scaup	<i>Diloba caeruleocephala</i>
	Green-brindled Crescent	<i>Agrochola helvola</i>
	Grey Partridge	<i>Bombus sylvestris</i>
	Grizzled Skipper	<i>Pipistrellus pipistrellus sensu lato</i>
	Harvest Mouse	<i>Mustela putorius</i>
	Hedge Rustic	<i>Allophytes oxyacanthae</i>
	Hen Harrier	<i>Perdix perdix</i>

	Herring Gull	<i>Pyrgus malvae</i>
	Honey Bee	<i>Micromys minutus</i>
	House Sparrow	<i>Tholera cespitis</i>
	insect - hymenopteran	<i>Larus argentatus</i>
	Lesser Redpoll	<i>Apis mellifera</i>
	Lesser Spotted Woodpecker	<i>Passer domesticus</i>
	Linnet	<i>Andrena clarkella</i>
	Marsh Tit	<i>Acanthis cabaret</i>
	Minor Shoulder-knot	<i>Dendrocopos minor</i>
	Mottled Rustic	<i>Linaria cannabina</i>
	Mouse Moth	<i>Poecile palustris</i>
	Noctule Bat	<i>Brachylomia viminalis</i>
	Northern Lapwing	<i>Caradrina morpheus</i>
	Pink Waxcap	<i>Amphipyra tragopoginis</i>
	Pipistrelle	<i>Vanellus vanellus</i>
	Polecat	<i>Hygrocybe calyptriformis</i> <i>var. calyptriformis</i>
	Red Carpet	<i>Xanthorhoe decoloraria</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Rosy Minor	<i>Litoligia literosa</i>
	Rosy Rustic	<i>Hydraecia micacea</i>
	Sallow	<i>Cirrhia icteritia</i>
	September Thorn	<i>Ennomos erosaria</i>
	Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>
	Shoulder-striped Wainscot	<i>Leucania comma</i>
	Sky Lark	<i>Alauda arvensis</i>
	Slow-worm	<i>Anguis fragilis</i>
	Small Heath	<i>Coenonympha pamphilus</i>
	Small Phoenix	<i>Ecliptopera silaceata</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Muscicapa striata</i>
	Spotted Flycatcher	<i>Chesias legatella</i>
	The Streak	<i>Bombus hypnorum</i>
	Tree Bumble Bee	<i>Anthus trivialis</i>
	Tree Pipit	<i>Pipistrellus pygmaeus</i>
	Tundra Swan	<i>Linaria flavirostris</i>
	Twite	<i>Macaria wauaria</i>
	V-moth	<i>Lasiommata megera</i>

	Wall	<i>Erinaceus europaeus</i>
	West European Hedgehog	<i>Spilosoma lubricipeda</i>
	Whistling Swan	<i>Cygnus columbianus</i>
	White Ermine	<i>Satyrium w-album</i>
	White-letter Hairstreak	<i>Bombus lucorum</i>
	White-tailed Bumble Bee	<i>Cygnus columbianus</i> <i>subsp. columbianus</i>
	Willow Ptarmigan	<i>Lagopus lagopus</i>
	Willow Tit	<i>Poecile montana</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
	Yellow Meadow Ant	<i>Lasius flavus</i>
	Yellow Wagtail	<i>Motacilla flava</i>
	Yellowhammer	<i>Emberiza citronella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Black Tern	<i>Chlidonias niger</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Bluethroat	<i>Luscinia svecica</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Crossbill	<i>Loxia curvirostra</i>
	Common Goldeneye	<i>Bucephala clangula</i>
	Common Greenshank	<i>Tringa nebularia</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus</i> <i>sensu stricto</i>
	Common Scoter	<i>Melanitta nigra</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Eurasian Marsh Harrier	<i>Circus aeruginosus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Garganey	<i>Anas querquedula</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Bittern	<i>Botaurus stellaris</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Great Northern Diver	<i>Gavia immer</i>

	Greater Scaup	<i>Aythya marila</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Greylag Goose	<i>Anser anser</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Horned Lark	<i>Eremophila alpestris</i>
	Kentish Plover	<i>Charadrius alexandrinus</i>
	Little Gull	<i>Hydrocoloeus minutus</i>
	Little Plover	<i>Charadrius dubius</i>
	Little Tern	<i>Sternula albifrons</i>
	Long-tailed Duck	<i>Clangula hyemalis</i>
	Mediterranean Gull	<i>Larus melanocephalus</i>
	Merlin	<i>Falco columbarius</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Goshawk	<i>Accipiter gentilis</i>
	Northern Pintail	<i>Anas acuta</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pied Avocet	<i>Recurvirostra avosetta</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Red Kite	<i>Milvus milvus</i>
	Red-throated Diver	<i>Gavia stellata</i>
	Redwing	<i>Turdus iliacus</i>
	Ruff	<i>Calidris pugnax</i>
	Slavonian Grebe	<i>Podiceps auritus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Snow Bunting	<i>Plectrophenax nivalis</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Temminck's Stint	<i>Calidris temminckii</i>
	Tundra Swan	<i>Cygnus columbianus</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Whistling Swan	<i>Cygnus columbianus subsp. columbianus</i>
	Whooper Swan	<i>Cygnus cygnus</i>
	Wood Sandpiper	<i>Tringa glareola</i>

Amphibians

3.1.16 SER returned three recent records (and no historical records) of great crested newt. These records were all located in the housing estates to the east and south of the site (presumably from garden ponds) and were therefore effectively isolated from the site. The closest record was from 0.5 km south-east of the site.

3.1.17 No ponds are located on site. One pond (Pond 1) is located within 250 m of the site boundary (Table 3.1.4). It was assessed as being of below average suitability for great crested newts (Table 3.1.4; Table A2.1).

Table 3.1.4. Ponds located within 250 m of the site boundary.

Pond No.	Location (grid reference)	HSI
Pond 1	85 m south-west (SJ 98982 57486)	0.52 (below average)

3.1.18 No amphibians were recorded during the site visit. Site habitats are of low suitability for great crested newts and isolated from any suitable breeding ponds. It is therefore considered that great crested newts are not a receptor for the site.

3.1.19 Occasional common frogs (*Rana temporaria*) and toads (*Bufo bufo*) may disperse into the damper areas of hedgerow along the northern and eastern boundary of the site. However, it is unlikely that the site as a whole provides anything more than marginal habitat for these amphibians.

Badger

3.1.20 SER returned 41 recent records of badger. These records included at least 3 setts, as well as sightings and field signs. The most recent record was from 2014, on land north of Milltown Way, 1.5 km south of the site.

3.1.21 No badger setts were identified on site. However, animal pathways consistent with those produced by badger were located in the hedgerow in the north-west corner of the site (Figure 4.1.1; plate A1.4). Furthermore, although outside the 30 m buffer around the site perimeter, an occupied badger sett was found at the edge of Stare Wood, 135 m to the north. Evidence therefore suggests that badgers are active in the area and are likely to use the site (particularly the hedgerow habitat) for foraging and commuting. However, because badgers roam widely and have access to an abundance of habitat in the local area, the habitats present on site were considered to be of importance to foraging badgers at site level only.

Bats

3.1.22 SER returned 33 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for five species (as well as a number of records where the species was unidentified): common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), noctule (*Nyctalus noctula*), Daubenton's bat and brown long-eared bat (*Plecotus auritus*). The closest record to the site was of common pipistrelle from Ball Hays Green, 0.74 km to the south-west.

- 3.1.23 The site hedgerows and scattered trees are likely to provide foraging and commuting habitat for bats. They are a linear feature which gives good connectivity to the wider landscape. The improved grassland which forms the majority of the site area is unlikely to provide anything more than marginal foraging and commuting opportunity for bats. Nevertheless, prior to any future development activity surveys should be conducted to better determine use of the site by bats.
- 3.1.24 There are no buildings on site. The mature trees on site do not offer any obvious potential bat roost features. They are therefore assessed as having negligible suitability for roosting bats.

Birds

- 3.1.25 SER returned records of 134 notable species recently recorded within 2 km of the site. Table 3.1.5 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.1.5. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Tree sparrow	<i>Passer montanus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 3.1.26 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees would provide a range of foraging and nesting opportunity for common species such as wren (*Troglodytes troglodytes*), robin, blackbird, dunnock, magpie, and woodpigeon.
- 3.1.27 Given the abundance of similar habitat in the local area, the habitats present on site are considered to be of importance to nesting and foraging birds at site level only. A nesting bird check should be conducted immediately prior to any future development involving vegetation clearance or other disturbance to potential nest

sites, if this disturbance takes place during the bird breeding season (March to August inclusive).

Reptiles

3.1.28 SER returned five recent records of reptiles. They were all for grass snake (*Natrix natrix*), the closest of which was from open land, and 0.38 km south-west of the site.

3.1.29 No reptiles were recorded during the site visit and it is unlikely that the site provides optimal habitat for reptiles. Nevertheless, it has some connectivity with potential reptile habitat via its hedgerows, and therefore reptiles (most likely grass snakes) are considered a potential receptor for the site.

Riparian mammals and white-clawed crayfish

3.1.30 SER returned no records of water vole (*Arvicola amphibius*) or white-clawed crayfish (*Austropotamobius pallipes*).

3.1.31 SER records showed that otter (*Lutra lutra*) have been twice recorded at Tittesworth reservoir (in 1999 and 2007), 1.2 km north of the site.

3.1.32 No habitats are present within or adjacent to the site that were likely to support water vole, otter or white-clawed crayfish and these species are not receptors for the site.

Other protected and key species

3.1.33 No habitats likely to support other protected or key species not already discussed are present within or adjacent to the site.

Invasive Species

3.1.34 No non-native invasive species were recorded during the site visit.

Target Notes

3.1.35 Table 3.1.6 gives a brief description of Target Notes referred to in Figure 1.

Table 3.1.6. Target notes in Figure 1

Target note	Grid Reference	Comment
1	SJ 99073 57686	Animal pathway (probably badger)

Evaluation

3.1.36 Table 3.1.7 summarises the ecological importance of each habitat present on the site Further detail on the importance of the habitats is given below.

Table 3.1.7. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Hedgerows and scattered trees					X	
Tall ruderal and scrub						X
Improved grassland						X
I=International, N=National, R=Regional,						

D=District, L=Local, S=Site

3.1.37 Species recorded on site are common and widespread both at a county and national level and it is considered unlikely that the site is important in maintaining any populations of notable or protected species. No species listed as important in the Staffordshire SBI guidelines were recorded and therefore the site does not currently qualify for consideration as an SBI or as a BAS under these criteria. However, badgers, bats and reptiles may use the site and further survey for these species should be undertaken prior to any future development. It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season. Management of the grassland and scrub could be considered to promote areas for reptiles to bask in and places for refugia.

3.2 ADD03

Site Description

- 3.2.1 The site consists of approximately 6.70 ha of farmland (central grid reference SJ 87831 57995) on the north-western outskirts of Biddulph. It adjoins extensive areas of housing and built environment to the north and east. To the south and west, it adjoins extensive areas of similar farmland, with small pockets of woodland and hedgerow. National Cycle Route 55 (The Biddulph Valley Way) follows an old railway line and runs along the eastern boundary of the site.
- 3.2.2 The site was surveyed on 20th October 2016 and 29th March 2017.

Designated Sites

- 3.2.3 One statutory and eight locally designated sites are located within 2 km of the study area (Table 3.2.1).

Table 3.2.1. Statutory and locally designated sites identified within study area.

Site name	Status	Location	Notes
Newpool (east of)	BAS	1.10 km south	Broad-leaved semi-natural woodland with semi-improved neutral grassland.
Mow Cop Quarry	BAS	1.15 km north-west	Disused quarry.
Willocks Wood (south-west of)	BAS	1.36 km north	Disused quarry with flooded area.
Willocks Wood	BAS	1.54 km north	Broad-leaved woodland.
Roe Park Woods	SSSI	1.54 km north-west	Semi-natural ancient woodland.
The Nursery (near)	BAS	1.58 km east	Mixed woodland.
Knypersley Fishing Pool	BAS	1.83 km south	Fishing pool surrounded by tall herbs and locally frequent goat willow.
Congleton Edge (south of)	SBI	2.00 km north	Alder dominated woodland.
Congleton Edge	SBI	2.00 km north	Young birch-rowan-oak woodland.

Habitats

- 3.2.4 Habitats present within the site are presented in Table 3.2.2 and are discussed in order of dominance below.

Table 3.2.2. Habitats present within the site

Habitat	Species Present	Area or length	% Cover of Site
Improved grassland	perennial rye grass, timothy, Yorkshire fog, cock's foot, dandelion, broad-leaved dock, common sorrel	126,857m ²	95
Hedgerow and scattered trees	hawthorn, goat willow, ash, alder, hazel, birch, oak, elder, horse chestnut, sycamore, guelder rose	837 m	
Tall ruderal	nettle, bramble, rosebay willowherb, great willowherb, hogweed	2908 m ²	4
Scrub	hawthorn, oak, ash, apple tree,	920 m ²	1
Semi-natural broadleaved woodland	sycamore, hawthorn, oak, <i>Prunus</i> sp.	6793 m ²	
Plantation woodland	<i>Salix</i> sp., alder	5027 m ²	
Watercourse	Opposite-leaved golden saxifrage, lesser celandine	735 m	

Improved grassland

3.2.5 The majority of the site consisted of improved grassland used for pasture (Figure 4.3.1; plates A1.5 & A1.6). Perennial rye grass (*Lolium perenne*) was dominant, with frequent timothy (*Phleum pratense*), Yorkshire fog (*Holcus lanatus*) and cock's foot (*Dactylis glomerata*). Frequent forbs include dandelion (*Taraxacum spp.* agg.), broad-leaved dock (*Rumex obtusifolius*) and common sorrel (*Rumex acetosa*). Field margins were negligible.

3.2.6 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Semi-improved grassland

3.2.7 One of the fields consisted of semi-improved grassland used by grazing animals. Perennial rye grass (*Lolium perenne*) was present although this was less dominant than the other fields.

Hedgerow and scattered trees

3.2.8 Field boundaries consist of species-poor intact hawthorn (*Crataegus monogyna*) hedging, wire fencing and wire fencing with scattered trees (Figure 4.3.1). Semi-

mature goat willow (*Salix caprea*), ash (*Fraxinus excelsior*) and alder (*Alnus glutinosa*) occurred along the watercourse marking the northern most boundary of the site, with no one species being dominant. Hazel (*Corylus avellana*), hawthorn and a mature ash occurred along a second watercourse (Figure 4.3.1; plate A1.7). Species along the entire eastern site boundary included frequent immature ash and birch (*Betula pendula*) and occasional oak, elder (*Sambucus nigra*), hazel, horse chestnut (*Aesculus hippocastanum*), sycamore (*Acer pseudoplatanus*) and guelder rose (*Viburnum opulus*). Occasional mature sycamore and semi-mature oak, goat willow and hawthorn occurred along the watercourse marking the southernmost boundary of the site. Further scattered mature oaks were occasional to the additional site boundaries (Figure 4.3.1; plate A1.8). The western side of the site, along Akesmoor Lane (target note 4) consisted of species-poor intact hawthorn and there were also scattered trees consisting of immature oak, ash, birch and sycamore. There was also one mature oak tree present (Figure 4.3.1).

- 3.2.9 These habitats are common and widespread both locally and throughout the UK and, as such, were considered to be of importance to nature conservation at site level only.

Tall ruderal

- 3.2.10 Limited tall ruderal plant communities occurred in association with field boundaries throughout the site. Species included dominant nettle (*Urtica dioica*) and bramble (*Rubus fruticosus*), frequent rosebay willowherb (*Chamaenerion angustifolium*) and occasional great willowherb (*Epilobium hirsutum*) and hogweed (*Heracleum sphondylium*).

- 3.2.11 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Scrub

- 3.2.12 A small area of hawthorn scrub with occasional young oak, ash and a single apple tree (*Malus domestica* agg.) was located next to White House Farm (Figure 4.3.1).

- 3.2.13 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Plantation woodland

- 3.2.14 A small area of plantation woodland with frequent willow and alder was located in the south-west corner of the site next to Akesmoor Lane. Other trees present include ash, silver birch and a single Scots pine. Ground flora consisted of forbs including frequent hogweed, cleavers, soft rush, broad-leaved dock, occasional purple loosestrife and rare marsh thistle (Figure 4.3.1).

3.2.15 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Semi-natural broadleaved woodland

3.2.16 This habitat consists of mature broad-leaved trees with frequent oak, ash, sycamore, and hazel. Ground flora consists of wood anemone (*Anemone nemorosa*), occasional bluebell (*Hyacinthoides non-scripta*), occasional wood avens (*Geum urbanum*), occasional pignut (*Conopodium majus*), rare wood-sorrel (*Oxalis acetosella*), hart's-tongue fern (*Asplenium scolopendrium*), springy turf-moss (*Rhytidiadelphus squarrosus*) and liverwort sp. (*Marchantiophyta*).

3.2.17 Other features include frequent standing and fallen deadwood, greater than 5% of brambles present within the understorey. Fungus is present on or near deadwood including scarlet elf cup (*Sarcoscypha coccinea*), puffball sp. and candlesnuff (*Xylaria hypoxylon*).

3.2.18 A small brook runs through the woodland which is around 5-6cm in depth with moderate flow and boulders are present within the watercourse. Ground flora adjacent to the bank includes the dominant opposite-leaved golden saxifrage (*Chrysosplenium oppositifolium*) and lesser celandine (*Ficaria verna*).

3.2.19 This habitat shows potential for becoming a Site of Biological Important (SBI) and further surveys should be undertaken to assess the site more thoroughly.

Species

3.2.20 Table 3.2.3 presents all UKBAP, invasive and protected species records received from SER or site visit.

Table 3.2.3.UKBAP, invasive and protected species identified within 2km of study area

Species Type	Common Name	Scientific name
BAP	a flowering plant	<i>Rubus intensor</i>
	a flowering plant	<i>Rubus painteri</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>

	Common Toad	<i>Bufo bufo</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grey Partridge	<i>Perdix perdix</i>
	Hornet	<i>Vespa crabro</i>
	House Sparrow	<i>Passer domesticus</i>
	Knot Grass	<i>Acrionicta rumicis</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Wasp	<i>Vespula rufa</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Tree Pipit	<i>Anthus trivialis</i>
	Tree Wasp	<i>Dolichovespula sylvestris</i>
	Twite	<i>Linaria flavirostris</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
	Yellow Wagtail	<i>Motacilla flava</i>

EU/UK protected	Barn Owl	<i>Tyto alba</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Greylag Goose	<i>Anser anser</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Red Kite	<i>Milvus milvus</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Polecat	<i>Mustela putorius</i>
	Myotis Bat species	<i>Myotis</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Natterer's Bat	<i>Myotis nattereri</i>

Amphibians

3.2.21 SER returned no records of great crested newt.

3.2.22 No ponds are located on site. An apparent pond, identified from OS mapping to be within 250 m of the northern most site boundary (at grid reference SJ 87964 58450), was found to comprise an area of water seepage only at the time of survey, with no real areas of permanent or standing water.

3.2.23 No amphibians were recorded during the site visit. Site habitats were of low suitability for great crested newts and isolated from any suitable breeding ponds. It is therefore considered that great crested newts are not a receptor for the site.

3.2.24 Occasional common frogs and toads (may disperse into the damper areas of hedgerow, particularly along the eastern boundary of the site in the vicinity of any garden ponds. However, it is unlikely that the site as a whole provides anything more than marginal habitat for these amphibians.

Badger

3.2.25 SER returned 14 recent records of badger. These records included confirmed breeding as well as sightings and field signs. The most recent record was from 2013, from a housing estate, 1.4 km south-east of the site.

3.2.26 No evidence of badger activity was identified on site or within the immediate vicinity of the site. Badgers are therefore not currently considered a receptor for the site. However, these animals may roam widely and may establish a sett in a new area at any time. Further checks for badger presence should be undertaken immediately prior to any future development.

Bats

3.2.27 SER returned 33 recent records of bats from within 2 km of the site, including roost records as well as sightings of foraging and commuting bats. These were for 7 species (as well as a number of records where the species was unidentified): common pipistrelle, soprano pipistrelle, noctule, Daubenton's bat,

Brandt's bat, whiskered bat and brown long-eared bat. The closest record to the site was of a potential roost (unidentified species) on Tunstall road, 0.76 km to the south-east.

- 3.2.28 The site hedgerows, scattered trees and scrub are likely to provide limited foraging and commuting habitat for bats. In particular, the eastern and southern site boundaries provide a strong linear feature which provides good connectivity to the wider landscape. The improved grassland forming the majority of the site area is likely to provide only marginal foraging and commuting opportunity for bats.
- 3.2.29 There were no buildings on site. The mature trees on site (Figure 2) did not display any potential bat roost features from ground level and were therefore assessed as having negligible suitability for roosting bats.

Birds

- 3.2.30 SER returned records of 58 notable species. Table 3.2.4 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.2.4. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Larus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 3.2.31 Birds recorded on site during the visit were: robin, blackbird, woodpigeon, carrion crow, jackdaw (*Corvus monedula*), jay (*Garrulus glandarius*), swift (*Chroicocephalus ridibundus*), wren (*Troglodytes troglodytes*), long-tailed tit (*Aegithalos caudatus*), chiffchaff (*Phylloscopus collybita*), blue tit (*Cyanistes caeruleus*), bullfinch (*Pyrrhula pyrrhula*), great tit (*Parus major*), great spotted woodpecker (*Dendrocopos major*), nuthatch (*Sitta europaea*), mistle thrush (*Turdus viscivorus*), goldcrest (*Regulus regulus*), dunnock (*Prunella modularis*) and treecreeper (*Certhia familiaris*).

3.2.32 Of the bird species recorded, evidence was found of possible breeding for 13 species across the site. These include nuthatch, great tit, mistle thrush, wren, robin, chiffchaff, goldcrest, treecreeper, long-tailed tit, chiffchaff, blue tit, bullfinch, song thrush. Two species are red-listed (mistle thrush and song thrush), and three species are amber-listed (dunnock, swift and bullfinch) under BoCC (Aebischer *et al.* 2015).

3.2.33 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only. A nesting bird check should be conducted immediately prior to any future development involving vegetation clearance or other disturbance to potential nest sites, if this disturbance takes place during the bird breeding season (March to August inclusive).

Reptiles

3.2.34 SER returned no records of reptiles.

3.2.35 No reptiles were recorded during the site visit and it is unlikely that the site would provide anything but marginal habitat for reptiles. Reptiles are not currently considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

3.2.36 SER returned no recent records of water vole or white-clawed crayfish. There was a single record of an otter on the A527, 1.75 km to the north-east of the site.

3.2.37 Three watercourses occurred on site (Figure 4.3.1; plates A1.9 and A1.10). They were each shallow slow flowing streams at the time of survey, with a pebble and sand substrate, shallow sloping banks no riparian vegetation. The minor watercourses were not considered suitable habitat to support otter, water vole or white-clawed crayfish and no evidence of these species was found during the survey and they are not considered to be receptors.

Other protected and key species

3.2.38 No habitats were present within or adjacent to the site that were likely to support other protected or key species not already discussed.

Invasive species

3.2.39 No non-native invasive species were recorded during the site visit.

Target Notes

3.2.40 Table 3.2.5 gives a brief description of Target Notes referred to in Figure 2.

Table 3.2.5. Target notes in Figure 2

Target note	Grid reference	Comment
1	SJ 87771 58128	Mature oak
2	SJ 87907 58152	Mature oak
3	SJ 87950 58199	Mature ash

Evaluation

3.2.41 The following table illustrates the importance of each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.2.6. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Semi-improved grassland						X
Hedgerows and scattered trees						X
Tall ruderal						X
Scrub						X
Semi-natural broadleaved woodland	Further surveys are recommended.					
Plantation woodland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

3.2.42 The habitats on site were considered to be of nature conservation value at the site level only and are not listed as an important habitat in the Staffordshire SBI guidelines. However, further surveys are recommended of the semi-natural broadleaved woodland present along the brook as this could qualify as an SBI under the Staffordshire guidelines.

3.2.43 Species recorded on site were common and widespread both at a county and national level and it is considered unlikely that the site significantly supported any notable protected species. Some species are listed as important in the Staffordshire SBI guidelines and therefore the site does currently qualify for consideration as an SBI or as a BAS under these criteria. However, prior to any future development the site should be checked again for signs of badger and activity surveys should be conducted to better determine use of the site by bats, especially along the eastern boundary. It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season.

3.3 ADD04

Site Description

- 3.3.1 The site is a series of connected fields on the southern edge of Biddulph (central grid reference SJ 88309 56348). It is approximately 8.54 ha in area and is dominated by improved grassland used for pasture. Scattered mature and semi-mature trees and hedgerow were frequent.
- 3.3.2 The site immediately adjoins extensive residential housing to the north and north-east. To the east and south there was good connectivity with large areas of similar improved grassland habitat, but also with Knypersley Reservoir and woods. The busy A527 Tunstall Road runs parallel to the western site boundary, with more housing further to the west.
- 3.3.3 The site was surveyed on 20th October 2016 and on the 29th March 2017.

Designated Sites

- 3.3.4 There are seven locally designated sites and no statutory designated sites (Table 3.3.1).

Table 3.3.1. Locally designated sites for nature conservation study area.

Site Name	Status	Location	Notes
Knypersley Fishing Pool	BAS	0.01 km south-west	Fishing pool surrounded by tall herbs and locally frequent goat willow.
Newpool (east of)	BAS	0.50 km north-north-west	Broad-leaved semi-natural woodland with semi-improved neutral grassland and scattered trees.
Greenway Bank	SBI	1.10 km south-east	Broad-leaved woodland with marshy grassland and swamp.
The Nursery (near)	BAS	1.5 km north-east	Mixed woodland.
Dallows Wood	BAS	1.73 km south-east	Beech woodland running down a valley bisected by a stream.
Crowborough Wood	SBI	1.95 km east	Ancient semi-natural woodland with marshy grassland.

Bemersley Marshes and Banks	SBI	1.96 km south	Lightly wooded grassland.
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Habitats

- 3.3.5 Habitats present within the site are presented in Table 3.3.2 and are discussed in order of dominance below.

Table 3.3.2. Habitats present within the site

Habitat	Dominant Species	Area or length	% Cover of Site
Improved grassland	perennial rye grass, Timothy grass, rough meadow grass, nettle, broad-leaved dock, creeping thistle, bramble, soft rush	88602 m ²	99
Hedgerow and scattered trees	holly, ash, oak, sycamore, lime, beech	739 m	
Pond		924 m ²	1

Improved grassland

- 3.3.6 Most of the site was comprised of improved grassland used for pasture (Figure 4.5.1; plates A1.11 & A1.12). Field margins were negligible. Throughout much of the site it was not possible to identify grass species because the sward was heavily grazed. In areas of ranker vegetation, perennial rye grass, Timothy grass and rough meadow grass (*Poa trivialis*) were frequent. Nettle, broad-leaved dock, creeping thistle and bramble were frequent across the site; with soft rush occasional in damper areas.
- 3.3.7 This habitat is common and widespread both locally and throughout the UK and, as such, is considered to be of importance to nature conservation at site level only.

Hedgerow and scattered trees

- 3.3.8 Many of the field boundaries were wire fenced. However, species poor intact and defunct hawthorn hedging was prominent in the southern half of the site (Figure 4.5.1; plate A1.13) and included occasional holly and young ash. A sunken path with mature oak, beech and wych elm formed the northern boundary of the southernmost field and a defunct hedgerow formed the boundary in the south-eastern most field. Such hedgerow habitat is common and widespread both locally and nationally and, as such, is of conservation importance at the site level only.
- 3.3.9 Twelve scattered mature trees, including ash, oak, sycamore, lime and beech occur in the northern fields of the site (Figure 4.5.1; plate A1.11). Depending on the classification of these trees as 'veteran', this area may qualify as an SBI or

BAS according to the Staffordshire SBI guidelines. Other mature and semi-mature scattered trees were concentrated around the site boundary in the vicinity of Knypersley Hall and included sycamore, lime, yew (*Taxus baccata*) and rowan (*Sorbus aucuparia*). In the eastern corner of the site, four scattered mature trees were present; these include two beech, sycamore, and oak. In the southernmost field two more scattered trees were present; a mature oak and beech. In the western part of the site, closest to the sports ground there was a mature sycamore and beech.

- 3.3.10 Such scattered trees are relatively common and widespread both locally and nationally. However, in the area immediately surrounding the site scattered trees are not prominent and, therefore, were considered of conservation value at the local level.

Scrub

- 3.3.11 Scrub was present in the south-west vicinity of the site with frequent birch, willow, elder and oak. Other trees present include two mature oak trees and a Scot's pine.

Swamp

- 3.3.12 A small area of swamp occurs centre of the site dominated by *Typhus* sp. with *Juncus* sp. also present. This was bordered by improved grassland and no boundary was present.

Pond

- 3.3.13 A pond occurs on site (Figure 4.5.1; plate A1.14). The pond was assessed for its potential to support great crested newts but was not otherwise surveyed. However, water quality looked good, there was substantial macrophyte cover and the surrounding habitat was of reasonable quality to support a variety of pond-associated organisms (for example, common amphibians, dragonflies and, possibly, water shrew). This pond may qualify for SBI or BAS status. Further survey should be conducted using Predictive System for Multimetrics (PSYM) methodology, as outlined in the Staffordshire SBI guidelines.

Species

- 3.3.14 Table 3.3.3 illustrates all UKBAP, invasive, and protected species records included in data received from SER or during the site visit.

Table 3.3.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific name
BAP	a willow tit	<i>Timandra comae</i>
	Autumnal Rustic	<i>Ceramica pisi</i>
	Barn Owl	<i>Lepus europaeus</i>
	Blood-vein	<i>Plecotus auritus</i>
	Broom Moth	<i>Spilosoma lutea</i>
	Brown Hare	<i>Bombus terrestris</i>
	Brown Long-eared Bat	<i>Tyria jacobaeae</i>
	Buff Ermine	<i>Pyrrhula pyrrhula</i>

	Buff-tailed Bumble Bee	<i>Bombus pascuorum</i>
	Cinnabar	<i>Cuculus canorus</i>
	Common Bullfinch	<i>Locustella naevia</i>
	Common Carder-bee	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Cuckoo	<i>Melanitta nigra</i>
	Common Grasshopper Warbler	<i>Gallinago gallinago</i>
	Common Pipistrelle	<i>Sturnus vulgaris</i>
	Common Scoter	<i>Bufo bufo</i>
	Common Snipe	<i>Melanchnra persicariae</i>
	Common Starling	<i>Prunella modularis</i>
	Common Toad	<i>Ennomos fuscantaria</i>
	Dot Moth	<i>Bombus pratorum</i>
	Dunnock	<i>Numenius arquata</i>
	Dusky Thorn	<i>Passer montanus</i>
	Early Bumble Bee	<i>Arvicola amphibius</i>
	Eurasian Curlew	<i>Anser albifrons subsp. albifrons</i>
	Eurasian Tree Sparrow	<i>Bombus campestris</i>
	European Water Vole	<i>Hepialus humuli</i>
	European White-fronted Goose	<i>Triturus cristatus</i>
	Field Cuckoo Bee	<i>Aythya marila</i>
	Ghost Moth	<i>Anser albifrons</i>
	Great Crested Newt	<i>Perdix perdix</i>
	Greater Scaup	<i>Tholera cespitis</i>
	Greater White-fronted Goose	<i>Circus cyaneus</i>
	Grey Partridge	<i>Larus argentatus</i>
	Hedge Rustic	<i>Passer domesticus</i>
	Hen Harrier	<i>Colletes daviesanus</i>
	Herring Gull	<i>Bombus lapidarius</i>
	House Sparrow	<i>Chiasmia clathrata</i>
	insect - hymenopteran	<i>Acanthis cabaret</i>
	Large Red Tailed Bumble Bee	<i>Dendrocopos minor</i>
	Latticed Heath	<i>Linaria cannabina</i>
	Lesser Redpoll	<i>Poecile palustris</i>
	Lesser Spotted Woodpecker	<i>Caradrina morpheus</i>
	Linnet	<i>Nyctalus noctula</i>
	Marsh Tit	<i>Vanellus vanellus</i>
	Mottled Rustic	<i>Mentha pulegium</i>
	Noctule Bat	<i>Pipistrellus pipistrellus sensu lato</i>
	Northern Lapwing	<i>Mustela putorius</i>
	Pennyroyal	<i>Orthosia gracilis</i>
	Pipistrelle	<i>Emberiza schoeniclus</i>
	Polecat	<i>Hydraecia micacea</i>

	Powdered Quaker	<i>Scotopteryx chenopodiata</i>
	Reed Bunting	<i>Leucania comma</i>
	Rosy Rustic	<i>Alauda arvensis</i>
	Shaded Broad-bar	<i>Bombus hortorum</i>
	Shoulder-striped Wainscot	<i>Coenonympha pamphilus</i>
	Sky Lark	<i>Ecliptopera silaceata</i>
	Small Garden Bumble Bee	<i>Diarsia rubi</i>
	Small Heath	<i>Turdus philomelos</i>
	Small Phoenix	<i>Pipistrellus pygmaeus</i>
	Small Square-spot	<i>Muscicapa striata</i>
	Song Thrush	<i>Bombus hypnorum</i>
	Soprano Pipistrelle	<i>Anthus trivialis</i>
	Spotted Flycatcher	<i>Erinaceus europaeus</i>
	Tree Bumble Bee	<i>Spilosoma lubricipeda</i>
	Tree Pipit	<i>Bombus lucorum</i>
	West European Hedgehog	<i>Poecile montana</i>
	White Ermine	<i>Lullula arborea</i>
	White-tailed Bumble Bee	<i>Phylloscopus sibilatrix</i>
	Willow Tit	<i>Motacilla flava subsp. flavissima</i>
	Wood Lark	<i>Timandra comae</i>
	Wood Warbler	<i>Ceramica pisi</i>
	Yellow Wagtail	<i>Lepus europaeus</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Crossbill	<i>Loxia curvirostra</i>
	Common Goldeneye	<i>Bucephala clangula</i>
	Common Greenshank	<i>Tringa nebularia</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Scoter	<i>Melanitta nigra</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Garganey	<i>Anas querquedula</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Greater Scaup	<i>Aythya marila</i>
	Green Sandpiper	<i>Tringa ochropus</i>

	Greylag Goose	<i>Anser anser</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Little Plover	<i>Charadrius dubius</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Pintail	<i>Anas acuta</i>
	Osprey	<i>Pandion haliaetus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Slavonian Grebe	<i>Podiceps auritus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Whooper Swan	<i>Cygnus cygnus</i>
	Wood Lark	<i>Lullula arborea</i>

Amphibians

3.3.15 SER returned no recent records of great crested newt.

3.3.16 One pond (pond 1) occurred on site (Figure 4.5.1; plate A1.14) and was assessed as being potentially excellent habitat for great crested newts (Table 4.3.4; Table A2.2). Three ponds occurred within 250 m of the site boundary. They were assessed as having poor, average and good suitability for great crested newts. Great crested newt may be a receptor for the site and further survey of ponds 1, 3 and 4 is necessary before any future development.

3.3.17 An apparent small pond was identified from OS mapping at grid reference SJ 88259 56046 but was found to be overgrown and dry at the time of the survey.

Table 3.3.4. Ponds on site or within 250 m of the site boundary.

Pond no.	Location (grid reference)	HSI
Pond 1	On site (SJ 88460 56346)	0.84 (excellent)
Pond 2	10 m south-west (SJ 88208 56220)	0.43 (poor)
Pond 3	60 m south (SJ 88317 56192)	0.64 (average)
Pond 4	30 m north-east (SJ 88522 56400)	0.74 (good)

3.3.18 No amphibians were recorded during the site visit. However, the area around pond 1 in particular, is likely to support a range of amphibians including common frog and toad. It is unlikely that the majority of the improved grassland habitat represents anything other than marginal habitat for amphibians.

Badger

3.3.19 SER returned 15 recent records of badger. These records included confirmed breeding as well as sightings. The most recent record (and also the closest) was a sighting of a single adult in 2013, in the housing estate 0.40 km to the north-east of the site.

3.3.20 Evidence of badger activity was identified in the south-west vicinity of the site, as an active sett and snuffle holes were also found in the north west. However, these animals may roam widely and may establish a sett in a new area at any time. Further checks for badger presence should be undertaken immediately prior to any future development.

Bats

3.3.21 SER returned 53 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for 6 species (as well as a number of records where the species was unidentified): common pipistrelle, soprano pipistrelle, noctule, Daubenton's bat, Natterer's bat and brown long-eared bat. The closest record to the site was of common pipistrelle, from the housing estate 0.01km to the north-east.

3.3.22 No evidence of bats was recorded during the site visit. Improved grassland is a low quality habitat for commuting and foraging bats. However, the areas of scattered trees and overgrown hedgerow probably host low densities of foraging and commuting bats. This may particularly be the case in the vicinity of pond 1, as ponds are often focal points for bat activity. To better determine use of the site by bats, activity surveys should be conducted prior to any future development.

3.3.23 There were no buildings on site. Mature trees on site are noted in Figure 4.5.1. No potential bat roost features were apparent from ground level in these trees and they were therefore assessed as displaying negligible suitability for roosting bats. However, these trees should be investigated in greater detail (by climbing, for example) if they are likely to experience disturbance from any future development.

Birds

3.3.24 SER returned a list of 95 notable bird species recorded within 2 km of the site. Table 3.3.5 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.3.5. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Skylark	<i>Alauda arvensis</i>	Red
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red

Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

3.3.25 Birds recorded on site during the visit included: woodpigeon carrion crow, magpie, blackbird, blue tit, jay, goldfinch, robin, jackdaw, bullfinch, redwing, house sparrow, coal tit, goldfinch (*carduelis carduelis*), dunnock, jackdaw, stock dove, and starling. These are generally common and widespread species, although bullfinch, redwing, house sparrow and starling are red list species as shown in Table 4.5.3, and bullfinch and jay both score on the Staffordshire SBI guidelines index for woodland birds. Redwing are transient winter visitors and likely to use the site for opportunistic foraging. House sparrow, and starling are likely to use the site for foraging year-round and bullfinch are likely to use the site for potential nesting and year-round foraging.

3.3.26 Improved grassland provides little opportunity for nesting and foraging birds. This is especially the case when it is subject to heavy grazing pressure. On the other hand, the scattered trees and lengths of more overgrown hedgerow provide reasonable habitat for a range of common species. Nevertheless, the habitats on site were not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only. A nesting bird check should be conducted immediately prior to any future development involving vegetation clearance or other disturbance to potential nest sites, if this disturbance takes place during the bird breeding season (March to August inclusive).

Reptiles

3.3.27 SER returned no recent records of reptiles.

3.3.28 No reptiles were observed during the site visit and most of the site area was considered to be marginal habitat for reptiles. However, species such as common lizard and grass snake may possibly occur in the areas of ranker grass in the vicinity of pond 1 (plate A1.15) and also in lengths of the more overgrown hedgerow. Reptiles are therefore considered a potential receptor for the site.

Riparian mammals and white-clawed crayfish

- 3.3.29 SER records showed that white-clawed crayfish has occurred in Knypersley reservoir, 1.1 km south of the site, as recently as 1999. No habitats likely to support white-clawed crayfish were present within the site.
- 3.3.30 SER returned 11 records of water vole. Eight of these records related to sightings around Knypersley reservoir, most recently in 2000. Two records were from west of the A527, a major barrier to dispersal, and the final record was from a 'pool' to the north of Park Lane in Biddulph, approximately 1.1 km east of the site.
- 3.3.31 No evidence of water vole was found during the site visit and there was no good site connectivity with any likely nearby water vole habitat. Given the lack of records of water vole in the locality, it was therefore considered unlikely that site habitats (i.e. pond 1) would support water vole.
- 3.3.32 SER returned no records of otter and no habitats likely to support otter were present within the site.

Other protected and key species

- 3.3.33 No habitats were present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 3.3.34 No invasive species were recorded on site during the walkover.

Target Notes

- 3.3.35 Table 3.3.6 gives a brief description of Target Notes referred to in Figure 3.

Table 3.3.6. Target notes in Figure 3

Target note	Grid reference	Comment
1	SJ 88237 56398	Area of damp ground with soft rush and nettles
2	SJ 88294 56197	Area of rank grass and occasional hawthorn scrub
3	SJ 88494 56331	Area of rank grass and soft rush

Evaluation

- 3.3.36 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.3.7. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Hedgerows						X
Scattered trees	Further survey should be conducted to determine					

	importance
Pond	Further survey should be conducted to determine importance
I=International, N=National, R=Regional, D=District, L=Local, S=Site	

- 3.3.37 The improved grassland and species-poor hedgerow habitats on site were considered of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.
- 3.3.38 Scattered mature trees in the northern area of the site, as well as pond 1, may qualify for SBI or BAS status dependent on further survey. The trees should be further assessed to determine whether they may be considered as ‘veteran’ and no tree works should be carried out until a detailed bat assessment has been undertaken to determine the presence/absence of bats roosts. In the first instance, the pond should be surveyed for newts. Additional pond surveys for invertebrates and mammals would be informative.
- 3.3.39 Species recorded on site were common and widespread both at a county and national level. No species listed as important in the Staffordshire SBI guidelines were recorded (although bullfinch and jay would score on the woodland bird index) and therefore no part of the site currently qualifies for consideration as an SBI or as a BAS under these criteria. However, it is possible that further survey of the pond would reveal the presence of notable protected species (i.e. great crested newt) and / or SBAP species.
- 3.3.40 Badger, bats and reptiles may use areas of the site and further survey for these species should be undertaken prior to any future development. It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season.
- 3.3.41 Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia.

3.4 ADD09

Site Description

- 3.4.1 The site is a large field on the southern edge of Leekbrook (central grid reference SJ 98738 53853). It is approximately 1.67 ha in area and is dominated by improved grassland used for pasture. Scattered mature and semi-mature trees and hedgerow were frequent around the site boundary.
- 3.4.2 The site immediately adjoined residential housing and associated hard standing to the north, semi-natural broad-leaved woodland to the south and west and a minor road (Basford Lane) lined with scattered trees to the east. The A520 runs within 70 m of the northern site boundary and Basford Lane industrial estate is located 30 m to the east. Nevertheless, the site had good connectivity to the wider landscape, which comprised an extensive mosaic of farmed fields and small pockets of broad-leaved woodland and scattered trees.
- 3.4.3 The site was surveyed on 15th September 2016.

Designated Sites

- 3.4.4 Two statutory and 15 locally designated sites (Table 3.4.1).

Table 3.4.1. Statutory and locally designated sites within 2 km of the study site.

Site name	Status	Location	Notes
Ladydale Wood Pasture	SBI	0.47 km south	Semi-improved neutral grassland, scattered trees and marshy grassland.
Birchall Meadow	BAS	0.71 km south-east	Species-rich semi-improved neutral grassland.
Ballington Wood	SBI	0.75 km west	Ancient semi-natural woodland and mixed plantation.
Caldon Canal (south of Basford Bridge)	SBI	0.84 km west	Canal side with emergent vegetation.
Lowe Hill	BAS	1.02 km south	Marshy grassland.
Beech Close (SW of), Longsdon	SBI	1.24 km west	Acid and neutral semi-natural grassland.
Leek Brook Meadow	BAS	1.29 km south-east	Hay meadow.
Ringehay Grassland	SBI	1.58 km north-west	Semi-improved grassland.

Ferny Hill	SBI	1.75 km south-east	Lowland heath.
Rod Wood	SBI	1.75 km north	Woodland and grassland.
Ladderedge Country Park	LNR	1.8 km north-west	Species rich unimproved grassland, marsh, woodland. Breeding great crested newts.
Cheddleton Heath	SBI	1.82 km west	Mixed moorland with developing scrub.
Combes Valley	SSSI	1.9 km south-east	Ancient broad-leaved woodland, acid and neutral grassland.
Cheddleton Heath (dismantled railway)	SBI	1.94 km west	Ephemeral plant community along railway.
Caldon Canal (south of Hollinay Wood)	SBI	2.00 km west	Canal habitat with some emergent vegetation.
Twinney Wood and Grassland	SBI	2.00 km north	Semi-improved acid grassland and broadleaved woodland.
Horse Bridge (east of)	BAS	2.00 km north-east	Scrub, broad-leaved woodland, semi-improved neutral grassland, marshy grassland and swamp.

Habitats

3.4.5 Habitats present within the site are presented in Table 3.4.2 and are discussed in order of dominance below.

Table 3.4.2. Habitats present within the site

Habitat	Species Present	Area or length	% Cover of Site
Improved grassland	perennial rye grass, nettle, broad-leaved dock, creeping thistle, ragwort	16093 m ²	100

Habitat	Species Present	Area or length	% Cover of Site
Hedgerow and scattered trees	oak, sycamore, birch, hazel, apple, rowan, hawthorn, elder	230	

Improved grassland

3.4.6 Most of the site was comprised of improved grassland for pasture (Figure 4.7.1; plates A1.16 & A1.17). Yorkshire fog was dominant. Nettle, broad-leaved dock and creeping thistle were frequent to locally abundant. Ragwort (*Jacobaea vulgaris*) was occasional. There were no field margins.

3.4.7 This habitat is common and widespread both locally and throughout the UK and, as such, is considered to be of importance to nature conservation at site level only.

Hedgerow and scattered trees

3.4.8 The eastern boundary of the site consisted of defunct species rich hedgerow, approximately 160 m in length, with scattered trees (Figure 4.7.1). Species recorded were oak, sycamore, birch, hazel, apple, rowan, hawthorn and elder, with no single species being dominant.

3.4.9 This species rich hedgerow habitat is considered a habitat of principal importance under Section 41 of the NERC Act 2006. In addition, it may be considered 'important' under the Hedgerow Regulations 1997 due to the probable presence of an average of 6 woody species per 30 m length and may also qualify for SBI or BAS status according to the Staffordshire SBI guidelines. The hedgerow connects well with woodland, scrub and open habitat to the south of the site. Nevertheless, as this habitat is not uncommon in Staffordshire or the wider UK landscape it was considered to be of importance to nature conservation at local level only.

3.4.10 Hedgerow in front of the houses along the northern site boundary included hawthorn, elder, birch, hazel and holly.

3.4.11 Scattered trees (forming the eastern edge of the adjoining woodland) including rowan, holly, birch, oak and sycamore were frequent along the western site boundary (Figure 4.7.1; plates A1.18 & A1.19). A number of these trees were mature specimens and one in particular, a sycamore, was spectacular (Figure 4.7.1).

Species

3.4.12 Table 3.4.3 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 3.4.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific name
BAP	a flowering plant	<i>Rubus intensior</i>
	a flowering plant	<i>Rubus obesifolius</i>
	a willow tit	<i>Poecile montana subsp.</i>

		<i>kleinschmidti</i>
	Adder	<i>Vipera berus</i>
	Argent and Sable	<i>Rheumaptera hastata</i>
	August Thorn	<i>Ennomos quercinaria</i>
	Autumnal Rustic	<i>Eugnorisma glareosa</i>
	Barn Owl	<i>Tyto alba</i>
	Beaded Chestnut	<i>Agrochola lychnidis</i>
	Bewick's Swan	<i>Cygnus columbianus subsp. bewickii</i>
	Blood-vein	<i>Timandra comae</i>
	Blunt Tailed Digger Wasp	<i>Crossocerus dimidiatus</i>
	Brindled Beauty	<i>Lycia hirtaria</i>
	Broom Moth	<i>Ceramica pisi</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Brown-spot Pinion	<i>Agrochola litura</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Centre-barred Sallow	<i>Atethmia centrago</i>
	Chalk Carpet	<i>Scotopteryx bipunctaria</i>
	Chalk Carpet	<i>Scotopteryx bipunctaria subsp. cretata</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Club Horned Wood Borer Wasp	<i>Trypoxylon clavicerum</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Lizard	<i>Zootoca vivipara</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dark Brocade	<i>Mniotype adusta</i>
	Dark-barred Twin-spot Carpet	<i>Xanthorhoe ferrugata</i>
	Deep-brown Dart	<i>Aporophyla lutulenta</i>
	Depressed River Mussel	<i>Pseudanodonta complanata</i>
	Dingy Skipper	<i>Erynnis tages</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Double Dart	<i>Graphiphora augur</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Dusky Thorn	<i>Ennomos fuscantaria</i>
	Dusky-lemon Sallow	<i>Cirrhia gilvago</i>
	Dyer's Greenweed	<i>Genista tinctoria</i>
	Ear Moth	<i>Amphipoea ocullea</i>

	Early Bumble Bee	<i>Bombus pratorum</i>
	Early Mining Bee	<i>Andrena haemorrhoea</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	Eurasian Wryneck	<i>Jynx torquilla</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fabricius' Nomad Bee	<i>Nomada fabriciana</i>
	Feathered Gothic	<i>Tholera decimalis</i>
	Field Cuckoo Bee	<i>Bombus campestris</i>
	Field Digger Wasp	<i>Argogorytes mystaceus</i>
	Field Digger Wasp	<i>Mellinus arvensis</i>
	Floating Water-plantain	<i>Luronium natans</i>
	Flounced Chestnut	<i>Agrochola helvola</i>
	Four Coloured Cuckoo Bee	<i>Bombus sylvestris</i>
	Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>
	Galium Carpet	<i>Epirrhoe galiata</i>
	Garden Dart	<i>Euxoa nigricans</i>
	Garden Tiger	<i>Arctia caja</i>
	German Wasp	<i>Vespula germanica</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Gooden's Nomad Bee	<i>Nomada goodeniana</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Green-brindled Crescent	<i>Allophyes oxyacanthae</i>
	Grey Mining Bee	<i>Andrena cineraria</i>
	Grey Mountain Moth	<i>Entephria caesiata</i>
	Grey Partridge	<i>Perdix perdix</i>
	Grizzled Skipper	<i>Pyrgus malvae</i>
	Heath Bumble Bee	<i>Bombus jonellus</i>
	Heath Rustic	<i>Xestia agathina</i>
	Hedge Rustic	<i>Tholera cespitis</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Herring Gull	<i>Larus argentatus</i>
	High Brown Fritillary	<i>Argynnis adippe</i>
	Honey Bee	<i>Apis mellifera</i>
	Horned Black Wasp	<i>Passaloecus corniger</i>
	House Sparrow	<i>Passer domesticus</i>
	Knot Grass	<i>Ancistrocerus parietinus</i>
	Large Red Tailed Bumble Bee	<i>Ancistrocerus trifasciatus</i>
	Large Spurred Digger Wasp	<i>Andrena apicata</i>
	Latticed Heath	<i>Andrena barbilabris</i>
	Lesser Redpoll	<i>Andrena chrysoseles</i>
	Lesser Spotted Woodpecker	<i>Andrena fucata</i>
	Linnet	<i>Andrena lapponica</i>
	Marsh Tit	<i>Andrena minutula</i>
	Marsham's Nomad Bee	<i>Andrena nigriceps</i>
	Minor Shoulder-knot	<i>Andrena nigroaenea</i>

	Mottled Rustic	<i>Andrena praecox</i>
	Mournful Wasp	<i>Andrena scotica</i>
	Mouse Moth	<i>Andrena wilkella</i>
	Neat Mining Bee	<i>Anoplius concinnus</i>
	Neglected Rustic	<i>Arachnospila trivialis</i>
	Noctule Bat	<i>Colletes succinctus</i>
	Northern Lapwing	<i>Crossocerus annulipes</i>
	Norwegian Wasp	<i>Crossocerus cetratus</i>
	Oak Hook-tip	<i>Crossocerus distinguendus</i>
	Oblique Carpet	<i>Crossocerus megacephalus</i>
	Pink Waxcap	<i>Crossocerus podagricus</i>
	Pipistrelle	<i>Crossocerus pusillus</i>
	Polecat	<i>Crossocerus quadrimaculatus</i>
	Powdered Quaker	<i>Crossocerus tarsatus</i>
	Red Grouse	<i>Crossocerus walkeri</i>
	Red Mason Bee	<i>Dipogon variegatus</i>
	Red Wasp	<i>Ectemnius cavifrons</i>
	Reed Bunting	<i>Ectemnius cephalotes</i>
	Rosy Minor	<i>Ectemnius continuus</i>
	Rosy Rustic	<i>Ectemnius ruficornis</i>
	Rustic	<i>Formica lemani</i>
	Sallow	<i>Halictus rubicundus</i>
	September Thorn	<i>Hylaeus hyalinatus</i>
	Shaded Broad-bar	<i>Lasioglossum albipes</i>
	Shaggy Mining Bee	<i>Lasioglossum fratellum</i>
	Shoulder-striped Wainscot	<i>Lasioglossum fulvicorne</i>
	Shuckard's Wasp	<i>Lasioglossum pauxillum</i>
	Sky Lark	<i>Lasioglossum punctatissimum</i>
	Slender Ant	<i>Lasioglossum rufitarse</i>
	Slender Bodied Digger Wasp	<i>Lasioglossum smeathmanellum</i>
	Slender Mining Bee	<i>Megachile centuncularis</i>
	Slender Wood Borer Wasp	<i>Mimesa lutaria</i>
	Slow-worm	<i>Mimumesa dahlbomi</i>
	Small Black Ant	<i>Myrmica scabrinodis</i>
	Small Garden Bumble Bee	<i>Nomada flavoguttata</i>
	Small Heath	<i>Nomada fulvicornis</i>
	Small Pearl-bordered Fritillary Butterfly	<i>Nomada leucophthalma</i>
	Small Phoenix	<i>Nomada panzeri</i>
	Small Square-spot	<i>Nomada rufipes</i>
	Song Thrush	<i>Passaloecus gracilis</i>
	Soprano Pipistrelle	<i>Passaloecus singularis</i>
	Spinach	<i>Rhopalum clavipes</i>
	Spotted Flycatcher	<i>Rhopalum coarctatum</i>
	Tawny Mining Bee	<i>Sphecodes geoffrellus</i>
	The Streak	<i>Sphecodes gibbus</i>
	Tree Bumble Bee	<i>Sphecodes monilicornis</i>
	Tree Pipit	<i>Sphecodes pellucidus</i>

	Tree Wasp	<i>Sphecodes puncticeps</i>
	Tubular Water-dropwort	<i>Sphecodes spinulosus</i>
	Vestal Cuckoo Bee	<i>Spilomena beata</i>
	V-moth	<i>Symmorphus bifasciatus</i>
	Wall	<i>Trypoxylon figulus</i>
	Wesmael's Digger Wasp	<i>Acronicta rumicis</i>
	West European Hedgehog	<i>Bombus lapidarius</i>
	White Ermine	<i>Nysson spinosus</i>
	White-letter Hairstreak	<i>Chiasmia clathrata</i>
	White-line Dart	<i>Acanthis cabaret</i>
	White-tailed Bumble Bee	<i>Dendrocopos minor</i>
	Willow Tit	<i>Linaria cannabina</i>
	Wood Warbler	<i>Poecile palustris</i>
	Yellow Footed Mining Bee	<i>Nomada marshamella</i>
	Yellow Meadow Ant	<i>Brachylomia viminalis</i>
	Yellow Wagtail	<i>Caradrina morpheus</i>
	Yellowhammer	<i>Pemphredon lugubris</i>
	White-tailed Bumble Bee	<i>Amphipyra tragopoginis</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Adder	<i>Vipera berus</i>
	Barn Owl	<i>Tyto alba</i>
	Bewick's Swan	<i>Cygnus columbianus subsp. bewickii</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Crossbill	<i>Loxia curvirostra</i>
	Common Goldeneye	<i>Bucephala clangula</i>
	Common Greenshank	<i>Tringa nebularia</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Lizard	<i>Zootoca vivipara</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Eurasian Marsh Harrier	<i>Circus aeruginosus</i>
	Eurasian Wryneck	<i>Jynx torquilla</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Floating Water-plantain	<i>Luronium natans</i>
	Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Greylag Goose	<i>Anser anser</i>
	Hen Harrier	<i>Circus cyaneus</i>

	Little Plover	<i>Charadrius dubius</i>
	Long-eared Bat species	<i>Plecotus</i>
	Merlin	<i>Falco columbarius</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Goshawk	<i>Accipiter gentilis</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Purple Sandpiper	<i>Calidris maritima</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Whiskered/Brandt's Bat	<i>Myotis mystacinus/brandtii</i>
	Whooper Swan	<i>Cygnus cygnus</i>

Amphibians

- 3.4.13 SER returned 6 records of great crested newt. These records were all from 2004 in Latteredge Country Park, 1.8 km to the north-west. Latteredge Country Park is isolated from the site by two roads, housing and an industrial estate.
- 3.4.14 There were no ponds on site and no ponds identified within 250 m of the site boundary. No amphibians were recorded during the site visit and it is unlikely that the site would provide anything more than marginal habitat for amphibians.
- 3.4.15 Great crested newts were considered not to be a receptor for the site and are not further discussed.

Badger

- 3.4.16 SER returned 23 recent records of badger. These included sightings as well as confirmed breeding. The closest record to the site was from Birchall Hill in 2007, 0.6 km to the north.
- 3.4.17 No badger setts were identified on site and no evidence of badger activity was recorded. However, badger setts were found at four locations in the woodland immediately to the south and west of the site (Figure 4.7.1; plate A1.20). Whilst these setts did not appear to be in current use, and no fresh signs of badger presence were evident, the surrounding habitat appeared to be of good quality for badger. Badgers are highly mobile and may establish a sett at any time. Therefore, it was considered that badgers are a potential receptor for the site.

Bats

- 3.4.18 SER returned 36 recent records of bats from within 2 km of the site, including roost records as well as sightings of foraging and commuting bats. These were

for 6 species (as well as a number of records where the species was unidentified): Daubenton's bat, whiskered bat, noctule, common pipistrelle, soprano pipistrelle and brown long-eared bat. Records included sightings of individual foraging and commuting bats as well as confirmed roosts. The closest record to the site was of common pipistrelle from open land in 2006, 0.25 km to the north-east.

- 3.4.19 No evidence of bats was recorded during the site visit. Improved grassland is a low quality habitat for commuting and foraging bats. However, the hedgerow, scattered trees and adjacent woodland around the periphery of the site potentially provide excellent habitat for commuting and foraging bats. Activity surveys should be conducted to better establish use of the site boundaries by bats, before any future development.
- 3.4.20 There were no buildings on site. Mature trees on site are noted in Figure 4. Under scrutiny from the ground, no potential bat roost features were apparent in these trees. However, given the good quality of the surrounding area for foraging and commuting bats these trees should be investigated in greater detail for roost features (by examination in the absence of leaves and by climbing, for example) before any future development.

Birds

- 3.4.21 SER returned a list of 78 notable bird species recorded within 2 km of the site. Table 3.4.4 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.4.4. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Redstart	<i>Phoenicurus phoenicurus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 3.4.22 Improved grassland provides little opportunity for nesting and foraging birds and two adult and two immature pheasants (*Phasianus colchicus*) were the only birds recorded on site during the visit.
- 3.4.23 The hedgerow, scattered trees and adjacent woodland around the periphery of the site potentially provide excellent habitat for a range of common birds. Robin, dunnock, jay, blue tit and woodpigeon were all observed just outside the site boundary.
- 3.4.24 Habitats on site were not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only. A nesting bird check should be conducted immediately prior to any future development involving vegetation clearance or other disturbance to potential nest sites, if this disturbance takes place during the bird breeding season (March to August inclusive).

Reptiles

- 3.4.25 SER returned 9 recent records of grass snake. The closest record was from a sewage works, approximately 0.82 km to the north-west. The sewage works are isolated from the site by housing and industrial estate and the A520.
- 3.4.26 No reptiles were observed during the site visit. Although the site has connectivity with potentially good reptile habitat in the surrounding landscape, it is unlikely that the site would provide anything but marginal habitat for reptiles. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 3.4.27 SER returned 4 recent records of white-clawed crayfish. These were all from the Caldon canal at Basford Bridge in the early 1990's, approximately 1.84 km south of the site. A single recent record of water vole came from the river Churnet by Cheddleton station in 1997, approximately 1.83 km south of the site. There were 3 recent otter records, the most recent of which was from the canal at Cheddleton in 2015, 1.84 km south-west of the site.
- 3.4.28 No habitats likely to support water vole, otter or white-clawed crayfish were present within the site. However, Leek Brook runs within 30 m of the north-eastern end of the site, flowing into the River Churnet 580 m further downstream.
- 3.4.29 The brook had moderate flow and water clarity and was approximately 100 mm deep at the time of survey. The brook had a stones and gravel substrate and had shallow-sloped stony banks (plate A1.21). No evidence of water vole, otter or white-clawed crayfish was recorded. Nevertheless, there is some potential that otter and water vole may use the watercourse as a commuting corridor and that white-clawed crayfish are present. Detailed survey for all 3 species should be conducted prior to any future development likely to disturb this watercourse.

Other protected and key species

- 3.4.30 No habitats were present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

3.4.31 No non-native invasive species were recorded during the site visit.

Evaluation

3.4.32 The following table illustrates the importance of each site habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.4.6. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Hedgerow and scattered trees					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

3.4.33 The hedgerow habitat on site was considered of nature conservation value at the local level. Furthermore, there is reasonable potential that it may qualify as an SBI or a BAS dependent on further survey following the hedgerow evaluation and grading system outlined in the Staffordshire SBI guidelines.

3.4.34 The improved grassland habitat on site was considered of nature conservation value at the site level only. This habitat is not listed as an important habitat in the Staffordshire SBI guidelines.

3.4.35 Species recorded on site were common and widespread both at a county and national level and it is considered unlikely that the site significantly supported any notable protected species. No species listed as important in the Staffordshire SBI guidelines were recorded and therefore no part of the site currently qualifies for consideration as an SBI or as a BAS under these criteria. However, badger may use the site and further survey for badger should be undertaken prior to any future development. Similarly, bats may also use the site and bat activity surveys should be undertaken prior to any future development. Mature trees should be further investigated to determine whether they host bat roosts.

3.4.36 It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season. Riparian mammals and white-clawed crayfish should also be surveyed for if Leek brook, close to the north-eastern corner of the site, is likely to be disturbed.

3.5 BD076A (Northern Part)

Site Description

- 3.5.1 The site was surveyed on 27th September 2016 and comprised of a series of depots on the western outskirts of Biddulph (central grid reference SJ 87963 57641). It is approximately 1.39 ha in area and is dominated by hard standing and buildings, with areas of rank grass and tall ruderal vegetation, scattered trees and scrub. Note that only the northern section (the Telephone Exchange access road and north and west of it) was surveyed, as the southern section had already undergone Phase 1 ecological survey by Lockwood Hall in 2014.
- 3.5.2 Residential housing and gardens surround the site to the north and east, with the busy A527 forming the immediate eastern boundary. Improved grassland, amenity grassland and open areas of scattered trees and scrub surround the site to the south and west.

Designated Sites

- 3.5.3 One statutory and 7 locally designated sites are located within 2 km of the study site (Table 3.5.1).

Table 3.5.1. Statutory and locally designated sites for nature conservation within 2 km of the study area.

Site name	Status	Location	Notes
Newpool (east of)	BAS	0.74 km south	Broad-leaved semi-natural woodland with semi-improved neutral grassland.
The Nursery (near)	BAS	1.36 km east	Mixed woodland.
Mow Cop Quarry	BAS	1.45 km north-west	Disused quarry.
Knypersley Fishing Pool	BAS	1.46 km south	Fishing pool surrounded by tall herbs and goat willow.
Willocks Wood (south-west of)	BAS	1.74 km north	Disused quarry with flooded area.
Roe Park Woods	SSSI	1.83 km north-west	Semi-natural ancient woodland.
Willocks Wood	BAS	1.92 km north	Birch dominated woodland.
Congleton Edge (south of)	SBI	2.36 km north	Alder woodland.

Habitats

3.5.4 Habitats present within the site are presented in table 3.5.2 and are discussed in order of dominance below.

Table 3.5.2. Habitats present within the site

Habitat	Species Present	Area or length	% Cover of Site
Buildings and hard standing		10179 m ²	78
Scattered trees and scrub	goat willow, birch, ash, oak, sycamore, horse chestnut, leylandii, hazel, alder	708 m ²	5
Rank grass and tall ruderal	bramble, cock's foot, hogweed, butterbur, rose-bay willowherb, mugwort, hedge bindweed, creeping thistle	1891 m ²	14
Introduced shrub	snowberry	268 m ²	2
Amenity grassland		94 m ²	1

Buildings and hard standing

3.5.5 Most of the site was comprised of hard standing (Figure 4.9.1; plate 1, Appendix 1). Five buildings were distributed across the site (Figure 4.9.1). Four of these were under current business use (buildings 1 to 4; plates A1.23 – A1.26). The fifth building (building 5; plate A1.27) was derelict.

Scattered trees and scrub

3.5.6 Much of the northern and western site boundary was comprised of scattered trees and scrub, with young scrub encroaching on the hard standing area surrounding building 5. Species recorded included goat willow and birch scrub, with mature and semi-mature ash, oak, sycamore, horse chestnut, leylandii, hazel and alder, with no single species being dominant.

3.5.7 This habitat is common and widespread both locally and throughout the UK and, as such, is considered to be of importance to nature conservation at site level only.

Rank grass and tall ruderal

3.5.8 Rank grass and tall ruderal vegetation occurred throughout the site, particularly along the southern boundary and as ground flora under the scattered trees and scrub (Figure 4.9.1). Bramble was dominant. Other frequently occurring species were cock's foot, hogweed, butterbur, rose-bay willowherb, mugwort (*Artemisia vulgaris*), hedge bindweed (*Calystegia sepium*) and creeping thistle.

3.5.9 This habitat is common and widespread both locally and throughout the UK and, as such, is considered to be of importance to nature conservation at site level only.

Introduced shrub

3.5.10 A small area of introduced shrub was planted at the front (eastern side) of building 1 (Figure 4.9.1). Snowberry (*Symphoricarpos albus*) was occasional along the north-west boundary of the site.

3.5.11 This habitat is common and widespread both locally and throughout the UK and, as such, is considered to be of importance to nature conservation at site level only.

Amenity grassland

3.5.12 A narrow strip of close-cut amenity grassland ran along the northern edge of the access road from the A527 (Figure 4.9.1).

3.5.13 This habitat is common and widespread both locally and throughout the UK and, as such, is considered to be of importance to nature conservation at site level only.

Species

3.5.14 Table 3.5.3 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 3.5.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific name
BAP	a willow tit	<i>Poecile montana subsp. kleinschmidti</i>
	Barn Owl	<i>Tyto alba</i>
	Bewick's Swan	<i>Cygnus columbianus subsp. bewickii</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Lizard	<i>Zootoca vivipara</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Scoter	<i>Melanitta nigra</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dot Moth	<i>Melanchra persicariae</i>

	Dunnock	<i>Prunella modularis</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Field Cuckoo Bee	<i>Bombus campestris</i>
	Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grass Snake	<i>Natrix natrix</i>
	Greater Scaup	<i>Aythya marila</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	Grey Dagger	<i>Acronicta psi</i>
	Grey Partridge	<i>Perdix perdix</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Herring Gull	<i>Larus argentatus</i>
	Hornet	<i>Vespa crabro</i>
	House Sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Colletes daviesanus</i>
	Juniper	<i>Juniperus communis</i>
	Knot Grass	<i>Acronicta rumicis</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Native Black Poplar	<i>Populus nigra subsp. betulifolia</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Wasp	<i>Vespula rufa</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Heath	<i>Coenonympha pamphilus</i>
	Small Phoenix	<i>Ecliptopera silaceata</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>

	Tree Pipit	<i>Anthus trivialis</i>
	Tree Wasp	<i>Dolichovespula sylvestris</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Wood Lark	<i>Lullula arborea</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
	Yellow Wagtail	<i>Motacilla flava</i>
	Yellow Wagtail	<i>Motacilla flava subsp. flavissima</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Bewick's Swan	<i>Cygnus columbianus subsp. bewickii</i>
	Black Tern	<i>Chlidonias niger</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Crossbill	<i>Loxia curvirostra</i>
	Common Goldeneye	<i>Bucephala clangula</i>
	Common Greenshank	<i>Tringa nebularia</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Lizard	<i>Zootoca vivipara</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Scoter	<i>Melanitta nigra</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Eurasian Marsh Harrier	<i>Circus aeruginosus</i>
	European Honey-buzzard	<i>Pernis apivorus</i>
	European Otter	<i>Lutra lutra</i>
	European Serin	<i>Serinus serinus</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>
	Garganey	<i>Anas querquedula</i>
	Grass Snake	<i>Natrix natrix</i>
	Greater Scaup	<i>Aythya marila</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Greylag Goose	<i>Anser anser</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Little Plover	<i>Charadrius dubius</i>
	Mediterranean Gull	<i>Larus melanocephalus</i>

	Myotis Bat species	<i>Myotis</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Pintail	<i>Anas acuta</i>
	Osprey	<i>Pandion haliaetus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Slavonian Grebe	<i>Podiceps auritus</i>
	Snow Bunting	<i>Plectrophenax nivalis</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Whiskered/Brandt's Bat	<i>Myotis mystacinus/brandtii</i>
	Whooper Swan	<i>Cygnus cygnus</i>
	Wood Lark	<i>Lullula arborea</i>

Amphibians

3.5.15 SER returned no records of great crested newt.

3.5.16 No ponds occurred on site or within 250 m of the site boundary, and no amphibians were recorded during the site visit. Great crested newt is therefore not considered to be a receptor for the site.

3.5.17 It is possible that occasional common frogs and toads may disperse from garden ponds into the damper areas of scattered trees and scrub. However, it is unlikely that the site provides anything more than marginal habitat for these common amphibians.

Badger

3.5.18 SER returned 16 recent records of badger, including confirmed breeding. The closest of these records was from open land, approximately 100 m south of the site.

3.5.19 No badger setts were identified on site and no evidence of badger activity was recorded. Similarly, no evidence of badgers was found in the immediate vicinity of the site. As the site is mainly hard-standing, it is unlikely to provide anything more than marginal foraging habitat for badgers and it is unlikely that badgers would establish a sett on site. Badgers are therefore not considered a receptor for the site.

Bats

3.5.20 SER returned 30 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for 5 species (as well as a number of records where the species was unidentified): common pipistrelle,

soprano pipistrelle, Brandt's bat, whiskered bat and brown long-eared bat. The closest record to the site was of a potential roost (species unidentified) in a building, 0.32 km to the south-east.

3.5.21 Two of the five buildings on site were considered to show potential suitability for roosting bats (Table 3.5.4; plates A1.28 & A1.29).

Table 3.5.4. Suitability of site buildings for roosting bats.

Building No.	Description	Suitability for roosting bats
Building 1	Single storey, offices. Brick walls, pitched tile roof. Modern. Sound structure.	Negligible
Building 2	Brick and corrugated metal walls, pitched metal roof. Garage. Modern. Sound structure.	Negligible
Building 3	Brick walls, pitched tile roof. Garage. Modern. Gap under roof board around entire perimeter of roof.	Low
Building 4	Breeze-block walls with pitched asbestos roof. Gaps under roof at wall apex, south elevation.	Low
Building 5	Semi-circular corrugated metal building. Construction unsuitable for bats. Derelict.	Negligible

3.5.22 The trees on site displayed negligible suitability for roosting bats and the areas of hard standing and buildings showed negligible potential for foraging bats. However, the scattered trees and scrub around the periphery of the site may provide linear corridors for commuting and foraging bats, particularly along the northern and north-western edge of the site.

Birds

3.5.23 SER returned 101 records of notable bird species. Table 3.5.5 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.5.5. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red

Mistle thrush	<i>Turdus viscivorus</i>	Red
Swift	<i>Apus apus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnoek	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

3.5.24 The alarm call of a wren was heard in the area of scrub and scattered trees at the western end of the site. No other bird species were observed on site during the visit, even though the scattered trees and scrub, and areas of denser tall ruderal vegetation, are likely to provide nesting and foraging opportunities for a range of common passerines.

3.5.25 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only. A nesting bird check should be conducted immediately prior to any future development involving vegetation clearance or other disturbance to potential nest sites, if this disturbance takes place during the bird breeding season (March to August inclusive).

Reptiles

3.5.26 SER returned no recent records of reptiles.

3.5.27 No reptiles were observed during the site visit. However, the likely presence of common species cannot be ruled out without further detailed survey. In particular, the areas of hard standing at the western end of the site may provide basking opportunities for common lizard and slow-worm (*Anguis fragilis*) and the site had good connectivity with potential reptile habitat to the south. Reptiles are therefore considered to be a potential receptor for the site.

Riparian mammals and white-clawed crayfish

3.5.28 SER returned no recent records of white-clawed crayfish or otter. A single recent record of water came from a pool 1.70 km to the south-east. However, extensive built environment effectively isolates the study site from the site of the record.

3.5.29 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish. These species are not considered to be receptors for the site.

Other protected and key species

3.5.30 No habitats were present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

3.5.31 No non-native invasive species as included on Schedule 9 were recorded during the site visit.

Evaluation

3.5.32 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.5.7. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Buildings and hardstanding						X
Scattered trees and shrubs						X
Rank grass and tall ruderal						X
Introduced shrub						X
Amenity grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

3.5.33 The habitats on site were considered of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

3.5.34 Species recorded on site were common and widespread both at a county and national level and it is considered unlikely that the site significantly supported any notable protected species. No species listed as important in the Staffordshire SBI guidelines were recorded and therefore no part of the site currently qualifies for consideration as an SBI or as a BAS under these criteria. However, buildings 3 and 4 on site showed potential to support roosting bats and appropriate surveys should be undertaken before any future disturbance to these buildings. A bat activity survey should also be undertaken to determine the use of the site by foraging bats. The site also showed potential to support common reptile species and therefore a survey for reptiles should be conducted before any future development. Management of the scrub and tall ruderal mosaic to create scalloped edge habitats which reptiles use for basking could be implemented. In addition areas of refugia could be created, for example log piles. Scrub management may be required to prevent succession of the grassland. It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season.

3.6 BM014A & BM014B (Southern Part)

Site Description

- 3.6.1 The site consisted of a rank improved grassland field and area of amenity grassland (lawn) with scattered trees and scrub. It is located on the south-western outskirts of Biddulph Moor (central grid reference SJ 90362 57874) and is approximately 0.31 ha in area. It is bordered by minor roads to the south and east (New Street and Chapel Lane, respectively), by Bank House farm to the north and by amenity grassland to the west. The wider landscape consists of the housing estates of Biddulph Moor to the north-east and expansive areas of farm land (improved grassland) with scattered trees, limited hedgerows and pockets of woodland. Note that only the southern section of BM014B (South of Bankhouse Farm) was surveyed, as the northern section had already undergone Phase 1 ecological survey by Lockwood Hall in 2014.
- 3.6.2 The site was surveyed on 15th September 2016.

Designated Sites

- 3.6.3 Five locally designated sites but no statutory designated sites are located within 1 km of the study area (Table 3.6.1).

Table 3.6.1. Locally designated sites for nature conservation within the study area.

Site name	Status	Location	Notes
The Nursery (near)	BAS	1.16 km south-west	Mixed woodland.
The Sprink	LWS	1.23 km north	A deciduous wooded valley.
Crowborough Wood	LWS	1.78 km south	Ancient semi-natural woodland and marshy grassland.
Troughstone Hill	LWS	1.83 km north	Birch woodland and heathland.
Shirkley Wood	LWS	2.00 north-east	Ancient semi-natural woodland.

Habitats

- 3.6.4 Habitats present within the site are presented in Table 3.6.2 and are discussed in order of dominance below.

Table 3.6.2. Habitats present within the site

Habitat	Species Present	Area or length	% Cover of Site
Improved grassland	cock's foot, perennial rye grass, creeping thistle, nettle, hogweed, ribwort plantain, common sorrel, meadow vetchling, ragwort, rosebay willowherb, broad-leaved dock, soft rush, tufted hairgrass	1317 m ²	41
Amenity grassland with scattered trees and scrub	birch, oak, hazel, hawthorn, goat willow	1878 m ²	59

Improved grassland

3.6.5 A field of rank improved grassland and tall ruderal vegetation formed the eastern half of the site (Figure 4.11.1; plate A1.30). Species recorded included frequent cock's foot, perennial rye grass, creeping thistle, nettle, hogweed, ribwort plantain and common sorrel, with occasional meadow vetchling, ragwort, rosebay willowherb and broad-leaved dock. Soft rush and tufted hairgrass were frequent in damper areas.

3.6.6 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Amenity grassland with scattered trees and scrub

3.6.7 The garden of a house, consisting of amenity grassland with scattered trees and scrub (Figure 4.11.1; plates A1.31 & A1.32), formed the western half of the site. The trees and scrub were young, with frequent birch, oak, hazel, hawthorn and goat willow.

3.6.8 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Species

3.6.9 Table 3.6.3 illustrates all UKBAP, invasive and protected species records included in data received from within 2 km of the site.

Table 3.6.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific name
BAP	a bumble bee	<i>Bombus</i>
	a flowering plant	<i>Rubus intensor</i>
	a flowering plant	<i>Rubus painteri</i>

	a hymenopteran	<i>Apidae</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Corn Bunting	<i>Emberiza calandra</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grey Partridge	<i>Perdix perdix</i>
	Hornet	<i>Vespa crabro</i>
	House Sparrow	<i>Passer domesticus</i>
	Knot Grass	<i>Acronicta rumicis</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Wasp	<i>Vespula rufa</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>

	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Tree Wasp	<i>Dolichovespula sylvestris</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Honey-buzzard	<i>Pernis apivorus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Greylag Goose	<i>Anser anser</i>
	Myotis Bat species	<i>Myotis</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Snow Bunting	<i>Plectrophenax nivalis</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Whiskered/Brandt's Bat	<i>Myotis mystacinus/brandtii</i>

Amphibians

3.6.10 SER returned no records of great crested newt.

3.6.11 No ponds were located on site and no ponds were identified within 250 m of the site boundary that were not separated from the site by a significant barrier to

dispersal. No amphibians were recorded during the site visit and it is considered that great crested newts are not a receptor for the site.

3.6.12 Common frogs and toads may occur in the damper areas of the site.

Badger

3.6.13 SER returned 15 recent records of badger, including confirmed breeding. The most recent record was from 2013, from farm land, 1.1 km north-east of the site.

3.6.14 No badger setts were identified on site and no evidence of badger activity was recorded. The immediately surrounding landscape did not contain any features (e.g. woodland or species rich mature hedgerow) likely to support badgers. Therefore, badger is currently not considered to be a receptor for the site. Nevertheless, these animals may roam widely and may establish a sett in a new area at any time. Further checks for badger presence should be undertaken immediately prior to any future development.

Bats

3.6.15 SER returned 27 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for 6 species (as well as a number of records where the species was unidentified): Daubenton's bat whiskered bat (Brandt's bat noctule, common pipistrelle and soprano pipistrelle. The closest record to the site was from a garden in 1991 (species unidentified), 0.45 km to the north.

3.6.16 Occasional bats may forage and commute over the site. However, in general the site was considered to be of negligible value for foraging and commuting bats and did not contain any features likely to support roosting bats. Therefore, bats were considered not to currently be receptors for the site.

Birds

3.6.17 SER returned records of 51 notable species recently recorded within the study area. Table 3.6.4 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.6.4. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
House martin	<i>Delichon urbicum</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

3.6.18 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging opportunity for such common species as blackbird, robin, wren, woodpigeon, goldfinch and magpie. The scattered trees and scrub

may provide some nesting opportunity and a nesting bird check should be conducted immediately prior to any future development involving vegetation clearance or other disturbance to potential nest sites, if this disturbance takes place during the bird breeding season (March to August inclusive). Nevertheless, the site habitats were not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

3.6.19 SER returned no recent records of reptiles.

3.6.20 No reptiles were recorded during the site visit and it is unlikely that the site would provide anything but marginal habitat for reptiles. Good connectivity between the site and any potentially good reptile habitat in the wider landscape was lacking. Therefore, reptiles are not currently considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

3.6.21 There were no water courses on site or within 30 m of the site boundary. The site habitat does not support water vole, otter or white-clawed crayfish and these species are not receptors for the site.

Other protected and key species

3.6.22 No habitats were present within or adjacent to the site that were likely to support other protected or key species not already discussed.

Invasive species

3.6.23 No non-native invasive species were recorded during the site visit.

Target Notes

3.6.24 Table 3.6.5 gives a brief description of Target Notes referred to in Figure 6.

Table 3.6.5. Target notes in Figure 6

Target note	Grid reference	Comment
1	SJ 90364 57869	Area of damp ground with tufted hair grass and soft rush

Evaluation

3.6.25 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.6.6. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X

Amenity grassland with scattered trees and scrub						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 3.6.26 The habitats on site are of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines and therefore the site does not currently qualify for consideration as an SBI or as a BAS under these criteria.
- 3.6.27 Species recorded on site were common and widespread both at a county and national level and it is considered highly unlikely that the site supported notable protected species. No species listed as important in the Staffordshire SBI guidelines were recorded and therefore no part of the site currently qualifies for consideration as an SBI or as a BAS under these criteria.
- 3.6.28 Further survey for badger should be undertaken prior to any future development and it would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season.

3.7 Bolton Copperworks

Site Description

- 3.7.1 The site is at Froghall in the Churnet valley (central grid reference SK 02339 47395) and is a large area of brownfield land, as well as land currently under commercial use and abandoned farmland. It is approximately 17.16 ha in area. Consistent with the industrial heritage of the area, two roads (the A52 and B5053) and the Churnet Valley railway run through the site, whilst the Caldon canal runs along the northern border of the site.
- 3.7.2 The river Churnet and one of its tributaries flow through the site. These watercourses provide good connectivity to the surrounding landscape, which consists of extensive areas of woodland along the steep valley sides as well as extensive farmland and limited areas of housing and other development.
- 3.7.3 The site was surveyed on 27th September 2016.

Designated Sites

- 3.7.4 Four statutory and 25 locally designated sites are located within the study area (Table 3.7.1).

Table 3.7.1. Statutory and locally designated sites for nature conservation within 2 km of the study area.

Site name	Status	Location	Notes
Froghall meadow and pastures	SSSI	0.27 km south	Unimproved species-rich grassland.
Harston Hill, Froghall Wharf	LWS	0.38 km east	Meadow and scattered scrub.
Froghall Bridge (east of)	LWS	0.47 km south-east	Ancient woodland, semi-improved neutral grassland and unimproved grassland.
Foxt Wood	LWS	0.66 km north	Broad-leaved woodland and semi-improved neutral grassland.
Fernylee Farm (south of)	LWS	0.68 km north-east	Species-rich grassland.
Foxt Wood (north of)	LWS	0.75 km north	Woodland and marshy grassland.
Coldley Banks	LWS	0.8 km north-west	Marshland.

Harston Wood	SWT Nature Reserve & part of SSSI	0.91 km north-east	Semi-natural deciduous woodland.
Whiston Bridge (west of)	LWS	0.93 km south	Deciduous woodland.
Bank Sprink	BAS	0.94 km west	Mixed woodland.
Tank Wood	LWS	1.28 km south-east	Deciduous woodland.
Whistonbrook	LWS	1.28 km east	Species-rich grassland.
Massey's Wood (south-west of)	LWS	1.31 km north	Species-rich semi-improved neutral grassland and marshy grassland.
Kingsley Holt (east of)	LWS	1.44 km south	Beech woodland and neutral grassland.
Consall	LNR	1.45 km north-west	Woodland and grassland.
Hazlescros (east of)	LWS	1.49 km west	Holly hedge.
Adams Hollow	BAS	1.54 km south-west	Wooded stream valley.
Churnet Valley	SSSI	1.57 km north-west	Semi-natural ancient woodland.
Foxt Banks	LWS	1.58 km north-east	Grassland, scattered scrub and mature trees.
Gorsey Wood	BAS	1.6 km south	Wooded valley.
Whieldon's Wood	LWS	1.61 km north	Mixed woodland with two coppiced examples of small-leaved lime.
Whiston Eaves	SSSI	1.71 km south-east	Species-rich grassland, scrub and woodland.
Whiston Hall	LWS	1.79 km east	Dry heath/acid grassland mosaic and acid grassland.
Newhouse Wood (part of)	LWS	1.82 km north-west	Deciduous woodland.

Oldridge Farm (south-east of)	LWS	1.86 km east	Semi-improved acid grassland. Small pockets of vegetation perhaps classifiable as dwarf shrub/acid grassland are scattered throughout.
Lockwood Pasture	LWS	1.88 km south	Species rich meadow.
Ashbourne Hey	LWS	1.88 km south-east	Broad-leaved woodland, wet woodland, unimproved pasture and traditionally managed hay meadows.
Moseymoore Wood (north of)	LWS	1.91 km north	Ancient woodland.
Jackson Wood	LWS	2.04 km south-east	Deciduous ancient woodland.

Habitats

3.7.5 Habitats present within the site are presented in table 3.7.2 and are discussed in order of dominance below.

Table 3.7.2. Habitats present within the site

Habitat	Dominant Species	% Site Cover
Hard standing and Buildings		90
Scattered trees and scrub	birch, hazel, oak, ash, sycamore, beech, wych elm, alder, beech, apple, <i>Prunus</i> spp, hawthorn, goat willow, elder, blackthorn	3
Tall ruderal	nettle, creeping thistle, bramble, hogweed, hedge bindweed, great willowherb, cleavers, bracken, raspberry, rosebay willowherb	3
River		
Broad-leaved semi natural woodland	ash, sycamore, birch, oak, aspen, hawthorn, blackthorn and dog rose, ferns, ivy, nettle	2
Amenity grassland		2

Hard standing and buildings

- 3.7.6 The majority of the site consisted of hard standing (Figure 4.13.1; plates A1.33 – A1.36). Eleven buildings occurred across the site. These included a derelict farm (Figure 4.13.1, buildings 1 – 4; plates A1.41 & A1.42), derelict industrial buildings (Figure 4.13.1, buildings 5, 6, 10, 11; plate A1.43) and buildings under current commercial use (Figure 4.13.1, buildings 7 – 9; plate A1.44).
- 3.7.7 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Scattered trees and scrub

- 3.7.8 Young and semi-mature scattered trees occurred across the site, particularly along the boundaries. Birch, hazel, oak, ash and sycamore were frequent (Figure 4.13.1; plates A1.33, A1.34, A1.36, A1.37). Beech and Wych elm were rare. Alder was frequent along the watercourses.
- 3.7.9 Mature trees were rare and included copper beech (*Fagus sylvatica f. purpurea*) and ash (Figure 4.13.1). A small area of orchard (<0.1 ha) with apple and *Prunus* sp. occurred next to the derelict farm in the north-east of the site (Figure 4.13.1; plate A1.38).
- 3.7.10 Frequent hawthorn, goat willow and occasional elder and blackthorn occurred across the site, particularly as vegetation encroaching on the areas of hard standing (Figure 4.13.1; plate A1.33). Goat willow was additionally frequent along the watercourses.
- 3.7.11 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Tall ruderal

- 3.7.12 Tall ruderal was the dominant vegetation type in two areas of the site: the area of abandoned farmland; and the eastern boundary of the site south of the A52. In the first of these areas nettle and creeping thistle were dominant, with frequent bramble, hogweed, hedge bindweed, great willowherb and cleavers (plate A1.37). In the second area bramble and bracken were dominant, with frequent nettle, raspberry and rosebay willowherb. Elsewhere across the site, tall ruderal vegetation occurred in association with scattered scrub, encroaching on areas of hard standing, and as ground flora under scattered trees.
- 3.7.13 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

River

- 3.7.14 Two watercourses, the River Churnet and one of its tributaries, were prominent habitat features of the site (Figure 4.13.1; plates A1.39 & A1.40). The Churnet was up to 8 m wide and up to 0.6 m in depth. It had clear water, a moderate flow rate and bottom substrate of sandy sediment and small rocks. The tributary was

up to 2.5 m wide and up to 0.3 m in depth. It also had clear water, a moderate flow rate and bottom substrate of sandy sediment and small rocks. The banks, and in some places the beds, of both watercourses had been significantly altered by industrial activity (e.g. built-up with stone or concrete; canalised).

3.7.15 The Staffordshire SBI guidelines use features of river structure rather than species diversity as criteria for SBI or BAS selection. The watercourses on site did not display any of these features.

3.7.16 This habitat is relatively common both locally and throughout the UK. Nevertheless, it was considered of conservation value at the local level because, in combination with the immediate riparian environment of scattered trees and tall ruderal vegetation, both watercourses provide excellent connective corridors with the wider landscape.

Broad-leaved semi-natural woodland

3.7.17 An area of broad-leaved semi-natural woodland (approximately 0.3 ha) occurred adjacent to the Caldon canal along the north-eastern boundary of the site (Figure 4.13.1). Mature and semi-mature ash and sycamore were frequent, with occasional birch, oak, aspen, hawthorn, blackthorn and dog rose. The ground flora was dominated by ferns, ivy and nettle. To qualify for consideration as an SBI such woodland must be over 0.5 ha in area. To qualify as a BAS it may be between 0.25 and 0.5 ha in area but must be categorised as representing a National Vegetation Classification community rare to the county.

3.7.18 This habitat is common and widespread both locally and throughout the UK. However, in the present context it was considered to have conservation value at the local level because of its contribution to maintaining connectivity along the Caldon canal into the main Churnet valley.

Amenity grassland

3.7.19 An area of recently established short sward amenity grassland occurred on the northern side of buildings 7 and 8 (Figure 4.13.1; plate A1.44). This habitat has little intrinsic value for wildlife, is common both locally and nationally and, as such, and is considered to be of importance to nature conservation at site level only.

Species

3.7.20 Table 3.7.3 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 3.7.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific name
BAP	a flowering plant	<i>Rubus intensor</i>
	Autumnal Rustic	<i>Eugnorisma glareosa</i>
	Barn Owl	<i>Tyto alba</i>
	Blue Mason Bee	<i>Osmia caerulea</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>

	Brown Trout	<i>Salmo trutta subsp. fario</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Corn Buttercup	<i>Ranunculus arvensis</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Thorn	<i>Ennomos fuscantaria</i>
	Dyer's Greenweed	<i>Genista tinctoria</i>
	Ear Moth	<i>Amphipoea oculea</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Early Mining Bee	<i>Andrena haemorrhoa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Feathered Gothic	<i>Tholera decimalis</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Grey Dagger	<i>Acronicta psi</i>
	Hornet	<i>Vespa crabro</i>
	House Sparrow	<i>Passer domesticus</i>
	Knot Grass	<i>Acronicta rumicis</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Stitchwort	<i>Stellaria palustris</i>
	Mouse Moth	<i>Amphipyra tragopoginis</i>
	Mud Snail	<i>Omphiscola glabra</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pink Waxcap	<i>Hygrocybe calyptriformis var. calyptriformis</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Mason Bee	<i>Osmia bicornis</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>

	Rosy Rustic	<i>Hydraecia micacea</i>
	September Thorn	<i>Ennomos erosaria</i>
	Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>
	Small Heath	<i>Coenonympha pamphilus</i>
	Small Pearl-bordered Fritillary Butterfly	<i>Boloria selene</i>
	Small Phoenix	<i>Ecliptopera silaceata</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Tree Pipit	<i>Anthus trivialis</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White-letter Hairstreak	<i>Satyrium w-album</i>
	Willow Tit	<i>Poecile montana</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
	Yellow Meadow Ant	<i>Lasius flavus</i>
	Yellowhammer	<i>Emberiza citronella</i>
Invasive	Cotoneaster	<i>Cotoneaster spp.</i>
	Indian balsam	<i>Impratiens glandulifera</i>
	Japanese knotweed	<i>Fallopia japonica</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Crossbill	<i>Loxia curvirostra</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Eurasian Marsh Harrier	<i>Circus aeruginosus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Hoopoe	<i>Upupa epops</i>
	Lesser Noctule	<i>Nyctalus leisleri</i>
	Little Plover	<i>Charadrius dubius</i>

	Merlin	<i>Falco columbarius</i>
	Myotis Bat species	<i>Myotis</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Goshawk	<i>Accipiter gentilis</i>
	Osprey	<i>Pandion haliaetus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whooper Swan	<i>Cygnus cygnus</i>

Amphibians

3.7.21 SER returned a single record of great crested newt. This was from land off Moreton Avenue, Kingsley in 2014, 1.43 km to the south-west.

3.7.22 No ponds were located on site. However, 2 ponds were located within 250 m of the site boundary (Table 3.4.7). These ponds were considered to be of good and average suitability for great crested newts, respectively (Table 4.7.4; Table A2.3)

Table 3.7.4. Ponds located within 250 m of the site boundary.

Pond no.	Location (grid reference)	HSI prediction
Pond 1	130 m north (SK 02527 47770)	Good
Pond 2	135 m north (SK 02585 47753)	Average

3.7.23 No amphibians were recorded during the site visit. Nevertheless, the site had abundant habitat suitable for foraging and hibernating amphibians. Great crested newt is therefore considered a receptor for the site, subject to survey of ponds 1 and 2. It is likely that common frog and toad occur in low densities throughout.

Badger

3.7.24 SER returned 56 recent records of badger from, including confirmed breeding. The most recent record was from 2014, from the western edge of Kingsley, 1.41 km west of the site.

3.7.25 No badger setts were identified on site and no evidence of badger activity was recorded. The hard standing areas on site were unlikely to support setts or provide anything other than marginal foraging opportunity for badgers. Other areas of the site had good potential to support badgers: the woodland, abandoned farmland and other areas of tall ruderal vegetation. The site had good connectivity with many areas in the surrounding landscape likely to support badgers (e.g. the wooded valley sides). Badger are therefore considered to be a potential receptor for the site

Bats

- 3.7.26 SER returned 73 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for 7 species (as well as a number of records where the species was unidentified): Brandt's bat, common pipistrelle, Daubenton's bat, Naterror's bat, Leisler's bat (*Nyctalus leisleri*), noctule and brown long-eared bat. At least 9 of these records (the most recent from 2014) were of common pipistrelles on site, around the area of current business use next to the river Churnet.
- 3.7.27 All areas of the site are likely to be used by foraging and commuting bats. In particular, the woodland, the watercourses and the areas of scrub and scattered trees provide suitable habitat. The site has excellent connectivity with good bat habitat in the surrounding landscape. A bat activity survey would be necessary to better determine the use of the site by bats.
- 3.7.28 Eleven buildings were noted on site (Figure 4.13.1; plates A1.41 – A1.44). All buildings except 7 and 8 were assessed for their potential to support roosting bats (Table 3.7.5). It was not possible to assess buildings 7 and 8 because they were under current business use. Building 1 had high suitability for bats and showed strong evidence of containing a roost; buildings 3, 4, 5, 10 and 11 were considered as having low suitability for roosting bats. These buildings require appropriate surveys before any future development likely to cause disturbance to them.

Table 3.7.5. Suitability of site buildings for roosting bats.

Building no.	Description	Suitability for roosting bats
Building 1	Derelict farmhouse. Two storey, brick construction with pitched, tiled roof. Poor state of repair with many entry points into the building structure. Bat droppings found on lower window sill, western aspect.	High
Building 2	Barn. Single storey, brick and stone construction with pitched asbestos roof. Good state of repair.	Negligible
Building 3	Barn. Single storey, stone construction with pitched, tiled, roof. Poor state of repair. Many entry points into the building structure, however, roof flimsy and building lacking insulation.	Low
Building 4	Barn. Single storey, stone construction with pitched, tiled, roof. Poor state of repair. Many entry points into the building structure, however, roof flimsy and building	Low

	lacking insulation.	
Building 5	Derelict industrial building. Single/double storey. Brick and concrete construction with flat roof. Southern aspect of single storey block, access under roof boarding. Southern aspect of double storey block, access under roof boarding.	Low
Building 6	Derelict industrial building. Small, single storey, brick construction with flat roof. Very poor state of repair. Entry points into structure but lack of insulation.	Negligible
Building 7	Modern metal warehouse construction, attached to older brick structure. Unable to properly inspect.	Not assessed
Building 8	Modern metal warehouse construction. Unable to properly inspect.	Not assessed
Building 9	Modern brick and metal warehouse construction. Excellent state of repair.	Negligible
Building 10	Derelict toilet block. Single storey brick construction with flat roof. Generally sound but gaps under roof boarding for all aspects.	Low
Building 11	Derelict toilet block. Single storey brick construction with pitched asbestos roof. Generally sound but gaps under roof edging for all aspects.	Low

3.7.29 Trees in the broad-leaved woodland were not examined for potential roost features. The four isolated mature trees (Figure 7) did not display any obvious potential bat roost features. They were therefore assessed as having negligible suitability for roosting bats.

Birds

3.7.30 SER returned records of 51 notable species recently recorded from within 2 km of the site. Table 3.7.6 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.7.6. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Carduelis cabaret</i>	Red
Linnet	<i>Carduelis cannabina</i>	Red
Grey wagtail	<i>Motacilla cinerea</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Kingfisher	<i>Alcedo atthis</i>	Amber
Mallard	<i>Anthus platyrhynchos</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Duncock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

3.7.31 Birds recorded on site during the visit were blue tit, robin, nuthatch (*Sitta europaea*)*, jay)*, carrion crow, chiffchaff (*Phylloscopus collybita*)*, woodpigeon, great tit, long-tailed tit*, grey wagtail*, goldcrest (*Regulus regulus*)*. Those species marked with an asterisk score in the Staffordshire SBI Guidelines lists of important birds. The site is likely to provide good opportunity for foraging and nesting for a range of common birds, in all areas except the bare hard standing. Nevertheless, the site habitats were not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

3.7.32 SER returned 5 recent records of reptiles. These were all for grass snake, with 3 records in the immediate site vicinity and 1 record on site from 2014 (grid ref SK 024475; Figure 4.13.1).

3.7.33 No reptiles were recorded during the site visit. However, much of the site area was considered potentially good habitat for reptile species such as grass snake and common lizard. The site had good connectivity, via the watercourse corridors, with potentially good reptile habitat in the surrounding landscape. Therefore, reptiles are considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 3.7.34 SER returned 2 recent records of otter. One of these records was from on site (grid reference SK 024473; Figure 4.13.1) in 2014 and suggested possible breeding.
- 3.7.35 SER returned 6 recent records of water vole. One of these records was from on site (grid reference SK 024475; Figure 7), in 2003.
- 3.7.36 SER returned no records of white-clawed crayfish.
- 3.7.37 No evidence of otter, water vole or white-clawed crayfish was recorded during the site visit. The riparian habitat was suboptimal for both water vole and otter (because of disturbance and lack of steep muddy banks for burrowing), although bottom substrate and apparent water quality made both watercourses potentially suitable for white-clawed crayfish. However, further detailed survey for all three species is necessary and all three species are currently considered receptors for the site.

Other protected and key species

- 3.7.38 No habitats were present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 3.7.39 Vigorous stands of Japanese knotweed (*Fallopia japonica*) occurred in three areas of the site (Figure 4.13.1; plate A1.45). Indian balsam (*Impatiens glandulifera*) was frequent in the south-eastern corner of the site (Figure 4.13.1) and occasional along all lengths of the watercourses. Cotoneaster species occurred amongst introduced shrub in planters at the south-western boundary of the site (Figure 4.13.1).

Target Notes

- 3.7.40 Table 3.7.3 gives a brief description of Target Notes referred to in Figure 7.

Table 3.7.3 Target notes in Figure 7

Target note	Grid reference	Comment
1	SK 02629 47605	Extensive area of Indian balsam
2	SK 02619 47434	Japanese knotweed patch, large and vigorous
3	SK 02689 47147	Giant rhubarb
4	SK 02682 47095	Indian balsam occasional along river banks. Mature and semi mature trees along both banks – goat willow, sycamore, alder, ash. No signs of water vole, bank is unsuitable as made of concrete and walling, however there is good connectivity.

5	SK 02536 47241	Abandoned field completely overgrown by tall ruderal – creeping thistle, nettle, bramble, hogweed, cleavers, willow herb. Bordered by semi-mature hawthorn, ash and elder.
6	SK 02240 47327	Scattered trees – ash and alder. Scrub – hawthorn, dogwood, elder, guelderrose, blackthorn, hazel, goat willow
7	SK 02431 47357	Hard standing, around the periphery with nettle, willow herb, budhia, bramble and raspberry.

Evaluation

3.7.41 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.7.8. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Hard standing and buildings						X
Scattered trees and scrub						X
Tall ruderal						X
Amenity grassland						X
River					X	
Broad-leaved semi-natural woodland					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

3.7.42 The majority area of the site was made up of habitats considered of conservation value at site level only (i.e. hard standing and buildings, scattered trees and scrub, tall ruderal vegetation and amenity grassland). Although relatively small in area, the river Churnet and its tributary were prominent habitat features of the site and provide excellent connectivity with the surrounding landscape to the north-east, south-east and north-west. For this reason the river habitat was considered to be of importance to conservation at the local level. Similarly, the broad-leaved semi-natural woodland running alongside the Caldon canal is an important connecting feature with the surrounding landscape and was also considered to be of importance to conservation at the local level. However, no site habitats conformed strictly to the criteria necessary for consideration as a SBI or BAS according to the Staffordshire SBI guidelines.

- 3.7.43 No species listed as important in the Staffordshire SBI guidelines were recorded during the site visit and therefore no part of site currently qualifies for consideration as an SBI or as a BAS under these criteria. Species recorded on site were common and widespread both at a county and national level. Nevertheless, the site has potential to support a number of notable protected species. Therefore, prior to any future development, the following surveys should be conducted according to appropriate need: ponds 1 and 2 should be surveyed for great crested newts; the site should be checked for badger activity immediately prior to development; bat activity should be surveyed and buildings 1, 3, 4, 5, 10 and 11 should be surveyed for bat roosts (and buildings 7 and 8 and trees in the area of broad-leaved semi-natural woodland assessed for bat roost potential); reptiles should be surveyed for throughout the site; otter, water vole and white-clawed crayfish should be surveyed for along the lengths of both watercourses. It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season. A Japanese knotweed, Indian balsam and Cotoneaster Management Plan should be developed for this site which specifies a method for eradication of these invasive species.
- 3.7.44 Management of the scrub and broadleaved woodland c to create scalloped edge habitats which reptiles use for basking could be implemented. In addition areas of refugia could be created, for example log piles. Woodland management should also aim to maintain and increase structural diversity; retaining old and dead wood, and ensuring opportunities for regeneration through selective thinning. Scrub management may be required to prevent succession of the grassland. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.

3.8 CH085D (southern portion)

Site Description

- 3.8.1 The site consists of a triangle of improved grassland in the middle of a larger field used for grazing livestock. It is located on the southern outskirts of Cheadle (central grid reference SK 00697 41788) and is approximately 0.61 ha in area. A housing estate and the A522 Tean Road adjoin the north-west corner of the site. The rest of the site is surrounded by farmland, with large expanses of improved grassland, limited hedgerows, scattered trees and pockets of woodland. Note that only this southern portion of CH085D was surveyed, as the northern section had already undergone Phase 1 ecological survey by Lockwood Hall in 2014.
- 3.8.2 The site was surveyed on 21st September 2016.

Designated Sites

- 3.8.3 One statutory and 5 locally designated sites are located within the study area (Table 3.8.1).

area. **Table 3.8.1. Statutory and locally designated sites for nature conservation within the study area.**

Site name	Status	Location	Notes
Huntley Wood	SBI	0.92 km west	Ancient semi-natural woodland.
Cecilly Brook	LNR	1.1 km north-west	Urban fringe habitat. Important site for water voles, flower-rich meadows and species rich hedgerows.
Freehay	SBI	1.12 km east	Acid-grassland and heathland mosaic.
Draycott common Wood	BAS	1.24 km south-west	Disused sludge lagoon.
Rakeway House Farm (south of)	SBI	1.30 km east	Unimproved and semi-improved grassland.
commonsideside Quarry	BAS	1.82 km west	A disused quarry.

Habitats

- 3.8.4 Habitats present within the site are presented in Table 3.8.2 and are discussed in order of dominance below.

3.8.5

Table 3.8.2. Habitats present within the site

Habitat	Species Present	Area or length	% Cover of Site
Improved grassland	creeping thistle, broad-leaved dock, <i>Juncus</i> spp.	5926	100
Scattered trees	ash, horse chestnut		

Improved grassland

3.8.6 The majority of the site consisted of heavily grazed improved grassland (Figure 4.15.1; plate A1.46). Creeping thistle, broad-leaved dock and *Juncus* sp were frequent.

3.8.7 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Scattered trees

3.8.8 The eastern boundary of the site adjoined an area of scrub and scattered trees. Of note were a single mature ash and a single mature horse chestnut on this boundary (Figure 4.15.1).

3.8.9 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Species

3.8.10 Table 3.8.3 illustrates all UKBAP, invasive and protected species records included in data received from SER or during site visit.

Table 3.8.3 UKBAP, invasive and protected species identified within study area

Species Type	Common Name	Scientific name
BAP	a flowering plant	<i>Rubus painteri</i>
	Adder	<i>Vipera berus</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Blood-vein	<i>Timandra comae</i>
	Brent Goose	<i>Branta bernicla</i>
	Brindled Ochre	<i>Dasypolia templi</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Brown/Sea Trout	<i>Salmo trutta</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>

	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Spiny Digger Wasp	<i>Oxybelus uniglumis</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Cornflower	<i>Centaurea cyanus</i>
	Dark-bellied Brent Goose	<i>Branta bernicla subsp. bernicla</i>
	Dingy Skipper	<i>Erynnis tages</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Early Mining Bee	<i>Andrena haemorrhoa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Four Coloured Cuckoo Bee	<i>Bombus sylvestris</i>
	Galium Carpet	<i>Epirrhoe galiata</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Gooden's Nomad Bee	<i>Nomada goodeniana</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	Grey Mining Bee	<i>Andrena cineraria</i>
	Grey Partridge	<i>Perdix perdix</i>
	Gwynne's Mining Bee	<i>Andrena bicolor</i>
	Honey Bee	<i>Apis mellifera</i>
	Hornet	<i>Vespa crabro</i>
	House Sparrow	<i>Passer domesticus</i>
	Hybrid Bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large Red Tailed Bumble	<i>Bombus lapidarius</i>

	Bee	
	Leaden Spider Wasp	<i>Pompilus cinereus</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Native Black Poplar	<i>Populus nigra subsp. betulifolia</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Ornate Tailed Digger Wasp	<i>Cerceris rybyensis</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Banded Sand Wasp	<i>Ammophila sabulosa</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Skylark	<i>Alauda arvensis</i>
	Small Heath	<i>Coenonympha pamphilus</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Sword-grass	<i>Xylena exsoleta</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
	Lesser Redpoll	<i>Rubus painteri</i>
	Lesser Spotted Woodpecker	<i>Vipera berus</i>
	Linnet	<i>Tyto alba</i>
	Marsh Tit	<i>Limosa limosa</i>
	Native Black Poplar	<i>Timandra comae</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Dasypolia templi</i>
	Ornate Tailed Digger Wasp	<i>Lepus europaeus</i>
	Pipistrelle	<i>Plecotus auritus</i>
	Polecat	<i>Mustela putoria</i>
	Red Banded Sand Wasp	<i>Bombus terrestris</i>

	Reed Bunting	<i>Tyria jacobaeae</i>
	Ring Ouzel	<i>Pyrrhula pyrrhula</i>
	Sky Lark	<i>Bombus pascuorum</i>
	Small Heath	<i>Locustella naevia</i>
	Song Thrush	<i>Pipistrellus pipistrellus sensu stricto</i>
	Soprano Pipistrelle	<i>Gallinago gallinago</i>
	Spotted Flycatcher	<i>Oxybelus uniglumis</i>
	Sword-grass	<i>Sturnus vulgaris</i>
	Tree Bumble Bee	<i>Bufo bufo</i>
	Wall	<i>Vespula vulgaris</i>
	West European Hedgehog	<i>Centaurea cyanus</i>
	White-tailed Bumble Bee	<i>Branta bernicla subsp. bernicla</i>
	Willow Tit	<i>Erynnis tages</i>
	Yellowhammer	<i>Prunella modularis</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Adder	<i>Vipera berus</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Dotterel	<i>Charadrius morinellus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Firecrest	<i>Regulus ignicapilla</i>
	Garganey	<i>Anas querquedula</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Greylag Goose	<i>Anser anser</i>
	Little Plover	<i>Charadrius dubius</i>
	Merlin	<i>Falco columbarius</i>

	Myotis Bat species	<i>Myotis</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>

Amphibians

3.8.11 SER returned 15 records of great crested newt. The closest record was from an area of quarry and gravel pits in Huntley woods, approximately 0.80 km to the south-west of the site.

3.8.12 No ponds were located on site and no ponds were identified within 250 m of the site boundary. No amphibians were recorded during the site visit. Given the site's relative isolation and lack of suitable habitat it is considered that great crested newts are not a receptor for the site. It is also unlikely that the site supports any other amphibian species.

Badger

3.8.13 SER returned 48 recent records of badger, including confirmed breeding. The most recent record was from 2007, from farm land, 1.92 km north-east of the site.

3.8.14 No badger setts were identified on site and no evidence of badger activity was recorded. The surrounding landscape did not contain any features (e.g. woodland or species rich mature hedgerow) likely to support badgers. Therefore, badger was considered not to be a receptor for the site.

Bats

3.8.15 SER returned 39 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for 4 species (as well as a number of records where the species was unidentified): whiskered bat, common pipistrelle, soprano pipistrelle and brown long-eared bat as well as individuals unidentified to the species level. Records included sightings of foraging and commuting bats as well as confirmed roosts. The closest record to the site was from the field on the edge of the housing estate, 0.28 km to the north, in 2009 (species unidentified).

3.8.16 The area of improved grassland is likely to be of negligible value for foraging and commuting bats. However, bats are likely to forage and commute over gardens in the housing estate to the north-east and over the scrub and scattered trees

adjoining the site to the east. The eastern boundary of the site may therefore be of some foraging and commuting value to bats. A bat activity survey would be necessary to better determine the use of this part of the site by bats.

- 3.8.17 The mature trees on the eastern site boundary did not obviously display any potential bat roost features. They were therefore assessed as having negligible suitability for roosting bats.

Birds

- 3.8.18 SER returned records of 76 notable species. Table 3.8.4 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.8.4. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Dunnock	<i>Prunella modularis</i>	Amber

- 3.8.19 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging opportunity for common species such as woodpigeon, magpie and carrion crow. Scrub and scattered trees adjoining the eastern boundary of the site may provide some nesting opportunity. Nevertheless, the site habitats were not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 3.8.20 SER returned a single recent record of reptiles. This was a sighting of an adder (*Vipera berus*) near Fairview farm in 2001, approximately 1.41 km south of the site.

- 3.8.21 No reptiles were recorded during the site visit and it is unlikely that the site would provide anything but marginal habitat for reptiles. Good connectivity between the site and any potentially good reptile habitat in the wider landscape was lacking. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 3.8.22 SER returned 4 recent records of otter. They were all from the river Tean in 2002, the closest of which was 0.44 km south of the site, at Mobberley.

- 3.8.23 SER returned 45 recent records of water vole. These records came largely from the river Tean and Cecilly brook, the closest of which was from Cecilly brook, 0.25 km east of the site.

- 3.8.24 SER returned no records of white-clawed crayfish.

- 3.8.25 There were no water courses on site or within 30 m of the site boundary. The site habitat does not support water vole, otter or white-clawed crayfish and these species are not considered to be receptors for the site.

Other protected and key species

3.8.26 No habitats were present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

3.8.27 No non-native invasive species were recorded during the site visit.

Evaluation

3.8.28 The following table illustrates the importance of the site habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.8.6. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Scattered trees						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

3.8.29 The habitats on site were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines and therefore the site does not currently qualify for consideration as an SBI or as a BAS under these criteria.

3.8.30 Species recorded on site were common and widespread both at a county and national level and it is considered highly unlikely that the site supported notable protected species. No species listed as important in the Staffordshire SBI guidelines were recorded and therefore no part of the site currently qualifies for consideration as an SBI or as a BAS under these criteria.

3.8.31 An activity survey should be conducted to determine the use of the eastern boundary of the site by bats, prior to any future development.

3.9 EN007

Site Description

- 3.9.1 EN007 is a farmed field on the north-western outskirts of Endon (central grid references SJ 92348 53755). This field is immediately bordered to the south by a housing estate and on all other sides by similar fields. The wider landscape consists of areas of housing development and a farm land mosaic, with limited hedgerows, scattered trees and pockets of woodland.
- 3.9.2 The site was visited on 27th September 2016 so as to undertake LWS assessment on a similar basis to the other sites contained in this report, given that Lockwood Hall Associates had already conducted Phase 1 surveys of the site in September and October 2014, but which did not contain such assessment.

Designated Sites

- 3.9.3 MAGIC Maps was checked for any new designated sites, however none were found. Therefore, it was assumed that designated sites within 2 km of the study area remained the same as that reported by Lockwood Hall Associates in 2014.

Habitats

- 3.9.4 The site habitats of improved grassland, scattered trees, species poor hedgerows and tall ruderal vegetation, remained as reported by Lockwood Hall Associates, 2014 (plates A1.47 – A1.49).

Species

- 3.9.5 Species remained as reported by Lockwood Hall Associates, 2014.

Invasive Species

- 3.9.6 No invasive species were noted during the site visits, confirming the observation of Lockwood Hall Associates, 2014.
- 3.9.7 Given that Ecus did not deem any change to the habitats, species and invasive species Lockwood Hall reported on site in 2014, the original 2014 habitat mapping provided by Lockwood Hall is still deemed sufficient. These can be viewed on the council's website.

Evaluation

- 3.9.8 The following table illustrates the importance of the site habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.9.1 Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Species poor hedgerow						X
Tall ruderal vegetation						X
Scattered trees	Importance to be determined following further survey					
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 3.9.9 The improved grassland, species poor hedgerow and tall ruderal vegetation are common and widespread habitats both locally and nationally and are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on the boundaries of EN007 require further survey to determine two factors with bearing on potential SBI status.
- 3.9.10 Firstly, the mature scattered trees on EN007 may potentially be classified as ‘veteran’ trees. The Staffordshire SBI guidelines consider veteran trees to be “...trees which, because of their great age, size or condition, are of exceptional value culturally, in the landscape or for wildlife.” If a site contains five or more of such trees it may be considered for BAS status. If it contains ten or more of such trees it may be considered for SBI status. The presence or not of beetles dependent on decaying wood and also the historic land use of the site are also considered.
- 3.9.11 Secondly, Lockwood Hall Associates 2014 reported that 7 trees on EN007 had bat roost potential (this potential was not, however, scored, i.e. as negligible, low, moderate or high). If trees were found to accommodate bat roosts after further survey, then the presence of bats on site could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection. It should be noted that during the ECUS Ltd visit to the sites, no trees on EN007 were recorded as displaying anything greater than low bat roost potential.
- 3.9.12 No notable species were recorded by Lockwood Hall Associates 2014 or by ECUS Ltd. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that ‘any site which regularly supports a significant population of any native reptiles’ may be considered for SBI status.

3.10 EN019

Site Description

3.10.1 EN019 is a farmed field on the north-western outskirts of Endon (central grid reference SJ 92438 53783). This field is immediately bordered to the south by a housing estate and on all other sides by similar fields. The wider landscape consists of areas of housing development and a farm land mosaic, with limited hedgerows, scattered trees and pockets of woodland.

3.10.2 The site was visited on 27th September 2016 so as to undertake LWS assessment on a similar basis to the other sites contained in this report, given that Lockwood Hall Associates had already conducted Phase 1 surveys of the site in September and October 2014, but which did not contain such assessment.

Designated Sites

3.10.3 MAGIC Maps was checked for any new designated sites, however none were found. Therefore, it was assumed that designated sites within 2 km of the study area remained the same as that reported by Lockwood Hall Associates in 2014.

Habitats

3.10.4 The site habitats of improved grassland, scattered trees, species poor hedgerows and tall ruderal vegetation, remained as reported by Lockwood Hall Associates, 2014 (plates A1.47 – A1.49).

Species

3.10.5 Species remained as reported by Lockwood Hall Associates, 2014.

Invasive Species

3.10.6 No invasive species were noted during the site visits, confirming the observation of Lockwood Hall Associates, 2014.

3.10.7 Given that Ecus did not deem any change to the habitats, species and invasive species Lockwood Hall reported on site in 2014, the original 2014 habitat mapping provided by Lockwood Hall is still deemed sufficient. These can be viewed on the council's website.

Evaluation

3.10.8 The following table illustrates the importance of the site habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.10.1 Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Species poor hedgerow						X
Tall ruderal vegetation						X

I=International, N=National, R=Regional, D=District,
L=Local, S=Site

- 3.10.9 The improved grassland, species poor hedgerow and tall ruderal vegetation are common and widespread habitats both locally and nationally and are not listed as important habitats in the Staffordshire SBI guidelines.
- 3.10.10 Therefore, the site does not currently qualify for consideration as SBIs or BASs consideration dependent on the presence of protected or rare species.

3.11 EN101

Site Description

3.11.1 EN101 is a field on the north-western outskirts of Endon (central grid reference SJ 92553 53861). This is immediately bordered to the south by a housing estate and on all other sides by similar fields. The wider landscape consists of areas of housing development and a farm land mosaic, with limited hedgerows, scattered trees and pockets of woodland.

3.11.2 The site was visited on 27th September 2016 to undertake LWS assessment on a similar basis to the other sites contained in this report, given that Lockwood Hall Associates had already conducted Phase 1 surveys of the site in September and October 2014, but which did not contain such assessment.

Designated Sites

3.11.3 MAGIC Maps was checked for any new designated sites, however none were found. Therefore, it was assumed that designated sites within 2 km of the study area remained the same as that reported by Lockwood Hall Associates in 2014.

Habitats

3.11.4 The site habitats of improved grassland, scattered trees, species poor hedgerows and tall ruderal vegetation, remained as reported by Lockwood Hall Associates, 2014 (plates A1.47 – A1.49).

Species

3.11.5 Species remained as reported by Lockwood Hall Associates, 2014.

Invasive Species

3.11.6 No invasive species were noted during the site visits, confirming the observation of Lockwood Hall Associates, 2014.

3.11.7 Given that Ecus did not deem any change to the habitats, species and invasive species Lockwood Hall reported on site in 2014, the original 2014 habitat mapping provided by Lockwood Hall is still deemed sufficient. These can be viewed on the council's website.

Evaluation

3.11.8 The following table illustrates the importance of the site habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.11.1 Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Species poor hedgerow						X
Tall ruderal vegetation						X

Scattered trees	Importance to be determined following further survey
I=International, N=National, R=Regional, D=District, L=Local, S=Site	

- 3.11.9 The improved grassland, species poor hedgerow and tall ruderal vegetation are common and widespread habitats both locally and nationally and are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on the boundary of EN101 require further survey to determine two factors with bearing on potential SBI status.
- 3.11.10 Firstly, the mature scattered trees on EN101 may potentially be classified as ‘veteran’ trees. The Staffordshire SBI guidelines consider veteran trees to be “trees which, because of their great age, size or condition, are of exceptional value culturally, in the landscape or for wildlife.” If a site contains five or more of such trees it may be considered for BAS status. If it contains ten or more of such trees it may be considered for SBI status. The presence or not of beetles dependent on decaying wood and also the historic land use of the site are also considered.
- 3.11.11 Secondly, Lockwood Hall Associates 2014 reported that 10 trees on EN101 had bat roost potential (this potential was not, however, scored, i.e. as negligible, low, moderate or high). If trees were found to accommodate bat roosts after further survey, then the presence of bats on site could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection. It should be noted that during the ECUS Ltd visit to the sites, no trees on EN101 were recorded as displaying anything greater than low bat roost potential.
- 3.11.12 No notable species were recorded by Lockwood Hall Associates 2014 or by ECUS Ltd. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. However, Lockwood Hall Associates considered that EN101 had potential nature conservation importance at the district level partly because of the site’s potential to support reptiles. The Staffordshire SBI guidelines state that ‘any site which regularly supports a significant population of any native reptiles’ may be considered for SBI status. Whilst ECUS Ltd did not note any EN101 habitat that would provide anything other than marginal habitat for reptiles (and therefore would not support ‘significant’ populations), further survey for reptiles is necessary before any future development. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia.

3.12 UT007 (FID62)

Site Description

3.12.1 The site is an area of garden and smallholding located on the western outskirts of Upper Tean (central grid reference SK 00729 39660). It has an area of approximately 0.4 ha and borders a housing estate and the Draycott Road to the south and farm land with improved grassland fields, scattered trees and limited hedgerows to the north. The river Tean runs approximately 60 m to the east of the site.

3.12.2 The site was visited on 27th September 2016 so as to undertake an LWS assessment on a similar basis to the other sites contained in this report, given that Lockwood Hall Associates had already conducted phase 1 survey of the site in September and October 2014, but which did not contain such assessment. Note the site's reference in the District Council's housing land database is "UT007", whilst the subsequent Lockwood Hall site record reference is "FID62".

Designated Sites

3.12.3 MAGIC Maps was checked for any new designated sites, however none were found. Therefore, it was assumed that designated sites within 2 km of the site remained the same as that reported by Lockwood Hall Associates, 2014.

Habitats

3.12.4 Site habitats remained as reported by Lockwood Hall Associates, 2014 (plates A1.50 – A1.52).

Species

3.12.5 Species remained as reported by Lockwood Hall Associates, 2014.

Invasive Species

3.12.6 No invasive species were noted during the site visit, confirming the observation of Lockwood Hall Associates, 2014.

3.12.7 Given that Ecus did not deem any change to the habitats, species and invasive species Lockwood Hall reported on site in 2014, the original 2014 habitat mapping provided by Lockwood Hall is still deemed sufficient. These can be viewed on the council's website.

Evaluation

3.12.8 The following table illustrates the importance of the site habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.12.1 Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Amenity grassland, scattered						X

trees and allotments						
Amphibians and reptiles	Importance to be determined following further survey					
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 3.12.9 On their own, the site habitats are common and widespread both locally and nationally and would therefore be considered to be of nature conservation value at site level only. However, Lockwood Hall Associates judged the site to be of importance at the district level (interpreted here to mean importance at the local level) because of its potential to support amphibians and reptiles. In particular, the site was anecdotally said to support great crested newts and grass snakes. Furthermore, great crested newts and adder (*Vipera berus*) have been recorded within 2 km of the site.
- 3.12.10 Further detailed survey is necessary to determine the presence of great crested newt and reptile species on site. If a site supports a 'good' population of great crested newts, regularly supports five species of amphibian or achieves an amphibian assemblage score of 7 or more, then it may be considered for designation as an SBI. The amphibian assemblage score is a metric calculated on the basis of the range of amphibian species and their relative abundance, with a higher score indicating a richer assemblage of amphibian species. This metric is presented in the JNCC Guidelines for the selection of biological SSSI's. It is not clear exactly what criteria must be fulfilled for a site to be designated as a BAS on the basis of its amphibian populations but, presumably, the criteria will be similar if slightly less stringent. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.
- 3.12.11 Any site which 'regularly' supports a 'significant' population of any common reptile (grass snake, adder, slow-worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*) may be considered for designation as an SBI. Again, the criteria for BAS designation are presumably similar but less demanding. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia.

3.13 KG049A

Site Description

3.13.1 The site is part of a farmed field (central grid reference SK 00868 46723) on the southern edge of the village of Kingsley. It is approximately 1.36 ha in area and adjoins a housing estate immediately to the north and other farmland to the east, south and west. The wider area consists of a mosaic of farmland and small villages.

3.13.2 The site was surveyed on 27th September 2016.

Designated Sites

3.13.3 Three statutory and 10 locally designated sites are located within 2 km of the study area (Table 3.14.1).

Table 4.13.1. Statutory and locally designated sites for nature conservation within 2 km of the study area.

Site name	Status	Location relative to site	Notes
Adams Hollow	BAS	0.89 km south-east	Wooded stream valley.
Bank Sprink	BAS	0.94 km north-east	Mixed woodland.
Churnet Valley	SSSI	1.07 km north-east	Semi-natural ancient woodland, scrub, unimproved neutral and acid grassland, mire, marsh and carr.
Hazlescross (east)	SBI	1.08 km north	Holly hedge.
Coldley Banks	SBI	1.22 km north-east	Marsh.
Consall	LNR	1.31 km north	Woodland and grassland.
Froghall Meadow and Pastures	SSSI	1.59 km east	Unimproved grassland and scrub.
Whiston Bridge (west of)	SBI	1.75 km east	Deciduous woodland.
Froghall Bridge (east of)	SBI	1.87 km east	Ancient woodland with semi-improved neutral fields and unimproved grassland.

Gorse Wood	BAS	1.87 km south-east	Wooded valley.
Kingsley Holt (east)	SBI	1.97 km south-east	Beech woodland, with neutral grassland.
Harston Hill, Froghall Wharf	SBI	1.99 km north-east	Meadow with wet flush.
Brough's Wood	SBI	2.09 km west	Ancient woodland with neutral grassland.

Habitats

3.13.4 Habitats present within the site are presented in Table 3.14.2 and are discussed in order of dominance below.

Table 3.13.2. Habitats present within the site

Habitat	Species Present	Area or length	% Cover of Site
Improved grassland	dandelion, creeping buttercup, broad-leaved dock	5926 m ²	100
Hedgerows and scattered trees	hawthorn, holly, blackthorn, elder, nettle, bramble, cleavers, oak, rowan	340 m	

Improved grassland

3.13.5 The majority of the site consisted of improved grassland used for pasture (Figure 4.21.1; plates A1.53 – A1.55). There were no appreciable field margins. Dandelion (*Taraxacum spp. agg.*) and creeping buttercup (*Ranunculus repens*) were abundant, and broad-leaved dock was frequent.

3.13.6 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Hedgerow with scattered trees

3.13.7 The site was bounded by close-cut, species-poor hedgerow and fencing, to the north, east and west (Figure 4.21.1). Species occurring were hawthorn, holly, blackthorn and elder with frequent nettle, bramble and cleavers. A single mature oak, semi-mature rowan and young holly were recorded on the south-west boundary.

3.13.8 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Species

3.13.9 Table 3.13.3 illustrates all UKBAP, Invasive and protected species found within 2 km of the site.

Table 3.13.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific name
BAP	a bumble bee	<i>Bombus</i>
	a willow tit	<i>Poecile montana subsp. kleinschmidti</i>
	Adder	<i>Vipera berus</i>
	Argent and Sable	<i>Rheumaptera hastata</i>
	Autumnal Rustic	<i>Eugnorisma glareosa</i>
	Barn Owl	<i>Tyto alba</i>
	Blue Mason Bee	<i>Osmia caerulea</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Brown Trout	<i>Salmo trutta subsp. fario</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Fan-foot	<i>Pechipogo strigilata</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Thorn	<i>Ennomos fuscantaria</i>
	Dyer's Greenweed	<i>Genista tinctoria</i>
	Ear Moth	<i>Amphipoea oculea</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Early Mining Bee	<i>Andrena haemorrhoa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Feathered Gothic	<i>Tholera decimalis</i>
	Floating Water-plantain	<i>Luronium natans</i>
	Forester	<i>Adscita statices</i>

Species Type	Common Name	Scientific name
	Four Coloured Cuckoo Bee	<i>Bombus sylvestris</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Grey Dagger	<i>Acronicta psi</i>
	Grey Mining Bee	<i>Andrena cineraria</i>
	Grey Partridge	<i>Perdix perdix</i>
	Harvest Mouse	<i>Micromys minutus</i>
	Herring Gull	<i>Larus argentatus</i>
	Hornet	<i>Vespa crabro</i>
	House Sparrow	<i>Passer domesticus</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Stitchwort	<i>Stellaria palustris</i>
	Marsh Tit	<i>Poecile palustris</i>
	Mouse Moth	<i>Amphipyra tragopoginis</i>
	Mud Snail	<i>Omphiscola glabra</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Oak Hook-tip	<i>Watsonalla binaria</i>
	Pine Marten	<i>Martes martes</i>
	Pink Waxcap	<i>Hygrocybe calyptriformis</i> <i>var. calyptriformis</i>
	Pipistrelle	<i>Pipistrellus pipistrellus</i> <i>sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Mason Bee	<i>Osmia bicornis</i>
	Red Wasp	<i>Vespula rufa</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Rosy Rustic	<i>Hydraecia micacea</i>
	September Thorn	<i>Ennomos erosaria</i>
	Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Heath	<i>Coenonympha pamphilus</i>

Species Type	Common Name	Scientific name
	Small Pearl-bordered Fritillary Butterfly	<i>Boloria selene</i>
	Small Phoenix	<i>Ecliptopera silaceata</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tawny Mining Bee	<i>Andrena fulva</i>
	Tree Pipit	<i>Anthus trivialis</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White-letter Hairstreak	<i>Satyrium w-album</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
	Yellow Legged Mining Bee	<i>Andrena flavipes</i>
	Yellow Meadow Ant	<i>Lasius flavus</i>
	Yellow Wagtail	<i>Motacilla flava</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Adder	<i>Vipera berus</i>
	Barn Owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Crossbill	<i>Loxia curvirostra</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Eurasian Marsh Harrier	<i>Circus aeruginosus</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Floating Water-plantain	<i>Luronium natans</i>
	Grass Snake	<i>Natrix natrix</i>

Species Type	Common Name	Scientific name
	Great Crested Newt	<i>Triturus cristatus</i>
	Greylag Goose	<i>Anser anser</i>
	Hoopoe	<i>Upupa epops</i>
	Lesser Noctule	<i>Nyctalus leisleri</i>
	Merlin	<i>Falco columbarius</i>
	Myotis Bat species	<i>Myotis</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Goshawk	<i>Accipiter gentilis</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pine Marten	<i>Martes martes</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Whooper Swan	<i>Cygnus cygnus</i>

Amphibians

3.13.10 SER returned five recent records of great crested newts. Four of these records came from a clay pits, 1.0 km to the north-west. The fifth record (from 2014) was referenced as 'land off Moreton Avenue' (i.e. the site), but was not grid referenced accurately enough to exactly determine the pond at which the observations were made (i.e. almost certainly pond 1 or pond 2, below).

3.13.11 No ponds were located on site. However, two ponds (pond 1 and pond 2) were located within 250 m of the site boundary (Table 3.13.4; plates A1.56 & A1.57). These ponds were considered to be of below average and average suitability for great crested newts, respectively (Table 3.13.4; Table A2.4)

Table 3.13.4. Ponds located within 250 m of the site boundary.

Pond no.	Location (grid reference)	HSI prediction
Pond 1	185 m south (SK 00876 46468)	Below average
Pond 2	180 m south-west (SK 00689 46534)	Average

3.13.12 No amphibians were recorded during the site visit and site habitats were sub-optimal for amphibians. Nevertheless, great crested newt should be considered a potential receptor for the site dependent on further survey of pond 2. It is also possible that occasional common frogs and toads may disperse from

garden ponds into the damper areas of hedgerow adjacent to the housing along the northern boundary of the site.

Badger

3.13.13 SER returned 18 recent records of badger. These included sightings and confirmed breeding. The most recent sighting was on the A52, Kingsley Moor, approximately 1.4 km west of the site.

3.13.14 No badger setts were identified on site and no evidence of badger activity was recorded. Similarly, no evidence of badgers was found in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

3.13.15 SER returned 80 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for 8 species (as well as a number of records where the species was unidentified): Daubenton's bat whiskered bat Brandt's bat Natterer's bat, noctule, Leisler's bat, common pipistrelle and brown long-eared bat. The closest record was of a common pipistrelle in a housing estate, 0.3 km to the north of the site.

3.13.16 The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

3.13.17 There were no buildings on site. A single mature oak tree (plate A1.58) on the south-western site boundary displayed a number of potential bat roost features (rot holes and split limbs) but was assessed as having low suitability for roosting bats due to the poor quality of the surrounding habitat.

Birds

3.13.18 SER returned records of 77 notable species. Table 3.13.5 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.13.5. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
mistle thrush	<i>Turdus viscivorus</i>	Red

Common Name	Scientific Name	BoCC Status
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnoek	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

3.13.19 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnoek, house sparrow, magpie, carrion crow and woodpigeon.

3.13.20 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

3.13.21 SER returned 11 recent records of reptiles from within 2 km of the site. These were for grass snake and adder. The closest record was for grass snake, from the area around Willow Grange Farm, 1.4 km north-west of the site.

3.13.22 No reptiles were recorded during the site visit. Site habitats were sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

3.13.23 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

3.13.24 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

3.13.25 No non-native invasive species were recorded during the site visit.

Evaluation

3.13.26 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.13.6. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Hedgerows and scattered trees						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

3.13.27 The habitats on site were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines and therefore the site does not currently qualify for consideration as an SBI or as a BAS under these criteria.

3.13.28 Species recorded on site were common and widespread both at a county and national level and it is considered unlikely that the site supported notable protected species. No species listed as important in the Staffordshire SBI guidelines were recorded and therefore no part of the site currently qualifies for consideration as an SBI or as a BAS under these criteria. However, great crested newts should be considered a potential receptor for the site subject to survey of pond 2. Consequently, prior to any future development a pre-development great crested newt presence/absence survey should be undertaken on ponds within 250 m of the site. Management of the ponds such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species. The site should also be checked again for signs of badger activity and an activity survey should be conducted to determine the use of the site by bats. It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season.

3.14 Northern Gateway Opportunity Site

Site Description

3.14.1 This is a large site on the south-eastern outskirts of Blythe Bridge (central grid reference SJ 96698 40035). The busy A50 runs through the middle of the site from the north-west to the south-east dividing the site into a northern area and a southern area. The northern area is approximately 19.28 ha and the southern area is approximately 29.3 ha. The site as a whole is extensively surrounded by farm land to the east, south and west and by housing and built environment to the north. However, it is effectively isolated from the wider landscape because it is encircled by major roads (the A50 and A521) to the north and east, Cresswell Lane to the south and the Crewe to Derby railway line to the west. The River Blithe runs adjacent to the railway line further to the west.

3.14.2 The site was surveyed on 21st September 2016.

Designated Sites

3.14.3 There were 3 locally designated sites and no statutory designated sites (Table 3.14.1).

Table 3.14.1. Locally designated sites within 2 km of the study site.

Site name	Status	Location	Notes
Blythe Bridge Woods	BAS	1.68 km north-west	Mixed woodland
New Inn (near)	BAS	1.74 km south	Semi-improved grassland with species-poor hedges and mature trees.
Paynsley Hall Pond	BAS	2.00 km south-east	Ponds with marshy grassland.

Habitats

3.14.4 Habitats present within the site are presented in Table 3.14.2 and are discussed in order of dominance below.

Table 3.14.2. Habitats present within the site

Habitat	Species Present	Area or length	% Cover of Site
Improved Grassland	perennial rye grass, crested dog's tail, Timothy grass, Yorkshire fog, hard and soft rush	489252 m ²	93.8
Arable		11186 m ²	2.1
Hardstanding		8694 m ²	1.7
Ponds		4206 m ²	0.8
Tall ruderal vegetation	nettles, ragwort, thistle	4186 m ²	0.8

Habitat	Species Present	Area or length	% Cover of Site
Buildings		2751 m ²	0.5
Scattered scrub	hawthorn, bramble	1520 m ²	0.3
Species poor hedgerow and scattered trees	hawthorn, elder, blackthorn, holly, oak, ash, sycamore, lime	5184 m	
Species rich hedgerow	ash, hazel, beech, larch, Scot's pine, holly, oak, birch	152 m	

Improved grassland

- 3.14.5 The majority of the site consisted of uniform improved grassland used for pasture (Figure 4.23.1; plates A1.59 – A1.61). Field margins were negligible and common forbs typical of such environments were generally only occasional. Dominant grasses included perennial rye grass, crested dog's tail, Timothy grass and Yorkshire fog. Hard and soft rushes were occasional in the damper areas of grassland, particularly in the southern area near the railway line.
- 3.14.6 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only. It is not listed as an important habitat in the Staffordshire SBI guidelines.

Arable

- 3.14.7 An arable field is present on the eastern boundary of the site to the south of March Cottage Farm. This field had been recently ploughed at the time of survey and lacked established vegetation communities.
- 3.14.8 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only. It is not listed as an important habitat in the Staffordshire SBI guidelines.

Hardstanding

- 3.14.9 Small areas of hardstanding are present around buildings and forming the surface of access tracks on the site. Hardstanding is of negligible intrinsic conservation interest.

Ponds

- 3.14.10 Seven ponds are present within the site boundary. The potential of these waterbodies to support GCN was assessed however the wider habitat value of these features was not determined.
- 3.14.11 Ponds are included as an important habitat in the Staffordshire SBI guidelines. These guidelines state 'sites consisting of three or more water bodies within 250m of each other are elevated to SBI status. The Northern Gateway site includes a group of five ponds within 250 m of each other.

3.14.12 The Staffordshire SBI guidelines advise that ponds are surveyed using the PSYM methodology (Predictive SYstem for Multimetrics) (Pond Conservation, 2002) in order to determine their ecological value. It is however considered that the ponds on site are of at least local value to nature conservation.

Tall ruderal vegetation

3.14.13 A small field of tall ruderal vegetation was recorded from the northern boundary of the site. Species present within this habitat included common ragwort, nettle and thistle.

3.14.14 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only. It is not listed as an important habitat in the Staffordshire SBI guidelines.

Buildings

3.14.15 Several buildings are present within the site in two groupings. These buildings are of negligible intrinsic conservation interest. Their importance to faunal species including birds and bats is considered separately.

Scattered scrub

3.14.16 Small sections of scattered scrub are present within the tall ruderal fields and also within field boundaries. This habitat includes scattered sections of bramble and common hawthorn.

3.14.17 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only. It is not listed as an important habitat in the Staffordshire SBI guidelines.

Species poor hedgerow and scattered trees

3.14.18 Species poor hedgerow consisting principally of hawthorn with occasional elder, blackthorn and holly, was common as field boundary throughout the site (Figure 4.23.1; plate A1.62). Scattered mature and semi-mature trees associated with the hedgerow were frequent across the site (e.g. plate A1.59). They included frequent oak, ash and sycamore and, rarely, lime.

3.14.19 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only. It is not listed as an important habitat in the Staffordshire SBI guidelines.

Species rich hedgerow

3.14.20 A single length (approximately 110 m) of species rich hedgerow was identified, in the northern area of the site (Figure 4.23.1). Woody species present included ash, hazel, beech, larch, Scot's pine, holly, oak, and birch with no single species being dominant. This stretch of hedgerow provides good connectivity with the immediately surrounding field boundaries but unfortunately not with the wider landscape because of the presence of the A50 at its south-western end.

3.14.21 Species rich hedgerow habitat is considered a habitat of principal importance under Section 41 of the NERC Act 2006. In addition, it may be considered 'important' under the Hedgerow Regulations 1997 due to the probable presence of an average of 6 woody species per 30 m length and may also qualify for SBI or BAS status according to the Staffordshire SBI guidelines. Nevertheless, as this habitat is not uncommon in Staffordshire or the wider UK landscape it was considered to be of importance to nature conservation at local level only.

Species

3.14.22 Table 3.14.3 illustrates all protected species records included in data received from SER or during site visit for locations within 2 km of the site.

Table 3.14.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific Name
BAP	a flowering plant	<i>Rubus painteri</i>
	Barn Owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brindled Beauty	<i>Lycia hirtaria</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Brown-spot Pinion	<i>Agrochola litura</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Centre-barred Sallow	<i>Atethmia centrago</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Lizard	<i>Zootoca vivipara</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Deep-brown Dart	<i>Aporophyla lutulenta</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Dusky Thorn	<i>Ennomos fuscantaria</i>
	Ear Moth	<i>Amphipoea oculea</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>

Species Type	Common Name	Scientific Name
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Green-brindled Crescent	<i>Allophyes oxyacanthae</i>
	Grey Dagger	<i>Acronicta psi</i>
	Herring Gull	<i>Larus argentatus</i>
	House Sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Myrmica ruginodis</i>
	Ivy Bee	<i>Colletes hederæ</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Large Wainscot	<i>Rhizedra lutosa</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Mouse Moth	<i>Amphipyra tragopoginis</i>
	Native Black Poplar	<i>Populus nigra subsp. betulifolia</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Northern White-tailed Bumble Bee	<i>Bombus magnus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Powdered Quaker	<i>Orthosia gracilis</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Rosy Rustic	<i>Hydraecia micacea</i>
	Rustic	<i>Hoplodrina blanda</i>
	Sallow	<i>Cirrhia icteritia</i>
	Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>
	Sky Lark	<i>Alauda arvensis</i>
	Slow-worm	<i>Anguis fragilis</i>
	Small Phoenix	<i>Ecliptopera silaceata</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree Pipit	<i>Anthus trivialis</i>

Species Type	Common Name	Scientific Name
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citronella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Lizard	<i>Zootoca vivipara</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Dotterel	<i>Charadrius morinellus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Otter	<i>Lutra lutra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>
	Grass Snake	<i>Natrix natrix</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered/Brandt's Bat	<i>Myotis mystacinus/brandtii</i>

Amphibians

3.14.23 SER returned a single record of great crested newt from within 2 km of the site. This was of hibernating individuals, found approximately 1.00 km east of the site.

3.14.24 Seven ponds occurred on site and a single pond occurred within 250 m of the site boundary (Figure 4.23.1; Table 3.13.4). The suitability of each pond for great crested newts, as predicted by HSI scores, is shown in Table 4.23.2 (full details of HSI calculations are given in Table A2.5). Pond 2 and pond 6 presented average and good habitat for great crested newts, respectively. The other ponds scored poorly.

Table 3.13.4. Ponds on site or within 250 m of the site boundary

Pond no.	Location (grid reference)	HSI
Pond 1	On site (SJ 96929 40264)	0.55 (below average)
Pond 2	On site (SJ 96963 40211)	0.62 (average)
Pond 3	On site (SJ 96987 40194)	0.45 (poor)
Pond 4	0.01 km south-east (SJ 96984 40037)	0.36 (poor)
Pond 5	On site, dry and overgrown (SJ 96773 40210)	unsuitable
Pond 6	On site (SJ 96763 40272)	0.75 (good)
Pond 7	On site (SJ 96663 40569)	0.37 (poor)
Pond 8	On site (SJ 96683 40154)	0.49 (poor)

3.14.25 No amphibians were recorded during the site visit and site habitats were generally of low quality for amphibians. Great crested newt is not considered to be a receptor for the southern part of the site. However, this species should be considered a receptor for the northern part of the site, subject to further survey of the ponds in the area. common frogs and toads are likely to occur in the immediate vicinity of all the site ponds.

Badger

3.14.26 SER returned 9 recent records of badger, including confirmed breeding. The most recent record was a sighting in 2009, from Creswell, 0.58 km south-east of the site.

3.14.27 In the northern part of the site, badger runs, snuffle holes and fresh faeces were frequent close to stone house farm (Figure 4.23.1; plate A1.63). In the southern area, badger footprints were found in damp mud close to the railway line (Figure 4.23.1; plate A1.64). Badgers are therefore considered a receptor for the site as a whole, although no setts were found on site or within 30m of the site boundary.

Bats

3.14.28 SER returned 47 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for 5 species (as well as a

number of records where the species was unidentified): Brandt's bat, noctule, common pipistrelle, soprano pipistrelle and brown long-eared bat. The closest record to the site was of a soprano pipistrelle from Stonehouses in 2010, 0.18 km to the north-east.

- 3.14.29 The improved grassland habitat on site was of marginal suitability for foraging and commuting bats. Bat activity on site is likely to be focused along the more overgrown areas of species-poor hedgerow, the species-rich hedgerow and areas with frequent scattered trees. Ponds may also be a focus of bat activity, with pond 8 in particular likely to be attractive. However, it is likely that the site supports only occasional bats. An activity survey is necessary to better establish use of the site by bats, before any future development.
- 3.14.30 There were a number of occupied houses and an apparently abandoned farm, stone house farm, along Woodlands Lane in the northern area of the site. Woodlands farm was located in the southern area of the site. These buildings were not assessed for their potential suitability for roosting bats. Such an assessment would need to be undertaken before any future development that might cause disturbance to these buildings.
- 3.14.31 Scattered mature and semi-mature trees were frequent across the northern area of the site and occasional across the southern area of the site. The majority of these trees did not obviously display potential bat roost features or displayed features of marginal potential. They were therefore considered of negligible or low suitability for roosting bats. However, a single mature ash and a single mature oak, both in the northern area (Figure 4.23.1), were considered of moderate suitability for roosting bats and should undergo further survey if likely to be disturbed by future development.

Birds

- 3.14.32 SER returned a list of 46 notable bird species. Table 3.15.5 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.14.5. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Mistle thrush	<i>Anthus pratensis</i>	Amber

Common Name	Scientific Name	BoCC Status
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnoek	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

3.14.33 Birds noted during the visit to the northern area of the site were: robin, great tit, blue tit, blackbird, jay, nuthatch, wood pigeon, goldfinch, mistle thrush, house sparrow, carrion crow and starling. Birds noted during the visit to the southern area of the site were: buzzard (*Buteo buteo*), wren, wood pigeon, mistle thrush, jay, carrion crow, blackbird and robin. Jay and nuthatch both score on the list of important breeding woodland birds in the Staffordshire SBI guidelines.

3.14.34 It is likely that the site provides foraging opportunity for low densities of a range of common species, with the hedgerow, and scattered trees providing additional nesting opportunity. Nevertheless, habitats on site were not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only. A nesting bird check should be conducted immediately prior to any future development involving vegetation clearance or other disturbance to potential nest sites, if this disturbance takes place during the bird breeding season (March to August inclusive).

Reptiles

3.14.35 SER returned a single recent record of reptiles. This was for grass snake in 2009, from a field next to the river Blithe, 0.60 km south-east of the site.

3.14.36 No evidence of reptiles was recorded during the site visit. The majority of the site habitat (i.e. improved grassland and species-poor hedgerow) was of marginal suitability for reptiles. Nevertheless, it is possible that common reptile species occur in the limited areas of rank grass and hedgerow in the immediate vicinity of all the ponds. They may also occur along the species-rich hedgerow and along field margins adjacent to the railway line. The railway corridor, and river Blithe beyond, provide good connectivity between the southern area of the site and potential reptile habitat in the surrounding landscape. Reptiles are therefore considered a potential receptor for the site as a whole.

Riparian mammals and white-clawed crayfish

3.14.37 SER returned 4 recent records of otter and 3 recent records of water vole from within 2 km of the site. The closest otter record was from Cresswell in 2013,

0.35 km south-east of the site. The closest water vole record was also from Cresswell, 0.67 km south-east of the site.

3.14.38 SER returned a single recent record of white-clawed crayfish from within 2km of the site. This was from the river Blithe at Blythe bridge station in 1992, 0.64 km north-west of the site.

3.14.39 Whilst the River Blithe may be an important habitat and corridor for dispersal for otter, water vole and white-clawed crayfish, no watercourses were present on site or within 30 m of the site boundary and no other site habitats were present that would support these species. They are therefore not considered to be receptors for the site.

Other protected and key species

3.14.40 No habitats were present within or adjacent to the site that were likely to support other protected or key species not already discussed.

Invasive species

3.14.41 No non-native invasive species were recorded during the site visit.

Target Notes

3.14.42 Table 3.14.6 gives a brief description of Target Notes referred to in Figure 10.

Table 3.14.6. Target notes in Figure 10

Target note	Grid reference	Comments
1	SJ 96617 40341	Recent badger activity
2	SJ 96706 39884	Fresh badger footprints
3	SJ 96606 40508	Mature oak with moderate bat roost potential
4	SJ 96980 40222	Mature oak with moderate bat roost potential

Evaluation

3.14.43 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.14.7. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Arable						X
Hardstanding						X
Ponds	Further survey should be conducted to determine					

	importance					
Tall ruderal vegetation						X
Buildings						X
Scattered scrub						X
Species poor hedgerow and scattered trees						X
Species rich hedgerow					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

3.14.44 The improved grassland, arable, hardstanding, tall ruderal vegetation, buildings, species-poor hedgerow and scattered trees were of importance to nature conservation at the site level only and are not listed as important habitats in the Staffordshire SBI guidelines. However, the single length of species-rich hedgerow in the northern area of the site was considered to be of importance at the local level. There is reasonable potential that it may qualify as an SBI or a BAS dependent on further survey following the hedgerow evaluation and grading system outlined in the Staffordshire SBI guidelines. The ponds are of at least local importance to nature conservation and appear to qualify for both an SBI or a BAS. Further survey using the PSYM methodology (Predictive SYstem for Multimetrics) (Pond Conservation, 2002) would be required in order to determine the true ecological value of the site ponds.

3.14.45 Species recorded on site were common and widespread both at a county and national level and, subject to further survey, it is considered unlikely that the site significantly supported any notable protected species. No species listed as important in the Staffordshire SBI guidelines were recorded and therefore the site does not currently qualify for consideration as an SBI or as a BAS under these criteria. However, prior to any future development there would be a need for ponds 2 and 6 to be surveyed for great crested newts, further survey for badgers, survey for bat activity and use of trees and buildings for roosting and survey across the site for reptiles. It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season.

3.14.46 Management of the the hedgerows and tall ruderal mosaic to create scalloped edge habitats which reptiles use for basking could be implemented. In addition areas of refugia could be created, for example log piles. Scrub management may be required to prevent succession of the grassland. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It is also recommended that the hedgerow is connected to other green infrastructure in order to create habitat corridors; this allows species to move throughout the environment. Management of the ponds such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.

3.15 WE013 & WE027

Site Description

3.15.1 The site consists principally of scrub and improved and amenity grassland with scattered trees, located on the south-western outskirts of Werrington (central grid reference SJ 93084 47067). It is approximately 1.13 ha in area and is immediately surrounded by housing to the north, east and west and by farmland to the south. The A52 Ash Bank Road adjoins the northern boundary of the site.

3.15.2 The site was surveyed on 21st September 2016.

Designated Sites

3.15.3 Two statutory and two locally designated sites are located within the study area (Table 3.15.1).

Table 3.15.1. Statutory and locally designated sites for nature conservation within 2 km of the study area.

Site name	Status	Location	Notes
Wetley Moor SSSI	SSSI	0.93 km north	Dry and wet heathland and mire.
Brookhouse Wood	BAS	1.36 km north-west	Ancient semi-natural woodland.
Hulme Quarry	NNR/SSSI	1.98 km south	Grassland and heathland.
Parkhall Country Park	SBI	2.00 km south	A former quarry with flooded areas.

Habitats

3.15.4 Habitats present within the site are presented in Table 3.15.2 and are discussed in order of dominance below.

Table 3.15.2. Habitats present within the site

Habitat	Species Present	Area or length	% Cover of Site
Improved grassland and tall ruderal vegetation	tufted hair grass, Yorkshire fog, Timothy, common bent, soft rush, ribwort plantain, common sorrel, creeping buttercup, broad-leaved dock, bramble, nettle, knapweed, hogweed	4537 m ²	40

Scrub and scattered trees	hawthorn, willow, ash, sycamore, bramble, creeping buttercup, broad-leaved dock, nettle, rosebay willowherb, willowherb, beech	1659 m ²	14
Amenity grassland, hard standing and introduced shrub	ash, hazel, beech, larch, Scot's pine, holly, oak, birch	5289 m ²	46

Improved grassland and tall ruderal vegetation

3.15.5 The majority of the site consisted of improved grassland with areas of tall ruderal vegetation (Figure 4.25.1). Tufted hair grass, Yorkshire fog, Timothy grass, common bent and soft rush were frequent. Frequent forbs included ribwort plantain, common sorrel, creeping buttercup and broad-leaved dock, bramble, nettle, knapweed and hogweed.

3.15.6 These habitats are common and widespread both locally and throughout the UK and, as such, were considered to be of importance to nature conservation at site level only.

Scrub and scattered trees

3.15.7 An area of scrub with associated tall ruderal vegetation and scattered young trees was located at the north-east of the site, adjoining the A52 (Figure 4.25.1). Hawthorn and willow were abundant. Ash and sycamore were occasional. Frequent forbs included bramble, creeping buttercup, broad-leaved dock, nettle, rosebay willowherb and great willowherb. A number of mature/semi-mature scattered trees were located along a watercourse running south through the site and forming the western boundary of Little Ash farm. These were sycamore, ash and a single beech.

3.15.8 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Amenity grassland, hard standing and introduced shrub

3.15.9 The grounds of Little Ash farm, comprising the majority of the eastern part of the site, consisted of amenity grassland (lawn), hard standing (tennis courts and driveway) and pockets of introduced shrub (Figure 4.25.1). A small area of hard standing associated with Ash farm was located at the western extremity of the site.

3.15.10 This habitat is common and widespread both locally and throughout the UK and, as such, was considered to be of importance to nature conservation at site level only.

Species

3.15.11 Table 3.15.3 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 3.15.3 UKBAP, invasive and protected species identified within 2 km of the site

Species Type	Common Name	Scientific Name
BAP	a bumble bee	<i>Bombus</i>
	Adder	<i>Vipera berus</i>
	Ant	<i>Formicidae</i>
	Barn Owl	<i>Tyto alba</i>
	Black-headed Velvet Ant	<i>Myrmosa atra</i>
	Blood-vein	<i>Timandra comae</i>
	Broom Moth	<i>Ceramica pisi</i>
	Brown Hare	<i>Lepus europaeus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dingy Skipper	<i>Erynnis tages</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Early Mining Bee	<i>Andrena haemorrhoa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Field Digger Wasp	<i>Mellinus arvensis</i>
	Four Coloured Cuckoo Bee	<i>Bombus sylvestris</i>
	Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Grey Dagger	<i>Acronicta psi</i>
	Grey Mining Bee	<i>Andrena cineraria</i>
	Grey Partridge	<i>Perdix perdix</i>

	Herring Gull	<i>Larus argentatus</i>
	Honey Bee	<i>Apis mellifera</i>
	House Sparrow	<i>Passer domesticus</i>
	Hybrid Bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Moss Carder-bee	<i>Bombus muscorum</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Norwegian Wasp	<i>Dolichovespula norwegica</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Mason Bee	<i>Osmia bicornis</i>
	Red Wasp	<i>Vespula rufa</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Slender Digger Wasp	<i>Crossocerus elongatulus</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Heath	<i>Coenonympha pamphilus</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tawny Mining Bee	<i>Andrena fulva</i>
	Tormentil Mining Bee	<i>Andrena tarsata</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Tree Pipit	<i>Anthus trivialis</i>
	Tree Wasp	<i>Dolichovespula sylvestris</i>
	Vestal Cuckoo Bee	<i>Bombus vestalis</i>
	Wall	<i>Lasiommata megera</i>
	Wall Mason Wasp	<i>Ancistrocerus parietum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Yellow Wagtail	<i>Motacilla flava subsp. flavissima</i>
	Yellowhammer	<i>Emberiza citrinella</i>
Invasive	Indian balsam	<i>Impatiens glandulifera</i>
	Japanese knotweed	<i>Fallopia japonica</i>

EU/UK protected	a bat	<i>Chiroptera</i>
	Adder	<i>Vipera berus</i>
	Barn Owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common Crossbill	<i>Loxia curvirostra</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Greylag Goose	<i>Anser anser</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>

Amphibians

- 3.15.12 SER returned 2 recent records of great crested newt. The closest of these was from Werrington young offender's institution, 1.11 km east of the site. This area, however, is isolated from the study area by an extensive housing estate.
- 3.15.13 No ponds were located on site and no ponds were identified within 250 m of the site boundary. No amphibians were recorded during the site visit and it is considered that great crested newts are not a receptor for the site.
- 3.15.14 Common frogs and toads may occur in the damper areas of rank vegetation and scrub. However, it is unlikely that the site as a whole provides anything more than marginal habitat for these amphibians.

Badger

- 3.15.15 SER returned 14 recent records of badger, including confirmed breeding. The most recent sighting was on farmland off Salters lane, approximately 1.48 km south-east of the site.
- 3.15.16 No badger setts were identified on site and no evidence of badger activity was recorded. Badgers are therefore not currently considered a receptor for the site. Nevertheless, the site had good connectivity with adjacent farmland and

pockets of woodland to the south (i.e. potential badger habitat). Because badgers roam widely and may quickly establish a new sett, the site should be rechecked for badger immediately prior to any future development.

Bats

- 3.15.17 SER returned 11 recent records of bats, including roost records as well as sightings of foraging and commuting bats. These were for 2 species (as well as a number of records where the species was unidentified): common pipistrelle and soprano pipistrelle. The closest record to the site was of a common pipistrelle, in 2002, in the housing estate 0.21 km to the north.
- 3.15.18 The areas of scrub and scattered trees are likely to provide limited foraging and commuting habitat for bats. The surrounding gardens are also likely to provide some limited foraging and commuting opportunity for bats. However, good site connectivity to possible bat friendly features in the wider landscape is lacking. An activity survey would be necessary to better determine the use of the site by bats, before any future development.
- 3.15.19 Little Ash farm was not examined as part of this assessment and may possibly accommodate roosting bats. The mature trees on site did not obviously display any potential bat roost features. They were therefore assessed as having negligible suitability for roosting bats.

Birds

- 3.15.20 SER returned a list of 58 notable bird species. Table 3.15.4 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 3.15.4. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

3.15.21 It is likely that the site provides foraging opportunity for low densities of a range of common species, with the scrub and scattered trees in particular providing additional nesting opportunity. Two blue tits, one magpie and one robin were recorded on site during the visit. Nevertheless, habitats on site were not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only. A nesting bird check should be conducted immediately prior to any future development involving vegetation clearance or other disturbance to potential nest sites, if this disturbance takes place during the bird breeding season (March to August inclusive).

Reptiles

3.15.22 SER returned no recent records of reptiles.

3.15.23 No reptiles were recorded during the site visit and it is unlikely that the site would provide anything but marginal habitat for reptiles. Good connectivity between the site and any potentially good reptile habitat in the wider landscape was lacking. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

3.15.24 SER returned no recent records of otter, water vole or white-clawed crayfish.

3.15.25 A small stream ran through the site from north to south. It was shallow (<10 cm) with a low flow rate of clear water. It had a bottom substrate of small rocks and sandy sediment and the banks were vegetated and shallow sloping. However, this habitat is unlikely to support water vole, otter or white-clawed crayfish and these species were considered not to be receptors for the site.

3.15.26 No other water-courses were identified within 30 m of the site boundary.

Other protected and key species

3.15.27 No habitats were present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

3.15.28 An extensive area of Japanese knotweed was located on the northern boundary of the site, next to the A52 (Figure 4.25.1). Indian balsam was frequent around the area of hard standing at the south-western site boundary (Figure 4.25.1).

Target Notes

3.15.29 Table 3.15.5 gives a brief description of Target Notes referred to in Figure 11.

Table 3.15.5. Target notes in Figure 11

Target note	Grid reference	Comment
1	SJ 93110 47147	Japanese knotweed

2	SJ 92975 47013	Indian balsam
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Evaluation

3.15.30 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 3.15.6. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland and tall ruderal vegetation						X
Scrub and scattered trees						X
Amenity grassland, hard standing and introduced shrub						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

3.15.31 The habitats on site were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines and therefore the site does not currently qualify for consideration as an SBI or as a BAS under these criteria.

3.15.32 Species recorded on site were common and widespread both at a county and national level and it is considered unlikely that the site supported notable protected species. No species listed as important in the Staffordshire SBI guidelines were recorded and therefore no part of the site currently qualifies for consideration as an SBI or as a BAS under these criteria.

3.15.33 Prior to any future development, the site should be checked again for signs of badger activity and an activity survey should be conducted to determine the use of the site by bats. It would be necessary to conduct nesting bird checks before vegetation clearance or other disturbance during the bird breeding season.

3.15.34 Japanese knotweed and Indian balsam occurred on site. Every effort should be made to prevent the spread of these plants and any site material potentially containing reproductive propagules should be treated as contaminated waste.

4. LWS Assessments

In total 57 sites were assessed for potential to be designated as BAS or SBI status, details for each site are given below.

The preferred Options sites the subject of LWS assessment can be viewed on the Council's website.

4.1 BD016 (FID 115)

Site Description

4.1.1 The site is an area of grassland located to the south of Biddulph (central grid reference SJ 88155 57159). It is approximately 0.5 ha in area and adjoins a housing estate immediately to the north and east. The rest of the site is surrounded by major roads. The wider area consists of a mosaic of farmland and small villages.

4.1.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 habitat report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.1.3 Two locally designated sites are located within the study area (Table 4.1.1).

Table 4.1.1. Statutory and locally designated sites for nature conservation within the study area.

Site name	Status	Location relative to site	Notes
Newpool	BAS	0.4 km SW	Broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.
Knypersley Fishing Pool	BAS	0.9 km S	A pool used for fishing surrounded by tall herbs and locally frequent goat willow. Small beech/oak woodland with occasional sycamore.

Habitats

4.1.4 The site habitats of species poor improved grassland, scattered trees, species poor hedgerows and buildings, were recorded by Lockwood Hall Associates, 2014.

Species

- 4.1.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.1.6 Table 4.1.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.1.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	A bat	<i>Chiroptera</i>
	Brown hare	<i>Lepus europaeus</i>
	Buff ermine	<i>Spilosoma lutea</i>
	Bullfinch	<i>Pyrrhula pyrrhula</i>
	Snipe	<i>Gallinago gallinago</i>
	Starling	<i>Sturnus vulgaris</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Curlew	<i>Numenius arquata</i>
	European water vole	<i>Arvicola amphibius</i>
	Ghost moth	<i>Hepialus humuli</i>
	House sparrow	<i>Passer domesticus</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle species	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Skylark	<i>Alauda arvensis</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Hedgehog	<i>Erinaceus europaeus</i>
	White ermine	<i>Spilosoma lubricipeda</i>
	Wood warbler	<i>Phylloscopus sibilatrix</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Water Vole	<i>Arvicola amphibius</i>

Species Type	Common Name	Scientific Name
	Fieldfare	<i>Turdus pilaris</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Greylag Goose	<i>Anser anser</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.1.7 SER and NBN Atlas returned no amphibian records.
- 4.1.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.1.9 SER returned 1 record of badger.
- 4.1.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.1.11 SER returned 2 records of bats occurring within 1 km of the site, which included 1 unidentified species and 1 pipistrelle (*pipistrellus*) species.
- 4.1.12 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.1.13 SER returned records of 34 notable species recorded within 1 km of the site. Table 4.1.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.1.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Common starling	<i>Sturnus vulgaris</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red

Common Name	Scientific Name	BoCC Status
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Wood warbler	<i>Phylloscopus sibilatrix</i>	Red
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.1.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.1.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.1.16 No records of reptiles were returned.

4.1.17 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.1.18 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.1.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.1.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.1.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.1.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor improved grassland						X
Species poor hedgerow						X
Scattered scrub						X
Scattered trees	Importance to be determined following further survey					
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.1.22 Species poor improved grassland and species poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.

4.1.23 Lockwood Hall Associates recorded the presence of scattered trees on site, but did not indicate the location, quantity, age, size or condition of the trees. The Staffordshire SBI guidelines consider veteran trees to be “.trees which, because of their great age, size or condition, are of exceptional value culturally, in the landscape or for wildlife.” If a site contains five or more of such trees it may be considered for BAS status. If it contains ten or more of such trees it may be considered for SBI status. The presence or not of beetles dependent on decaying wood and also the historic land use of the site are also considered.

4.1.24 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that ‘any site which regularly supports a significant population of any native reptiles’ may be considered for SBI status.

Conclusions

4.1.25 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.

4.1.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Assessment of the trees for location, quantity, age and size.

4.2 BD055 (FID 117)

Site Description

- 4.2.1 The site is an area of grassland located to the south-west of Biddulph in Knypersley (central grid reference SJ 88050 56969). It is approximately 2.27 ha in area and is surrounded by agricultural land and school playing fields.
- 4.2.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.2.3 Two locally designated sites are located within the study area (Table 4.2.1).

Table 4.2.1. Statutory and locally designated sites for nature conservation within the study area.

Site name	Status	Location relative to site	Notes
Newpool	BAS	0.3 km SW	Broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.
Knypersley Fishing Pool	BAS	0.6 km S	A pool used for fishing surrounded by tall herbs and locally frequent goat willow. Small beech/oak woodland with occasional sycamore.

Habitats

- 4.2.4 The site habitats of scattered scrub, scattered trees, species amenity grassland and buildings, were recorded by Lockwood Hall Associates, 2014

Species

- 4.2.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.2.6 Table 4.2.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.2.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Brown Hare	<i>Lepus europaeus</i>

	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grey Partridge	<i>Perdix perdix</i>
	Herring Gull	<i>Larus argentatus</i>
	House Sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Colletes daviesanus</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
Invasive	Indian balsam	<i>Impatiens glandulifera</i>
	Japanese knotweed	<i>Fallopia japonica</i>
EU/UK protected	a bat	Chiroptera
	Barn Owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Green Sandpiper	<i>Tringa ochropus</i>

	Greylag Goose	<i>Anser anser</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.2.7 SER and NBN Atlas returned no amphibian records.
- 4.2.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.2.9 SER returned 7 records of badger.
- 4.2.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.2.11 SER returned 20 records of bats, which included 4 unidentified species, 12 pipistrelle species, 1 common pipistrelle, and 2 brown long-eared bat species. The closest record was of a bat of an unknown species 360 m away.
- 4.2.12 Lockwood Hall Associates noted a single building as having bat roost potential.

Birds

- 4.2.13 SER returned records of 46 notable species. Table 4.2.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.2.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Common starling	<i>Sturnus vulgaris</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Common Cuckoo	<i>Cuculus canorus</i>	Red
Wood warbler	<i>Phylloscopus sibilatrix</i>	Red
Mistle thrush	<i>Anthus pratensis</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber

Common Name	Scientific Name	BoCC Status
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.2.14 No birds were recorded on site during the visit. Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.2.15 No records of reptiles were returned.
- 4.2.16 No reptiles were recorded during the site visit. However, it was noted by Lockwood Hall Associates that the site could support reptile populations due to the good connectivity of the site.

Riparian mammals and white-clawed crayfish

- 4.2.17 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.2.18 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.2.19 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.2.20 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.2.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor amenity grassland						X
Scattered trees						X
Scattered scrub						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.2.21 The species poor amenity grassland, scattered trees and scattered scrub are common and widespread habitats both locally and nationally and are not listed as important habitats in the Staffordshire SBI guidelines. .

4.2.22 Lockwood Hall Associates 2014 reported that one of the buildings had bat roost potential (this potential was not, however, scored, i.e. as negligible, low, moderate or high). If the building was found to accommodate bat roosts after further survey, then the presence of bats on site could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection.

4.2.23 Furthermore, the phase 1 habitat survey indicated that reptiles may use the site due to the good connectivity to the wider countryside. The presence of reptiles on site could allow for consideration of the site designation as an SBI or BAS if the site was found to regularly support any native reptiles. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia.

Conclusions

4.2.24 The site habitats are considered to be of nature conservation value at site level only and are not eligible for possible SBI/ BAS status. However, the building on site has the potential to support bats and as such, requires further assessment. The site was also noted as potentially supporting reptiles.

4.2.25 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Assessment of the building for it's potential to support roosting bats.
- Reptile survey required

4.3 BD062 (FID 122)

Site Description

- 4.3.1 The site is located to the north of Biddulph (central grid reference SJ 88575 58842). It is approximately 4.4 ha in area and is surrounded by sewage works to the north and housing and agricultural land to the east, west and south.
- 4.3.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.3.3 One locally designated site was located within the study area (Table 4.3.1).

Table 4.3.1. Statutory and locally designated sites for nature conservation within the study area.

Site name	Status	Location relative to site	Notes
Congleton Edge	LWS	0.8 km NW	A small area of wet woodland dominated by alder.

Habitats

- 4.3.4 The site habitats of broad-leaved woodland, semi-improved species poor grassland, dense scrub, scattered scrub and tall ruderal vegetation were recorded by Lockwood Hall Associates, 2014.

Species

- 4.3.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.3.6 Table 4.3.2 illustrates all UKBAP, invasive and protected species records included in data received from within 2 km of the site.

Table 4.3.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>

	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag Goose	<i>Anser anser</i>
	Myotis Bat species	<i>Myotis</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
Invasive	Himalayan balsam	
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag Goose	<i>Anser anser</i>
	Myotis Bat species	<i>Myotis</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>

Amphibians

4.3.7 SER and NBN Atlas returned no amphibian records.

- 4.3.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.3.9 SER returned 12 records of badger. The closest records being 2 records of badger setts within 300 m.
- 4.3.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. However, badgers are highly mobile animals and may move into an area at almost any time. Due to the variation in vegetation and proximity of the existing badger sett records, Lockwood Hall Associates suggested the site has potential to support badger populations.

Bats

- 4.3.11 SER returned 50 records of bats occurring within 1 km of the site, which included 2 unidentified species, 14 pipistrelle species, 4 myotis (*Myotis*) species, 10 common pipistrelle, 5 soprano pipistrelle, 7 brown long-eared, 1 Noctule, 4 Natterer's, 1 Brandt's (*Myotis Brandtii*) and 1 Daubenton's. The closest record was of a bat of an unknown species 360 m away.
- 4.3.12 Lockwood Hall Associates noted two trees as having bat roost potential.

Birds

- 4.3.13 SER returned records of 34 notable species. Table 4.3.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.3.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Common starling	<i>Sturnus vulgaris</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Common cuckoo	<i>Cuculus canorus</i>	Red
Wood warbler	<i>Phylloscopus sibilatrix</i>	Red
Mistle thrush	<i>Anthus pratensis</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.3.14 No birds were recorded on site during the visit. Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar

habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.3.15 No records of reptiles were returned.

4.3.16 No reptiles were recorded during the site visit. However, it was noted by Lockwood Hall Associates that the site could support reptile populations due to the good connectivity of the site and the diverse habitats present.

Riparian mammals and white-clawed crayfish

4.3.17 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.3.18 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.3.19 Himalayan balsam (*Impatiens glandulifera*) was recorded by Lockwood Hall Associates, 2014.

Evaluation

4.3.20 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.3.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor semi improved grassland				X		
Broadleaved woodland				X		
Scattered scrub				X		
Dense scrub				X		
Tall ruderal vegetation				X		
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.3.21 The species poor semi improved grassland, scattered scrub, dense scrub, tall ruderal vegetation are common and widespread habitats both locally and nationally and are not listed as important habitats in the Staffordshire SBI guidelines. The broadleaved woodland is less than 0.5 ha in area, so is not eligible for SBI / BAS status.

4.3.22 Lockwood Hall Associates 2014 reported that two of the trees had bat roost potential (this potential was not, however, scored, i.e. as negligible, low,

moderate or high). If the trees were found to accommodate bat roosts after further survey, then the presence of bats on site could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection.

- 4.3.23 Furthermore, the phase 1 habitat survey indicated that reptiles may use the site due to the good connectivity to the wider countryside. The presence of reptiles on site could allow for consideration of the site designation as an SBI or BAS if the site was found to regularly support any native reptiles. Habitat management to improve areas of scrub and tall ruderal vegetation which reptiles are likely to use for basking and cover should be considered.

Conclusions

4.3.24 Lockwood Hall Associates consider the site habitats to be considered to be of nature conservation value at district level and have the potential to support bats and reptiles, which could allow the consideration of the site as an SBI or BAS.

4.3.25 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Assessment of the 2 trees for their potential to support roosting bats.
- Reptile survey required.

4.4 BD063A (FID 28)

Site Description

- 4.4.1 The site is an area of grassland located to the south-west of Biddulph and to the east of Knypersley (central grid reference SJ 87608 56874). It is approximately 3.14 ha in area and is surrounded by agricultural land and houses to the south and east.
- 4.4.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.4.3 Two locally designated sites are located within the study area (Table 4.4.1).

Table 4.4.1. Statutory and locally designated sites for nature conservation within the study area.

Site name	Status	Location relative to site	Notes
Newpool	BAS	0.3 km SW	Broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.
Knypersley Fishing Pool	BAS	0.6 km S	A pool used for fishing surrounded by tall herbs and locally frequent goat willow. Small beech/oak woodland with occasional sycamore.

Habitats

- 4.4.4 The site habitats of species poor hedgerow, improved grassland and scattered trees were recorded by Lockwood Hall Associates, 2014.

Species

- 4.4.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.4.6 Table 4.4.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.4.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn Owl	<i>Tyto alba</i>
	Brown Hare	<i>Lepus europaeus</i>

	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grey Partridge	<i>Perdix perdix</i>
	Herring Gull	<i>Larus argentatus</i>
	House Sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Colletes daviesanus</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
EU/UK protected	Barn Owl	<i>Tyto alba</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Greylag Goose	<i>Anser anser</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Redwing	<i>Turdus iliacus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>

	Pennyroyal	<i>Mentha pulegium</i>
	Eurasian Badger	<i>Meles meles</i>

Amphibians

- 4.4.7 SER and NBN Atlas returned one common toad record.
- 4.4.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.4.9 SER returned 7 records of badger. The closest record being a burrow approximately 650 m away.
- 4.4.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.4.11 SER returned 13 records of bats, which included 3 unidentified species, 7 pipistrelle species, 2 brown long-eared species, and 1 Brandt's bat. The closest record was of a bat of an unknown species 180 m away.
- 4.4.13 Lockwood Hall Associates noted two trees as having bat roost potential.

Birds

- 4.4.14 SER returned records of 48 notable bird species. Table 4.4.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.4.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Tree sparrow	<i>Passer montanus</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Common Cuckoo	<i>Cuculus canorus</i>	Red
Wood warbler	<i>Phylloscopus sibilatrix</i>	Red
Mistle thrush	<i>Anthus pratensis</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber

Common Name	Scientific Name	BoCC Status
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber

- 4.4.15 One magpie was recorded on site during the visit. Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.4.16 No records of reptiles were returned.
- 4.4.17 No reptiles were recorded during the site visit. Due to the lack of suitable habitat, it is unlikely that the site will support reptile species.

Riparian mammals and white-clawed crayfish

- 4.4.18 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.4.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.4.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.4.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.4.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees				X		
Species poor hedgerow					X	
Species poor grassland					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.4.22 The species poor semi improved grassland and species poor hedgerow are common and widespread habitats both locally and nationally and are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.4.23 Lockwood Hall Associates 2014 reported that two of the trees had bat roost potential (this potential was not, however, scored, i.e. as negligible, low, moderate or high). If the trees were found to accommodate bat roosts after further survey, then the presence of bats on site could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection.

Conclusions

- 4.4.24 The site habitats are considered to be of nature conservation value at site level only and are not eligible for possible SBI/ BAS status. However, two trees on site have the potential to support bats and as such, require further assessment.
- 4.4.25 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Assessment of the 2 trees for their potential to support roosting bats.

4.5 BD068 (FID 22)

Site Description

- 4.5.1 The site is located to the north of Biddulph (central grid reference SJ 88726 58848). It is approximately 2.61 ha in area and is surrounded by sewage works to the east and housing and agricultural land around the remainder of the site.
- 4.5.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.5.3 One locally designated site is located within the study area (Table 4.5.1).

Table 4.5.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Congleton Edge	LWS	0.8 km NW	A small area of wet woodland dominated by alder.

Habitats

- 4.5.4 The site habitats of board-leaved woodland, scattered trees, scattered scrub, species poor hedgerow, dry ditch and improved grassland were recorded by Lockwood Hall Associates, 2014.

Species

- 4.5.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.5.6 Table 4.5.2 illustrates all UKBAP, invasive protected species records included in data received from SER within 2 km of the site.

Table 4.5.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
	a bat	<i>Chiroptera</i>
	a flowering plant	<i>Rubus intensor</i>
	a flowering plant	<i>Rubus painteri</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>

	Common Starling	<i>Sturnus vulgaris</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Ghost Moth	<i>Hepialus humuli</i>
	House Sparrow	<i>Passer domesticus</i>
	Knot Grass	<i>Acronicta rumicis</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Myotis Bat species	<i>Myotis</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Red Wasp	<i>Vespula rufa</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Redwing	<i>Turdus iliacus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Greylag Goose	<i>Anser anser</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Red Kite	<i>Milvus milvus</i>
	Myotis Bat species	<i>Myotis</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Noctule Bat	<i>Nyctalus noctula</i>

	Eurasian Badger	<i>Meles meles</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Polecat	<i>Mustela putorius</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>

Amphibians

- 4.5.7 SER and NBN Atlas returned no amphibian records.
- 4.5.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.5.9 SER returned 12 records of badger. The closest record being a sett within 150 m of the site.
- 4.5.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.5.11 SER returned 50 records of bats, which included 2 unidentified species, 14 pipistrelle species, 4 myotis species, 10 common pipistrelle, 5 soprano pipistrelle, 7 brown long-eared, 1 noctule, 4 natterer's, 1 Brandt's and 1 Daubenton. The closest record was of a bat of an unknown species 360 m away.
- 4.5.12 Lockwood Hall Associates noted a single tree as having bat roost potential.

Birds

- 4.5.13 SER returned records of 34 notable species. Table 4.5.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.5.3 Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red

Common Name	Scientific Name	BoCC Status
Mistle thrush	<i>Turdus viscivorus</i>	Red
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.5.14 Carrion crow and woodpigeon were recorded on site during the visit.

4.5.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.5.16 No records of reptiles were returned.

4.5.17 No reptiles were recorded during the site visit. However, it was noted by Lockwood Hall Associates that the site could support reptile populations.

Riparian mammals and white-clawed crayfish

4.5.18 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.5.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.5.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.5.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.5.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Broadleaved woodland					X	
Scattered trees					X	
Species-poor hedgerow					X	
Scattered scrub					X	

Dry ditch						X
Species poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.5.22 The species poor grassland, broadleaved woodland, scattered trees, dry ditch, broadleaved and scattered scrub are common and widespread habitats both locally and nationally and are not listed as important habitats in the Staffordshire SBI guidelines. However, habitats with local status have been elevated due to their potential to support European and UK protected species.
- 4.5.23 Lockwood Hall Associates 2014 reported that a single tree has bat roost potential (this potential was not, however, scored, i.e. as negligible, low, moderate or high). If the tree was found to accommodate bat roosts after further survey, then the presence of bats on site could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection.
- 4.5.24 Furthermore, the phase 1 habitat survey indicated that reptiles may use the site due to the good connectivity to the wider countryside and the presence of a ditch. The presence of reptiles on site could allow for consideration of the site designation as an SBI or BAS if the site was found to regularly support any native reptiles. Habitat management of areas of scrub and the ditch would benefit any populations of reptiles present. Areas of unmown tall grass should be left with areas for basking and hibernation created such as log piles. Ensuring there is good connectivity to other suitable habitat could be considered.
- 4.5.25 **Conclusions**
- 4.5.26 The site habitats are considered to be of nature conservation value at site level only and are not eligible for possible SBI/ BAS status. However, the tree on site has the potential to support bats and as such, requires further assessment. The site was also noted as potentially supporting reptiles.
- 4.5.27 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Assessment of the building for it's potential to support roosting bats.
 - Reptile survey required

4.6 BD069 (FID 21)

Site Description

- 4.6.1 The site is located to the south of Biddulph (central grid reference SJ 88598 56381). It is approximately 1.03 ha in area and is surrounded by housing around the majority of the site and agricultural land to the south.
- 4.6.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 habitat report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.6.3 Three locally designated sites are located within 1 km of the study area (Table 4.6.1).

Table 4.6.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Knypersley Fishing Pool	BAS	0.4 km SW	A pool used for fishing surrounded by tall herbs and locally frequent goat willow. Small beech/oak woodland with occasional sycamore.
Newpool (east of)	BAS	0.8 km NW	Broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.
Greenway Bank	LWS	1.0 km SE	A Country Park surrounding Knypersley Reservoir, predominantly broad-leaved woodland with marshy grassland, swamp and acidic areas. There are some significantly old trees on the ridge leading to Gawton's Stone.

Habitats

- 4.6.4 The site habitats of broad-leaved woodland, species poor grassland, scattered scrub and semi-improved grassland were recorded by Lockwood Hall Associates, 2014.

Species

- 4.6.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.6.1 Table 4.6.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.6.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a willow tit	<i>Poecile montana subsp. kleinschmidti</i>
	Barn Owl	<i>Tyto alba</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Scoter	<i>Melanitta nigra</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Duncock	<i>Prunella modularis</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Field Cuckoo Bee	<i>Bombus campestris</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Greater Scaup	<i>Aythya marila</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	Grey Partridge	<i>Perdix perdix</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Herring Gull	<i>Larus argentatus</i>
	House Sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Colletes daviesanus</i>

	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Tree Pipit	<i>Anthus trivialis</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Wood Lark	<i>Lullula arborea</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
	Yellow Wagtail	<i>Motacilla flava subsp. flavissima</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Black Tern	<i>Chlidonias niger</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Crossbill	<i>Loxia curvirostra</i>
	Common Goldeneye	<i>Bucephala clangula</i>
	Common Greenshank	<i>Tringa nebularia</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Scoter	<i>Melanitta nigra</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Eurasian Marsh Harrier	<i>Circus aeruginosus</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Garganey	<i>Anas querquedula</i>

	Greater Scaup	<i>Aythya marila</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Greylag Goose	<i>Anser anser</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Little Plover	<i>Charadrius dubius</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Pintail	<i>Anas acuta</i>
	Osprey	<i>Pandion haliaetus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Slavonian Grebe	<i>Podiceps auritus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whooper Swan	<i>Cygnus cygnus</i>
	Wood Lark	<i>Lullula arborea</i>

Amphibians

4.6.2 SER and NBN Atlas returned three common toad records.

4.6.3 No amphibians were recorded during the site visit; however a pond located 40 m to the west of site has potential for to support great crested newts (pond 4 for site ADD04).

Badger

4.6.4 SER returned 9 records of badger.

4.6.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.6.6 SER returned 21 records of bats, which included two unidentified species, 11 pipistrelle species, one common pipistrelle, one myotis species, 4 noctule records and 2 brown long-eared.

4.6.7 Lockwood Hall Associates noted a single tree as having bat roost potential.

Birds

4.6.8 SER returned records of 90 notable bird species. Table 4.6.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.3.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
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Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Wood warbler	<i>Phylloscopus sibilatrix</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Grasshopper warbler	<i>Locustella naevia</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Eurasian wigeon	<i>Anas penelope</i>	Amber

4.6.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.6.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.6.11 SER returned three records of reptiles. These include two grass snake records and one common lizard record.

4.6.12 No reptiles were recorded during the site visit. However, Lockwood Hall Associates considered the site to have potential to support reptile species.

Riparian mammals and white-clawed crayfish

4.6.13 No habitats are present within or adjacent to the site which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.6.14 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.6.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014 as the site was not fully accessible.

Evaluation

- 4.6.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.6.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees						X
Semi-natural broadleaved woodland	Importance to be determined after survey.					
Scattered scrub						X
Species poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.6.17 Species poor grassland, scattered scrub and scattered trees are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The semi-natural broadleaved woodland on sites requires further survey to determine its potential SBI status.
- 4.6.18 Lockwood Hall Associates recorded the presence of broadleaved woodland on site, which is approximately 0.65 ha in size. The SBI/ BAS guidelines state that any broadleaved semi-natural woodland that over 11 or more on the Woodland Score would be identified as an SBI/ BAS. However, Lockwood Hall Associates did not explicitly state the species present and so a detailed vegetation survey of the woodland would be required to ascertain its ecological value.
- 4.6.19 Lockwood Hall Associates 2014 reported that a single tree has bat roost potential (this potential was not, however, scored, i.e. as negligible, low, moderate or high). If the tree was found to accommodate bat roosts after further survey, then the presence of bats on site could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection.

- 4.6.20 Furthermore, the phase 1 habitat survey indicated that reptiles may use the site due to the good connectivity to the wider countryside and the presence of the adjacent pond. The presence of reptiles on site could allow for consideration of the site designation as an SBI or BAS if the site was found to regularly support any native reptiles. Management of habitats such as the scattered scrub and species poor grassland could be implemented to provide areas of edge habitat; reptiles use these areas to bask.
- 4.6.21 Finally, the pond adjacent to the site has potential to support great crested newts and would need a presence/absence survey. If the pond was found to support a good population of Great Crested Newts or five species of amphibian, the site could be considered to be and SBI or BAS. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.

Conclusions

- 4.6.22 The broadleaf woodland may be of ecological value and may allow for the site to gain SBI/BAS status once the vegetation has been fully recorded. Furthermore, the site offers potential to support bats, reptiles and amphibians,
- 4.6.23 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- An extended Phase 1 Habitat Survey, as the assessment could not be fully completed due to issues with access.
 - The tree which has the potential to support roosting bats needs to be further assessed.
 - Reptile survey required.
 - Newt survey required on the pond (pond 4 in ADD04).

4.7 BD071 & BD071A (FID17)

Site Description

- 4.7.1 The site is located to the south-west of Biddulph and to the north west of Knypersley (central grid reference SJ 87927 57255). It is approximately 7.64 ha in area and is surrounded by agricultural land.
- 4.7.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 habitat report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.7.3 Three locally designated sites are located within the study area (Table 4.7.1).

Table 4.7.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Knypersley Fishing Pool	BAS	0.4 km SW	A pool used for fishing surrounded by tall herbs and locally frequent goat willow. Small beech/oak woodland with occasional sycamore.
Newpool (east of)	BAS	0.8 km NW	Broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.
Greenway Bank	LWS	1.0 km SE	A Country Park surrounding Knypersley Reservoir, predominantly broad-leaved woodland with marshy grassland, swamp and acidic areas. There are some significantly old trees on the ridge leading to Gawton's Stone.

Habitats

- 4.7.4 The site habitats of buildings (x7), scattered trees, species rich hedgerow, buildings, running water, willow scrub, species poor hedgerows, dense scrub, tall ruderal vegetation and species poor amenity grassland were recorded by Lockwood Hall Associates, 2014 .

Species

4.7.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.7.6 Table 4.7.2 illustrates all protected species records included in data received from SER within 2 km of the site.

Table 4.7.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Brown Hare	<i>Lepus europaeus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	Ghost Moth	<i>Hepialus humuli</i>
	House Sparrow	<i>Passer domesticus</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>

Invasive	Himalayan balsam	<i>Impatiens glandulifera</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Redwing	<i>Turdus iliacus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag Goose	<i>Anser anser</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Eurasian Badger	<i>Meles meles</i>

Amphibians

- 4.7.7 SER and NBN Atlas did not return any amphibian records.
- 4.7.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.7.9 SER returned 7 records of badger.
- 4.7.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.7.11 SER returned 21 records of bats, which included two unidentified species, 11 pipistrelle species, one common pipistrelle, one myotis species, four noctule and two brown long-eared.
- 4.7.12 Lockwood Hall Associates noted 3 buildings and 2 trees on site with bat roost potential.

Birds

- 4.7.13 SER returned records of 36 notable bird species. Table 4.7.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.7.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red

Common Name	Scientific Name	BoCC Status
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.7.14 Lockwood Hall Associates recorded magpie, linnet, goldfinch and woodpigeon.

4.7.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.7.16 SER returned three records of reptiles. These included two grass snake species and one common lizard

4.7.17 No reptiles were recorded during the site visit. However, Lockwood Hall Associates considered the site to have potential to support reptile species.

Riparian mammals and white-clawed crayfish

4.7.18 No habitats are present within or adjacent to the site which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.7.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.7.20 Himalayan balsam was recorded by Lockwood Hall Associates, 2014.

Evaluation

4.7.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.7.4 Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species rich hedgerow	Importance to be					

	determined after survey.					
Scattered scrub						X
Species poor grassland						X
Tall ruderal vegetation						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.7.22 Species poor grassland, scattered scrub and tall ruderal vegetation are common widespread habitats and were of nature conservation value at the site level only. However the scrub, scattered trees and running water form a rich mosaic approximately 1.38 ha in area, which in combination may qualify for SBI/BAS status. Furthermore, the species rich hedgerow on site requires further survey to determine its potential SBI status.

- 4.7.23 Lockwood Hall Associates recorded the presence of species rich hedgerow, which is approximately 280 m in length with good connectivity to the surrounding habitat. The SBI/ BAS guidelines state that for a hedgerow to be considered a graded site, any one system of hedges must be no less than 100 m and not to be known to have been planted since 1950. However, Lockwood Hall Associates did not explicitly state the species present and so a detailed hedgerow survey, following the HEGS methodology, would need to be completed to establish the hedgerow’s ecological value. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.

- 4.7.24 The combination of scattered trees, species rich hedgerow, running water and scattered scrub may collectively provide conservation value. As the area of this mosaic is over 0.5 ha, it may qualify for SBI/BAS status; however a more detailed survey of the vegetation is required to establish the ecological value.

- 4.7.25 Lockwood Hall Associates 2014 reported three buildings and two trees have bat roost potential (this potential was not, however, scored, i.e. as negligible, low, moderate or high). If the buildings and trees found to accommodate bat roosts after further survey, then the presence of bats on site could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection.

- 4.7.26 Furthermore, the phase 1 habitat survey indicated that reptiles may use the site due to the good connectivity to the wider countryside and the presence of the running water and scrub. The presence of reptiles on site could allow for consideration of the site designation as an SBI or

BAS if the site was found to regularly support any native reptiles. Management of the scrub could be considered to provide refugia and basking areas for reptiles.

Conclusions

- 4.7.27 The broadleaf woodland may be of ecological value and may allow for the site to gain SBI/BAS status once the vegetation has been fully recorded. Furthermore, the site offers potential to support bats, reptiles and amphibians,
- 4.7.28 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Hedgerow survey following the HEGS methodology.
 - Detailed vegetation survey to determine the status of the habitat mosaic.
 - The buildings and trees which have the potential to support roosting bats needs to be further assessed.
 - Reptile survey required.

4.8 BD076 (FID 25 & 226)

Site Description

4.8.1 The site is an area of grassland with scattered trees, hedgerows and tall ruderal vegetation located to the west of Biddulph (central grid reference SJ 87879 57518). The site has a major road to the east of it with housing to the north, south and east. The rest of the site is surrounded by farmland. The wider area consists of a mosaic of farmland and small villages.

4.8.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.8.3 One locally designated site was located within 1 km of the study area (Table 4.8.1).

Table 4.8.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Newpool	BAS	0.6 km S	Broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.

Habitats

4.8.4 The site habitats of scattered trees, species rich hedgerow, running water, willow scrub, species poor hedgerow, dense scrub, tall ruderal vegetation and species poor amenity grassland remained as reported by Lockwood Hall Associates, 2014 .

Species

4.8.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.8.1 Table 4.8.2 illustrates all protected species records included in data received from SER within 2 km of the site.

Table 4.8.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Brown Hare	<i>Lepus europaeus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>

	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	Ghost Moth	<i>Hepialus humuli</i>
	House Sparrow	<i>Passer domesticus</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
Invasive	Himalayan balsam	<i>Impatiens glandulifera</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Honey-buzzard	<i>Pernis apivorus</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Greylag Goose	<i>Anser anser</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>

	Whiskered/Brandt's Bat	<i>Myotis mystacinus/brandtii</i>
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Amphibians

- 4.8.2 SER returned 1 record of common toad.
- 4.8.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.8.4 SER returned 10 records of badger. However, no badger setts were identified on site and no evidence of any other badger activity was recorded. A badger sett was recorded less than 80m from the site and it is likely that the site would provide marginal habitat for badgers. Badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.8.5 SER returned 26 records of bats, which included 7 unidentified species, 15 pipistrelle species, 1 common pipistrelle, 1 whiskered/Brandt's bat and 2 brown long-eared bat records.
- 4.8.6 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.8.7 SER returned records of 36 notable species. Table 4.8.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.8.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber

4.8.8 No breeding breeds were recorded on site. The areas of tall ruderal vegetation provides good foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.8.9 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.8.10 No records of reptiles were returned from SER.

4.8.11 No reptiles were recorded during the site visit. Some site habitats provide good edge habitat and basking areas for reptiles. The site showed good connectivity with surrounding potential habitat, especially to the north of the site.

Riparian mammals and white-clawed crayfish

4.8.12 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.8.13 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.8.14 Himalayan balsam a Schedule 9 listed species on the Wildlife and Countryside Act 1981 was found on site in several areas of the tall ruderal vegetation.

Evaluation

4.8.15 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.8.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Running water					X	
Dense scrub					X	
Species poor hedgerows						X
Tall ruderal vegetation					X	
Ephemeral grassland					X	
Scattered planted broadleaved woodland						X
Species poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.8.16 Species poor improved grassland and species poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.
- 4.8.17 A species rich hedgerow was present on site that was 120m in length. It had good connectivity to surrounding habitat and may qualify for SBI/BAS status. Further assessment of the hedgerow is recommended. The SBI/ BAS guidelines state that for a hedgerow to be considered a graded site, any one system of hedges must be no less than 100 m and not to be known to have been planted since 1950. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.
- 4.8.18 No notable species were recorded by Lockwood Hall Associates. However, the phase 1 habitat survey indicated that reptiles may use the site due to the good connectivity to the wider countryside and the presence a habitat mosaic. The presence of reptiles on site could allow for consideration of the site designation as an SBI or BAS if the site was found to regularly support any native reptiles. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native reptiles' may be considered for SBI status. Habitats present on site could be managed to create basking and refugia areas for reptiles, this could include creating edge habitats along areas of scrub and grassland in south facing areas.

Conclusions

- 4.8.19 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at local and site level. However, more information is required regarding the species rich hedgerow and the presence/absence of reptiles on the site.
- 4.8.20 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- A hedgerow survey to be carried out using modified HEGS methodology.
 - Reptile survey required.

4.9 BD076A (FID 25/226)

Site Description

4.9.1 The site is an area of scrub and tall ruderal vegetation located to the west of Biddulph (central grid reference SJ 88011 57522). The site has a main road to the east, with housing to the north; east and south. The rest of the site is surrounded by farmland. The wider area consists of a mosaic of farmland and small villages.

4.9.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.9.3 One locally designated site was located within 1 km of the study area (Table 4.9.1).

Table 4.9.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Newpool	BAS	0.6 km S	Broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.

Habitats

4.9.4 The site habitats of dense scrub, scattered scrub and tall ruderal vegetation remained as reported by Lockwood Hall Associates, 2014.

Species

4.9.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.9.6 Table 4.9.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.9.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Brown Hare	<i>Lepus europaeus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Dot Moth	<i>Melanchnra persicariae</i>
	Dunnock	<i>Prunella modularis</i>

	Eurasian Curlew	<i>Numenius arquata</i>
	Ghost Moth	<i>Hepialus humuli</i>
	House Sparrow	<i>Passer domesticus</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
Invasive	Himalayan balsam	<i>Impatiens glandulifera</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Redwing	<i>Turdus iliacus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag Goose	<i>Anser anser</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Eurasian Badger	<i>Meles meles</i>

Amphibians

4.9.7 SER returned 1 record of common toad.

4.9.8 No amphibians were recorded during the site visit. However, the tall ruderal vegetation was deemed large enough to potentially support amphibians.

Badger

4.9.9 SER returned 10 records of badger.

4.9.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. A badger sett was found <80m away to the east and it is likely that the site would provide marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential

badger presence should be undertaken prior to any future development.

Bats

- 4.9.11 SER returned 26 records of bat, which included 7 unidentified species, 15 pipistrelle species, 1 common pipistrelle, 2 brown long-eared bat, and 1 whiskered/Brandt's bat.
- 4.9.12 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.9.13 SER returned records of 33 notable bird species. Table 4.9.2 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.10.2. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Linaria cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.9.14 Magpie, goldfinch, linnet and woodpigeon were recorded on site, but no breeding birds were observed at the time of the survey.
- 4.9.15 The site contains a large area of tall ruderal vegetation which could support ground nesting birds and provide good foraging habitat for barn owl (*Tyto alba*). In addition, it is likely that the site provides foraging and nesting opportunity for a range of common species such as robin,

blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

- 4.9.16 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at a site level.

Reptiles

- 4.9.17 No records of reptiles were returned within 1 km.
- 4.9.18 No reptiles were recorded during the site visit however; some site habitats provide good edge habitat and basking areas for reptiles. The site showed good connectivity with surrounding potential habitat, especially to the north of the site.

Riparian mammals and white-clawed crayfish

- 4.9.19 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.9.20 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.9.21 Himalayan balsam a Schedule 9 listed species on the Wildlife and Countryside Act 1981 was found during the survey within the tall ruderal vegetation.

Evaluation

- 4.9.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.10.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Tall ruderal vegetation					X	
Dense scrub					X	
Scattered scrub					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.9.23 The habitats present within the site are fairly common habitats and were of nature conservation value at the local level only due to the connectivity to more bio diverse habitats. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.9.24 No notable species were recorded by Lockwood Hall Associates. However, the phase 1 habitat survey indicated that reptiles may use the site due to the good connectivity to the wider countryside and the presence of potential basking areas. The presence of reptiles on site

could allow for consideration of the site designation as an SBI or BAS if the site was found to regularly support any native reptiles. Management of the scrub could be considered to provide refugia and basking areas for reptiles.

Conclusions

- 4.9.25 The site has some ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at local level only. However, further investigation of the presence/absence of reptiles on the site is needed.
- 4.9.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Reptile survey required.

4.10 BD087 (FID 24)

Site Description

- 4.10.1 The site is an area of grassland located to the north east of Gillow Heath (central grid reference SJ 88885 59136). The site is surrounded by housing to the north, east and south with improved grassland to the west. There is good connectivity to hedgerows, broadleaved woodland, scattered scrub and a small stream. The wider area consists of a mosaic of farmland and small villages.
- 4.10.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.10.3 Two locally designated sites are located within 1 km of the study area (Table 4.11.1).

Table 4.11.1. Statutory and locally designated within 1 km of the site.

Site name	Status	Location relative to site	Notes
Biddulph Valley Way	LNR	0.9km N	Whitemore Wood has a diverse springtime flora whilst Bailey's Bank Wood. The site has hedgerows and has geological interest.
Congleton Edge	LWS	0.9km NW	A small area of wettish woodland dominated by alder.

Habitats

- 4.10.4 The site habitats of species poor hedgerow and improved grassland remained as reported by Lockwood Hall Associates, 2014.

Species

- 4.10.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.10.6 Table 4.10.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.10.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a flowering plant	<i>Rubus intensor</i>
	a flowering plant	<i>Rubus painteri</i>
	Barn Owl	<i>Tyto alba</i>

	Black-tailed Godwit	<i>Limosa limosa</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	House Sparrow	<i>Passer domesticus</i>
	Knot Grass	<i>Acronicta rumicis</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Myotis Bat species	<i>Myotis</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Red Wasp	<i>Vespula rufa</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Redwing	<i>Turdus iliacus</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Fieldfare	<i>Turdus pilaris</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Greylag Goose	<i>Anser anser</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Red Kite	<i>Milvus milvus</i>
	Myotis Bat species	<i>Myotis</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Eurasian Badger	<i>Meles meles</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Brandt's Bat	<i>Myotis brandtii</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Natterer's Bat	<i>Myotis nattereri</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>

	Polecat	<i>Mustela putorius</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>

Amphibians

- 4.10.7 SER returned 2 records of common toad.
- 4.10.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.10.9 SER returned 12 records of badger.
- 4.10.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.10.11 SER returned 24 records of bats occurring, which included six unidentified species, 13 pipistrelle species, one common pipistrelle, one soprano pipistrelle, one whiskered/Brandt bat and two brown long eared bat species.
- 4.10.12 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.10.13 SER returned records of 32 notable species recorded within 1 km of the site. Table 4.10.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.10.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Grey wagtail	<i>Motacilla cinerea</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber

Common Name	Scientific Name	BoCC Status
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

4.10.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.10.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.10.16 No records of reptiles were returned within 1 km.

No reptiles were recorded during the site visit. However, it was noted by Lockwood Hall Associates that the site could support reptile populations due to the presence of a stream.

Riparian mammals and white-clawed crayfish

4.10.17 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.10.18 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.10.19 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.10.20 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.10.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor hedge						X
Species poor grassland.						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.10.21 Species poor grassland and species poor hedge are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.
- 4.10.22 No notable species were recorded by Lockwood Hall Associates. However, the presence of a stream within 50m of the site giving it the potential to support reptiles means the site has local ecological importance. The sites could qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native reptiles' may be considered for SBI status. Management of the scrub could be considered to provide refugia and basking areas for reptiles.

Conclusions

- 4.10.23 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the presence/absence of reptiles on site.
- 4.10.24 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Reptile survey required.

4.11 BD106 & BD156 (FID 118)

Site Description

- 4.11.1 The site is an area of grassland with hedgerows located within Biddulph (central grid reference SJ 87957 57055). The site is immediately surrounded by school playing fields. To the east and south west of the site are domestic dwellings with farmland to the west. A major road runs north to south just east of the site. The wider area consists of a mosaic of farmland and small villages.
- 4.11.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.11.3 Three locally designated sites are located within 1 km of the study area (Table 4.11.1).

Table 4.11.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Newpool	BAS	0.2 km SW	Broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.
Knypersley Fishing Pool	BAS	0.9 km S	A pool used for fishing surrounded by tall herbs and locally frequent goat willow. Small beech/oak woodland with occasional sycamore.
Knypersley Meltwater Channel	RIG	0.9km S	Designated as a RIGS for the largest example of a sub glacial meltwater channel that cuts across a drainage divide, namely the Trent/Mersey watershed.

Habitats

- 4.11.4 The site habitats of buildings, scattered trees, species poor hedgerow and improved grassland remained as reported by Lockwood Hall Associates, 2014.

Species

4.11.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.11.6 Table 4.11.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.11.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Brown Hare	<i>Lepus europaeus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	Ghost Moth	<i>Hepialus humuli</i>
	House Sparrow	<i>Passer domesticus</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Redwing	<i>Turdus iliacus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag Goose	<i>Anser anser</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>

	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Eurasian Badger	<i>Meles meles</i>

Amphibians

- 4.11.7 SER returned 2 records of common toad.
- 4.11.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.11.9 SER returned 10 records of badger.
- 4.11.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.11.11 SER returned 26 records of bats occurring within 1 km of the site, which included 6 records of unidentified species, 15 pipistrelle species, 1 common pipistrelle, 1 whiskered/Brandt's bat and 3 brown long-eared bats.
- 4.11.12 Lockwood Hall Associates recorded nine trees and a building as having bat roost potential on site. It is recommended that these trees and the building are surveyed. The site habitats could also provide marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.11.13 SER returned records of 37 notable species recorded within 1 km of the site. Table 4.11.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.11.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Skylark	<i>Acathis cabaret</i>	Red
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red

Common Name	Scientific Name	BoCC Status
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.11.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.11.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.11.16 No records of reptiles were returned within 1 km.

4.11.17 The site could potentially support a population of reptiles; this is large due to its good connectivity with adjacent habitats deemed suitable for reptiles. Therefore, it is recommended that a reptile survey is undertaken.

Riparian mammals and white-clawed crayfish

4.11.18 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.11.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.11.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.11.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.11.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species poor hedgerow					X	
Scattered scrub						X
Species poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.11.22 Species poor improved grassland and scattered scrub are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. Although the hedgerow is species poor it has good connectivity to species rich hedgerows, and mature trees which have bat roosting potential and therefore considered important at a local level.
- 4.11.23 No notable species were recorded by Lockwood Hall Associates. However, there is potential for bat roosts on site and if the presence of bats on site was confirmed this could allow for consideration of site designation as an SBI or BAS. If a site has a significant population of a notable species of bat then areas of feeding habitat and maternity roosts for that population are considered for protection.
- 4.11.24 Furthermore, it was indicated that reptiles may use the site due to the good connectivity to the wider countryside. The presence of reptiles on site could allow for consideration of the site designation as an SBI or BAS if the site was found to regularly support any native reptiles. Management of the scrub could be considered to provide refugia and basking areas for reptiles.

Conclusions

- 4.11.25 The site habitats are considered to be of nature conservation value at site level only and are not eligible for possible SBI/ BAS status. However, the building and some trees on site has the potential to support bats and as such, requires further assessment. The site was also noted as potentially supporting reptiles.
- 4.11.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Further assessment of the trees and building for their potential to support roosting bats. Bat survey possibly required.
 - Reptile survey required.

4.12 BD108 (FID 119)

Site Description

- 4.12.1 The site is an area of grassland with scrub and hedgerow located within Biddulph (central grid reference SJ8800156924). The site is surrounded by domestic dwellings to the east and south west. To the north and the south of the site lies farmland. The wider area consists of a mosaic of farmland, small villages and roads.
- 4.12.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.12.3 Two locally designated sites are located within 1 km of the site (Table 4.12.1).

Table 4.12.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Knypersley Fishing Pool	BAS	0.9km S	A pool used for fishing surrounded by tall herbs and locally frequent goat willow. Small beech/oak woodland with occasional sycamore.
Newpool	BAS	0.1 km W	Mainly broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site. A tarmacked path passes through the entire length of the site.

Habitats

- 4.12.4 The site habitats of buildings, scattered trees, scattered scrub and species poor amenity grassland remained as reported by Lockwood Hall Associates, 2014.

Species

- 4.12.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.12.6 Table 4.12.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.12.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Brown Hare	<i>Lepus europaeus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grey Partridge	<i>Perdix perdix</i>
	Herring Gull	<i>Larus argentatus</i>
	House Sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Colletes daviesanus</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Redwing	<i>Turdus iliacus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Greylag Goose	<i>Anser anser</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Green Sandpiper	<i>Tringa ochropus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>

	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Eurasian Badger	<i>Meles meles</i>

Amphibians

- 4.12.7 SER returned 2 records of common toad.
- 4.12.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.12.9 SER returned 12 records of badger.
- 4.12.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.12.11 SER returned 24 records of bats, which included 6 records of unidentified species, 13 records of pipistrelle species, 1 common pipistrelle, 1 soprano pipistrelle, 1 whiskered/Brandt's bat and 2 brown long-eared bats.
- 4.12.12 Lockwood Hall Associates recorded that a single building as having potential for a bat roost. Further assessment of the building is recommended. The site habitats could also provide marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.12.13 SER returned records of 46 notable bird species recorded. Table 4.12.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.12.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acathis cabaret</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red

Common Name	Scientific Name	BoCC Status
Mistle thrush	<i>Turdus viscivorus</i>	Red
Eurasian Teal	<i>Anas crecca</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Great swift	<i>Larus marinus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.12.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.12.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.12.16 No records of reptiles were returned within 1 km.

4.12.17 The site suffers from fly tipping which provides suitable habitat for reptiles to use as refuge, there is also other good habitat and connectivity to other suitable reptile habitat. Therefore, reptiles could be considered to be a receptor for the site and it is recommended that a reptile survey is undertaken.

Riparian mammals and white-clawed crayfish

4.12.18 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.12.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.12.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.12.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.12.4. Ecological importance of site habitats

Habitat	Ecological
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	Importance					
	I	N	R	D	L	S
Scattered scrub						X
Scattered trees						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.12.22 The habitats present on site are widespread and of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.

4.12.23 No notable species were recorded by Lockwood Hall Associates, however a building was identified that could have bat roosting potential. If the building was found to have bats present after further surveys then that could allow for the site to be considered as an SBI/BAS. If there was a significant population of a notable bat species then the areas of feeding habitat and maternity roosts for that population are considered for protection.

4.12.24 The phase 1 habitat survey also indicated that reptiles may use the site due to the mosaic of habitats and areas of refugia present on the site. The presence of reptiles could potentially allow the site to have SBI/BAS status if there it was found to regularly support a native population of reptiles. Management of the scrub could be considered to provide refugia and basking areas for reptiles.

Conclusions

4.12.25 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.

4.12.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Further assessment of the building for its potential to support roosting bats, bat survey possibly required.
- Reptile survey.

4.13 BD117 (FID 210)

Site Description

- 4.13.1 The site is an area of grassland and tall ruderal vegetation located to the south of Knypersley (central grid reference SJ 88170 55496).the site is surrounded by a road and industrial estate to the west, with farm and domestic buildings to the north east. To the east there is a network of scrub and broadleaved woodland connecting to the Knypersley reservoir. The wider area consists of a mosaic of farmland and small villages.
- 4.13.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.13.3 Three locally designated sites are located within 1 km of the study area (Table 4.13.1).

Table 4.13.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Greenway Bank	LWS	0.4km E	A Country Park surrounding Knypersley Reservoir, predominantly broad-leaved woodland with marshy grassland, swamp and acidic areas mainly in the north-east section. There are some significantly old trees on the ridge leading to Gawton's Stone.
Knypersley Fishing Pool	BAS	0.7km N	A pool used for fishing surrounded by tall herbs and locally frequent goat willow. At the southern end is al beech/oak woodland with occasional sycamore.
Newpool	BAS	0.9 km N	Mainly broad-leaved semi-natural woodland with an area of semi-improved neutral grassland and scattered trees situated towards the north of the site.

Habitats

- 4.13.4 The site habitats of species rich hedgerow, species poor hedgerow, scattered trees, dense scrub, tall ruderal vegetation, species poor improved grassland and broadleaved woodland remained as reported by Lockwood Hall Associates, 2014 .

Species

- 4.13.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.13.6 Table 4.13.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.13.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a willow tit	<i>Poecile montana subsp. kleinschmidti</i>
	Autumnal Rustic	<i>Eugnorisma glareosa</i>
	Barn Owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Broom Moth	<i>Ceramica pisi</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Cuckoo	<i>Cuculus canorus</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Scoter	<i>Melanitta nigra</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Dot Moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Thorn	<i>Ennomos fuscantaria</i>
	Early Bumble Bee	<i>Bombus pratorum</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Field Cuckoo Bee	<i>Bombus campestris</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Greater Scaup	<i>Aythya marila</i>

	Greater White-fronted Goose	<i>Anser albifrons</i>
	Grey Partridge	<i>Perdix perdix</i>
	Hedge Rustic	<i>Tholera cespitis</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Herring Gull	<i>Larus argentatus</i>
	House Sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Colletes daviesanus</i>
	Large Red Tailed Bumble Bee	<i>Bombus lapidarius</i>
	Latticed Heath	<i>Chiasmia clathrata</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Mottled Rustic	<i>Caradrina morpheus</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Powdered Quaker	<i>Orthosia gracilis</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Rosy Rustic	<i>Hydraecia micacea</i>
	Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>
	Shoulder-striped Wainscot	<i>Leucania comma</i>
	Sky Lark	<i>Alauda arvensis</i>
	Small Garden Bumble Bee	<i>Bombus hortorum</i>
	Small Heath	<i>Coenonympha pamphilus</i>
	Small Phoenix	<i>Ecliptopera silaceata</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Tree Pipit	<i>Anthus trivialis</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White Ermine	<i>Spilosoma lubricipeda</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Wood Lark	<i>Lullula arborea</i>
	Wood Warbler	<i>Phylloscopus sibilatrix</i>
	Yellow Wagtail	<i>Motacilla flava subsp. flavissima</i>
EU/UK protected	a bat	<i>Chiroptera</i>

	Barn Owl	<i>Tyto alba</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Scoter	<i>Melanitta nigra</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Great Crested Newt	<i>Triturus cristatus</i>
	Greater Scaup	<i>Aythya marila</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Pennyroyal	<i>Mentha pulegium</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Wood Lark	<i>Lullula arborea</i>

Amphibians

- 4.13.7 SER returned 5 amphibian records. These included 3 records of common toad and 2 records of great crested newts.
- 4.13.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.13.9 SER returned 12 records of badger.
- 4.13.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.13.11 SER returned 65 records of bats, which included 2 records of unidentified species, 18 records of pipistrelle species, 8 common pipistrelle, 4 soprano pipistrelle, 11 brown long-eared bat, 9 Daubenton's bat, 1 whiskered/Brandt's bat, 3 natterer's bat and 10 noctule bat.
- 4.13.12 Lockwood Hall Associates recorded two trees as having the potential for bat roosts however; these were not marked on the maps. It is further recommended that the relevant trees be identified and further assessed. The site habitats could provide marginal foraging and commuting opportunity for bats. An activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.13.13 SER returned records of 90 notable bird species. Table 4.13.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.13.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Skylark	<i>Alauda arvensis</i>	Red
Hen harrier	<i>Circus cyaneus</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Willow tit	<i>Poecille montana</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.13.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.13.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.13.16 SER returned 3 records of reptiles. These included 2 records of grass snake (*Natrix natrix*) and 1 record of common lizard (*Zootoca vivipara*).

4.13.17 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.13.18 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.13.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.13.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.13.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.13.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species rich hedgerow					X	
Species poor hedgerow						X
Semi-natural broadleaved woodland						X
Dense scrub						X
Tall ruderal vegetation						X
Species poor improved grassland						X
Scattered trees					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.13.22 Species poor improved grassland and species poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. The broadleaved woodland consisted mainly of hazel, oak, hawthorn, and European larch. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status. The species rich hedgerow may qualify for SBI/BAS status as at least one continuous stretch is >100m in length. Species recorded include, hazel, oak, elder, holly, dog rose, dog's mercury, red campion and ivy. It is recommended that a hedgerow survey be carried out. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.
- 4.13.23 Lockwood Hall Associates 2014 identified two trees as having bat roost potential (however no score was provided). If bats are found to be present following further surveys this could allow for the site to be

considered for SBI/BAS status. If a site has a considerable population of a notable bat species then the areas of foraging and maternity roosts for that population are considered for protection.

Conclusions

- 4.13.24 The site has some ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.
- 4.13.25 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Hedgerow survey following modified HEGS methodology
 - Relevant trees to be identified and further assessed for their potential to support roosting bats. Following this a bat survey may possibly be required.

4.14 CH001 (FID 140)

Site Description

- 4.14.1 The site is an area of land located to the north of Cheadle Town (central grid reference SK 01286 44330). It is approximately 7.18 ha in area and surrounded by buildings, and agricultural land.
- 4.14.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS 1 assessment.

Designated Sites

- 4.14.3 Three locally designated sites are located within 1 km of the study area (Table 4.14.1).

Table 4.14.1. Statutory and locally designated within 1 km of the site.

Site name	Status	Location relative to site	Notes
Cecilly Brook	LNR	0.5 km S	The site follows a 1.25 km stretch of Cecilly Brook through Cheadle and is the most important site for water voles in the county. Ancient meadows at Thorley Drive are of county importance and mature hawthorn-blackthorn hedge surround the fields.
Hales Hall Pool	LNR	0.6 km SE	A man-made lake dating back to 1846 is present and surrounded by ancient yew trees. The pool edges are a designated Site of Biological Importance with Marsh Marigold, Flag Iris, Greater Tussock Sedge and Bulbous Rush growing.
Cheadle Fish Ponds	LWS	0.7 km SE	Two ponds, one large one small. The large pond is used for fishing and has some emergent vegetation, whilst the smaller pond is surrounded by trees.

Habitats

4.14.4 The site habitats of improved grassland, semi-improved grassland, species-rich hedgerow, species-poor hedgerow, building and scattered trees were all reported by Lockwood Hall Associates, 2014.

Species

4.14.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.14.6 Table 4.14.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.14.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brent Goose	<i>Branta bernicla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	Hazel Dormouse	<i>Muscardinus avellanarius</i>
	House Sparrow	<i>Passer domesticus</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Wall	<i>Lasiommata megera</i>

	West European Hedgehog	<i>Erinaceus europaeus</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Hazel Dormouse	<i>Muscardinus avellanarius</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>

Amphibians

- 4.14.7 SER data search returned one record of a common toad.
- 4.14.8 No amphibians were recorded during the site visit and it is unlikely that any habitats present have potential to support Great crested newts or other amphibian species.

4.14.9 Badger

- 4.14.10 SER returned three record of badger.
- 4.14.11 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.14.12 SER returned 28 records of bats, which included two records of Daubenton's, one record of whiskered bat, two records of noctule bat, 12 records of unidentified pipistrelle species, four records of common pipistrelle, two records of soprano pipistrelle, and one record of brown long-eared bat.
- 4.14.13 Lockwood Hall Associates recorded low suitability for potential bat roosts on site. However, the scattered trees could provide good foraging and commuting opportunity for bats. An activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.14.14 SER returned records of 47 notable bird species. Table 4.14.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.14.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Merlin	<i>Falco columbarius</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Whinchat	<i>Saxicola rubetra</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Greylag goose	<i>Anser anser</i>	Amber
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common Snipe	<i>Gallinago gallinago</i>	Amber
Common Gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

- 4.14.15 No birds were recorded on site during the visit. However, it is likely that the hedgerows, scattered scrub and trees within the site provide foraging and nesting opportunity for a range of species such as house sparrow, bullfinch, yellowhammer, robin, blackbird, dunnock, magpie, carrion crow and woodpigeon. The improved and semi-improved grassland could provide foraging opportunities for species such as starling, fieldfare and mistle thrush.
- 4.14.16 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.14.17 No records of reptiles were returned within 1 km.
- 4.14.18 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.14.19 The SER data search returned one record of a water vole, although no suitable habitats were found. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.14.20 The SER data search returned one record for the hazel dormouse (*Muscardinus avellanarius*) and one for the European hedgehog. The hedgerows present within the site could support foraging habitat for the European hedgehog and potentially provide nesting and foraging habitat for the hazel dormouse.

Invasive species

- 4.14.21 No non-native invasive species were recorded by Lockwood Hall Associates, 2014. However, weeds listed under the Weeds Act 1959 such as creeping thistle (*Cirsium arvense*) have been recorded in the ruderal vegetation.

Evaluation

- 4.14.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.14.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Improved grassland						X
Species-poor semi-improved grassland						X
Species-poor hedgerow						X
Scattered trees	Further survey required					
Dry ditch						X
Buildings	Further survey required					
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.14.23 Species poor grassland, species-poor hedgerows and dry ditches are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.14.24 Lockwood Hall Associates recorded the presence of scattered trees and buildings. The Staffordshire SBI guidelines state that if a site has 5 or more broad-leaved veteran trees it can be eligible for BAS status, if there are 10 or more present it can be eligible for SBI status. No information regarding the age, size or condition of the trees was given by Lockwood Hall therefore further survey is required to say whether they are eligible for BAS or SBI status.

4.14.25 No notable species were recorded by Lockwood Hall Associates although four building and two sycamore trees were identified as having bat roost potential. Therefore, further surveys are needed to assess whether the site meets the SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of a notable bat species then the areas of feeding habitat and maternity roosts for that population may be protected and zones created around known bat roosts'.

Conclusions

4.14.26 The site generally has some ecological value in its potential to support protected species. The scattered trees are considered to be of nature conservation value at district level.

4.14.27 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Tree survey of scattered trees
- Bat roost check in buildings and trees

4.15 CH002A (FID 150)

Site Description

- 4.15.1 The site is an area of land located to the east of Cheadle Town (central grid reference SK 01563 43297). It is approximately 0.83 ha in area and surrounded by housing, and agricultural land with Cecilly Brook Local Nature Reserve to the west.
- 4.15.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS 1 assessment.

Designated Sites

- 4.15.3 Four locally designated sites are located within 1 km of the study area (Table 4.15.1).

Table 4.15.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Cecilly Brook	LNR	0.1 km W	The site follows a 1.25 km stretch of Cecilly Brook through Cheadle and is the most important site for water voles in the county. Ancient meadows at Thorley Drive are of county importance and mature hawthorn-blackthorn hedge surround the fields.
Hales Hall Pool	LNR	0.4 km N	A man-made lake dating back to 1846 is present and surrounded by ancient yew trees. The pool edges are a designated Site of Biological Importance with Marsh Marigold, Flag Iris, Greater Tussock Sedge and Bulbous Rush growing.

Cheadle Fish Ponds	LWS	0.5 km N	Two ponds, one large one small. The large pond is used for fishing and has some emergent vegetation, whilst the smaller pond is surrounded by trees.
Monk's Wood	Ancient Woodland	0.6 km E	Ancient and semi-natural woodland which is also known for butterflies. The pools support dragonflies and birds.

Habitats

4.15.4 The site habitats of species-poor amenity grassland, scattered trees, scattered scrub and buildings, were all reported by Lockwood Hall Associates, 2014.

Species

4.15.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.15.6 Table 4.15.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.15.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn Owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brent Goose	<i>Branta bernicla</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	Honey Bee	<i>Apis mellifera</i>

	House Sparrow	<i>Passer domesticus</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Small Heath	<i>Coenonympha pamphilus</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Barn Owl	<i>Tyto alba</i>
	Merlin	<i>Falco columbarius</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Redwing	<i>Turdus iliacus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Greylag Goose	<i>Anser anser</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Red Kite	<i>Milvus milvus</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Eurasian Badger	<i>Meles meles</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Whiskered Bat	<i>Myotis mystacinus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>

Amphibians

- 4.15.7 SER data search returned amphibian one record for common toad.
- 4.15.8 No amphibians were recorded during the site visit and none of the habitats were assessed as having potential to support Great crested

newts.

4.15.9 Badger

4.15.10 SER returned three records of badger.

4.15.11 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.15.12 SER returned 40 records of bats, which included four records of Daubenton's, two records of whiskered bat, two records of noctule bat, 19 records of unidentified pipistrelle species, 10 records of common pipistrelle and three records of soprano pipistrelle.

4.15.13 Lockwood Hall Associates recorded low suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

4.15.14 SER returned records of 57 notable bird species. Table 4.15.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.15.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Merlin	<i>Falco columbarius</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree Sparrow	<i>Passer montanus</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Whinchat	<i>Saxicola rubetra</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red

Common Name	Scientific Name	BoCC Status
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common Snipe	<i>Gallinago gallinago</i>	Amber
Common Gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

4.15.15 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnets and bullfinch. The improved and semi-improved grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.15.16 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.15.17 No records of reptiles were returned within 1 km.

4.15.18 No reptiles were recorded during the site visit. However, suitable habitat was identified by Lockwood Hall Associates, 2014 in the south-west. This included broad-leaved woodland and scattered scrub which had good connectivity to Cecilly Brook nature reserve.

Riparian mammals and white-clawed crayfish

4.15.19 The SER data search returned one record for water vole, although no suitable habitats were identified by Lockwood Hall Associates 2014. No evidence was found of habitats to support otter or white-clawed crayfish was found although Cecilly Brook Nature Reserve was situated within 1km radius of the site.

Other protected and key species

4.15.20 The SER data search returned 14 records of European hedgehog and the NBN data search returned 6 records within 1km of the site. The scattered trees and hedgerows present within the site could provide foraging and nesting habitat for the European hedgehog.

Invasive species

- 4.15.21 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.15.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.15.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor grassland					X	
Species poor hedgerow	Further surveys needed					
Scattered trees	Further surveys needed					
Overall importance				X		
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.15.23 Species-poor grassland was one of the habitats identified by Lockwood Hall Associates, 2014. This is not listed as an important habitat in the Staffordshire SBI guidelines.
- 4.15.24 Scattered trees were assessed as being of district importance by Lockwood Hall Associated, 2014 although they did not state the age, state or number. The Staffordshire SBI guidelines state that if a site has 5 or more broad-leaved veteran trees it can be eligible for BAS status, if there are 10 or more present it can be eligible for SBI status. No information regarding the age, size or condition of the trees was given by Lockwood Hall therefore further survey is required to say whether they are eligible for BAS or SBI status.
- 4.15.25 The species-poor hedgerow was assessed as being of district importance by Lockwood Hall Associates, 2014 although they did not provide justification. The hedgerow consisted of goat willow, hawthorn and ash although has good connectivity with other habitats which makes it likely to support BAP listed species such as hedgehog, reptiles and birds. The Staffordshire SBI guidelines state that 'hedgerows or connected hedges must be greater than 100 m in length and not been planted before 1950. They must also contain species that reach a score of 10 or 11 to achieve BAS status and 12 or greater for SBI status'
- 4.15.26 No notable species were recorded by Lockwood Hall Associates although there was potential to support reptiles due to the presence of broadleaved woodland and scrub. The presence of reptiles could potentially allow the site to have SBI/BAS status if there it was found to regularly support a native population of reptiles. Management of the scrub could be considered to provide refugia and basking areas for reptiles.

Conclusions

4.15.27 The site has some potential to support protected species and further surveys are also recommended for the scattered trees. The site habitats are considered to be of nature conservation value district level. Further surveys are recommended to confirm the presence/absence of reptiles in the in the south-west area of the site due to the presence of scattered scrub and good connectivity with Cecilly brook.

4.15.28 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Tree survey
- Hedgerow survey
- Reptile survey

4.16 CH02B (FID 151)

Site Description

- 4.16.1 The site is an area of land located to the east of Cheadle Town (central grid reference SK 01662 43335). It is approximately 1.11 ha in area and surrounded by agricultural land and housing.
- 4.16.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.16.3 Four locally designated sites are located within 1 km of the study area (Table 4.16.1).

Table 4.16.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Cecilly Brook	LNR	0.2 km W	The site follows a 1.25 km stretch of Cecilly Brook through Cheadle and is the most important site for water voles in the county. Ancient meadows at Thorley Drive are of county importance and mature hawthorn-blackthorn hedge surround the fields.
Hales Hall Pool	LNR	0.4 km N	A man-made lake dating back to 1846 is present and surrounded by ancient yew trees. The pool edges are a designated Site of Biological Importance with Marsh Marigold, Flag Iris, Greater Tussock Sedge and Bulbous Rush growing.

Cheadle Fish Ponds	LWS	0.5 km N	Two ponds, one large one small. The large pond is used for fishing and has some emergent vegetation, whilst the smaller pond is surrounded by trees.
Monk Hall Wood	Ancient Woodland	0.5 km E	Ancient and semi-natural woodland which is also known for butterflies. The pools support dragonflies and birds.

Habitats

4.16.4 The site habitats of scattered trees, species-rich hedgerow, species-poor hedgerow, species-poor grasslands, were all reported by Lockwood Hall Associates, 2014.

Species

4.16.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.16.6 Table 4.16.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.16.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn Owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brent Goose	<i>Branta bernicla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>

	Honey Bee	<i>Apis mellifera</i>
	House Sparrow	<i>Passer domesticus</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Small Heath	<i>Coenonympha pamphilus</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Barn Owl	<i>Tyto alba</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Merlin	<i>Falco columbarius</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Redwing	<i>Turdus iliacus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Greylag Goose	<i>Anser anser</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Red Kite	<i>Milvus milvus</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Eurasian Badger	<i>Meles meles</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Whiskered Bat	<i>Myotis mystacinus</i>

Amphibians

- 4.16.7 SER data search returned one amphibian record for common toad.
- 4.16.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

Badger

- 4.16.9 SER returned three records of badger.
- 4.16.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.16.11 SER returned 38 records of bats, which included two records of Daubenton's, two records of whiskered bat, two records of noctule bat, 19 records of unidentified pipistrelle species, 10 records of common pipistrelle, and 3 records of soprano pipistrelle,
- 4.16.12 Lockwood Hall Associates identified the buildings on site as having bat roost potential. The other site habitats would provide foraging and commuting opportunity for bats. An activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.16.13 SER returned records of 57 notable bird species recorded. Table 4.16.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.16.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Merlin	<i>Falco columbarius</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree Sparrow	<i>Passer montanus</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red

Common Name	Scientific Name	BoCC Status
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

4.16.14 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock and bullfinch. The improved and semi-improved grassland could provide foraging opportunities for species such as starling, fieldfare and mistle thrush.

4.16.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.16.16 No records of reptiles were returned within 1 km.

4.16.17 No reptiles were recorded during the site visit although Lockwood Hall Associates, 2014 identified potential for reptiles to occur on site due to the mosaic of habitats present such as scrub and grassland with good connectivity to the stream.

Riparian mammals and white-clawed crayfish

4.16.18 The SER data search returned 28 records for water vole, although no suitable habitats are present on site. There is no evidence of habitats to support otter or white-clawed crayfish.

Other protected and key species

4.16.19 The SER data search returned eight records of European hedgehog and NBN data search returned 6 records within 1km of the site. The hedgerows present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

4.16.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014. However, plants listed under the Weeds Act 1959;

curled dock (*Rumex crispus*) and creeping thistle (*Cirsium arvense*), present in the ruderal vegetation were identified by Lockwood Hall Associates, 2014 listed under the Weeds Act 1959 which were present in the ruderal vegetation

Evaluation

- 4.16.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.16.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor amenity grassland						X
Species-rich hedgerows	Further surveys needed					
Species-poor hedgerow					X	
Scattered trees	Further surveys needed					
Buildings	Further surveys needed					
Overall site importance				X		
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.16.22 Species poor amenity grassland and species-poor hedgerows are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.16.23 Lockwood Hall Associates, 2014 recorded the presence of species-rich hedgerows. The SBI guidelines state that any hedgerow that has been planted before 1950 and is greater than 100 m in length has potential to become an SBI. The HEGS score system was devised to assess whether it would qualify as an SBI or BAS. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.

- 4.16.24 The scattered trees were assessed as district importance by Lockwood Hall Associates, 2014 although no justification was given. The Staffordshire SBI guidelines state that if a site has 5 or more broad-leaved veteran trees it can be eligible for BAS status, if there are 10 or more present it can be eligible for SBI status. No information regarding the age, size or condition of the trees was given by Lockwood Hall

therefore further survey is required to say whether they are eligible for BAS or SBI status.

4.16.25 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as the European hedgehog, badger, foraging bats and reptiles due to connectivity to the stream and a mosaic of habitats present. The buildings present were identified as having bat roost potential. The Staffordshire SBI guidelines state that if 'a site has a significant population of a notable species (species with five or less maternity roosts in Staffordshire)' then it could be eligible for SBI status and 'protection zones should be created around known bat roosts'. Therefore, the site has been identified to be of district importance.

Conclusions

4.16.26 The site generally has low biodiversity but good connectivity to a stream and surrounding habitats deem it to be of district importance for its potential to protected species. The site habitats are considered to be of district importance. Further surveys are recommended to confirm the presence of reptiles and assess the importance of the species-rich hedgerows.

4.16.27 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- HEGS survey for species-rich hedgerow
- Tree survey
- Bat roost survey of buildings on site

4.17 CH004 (FID 145)

Site Description

- 4.17.1 The site is an area of land located to the north of Cheadle Town (central grid reference SK 01156 44425). It is approximately 1.35 ha in area and surrounded by housing and recreational areas.
- 4.17.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.17.3 Three locally designated sites are located within 1 km of the study area (Table 4.17.1).

Table 4.17.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Cecilly Brook	LNR	0.6 km S	The site follows a 1.25 km stretch of Cecilly Brook through Cheadle and is the most important site for water voles in the county. Ancient meadows at Thorley Drive are of county importance and mature hawthorn-blackthorn hedge surround the fields.
Hales Hall Pool	LNR	0.8 km SE	A man-made lake dating back to 1846 is present and surrounded by ancient yew trees. The pool edges are a designated Site of Biological Importance with Marsh Marigold, Flag Iris, Greater Tussock Sedge and Bulbous Rush growing.
Cheadle Fish Ponds	LWS	0.8 km SE	Two ponds, one large one small. The large pond is used for fishing and has some emergent vegetation, whilst the smaller pond is surrounded by trees.

Habitats

4.17.4 The site habitats of scattered trees, species-rich hedgerow, species-poor hedgerow and species-poor improved grassland, were all reported by Lockwood Hall Associates, 2014.

Species

4.17.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.17.6 Table 4.17.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.17.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Brent Goose	<i>Branta bernicla</i>
	Brindled Ochre	<i>Dasypolia templi</i>
	Brown Hare	<i>Lepus europaeus</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Galium Carpet	<i>Epirrhoe galiata</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Grass Snake	<i>Natrix natrix</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	House Sparrow	<i>Passer domesticus</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>

	Sky Lark	<i>Alauda arvensis</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted Flycatcher	<i>Muscicapa striata</i>
	Sword-grass	<i>Xylena exsoleta</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass Snake	<i>Natrix natrix</i>
	Greylag Goose	<i>Anser anser</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whimbrel	<i>Numenius phaeopus</i>

Amphibians

- 4.17.7 SER data search returned one record of common toad.
- 4.17.8 No amphibians were recorded during the site visit and no suitable habitat was identified by Lockwood Hall Associates, 2014.

Badger

- 4.17.10 SER returned three records of badger.
- 4.17.11 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.17.12 SER returned 24 records of bats occurring, which included two Daubenton's bats one whiskered bat, two noctule bats, 12 unidentified pipistrelle species, and four records of common pipistrelle, two records of soprano pipistrelle and one record of brown long-eared bat.

- 4.17.13 Lockwood Hall Associates recorded low suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.17.14 SER returned records of 45 notable bird species. Table 4.17.2 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.13.5. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
White-fronted goose	<i>Anser albifrons albifrons</i>	Red
Grasshopper warbler	<i>Locustella naevia</i>	Red
Curlew	<i>Numenius arquata</i>	Red
Whimbrel	<i>Numenius phaeopus</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Greylag goose	<i>Anser anser</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Tree sparrow	<i>Passer montanus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.17.15 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.17.16 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.17.17 SER returned two records of grass snake.
- 4.17.18 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.17.19 The SER data search returned eight records for water vole, although no suitable habitats were found. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.17.20 The SER data search returned eight records and the NBN data search returned 5 records for European hedgehog. The scattered scrub habitat present within the site could support the European hedgehog.

Invasive species

- 4.17.21 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.17.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.17.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species-poor improved grassland						X
Species-rich hedgerow	Further surveys needed					
Species-poor hedgerow					X	
Scattered trees					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.17.23 Species poor amenity grassland, scattered scrub and trees were assessed as being important at the local level only. These habitats did not meet the criteria for BAS / SBI status in the Staffordshire SBI guidelines.

- 4.17.24 Lockwood Hall Associates recorded of species-rich hedgerow. Species-rich hedgerow may qualify for SBI/BAS status. There are 2 areas of continuous species-rich hedgerow: approximately 164.5 m along the eastern edge of the site and approximately 95.7 m along the western side of the site. Species recorded include: hawthorn, blackthorn, bramble, ash and elder. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this allows species to move throughout the environment.

4.17.25 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species.

Conclusions

4.17.26 The site generally has low ecological value in its potential to support protected species. Most of the site habitats are considered to be of nature conservation value at local level only. However, the species-rich hedgerow was assessed as being potentially meeting the BAS / SBI status. Therefore, following surveys/actions are therefore recommended in order to establish SBI/ BAS status:

- HEGS survey of species-rich hedgerow

4.18 CH009 (FID 191)

Site Description

- 4.18.1 The site is an area of land located to the north of Cheadle Town (central grid reference SK 01238 43783). It is approximately 0.5 ha in area and surrounded by commercial parking, recreation ground, agricultural land and housing.
- 4.18.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.18.3 Four locally designated sites are located within 1 km of the study area (Table 4.18.1).

Table 4.18.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Cecilly Brook	LNR	0.2 km W	The site follows a 1.25 km stretch of Cecilly Brook through Cheadle and is the most important site for water voles in the county. Ancient meadows at Thorley Drive are of county importance and mature hawthorn-blackthorn hedge surround the fields.
Hales Hall Pool	LNR	0.4 km N	A man-made lake dating back to 1846 is present and surrounded by ancient yew trees. The pool edges are a designated Site of Biological Importance with Marsh Marigold, Flag Iris, Greater Tussock Sedge and Bulbous Rush growing.

Cheadle Fish Ponds	LWS	0.5 km N	Two ponds, one large one small. The large pond is used for fishing and has some emergent vegetation, whilst the smaller pond is surrounded by trees.
Monk Hall Wood	Ancient Woodland	0.5 km E	Ancient and semi-natural woodland which is also known for butterflies. The pools support dragonflies and birds.

Habitats

4.18.4 The site habitats of species-poor amenity grassland, species-rich hedgerow scattered trees, scattered scrub tall ruderal vegetation, fences and buildings, were all reported by Lockwood Hall Associates, 2014.

Species

4.18.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.18.6 Table 4.18.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.18.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn Owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brent Goose	<i>Branta bernicla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Ghost Moth	<i>Hepialus humuli</i>

	Greater White-fronted Goose	<i>Anser albifrons</i>
	Honey Bee	<i>Apis mellifera</i>
	House Sparrow	<i>Passer domesticus</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Barn Owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag Goose	<i>Anser anser</i>
	Merlin	<i>Falco columbarius</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>

Amphibians

- 4.18.7 SER data search returned one record for common toad.
- 4.18.8 No amphibians were recorded during the site visit and no habitats were deemed suitable for amphibians.

Badger

- 4.18.10 SER returned two records for badger.
- 4.18.11 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.18.12 SER returned 38 records of bats, which included two records for Daubenton's, two records for whiskered bat, two records for noctule bat, 18 records for unidentified pipistrelle species, 10 records for common pipistrelle, three records for soprano pipistrelle, and one record for brown long-eared bat.
- 4.18.13 Lockwood Hall Associates recorded bat roost potential in one tree and two buildings with loose roof tiles and potential entrances that could allow bats to roost. The other site habitats could provide foraging and commuting opportunity for bats. An activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.18.14 SER returned records of 57 notable bird species. Table 4.18.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.18.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Merlin	<i>Falco columbarius</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree sparrow	<i>Passer montanus</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Whinchat	<i>Saxicola rubetra</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red

Common Name	Scientific Name	BoCC Status
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common Snipe	<i>Gallinago gallinago</i>	Amber
Common Gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

4.18.15 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnet and bullfinch. The improved and semi-improved grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.18.16 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.18.17 No records of reptiles were returned within 1 km.

4.18.18 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.18.19 The SER data search returned 22 records of a water vole, although no suitable habitats were found. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.18.20 The SER and NBN data search returned nine records for European hedgehog within 1km of the site. The scattered scrub habitat present within the site could provide foraging and nesting habitat for the European hedgehog.

Invasive species

- 4.18.21 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.18.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.18.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor amenity grassland						X
Dense scrub					X	
Species-rich hedgerow	Further surveys needed					
Scattered trees	Further surveys needed					
Buildings	Further surveys needed					
Tall ruderal vegetation						X
Overall site importance				X		
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.18.23 Species poor amenity grassland, scattered scrub and trees are common widespread habitats and were of nature conservation value at the local level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.18.24 Lockwood Hall Associates recorded the presence of species-rich hedgerows on site. This was of 164 m continuous length with reasonable connectivity to the surrounding landscape. The SBI guidelines state that any hedgerow that has been planted before 1950 and is greater than 100 m in length has potential to become an SBI. The HEGS score system was devised to assess whether it would qualify as an SBI or BAS. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.

4.18.25 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as the European hedgehog, badger, roosting/foraging bats. The buildings and one ash tree present were identified as having bat roost potential. The Staffordshire SBI guidelines state that if 'a site has a significant population of a notable species (species with five or less maternity roosts in Staffordshire)' then it could be eligible for SBI status and 'protection zones should be created around known bat roosts'. Therefore, the site has been identified to be of district importance.

Conclusions

4.18.26 The site has potential to support protected species although none were identified by Lockwood Hall Associates, 2014. Further surveys are recommended to assess the importance of the species-rich hedgerows and the potential for bat roosts. Therefore, the site habitats are considered to be of district importance.

4.18.27 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- HEGS survey for species-rich hedgerow
- Bat roost survey of buildings on site

4.19 CH013 (FID 142)

Site Description

- 4.19.1 The site is an area of land located within Cheadle Town (central grid reference SK 00586 42847). It is approximately 1.56 ha in area and surrounded by housing and playing fields.
- 4.19.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.19.3 One locally designated site is located within 1 km of the study area (Table 4.19.1).

Table 4.19.1. Statutory and locally designated sites within 1 km of the site.

Site name	Status	Location relative to site	Notes
Cecilly Brook	LNR	0.2 km W	The site follows a 1.25 km stretch of Cecilly Brook through Cheadle and is the most important site for water voles in the county. Ancient meadows at Thorley Drive are of county importance and mature hawthorn-blackthorn hedge surround the fields.

Habitats

- 4.19.4 The site habitats of scattered trees, species-poor hedgerow, tall ruderal vegetation and species-poor grasslands, were all reported by Lockwood Hall Associates, 2014.

Species

- 4.19.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.19.6 Table 4.19.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.19.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn Owl	Tyto alba
	Black-tailed Godwit	Limosa limosa
	Blood-vein	Timandra comae
	Brent Goose	Branta bernicla
	Buff-tailed Bumble Bee	Bombus terrestris

	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Grasshopper Warbler	<i>Locustella naevia</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dark-bellied Brent Goose	<i>Branta bernicla subsp. bernicla</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	Honey Bee	<i>Apis mellifera</i>
	Hornet	<i>Vespa crabro</i>
	House Sparrow	<i>Passer domesticus</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Barn Owl	<i>Tyto alba</i>
	Black-tailed Godwit	<i>Limosa limosa</i>
	Common Kingfisher	<i>Alcedo atthis</i>

	Greylag Goose	Anser anser
	Common Pipistrelle	Pipistrellus pipistrellus sensu stricto
	Merlin	Falco columbarius
	Peregrine Falcon	Falco peregrinus
	Eurasian Hobby	Falco subbuteo
	Brambling	Fringilla montifringilla
	Red Kite	Milvus milvus
	Osprey	Pandion haliaetus
	European Water Vole	Arvicola amphibius
	Redwing	Turdus iliacus
	Fieldfare	Turdus pilaris
	Noctule Bat	Nyctalus noctula
	Pipistrelle	Pipistrellus pipistrellus sensu lato
	Pipistrelle Bat species	Pipistrellus
	Soprano Pipistrelle	Pipistrellus pygmaeus
	Daubenton's Bat	Myotis daubentonii
	Whiskered Bat	Myotis mystacinus

Amphibians

- 4.19.7 SER data search returned two records for common toad.
- 4.19.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

4.19.9 Badger

- 4.19.10 SER returned one record of badger.
- 4.19.11 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.19.12 SER returned 26 records of bats, which included one record for whiskered bat, 16 records for unidentified pipistrelle species, eight records for common pipistrelle, and one record for soprano pipistrelle.
- 4.19.13 Lockwood Hall Associates recorded identified two sycamore trees on site as having bat roost potential. The other site habitats would provide foraging and commuting opportunity for bats. An activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.19.14 SER returned records of 63 notable bird species. Table 4.14.5 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.13.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
lesser redpoll	<i>Acanthis cabaret</i>	Red
yellowhammer	<i>Emberiza citrinella</i>	Red
merlin	<i>Falco columbarius</i>	Red
linnet	<i>Linaria cannabina</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
house sparrow	<i>Passer domesticus</i>	Red
Eurasian Tree Sparrow	<i>Passer montanus</i>	Red
willow tit	<i>Poecile montana</i>	Red
marsh tit	<i>Poecile palustris</i>	Red
whinchat	<i>Saxicola rubetra</i>	Red
Eurasian Woodcock	<i>Scolopax rusticola</i>	Red
common starling	<i>Sturnus vulgaris</i>	Red
redwing	<i>Turdus iliacus</i>	Red
song thrush	<i>Turdus philomelos</i>	Red
fieldfare	<i>Turdus pilaris</i>	Red
mistle thrush	<i>Turdus viscivorus</i>	Red
northern lapwing	<i>Vanellus vanellus</i>	Red
pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
meadow pipit	<i>Anthus pratensis</i>	Amber
common swift	<i>Apus apus</i>	Amber
black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
stock dove	<i>Columba oenas</i>	Amber
house martin	<i>Delichon urbicum</i>	Amber
reed bunting	<i>Emberiza schoeniclus</i>	Amber
common Snipe	<i>Gallinago gallinago</i>	Amber
common Gull	<i>Larus canus</i>	Amber
lesser black-backed gull	<i>Larus fuscus</i>	Amber
willow warbler	<i>Phylloscopus trochilus</i>	Amber
dunnock	<i>Prunella modularis</i>	Amber
common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
tawny owl	<i>Strix aluco</i>	Amber

- 4.19.15 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnet and bullfinch. The grasslands could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

- 4.19.16 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.19.17 No records of reptiles were returned within 1 km.
- 4.19.18 No reptiles were recorded during the site visit by Lockwood Hall Associates, 2014 and there is unlikely to be any suitable habitat present. Reptiles are not considered a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.19.19 The SER data search returned 28 records for water vole, although no suitable habitats were found. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.19.20 The SER and NBN data search returned 10 records and the NBN data search returned one record for European hedgehog. The hedgerows present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

- 4.19.21 No non-native invasive species were recorded by Lockwood Hall Associates, 2014. However, plants listed under the Weeds Act 1959; curled dock and creeping thistle, present in the ruderal vegetation were identified by Lockwood Hall Associates, 2014 listed under the Weeds Act 1959 which were present in the ruderal vegetation.

Evaluation

- 4.19.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.19.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees	Further surveys needed					
Tall ruderal vegetation					X	
Species-poor grassland					X	
Overall site importance				X		
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.19.23 Species poor amenity grassland, tall ruderal vegetation and species-poor hedgerows are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.19.24 Scattered trees were assessed as being of district importance by Lockwood Hall Associates, 2014 although they did not state the age, state or number. The Staffordshire SBI guidelines state that if a site has 5 or more broad-leaved veteran trees it can be eligible for BAS status, if there are 10 or more present it can be eligible for SBI status. No information regarding the age, size or condition of the trees was given by Lockwood Hall therefore further survey is required to say whether they are eligible for BAS or SBI status.

4.19.25 No notable species were recorded by Lockwood Hall Associates, 2014. However, the presence of two sycamore trees may support roosting bats. The European hedgehog, and badger, may also use the site for foraging due to the hedgerow and trees present. The buildings present were identified as having bat roost potential. The Staffordshire SBI guidelines state that if 'a site has a significant population of a notable species (species with five or less maternity roosts in Staffordshire)' then it could be eligible for SBI status and 'protection zones should be created around known bat roosts'. Therefore, the site has been identified to be of district importance.

Conclusions

4.19.26 The site generally has low biodiversity. The site habitats are considered to be of site importance only. Further surveys are recommended to establish the status of roosting bats in the sycamore trees

4.19.27 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Bat roost survey of two sycamore trees
- Tree survey

4.20 CH015 (FID 143)

Site Description

- 4.20.1 The site is an area of land located within Cheadle Town (central grid reference SK 01037 43630). It is approximately 0.75 ha in area and surrounded by housing.
- 4.20.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.20.3 Three locally designated sites are located within 1 km of the study area (Table 4.20.1).

Table 4.20.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Cecilly Brook	LNR	0.4 km E	The site follows a 1.25 km stretch of Cecilly Brook through Cheadle and is the most important site for water voles in the county. Ancient meadows at Thorley Drive are of county importance and mature hawthorn-blackthorn hedge surround the fields.
Hales Hall Pool	LNR	0.6 km E	A man-made lake dating back to 1846 is present and surrounded by ancient yew trees. The pool edges are a designated Site of Biological Importance with Marsh Marigold, Flag Iris, Greater Tussock Sedge and Bulbous Rush growing.
Cheadle Fish Ponds	LWS	0.7 km E	Two ponds, one large one small. The large pond is used for fishing and has some emergent vegetation, whilst the smaller pond is surrounded by trees.

Habitats

4.20.4 The site habitats of scattered trees, buildings, species-poor hedgerow and amenity grassland, were all reported by Lockwood Hall Associates, 2014.

Species

4.20.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.20.6 Table 4.20.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.20.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn Owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brent Goose	<i>Branta bernicla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Buff Ermine	<i>Spilosoma lutea</i>
	Buff-tailed Bumble Bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common Snipe	<i>Gallinago gallinago</i>
	Common Starling	<i>Sturnus vulgaris</i>
	Common Toad	<i>Bufo bufo</i>
	Common Wasp	<i>Vespula vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky Brocade	<i>Apamea remissa</i>
	Eurasian Curlew	<i>Numenius arquata</i>
	Eurasian Tree Sparrow	<i>Passer montanus</i>
	European Water Vole	<i>Arvicola amphibius</i>
	European White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>
	Ghost Moth	<i>Hepialus humuli</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	Honey Bee	<i>Apis mellifera</i>
	House Sparrow	<i>Passer domesticus</i>
	Lesser Redpoll	<i>Acanthis cabaret</i>
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh Tit	<i>Poecile palustris</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Northern Lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Reed Bunting	<i>Emberiza schoeniclus</i>

	Ring Ouzel	<i>Turdus torquatus</i>
	Small Square-spot	<i>Diarsia rubi</i>
	Song Thrush	<i>Turdus philomelos</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree Bumble Bee	<i>Bombus hypnorum</i>
	Wall	<i>Lasiommata megera</i>
	West European Hedgehog	<i>Erinaceus europaeus</i>
	White-tailed Bumble Bee	<i>Bombus lucorum</i>
	Willow Tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Barn Owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown Long-eared Bat	<i>Plecotus auritus</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's Bat	<i>Myotis daubentonii</i>
	Eurasian Badger	<i>Meles meles</i>
	Eurasian Hobby	<i>Falco subbuteo</i>
	European Water Vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag Goose	<i>Anser anser</i>
	Merlin	<i>Falco columbarius</i>
	Noctule Bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle Bat species	<i>Pipistrellus</i>
	Red Kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered Bat	<i>Myotis mystacinus</i>

Amphibians

- 4.20.7 SER data search returned one record for common toad.
- 4.20.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

Badger

- 4.20.9 SER returned two records for badger.
- 4.20.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers.

Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.20.11 SER returned 34 records of bats, which included two records for Daubenton's, one record for whiskered bat, two records for noctule bat, 15 records for unidentified pipistrelle species, 10 records for common pipistrelle, three records for soprano pipistrelle, and one record for brown long-eared bat.
- 4.20.12 Lockwood Hall Associates recorded identified 4 buildings and 2 trees on site as having bat roost potential. The other site habitats would provide foraging and commuting opportunity for bats. An activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.20.13 SER returned records of 57 notable bird species. Table 4.20.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.20.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Merlin	<i>Falco columbarius</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree sparrow	<i>Passer montanus</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Whinchat	<i>Saxicola rubetra</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber

Common Name	Scientific Name	BoCC Status
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

4.20.14 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnet and bullfinch. The improved and semi-improved grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.20.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.20.16 No records of reptiles were returned within 1 km.

4.20.17 No reptiles were recorded during the site visit although Lockwood Hall Associates, 2014 and it is unlikely that reptiles are a receptor for the site due to sub-optimal habitat.

Riparian mammals and white-clawed crayfish

4.20.18 The SER data search returned 23 records for water vole, although no suitable habitats were found. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

4.20.19 The SER returned nine records and NBN data search returned one record for European hedgehog. The hedgerows present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

4.20.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.20.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.13.4. Ecological importance of site habitats

Habitat	Ecological
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	Importance					
	I	N	R	D	L	S
Species-poor hedgerow					X	
Scattered trees	Further surveys needed					
Species-poor grassland						X
Buildings	Further surveys needed					
Overall site importance				X		
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.20.22 Species poor amenity grassland and species-poor hedgerows are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.20.23 Lockwood Hall Associates, 2014 recorded the presence of scattered trees on site. They also identified the trees as being of district importance. The Staffordshire SBI guidelines state that if a site has 5 or more broad-leaved veteran trees it can be eligible for BAS status, if there are 10 or more present it can be eligible for SBI status. No information regarding the age, size or condition of the trees was given by Lockwood Hall therefore further survey is required to say whether they are eligible for BAS or SBI status.

4.20.24 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as the European hedgehog, badger, and roosting / foraging bats due to the mosaic of habitats present. Four of the five buildings and two sycamore trees present were identified as having bat roost potential. The Staffordshire SBI guidelines state that if 'a site has a significant population of a notable species (species with five or less maternity roosts in Staffordshire)' then it could be eligible for SBI status and 'protection zones should be created around known bat roosts'. Therefore, the site has been identified to be of district importance.

Conclusions

4.20.25 The site has potential for protected species such as roosting bats. Further surveys are recommended to confirm the roosting bats in the buildings and trees and a tree survey is also required.

4.20.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Bat roost survey of for buildings and two trees on site
- Tree survey

4.21 CH019 EM2 (FID 209)

Site Description

- 4.21.1 The site is an area of land located to the south west of Cheadle Town (central grid reference SJ 99018 42344). It is approximately 3.34 ha in area and surrounded by industrial buildings, woodland and agricultural land.
- 4.21.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.21.3 Three locally designated sites are located within 1 km of the study area (Table 4.21.1).

Table 4.21.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Commonside Quarry	BAS	0.3km SW	A disused quarry site that is dominated by silver birch with an abundance of rowan and sycamore. Oak is frequently encountered but is quite young. Ash, beech and alder are also present. Elder is present in the shrub layer.
Huntley Wood	LWS	0.5km SE	Ancient semi-natural woodland, with heathy ground flora. A sludge bed supports 1000+ orchids.
Draycott Common Wood	BAS	0.9km SE	Disused sludge lagoon in old sand and gravel pit that is becoming colonised with semi-natural vegetation.

Habitats

- 4.21.4 The site habitats of species-poor amenity grassland, scattered trees, scattered scrub and buildings, were all reported by Lockwood Hall Associates, 2014.

Species

- 4.21.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.21.6 Table 4.21.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.21.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Black-tailed godwit	<i>Limosa limosa</i>
	Buff-tailed bumble Bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>
	Dark-bellied brent goose	<i>Branta bernicla subsp. bernicla</i>
	Dingy skipper	<i>Erynnis tages</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	European white-fronted goose	<i>Anser albifrons subsp. albifrons</i>
	Grey partridge	<i>Perdix perdix</i>
	Gwynne's mining bee	<i>Andrena bicolor</i>
	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	Hybrid bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Myotis sp.	<i>Myotis sp.</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Song thrush	<i>Turdus philomelos</i>
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Black-tailed godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Common kingfisher	<i>Alcedo atthis</i>

	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European water vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag goose	<i>Anser anser</i>
	Little plover	<i>Charadrius dubius</i>
	Myotis sp.	<i>Myotis sp.</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>

Amphibians

- 4.21.7 SER data search returned three records for common toad.
- 4.21.8 No amphibians were recorded during the site visit and but one pond was reported to have potential to support great crested newts.

Badger

- 4.21.10 SER returned four records of badger.
- 4.21.11 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.21.12 SER returned four records of bats, which included one record for Myotis sp. one unidentified pipistrelle species and one common pipistrelle and one soprano pipistrelle
- 4.21.13 Lockwood Hall Associates recorded low suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.21.14 SER returned records of 45 notable bird species. Table 4.21.2 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.21.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Grasshopper warbler	<i>Locustella naevia</i>	Red
Curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Starling	<i>Sturus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Common swift	<i>Apus apus</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Tree sparrow	<i>Passer montanus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.21.15 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.21.16 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.21.17 No records of reptiles were returned within 1 km.

4.21.18 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.21.19 The SER data search returned eight records for water vole, although no suitable habitats were found. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

4.21.20 The SER data search returned three records for European hedgehog within 1km of the site. The scattered scrub habitat present within the site could support the European hedgehog.

Invasive species

4.21.21 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.21.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.21.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor amenity grassland						X
Scattered scrub						X
Scattered trees						X
Buildings						X
Pond	Further survey needed					
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.21.23 Species poor amenity grassland, scattered scrub and trees are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.21.24 Lockwood Hall Associates recorded the presence of a pond within 250 m of the site. The Staffordshire SBI guidelines state that if a site contains more than three species of amphibian or support a good population of Great crested newts (more than 5 netted in the day or more than 10 at night) it may be considered for BAS status. If there are three or more ponds then it may be considered for SBI status. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.

4.21.25 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native amphibians' may be considered for SBI status.

Conclusions

4.21.26 The site generally has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. Further surveys are recommended to confirm the presence/absence of Great crested newts in the pond present within 250 m of the site.

4.21.27 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Habitat suitability index for Great crested newts

4.22 CH020 (FID 160)

Site Description

- 4.22.1 The site is an area of land located to the within western Cheadle Town (central grid reference SJ 99720 42948). It is approximately 1.17 ha in area and surrounded by housing, industrial and commercial buildings.
- 4.22.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.22.3 One locally designated site was located within 1 km of the study area (Table 4.22.1).

Table 4.22.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Huntley Wood	LWS	0.9 km S	Ancient semi-natural woodland, with healthy ground flora. A sludge bed supports 1000+ Orchids

Habitats

- 4.22.4 The site habitats of scattered trees, dense scrub, scattered scrub, tall ruderal vegetation, ephemeral grassland, species-poor amenity grassland were all reported by Lockwood Hall Associates, 2014.

Species

- 4.22.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.22.6 Table 4.22.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.22.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Black-tailed godwit	<i>Limosa limosa</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>

	Dark-bellied brent goose	<i>Branta bernicla subsp. bernicla</i>
	Dingy skipper	<i>Erynnis tages</i>
	Duncock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	European white-fronted goose	<i>Anser albifrons subsp. albifrons</i>
	Grey partridge	<i>Perdix perdix</i>
	Gwynne's mining bee	<i>Andrena bicolor</i>
	Honey bee	<i>Apis mellifera</i>
	Hornet	<i>Vespa crabro</i>
	House sparrow	<i>Passer domesticus</i>
	Hybrid bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Song thrush	<i>Turdus philomelos</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
Invasive	Japanese knotweed	<i>Fallopia japonica</i>
EU/UK protected	Black-tailed godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European water vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag goose	<i>Anser anser</i>
	Little plover	<i>Charadrius dubius</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine falcon	<i>Falco peregrinus</i>

	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Whiskered bat	<i>Myotis mystacinus</i>

Amphibians

4.22.7 SER data search returned one record for common toad within 1 km of the site.

4.22.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

Badger

4.22.9 SER returned two records for badger.

4.22.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.22.11 SER returned eight records of bats, which included one record for unidentified *Myotis* species three records for unidentified pipistrelle species, and three records for common pipistrelle and one soprano pipistrelle

4.22.12 Lockwood Hall Associates, 2014 identified one of the buildings on site as having bat roost potential. The other site habitats would provide foraging and commuting opportunity for bats. An activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

4.22.13 SER and NBN data searches returned records of 52 notable bird species. Table 4.22.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.22.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Common grasshopper warbler	<i>Locustella naevia</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Eurasian Tree sparrow	<i>Passer montanus</i>	Red
Grey partridge	<i>Perdix perdix</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Eurasian teal	<i>Anas crecca</i>	Amber
Mallard	<i>Anas platyrhynchos</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
Mute swan	<i>Cygnus olor</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Eurasian oystercatcher	<i>Haematopus ostralegus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

4.22.14 No birds were recorded on site during the visit. However, it is likely that the scattered trees and scrub provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnet and bullfinch. The improved and semi-improved grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.22.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.22.16 No records of reptiles were returned within 1 km.

- 4.22.17 No reptiles were recorded during the site visit although Lockwood Hall Associates, 2014 identified potential for reptiles to occur on site due to the mosaic of habitats present such as scrub and grassland and number of basking areas being particularly suitable for common lizard.

Riparian mammals and white-clawed crayfish

- 4.22.18 The SER data search returned nine records for water vole, although no suitable habitats were found. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.22.19 The SER data search returned seven records for European hedgehog. The hedgerows present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

- 4.22.20 Japanese knotweed was identified by Lockwood Hall Associates, 2014 at 4 separate locations to the north-east of the site. Japanese knotweed is listed in Schedule 9 of the Wildlife and Countryside Act 1981.

Evaluation

- 4.22.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.22.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees				X		
Dense scrub				X		
Scattered scrub				X		
Ephemeral grassland						X
Species-poor amenity grassland						X
Tall ruderal grassland	Further surveys needed					
Buildings	Further surveys needed					
Overall site importance						
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.22.22 Species poor amenity grassland and ephemeral grassland are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.22.23 Lockwood Hall Associates, 2014 recorded the presence of scattered trees, dense scrub, scattered scrub and tall ruderal grassland

on site and suggested these habitats were of district importance. The SBI guidelines state that 'tall herb / ruderal habitats may be included as part of sites where they contribute as a nectar source of shelter for animals. This may be dominated by a single species, but not invasive species such as Japanese knotweed.' The species identified by Lockwood Hall Associates, 2014 were diverse and included willowherbs, nettles and coarse grasses. The site therefore is eligible for BAS status.

4.22.24 Lockwood Hall, 2014 said the scattered trees on site were of district importance but did not state the condition, age or number present. The SBI guidelines state that '10 or more veteran trees are eligible for SBI status and 5 or more are eligible for BAS status.'

4.22.25 The dense scrub and scattered scrub were also identified as being potentially of district importance by Lockwood Hall Associates, 2014. The SBI guidelines state 'any area of semi-natural scrub which is between 0.25-0.5 Ha and has a rare or uncommon NVC community for the county is eligible for BAS status' The communities present in these habitats include hawthorn, silver birch, goat willow, crack willow, and ash. These species are not listed in the SBI guidelines therefore not the habitats are not eligible for BAS status.

4.22.26 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as the European hedgehog, badger, foraging bats and reptiles due to connectivity to the stream and a mosaic of habitats present. The building present on site was identified as having bat roost potential. The Staffordshire SBI guidelines state that if 'a site has a significant population of a notable species (species with five or less maternity roosts in Staffordshire)' then it could be eligible for SBI status and 'protection zones should be created around known bat roosts'. Therefore, the site has been identified to be of district importance. Management of the scrub could be considered to provide refugia and basking areas for reptiles.

Conclusions

4.22.27 Most of site habitats are common throughout the region and not considered eligible for BAS / SBI status. However, the ruderal vegetation is eligible for BAS status. Further surveys are recommended to confirm the presence of roosting bats, reptiles and to assess the scattered trees.

4.22.28 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Japanese knotweed removal
- Tree survey of scattered trees
- Bat survey of building on site
- Reptile survey

4.23 CH024 (FID 161)

Site Description

- 4.23.1 The site is an area of land located to the within north Cheadle (central grid reference SK 01350 43795). It is approximately 1.4 ha in area and surrounded by recreational ground, buildings and industrial housing to the east.
- 4.23.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.23.3 Four statutory and locally designated sites are located within 1 km of the study area (Table 4.23.1).

Table 4.23.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Cecilly Brook	LNR	0.1 km E	The site follows a 1.25 km stretch of Cecilly Brook through Cheadle and is the most important site for water voles in the county. Ancient meadows at Thorley Drive are of county importance and mature hawthorn-blackthorn hedge surround the fields.
Hales Hall Pool	LNR	0.3 km E	A man-made lake dating back to 1846 is present and surrounded by ancient yew trees. The pool edges are a designated Site of Biological Importance with Marsh Marigold, Flag Iris, Greater Tussock Sedge and Bulbous Rush growing.

Cheadle Fish Ponds	LWS	0.4 km E	Two ponds, one large one small. The large pond is used for fishing and has some emergent vegetation, whilst the smaller pond is surrounded by trees.
Monk Hall Wood	Ancient Woodland	0.8 km SE	Ancient and semi-natural woodland which is also known for butterflies. The pools support dragonflies and birds.

Habitats

4.23.4 The site habitats of tall ruderal vegetation, scattered trees, species-poor hedgerow and species-poor semi-improved grassland were all reported by Lockwood Hall Associates, 2014.

Species

4.23.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.23.6 Table 4.23.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.23.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn Owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brent Goose	<i>Branta bernicla</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Buff ermine	<i>Spilosoma lutea</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky brocade	<i>Apamea remissa</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	European white-fronted goose	<i>Anser albifrons subsp. albifrons</i>
	Ghost moth	<i>Hepialus humuli</i>
	Greater white-fronted goose	<i>Anser albifrons</i>

	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Wall	<i>Lasiommata megera</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citronella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common toad	<i>Bufo bufo</i>
	Daubenton's bat	<i>Myotis daubentonii</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European water vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Greylag goose	<i>Anser anser</i>
	Merlin	<i>Falco columbarius</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>

	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered bat	<i>Myotis mystacinus</i>

Amphibians

- 4.23.7 SER data search returned one record for common toad.
- 4.23.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014 although the site is situated 50 m from a brook.

Badger

- 4.23.9 SER returned two records of badger.
- 4.23.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.23.11 SER returned 40 records of bats, which included two Daubenton's, two records for whiskered bat, two records for noctule bat, 20 records for unidentified pipistrelle species, 10 records for common pipistrelle, three records for soprano pipistrelle, and one record for brown long-eared bat.
- 4.23.12 Lockwood Hall Associates, 2014 identified the habitats present as having low bat roost potential. The habitats present would provide nothing more than foraging and commuting opportunity for bats.

Birds

- 4.23.13 SER returned records of 58 notable bird species recorded within 1 km of the site. Table 4.23.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.23.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Merlin	<i>Falco columbarius</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree sparrow	<i>Passer montanus</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red

Common Name	Scientific Name	BoCC Status
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Brent goose	<i>Branta bernicla</i>	Amber
Barnacle goose	<i>Branta leucopsis</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.23.14 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnet and bullfinch. The grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.23.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.23.16 No records of reptiles were returned within 1 km.

4.23.17 No reptiles were recorded during the site visit although Lockwood Hall Associates, 2014 identified the tall ruderal vegetation as suitable habitat and the site is situated 50 m from a brook.

Riparian mammals and white-clawed crayfish

4.23.18 The SER data search returned 22 records for water vole, and no suitable habitats were found on site although there is a brook 50 m away from the site. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.23.19 The SER data search returned nine records for European hedgehog within 1km of the site. The hedgerow and tall ruderal vegetation present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

- 4.23.20 No invasive species were identified by Lockwood Hall Associates, 2014. Curled dock is a Weed listed under the Weeds 1959 Act has been recorded in the tall ruderal vegetation.

Evaluation

- 4.23.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.23.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Ephemeral grassland						X
Species-poor improved grassland						X
Tall ruderal grassland						X
Species-poor hedgerow						X
Overall site importance						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.23.22 Species-poor improved grasslands, ephemeral grasslands are common widespread habitats and were of nature conservation value at the site level only. The scattered trees were assessed as local importance only by Lockwood Hall Associated, 2014. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.23.23 Lockwood Hall Associates, 2014 recorded the presence of tall ruderal grassland, and species-poor hedgerow on site and suggested these habitats were of district importance. The SBI guidelines state that 'tall herb / ruderal habitats may be included as part of sites where they contribute as a nectar source of shelter for animals. This may be dominated by a single species, but not invasive species such as Japanese knotweed.' The species identified by Lockwood Hall Associates, 2014 were diverse and included willowherbs, nettles and coarse grasses. This habitat would provide suitable habitat for ground nesting birds, reptiles and small mammals. The tall ruderal grassland is therefore is eligible for BAS status.

4.23.24 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as the European hedgehog, badger, foraging bats and reptiles due to connectivity to the stream and a mosaic of habitats present. There is potential for the site to support reptiles due to the presence of a stream 50 m away and suitable terrestrial refugia. Management of the scrub could be considered to provide refugia and basking areas for reptiles.

Conclusions

4.23.25 Most of site habitats are common throughout the region and not considered eligible for BAS / SBI status. However, the ruderal vegetation is eligible for BAS status and further surveys are recommended to confirm the presence of reptiles.

4.23.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Reptile survey
- Survey of tall ruderal vegetation

4.24 CH085A (FID 156)

Site Description

4.24.1 The site is an area of land located to the south west of Cheadle (central grid reference SK 00257 42365). It is approximately 4.9 ha in area and surrounded by recreational agricultural land and housing.

4.24.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.24.3 One locally designated site is located within 1 km of the study area (Table 4.24.1).

Table 4.24.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Huntley Wood	LWS	0.9 km SW	Ancient semi-natural woodland, with heathy ground flora. A sludge bed supports 1000+ orchids.

Habitats

4.24.4 The site habitats of scattered trees, species-poor hedgerow and species-poor improved grassland were all reported by Lockwood Hall Associates, 2014.

Species

4.24.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.24.6 Table 4.24.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.24.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn owl	<i>Tyto alba</i>
	Black-tailed godwit	<i>Limosa limosa</i>
	Blood-vein	<i>Timandra comae</i>
	Brent goose	<i>Branta bernicla</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>

	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>
	Dark-bellied brent goose	<i>Branta bernicla subsp. bernicla</i>
	Dingy skipper	<i>Erynnis tages</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky brocade	<i>Apamea remissa</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	European white-fronted goose	<i>Anser albifrons subsp. albifrons</i>
	Ghost moth	<i>Hepialus humuli</i>
	Great crested newt	<i>Triturus cristatus</i>
	Greater white-fronted goose	<i>Anser albifrons</i>
	Grey partridge	<i>Perdix perdix</i>
	Gwynne's mining bee	<i>Andrena bicolor</i>
	Honey bee	<i>Apis mellifera</i>
	Hornet	<i>Vespa crabro</i>
	House sparrow	<i>Passer domesticus</i>
	Hybrid bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Song thrush	<i>Turdus philomelos</i>
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Wall	<i>Lasiommata megera</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Black-tailed godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>

	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Daubenton's bat	<i>Myotis daubentonii</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European water vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Greylag goose	<i>Anser anser</i>
	Little plover	<i>Charadrius dubius</i>
	Merlin	<i>Falco columbarius</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
	Whiskered bat	<i>Myotis mystacinus</i>

Amphibians

4.24.7 SER data search returned three amphibian records, two for common toad and one for great crested newt.

4.24.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

Badger

4.24.9 SER returned four records of badger.

4.24.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.24.11 SER returned 16 records of bats, which included one record of Daubenton's, one record of whiskered bat, one record of noctule bat, nine records of common / soprano pipistrelle species, three records of common pipistrelle and one record of soprano pipistrelle.

- 4.24.12 Lockwood Hall Associates, 2014 identified two oak trees present as having good bat roost potential. The other habitats would present foraging and commuting opportunity for bats.

Birds

- 4.24.13 SER returned records of 65 notable bird species. Table 4.24.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.24.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Merlin	<i>Falco columbarius</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Common grasshopper warbler	<i>Locustella naevia</i>	Red
Grey wagtail	<i>Motacilla cinerea</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree sparrow	<i>Passer montanus</i>	Red
Grey Partridge	<i>Perdix perdix</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Whinchat	<i>Saxicola rubetra</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Eurasian teal	<i>Anas crecca</i>	Amber
Mallard	<i>Anas platyrhynchos</i>	Amber
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
Mute swan	<i>Cygnus olor</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common Snipe	<i>Gallinago gallinago</i>	Amber
Eurasian oystercatcher	<i>Haematopus ostralegus</i>	Amber
common Gull	<i>Larus canus</i>	Amber

Common Name	Scientific Name	BoCC Status
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

4.24.14 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnets and bullfinch. The grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.24.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.24.16 No records of reptiles were returned within 1 km.

4.24.17 No reptiles were recorded during the site visit and no suitable habitats were identified by Lockwood Hall Associates, 2014.

Riparian mammals and white-clawed crayfish

4.24.18 The SER data search returned 15 records for water vole. No suitable habitats were found although a brook is situated 50 m away.

4.24.19 No evidence was found of habitats to support otter or white-clawed crayfish.

Other protected and key species

4.24.20 The SER data search returned 17 records of European hedgehog. The hedgerow present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

4.24.21 No invasive species were identified by Lockwood Hall Associates, 2014.

Evaluation

4.24.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.24.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees	Further surveys needed					

Species-poor improved grassland					X	
Species-poor hedgerow					X	
Overall site importance						
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.24.23 Species-poor improved grasslands, and species-poor hedgerows are common widespread habitats and were of nature conservation value at the local level only.
- 4.24.24 Scattered trees assessed as being of district importance by Lockwood Hall Associated, 2014 although they only stated three trees being present; two oaks and one sycamore tree. The Staffordshire SBI guidelines state that if a site has 5 or more broad-leaved veteran trees it can be eligible for BAS status, if there are 10 or more present it can be eligible for SBI status.
- 4.24.25 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as roosting / foraging bats, European hedgehog, and badger.

Conclusions

- 4.24.26 Most of site habitats are common throughout the region and not considered eligible for BAS / SBI status. However, the two scattered trees present could support roosting bats and be eligible for BAS status
- 4.24.27 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Bat survey of two oak trees

4.25 CH085B & CH085C (FID 155)

Site Description

- 4.25.1 The site is an area of land located to the south west of Cheadle (central grid reference SK 00460 42010). FID 155 is approximately 7.55 ha in area and surrounded by agricultural land and housing.
- 4.25.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.25.3 One locally designated site is located within 1 km of the study area (Table 4.25.1).

Table 4.25.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Huntley Wood	LWS	0.8 km SW	Ancient semi-natural woodland, with heathy ground flora. A sludge bed supports 1000+ orchids.

Habitats

- 4.25.4 The site habitats of scattered trees, species-rich hedgerow and species-poor hedgerow and species-poor grassland were all reported by Lockwood Hall Associates, 2014.

Species

- 4.25.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.25.6 Table 4.25.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.25.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn owl	<i>Tyto alba</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>

	Dingy skipper	<i>Erynnis tages</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	European white-fronted goose	<i>Anser albifrons subsp. albifrons</i>
	Great crested newt	<i>Triturus cristatus</i>
	Grey partridge	<i>Perdix perdix</i>
	Gwynne's mining bee	<i>Andrena bicolor</i>
	Honey bee	<i>Apis mellifera</i>
	Hornet	<i>Vespa crabro</i>
	House sparrow	<i>Passer domesticus</i>
	Hybrid bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Song thrush	<i>Turdus philomelos</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European water vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Little plover	<i>Charadrius dubius</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Red kite	<i>Milvus milvus</i>

	Redwing	<i>Turdus iliacus</i>
	Whiskered bat	<i>Myotis mystacinus</i>

Amphibians

- 4.25.7 SER data search returned four amphibian records, three for common toad and one for great crested newt within 1 km of the site.
- 4.25.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

Badger

- 4.25.9 SER returned three records of badger.
- 4.25.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.25.11 SER returned 17 records of bats, which included one record of whiskered bat, one record of noctule bat, 11 records of common / soprano pipistrelle species, four records of common pipistrelle.
- 4.25.12 Lockwood Hall Associates, 2014 recorded low suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.25.13 SER returned records of 48 notable bird species. Table 4.25.2 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.25.2. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Common grasshopper warbler	<i>Locustella naevia</i>	Red
Grey wagtail	<i>Motacilla cinerea</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree sparrow	<i>Passer montanus</i>	Red
Grey partridge	<i>Perdix perdix</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red

Common Name	Scientific Name	BoCC Status
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
Mute swan	<i>Cygnus olor</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common Snipe	<i>Gallinago gallinago</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

4.25.14 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnets and bullfinch. The grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.25.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.25.16 No records of reptiles were returned within 1 km.

4.25.17 No reptiles were recorded during the site visit and no suitable habitats were identified by Lockwood Hall Associates, 2014.

Riparian mammals and white-clawed crayfish

4.25.18 The SER data search returned 13 records for water vole, and no suitable habitats were found although a brook is situated 50 m away. No evidence of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.25.19 The SER data search returned 14 records of European hedgehog within 1km of the site, including one record within 20 m. The hedgerow present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

- 4.25.20 No invasive species were identified by Lockwood Hall Associates, 2014.

Evaluation

- 4.25.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.25.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species-poor improved grassland					X	
Species-rich hedgerow	Further surveys needed					
Species-poor hedgerow					X	
Overall site importance					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.25.22 Species-poor improved grasslands, scattered trees, and species-poor hedgerows are common widespread habitats and were of nature conservation value at the local level only.

- 4.25.23 Lockwood Hall Associates, 2014 recorded the presence of a species-rich hedgerow but only graded it as locally importance due to its poor connectivity to the surrounding landscape. However, further surveys were recommended to assess its potential for BAS/ SBI status because it has >100m continuous length and has a number of species such as hawthorn, elder, bramble, ash, blackthorn, dog rose. The SBI guidelines state that any hedgerow that has been planted before 1950 and is greater than 100 m in length' has potential to become an SBI the HEGS score system was devised to assess whether it would qualify as an SBI or BAS. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.

4.25.24 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as foraging bats, European hedgehog, and badgers.

Conclusions

4.25.25 Most of site habitats are common throughout the region and not considered eligible for BAS / SBI status. However, the species-rich hedgerow has potential for BAS / SBI status and further surveys are therefore needed.

4.25.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- HEGS survey of species-rich hedgerow

4.26 CH085D (FID 154)

Site Description

- 4.26.1 The site is an area of land located to the south of Cheadle town (central grid reference SK 00652 41934). It is approximately 3.78 ha in area and surrounded by agricultural land and housing.
- 4.26.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.26.3 One locally designated site is located within 1 km of the study area (Table 4.26.1).

Table 4.26.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Huntley Wood	LWS	0.8 km SW	Ancient semi-natural woodland, with heathy ground flora. A sludge bed supports 1000+ orchids.

Habitats

- 4.26.4 The site habitats of scattered trees, species-rich hedgerow and species-poor hedgerow and species-poor improved grassland were all reported by Lockwood Hall Associates, 2014.

Species

- 4.26.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.26.6 Table 4.26.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.26.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>

	Common wasp	<i>Vespula vulgaris</i>
	Dingy skipper	<i>Erynnis tages</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	European white-fronted goose	<i>Anser albifrons subsp. albifrons</i>
	Great crested newt	<i>Triturus cristatus</i>
	Grey partridge	<i>Perdix perdix</i>
	Gwynne's mining bee	<i>Andrena bicolor</i>
	Honey bee	<i>Apis mellifera</i>
	Hornet	<i>Vespa crabro</i>
	House sparrow	<i>Passer domesticus</i>
	Hybrid bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large red tailed Bumble bee	<i>Bombus lapidarius</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Song thrush	<i>Turdus philomelos</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European water vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Little plover	<i>Charadrius dubius</i>

	Noctule bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.26.7 SER data search returned four amphibian records, two for common toad and two for great crested newt within 1 km of the site.
- 4.26.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

Badger

- 4.26.9 SER returned five records of badger.
- 4.26.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.26.11 SER returned 15 records of bats, which included one record of noctule bat, ten records of common / soprano pipistrelle species, three records of common pipistrelle and one record for soprano pipistrelle.
- 4.26.12 Lockwood Hall Associates, 2014 identified one oak tree as a potential bat roost. The other site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.26.13 SER returned records of 50 notable bird species recorded. Table 4.27.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.26.3 Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Common cuckoo	<i>Cuculus canorus</i>	Red
Lesser spotted woodpecker	<i>Dendrocopos minor</i>	Red
Pied flycatcher	<i>Ficedula hypoleuca</i>	Red

Common Name	Scientific Name	BoCC Status
Linnet	<i>Linaria cannabina</i>	Red
Common grasshopper warbler	<i>Locustella naevia</i>	Red
Grey wagtail	<i>Motacilla cinerea</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree sparrow	<i>Passer montanus</i>	Red
Grey partridge	<i>Perdix perdix</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Common swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
Mute Swan	<i>Cygnus olor</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common Snipe	<i>Gallinago gallinago</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber

4.26.14 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnet and bullfinch. The grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.26.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.26.16 No records of reptiles were returned within 1 km.

4.26.17 No reptiles were recorded during the site visit and no suitable habitats were identified by Lockwood Hall Associates, 2014.

Riparian mammals and white-clawed crayfish

- 4.26.18 The SER data search returned 13 records for water vole, and no suitable habitats were found. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.26.19 The SER data search returned 12 records of European hedgehog including one record within 20 m. The NBN data search returned four records within 1km of the site. The hedgerows present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

- 4.26.20 No invasive species were identified by Lockwood Hall Associates, 2014.

Evaluation

- 4.26.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.26.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees	Further surveys needed					
Species-rich hedgerow	Further surveys needed					
Species-poor hedgerow					X	
Species-poor improved grassland					X	
Overall site importance						
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.26.22 Species-poor improved grasslands, and species-poor hedgerows are common widespread habitats and were of nature conservation value at the local level only.

- 4.26.23 Lockwood Hall Associates, 2014 recorded the presence of a species-rich hedgerow but only graded it as locally importance due to its poor connectivity to the surrounding landscape. However, further surveys were recommended to assess its potential for BAS/ SBI status because it has 7 different woody species such as hawthorn, elder, Pedunculate oak, field maple (*Acer campestre*), ash and Sycamore (*Acer pseudoplatanus*) and dog rose. The SBI guidelines state that any hedgerow that has been planted before 1950 and is greater than 100 m in length' has potential to become an SBI the HEGS score system was devised to assess whether it would qualify as an SBI or BAS.

Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.

4.26.24 Lockwood Hall, 2014 said the scattered trees on site were of district importance but did not state the condition, age or number present. The SBI guidelines state that '10 or more veteran trees are eligible for SBI status and 5 or more are eligible for BAS status.'

4.26.25 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as roosting / foraging bats, European hedgehog, and badgers.

Conclusions

4.26.26 Most of site habitats are common throughout the region and not considered eligible for BAS / SBI status. However, the species-rich hedgerow has potential for BAS / SBI status, one oak tree has bat roost potential and the scattered trees also need to be assessed. Further surveys are therefore needed.

4.26.27 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- HEGS survey of species-rich hedgerow
- Bat survey
- Tree survey

4.27 CH127 EM1 (FID 218)

Site Description

- 4.27.1 The site is an area of land located to the south west of Cheadle (central grid reference SJ 99863 42299). It is approximately 4.17 ha in area and surrounded by agricultural land and housing.
- 4.27.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.27.3 Three locally designated sites are located within 1 km of the study area (Table 4.27.1).

Table 4.27.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Commonside Quarry	BAS	0.7 km S	A disused quarry site that is dominated by silver birch with an abundance of rowan and sycamore. Oak is frequently encountered but is quite young. Ash, beech and alder are also present. Elder is present in the shrub layer.
Huntley Wood	LWS	0.9 km E	Ancient semi-natural woodland, with heathy ground flora. A sludge bed supports 1000+ orchids.
Draycott common Wood	BAS	1 km S	Disused sludge lagoon in old sand and gravel pit that is becoming colonised with semi-natural vegetation.

Habitats

- 4.27.4 The site habitats of scattered trees, species-rich hedgerow, species-poor hedgerow and species-poor semi-improved grassland were all reported by Lockwood Hall Associates, 2014.

Species

4.27.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.27.6 Table 4.27.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.27.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Black-tailed godwit	<i>Limosa limosa</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>
	Dark-bellied brent goose	<i>Branta bernicla subsp. bernicla</i>
	Dingy skipper	<i>Erynnis tages</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	European white-fronted goose	<i>Anser albifrons subsp. albifrons</i>
	Great crested newt	<i>Triturus cristatus</i>
	Grey partridge	<i>Perdix perdix</i>
	Gwynne's mining bee	<i>Andrena bicolor</i>
	Honey bee	<i>Apis mellifera</i>
	Hornet	<i>Vespa crabro</i>
	House sparrow	<i>Passer domesticus</i>
	Hybrid bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Song thrush	<i>Turdus philomelos</i>

	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Black-tailed godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European water vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Greylag goose	<i>Anser anser</i>
	Little plover	<i>Charadrius dubius</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Whiskered bat	<i>Myotis mystacinus</i>

Amphibians

- 4.27.7 SER data search returned 11 amphibian records, six for common toad and five for great crested newt.
- 4.27.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

Badger

- 4.27.9 SER returned eight records of badger, with all records occurring over 850 m away from the site.
- 4.27.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.27.11 SER returned 15 records of bats, which included four unknown species, one myotis species, six records of pipistrelle species, three records of common pipistrelle, and one record of soprano pipistrelle.

4.27.12 Lockwood Hall Associates recorded low suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

4.27.13 SER returned records of 49 notable species recorded. Table 4.28.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.27.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Common grasshopper warbler	<i>Locustella naevia</i>	Red
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Eurasian tree sparrow	<i>Passer montanus</i>	Red
Grey partridge	<i>Perdix perdix</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Whinchat	<i>Saxicola rubetra</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Eurasian teal	<i>Anas crecca</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.27.14 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnet

and bullfinch. The grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

- 4.27.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.27.16 SER returned no records of reptiles within 1 km.
- 4.27.17 No reptiles were recorded during the site visit however, Lockwood Hall Associates, 2014 identified that the site has potential to support reptile species largely due to the presence of a nearby stream.

Riparian mammals and white-clawed crayfish

- 4.27.18 The SER data search returned six records for water vole, and no suitable habitats were found on site to support water vole. No evidence was found of habitats to support otter or white-clawed crayfish was found.

Other protected and key species

- 4.27.19 The SER data search returned 17 record of European hedgehog within 1km of the site. The hedgerow present within the site could provide foraging and nesting opportunities for the European hedgehog.

Invasive species

- 4.27.20 No invasive species were identified by Lockwood Hall Associates, 2014.

Evaluation

- 4.27.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.27.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees						
Species-poor improved grassland					X	
Species-poor hedgerow					X	
Overall site importance						
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.27.22 Species-poor improved grasslands, and species-poor hedgerows are common widespread habitats and were of nature conservation value at the local level only.

4.27.23 Scattered trees assessed as being of district importance by Lockwood Hall Associated, 2014 although they only stated three trees being present; two oaks and one sycamore tree. The Staffordshire SBI guidelines state that if a site has 5 or more broad-leaved veteran trees it can be eligible for BAS status, if there are 10 or more present it can be eligible for SBI status.

4.27.24 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as roosting / foraging bats, European hedgehog, and badger.

Conclusions

4.27.25 Most of site habitats are common throughout the region and not considered eligible for BAS / SBI status. However, the two scattered trees present could support roosting bats and be eligible for BAS status

4.27.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Bat survey of two oak trees

4.28 CH128 (FID 195)

Site Description

- 4.28.1 The site is an area of land located to the south of Cheadle (central grid reference SK 00788 41759). It is approximately 0.91 ha in area and surrounded by agricultural land and housing.
- 4.28.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.28.3 Three locally designated sites are located within 1 km of the study area (Table 4.28.1).

Table 4.28.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Huntley Wood	LWS	0.9 km W	Ancient semi-natural woodland, with heathy ground flora. A sludge bed supports 1000+ orchids.
Freehay	LWS	0.9 km E	A site with acid-grassland heathland mosaic habitats with Silver Birch, Oak and Rowan on the lower slopes. The most diverse areas are on the upper parts of the slopes.
Rakeway House Farm (south of)	LWS	1 km E	A range of grassland habitats including unimproved and semi-improved neutral grassland and unimproved acid grassland to the east. A pond with a marginal fringe made up of mostly yellow flag is also present.

Habitats

- 4.28.4 The site habitats of tall ruderal, scattered scrub, ephemeral grassland, amenity grassland and scattered trees were all reported by Lockwood Hall Associates, 2014.

Species

4.28.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.28.6 Table 4.28.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.28.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>
	Dingy skipper	<i>Erynnis tages</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	European white-fronted goose	<i>Anser albifrons subsp. albifrons</i>
	Great crested newt	<i>Triturus cristatus</i>
	Grey partridge	<i>Perdix perdix</i>
	Gwynne's mining bee	<i>Andrena bicolor</i>
	Honey bee	<i>Apis mellifera</i>
	Hornet	<i>Vespa crabro</i>
	House sparrow	<i>Passer domesticus</i>
	Hybrid bilberry	<i>Vaccinium vitis-idaea x myrtillus = V. x intermedium</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>

	Song thrush	<i>Turdus philomelos</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Little plover	<i>Charadrius dubius</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Brambling	<i>Fringilla montifringilla</i>
	Red kite	<i>Milvus milvus</i>
	Osprey	<i>Pandion haliaetus</i>
	European water vole	<i>Arvicola amphibius</i>
	Great crested newt	<i>Triturus cristatus</i>
	Redwing	<i>Turdus iliacus</i>
	Fieldfare	<i>Turdus pilaris</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Eurasian Badger	<i>Meles meles</i>

Amphibians

- 4.28.7 SER data search returned six amphibian records, three for common toad and three for great crested newt.
- 4.28.8 No amphibians were recorded during the site visit and no suitable habitat was found by Lockwood Hall Associates, 2014.

Badger

- 4.28.9 SER returned fifteen records of badger, with all records occurring over 690 m away from the site.
- 4.28.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.28.11 SER returned 17 records of bats, which included 2 unknown species, 1 myotis species, 10 records of pipistrelle species, 2 records of common pipistrelle and 1 record of soprano pipistrelle.

4.28.12 Lockwood Hall Associates did not identify any habitats on site that were suitable for potential bat roosts. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

4.28.13 SER returned records of 49 notable bird species. Table 4.29.2 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.28.2. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Common grasshopper Warbler	<i>Locustella naevia</i>	Red
house sparrow	<i>Passer domesticus</i>	Red
Eurasian tree sparrow	<i>Passer montanus</i>	Red
Grey partridge	<i>Perdix perdix</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Marsh tit	<i>Poecile palustris</i>	Red
Whinchat	<i>Saxicola rubetra</i>	Red
Eurasian woodcock	<i>Scolopax rusticola</i>	Red
Common starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
northern lapwing	<i>Vanellus vanellus</i>	Red
Eurasian teal	<i>Anas crecca</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.28.14 No birds were recorded on site during the visit. However, it is likely that the hedgerows and scattered trees provide some foraging and nesting habitats for a range of species such as dunnock, house sparrow, linnet and bullfinch. The grassland could provide foraging opportunities for species such as starling, fieldfare, and mistle thrush.

4.28.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.28.16 No records of any reptile species were returned from SER or NBN.

4.28.17 No reptiles were recorded during the site visit and no habitats were identified by Lockwood Hall Associates as being suitable for reptile species.

Riparian mammals and white-clawed crayfish

4.28.18 The SER data search returned 13 records for water vole and 2 otter records. However there are no suitable habitats found on site to support either water vole or otter populations. No evidence was found of habitats to support white-clawed crayfish was found.

Other protected and key species

4.28.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.28.20 No invasive species were identified by Lockwood Hall Associates, 2014.

Evaluation

4.28.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.28.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Tall ruderal vegetation						X
Scattered scrub						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.28.22 Scattered scrub and tall ruderal vegetation are common widespread habitats and were deemed of nature conservation value at the local level only.

4.28.23 No notable species were recorded by Lockwood Hall Associates, 2014. However, the site may support species such as foraging bats, European hedgehog, and badger.

Conclusion

4.28.24 Most of site habitats are common throughout the region and not considered eligible for BAS / SBI status. No protected species were identified on site and the site is considered to have low ecological importance.

4.28.25 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- None required

4.29 LE022 (FID 29)

Site Description

- 4.29.1 The site is an area of grassland and hedgerows located to the south west of Leek (central grid reference SJ 99502 55906). The site is surrounded by domestic dwellings to the north however; there is good connectivity to the wider landscape with adjacent broadleaved woodland and hedgerows.
- 4.29.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.29.3 Five locally designated sites are located within 1 km of the study area (Table 4.29.1).

Table 4.29.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Ladydale	LWS	0.4km W	An area of poor semi-improved grassland with a large proportion of semi-improved neutral grassland. The Lady o' th' Dale Well runs north and north-west through the woodland, and flows along the entire southern border of the site.
Lowe Hill	BAS	0.6km SE	A steep, east facing bank with two gullies running down to a plain where the water slows and creates areas of marshy grassland before leaching into a small stream.
Ladydale Wood Pasture	LWS	0.7km NE	A hillside of semi-improved neutral grassland rising towards the north-east, with a scattering of broad-leaved trees. The southern and eastern areas of the site contain marshy grassland, and there are several marshy areas further up the hillside.

Ballington Wood	LWS	0.7km W	Ballington Wood is cited in the woodland inventory as ancient semi-natural woodland. This is relevant to some sections of the wood however, some areas, predominantly the northern section, have been replanted with coniferous and mixed stands.
Kniveden Hall (east of)	LWS	0.8km NE	Marshy grassland is both the largest and most diverse component habitat, with adjoining semi-improved neutral grassland and broadleaved woodland adding to the interest of the area.

Habitats

- 4.29.4 The site habitats of improved grassland, species poor hedgerows and domestic gardens were all reported by Lockwood Hall Associates, 2014.

Species

- 4.29.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.29.6 Table 4.29.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.29.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bumble bee	<i>Bombus</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Four coloured cuckoo bee	<i>Bombus sylvestris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>

	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow meadow ant	<i>Lasius flavus</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Natterer's bat	<i>Myotis nattereri</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>

Amphibians

4.29.7 SER returned two species of amphibians. These included two records of common toad and two records of great crested newt.

4.29.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

4.29.9 SER returned 18 records of badger.

4.29.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.29.11 SER and NBN returned 22 records of bats, which included two records of unidentified species, 10 records of pipistrelle, eight records of common pipistrelle, one soprano pipistrelle and one natterer's bat.
- 4.29.12 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.29.13 SER returned records of 27 notable bird species. Table 4.30.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.29.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
Tawny owl	<i>Strix aluco</i>	Amber

- 4.29.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.29.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.29.16 SER returned three records of slow-worm and two records of grass snake.
- 4.29.17 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding

potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.29.18 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.29.19 SER returned one record of brown hare (*Lepus europaeus*) and 16 records of European hedgehog within 1km radius of the site. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.
- 4.29.20 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.29.21 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.29.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.29.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor hedge						X
Species poor grassland						X
Overall site importance						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.29.23 Species poor improved grassland and species poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.
- 4.29.24 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native reptiles' may be considered for SBI status.

Conclusions

- 4.29.25 The site has low ecological value in its potential to support protected species although grass snake, brown hare, hedgehog and

foraging bats have all been recorded here. The site habitats are considered to be of nature conservation value at site level only.

4.29.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- No action required

4.30 LE064 (FID 33)

Site Description

4.30.1 The site is an area of grassland located to the north west of Leek (central grid reference SJ 97315 56915). The site is surrounded by industrial buildings to the north and amenity grassland to the south and east. The site is poorly connected to the wider countryside by a small dry ditch and a narrow strip of broadleaved woodland. The wider area consists of farmland.

4.30.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.30.3 Four locally designated sites are located within 1 km of the study area (Table 4.30.1).

Table 4.30.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Brough Park Fields	LNR	Within site	Areas of high quality grasslands. Woodlands contain a mix of deciduous and coniferous trees, dominated by beech, oak, sycamore, horse chestnut, Norway maple, poplar and sycamore. The grassland, hedgerow and woodlands are used by resident and migrant birds for shelter, feeding and nesting, including chaffinch, dunnock, bullfinch, whitethroat, wren, willow warbler, long-tailed tit and tree creeper.

Brough Fields Country Park	LWS	0.8km NE	The site covers an area of approximately 8.27 hectares, and comprises mainly of unimproved and semi-improved neutral grassland, with a large area of poor semi-improved grassland located to the east of the site.
Foker Grange	BAS	0.8km NW	Diverse well drained grassland with scattered scrub.
West Wood	LWS	0.9km SW	A diverse broad-leaved woodland used for clay pigeon shooting and noted on Natural England's Ancient Woodland Inventory with a number of woodland indicator species present in the ground flora such as bluebell and wood anemone.

Habitats

- 4.30.4 The site habitats of species poor improved grassland, scattered trees, species poor hedgerows and buildings, remained as reported by Lockwood Hall Associates, 2014.

Species

- 4.30.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.30.6 Table 4.30.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.30.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a bumble bee	<i>Bombus</i>
	Black-tailed godwit	<i>Limosa limosa</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Centre-barred sallow	<i>Atethmia centrago</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>

	Common starling	<i>Sturnus vulgaris</i>
	Common wasp	<i>Vespula vulgaris</i>
	Dot moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky brocade	<i>Apamea remissa</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Four coloured cuckoo bee	<i>Bombus sylvestris</i>
	Ghost moth	<i>Hepialus humuli</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	Shaded broad-bar	<i>Scotopteryx chenopodiata</i>
	Shoulder-striped wainscot	<i>Leucania comma</i>
	Slow-worm	<i>Anguis fragilis</i>
	Small garden bumble bee	<i>Bombus hortorum</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Tree wasp	<i>Dolichovespula sylvestris</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-letter hairstreak	<i>Satyrium w-album</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Black-tailed godwit	<i>Limosa limosa</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common goldeneye	<i>Bucephala clangula</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>

	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Greylag goose	<i>Anser anser</i>
	Little plover	<i>Charadrius dubius</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>

Amphibians

- 4.30.7 SER returned seven records of great crested newt and three records of common toad.
- 4.30.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.30.9 SER returned 15 records of badger.
- 4.30.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. There was anecdotal evidence by a dog walker who said the area was used by badgers for foraging. There was also a set confirmed <170m east of the site. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.30.11 SER returned 24 records of bats, which included three records of unidentified species, 10 pipistrelle species, four common pipistrelle records, three records of natterer's bat and three records of brown long-eared bat and one record of unidentified *Myotis* species.
- 4.30.12 Lockwood Hall Associates identified a single tree as having potential for a bat roost. The other site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey and further assessment of the tree should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.30.13 SER returned records of 45 notable bird species. Table 4.31.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.30.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acanthis cabaret</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Willow tit	<i>Poecile montana</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.30.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

- 4.30.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.30.16 SER returned eight records of reptiles. These included one record of slow-worm and seven records of grass snake.

- 4.30.17 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.30.18 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.30.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.30.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014

Evaluation

- 4.30.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.30.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Planted mixed woodland						X
Tall ruderal vegetation						X
Species poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.30.22 Species poor improved grassland and tall ruderal vegetation are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.30.23 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native reptiles' may be considered for SBI status.

Conclusions

- 4.30.24 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.

- 4.30.25 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Further assessment of the tree for the potential to support roosting bats.
- Bat survey possibly required.

4.31 LE127 (FID 40)

Site Description

4.31.1 The site is an area of grassland located to the south east of Leek (central grid reference SJ 99712 55936). The site is surrounded by domestic housing to the west and species poor grassland to the north and east. To the south there is scrub and roads form the southern and eastern boundaries. The wider area consists of farmland.

4.31.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.31.3 Five locally designated sites are located within 1 km of the study area (Table 4.31.1).

Table 4.31.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Lowe Hill	BAS	0.5km SE	A steep, east facing bank with two gullies running down to a plain where the water slows and creates areas of marshy grassland before leaching into a small stream.
Ladydale	LWS	0.6km W	An area of poor semi-improved grassland with a large proportion of semi-improved neutral grassland. The Lady o' th' Dale Well runs through the north and north-western woodland area, and flows along the entire southern border of the site.
Kniveden Hall	LWS	0.9km NE	Marshy grassland is both the largest and most diverse component habitat, with adjoining semi-improved neutral grassland and broadleaved woodland adding to the interest of the area.

Ladydale Wood Pasture	LWS	0.9km W	A hillside of semi-improved neutral grassland rising towards the north-east, with a scattering of broad-leaved trees. The southern and eastern areas of the site contain marshy grassland, and there are several marshy areas further up the hillside.
Ballington Wood	LWS	0.9km W	Ballington Wood is cited in the woodland inventory as ancient semi-natural woodland. This is relevant to some sections of the wood however, some areas, predominantly the northern section, have been replanted with coniferous and mixed stands.

Habitats

- 4.31.4 The site habitats of species poor improved grassland, species poor hedgerow, scattered trees, and scattered scrub, remained as reported by Lockwood Hall Associates, 2014. The scattered scrub consists of goat willow and some tall ruderal vegetation. The site is poorly connected to other habitats with two roads intersecting habitats to the north and east.

Species

- 4.31.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.31.6 Table 4.31.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.31.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a bumble bee	<i>Bombus</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>

	Common toad	<i>Bufo bufo</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree Sparrow	<i>Passer montanus</i>
	Four coloured cuckoo bee	<i>Bombus sylvestris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow meadow ant	<i>Lasius flavus</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Natterer's bat	<i>Myotis nattereri</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>

Amphibians

- 4.31.7 SER Atlas returned four amphibian records. This included two records of common toad and two records of great crested newt.
- 4.31.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.31.9 SER returned 19 records of badger.

- 4.31.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than foraging habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.31.11 SER returned 21 records of bats, which included two records of unidentified species, one record of natterer's Bat, nine records of pipistrelle species, six records of common pipistrelle, one record of soprano pipistrelle and two records of brown long-eared bat.
- 4.31.12 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.31.13 SER returned records of 34 notable bird species. Table 4.31.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.31.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Tree sparrow	<i>Passer montanus</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.31.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of

common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

- 4.31.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.31.16 SER returned three records of a slow-worm, four records of grass snake and one record of common lizard occurring within 1km of the site.
- 4.31.17 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.31.18 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.31.19 SER returned one record of brown hare and 16 records of European hedgehog. NBN returned 8 records of European hedgehog.
- 4.31.20 The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.
- 4.31.21 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.31.22 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.31.23 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.32.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees						X
Scattered scrub						X
Species poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.31.24 Species poor improved grassland and scattered trees are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.
- 4.31.25 No notable species were recorded by Lockwood Hall Associates although brown hare, European hedgehog, badger and foraging bats have been recorded within 1km radius. There may be limited habitat available within the site for these species.
- 4.31.26 The site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native reptiles' may be considered for SBI status.

Conclusions

- 4.31.27 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.
- 4.31.28 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- None required.

4.32 LE128A (FID 39)

Site Description

- 4.32.1 The site is an area of grassland located to the east of Leek (central grid reference SJ 99820 56379). The site is surrounded by domestic dwellings to the west and species poor grassland to the north. To the east there are mixed planted woodland, council buildings and gardens. The wider area consists of a mosaic of farmland and roads.
- 4.32.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.32.3 Four locally designated sites are located within 1 km of the study area (Table 4.32.1).

Table 4.32.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Kniveden Hall	LWS	0.6km NE	Marshy grassland is both the largest and most diverse component habitat, with adjoining semi-improved neutral grassland and broadleaved woodland adding to the interest of the area.
Ladydale	LWS	0.9 km W	An area of poor semi-improved grassland with a large proportion of semi-improved neutral grassland. The Lady o' th' Dale Well runs through the north and north-western woodland area, and flows along the entire southern border of the site.

Ballington Wood	LWS	0.9km W	Ballington Wood is cited in the woodland inventory as ancient semi-natural woodland. This is relevant to some sections of the wood however, some areas, predominantly the northern section, have been replanted with coniferous and mixed stands.
Lowe Hill	BAS	0.8km S	A steep, east facing bank with two gullies running down to a plain where the water slows and creates areas of marshy grassland before leaching into a small stream.

Habitats

- 4.32.4 The site habitats of species poor improved grassland, scattered trees, species poor hedgerows and buildings, remained as reported by Lockwood Hall Associates, 2014.

Species

- 4.32.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.32.6 Table 4.32.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.32.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bumble bee	<i>Bombus</i>
	Barn owl	<i>Tyto alba</i>
	Brent goose	<i>Branta bernicla</i>
	Brown hare	<i>Lepus europaeus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Four coloured cuckoo bee	<i>Bombus sylvestris</i>
	Great crested newt	<i>Triturus cristatus</i>

	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow meadow ant	<i>Lasius flavus</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Natterer's bat	<i>Myotis nattereri</i>
	Northern pintail	<i>Anas acuta</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>

Amphibians

- 4.32.7 SER returned five amphibian records. These included two records of common toad and three records of great crested newt.
- 4.32.8 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.32.9 SER returned 18 records of badger.
- 4.32.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers.

Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.32.11 SER returned 23 records of bats, which included two records of unidentified species, 12 records of pipistrelle species, five records of common pipistrelle, one record of soprano pipistrelle, one natterer's bat, and two brown long-eared bats.
- 4.32.12 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.32.13 SER returned records of 33 notable bird species. Table 4.32.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.32.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Tree sparrow	<i>Passer montana</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Northern pintail	<i>Anas acuta</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Willow warbler	<i>Phylloscopus modularis</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.32.14 Woodpigeon were recorded on the site during the walkover survey. No breeding birds were observed on the site. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.32.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the

habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.32.16 SER returned two records of a slow-worm and two records of grass snake.

4.32.17 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.32.18 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.32.19 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

4.32.20 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.32.21 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.32.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor improved grassland						X
Species poor hedgerow						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.32.22 Species poor improved grassland and species poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. The site is also poorly connected to more diverse habitats with two roads intersecting the habitats to the north and east. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.

4.32.23 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly

supports a significant population of any native reptiles' may be considered for SBI status.

Conclusions

- 4.32.24 The site has low ecological value in its potential to support protected species. The site could be used potentially as foraging habitat by bats, badgers and west European hedgehog. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.
- 4.32.25 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- None required.

4.33 LE140 (FID 41)

Site Description

4.33.1 The site is an area of grassland and woodland located to the east of Leek (central grid reference SJ 99762 56649). The site is surrounded by domestic dwellings to the north and south west, with grassland to the west. A road intersects the site on its eastern boundary. The wider area consists of agricultural land and housing.

4.33.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.33.3 Two locally designated sites are located within 1 km of the study area (Table 4.33.1).

Table 4.33.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Kniveden Hall	LWS	0.7km E	Marshy grassland is both the largest and most diverse component habitat, with adjoining semi-improved neutral grassland and broadleaved woodland adding to the interest of the area.
Ladydale	LWS	1.0km SW	An area of poor semi-improved grassland with a large proportion of semi-improved neutral grassland. The Lady o' th' Dale Well runs through the north and north-western woodland area, and flows along the entire southern border of the site.

Habitats

4.33.4 The site habitats of planted broadleaved woodland, marshy grassland, ephemeral grassland and species poor grassland remained as reported by Lockwood Hall Associates, 2014.

Species

4.33.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.33.1 Table 4.33.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.33.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a bumble bee	<i>Bombus</i>
	Barn owl	<i>Tyto alba</i>
	Brent goose	<i>Branta bernicla subsp. bernicla</i>
	Brown hare	<i>Lepus europaeus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Four coloured cuckoo bee	<i>Bombus sylvestris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow meadow ant	<i>Lasius flavus</i>
Invasive	Himalayan balsam	<i>Impatiens glandulifera</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>

	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Natterer's bat	<i>Myotis nattereri</i>
	Northern pintail	<i>Anas acuta</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>

Amphibians

- 4.33.2 SER returned six amphibian records. These included three record of common toad and three record of great crested newt.
- 4.33.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.33.4 SER returned 14 records of badger.
- 4.33.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.33.6 SER returned 23 records of bats, which included four unidentified species, five common pipistrelle records, one record of soprano pipistrelle, 12 records of pipistrelle species, and one record of brown long-eared bat.
- 4.33.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.33.8 SER returned records of 34 notable bird species recorded within 1 km of the site. Table 4.33.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.33.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acathis cabaret</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common redstart	<i>Phoenicurus phoenicurus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.33.9 Birds including magpie, goldfinch, and woodpigeon were observed on site. No breeding birds were observed. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.33.10 The area of tall grassland sward could potentially provide habitat for ground nesting birds and foraging habitat for barn owl, kestrel (*Falco tinnunculus*) and green woodpecker (*Picus viridis*). The habitats present on site were considered to be of importance to nesting and foraging birds at district level.

Reptiles

- 4.33.11 SER returned five records of reptiles. These included two records of a slow-worm and three records of a grass snake.
- 4.33.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.33.13 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.33.14 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.33.15 Himalayan balsam is a Schedule 9 species listed in the Wildlife and Countryside Act 1981 and was found in various places along the stream and tall ruderal vegetation to the north east of the site.

Evaluation

- 4.33.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.33.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Planted broadleaved woodland					X	
Ephemeral grassland					X	
Marshy grassland					X	
Semi-improved species poor grassland				X		
Species poor hedgerow					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.33.17 Species poor improved grassland and species poor hedgerow are common widespread habitats and were of nature conservation value at the local level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The sward has diverse floral species including hard rush (*Juncus inflexus*), soft rush (*Juncus effuses*), pendulous sedge (*Carex pendula*), bird's foot trefoil (*Lotus corniculatus*), red bartsia (*Odontites vernus*), and St. John'swort (*hypericum perforatum*).
- 4.33.18 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. There is however the potential for the site to provide nesting and foraging habitat for birds and also foraging habitat for badger, bats, and west European hedgehog. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native reptiles' may be considered for SBI status.

Conclusions

- 4.33.19 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at local level only.

4.33.20 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- None required

4.34 LE142A (FID 72)

Site Description

- 4.34.1 The site is an area of grassland with scattered trees located to the east of Leek (central grid reference SJ 99853 56817). The site is surrounded by housing to the west and agricultural land to the east. The wider area consists of a mosaic of farmland and roads.
- 4.34.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.34.3 Four locally designated sites are located within 1 km of the study area (Table 4.34.1).

Table 4.34.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Kniveden Hall	LWS	0.6km	Marshy grassland is both the largest and most diverse component habitat, with adjoining semi-improved neutral grassland and broadleaved woodland adding to the interest of the area.
Ladydale	LWS	0.9km SW	An area of poor semi-improved grassland with a large proportion of semi-improved neutral grassland. The Lady o' th' Dale Well runs through the north and north-western woodland area, and flows along the entire southern border of the site.

Ball Haye Grenn Disused Tip	LWS	1.0km NW	A disused tip supporting a variety of vegetation types including marshy grassland, species-rich semi-improved neutral grassland, species-poor semi-improved neutral grassland, broad-leaved semi-natural woodland and scrub.
Edge End Wood	LWS	1.0km N	Species-rich marshy grassland and ancient semi-natural broad-leaved woodland located in a steep-sided stream valley.

Habitats

- 4.34.4 The site habitats of scattered trees, species poor grassland and species poor hedgerow remained as reported by Lockwood Hall Associates, 2014.

Species

- 4.34.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.34.1 Table 4.34.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.34.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a bumble bee	<i>Bombus</i>
	Barn owl	<i>Tyto alba</i>
	Brent goose	<i>Branta bernicla subsp. bernicla</i>
	Brown hare	<i>Lepus europaeus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common Bullfinch	<i>Pyrrhula pyrrhula</i>
	Common Carder-bee	<i>Bombus pascuorum</i>
	Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Four coloured cuckoo bee	<i>Bombus sylvestris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>

	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow meadow ant	<i>Lasius flavus</i>
Invasive	Himalayan balsam	<i>Impatiens glandulifera</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Natterer's bat	<i>Myotis nattereri</i>
	Northern pintail	<i>Anas acuta</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>

Amphibians

- 4.34.2 SER returned six amphibian records. These included three records of common toad and three records of great crested newt.
- 4.34.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.34.4 SER returned 14 record of badger.
- 4.34.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was

recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.34.6 SER returned 36 records of bats, which included six records of unidentified species, 15 records of pipistrelle species, 11 common pipistrelle records, one soprano pipistrelle, three records of brown long-eared bat and one record for natterer's bat.

4.34.7 12 trees were identified as having bat roost potential however; these trees were not specifically identified on the map. The relevant trees will be needed to be identified and assessed for their potential to support bat roosts. The site could also provide also provide foraging and commuting opportunity for bats. An activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

4.34.8 SER returned records of 34 notable species recorded within 1 km of the site. Table 4.34.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.34.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Eurasian curlew	<i>Numenius aquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.34.9 Birds including carrion crow and woodpigeon were recorded on site. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

- 4.34.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.34.11 SER returned nine records of reptiles. These included three records of a slow-worm and six records of a grass snake.
- 4.34.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.34.13 No habitats were present within or adjacent to the site which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.34.14 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.34.15 Himalayan balsam a Schedule 9 listed species on the Wildlife and Countryside Act 1981 was recorded by Lockwood Hall Associates, 2014. It was found along the stream and tall ruderal vegetation in various places along the north east of the site.

Evaluation

- 4.34.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.34.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor improved grassland						X
Species poor hedgerow						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.34.17 Species poor improved grassland and species poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.

- 4.34.18 No notable species were recorded by Lockwood Hall Associates. However there was noted that a number of trees could provide potential or bat roosts (however no score was provided). If bats were

found following further surveys then this could allow for the site to be considered for SBI/BAS status. If the site has a significant population of notable bat species then the areas of foraging and maternity roosts are considered for protection.

Conclusions

- 4.34.19 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the potential for bats roosts on the site.
- 4.34.20 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Identification and assessment of relevant trees for their potential to support roosting bats.
 - Bat survey

4.35 LE142B (FID 73)

Site Description

- 4.35.1 The site is an equine livery and small caravan park with areas of grassland and young woodland located to the east of Leek (central grid reference SJ 99847 57059). The site has housing situated to the west and farmland located to the east. The rest of the site is surrounded by roads. The wider area consists of a mosaic of farmland and small villages.
- 4.35.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.35.3 Six locally designated sites are located within 1 km of the study area (Table 4.35.1).

Table 4.35.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Kniveden Hall	LWS	0.4km SE	Marshy grassland is both the largest and most diverse component habitat, with adjoining semi-improved neutral grassland and broadleaved woodland adding to the interest of the area.
Edge End Wood	LWS	0.6km N	Species-rich marshy grassland and ancient semi-natural broad-leaved woodland located in a steep-sided stream valley.
Ball Haye Green Disused Tip	LWS	0.7km NW	A disused tip supporting a variety of vegetation types including marshy grassland, species-rich semi-improved neutral grassland, species-poor semi-improved neutral grassland, broad-leaved semi-natural woodland and scrub.

Wormlow	LWS	0.8km NW	Stream with steep sloping banks, grazed by cattle.
Solomon's Hollow	BAS	0.8km N	Species-rich verges either side the A53 Leek to Buxton Road where the road enters a steep dip crossing a stream.
Edge End Farm	LWS	0.9km NW	The site composes steep slopes that enclose and descend down to a flattened basin floor, which runs alongside the brook.

Habitats

- 4.35.4 The site habitats of broadleaved woodland, species poor amenity grassland and scattered trees remained as reported by Lockwood Hall Associates, 2014.

Species

- 4.35.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.35.1 Table 4.35.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.35.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bumble bee	<i>Bombus</i>
	Barn owl	<i>Tyto alba</i>
	Brent goose	<i>Branta bernicla subsp. bernicla</i>
	Brown hare	<i>Lepus europaeus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Early bumble bee	<i>Bombus pratorum</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European otter	<i>Lutra lutra</i>
	Four coloured cuckoo bee	<i>Bombus sylvestris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>

	insect - hymenopteran	<i>Andrena clarkella</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow meadow ant	<i>Lasius flavus</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European otter	<i>Lutra lutra</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Greylag goose	<i>Anser anser</i>
	Northern pintail	<i>Anas acuta</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>

Amphibians

- 4.35.2 SER returned two amphibian records. These included one record of common toad and one record of great crested newt.
- 4.35.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.35.4 SER returned 15 record of badger.
- 4.35.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the

site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.35.6 SER returned 33 records of bats. This included 6 records of unidentified species, 12 records of pipistrelle species, nine common pipistrelle, two soprano pipistrelle, two records for brown long-eared bat, one Daubenton's bat and one record for noctule bat. Additionally, NBN Atlas returned a record of brown long-eared bat.

4.35.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

4.35.8 SER returned records of 44 notable bird species. Table 4.35.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.35.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Ringed plover	<i>Charadrius hiaticula</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicephalus ridibundus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.35.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

- 4.35.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.35.11 SER returned nine records of reptiles; these included two records of slow-worm and seven records of grass snake.
- 4.35.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.35.13 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.35.14 There is a sufficient amount of farm building and surrounding habitat to support polecats.

Invasive species

- 4.35.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.35.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.35.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Broadleaved woodland						X
Species poor amenity grassland						X
Scattered trees						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.35.17 Broadleaved woodland and species poor amenity grassland are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.
- 4.35.18 No notable species were recorded by Lockwood Hall Associates. However there is potential for the site to support polecats. Therefore, the site could possibly qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly

supports a significant population of any native reptiles' may be considered for SBI status.

Conclusions

- 4.35.19 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.
- 4.35.20 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Polecat survey required.

4.36 LE150 (FID 207)

Site Description

- 4.36.1 The site is an area of grassland and woodland located to the southeast of Leek (central grid reference SJ 98828 55363). To the northwest and south the site there is housing; additionally to the south is Leek golf course. To the east of the site is Ballington Wood a LWS, and to the west there is a large pond within 200m. The rest of the site is surrounded by farmland.
- 4.36.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.36.3 Four locally designated sites are located within 1 km of the study area (Table 4.36.1).

Table 4.36.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Ballington Wood	LWS	0.3km E	Ballington Wood is cited in the woodland inventory as ancient semi-natural woodland. This is relevant to some sections of the wood however, some areas, predominantly the northern section, have been replanted with coniferous and mixed stands.
Ladydale Wood Pasture	LWS	0.5km N	A hillside of semi-improved neutral grassland rising towards the north-east, with a scattering of broad-leaved trees. The southern and eastern areas of the site contain marshy grassland, and there are several marshy areas further up the hillside.

Ladydale	LWS	0.5km NE	An area of poor semi-improved grassland with a large proportion of semi-improved neutral grassland. The Lady o' th' Dale Well runs through the north and north-western woodland area, and flows along the entire southern border of the site.
Birchall Meadow	BAS	0.7km W	Approximately one hectare of species-rich semi-improved neutral grassland. There is a small area of bare ground situated along the entire eastern border with another small area along the north-east border of the site.

Habitats

- 4.36.4 The site habitats of semi-natural broadleaved woodland, scattered trees and amenity grassland remained as reported by Lockwood Hall Associates, 2014.

Species

- 4.36.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.36.1 Table 4.36.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.36.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	Chiroptera
	a bumble bee	Bombus
	Brown hare	Lepus europaeus
	Buff-tailed bumble bee	Bombus terrestris
	Common bullfinch	Pyrrhula pyrrhula
	Common carder-bee	Bombus pascuorum
	Common pipistrelle	Pipistrellus pipistrellus sensu stricto
	Common starling	Sturnus vulgaris
	Common toad	Bufo bufo
	Common wasp	Vespula vulgaris
	Dot moth	Melanchra persicariae
	Dunnock	Prunella modularis
	Dusky brocade	Apamea remissa
	Eurasian curlew	Numerius arquata

	Eurasian tree sparrow	<i>Passer montanus</i>
	Ferret	<i>Mustela putorius subsp. furo</i>
	Four coloured cuckoo bee	<i>Bombus sylvestris</i>
	Ghost moth	<i>Hepialus humuli</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Herring gull	<i>Larus argentatus</i>
	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	Shaded broad-bar	<i>Scotopteryx chenopodiata</i>
	Shoulder-striped wainscot	<i>Leucania comma</i>
	Slow-worm	<i>Anguis fragilis</i>
	Small garden bumble bee	<i>Bombus hortorum</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Tree wasp	<i>Dolichovespula sylvestris</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citronella</i>
EU/UK protected	a bat	Chiroptera
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common Kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Ferret	<i>Mustela putorius subsp. furo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Natterer's bat	<i>Myotis nattereri</i>

	Peregrine falcon	Falco peregrinus
	Pipistrelle	Pipistrellus pipistrellus sensu lato
	Pipistrelle bat species	Pipistrellus
	Polecat	Mustela putorius
	Redwing	Turdus iliacus
	Slow-worm	Anguis fragilis

Amphibians

- 4.36.2 SER returned 13 amphibian records. These included five records of common toad and eight records of great crested newt.
- 4.36.3 No amphibians were recorded during the site visit. An ornamental pond was recorded within 200m of the site though this was considered to not to be used by great crested newts as it was surrounded by unsuitable terrestrial habitat. In addition there were 2 roads that potential populations would need to cross in order to reach the pond. It is therefore considered that the site does not have the potential to support amphibians.

Badger

- 4.36.4 SER and NBN Atlas returned 22 records of badger.
- 4.36.5 No badger setts were identified on site, however field signs were recorded. A number of snuffle holes and latrines were found on the border of the amenity grassland and broadleaved woodland. The site could be providing potential foraging habitat for badgers. Although no sett was found there is the potential for a sett to be located further into the woodland. Therefore, it is recommended that a further badger survey is undertaken and further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.36.6 SER returned 31 records of bats, which included three records of unidentified species, 10 records of pipistrelle species, 10 common pipistrelle, two records for soprano pipistrelle, two brown long-eared bat, one record for Daubenton's bat, one record for whiskered bat, one record for noctule bat and one record for natterer's bat.
- 4.36.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.36.8 SER returned records of 37 notable bird species. Table 4.36.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.36.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
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Common Name	Scientific Name	BoCC Status
Yellowhammer	<i>Emberiza citrinella</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.36.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.36.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.36.11 SER and NBN Atlas returned 12 records of reptiles. These included three records of a slow-worm and nine records of a grass snake.

4.36.12 No reptiles were recorded during the site visit. The site is connected to a scrub/woodland mosaic and other hedgerow and therefore provides woodland edge habitat that is preferred by reptiles. The site is considered to have potential to support reptile species and it is therefore recommended that a full reptile survey is carried out.

Riparian mammals and white-clawed crayfish

4.36.13 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.36.14 SER returned one record for polecat (*Mustela putorius*).

- 4.36.15 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.36.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.36.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.36.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Semi-natural broadleaved woodland				X		
Species poor amenity grassland						X
Scattered trees						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.36.18 Species poor amenity grassland is common widespread habitat and of nature conservation value at the site level only. This habitat is not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status. The semi-natural broadleaved woodland is considered to be of district importance as the composition represents a W10 *Quercus robur-Pteridium aquilinum – Rubus fruticosus* woodland. The woodland located 0.3 km to the east of the site is Ballington Wood which is an LWS and also classified as ancient woodland. Although this is not on site, the canopy covers 95% of the site area.

- 4.36.19 No notable species were recorded by Lockwood Hall Associates. However there was evidence of badgers and the potential for the site to support reptiles and polecat. Therefore, the site could possibly qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native reptiles' may be considered for SBI status. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia.

Conclusions

- 4.36.20 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at district level only. However, more information is required regarding the potential to support a population of reptiles and badgers

4.36.21 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Badger surveys
- Reptile surveys

4.37 LE249 (FID 43)

Site Description

- 4.37.1 The site is an area of buildings with hard standing located to the south west of Leek (central grid reference SJ 97285 55122). The site is surrounded by the Ladderedge Country Park to the west and south, a golf course and stream to the north with connective scrub and scattered trees and to the east the site is intersected by the A53 with domestic dwellings. The wider area consists of a mosaic of farmland and small villages.
- 4.37.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.37.3 Five locally designated sites are located within 1 km of the study area (Table 4.37.1).

Table 4.37.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Ladderedge Country Park	LNR	0km W	Unimproved grassland meadows dominated by Red Fescue with abundant Yorkshire Fog, common Ben and Sweet Vernal grass. The Marsh supports a variety of habitats and vegetation communities. The site includes mature oak, birch and sycamore with hazel, hawthorn and holly understory. Honeysuckle, bramble and bracken dominate the ground layer. Bluebells are also prolific over wide areas. A breeding population of great crested newts have been located in one of the ponds at Ladderedge Country Park.

Caldon Canal	LWS	0.5km E	Diverse canal towpath and canal with some emergent vegetation between SJ 962 537 and 974 543.
Beech Close, Longsdon	LWS	0.8km W	Species rich acid and neutral semi-natural grassland with areas of exposed sandstone rock.
Birchall Meadow	BAS	0.8km E	Approximately one hectare of species-rich semi-improved neutral grassland. There is a small area of bare ground situated along the entire eastern border with another small area along the north-east border of the site.
Longsdon Wood and Cowhay Wood	LWS	0.9km NW	The site consists of a linear strip of secondary broadleaved woodland 2.2km long running from north to south. Maturing oaks are a predominant feature of the wood; with more locally frequent silver birch, rowan, and beech.

Habitats

- 4.37.4 The site habitats of buildings, dense scrub, planted broadleaved woodland and tall ruderal vegetation remained as reported by Lockwood Hall Associates, 2014.

Species

- 4.37.5 No notable species were recorded by Lockwood Hall Associates, 2014
- 4.37.6 Table 4.37.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.37.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Centre-barred sallow	<i>Atethmia centrago</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>

	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>
	Dot moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky brocade	<i>Apamea remissa</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Ferret	<i>Mustela putorius subsp. furo</i>
	Ghost moth	<i>Hepialus humuli</i>
	Grass snake	<i>Natrix natrix</i>
	Herring gull	<i>Larus argentatus</i>
	House sparrow	<i>Passer domesticus</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	Shaded broad-bar	<i>Scotopteryx chenopodiata</i>
	Shoulder-striped wainscot	<i>Leucania comma</i>
	Small garden bumble bee	<i>Bombus hortorum</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Tree wasp	<i>Dolichovespula sylvestris</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-letter hairstreak	<i>Satyrium w-album</i>
	Willow tit	<i>Poecile montana</i>
	Yellow wagtail	<i>Motacilla flava</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Ferret	<i>Mustela putorius subsp. furo</i>
	Fieldfare	<i>Turdus pilaris</i>

	Grass snake	<i>Natrix natrix</i>
	Little plover	<i>Charadrius dubius</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.37.7 SER returned 10 amphibian records. These included three records of common toad and seven records of great crested newt.
- 4.37.8 No amphibians were recorded during the site visit. However, due to the good connectivity with Ladderedge Country Park where great crested newts have been recorded, there is the possibility that the site could potentially support amphibians in their terrestrial phase.

Badger

- 4.37.9 SER returned 24 records of badger.
- 4.37.10 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.37.11 SER returned 18 records of bats, which included one record for an unidentified species, one myotis species record, eight pipistrelle species, five common pipistrelle records, one record for a soprano pipistrelle and two records for brown long-eared bat.
- 4.37.12 Lockwood Hall Associates recorded that the building on the site had low potential bat roosts. There were no trees recorded as having any potential. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.37.13 SER returned records of 36 notable bird species. Table 4.37.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.37.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
Grey wagtail	<i>Motacilla cinerea</i>	Red
House sparrow	<i>Passer domesticus</i>	Red

Common Name	Scientific Name	BoCC Status
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Common redstart	<i>Phoenicurus phoenicurus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.37.14 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.37.15 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.37.16 SER returned 11 records of reptiles. This included one record of slow-worm and 10 records of grass snake.

4.37.17 No reptiles were recorded during the site visit. However there are areas of edge habitat along the planted broadleaved woodland, scrub and tall ruderal vegetation that could potentially support a population of reptiles. It is therefore recommended that a reptile survey is undertaken.

Riparian mammals and white-clawed crayfish

4.37.18 No habitats were present within or adjacent to the site that are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.37.19 SER returned three records for brown trout (*Salmo trutta*) and one record for polecat (*Mustela putorius*) within 1km radius of the site.

4.37.20 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.37.21 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.37.22 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.38.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Planted broadleaved woodland					X	
Dense scrub					X	
Tall ruderal vegetation					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.37.23 The site itself consists of mainly buildings and hard standing, 15% of the site area is formed by a small area of planted broadleaved woodland, scrub and tall ruderal vegetation. This composition provides valuable edge habitat for reptiles and therefore the site is considered to have a local level of ecological importance. Management of the scrub could be considered to provide refugia and basking areas for reptiles. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.37.24 No notable species were recorded by Lockwood Hall Associates; however it was indicated that there was potential of reptiles to be present on site given the edge habitats found on site. The presence of reptiles on the site could potentially allow for consideration of SBI/BAS status if the site was found to regularly support a native population of reptiles. The Staffordshire SBI guidelines state that 'any site which regularly supports a significant population of any native reptiles' may be considered for SBI status. Management of the scrub and edge habitats within the site could be considered to promote areas for reptiles to bask in and places for refugia.

Conclusions

- 4.37.25 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at local level only. However, more information is required requiring the presence/absence of reptiles.
- 4.37.26 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Reptile survey required.

4.38 LEEK EM2 (FID 208)

Site Description

4.38.1 The site is an area of marshy grassland located to the east of Leekbrook (central grid reference SJ 99447 53737). The site forms part of the Twinney Wood and Grassland SBI. The rest of the site is surrounded by agricultural land, woodland and industrial buildings. The wider area consists of a mosaic of farmland and small villages.

4.38.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.38.3 Five locally designated sites are located within 1 km of the study area (Table 4.38.1).

Table 4.38.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Twinney Wood and Grassland	SBI	Part of site is within the LWS	The site consists of a range of habitats which include species-rich semi-improved grassland, marshy grassland, acid grassland, the semi-natural broadleaved woodland to the south and two small streams which pass through the site.
Ferny Hill	LWS	0.7km SE	Lowland heath, with an area of cattle grazed pasture.
Rod Wood	SWT Nature Reserve	0.8km S	Species rich grasslands and woodland managed by Staffordshire Wildlife Trust
Cheddleton Heath	LWS	0.9km W	Mixed moorland with developing scrub.
Ringehay Grassland	SBI	0.9km W	Semi-improved pasture that still retains good species diversity.

Habitats

4.38.4 The site habitats of marshy grassland, scattered scrub and broadleaved woodland remained as reported by Lockwood Hall Associates, 2014.

Species

4.38.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.38.1 Table 4.38.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.38.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Argent and Sable	<i>Rheumaptera hastata</i>
	August thorn	<i>Ennomos quercinaria</i>
	Autumnal rustic	<i>Eugnorisma glareosa</i>
	Barn owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brindled beauty	<i>Lycia hirtaria</i>
	Broom moth	<i>Ceramica pisi</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Brown-spot pinion	<i>Agrochola litura</i>
	Buff ermine	<i>Spilosoma lutea</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Centre-barred sallow	<i>Atethmia centrigo</i>
	Chequered skipper	<i>Carterocephalus palaemon</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common lizard	<i>Zootoca vivipara</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dark brocade	<i>Mniotype adusta</i>
	Dark-barred twin-spot carpet	<i>Xanthorhoe ferrugata</i>
	Dingy skipper	<i>Erynnis tages subsp. tages</i>
	Dot moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky brocade	<i>Apamea remissa</i>
	Dusky thorn	<i>Ennomos fuscantaria</i>
	Dusky-lemon sallow	<i>Cirrhia gilvago</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Feathered gothic	<i>Tholera decimalis</i>

	Flounced chestnut	<i>Agrochola helvola</i>
	Ghost moth	<i>Hepialus humuli</i>
	Gooden's nomad bee	<i>Nomada goodeniana</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Green-brindled crescent	<i>Allophyes oxyacanthae</i>
	Grey dagger	<i>Acronicta psi</i>
	Hen harrier	<i>Circus cyaneus</i>
	Herring gull	<i>Larus argentatus</i>
	House sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Ectemnius continuus</i>
	Knot grass	<i>Acronicta rumicis</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Mouse moth	<i>Amphipyra tragopoginis</i>
	Neglected rustic	<i>Xestia castanea</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Oak hook-tip	<i>Watsonalla binaria</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Powdered quaker	<i>Orthosia gracilis</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Rosy minor	<i>Litoligia literosa</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	Rustic	<i>Hoplodrina blanda</i>
	Sallow	<i>Cirrhia icteritia</i>
	September thorn	<i>Ennomos erosaria</i>
	Shaded broad-bar	<i>Scotopteryx chenopodiata</i>
	Shoulder-striped wainscot	<i>Leucania comma</i>
	Sky lark	<i>Alauda arvensis</i>
	Small garden bumble bee	<i>Bombus hortorum</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Small phoenix	<i>Ecliptopera silaceata</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Spinach	<i>Eulithis mellinata</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	The Streak	<i>Chesias legatella</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Tree pipit	<i>Anthus trivialis</i>
	West European hedgehog	<i>Erinaceus europaeus</i>

	White ermine	<i>Spilosoma lubricipeda</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
	Wood warbler	<i>Phylloscopus sibilatrix</i>
	Yellowhammer	<i>Emberiza citronella</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common crossbill	<i>Loxia curvirostra</i>
	Common lizard	<i>Zootoca vivipara</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Green sandpiper	<i>Tringa ochropus</i>
	Hen harrier	<i>Circus cyaneus</i>
	Osprey	<i>Pandion haliaetus</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Whooper swan	<i>Cygnus cygnus</i>

Amphibians

- 4.38.2 SER returned four amphibian records. These included two common toad and two great crested newts.
- 4.38.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.38.4 SER returned 14 records of badger.
- 4.38.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. There are records of badgers within the vicinity of the site and it is recommended that a further badger survey be carried out prior to any development. It is likely that the site would provide marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence and recent excavation of setts should be undertaken prior to any future development.

Bats

- 4.38.6 SER returned 54 records of bats, which included one record of an unidentified species, 16 records of pipistrelle species, 19 common pipistrelle, 15 brown long-eared bats, three Daubenton's bat, one record for whiskered/Brandt's bat.
- 4.38.7 Lockwood Hall Associates recorded 2 alder trees with the potential for bat roosts on site. It is therefore recommended that these trees are surveyed for bats. The site habitats could provide marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.38.8 SER returned records of 53 notable bird species. Table 4.38.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.38.3 Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Skylark	<i>Alauda arvensis</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.38.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunities for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.38.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.38.11 SER returned 25 records of reptiles. These included five records of slow-worm, 15 records of grass snake, one adder record, and four records of common lizard.
- 4.38.12 The site is well connected to a scrub/broadleaved woodland mosaic which could offer habitat for reptiles. Therefore, reptiles are considered to be a receptor for the site, and it is recommended that a reptile survey is carried out.

Riparian mammals and white-clawed crayfish

- 4.38.13 No habitats were present within or adjacent to the site that is likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.38.14 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.38.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.38.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.38.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Semi natural broadleaved woodland			X			
Scattered scrub			X			
Marshy grassland			X			
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.38.17 A large proportion of the site has already been designated as part of the Twinney Wood and Grassland SBI and therefore the ecological importance of the site is regional. The semi natural broadleaved woodland broadly falls into the NVC W9 *Fraxinus excelsior* – *Sorbus aucuparia* – *Mercurialis perennis* woodland which is considered a rare or uncommon woodland community in Staffordshire.
- 4.38.18 Lockwood Hall Associates 2014 reported that there were 2 trees have bat roost potential (however no score was indicated). If the site has a significant population of a notable bat species then areas of foraging and maternity roosts for that population are considered for protection.
- 4.38.19 The phase 1 survey also indicated that reptiles may use the site due to a mosaic habitat structure and good connectivity to other

suitable habitat. Management of the scrub/broadleaved woodland mosaic to create scalloped edge habitats which reptiles use for basking could be implemented. In addition areas of refugia could be created, for example log piles. Woodland management should also aim to maintain and increase structural diversity; retaining old and dead wood, and ensuring opportunities for regeneration through selective thinning. Scrub management may be required to prevent succession of the grassland.

Conclusions

- 4.38.20 The site has moderate ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at the regional level. However, more information is required regarding the potential for bat roosts in the identified trees, the potential for badger setts and whether reptiles are present on site.
- 4.38.21 The following surveys/ actions are therefore recommended in order to continue the SBI/ BAS status of the site:
- Further survey of the 2 trees identified as potential bat roosts
 - Further badger surveys
 - Reptile survey

4.39 WE052 (FID 11)

Site Description

- 4.39.1 The site is an area of grassland located in Werrington (central grid reference SJ 94204 47415). It is approximately 0.9 ha in area and immediately adjacent to housing to the north and south with agricultural land surrounding the remaining two sides. The wider area consists of a mosaic of farmland and small villages.
- 4.39.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 habitat report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.39.3 One statutory site is located within 1 km of the study area (Table 4.39.1).

Table 4.39.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Wetley Moor SSSI	SSSI	1 km NW	118 hectare of common and lowland heathland in Werrington. Breeding birds such as linnet, whitethroat and grasshopper warblers.

Habitats

- 4.39.4 The site habitats of species poor hedgerow, scattered trees, species poor grassland and tall ruderal vegetation were recorded by Lockwood Hall Associates, 2014.

Species

- 4.39.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.39.1 Table 4.39.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.39.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Ant	<i>Formicidae</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common snipe	<i>Gallinago gallinago</i>

	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Great crested newt	<i>Triturus cristatus</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Sky lark	<i>Alauda arvensis</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree pipit	<i>Anthus trivialis</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow wagtail	<i>Motacilla flava subsp. flavissima</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Brambling	<i>Fringilla montifringilla</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Greylag goose	<i>Anser anser</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.39.2 SER returned one record of great crested newt.
- 4.39.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.39.4 SER returned three records of badger.
- 4.39.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.39.6 SER returned one bat record, which is a pipistrelle (*pipistrellus*) species.

4.39.7 Lockwood Hall Associates identified 5 trees which has the potential to support bats on site.

Birds

4.39.8 SER returned records of 40 notable bird species. Table 4.39.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.39.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Wood warbler	<i>Phylloscopus sibilatrix</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.39.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.39.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.39.11 No records of reptiles were returned within 1 km.

4.39.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.39.13 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.39.14 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.39.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.39.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.39.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor grassland						X
Species poor hedgerow						X
Tall ruderal vegetation						X
Scattered trees	Importance to be determined following further survey					
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.39.17 Species poor grassland, tall ruderal vegetation and species poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.

- 4.39.18 Lockwood Hall Associates recorded the presence of scattered trees on site, and deemed five of the trees as having the potential to support roosting bats. The Staffordshire SBI guidelines state that if 'a site has a significant population of a notable species (species with five or less maternity roosts in Staffordshire)' then it could be eligible for SBI status and 'protection zones should be created around known bat roosts'. Further surveys are required on the trees to assess for their potential to support roosting bats.

Conclusions

- 4.39.19 The site habitats are considered to be of nature conservation value at site level only and are not eligible for possible SBI/ BAS status. However, the five trees on site have the potential to support bats and as such, require further assessment.

4.39.20 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Assessment of the five trees for their potential to support roosting bats.

4.40 WE069 (FID 71)

Site Description

4.40.1 The site is an area of grassland located to the east of Werrington (central grid reference SJ 94427 47877). It is approximately 0.22 ha in area and immediately adjacent to housing to the south with agricultural land surrounding the remaining sides. The wider area consists of a mosaic of farmland and small villages.

4.40.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 habitat report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.40.3 One statutory site is located within 1 km of the study area (Table 4.40.1).

Table 4.40.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Wetley Moor SSSI	SSSI	1 km NW	118 hectare of common and lowland heathland in Werrington. Breeding birds such as linnet, whitethroat and grasshopper warblers.

Habitats

4.40.4 The site habitats of species poor hedgerow, scattered trees, species poor grassland and tall ruderal vegetation were recorded by Lockwood Hall Associates, 2014.

Species

4.40.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.40.1 Table 4.40.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.40.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Ant	<i>Formicidae</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common snipe	<i>Gallinago gallinago</i>

	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Great crested newt	<i>Triturus cristatus</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Sky lark	<i>Alauda arvensis</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree pipit	<i>Anthus trivialis</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow wagtail	<i>Motacilla flava subsp. flavissima</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Brambling	<i>Fringilla montifringilla</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Greylag goose	<i>Anser anser</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.40.2 SER returned one record of great crested newt.
- 4.40.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.40.4 SER returned two records for badger.
- 4.40.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.40.6 SER returned two records of bats, which were both pipistrelle species.

4.40.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

4.40.8 SER returned records of 40 notable bird species. Table 4.40.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.40.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Wood warbler	<i>Phylloscopus sibilatrix</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.40.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.40.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.40.11 No records of reptiles were returned within 1 km.

4.40.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.40.13 No habitats were present within or adjacent to the site are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.40.14 No habitats are present within or adjacent to the site that are likely to support other protected or key species not already discussed.

Invasive species

- 4.40.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.40.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.40.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species poor grassland						X
Species poor hedgerow						X
Tall ruderal vegetation						X
Scattered trees						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.40.17 Species poor grassland, tall ruderal vegetation, scattered trees and species poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

Conclusions

- 4.40.18 The site habitats are considered to be of nature conservation value at site level only and are not eligible for possible SBI/ BAS status.
- 4.40.19 The site has limited ecological value and is unlikely support any protected species other than foraging bats, birds and badgers.
- 4.40.20 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- None required

4.41 AL012 (FID 129)

Site Description

- 4.41.1 The site is an area of grassland, housing and hard standing located to the south of Alton village (central grid reference SK 07137 41610). The site is bordered by housing to the north, with grassland to the east. The site is well connected to the wider countryside to the south by hedgerows. The wider area consists of a mosaic of farmland and small villages.
- 4.41.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.41.3 Five locally designated sites are located within 1 km of the study area (Table 4.41.1).

Table 4.41.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Saltersford	LWS	0.9km E	A green lane which runs from Alton in the west towards Denstone. The lane is quite wide and is bounded by diverse hedges. Between the hedges there is a grassy area to one side of which flag stones have been laid to form a narrow surfaced path.
Toothill Wood	BAS	0.9km N	A predominantly oak and birch wood on a steep bank above the River Churnet with abundant bracken and frequent occurrences of ancient woodland indicator species earlier in the season.

Rakes Dale	LWS	1.0km NW	Two steep-sided converging valleys with a stream at the bottom. A mixture of poor semi-improved grassland and remnant acid grassland as well as broadleaved woodland is present.
Jeffrey Meadow	LWS	1.0km S	The area alongside the Warilow Brook which is wooded for the most part but also has patches of unimproved neutral grassland. The woodland supports a rich ground flora including species associated with wet areas.
Castle Wood	LWS	1.0km NE	An area of mature birch/oak woodland on a steep north-facing slope, there are exposed sandstone rock faces across the slope, known as Alton Cliffs.

Habitats

- 4.41.4 The site habitats of a single building, scattered trees, species rich hedgerow, Species-poor grassland and amenity grassland remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.41.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.41.1 Table 4.41.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.41.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European otter	<i>Lutra lutra</i>

	Grey partridge	<i>Perdix perdix</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Myotis bat species	<i>Myotis</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Sky lark	<i>Alauda arvensis</i>
	Slow-worm	<i>Anguis fragilis</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Song thrush	<i>Turdus philomelos</i>
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Tree pipit	<i>Anthus trivialis</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Wood warbler	<i>Phylloscopus sibilatrix</i>
	Yellowhammer	<i>Emberiza citrinella</i>
	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>

Amphibians

- 4.41.2 SER and NBN Atlas returned no amphibian records within 1 km of the site.
- 4.41.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.41.4 SER returned 15 records of badger.
- 4.41.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.41.6 SER returned 25 records of bats, which included 2 unidentified species, 15 pipistrelle species, 1 myotis species, 1 soprano pipistrelle, 4 brown long-eared bat, 1 Natterer's bat and 1 noctule.
- 4.41.7 Lockwood Hall Associates recorded a building and three scattered trees consisting of oak and ash that could potentially be suitable for bat roosts on site. The site habitats could also provide marginal foraging and commuting opportunity for bats with a roost being recorded within 140 m of site. It is recommended that an activity survey should be conducted to determine use of the site by bats and further assessment of the building and trees for roosts.

Birds

- 4.41.8 SER returned records of 34 notable bird species. Table 4.41.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.41.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.41.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.41.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.41.11 No records of reptiles were returned within 1 km.
- 4.41.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.41.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.41.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

4.41.15 SER returned two records of brown hare and 2 records of European hedgehog. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.

Invasive species

- 4.41.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.41.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.41.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species rich hedgerow					X	
Species-poor grassland						X
Species poor amenity grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.41.18 Species-poor improved grassland and species poor amenity grassland are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.41.19 A species rich hedgerow of approximately 190 m was recorded on site. It had reasonable connectivity to surrounding habitats and species recorded included hawthorn, pedunculate oak, bramble, ash and holly. The species rich hedgerow may qualify for SBI/BAS status if it is over 100m in total length and not known to have been planted since 1950. It is recommended that a hedgerow survey be carried out. Management of the hedgerow may include trimming, this encourages

growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It is also recommended that the hedgerow is connected to other green infrastructure in order to create habitat corridors; this allows species to move throughout the environment.

- 4.41.20 No notable species were recorded by Lockwood Hall Associates. However, the building and 3 scattered trees were identified as having bat roost potential (no score was provided however). If a bat roost was found on site after further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site had a significant population of a notable bat species then the feeding habitat and maternity roost for that population are considered for protection.

Conclusions

- 4.41.21 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at local and site level. However, more information is required regarding the species rich hedgerow and the potential for bat roosts in the building and trees
- 4.41.22 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Hedgerow survey following the modified HEGS methodology.
 - Further assessment of the trees and the building for their potential to support roosting bats.
 - Possible bat survey required.

4.42 BE041 (FID 98)

Site Description

- 4.42.1 The site is an area of grassland located within Brown Edge village (central grid reference SJ9100853049). It is approximately 2.4 ha in area and has housing to the north and west. The rest of the site is surrounded by agricultural land with good connectivity to woodland to the southwest. The wider area consists of a mosaic of farmland and small villages.
- 4.42.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.42.3 Two locally designated sites are located within 1 km of the study area (Table 4.42.1).

Table 4.42.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Tinster Wood	LWS	0.2km S	An acidic semi-natural broad-leaved woodland noted on the Natural England's Ancient Woodland Inventory, which exhibits large amounts of exposed sandstone rock.
Ball Lane Wood	LWS	0.8 SW	A semi-natural, possibly ancient woodland corridor with accessible areas grazed to scrub and grassland.

Habitats

- 4.42.4 The site habitats of species rich hedgerow, species-poor hedgerow, scattered trees and species poor semi-improved grassland remain as reported by Lockwood Hall Associates, 2014 .

Species

- 4.42.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.42.1 Table 4.42.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.42.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Adder	<i>Vipera berus</i>

	Barn owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Early bumble bee	<i>Bombus pratorum</i>
	Early mining bee	<i>Andrena haemorrhoa</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Eurasian wryneck	<i>Jynx torquilla</i>
	Grass snake	<i>Natrix natrix</i>
	Grey partridge	<i>Perdix perdix</i>
	Heath bumble bee	<i>Bombus jonellus</i>
	Herring gull	<i>Larus argentatus</i>
	Honey bee	<i>Apis mellifera</i>
	House sparrow	<i>Passer domesticus</i>
	insect - hymenopteran	<i>Andrena semilaevis</i>
	insect - hymenopteran	<i>Nomada flava</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Linnet	<i>Linaria cannabina</i>
	Myotis bat species	<i>Myotis</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	September thorn	<i>Ennomos erosaria</i>
	Shaded broad-bar	<i>Scotopteryx chenopodiata</i>
	Small garden bumble bee	<i>Bombus hortorum</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Song thrush	<i>Turdus philomelos</i>
	Tawny mining bee	<i>Andrena fulva</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	Adder	<i>Vipera berus</i>
	Barn owl	<i>Tyto alba</i>

	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Eurasian wryneck	<i>Jynx torquilla</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Little plover	<i>Charadrius dubius</i>
	Myotis bat species	<i>Myotis</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Whooper swan	<i>Cygnus cygnus</i>

Amphibians

- 4.42.2 SER returned 8 amphibian records. These included 6 common toad and 2 great crested newt records.
- 4.42.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.42.4 SER returned 12 records of badger.
- 4.42.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.42.6 SER returned 57 records of bats, which included eight unidentified species, 43 pipistrelle species, two common pipistrelle records, two brown long-eared, one Myotis species and one noctule.
- 4.42.7 Lockwood Hall Associates recorded eight trees as having bat roost potential. The site habitats could also provide anything foraging and commuting opportunity for bats. It is recommended further assessment of the trees and an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.42.8 SER returned records of 41 notable bird species. Table 4.42.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.42.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.42.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.42.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.42.11 SER returned 31 records of reptiles. These included 25 grass snake, 3 adder records, 2 slow-worm records and 1 common lizard.
- 4.42.12 No reptiles were recorded during the site visit. However, it was noted that reptiles may be present on site due to a nearby ponds to the north of the site.

Riparian mammals and white-clawed crayfish

- 4.42.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.42.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

4.42.15 SER returned five records of brown hare, 12 records of European hedgehog and one record of hazel dormouse. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and hazel dormouse, while the grassland could provide foraging for the brown hare.

Invasive species

4.42.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.42.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.42.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species rich hedgerow					X	
Scattered trees					X	
Species-poor grassland						X
Species-poor hedgerow						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.42.18 Species-poor improved grassland and species-poor hedgerows are common widespread habitats and is of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.42.19 A species rich hedgerow of approximately 283m was recorded on site. It had reasonable connectivity to surrounding habitats and species recorded included hawthorn, pedunculate oak, bramble, ash and holly. The species rich hedgerow may qualify for SBI/BAS status if it is over 100m in total length and not known to have been planted since 1950. It is recommended that a hedgerow survey be carried out. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.

4.42.20 No notable species were recorded by Lockwood Hall Associates. However, eight trees were identified as having bat roost potential (no score was provided however). If a bat roost was found on site after

further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site had a significant population of a notable bat species then the feeding habitat and maternity roost for that population are considered for protection.

- 4.42.21 It was indicated that reptiles could potentially use the site due to the nearby pond. The presence of reptiles on the site could allow the site for consideration for SBI/BAS status if it was found to regularly support any native species of reptile. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia.

Conclusions

- 4.42.22 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the species rich hedgerow and the potential for roosting bats on site. The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Hedgerow survey following modified HEGS methodology.
- Further assessment of the trees for their potential to support roosting bats.
- Bat survey possibly required.
- Reptile survey required.

4.43 BM013 (FID (part of) 108)

Site Description

- 4.43.1 The site is an area of grassland located to the north east of Biddulph Moor village (central grid reference SJ 90999 58442). It is approximately 2.5 ha in area and has housing to the south west. The rest of the site is surrounded by agricultural land. The wider area consists of a mosaic of farmland and small villages.
- 4.43.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.43.3 One locally designated site was located within 1 km of the study area (Table 4.43.1).

Table 4.43.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
The Sprink	LWS	0.8 km NW	A deciduous wooded valley which flanks numerous meandering streams with Bracken, Bramble and Bluebells on the steep slopes and a rich mixture of ancient woodland species and wetland species at the bottom of the valley.

Habitats

- 4.43.4 The site habitats of open water, amenity grassland, species-poor hedgerow and Species-poor grassland remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.43.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.43.1 Table 4.43.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.43.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bumble bee	<i>Bombus</i>
	a flowering plant	<i>Rubus intensor</i>
	a hymenopteran	<i>Apidae</i>
	Barn owl	<i>Tyto alba</i>

	Brown hare	<i>Lepus europaeus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common wasp	<i>Vespula vulgaris</i>
	Corn bunting	<i>Emberiza calandra</i>
	Duncock	<i>Prunella modularis</i>
	Early bumble bee	<i>Bombus pratorum</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Grey partridge	<i>Perdix perdix</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Sky lark	<i>Alauda arvensis</i>
	Small garden bumble bee	<i>Bombus hortorum</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's bat	<i>Myotis brandtii</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Redwing	<i>Turdus iliacus</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Whiskered bat	<i>Myotis mystacinus</i>

Amphibians

- 4.43.2 SER and NBN Atlas returned no amphibian records within 1 km of the site.
- 4.43.3 No amphibians were recorded during the site visit. However, next to the site there is a house and garden which contained a pond which looked to have been created in the last few years.

Badger

- 4.43.4 SER returned 7 records of badger.
- 4.43.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.43.6 SER returned 11 records of bats, which included 1 unidentified species, 2 pipistrelle species, 5 common pipistrelle, 1 soprano pipistrelle, 1 Brandt's bat and 1 whiskered bat.
- 4.43.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.43.8 SER returned records of 34 notable bird species. Table 4.43.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.43.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.43.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.43.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.43.11 No records of reptiles were returned within 1 km.

4.43.12 No reptiles were recorded during the site visit. It was noted that the site could potentially support reptile due to the presence of the nearby pond. It is recommended that a reptile survey is undertaken.

Riparian mammals and white-clawed crayfish

4.43.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.43.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

Invasive species

4.43.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

4.43.16 SER returned two records of brown hare. The grassland could provide foraging for brown hare.

Evaluation

4.43.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.43.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Open water						X
Species-poor hedgerow						X
Scattered trees						X
Species-poor grassland						X
Amenity grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.43.18 Species-poor improved grassland and species-poor hedgerows are common widespread habitats and were of nature conservation value at

the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.43.19 No notable species were recorded by Lockwood Hall Associates. However, it was noted that there was a pond nearby which had a low chance of supporting great crested newts. If a pond is found to support a good population of great crested newts or five species of amphibians then the site could be considered for SBI/BAS status. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.

4.43.20 It was indicated that reptiles could potentially use the site due to the nearby pond. The presence of reptiles on the site could allow the site for consideration for SBI/BAS status if it was found to regularly support any native species of reptile. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia.

Conclusions

4.43.21 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the potential for great crested newts and reptiles

4.43.22 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Survey of the pond for the habitat suitability for great crested newts.
- Possible great crested newt survey required.
- Reptile survey required.

4.44 BM014B (FID (part of) 110)

Site Description

- 4.44.1 The site is an area of grassland located to the west of Biddulph Moor village (central grid reference SJ 90329 57956). It is approximately 1.2 ha in area and is bordered by roads to all sides. To the east of the site there are domestic dwellings and the rest of the site is surrounded by agricultural land. The wider area consists of a mosaic of farmland and small villages with the town of Biddulph to the east.
- 4.44.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.44.3 There were no locally designated sites within the study area.

Habitats

- 4.44.4 The site habitats of species poor amenity grassland, buildings, Species-poor improved grassland and species-poor hedgerow remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.44.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.44.1 Table 4.44.1 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.44.1 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a bumble bee	<i>Bombus</i>
	a flowering plant	<i>Rubus intensor</i>
	a hymenopteran	<i>Apidae</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common wasp	<i>Vespula vulgaris</i>
	Corn bunting	<i>Emberiza calandra</i>
	Dunnock	<i>Prunella modularis</i>
	Early bumble bee	<i>Bombus pratorum</i>

	Eurasian curlew	<i>Numenius arquata</i>
	Grey partridge	<i>Perdix perdix</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Sky lark	<i>Alauda arvensis</i>
	Small garden bumble bee	<i>Bombus hortorum</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brandt's bat	<i>Myotis brandtii</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Redwing	<i>Turdus iliacus</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Whiskered bat	<i>Myotis mystacinus</i>

Amphibians

- 4.44.2 SER and NBN Atlas returned no amphibian records.
- 4.44.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.44.4 SER returned 5 records of badger.
- 4.44.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

4.44.6 SER returned 12 records of bats, which included 2 unidentified species, 2 pipistrelle (*pipistrellus*) species, 5 common pipistrelle, 1 soprano pipistrelle 1 Brandt's bat and 1 whiskered bat

4.44.7 It was noted that a building on site may have potential bat roost potential. The site habitats could provide marginal foraging and commuting opportunity for bats.

Birds

4.44.8 SER returned records of 30 notable species. Table 4.44.2 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.44.2. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Skylark	<i>Alauda arvensis</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.44.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.44.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.44.11 No records of reptiles were returned.

4.44.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.44.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.44.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

- 4.44.15 SER returned two records of brown hare and one record of European hedgehog. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.

Invasive species

- 4.44.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.44.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.44.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species-poor hedgerow						X
Scattered trees						X
Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.44.18 Species-poor improved grassland and species-poor hedgerow are common widespread habitats and are of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.44.19 No notable species were recorded by Lockwood Hall Associates. However, a building was identified as having bat roost potential (no score was provided however). If a bat roost was found on site after further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site had a significant population of a notable bat species then the feeding habitat and maternity roost for that population are considered for protection.

Conclusions

- 4.44.20 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the potential for bat roosts on the site.

4.44.21 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Further assessment of the buildings and their potential to support roosting bats.
- Bat survey possibly required.

4.45 BM029 (FID 109)

Site Description

- 4.45.1 The site is an area of grassland located to the north east of Biddulph Moor village (central grid reference SJ 91056 58359). It is approximately 1.0 ha in area with housing to the south west. The rest of the site is surrounded by roads and agricultural land. The wider area consists of a mosaic of farmland and small villages.
- 4.45.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.45.3 One locally designated site was located within 1 km of the study area (Table 4.45.1).

Table 4.45.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
The Sprink	LWS	0.9km NW	A deciduous wooded valley which flanks numerous meandering streams with Bracken, Bramble and Bluebells on the steep slopes and a rich mixture of ancient woodland species and wetland species at the bottom of the valley.

Habitats

- 4.45.4 The site habitats of species-poor improved grassland and species-poor hedgerow remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.45.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.45.1 Table 4.45.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.45.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bumble bee	<i>Bombus</i>
	a flowering plant	<i>Rubus intensor</i>
	a hymenopteran	<i>Apidae</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>

	Buff-tailed bumble bee	<i>Bombus terrestris</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common wasp	<i>Vespula vulgaris</i>
	Corn bunting	<i>Emberiza calandra</i>
	Early bumble bee	<i>Bombus pratorum</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Grey partridge	<i>Perdix perdix</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Sky lark	<i>Alauda arvensis</i>
	Small garden bumble bee	<i>Bombus hortorum</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Brambling	<i>Fringilla montifringilla</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Redwing	<i>Turdus iliacus</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Barn owl	<i>Tyto alba</i>
	Brambling	<i>Fringilla montifringilla</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Redwing	<i>Turdus iliacus</i>
	Whimbrel	<i>Numenius phaeopus</i>

Amphibians

4.45.2 SER and NBN Atlas returned no amphibian records.

4.45.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

4.45.4 SER returned 4 records of badger.

4.45.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into

an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.45.6 SER returned 2 records of bats, which included 1 unidentified species and 1 pipistrelle (*pipistrellus*) species.
- 4.45.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.45.8 SER returned records of 23 notable species. Table 4.45.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.45.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acathis cabaret</i>	Red
Common cuckoo	<i>Cuculus canorus</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.45.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.45.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.45.11 No records of reptiles were returned.
- 4.45.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding

potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.45.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.45.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

- 4.45.15 SER returned two records of brown hare within 1km radius of the site. The grassland could provide foraging for the brown hare.

Invasive species

- 4.45.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.45.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.45.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Species-poor grassland						X
Species-poor hedgerow						X
Scattered trees						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.45.18 Species-poor improved grassland and species-poor hedgerow are common widespread habitats and are of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.45.19 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species.

Conclusions

- 4.45.20 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.

- 4.45.21 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- None required.

4.46 CD002 (FID 180)

Site Description

- 4.46.1 The site is an area of grassland located to the south of Cheddleton village (central grid reference SJ 96892 50024). It is approximately 0.8 ha in area and adjoins FID 181 to the north with housing and a main road to the east. The rest of the site is surrounded by grassland. The wider area consists of a mosaic of farmland and small villages.
- 4.46.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.46.3 Three locally designated sites are located within the study area (Table 4.46.1).

Table 4.46.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Wetley rocks	LWS	0.4km S	A linear, stretch of rock outcrop supporting a heathland community along the A520 through Wetley Rocks. The north predominantly supports a heathland community while the southerly area is less species rich with no mature stands of heather and bilberry.
Felthouse Wood	BAS	0.9km E	A block of woodland containing a compartment of young semi-natural birch woodland and a smaller section of planted oak woodland.
The Rookery	LWS	1.0km NW	Semi-natural, ancient broad-leaved woodland along a stream valley and its tributaries with associated ancient woodland indicators species and wet woodland species in the ground flora.

Habitats

- 4.46.4 The site habitats of species rich hedgerow, scattered trees, and improved grassland remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.46.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.46.1 Table 4.46.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.46.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared Bat	<i>Plecotus auritus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Dot moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky thorn	<i>Ennomos fuscantaria</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Feathered gothic	<i>Tholera decimalis</i>
	House sparrow	<i>Passer domesticus</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	Rustic	<i>Hoplodrina blanda</i>
	Small phoenix	<i>Ecliptopera silaceata</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.46.2 SER and NBN Atlas returned no amphibian records.

- 4.46.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.46.4 SER returned 13 records of badger.
- 4.46.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.46.6 SER returned 20 records of bats, which included 1 unidentified species, 7 pipistrelle species, 7 common pipistrelle, 1 soprano pipistrelle, 2 brown long-eared bat, 1 Daubenton's bat and 1 noctule bat.
- 4.46.7 Lockwood Hall Associates recorded 5 pedunculate oak trees as having suitability for potential bat roosts on site. The site habitats could also provide marginal foraging and commuting opportunity for bats. It is recommended further assessment of the relevant trees is carried out and an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.46.8 SER returned records of 14 notable species. Table 4.46.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.46.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Swift	<i>Apus apus</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.46.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

- 4.46.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.46.11 SER returned 5 records reptiles. These included 4 records of grass snake and 1 of common lizard.
- 4.46.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.46.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.46.14 SER returned five records of brown hare and 18 records of European hedgehog. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.

Invasive species

- 4.46.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.46.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.46.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species rich hedgerow					X	
Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.46.17 Species-poor improved grassland and species-poor hedgerow are common widespread habitats and are of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.
- 4.46.18 A species rich hedgerow of approximately 177m in continuous length was recorded on site. It had reasonable connectivity to surrounding habitat and species recorded included hawthorn, silver birch, holly, bramble and pedunculate oak. The species rich hedgerow may qualify

for SBI/BAS status if it is over 100m in total length and not known to have been planted since 1950. It is recommended that a hedgerow survey be carried out. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.

- 4.46.19 No notable species were recorded by Lockwood Hall Associates. However, 5 pedunculate oak trees were identified as having bat roost potential (no score was provided however). If a bat roost was found on site after further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site had a significant population of a notable bat species then the feeding habitat and maternity roost for that population are considered for protection.

Conclusions

- 4.46.20 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the species rich hedgerow and bat potential on site.
- 4.46.21 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Hedgerow survey following modified HEGS methodology.
 - Further assessment of the trees for their potential to support roosting bats.
 - Possible bat survey required.

4.47 CD003 (FID 181)

Site Description

- 4.47.1 The site is an area of grassland located to the south of Cheddleton village (central grid reference SJ 96826 50156). It is approximately 2.3 ha in area and adjoins FID 180 to the south east. The rest of the site is surrounded by grassland, domestic dwellings and a main road. The wider area consists of a mosaic of farmland and small villages.
- 4.47.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.47.3 Three locally designated sites are located within the study area (Table 4.47.1).

Table 4.47.1. Statutory and locally designated sites for nature conservation within the study area.

Site name	Status	Location relative to site	Notes
Wetley Rocks	LWS	0.5km S	A linear, stretch of rock outcrop supporting a heathland community along the A520 through Wetley Rocks. The north predominantly supports a heathland community while the southerly area is less species rich with no mature stands of heather and bilberry.
The Rookery	LWS	0.9km W	Semi-natural, ancient broad-leaved woodland along a stream valley and its tributaries with associated ancient woodland indicators species and wet woodland species in the ground flora.
Felthouse Wood	BAS	1.0km E	A block of woodland containing a compartment of young semi-natural birch woodland and a smaller section of planted oak woodland.

Habitats

- 4.47.4 The site habitats of scattered trees, species rich hedgerows, species-poor hedgerow and improved grassland remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.47.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.47.1 Table 4.47.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.47.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Dot moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky thorn	<i>Ennomos fuscantaria</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Feathered gothic	<i>Tholera decimalis</i>
	House sparrow	<i>Passer domesticus</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	Rustic	<i>Hoplodrina blanda</i>
	Small phoenix	<i>Ecliptopera silaceata</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
West European hedgehog	<i>Erinaceus europaeus</i>	
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.47.2 SER and NBN Atlas returned no amphibian records.

- 4.47.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.47.4 SER returned 13 records of badger.
- 4.47.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.47.6 SER returned 20 records of bats, which included 1 unidentified species, 7 pipistrelle species, 7 common pipistrelle, 1 soprano pipistrelle, 2 brown long-eared bat, 1 Daubenton's bat and 1 noctule bat.
- 4.47.7 Lockwood Hall Associates recorded 7 pedunculate oak trees with having bat roost potential. The site habitats could also provide marginal foraging and commuting opportunity for bats. Further assessment of the trees and an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.47.8 SER returned records of 14 notable species. Table 4.47.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.47.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Swift	<i>Apus apus</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.47.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.47.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the

habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.47.11 SER returned 5 records of reptiles. These included 4 records of grass snake and 1 of common lizard.
- 4.47.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.47.13 SER returned one record of water vole. However no habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.47.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.
- 4.47.15 SER returned five records of brown hare and 18 records of European hedgehog. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.

Invasive species

- 4.47.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.47.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.47.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species rich hedgerow					X	
Species-poor hedgerow						X
Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.47.18 Species-poor improved grassland and species-poor hedgerow are common widespread habitats and are of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.47.19 A species rich hedgerow with a continuous length of approximately 75m was recorded on site. The SBI/BAS guidelines require a hedgerow to be over 100m in length for consideration. Although this hedgerow doesn't qualify it is reasonably close to a hedgerow in FID 180. Management of the hedgerow may include trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to over green infrastructure in order to create habitat corridors, this always species to move throughout the environment.
- 4.47.20 No notable species were recorded by Lockwood Hall Associates. However, 7 pedunculate oak trees were identified as having bat roost potential (no score was provided however). If a bat roost was found on site after further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site had a significant population of a notable bat species then the feeding habitat and maternity roost for that population are considered for protection.

Conclusions

- 4.47.21 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the bat potential on site.
- 4.47.22 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Further assessment of the trees for their potential to support roosting bats.
 - Possible bat survey required.

4.48 CD017 (FID 182)

Site Description

- 4.48.1 The site is an area of grassland located within southern Cheddleton village (central grid reference SJ 9682 750850). It is approximately 0.7 ha in area and adjoins FID 183 and FID 184 to the east. The rest of the site is surrounded by grassland and domestic dwellings. The wider area consists of a mosaic of farmland and small villages.
- 4.48.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.48.3 Two locally designated sites are located within the study area (Table 4.48.1).

Table 4.48.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Ashcombe Deer Park	BAS	0.9km NE	Flushed stream banks with much soft rush locally. The northern bank is considerably more acidic and Sphagnum has developed over much of the area. Tree and scrub cover is rather limited to the east and west ends and is never dense.
The Rookery	LWS	1.0km W	Semi-natural, ancient broad-leaved woodland along a stream valley and its tributaries with associated ancient woodland indicators species and wet woodland species in the ground flora.

Habitats

- 4.48.4 The site habitats of scattered trees, species rich hedgerow, species-poor hedgerow, marshy grassland, improved grassland, introduced shrub and amenity grassland remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.48.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.48.1 Table 4.48.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.48.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Dot moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky thorn	<i>Ennomos fuscantaria</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Feathered gothic	<i>Tholera decimalis</i>
	House sparrow	<i>Passer domesticus</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	Rustic	<i>Hoplodrina blanda</i>
	Small phoenix	<i>Ecliptopera silaceata</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
Invasive	Japanese knotweed	<i>Fallopia japonica</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Brown long-eared Bat	<i>Plecotus auritus</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Redwing	<i>Turdus iliacus</i>
	Barn owl	<i>Tyto alba</i>

Amphibians

4.48.2 SER and NBN Atlas returned no amphibian records.

4.48.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

4.48.4 SER returned 9 records of badger.

- 4.48.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.48.6 SER returned 21 records of bats, which included 1 unidentified species, 8 pipistrelle (*pipistrellus*) species, 8 common pipistrelle, 1 soprano pipistrelle, 3 brown long eared bats and 1 noctule bat.
- 4.48.7 Lockwood Hall Associates recorded 1 tree with the potential to support bat roosts. The site habitats could also provide marginal foraging and commuting opportunity for bats. It is recommended that further assessment of the tree be undertaken and an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.48.8 SER returned records of 13 notable species. Table 4.48.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.48.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
House sparrow	<i>Passer domesticus</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Swift	<i>Apus apus</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.48.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.48.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.48.11 SER returned 5 records of reptiles, these included 4 records of grass snake and 1 of common lizard.

- 4.48.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.48.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.48.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

- 4.48.15 SER returned five records of brown hare and 18 records of European hedgehog. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.

Invasive species

- 4.48.16 Lockwood Hall Associates, 2014 recorded that Japanese knotweed a Schedule 9 listed species of the Wildlife and Countryside Act 1981 to be present in the north west of the site at the time of survey.

Evaluation

- 4.48.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.48.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	X
Species rich hedgerow					X	
Species-poor hedgerow						X
Marshy grassland						X
Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.48.18 Species-poor improved grassland and species-poor hedgerow are common widespread habitats and are of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.48.19 A species rich hedgerow of approximately 146m (approximately 94m within the site and 52m continues into FID 183. It had reasonable connectivity to surrounding habitats. Species recorded included hawthorn, bramble, and holly. The species rich hedgerow may qualify for SBI/BAS status if it is over 100m in total length and not known to have been planted since 1950. It is recommended that a hedgerow survey be carried out. Management of the hedgerow may include

trimming, this encourages growth and should be conducted ideally between January and February. If there are any gaps in the hedgerow, native species could be planted to provide a continuous hedgerow. It could also be recommended that the hedgerow is connected to other green infrastructure in order to create habitat corridors, this always species to move throughout the environment.

- 4.48.20 No notable species were recorded by Lockwood Hall Associates. However, 1 tree was identified as having bat roost potential (no score was provided however). If a bat roost was found on site after further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site had a significant population of a notable bat species then the feeding habitat and maternity roost for that population are considered for protection.

Conclusions

- 4.48.21 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the species rich hedgerow and the potential for bats on site.
- 4.48.22 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Hedgerow survey following the modified HEGS methodology.
 - Further assessment of the tree for their potential to support roosting bats.
 - Possible bat survey possibly required.

4.49 EN012 (FID 3)

Site Description

4.49.1 The site is an area of grassland located to the north west of Endon Village (central grid reference SJ 92225 53737). It is approximately 1.9 ha in area with agricultural land to the north, housing to the south. The wider area consists of a mosaic of farmland and small villages.

4.49.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.49.3 Three locally designated sites are located within the study area (Table 4.49.1).

Table 4.49.1. Statutory and locally designated sites for nature conservation within the study area.

Site name	Status	Location relative to site	Notes
Westfield Wood	BAS	0.1km S	A linear stretch of ash woodland bisected by a small stream flowing from north to south. Large areas of the woodland have been incorporated into local gardens. The canopy is well developed and mature, with frequent alder and rowan.
Holehouse Farm	BAS	0.7km N	A marshy area alongside a tributary of the Endon Brook within and outside a fairly open wood.
Postbridge	LWS	1.0km S	A section of the Caldon Canal from Postbridge Farm to just east of Stanley Road Bridge, together with a small area of grassland.

Habitats

4.49.4 The site habitats of species-poor hedgerow, scattered trees, improved grassland, dense scrub, scattered scrub and dry ditch remain as reported by Lockwood Hall Associates, 2014.

Species

4.49.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.49.1 Table 4.49.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.49.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a willow tit	<i>Poecile montana</i> subsp. <i>kleinschmidti</i>
	Adder	<i>Vipera berus</i>
	Barn owl	<i>Tyto alba</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Grass snake	<i>Natrix natrix</i>
	Grey partridge	<i>Perdix perdix</i>
	Herring gull	<i>Larus argentatus</i>
	House sparrow	<i>Passer domesticus</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>
	Linnet	<i>Linaria cannabina</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring ouzel	<i>Turdus torquatus</i>
	September thorn	<i>Ennomos erosaria</i>
	Song thrush	<i>Turdus philomelos</i>
	Tree pipit	<i>Anthus trivialis</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow wagtail	<i>Motacilla flava</i>
EU/UK protected	Adder	<i>Vipera berus</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>

	Brambling	<i>Fringilla montifringilla</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Green sandpiper	<i>Tringa ochropus</i>
	Mediterranean gull	<i>Larus melanocephalus</i>
	Merlin	<i>Falco columbarius</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Ruff	<i>Calidris pugnax</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Whooper swan	<i>Cygnus cygnus</i>

Amphibians

- 4.49.2 SER returned 10 amphibian records. These included 9 common toad records and 1 great crested newt record.
- 4.49.3 No amphibians were recorded during the site visit however, there is a pond located to the approximately 30 m to the south of the site and was noted by Lockwood Hall Associates as having potential to support great crested newts. The site could therefore support amphibians within the terrestrial hedgerows and the dry ditch habitats.

Badger

- 4.49.4 SER returned 14 records of badger.
- 4.49.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.49.6 SER returned 41 records of bats, which included 5 unidentified species, 32 pipistrelle species, 1 common pipistrelle, and 3 brown long eared bats.

- 4.49.7 Lockwood Hall Associates recorded 2 trees as having potential for bat roosts on site. The site habitats could also provide marginal foraging and commuting opportunity for bats. It is recommended that an activity survey and further assessment of the trees is conducted.

Birds

- 4.49.8 SER returned records of 59 notable species. Table 4.49.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.49.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Tree pipit	<i>Anthus trivialis</i>	Red
Common cuckoo	<i>Cuculus canorus</i>	Red
Herring gull	<i>Larus argentatus</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.49.9 Carrion crow was recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie and woodpigeon.
- 4.49.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.49.11 SER returned 28 records of reptiles. These included 25 grass snake records, one slow-worm, one adder and one common lizard.

- 4.49.12 No reptiles were recorded during the site visit. Site habitats are considered good for reptiles and was noted that grass snakes are likely to be present on the site. There was good connectivity to wider potential habitat. Therefore, reptiles are considered to be a receptor for the site and a reptile survey is recommended.

Riparian mammals and white-clawed crayfish

- 4.49.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.49.14 SER returned 12 records of European hedgehog. The hedgerows present with the site support provide foraging habitat for the European hedgehog.

Invasive species

- 4.49.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.49.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.49.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees	Importance to be determined following survey.					
Species-poor hedgerow						X
Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.49.17 Species-poor improved grassland and species-poor hedgerow are common widespread habitats and are of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status due to their potential to support bat species.
- 4.49.18 Lockwood Hall Associates noted that there are 2 trees with the potential to support roosting bats. If a bat roost was found after further surveys, then the presence of bats could allow the site to be considered for SBI/BAS status. If the site has a significant population of a notable bat species, then the feeding habitat and maternity roosts for that population are considered for protection.
- 4.49.19 It was indicated that grass snakes are likely to be present on the site due to the habitat mosaic, good connectivity with the wider

environment and proximity to a pond. The presence of reptiles on the site could allow for consideration of the site for SBI/BAS status if the site was found to regularly support any native species of reptiles. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia.

- 4.49.20 Finally, it was also noted that there is a pond within 500m of the site that may support great crested newts. If the pond is found to support a good population of great crested newts or five species of amphibian then the site could be considered for SBI/BAS status. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.

Conclusions

- 4.49.21 The habitats have limited ecological value however the site has ecological value in its potential to support protected species. Further surveys are required to establish the potential for bat roosts and the presence of reptiles and amphibians.
- 4.49.22 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Further assessment of the trees for their potential to support roosting bats.
 - Bat survey possibly required.
 - Survey of the pond for the habitat suitability for great crested newts.
 - Reptile survey.

4.50 EN033 (FID 4)

Site Description

4.50.1 The site is an area of grassland located to the south of the village of Endon (central grid reference SJ 92915 52948). It is approximately 0.9 ha in area. The site is surrounded by agricultural land to the south and housing to the north. The wider area consists of a mosaic of farmland and small villages.

4.50.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.50.3 Four locally designated sites are located within the study area (Table 4.50.1).

Table 4.50.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Postbridge Farm	LWS	0.3km W	A section of the Caldon Canal from Postbridge Farm to just east of Stanley Road Bridge, together with a small area of grassland.
Westfield Wood	BAS	0.5km NW	A linear stretch of ash woodland bisected by a small stream flowing from north to south. Large areas of the woodland have been incorporated into local gardens. The canopy is well developed and mature, with frequent alder and rowan.
Stanley Pool	BAS	0.9km S	A large pool surrounded by semi-improved neutral grassland, woodland, acid grassland and a heathland mosaic.
Park Lane Farm	LWS	1.0km E	A stretch of the Caldon Canal bordered by improved or semi-improved grasslands and broad-leaved woodland.

Habitats

- 4.50.4 The site habitats of species-poor hedgerow, broadleaved woodland, scattered trees, improved grassland and tall ruderal vegetation remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.50.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.50.1 Table 4.50.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.50.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Adder	<i>Vipera berus</i>
	Barn owl	<i>Tyto alba</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Grass snake	<i>Natrix natrix</i>
	Grey partridge	<i>Perdix perdix</i>
	Herring gull	<i>Larus argentatus</i>
	House sparrow	<i>Passer domesticus</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	September thorn	<i>Ennomos erosaria</i>
	Song thrush	<i>Turdus philomelos</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Adder	<i>Vipera berus</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>

	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Grass snake	<i>Natrix natrix</i>
	Green sandpiper	<i>Tringa ochropus</i>
	Little plover	<i>Charadrius dubius</i>
	Merlin	<i>Falco columbarius</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Purple sandpiper	<i>Calidris maritime</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Whooper swan	<i>Cygnus cygnus</i>

Amphibians

- 4.50.2 SER returned 8 amphibian records. These included 7 common toads and 1 great crested newt.
- 4.50.3 No amphibians were recorded during the site visit however it was noted that there were 2 ponds located <200m away which could support great crested newts. It is recommended that a survey of these ponds is carried out.

Badger

- 4.50.4 SER returned 13 records of badger.
- 4.50.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.50.6 SER returned 65 records of bats, which included 6 unidentified species, 57 pipistrelle species and 2 brown long-eared bat records.
- 4.50.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. However, there are potential bats roosts in trees 5m away in FID172, with farmyard buildings with potential within 50m. The site habitats could provide marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.50.8 SER returned records of 34 notable species recorded. Table 4.50.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.50.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Lesser redpoll	<i>Acathis cabaret</i>	Red
Herring gull	<i>Larus argentatus</i>	Red
Linnet	<i>Linaria cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common snipe	<i>Gallinago gallinago</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.50.9 Carrion crow, dunnock, house sparrow and blackcap (*Sylvia atricapilla*) were recorded on site, although no breeding birds were recorded. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

- 4.50.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.50.11 SER returned 31 records of reptiles. These included 26 grass snake records, 1 slow-worm, 3 adder records and 1 common lizard.

- 4.50.12 No reptiles were recorded during the site visit. It is noted that due to a record of a grass snake within 100m and the presence of nearby ponds that the site has potential to support reptiles.

Riparian mammals and white-clawed crayfish

- 4.50.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.50.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

- 4.50.15 SER returned five records of brown hare and 12 records of European hedgehog. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.

Invasive species

- 4.50.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.50.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.50.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees						X
Species-poor hedgerow						X
Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.50.18 Scattered trees, species-poor grassland and species-poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. These habitats are common within the wider area and are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.50.19 It was indicated that grass snakes are likely to be present on site due to a nearby record and the presence of nearby ponds. Management of the grassland could be considered to promote areas for reptiles to bask in and places for refugia. The presence of reptiles on the site could allow for the site to be considered for SBI/BAS status if the site was found to regularly support any native species of reptiles.

- 4.50.20 Furthermore it was noted that there are 2 ponds within 200m which could support great crested newts. If the pond was found to support a good population of great crested newts or five species of amphibian then the site could be considered for SBI/BAS status. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.

Conclusions

- 4.50.21 The site has ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the potential for reptiles and amphibians.
- 4.50.22 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Survey of the ponds for the habitat suitability for great crested newts.
 - Reptile survey.

4.51 EN126 (FID 172)

Site Description

- 4.51.1 The site is an area of grassland located to the south/east of Endon village (central grid reference SJ 92918 52864). The site is surrounded by agricultural land to the east and south with housing to the north and west. The wider area consists of a mosaic of farmland and small villages.
- 4.51.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.51.3 Four locally designated sites are located within the study area (Table 4.51.1).

Table 4.51.1. Statutory and locally designated sites for nature conservation within the study area.

Site name	Status	Location relative to site	Notes
Postbridge Farm	LWS	0.3km W	A section of the Caldon Canal from Postbridge Farm to just east of Stanley Road Bridge, together with a small area of grassland.
Westfield Wood	BAS	0.5km NW	A linear stretch of ash woodland bisected by a small stream flowing from north to south. Large areas of the woodland have been incorporated into local gardens. The canopy is well developed and mature, with frequent alder and rowan.
Stanley Pool	BAS	0.9km S	A large pool surrounded by semi-improved neutral grassland, woodland, acid grassland and a heathland mosaic.
Park Lane Farm	LWS	1.0km E	A stretch of the Caldon Canal bordered by improved or semi-improved grasslands and broad-leaved woodland.

Habitats

- 4.51.4 The site habitats of species-poor hedgerow, broadleaved woodland and scattered trees remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.51.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.51.1 Table 4.51.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.51.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Adder	<i>Vipera berus</i>
	Barn owl	<i>Tyto alba</i>
	Broom moth	<i>Ceramica pisi</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared Bat	<i>Plecotus auritus</i>
	Buff ermine	<i>Spilosoma lutea</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common lizard	<i>Zootoca vivipara</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Common wasp	<i>Vespula vulgaris</i>
	Cornflower	<i>Centaurea cyanus</i>
	Dark-barred twin-spot carpet	<i>Xanthorhoe ferrugata</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky brocade	<i>Apamea remissa</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European water vole	<i>Arvicola amphibius</i>
	Freshwater white-clawed crayfish	<i>Austropotamobius pallipes</i>
	Garden tiger	<i>Arctia caja</i>
	Ghost moth	<i>Hepialus humuli</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Green-brindled crescent	<i>Allophyes oxyacanthae</i>
	Grey partridge	<i>Perdix perdix</i>
	Hedge rustic	<i>Tholera cespitis</i>
	Herring gull	<i>Larus argentatus</i>
	House sparrow	<i>Passer domesticus</i>
	Latticed heath	<i>Chiasmia clathrata</i>

	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Native black poplar	<i>Populus nigra subsp. betulifolia</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Rosy minor	<i>Litoligia literosa</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	September thorn	<i>Ennomos erosaria</i>
	Sky lark	<i>Alauda arvensis</i>
	Slow-worm	<i>Anguis fragilis</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Small phoenix	<i>Ecliptopera silaceata</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Wall	<i>Lasiommata megera</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White ermine	<i>Spilosoma lubricipeda</i>
	Willow tit	<i>Poecile montana</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Adder	<i>Vipera berus</i>
	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common lizard	<i>Zootoca vivipara</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European water vole	<i>Arvicola amphibius</i>
	Fieldfare	<i>Turdus pilaris</i>
	Freshwater white-clawed crayfish	<i>Austropotamobius pallipes</i>
	Grass snake	<i>Natrix natrix</i>
	Great crested newt	<i>Triturus cristatus</i>
	Green sandpiper	<i>Tringa ochropus</i>
	Greylag goose	<i>Anser anser</i>
	Little plover	<i>Charadrius dubius</i>
	Merlin	<i>Falco columbarius</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>

	Pipistrelle bat species	<i>Pipistrellus</i>
	Polecat	<i>Mustela putorius</i>
	Purple sandpiper	<i>Calidris maritima</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>
	Slow-worm	<i>Anguis fragilis</i>
	Whooper swan	<i>Cygnus cygnus</i>

Amphibians

- 4.51.2 SER returned eight amphibian records. These included seven records of common toad and one record for great crested newt.
- 4.51.3 No amphibians were recorded during the site visit however, it was noted that there are 2 ponds <200m away which could have the potential to support great crested newts. It is recommended that the ponds are surveyed.

Badger

- 4.51.4 SER returned 13 records of badger.
- 4.51.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.51.6 SER returned 65 records of bats, which included six unidentified species, 57 records of pipistrelle (*Pipistrellus*) species and two records of brown long eared bat.
- 4.51.7 Lockwood Hall Associates identified 5 trees as having potential for bat roosts. The site habitats could also provide marginal foraging and commuting opportunity for bats.

Birds

- 4.51.8 SER returned records of 49 notable species. Table 4.51.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.51.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Grasshopper warbler	<i>Locustella naevia</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red

Common Name	Scientific Name	BoCC Status
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.51.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.51.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.51.11 SER returned 31 records of reptiles occurring within 1 km of site. These included 26 records for grass snake, three records for adder, one record for slow-worm and one record for common lizard.

4.51.12 No reptiles were recorded during the site visit. However the site is near to ponds and the Caldon Canal which could provide suitable habitat for reptiles. It is therefore recommended that a reptile survey be undertaken.

Riparian mammals and white-clawed crayfish

4.51.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.51.14 SER returned eight records of brown hare and 11 records of European hedgehog. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.

Invasive species

4.51.15 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.51.16 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.51.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species-poor hedgerow						X
Tall ruderal vegetation						X
Species poor semi-improved grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.51.17 Species-poor improved grassland and species-poor hedgerows are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

- 4.51.18 Lockwood Hall Associates noted that there were 5 trees with the potential to support bat roosts on the site. If a bat roost was found following further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site has a significant population of notable bat species then the feeding habitats and maternity roosts for that population would be considered for protection.

- 4.51.19 It was noted that due to the a record of grass snake within 110m, adder recorded within 200m and the presence of nearby ponds that the site has the potential to support reptiles. The presence of reptiles on the site could allow for consideration for SBI/BAS status if the site was found to regularly support any native species of reptiles. Management of the grassland and tall ruderal vegetation could be considered to promote areas for reptiles to bask in and places for refugia.

- 4.51.20 Furthermore, it was noted that 2 ponds occur within 200m of the site which could support great crested newts. If the pond was found to support a good population of great crested newts or five species of amphibians then the site could be considered for SBI/BAS status. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species.

Conclusions

- 4.51.21 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the potential for bats, reptiles and amphibians.

4.51.22 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Further assessment of the trees for their potential to support roosting bats.
- Possible bat survey required.
- Survey of the ponds for the habitat suitability for great crested newts.
- Great crested newt survey possibly required.
- Reptile survey.

4.52 IP019 (FID 135)

Site Description

- 4.52.1 The site is an area of grassland located to the north west of Ipstones village (central grid reference SK 01882 50027). It is approximately 1.1 ha in area and has housing to the east. The rest of the site is surrounded by farm building and agricultural land. The wider area consists of a mosaic of farmland and small villages.
- 4.52.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.52.3 Eleven locally designated sites are located within the study area (Table 4.52.1).

Table 4.52.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Noonsun common	BAS	0.3km W	A sloping field with some terracing of the slope where a range of vascular plant species typical of acidic soils is present. The field grades into more improved areas where grasses such as Yorkshire-fog feature more frequently.
Brookfields Road	LWS	0.5km E	Gently undulating cattle grazed pasture dissected by shallow incised stream valleys the site supports a number of UKBAP habitats including lowland meadow, lowland dry acidic grassland, lowland heath and lowland mixed deciduous woodland.

Greenstiles	LWS	0.6km N	An array of habitats, predominantly semi-improved acid grassland/dry heath mosaic, particularly along its slopes, with a diverse flora with some species present that are considered uncommon within the county.
Newhouse Wood	LWS	0.7km S	A small linear ash woodland is on a steep slope with a stream running centrally through. There are lesser contributions from pedunculate oak and silver birch; sycamore provides a localised stand.
Moseymoor Wood	LWS	0.7km S	An Ancient Woodland Inventory (AWI) site on a steep sided valley containing a good assemblage of ancient woodland indicator species and a man-made pool.
The Clough	LWS	0.7km N	Broad-leaved woodland in a narrow stream valley together with an adjacent field to the east. The field contains neutral, acid and wet grassland communities; the woodland has wet vegetation with Creeping Soft-grass and Bluebell in dry areas.
Blackbank Wood	LWS	0.8km NW	A block of semi-natural woodland, a good example of oak-birch woodland on acidic soils. The woodland is dominated by various mixtures of the two species, with rowan, holly, ash and yew the main associates within the understorey

Churnet Valley	SSSI	0.9km S	Large concentration of semi-natural ancient woodland intermixed with scrub, unimproved neutral and acid grassland, with large areas of mire, marsh and carr. Site supports a large number of woodland bird species
Park Lane, Ipstones	LWS	1.0km E	Species rich verges along Park Lane, predominantly unimproved neutral grassland.
Intake Farm	LWS	1.0km W	A series of four fields, consisting of acid grassland, semi-improved neutral grassland and marshy grassland.
Summerhill	LWS	1.0km NE	Large grazed upland grassland field crossed by several streams, and featuring several gritstone outcrops that support heathy vegetation.

Habitats

- 4.52.4 The site habitats of scattered trees, species-poor hedgerow, and species improved grassland remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.52.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.52.1 Table 4.52.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.52.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	August thorn	<i>Ennomos quercinaria</i>
	Barn owl	<i>Tyto alba</i>
	Brindled beauty	<i>Lycia hirtaria</i>
	Broom moth	<i>Ceramica pisi</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared Bat	<i>Plecotus auritus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Dunnock	<i>Prunella modularis</i>

	Dusky brocade	<i>Apamea remissa</i>
	Dusky thorn	<i>Ennomos fuscantaria</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European nightjar	<i>Caprimulgus europaeus</i>
	European otter	<i>Lutra lutra</i>
	Freshwater white-clawed crayfish	<i>Austroptamobius pallipes</i>
	Ghost moth	<i>Hepialus humuli</i>
	Hen harrier	<i>Circus cyaneus</i>
	House sparrow	<i>Passer domesticus</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Powdered quaker	<i>Orthosia gracilis</i>
	Rosy minor	<i>Litoligia literosa</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	Rustic	<i>Hoplodrina blanda</i>
	September thorn	<i>Ennomos erosaria</i>
	Shoulder-striped wainscot	<i>Leucania comma</i>
	Sky lark	<i>Alauda arvensis</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Small phoenix	<i>Ecliptopera silaceata</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree pipit	<i>Anthus trivialis</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Bluebell	<i>Hyacinthoides non-scripta</i>
	Brambling	<i>Fringilla montifringilla</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common quail	<i>Coturnix coturnix</i>
	Eurasian badger	<i>Meles meles</i>
	European otter	<i>Lutra lutra</i>
	Fieldfare	<i>Turdus pilaris</i>
	Freshwater white-clawed crayfish	<i>Austroptamobius pallipes</i>
	Hen harrier	<i>Circus cyaneus</i>

	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.52.2 SER returned two records of common toad.
- 4.52.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.52.4 SER returned 7 records of badger.
- 4.52.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.52.6 SER returned 20 records of bats, which included three records for unidentified species, 11 pipistrelle (*pipistrellus*) species, two records for common pipistrelle, three records for brown long eared bat and one record for natterer's bat.
- 4.52.7 Lockwood Hall Associates recorded that 3 pedunculate oak trees had potential for bat roosts. It is recommended that a survey of these trees is undertaken. The site habitats could also provide foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.52.8 SER returned records of 34 notable species. Table 4.52.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.52.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Skylark	<i>Alauda arvensis</i>	Red
Pied flycatcher	<i>Ficedula hypoleuca</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Anthus pratensis</i>	Amber

Common Name	Scientific Name	BoCC Status
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.52.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.52.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.52.11 SER returned seven records of reptiles. This included four records of grass snake, two records common lizard and one record for slow-worm.

4.52.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.52.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.52.14 SER returned one record for brown hare and five records for European hedgehog. The hedgerows and grasslands could potentially provide some foraging habitat for these species.

4.52.15 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

Invasive species

4.52.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.52.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.52.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species-poor hedgerow						X
Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.52.18 Species-poor improved grassland and species-poor hedgerows are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.
- 4.52.19 Lockwood Hall Associates noted that there were 3 oak trees with potential for bat roosts. The loss of these trees if they were roost could have potential negative effects on the population of bats and therefore the scattered trees are considered important at a local level.
- 4.52.20 No notable species were recorded by Lockwood Hall Associates. However 3 pedunculate oak trees were considered to have bat potential. If a bat roost was found after further surveys then the presence of bats could allow the site to be considered for SBI/BAS status. If the site is regularly found to support a population of a notable bat species then the feeding habitat and maternity roost are considered for protection.

Conclusions

- 4.52.21 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site and local level. However, more information is required regarding the potential bat roosts.
- 4.52.22 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Relevant trees to be identified and further surveyed for their potential to support roosting bats.
 - Bat survey possibly required.

4.53 TR002 (FID 61)

Site Description

4.53.1 The site is an area of hard standing and some woodland located to the north of Blythe Bridge (central grid reference SJ 96766 40772). It is approximately 0.6 ha in area with a major road directing to the south and housing to the west. The rest of the site is surrounded by agricultural land. The wider area consists of a mosaic of farmland and small villages.

4.53.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

4.53.3 No designated sites were located within 1 km of the study area.

Habitats

4.53.4 The site habitats of planted broadleaved woodland, introduced shrub and buildings remain as reported by Lockwood Hall Associates, 2014.

Species

4.53.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.53.1 Table 4.53.1 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.53.1 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Blood-vein	<i>Timandra comae</i>
	Brindled beauty	<i>Lycia hirtaria</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown-spot pinion	<i>Agrochola litura</i>
	Buff ermine	<i>Spilosoma lutea</i>
	Centre-barred sallow	<i>Atethmia centrago</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Deep-brown dart	<i>Aporophyla lutulenta</i>
	Dot moth	<i>Melanchra persicariae</i>
	Dunnock	<i>Prunella modularis</i>
	Dusky brocade	<i>Apamea remissa</i>
	Dusky thorn	<i>Ennomos fuscantaria</i>
	Ear moth	<i>Amphipoea oculea</i>

	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	European otter	<i>Lutra lutra</i>
	European water vole	<i>Arvicola amphibius</i>
	Ghost moth	<i>Hepialus humuli</i>
	Grass snake	<i>Natrix natrix</i>
	Green-brindled crescent	<i>Allophyes oxyacanthae</i>
	Grey dagger	<i>Acronicta psi</i>
	House sparrow	<i>Passer domesticus</i>
	Large wainscot	<i>Rhizedra lutosa</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Mouse moth	<i>Amphipyra tragopoginis</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Powdered quaker	<i>Orthosia gracilis</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Rosy rustic	<i>Hydraecia micacea</i>
	Rustic	<i>Hoplodrina blanda</i>
	Sallow	<i>Cirrhia icteritia</i>
	Shaded broad-bar	<i>Scotopteryx chenopodiata</i>
	Sky lark	<i>Alauda arvensis</i>
	Small phoenix	<i>Ecliptopera silaceata</i>
	Small square-spot	<i>Diarsia rubi</i>
	Song thrush	<i>Turdus philomelos</i>
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Tree pipit	<i>Anthus trivialis</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White ermine	<i>Spilosoma lubricipeda</i>
	Willow tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Brambling	<i>Fringilla montifringilla</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	European otter	<i>Lutra lutra</i>
	European water vole	<i>Arvicola amphibius</i>
	Grass snake	<i>Natrix natrix</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Osprey	<i>Pandion haliaetus</i>

	Peregrine falcon	<i>Falco peregrinus</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Red kite	<i>Milvus milvus</i>
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>

Amphibians

- 4.53.2 SER returned 8 amphibians. These included two records of common toad and six records of great crested newts.
- 4.53.3 No amphibians were recorded during the site visit; however there is a pond to the north of the site which could support great crested newts. The site could also be a terrestrial site for amphibians as there were plenty of paving slabs and derelict equipment that could be used as refugia.

Badger

- 4.53.4 SER returned 8 records of badger.
- 4.53.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.53.6 SER returned 53 records of bats, which included 4 unidentified species, 41 pipistrelle species, 2 common pipistrelle records, 2 soprano pipistrelle, 3 brown long-eared bat and 1 noctule bat.
- 4.53.7 Lockwood Hall Associates recorded that one site there were 2 buildings which had bat roost potential. One was to the west of site made out of brick and with a tiled roof. The other building was adjacent to the first and of metal construction, it was deemed to have a low potential to support bats. It is recommended that further assessment of the building is undertaken.

Birds

- 4.53.8 SER returned records of 34 notable species. Table 4.53.2 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.53.2. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Skylark	<i>Alauda arvensis</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red

Common Name	Scientific Name	BoCC Status
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Common gull	<i>Larus canus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.53.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.53.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.53.11 SER returned 4 records of reptiles. These included two grass snake records, 1 slow-worm, and one common lizard.

4.53.12 No reptiles were recorded during the site visit. However, due to the presence of the pond to the north of site and the basking and refuge opportunities within the site reptiles could potentially use the site and a reptile survey is recommended.

Riparian mammals and white-clawed crayfish

4.53.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.53.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

4.53.15 SER returned two records of brown hare and 16 records of European hedgehog. The introduced shrub present within the site could support foraging habitat for the European hedgehog and the brown hare.

Invasive species

4.53.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.53.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.53.3. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Planted broadleaved woodland						X
Introduced shrub						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.53.18 Planted broadleaved woodland and introduced shrub are common habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines. The scattered trees on sites require further survey to determine their potential SBI status.
- 4.53.19 No notable species were recorded by Lockwood Hall Associates. However, it was noted that there was a pond to the north of the site which had the potential of supporting great crested newts. It was also noted that there were areas for amphibians to take refuge in. Management of the pond such as reducing shading and management of surrounding terrestrial habitat is likely to be beneficial to amphibian species. If a pond is found to support a good population of great crested newts or five species of amphibians then the site could be considered for SBI/BAS status.
- 4.53.20 It was indicated that reptiles could potentially use the site due to the nearby pond. Management of the scrub could be considered to provide refugia and basking areas for reptiles. The presence of reptiles on the site could allow the site for consideration for SBI/BAS status if it was found to regularly support any native species of reptile.
- 4.53.21 Two buildings were identified as having bat roost potential. If a bat roost was found on site after further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site had a significant population of a notable bat species then the feeding habitat and maternity roost for that population are considered for protection.

Conclusions

- 4.53.22 The site has medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the potential for bats, great crested newts and reptiles.
- 4.53.23 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- Further assessment of the buildings for their potential to support roosting bats.
- Bat survey possibly required.
- Survey of the pond for the habitat suitability for great crested newts.
- Great crested newt survey possibly needed.
- Reptile survey.

4.54 UT019 (FID 65)

Site Description

- 4.54.1 The site is an area of hard standing and buildings located in the Tean village (central grid reference SK 01068 39625). It is approximately 0.3 ha in area and is immediately surrounded by housing and roads. The wider area consists of a mosaic of farmland and small villages.
- 4.54.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.54.3 One locally designated site is located within study area (Table 4.55.1).

Table 4.54.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Newton	LWS	0.8 km W	N/A

Habitats

- 4.54.4 The site habitats of buildings and scattered trees remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.54.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.54.1 Table 4.54.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.54.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Brown long-eared bat	<i>Plecotus auritus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Common toad	<i>Bufo bufo</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Great crested newt	<i>Triturus cristatus</i>
	Herring gull	<i>Larus argentatus</i>
	House sparrow	<i>Passer domesticus</i>
	Linnet	<i>Linaria cannabina</i>
	Myotis bat species	<i>Myotis</i>
	Northern lapwing	<i>Vanellus vanellus</i>

	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Song thrush	<i>Turdus philomelos</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	Brown long-eared bat	<i>Plecotus auritus</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Firecrest	<i>Regulus ignicapilla</i>
	Great crested newt	<i>Triturus cristatus</i>
	Myotis bat species	<i>Myotis</i>
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>
	Polecat	<i>Mustela putorius</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.54.2 SER returned eight amphibian records. These included two records for common toad and six records for great crested newt.
- 4.54.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.54.4 SER returned 17 records of badger.
- 4.54.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.54.6 SER returned 48 records of bats, which included three records of unidentified species, 26 pipistrelle species, three records for common pipistrelle, 14 Daubenton's bat, one record for myotis species, and one record for brown long-eared bat.
- 4.54.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an

activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.54.8 SER returned records of 34 notable species. Table 4.54.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.54.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.54.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.
- 4.54.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.54.11 No records of reptiles were returned.
- 4.54.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.54.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.54.14 SER returned three records for European hedgehog.
- 4.54.15 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

Invasive species

- 4.54.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.54.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.54.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.54.18 Scattered trees are common widespread habitats and were of nature conservation value at the site level only. This habitat is not listed in the Staffordshire SBI guidelines. The site is surrounded by housing and thus has poor connectivity to other habitats.
- 4.54.19 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species.

Conclusions

- 4.54.20 The site has low ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the scattered trees on site in order to establish their ecological importance.
- 4.54.21 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- None required

4.55 WE003 (FID 12)

Site Description

- 4.55.1 The site is an area of grassland located to the south of Werrington village (central grid reference SJ 94030 47302). It is approximately 7.0 ha in area with housing to the north and west. The rest of the site is surrounded by agricultural land to the south and east. The wider area consists of farmland and Stoke-on Trent lies to the east.
- 4.55.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.55.3 One locally designated site is located within the study area (Table 4.55.1).

Table 4.55.1. Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Wetley Moor SSSI	SSSI	0.6km NW	The site comprises one of the largest areas of lowland heathland remaining in Staffordshire. Dry heathland predominates on the higher, steeper slopes, whilst wet heath and small areas of mire occur on the lower, flatter ground. These wetland communities are more extensive than on any of the other lowland heathland sites in the county and are a particularly important feature of Wetley Moor. The Moor also shows transitional characteristics between the true moorland of the adjacent Pennines and the low-lying heaths of the Cannock Chase area.

Habitats

- 4.55.4 The site habitats of species rich hedgerow, species-poor hedgerow, scattered trees and Species-poor improved grassland remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.55.5 No notable species were recorded by Lockwood Hall Associates, 2014.

- 4.55.1 Table 4.55.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.55.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Ant	<i>Formicidae</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common cuckoo	<i>Cuculus canorus</i>
	Common grasshopper warbler	<i>Locustella naevia</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dunnock	<i>Prunella modularis</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Great crested newt	<i>Triturus cristatus</i>
	House sparrow	<i>Passer domesticus</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Pipistrelle bat species	<i>Pipistrellus</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Sky lark	<i>Alauda arvensis</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree pipit	<i>Anthus trivialis</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	Willow tit	<i>Poecile montana</i>
	Yellow wagtail	<i>Motacilla flava subsp. flavissima</i>
EU/UK protected	Barn owl	<i>Tyto alba</i>
	Brambling	<i>Fringilla montifringilla</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Great crested newt	<i>Triturus cristatus</i>
	Greylag goose	<i>Anser anser</i>

	Pipistrelle bat species	<i>Pipistrellus</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

- 4.55.2 SER returned 1 record of amphibians. This record was of a great crested newt.
- 4.55.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.55.4 SER returned 1 record of badger.
- 4.55.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.55.6 SER returned 6 records of bats, which included 5 pipistrelle species, and 1 common pipistrelle.
- 4.55.7 Lockwood Hall Associates recorded 3 trees as having bat roost potential. The site habitats could also provide foraging and commuting opportunity for bats. An activity survey and further assessment of the relevant trees should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.55.8 SER returned records of 40 notable species. Table 4.55.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.55.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Skylark	<i>Alauda arvensis</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber

Common Name	Scientific Name	BoCC Status
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.55.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.55.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.55.11 No records of reptiles were returned within 1 km.

4.55.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.55.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.55.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

4.55.15 SER returned nine records of brown hare and 69 records of European hedgehog. The hedgerows present within the site could support nesting and foraging habitat for the European hedgehog and the grassland could provide foraging for the brown hare.

Invasive species

4.55.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.55.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.55.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species rich hedgerow					X	
Species-poor hedgerow						X
Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

4.55.18 The hedgerows have up to 6 native species present and contain the trees with potential bat roosts within them. It is for this reason that they are classed as having local ecological importance. Species-poor grassland and species-poor hedgerow are common widespread habitats and were of nature conservation value at the site level only. These habitats are not listed as important habitats in the Staffordshire SBI guidelines.

4.55.19 Lockwood Hall Associates recorded 3 trees were identified as having bat roost potential (no score was provided however). If a bat roost was found on site after further surveys then the presence of bats could allow for the site to be considered for SBI/BAS status. If the site had a significant population of a notable bat species then the feeding habitat and maternity roost for that population are considered for protection.

Conclusions

4.55.20 The site has low-medium ecological value in its potential to support protected species. The site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the potential for bat roost on site.

4.55.21 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:

- The relevant trees need to be identified and further assessed for their potential to support roosting bats.
- Bat survey possibly required.

4.56 WA004 (FID 205)

Site Description

- 4.56.1 The site is an area of grassland located to the west of Waterhouses village (central grid reference SK 07686 50548). It is approximately 2.9 ha in area; a road lies immediately to the south of the site with housing to the east of site. The rest of the site is surrounded by agricultural land. The wider area consists of a mosaic of farmland and small villages.
- 4.56.2 Lockwood Hall Associates visited the site to conduct a phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.56.3 Eight locally designated sites are located within the study area (Table 4.56.1).

Table 4.56.1. Statutory and locally designated sites for nature conservation within the study area.

Site name	Status	Location relative to site	Notes
Stoneylow Farm	LWS	0.4km N	Four fields with species-rich semi-improved neutral grassland which is wet in parts. The fields are surrounded by species-rich hedgerows.
Redmoorless Farm	BAS	0.5km W	As well as the river the site includes an area of marshy grassland between the river and Duke's Lane, areas of woodland and scrub on the southern bank and a former meander of the river. The hedge of Duke's Lane and the lane verges are also included.

Cauldron Railway Cutting SSSI	SSSI	0.7km S	An extensive railway cutting which holds plant communities typical of calcareous clay grassland. Dominant grasses on the cutting are tor grass: false oat-grass red fescue with glaucous sedge. A wide variety of herbs are present including spiny restharrow, dropwort, Dyer's greenweed, sulphur clover and zigzag clover. The intermittent burning and rabbit grazing that the site receives has allowed the maintenance of this valuable wildlife habitat in an otherwise intensively farmed area.
Broomyshaw	LWS	0.8km S	Includes small wet flushes by the stream and dry sloping banks above.
Three Stones	BAS	0.8km E	A section of river, lined by mature trees in places particularly ash, sycamore and regenerating wych elm. A variety of tall herbs occur on the unshaded banks especially butterbur.
Manor Farm	LWS	0.9km W	A series of 10 species-rich fields composed of semi-improved neutral and acid grassland, marshy grassland, dense & scattered scrub. Western fields situated on a north-easterly slope with common Spotted-orchid and Greater Butterfly-orchid present on site.

Middlehills Farm	LWS	1.0km SE	Two fields, primarily semi-improved neutral grassland, although Field 2 contains an area of calcareous grassland. The species found, many of which are uncommon in Staffordshire, denote the site has considerable nature conservation value.
Cotton Grange	LWS	1.0km W	A stream with narrow, steeply-sloping banks with scattered trees.

Habitats

- 4.56.4 The site habitats of semi-improved species rich neutral grassland, scattered trees, buildings, hard standing, and Species-poor improved grassland remain as reported by Lockwood Hall Associates, 2014 .

Species

- 4.56.5 No notable species were recorded by Lockwood Hall Associates, 2014.

4.56.1 Table 4.56.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.56.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	a bat	<i>Chiroptera</i>
	a marsh tit	<i>Poecile palustris subsp. palustris/dresseri</i>
	a willow tit	<i>Poecile montana subsp. kleinschmidti</i>
	Barn owl	<i>Tyto alba</i>
	Brown hare	<i>Lepus europaeus</i>
	Brown long-eared Bat	<i>Plecotus auritus</i>
	Brown/Sea trout	<i>Salmo trutta</i>
	Cinnabar	<i>Tyria jacobaeae</i>
	Common bullfinch	<i>Pyrrhula pyrrhula</i>
	Common carder-bee	<i>Bombus pascuorum</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Common snipe	<i>Gallinago gallinago</i>
	Common starling	<i>Sturnus vulgaris</i>
	Dingy skipper	<i>Erynnis tages</i>
	Dunnock	<i>Prunella modularis</i>
	Early mining bee	<i>Andrena haemorrhoa</i>
	Eurasian curlew	<i>Numenius arquata</i>
	Eurasian tree sparrow	<i>Passer montanus</i>
	Hen harrier	<i>Circus cyaneus</i>

	House sparrow	<i>Passer domesticus</i>
	Iron blue mayfly	<i>Baetis niger</i>
	Large red tailed bumble bee	<i>Bombus lapidarius</i>
	Latticed heath	<i>Chiasmia clathrata</i>
	Lesser redpoll	<i>Acanthis cabaret</i>
	Linnet	<i>Linaria cannabina</i>
	Marsh tit	<i>Poecile palustris</i>
	Myotis bat species	<i>Myotis</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Northern lapwing	<i>Vanellus vanellus</i>
	Red wasp	<i>Vespa rufa</i>
	Reed bunting	<i>Emberiza schoeniclus</i>
	Ring Ouzel	<i>Turdus torquatus</i>
	Sky lark	<i>Alauda arvensis</i>
	Small heath	<i>Coenonympha pamphilus</i>
	Song thrush	<i>Turdus philomelos</i>
	Spotted flycatcher	<i>Muscicapa striata</i>
	Tree bumble bee	<i>Bombus hypnorum</i>
	Tree wasp	<i>Dolichovespula sylvestris</i>
	Wall	<i>Lasiommata megera</i>
	West European hedgehog	<i>Erinaceus europaeus</i>
	White-tailed bumble bee	<i>Bombus lucorum</i>
	Willow tit	<i>Poecile montana</i>
	Yellowhammer	<i>Emberiza citrinella</i>
EU/UK protected	a bat	<i>Chiroptera</i>
	Barn owl	<i>Tyto alba</i>
	Brown long-eared bat	<i>Plecotus auritus</i>
	Common kingfisher	<i>Alcedo atthis</i>
	Common pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>
	Eurasian badger	<i>Meles meles</i>
	Eurasian hobby	<i>Falco subbuteo</i>
	Fieldfare	<i>Turdus pilaris</i>
	Hen harrier	<i>Circus cyaneus</i>
	Myotis bat species	<i>Myotis</i>
	Noctule bat	<i>Nyctalus noctula</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Red kite	<i>Milvus milvus</i>
	Redwing	<i>Turdus iliacus</i>

Amphibians

4.56.2 SER and NBN Atlas returned no amphibian records.

4.56.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.56.4 SER returned 5 records of badger.
- 4.56.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.56.6 SER returned 12 records of bats, which included 1 unidentified species, 3 pipistrelle species, 3 common pipistrelle, 1 soprano pipistrelle, 2 brown long-eared bat, 1 Myotis bat species, and 1 noctule bat.
- 4.56.7 Lockwood Hall Associates did not record any suitability for potential bat roosts on site. The site habitats do not provide anything more than marginal foraging and commuting opportunity for bats. However, an activity survey should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.56.8 SER returned records of 44 notable species. Table 4.56.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.56.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Skylark	<i>Alauda arvensis</i>	Red
Linnet	<i>Carduelis cannabina</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Redwing	<i>Turdus iliacus</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Fieldfare	<i>Turdus pilaris</i>	Red
Mistle thrush	<i>Turdus viscivorus</i>	Red
Meadow pipit	<i>Anthus pratensis</i>	Amber
Swift	<i>Apus apus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
House martin	<i>Delichon urbicum</i>	Amber
Reed bunting	<i>Emberiza schoeniclus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber

Common Name	Scientific Name	BoCC Status
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

4.56.9 No birds were recorded on site during the visit. However, it is likely that the site provides limited foraging and nesting opportunity for a range of common species such as robin, blackbird, dunnock, house sparrow, magpie, carrion crow and woodpigeon.

4.56.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

4.56.11 No records of reptiles were returned.

4.56.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

4.56.13 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

4.56.14 No habitats are present within or adjacent to the site, which are likely to support other protected or key species not already discussed.

4.56.15 SER returned two records of brown hare and three records of European hedgehog. The dense scrub present within the site could support foraging habitat for the European hedgehog and the grassland could provide foraging habitat for brown hare.

Invasive species

4.56.16 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

4.56.17 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.56.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Semi-improved species rich neutral grassland				X		
Improved Species-poor grassland						X
Dense scrub						X

Species-poor grassland						X
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.56.18 An area of semi-improved species rich neutral grassland was identified on site and included species such as great burnet, jointed rush, meadow buttercup. Red fescue, meadow foxtail and tufted vetch. This area of grassland is 0.44 ha which is above the 0.25 ha stated by the SBI guidelines for grasslands, and therefore may qualify for SBI/BAS status. It is recommended a detailed vegetation survey is carried out.
- 4.56.19 No notable species were recorded by Lockwood Hall Associates. Therefore, the site does not currently qualify for consideration as SBIs or BASs dependent on the presence of protected or rare species.

Conclusions

- 4.56.20 The site has medium ecological value in its potential to support protected species. The semi-improved species rich neutral grassland has been given district importance as it is fairly uncommon within the locality. The other site habitats are considered to be of nature conservation value at site level only. However, more information is required regarding the semi-improved species rich neutral grassland.
- 4.56.21 The following surveys/ actions are therefore recommended in order to establish SBI/ BAS status:
- Detailed grassland vegetation survey.

4.57 WR015 (FID 7)

Site Description

- 4.57.1 The site is an area of grassland located to the north west of Wetley Rocks (central grid reference SJ 96430 49157). It is approximately 0.8 ha and surrounded by housing and agricultural land.
- 4.57.2 Lockwood Hall Associates visited the site to conduct as phase 1 habitat survey in September and October 2014. In addition to the phase 1 report, records from Staffordshire Ecological Records (SER), Magic Map and NBN Atlas, have been used to create the following LWS assessment.

Designated Sites

- 4.57.3 Two locally designated sites are located within 1 km of the study area (Table 4.57.1).

Table 4.57.1 Statutory and locally designated sites for nature conservation within 1 km of the study area.

Site name	Status	Location relative to site	Notes
Wetley Moor SSSI	SSSI	0.2 km NE	A linear, stretch of rock outcrop supporting a heathland community along the A520 through Wetley Rocks. The north predominantly supports a heathland community while the southerly area is less species rich with no mature stands of heather and bilberry.
Platt (north of)	BAS	0.3 km SW	A small triangular section of semi-improved acidic grassland with marshy areas around the stream side. The grassland is heavily grazed by sheep.

Habitats

- 4.57.4 The site habitats of species-poor hedgerow, scattered trees, improved grassland and tall ruderal vegetation remain as reported by Lockwood Hall Associates, 2014.

Species

- 4.57.5 No notable species were recorded by Lockwood Hall Associates, 2014.
- 4.57.1 Table 4.57.2 illustrates all UKBAP, invasive and protected species records included in data received from SER within 2 km of the site.

Table 4.57.2 UKBAP, invasive and protected species identified within 2km of site.

Species Type	Common Name	Scientific Name
BAP	Barn owl	Tyto alba
	Brown hare	Lepus europaeus
	Brown long-eared bat	Plecotus auritus
	Common bullfinch	Pyrrhula pyrrhula
	Common lizard	Zootoca vivipara
	Common pipistrelle	Pipistrellus pipistrellus sensu stricto
	Dunnock	Prunella modularis
	Eurasian curlew	Numenius arquata
	European water vole	Arvicola amphibius
	Ghost moth	Hepialus humuli
	Grass snake	Natrix natrix
	Haworth's minor	Celaena haworthii
	Heath rustic	Xestia agathina
	Northern lapwing	Vanellus vanellus
	Pipistrelle	Pipistrellus pipistrellus sensu lato
	Slow-worm	Anguis fragilis
	Small phoenix	Ecliptopera silaceata
	Soprano pipistrelle	Pipistrellus pygmaeus
	West European hedgehog	Erinaceus europaeus
	White ermine	Spilosoma lubricipeda
EU/UK protected	Barn owl	Tyto alba
	Bluebell	Hyacinthoides non-scripta
	Brown long-eared bat	Plecotus auritus
	Common lizard	Zootoca vivipara
	Common pipistrelle	Pipistrellus pipistrellus sensu stricto
	Daubenton's bat	Myotis daubentonii
	Eurasian badger	Meles meles
	European water vole	Arvicola amphibius
	Grass snake	Natrix natrix
	Pipistrelle	Pipistrellus pipistrellus sensu lato
Slow-worm	Anguis fragilis	
Soprano pipistrelle	Pipistrellus pygmaeus	

Amphibians

- 4.57.2 SER returned no amphibian records.
- 4.57.3 No amphibians were recorded during the site visit and no habitats present within or adjacent to the site are likely to support amphibians.

Badger

- 4.57.4 SER returned nine records of badger.

- 4.57.5 No badger setts were identified on site and no evidence of any other badger activity was recorded. Similarly, no evidence of badgers was recorded in the immediate vicinity of the site and it is unlikely that the site would provide anything more than marginal habitat for badgers. Nevertheless, badgers are highly mobile animals and may move into an area at almost any time. Further checks for potential badger presence should be undertaken prior to any future development.

Bats

- 4.57.6 SER returned eight records of bats, which included five records of unidentified pipistrelle species, two records of common pipistrelle and one soprano pipistrelle.
- 4.57.7 Lockwood Hall Associates, 2014 identified the habitats present as having low bat roost potential. The site habitats would only provide foraging and commuting opportunity for bats. An activity survey and further assessment of the relevant trees should be conducted to determine use of the site by bats prior to future development.

Birds

- 4.57.8 SER and NBN data searches returned records of 10 notable bird species. Table 4.57.3 shows the BoCC red or amber species from this list that may occur on site due to suitable habitat.

Table 4.57.3. Notable bird species with potential to occur on site.

Common Name	Scientific Name	BoCC Status
Eurasian curlew	<i>Numenius arquata</i>	Red
House sparrow	<i>Passer domesticus</i>	Red
Northern lapwing	<i>Vanellus vanellus</i>	Red
Mallard	<i>Anas platyrhynchos</i>	Amber
Pink-footed goose	<i>Anser brachyrhynchus</i>	Amber
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Common Redstart	<i>Phoenicurus phoenicurus</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Dunnock	<i>Prunella modularis</i>	Amber
Common bullfinch	<i>Pyrrhula pyrrhula</i>	Amber

- 4.57.9 No birds were recorded on site during the visit. However, it is likely that the hedgerows, scattered scrub and trees within the site provide foraging and nesting opportunity for a range of species such as house sparrow, bullfinch, robin, blackbird, dunnock, magpie, carrion crow and woodpigeon. The improved grassland could provide foraging opportunities for species such as starling.
- 4.57.10 Habitats on site are not considered to be critical to any one bird species. Given the abundance of similar habitat in the local area, the habitats present on site were considered to be of importance to nesting and foraging birds at site level only.

Reptiles

- 4.57.11 No records of reptiles were returned within 1 km.

- 4.57.12 No reptiles were recorded during the site visit. Site habitats are sub-optimal for reptiles and showed poor connectivity with surrounding potential habitat. Therefore, reptiles are not considered to be a receptor for the site.

Riparian mammals and white-clawed crayfish

- 4.57.13 No records of water vole, otter or white-clawed crayfish were returned within 1km radius of the site.
- 4.57.14 No habitats were present within or adjacent to the site, which are likely to support water vole, otter or white-clawed crayfish.

Other protected and key species

- 4.57.15 SER returned 12 records of hedgehog and four records of brown hare within 1km of the site.
- 4.57.16 The hedgerow within the site could provide foraging and nesting opportunities for the European hedgehog. Tall ruderal vegetation could provide refuge whilst the grasslands could provide foraging opportunities for the brown hare.

Invasive species

- 4.57.17 No non-native invasive species were recorded by Lockwood Hall Associates, 2014.

Evaluation

- 4.57.18 The following table illustrates the importance of the site and each habitat in terms of their potential loss to the wider county. Further detail on the importance of the habitats is given below.

Table 4.57.4. Ecological importance of site habitats

Habitat	Ecological Importance					
	I	N	R	D	L	S
Scattered trees					X	
Species-poor hedgerow					X	
Species-poor grassland					X	
Tall ruderal vegetation					X	
Overall site importance					X	
I=International, N=National, R=Regional, D=District, L=Local, S=Site						

- 4.57.19 Scattered trees, species-poor hedgerows, scattered trees, species-poor grassland and tall ruderal vegetation were identified as local importance only by Lockwood Hall Associates, 2014.
- 4.57.20 Lockwood Hall Associates did not record any protected species during the survey, however they may support Brown hare, Hedgehog, Badger and foraging bats.

Conclusions

- 4.57.21 The site habitats are considered to be of nature conservation value at local level only, although they have some potential to support protected species such as badger, brown hare, hedgehog and foraging bats.
- 4.57.22 No further actions are therefore required.

5. Ecological Assessments Summary

5.1.1 No entire site currently qualified for consideration as a SBI or BAS. However, a number of individual site habitats were found to be potential candidates (Table 5.1.1). Depending on the results of possible future surveys for protected species, more of the sites and habitats could potentially meet the necessary criteria for consideration.

Table 5.1.1 Sites with habitat potentially suitable for SBI or BAS designation.

Site	Potential for SBI / BAS designation	Relevant habitat
ADD01	Yes	Hedgerow
ADD03	Yes	Broad-leaved woodland, mature trees
ADD04	Yes	Mature trees, ponds
ADD09	Yes	Hedgerow
BD076A	No	N/A
BM014a + BM014b	No	N/A
Bolton Copperworks	No	N/A
CH085d	No	N/A
EN007	Yes	Mature trees
EN019	No	N/A
EN101	Yes	Mature trees
UT007 (FID62)	No	N/A
KG049a	No	N/A
Northern Gateway	Yes	Hedgerow, ponds
WE013 + WE027	No	N/A
BD016	Yes	Mature trees
BD055	No	N/A
BD062	No	N/A
BD063A	No	N/A
BD068	No	N/A
BD069	Incomplete survey	Pond
BD071 & BD071A	Yes	Hedgerow, habitat mosaic
BD076	Yes	Hedgerow
BD076A	No	N/A
BD087	No	N/A
BD106 & BD156	No	N/A
BD108	No	N/A
BD117	Yes	Hedgerow
CH001	Yes	Mature trees
CH002	Yes	Mature trees, hedgerow
CH002B	Yes	Mature trees, hedgerow
CH002B	Yes	Hedgerow
CH009	Yes	Hedgerow
CH013	Yes	Mature trees
CH015	Yes	Mature trees
CH019	No	N/A
CH020	Yes	Mature trees
CH024	Yes	Hedgerow, Tall ruderal vegetation
CH085A	No	N/A
CH085B & CH085C	Yes	Hedgerow

CH085D	Yes	Mature trees, hedgerow
CH127	No	N/A
CH128	No	N/A
LE022	No	N/A
LE064	No	N/A
LE127	No	N/A
LE128	No	N/A
LE140	No	N/A
LE142A	No	N/A
LE142B	No	N/A
LE150	No	N/A
LE249	No	N/A
LEEK EM2	No	N/A
WE052	No	N/A
WE069	No	N/A
EN012	Yes	Pond
EN033	Yes	Pond
AL012	Yes	Hedgerow
BE041	Yes	Hedgerow
BM013	No	N/A
BM014B	No	N/A
BM029	No	N/A
EN126	Yes	Pond
CD002	Yes	Hedgerow
CD003	No	N/A
CD017	Yes	Hedgerow
IP019	No	N/A
TR002	Yes	Pond
UT019	No	N/A
WE003	No	N/A
WA004	Yes	Grassland
WR015	No	N/A

5.1.2 54 out of 69 sites had the potential to support notable protected species and therefore these species may be receptors for any future development (Table 5.1.2). To fully determine the status of all such species, appropriate surveys would need to be undertaken.

Table 5.2. Potential receptors to future development at each site.

Site	Potential Receptor							
	Great crested newt	Badger	Bats	Birds	Reptiles	Otter	Water vole	White-clawed crayfish
ADD01		✓	✓	✓	✓			
ADD03		✓	✓	✓				
ADD04	✓	✓	✓	✓	✓			
ADD09		✓	✓	✓		✓	✓	✓
BD076A			✓	✓	✓			
BM014a + BM014b		✓		✓				
Bolton Copperworks	✓	✓	✓	✓	✓	✓	✓	✓
CH085d			✓					
EN007			✓					
EN019								
EN101			✓		✓			
UT007 (FID62)	✓				✓			
KG049a	✓	✓	✓	✓				
Northern Gateway	✓	✓	✓	✓	✓			
WE013 + WE027		✓	✓	✓				
BD016								
BD055			✓		✓			
BD062			✓		✓			
BD063A			✓					
BD068			✓		✓			
BD069	✓		✓		✓			
BD71 & BD71A			✓		✓			
BD76					✓			
BD076A					✓			
BD087					✓			
BD106 & BD156			✓		✓			
BD108					✓			
BD117			✓					
CH001			✓					
CH002					✓			
CH02B			✓					
CH04								
CH009			✓					
CH013			✓					
CH015			✓					
CH019	✓							
CH020			✓		✓			
CH024					✓			
CH085A			✓					
CH085B & CH085C								
CH085D			✓					
CH127			✓					
CH128								
LE022								

Site	Potential Receptor							
	Great crested newt	Badger	Bats	Birds	Reptiles	Otter	Water vole	White-clawed crayfish
LE064			✓					
LE127								
LE128A								
LE140								
LE142			✓					
LE142B*								
LE150		✓			✓			
LE249					✓			
LEEK EM2		✓	✓		✓			
WE052			✓					
WE069								
AL012			✓					
BE041			✓		✓			
BM013	✓		✓					
BM14B			✓					
BM029								
EN012	✓		✓		✓			
EN033	✓				✓			
EN126	✓		✓		✓			
IP019			✓					
TR002	✓		✓		✓			
UT019								
WE003			✓					
WA004								
WR015								

*Site LE142B is a receptor for polecat which is not listed in the table.

- 5.1.3 Invasive non-native species recorded during the site visits were all plants (Japanese knotweed, Indian balsam and cotoneaster sp.). They occurred at ten sites (Table 5.3).

Table 5.3. Presence of invasive non-native plants on site.

Site	Invasive non-native plants present
ADD01	No
ADD03	No
ADD04	No
ADD09	No
BD076A	No
BM014a + BM014b	No
Bolton Copperworks	Yes
CH085d	No
EN007	No
EN019	No
EN101	No
UT007 (FID62)	No
KG049a	No
Northern Gateway	No
WE013 + WE027	Yes
BD016	No
BD055	No
BD062	Yes
BD063	No
BD068	No
BD069	No
BD071 & BD071A	Yes
BD076	Yes
BD076A	Yes
BD087	No
BD106 & BD156	No
BD108	No
BD117	No
CH001	No
CH002	No
CH02B	No
CH004	No
CH009	No
CH013	No
CH015	No
CH019	No
CH020	Yes
CH024	No
CH85A	No
CH85B & CH085C	No
CH85D	No
CH127	No
CH128	No
LE022	No
LE064	No
LE127	No
LE128A	No
LE140	Yes
LE142A	Yes
LE142B	No
LE150	No
LE249	No

LEEK EM2	No
WE052	No
WE069	No
AL012	No
BE041	No
BM013	No
BM14B	No
BM29	No
CD002	No
CD003	No
CD017	Yes
EN012	No
EN033	No
EN126	No
IP019	No
TR002	No
UT019	No
WE003	No
WA004	No
WR015	No

6. References

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Figures: Survey Findings



Legend

- Site Boundary
- ⊙ TN Target Note
- Improved Grassland
- ~~~~~ Intact Species Rich Hedge
- Tall Ruderal
- x Trees
- Fence



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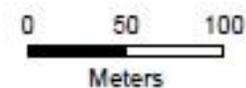
Figure x.x
ADD01, Phase 1 Habitat Survey

Brook Holt 3 Blackburn Road Sheffield S91 2DW
T: 0114 2882282 www.ecusltd.co.uk



Legend

-  Site Boundary
-  Target Note
-  Improved Grassland
-  Tall Ruderal
-  Species Poor Intact Hedgerow
-  Semi-mature / Young Scattered Trees
-  Scrub
-  Mature Tree
-  Watercourse

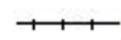
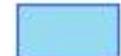


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Figure 4.3.1
ADD03, Phase 1 Habitat Survey

Brook Holt 3 Blackburn Road Sheffield S61 2DW
T: 0114 2662262 www.ecus.co.uk

Legend

-  Site Boundary
 -  Target Note
 -  Improved Grassland
 -  Species Poor Intact Hedgerow
 -  Species Poor Defunct Hedgerow
 -  Scattered Mature Tree
 -  Scattered Semi-mature / Young Tree
 -  Fence
 -  Pond 1
- 0 50 100
Meters

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Staffordshire Moorlands

Figure 4.5.1
ADD04, Phase 1 Habitat Survey

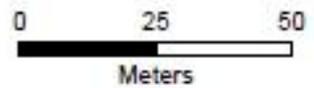
Brook Holt 3 Blackburn Road Sheffield S61 2DW
T: 0114 2869282 www.ecusfd.co.uk





Legend

-  Site Boundary
-  Improved Grassland
-  Species Rich Intact Hedgerow
-  Species Poor Intact Hedgerow
-  Scattered Mature Tree
-  Scattered Semi-mature Tree

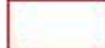
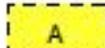


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Figure 4.7.1
ADD09, Phase 1 Habitat Survey

Brook Hill 3 Blackburn Road Sheffield S61 2DW
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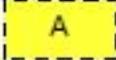
- Legend**
-  Site Boundary
 -  Hardstanding
 -  Tall Ruderal
 -  Scattered Scrub
 -  Scattered Trees
 -  Building (numbered)
 -  Introduced Shrub
 -  Amenity Grassland

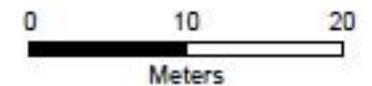
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Figure 4.9.1
 BD076A (northern part only),
 Phase 1 Habitat Survey

Brook Hill 3 Blackburn Road Sheffield S61 2DW
 T: 0114 2669292 www.ecustd.co.uk

Legend

-  Site Boundary
-  Target Note
-  Improved Grassland
-  Amenity Grassland
-  Scattered Scrub
-  Scattered Tree



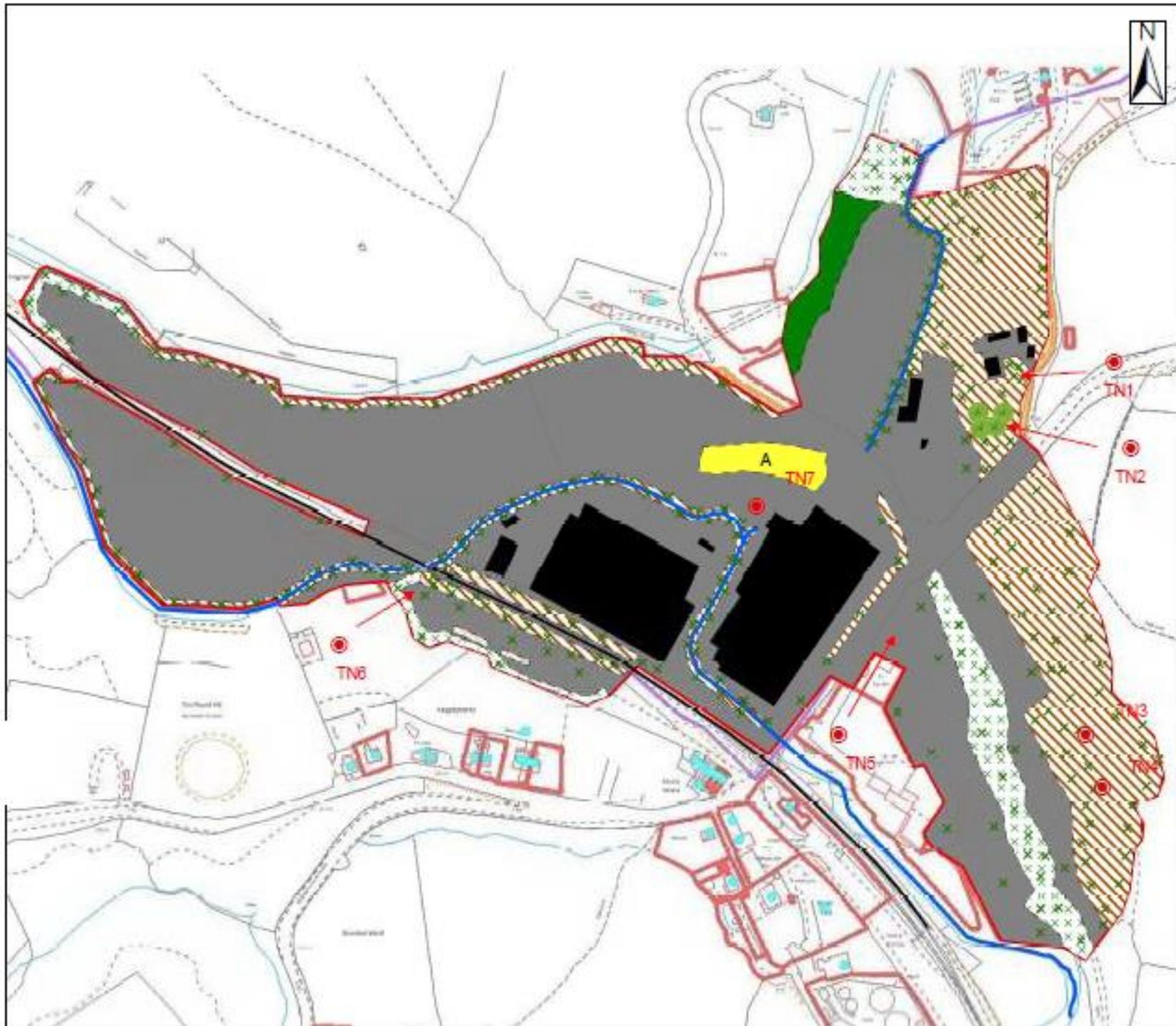
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Figure 4.11.1
BM014A + (southern part of) BM014B

Brook Holt 3 Blackburn Road Sheffield S61 2DW
T: 0114 2662262 www.ecusfd.co.uk

Legend

-  Site Boundary
 -  Target Note
 -  Hardstanding
 -  Semi-mature / Young Scattered Trees
 -  Tall Ruderal
 -  Scattered Scrub
 -  Mature Tree
 -  Broad-leaved Semi-natural Woodland
 -  Amenity Grassland
 -  Introduced Shrub
 -  Building
 -  Watercourse
 -  Railway
- 0 50 100
Meters



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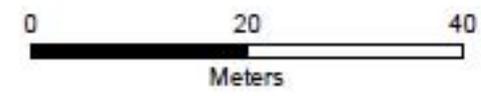
Figure 4.13.1
Bolton Copperworks, Phase 1 Habitat Survey

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Legend

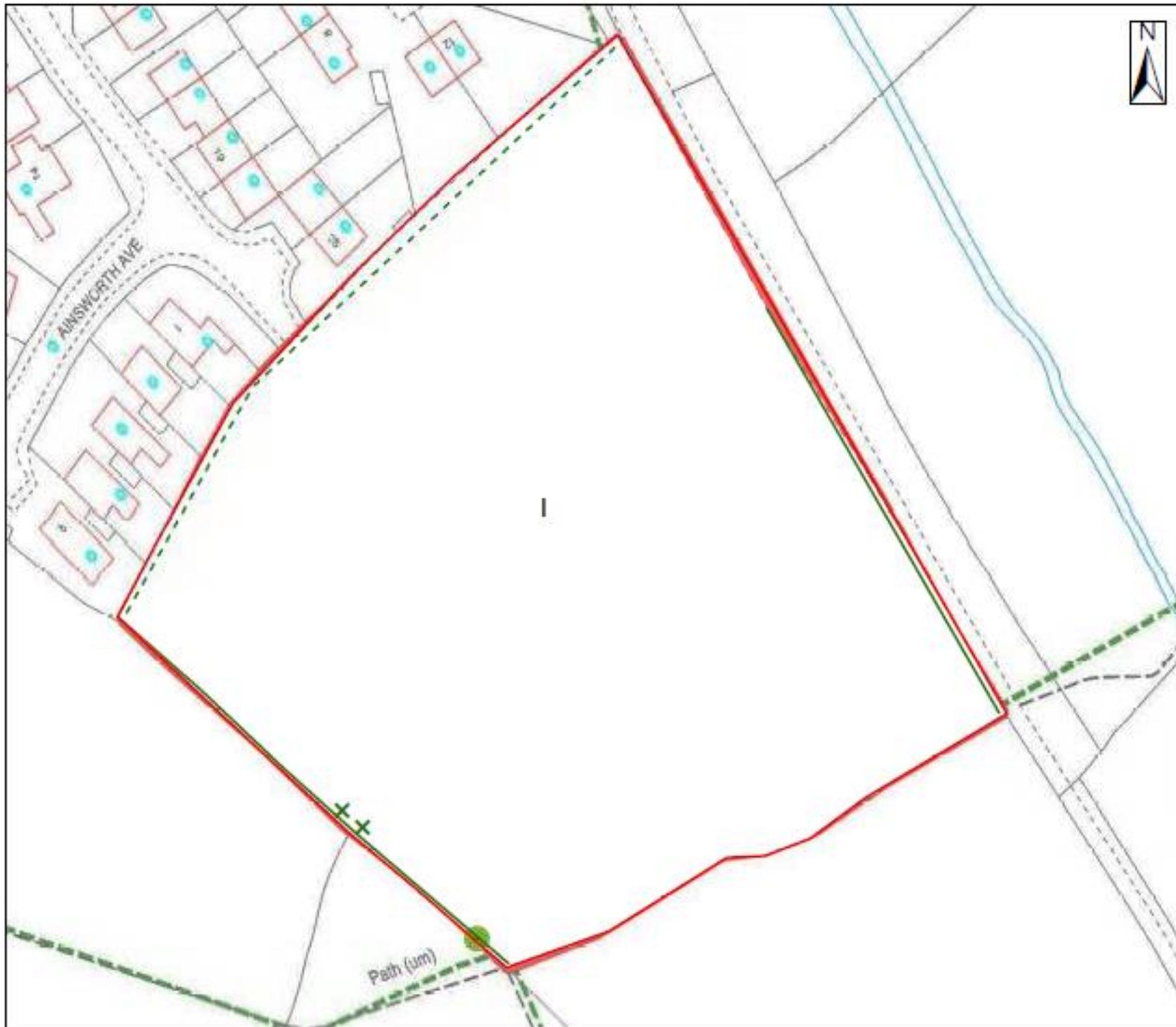
- Site Boundary
- I Improved Grassland
- Scattered Mature Tree



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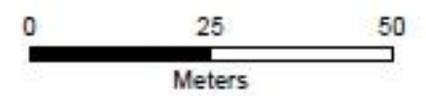
Figure 4.15.1
Southern Portion CH085D,
Phase 1 Habitat Survey

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Legend

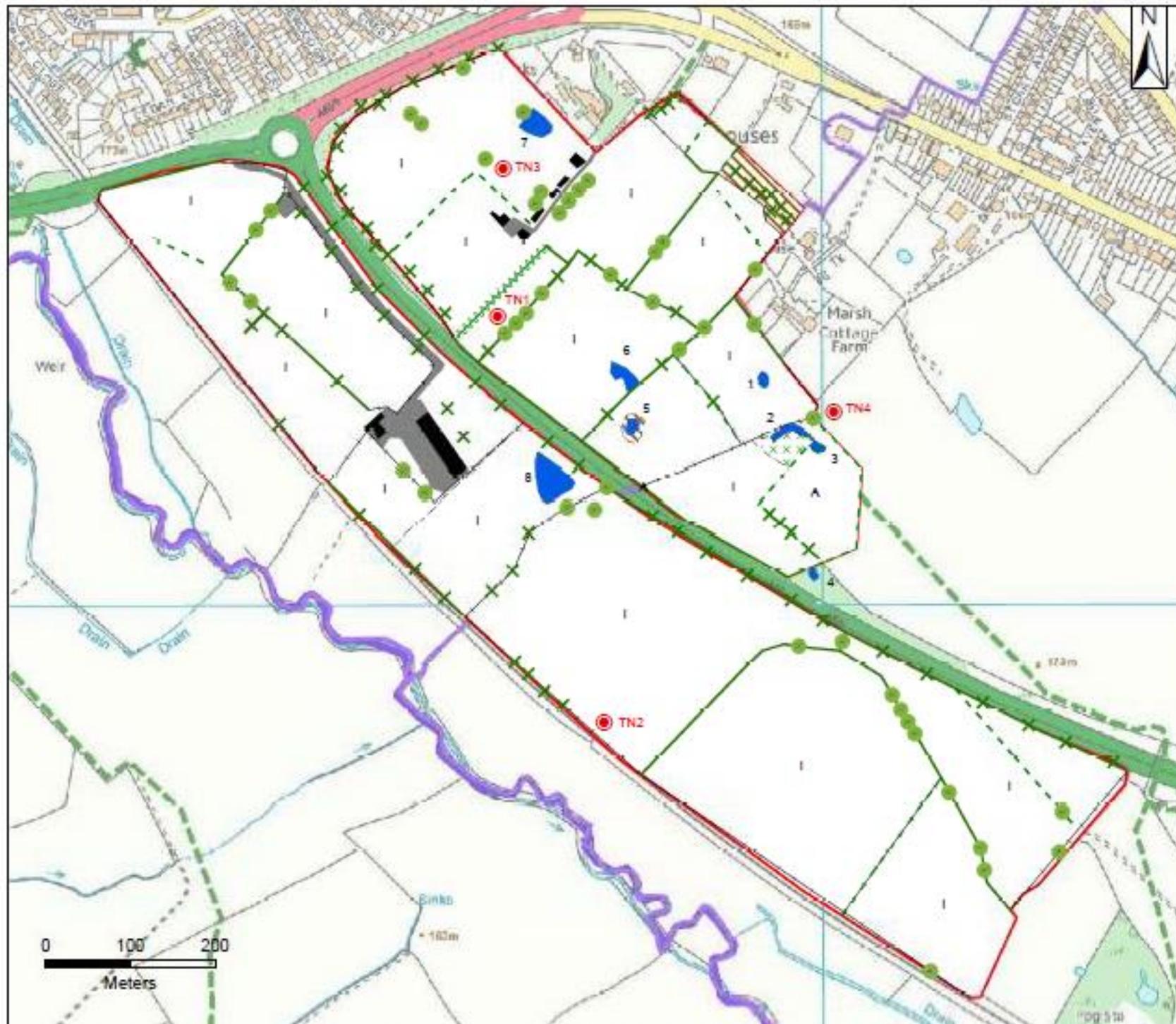
- Site Boundary
- Improved Grassland
- Intact Species-poor Hedgerow
- Defunct Species-poor Hedgerow
- ✕ Semi-mature / Young Scattered Tree
- Mature Scattered Tree



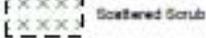
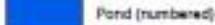
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Figure 4.21.1
KG049A, Phase 1 Habitat Survey

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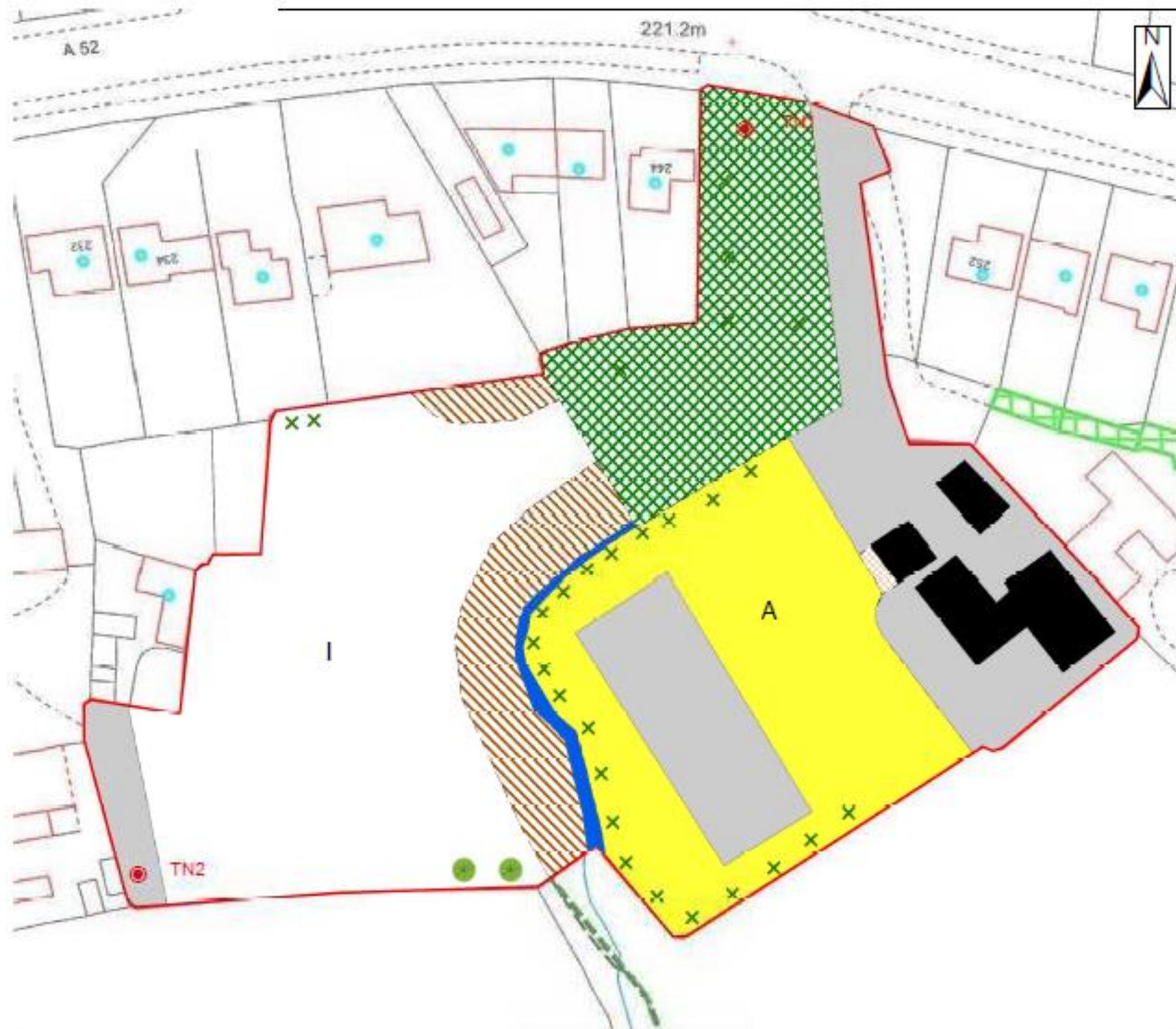
Legend

-  Site Boundary
-  Target Note
-  Improved Grassland
-  Intact Species-poor Hedgerow
-  Defunct Species-poor Hedgerow
-  Mature Scattered Tree
-  Semi-mature / Young Scattered Tree
-  Intact Species-rich Hedgerow
-  Fence
-  Arable
-  Scattered Scrub
-  Pond (numbered)
-  Tall Ruderal
-  Hardstanding
-  Building

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Figure 4.23.1
Northern gateway Opportunity Site,
Phase 1 Habitat Survey

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Legend

- Site Boundary
- TN Target Note
- Improved Grassland
- Amenity Grassland
- Introduced Shrub
- Scrub
- Tall Ruderal
- Mature Tree
- × Semi-mature / Young Scattered
- Watercourse
- Building
- Hardstanding

0 25 50
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Figure 4.25.1
 WE013 + WE027, Phase 1 Habitat Survey

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Appendix 1: Phase 1 Habitat Colour Codes

A Woodland and scrub		B Grassland and marsh	
1 Woodland		1 Acid grassland	
1 Broad-leaved		1 Unimproved	Orange
1 Semi-natural	Green	2 Semi-proved	Orange
2 Plantation	Green	2 Neutral grassland	
2 Coniferous		1 Unimproved	Orange
1 Semi-natural	True Green	2 Semi-improved	Orange
2 Plantation	True Green	3 Calcareous grassland	
3 Mixed		1 Unimproved	Orange
1 Semi-natural	Green over true green	2 Semi-improved	Orange
2 Plantation	Green over true green	4 Improved grassland	No colour
2 Scrub		5 Marsh/marshy grassland	Purple over orange
1 Dense/continuous	Green	*6 Poor semi-improved grassland (optional)	No colour
2 Scattered	Green		
3 Parkland, scattered trees			
1 Broad-leaved	Green		
2 Coniferous	True Green		
3 Mixed	Green over true green		
4 Recently-felled woodland			
1 Broad-leaved	Green		
2 Coniferous	True Green		
3 Mixed	Green over true green		

C Tall herb and fern	
1 Bracken	
1 Continuous	Tern coata
2 Scattered	Tern coata
2 Upland species-rich ledges	Tern coata + target note
3 Other	
1 Tall ruderal	Tern coata
2 Non-ruderal	Tern coata

D Heathland	
1 Dry dwarf shrub heath	
1 Acid	Yellow ochre
2 Basic	Yellow ochre
2 Wet dwarf shrub heath	Purple over yellow ochre
3 Lichen/cryophyte heath	Yellow ochre
4 Montane heath/ dwarf herb	Yellow ochre
5 Dry heath/acid grassland mosaic	Orange over yellow ochre
6 Wet heath/acid grassland mosaic	Purple and orange over yellow ochre

E Mire	
1 Bog	
*6 Sphagnum bog	Purple
*1 Blanket bog	Purple
*2 Raised bog	Purple
*7 Wet modified bog	Purple
*8 Dry modified bog	Purple
2 Flush and spring	
1 Acid/wetland flush	Magenta
2 Basic flush	Magenta
3 Bryophyte-dominated spring	Target note
*3 Fen	Magenta over purple
Optional coatings:	
Basic	Magenta over purple
*1 Valley mire	Magenta over purple
*2 Basin mire	Magenta over purple
*3 Flood-plain mire	Magenta over purple
*4 Bare peat	Purple

F Swamp, marginal and inundation	
1 Swamp	Sky line
2 Marginal and inundation	
1 Marginal vegetation	Sky line + target note
2 Inundation vegetation	Sky line

G Open water		H Coastland	
1 Standing water	Indigo blue	1 Intertidal	
Optional coverages:		1 Macrobenthos	} Ordinance Survey symbols
1 Eutrophic	Indigo blue	2 Singleleafed plants	
2 Mesotrophic	Indigo blue	3 Bivalve/brachiopods	
3 Oligotrophic	Indigo blue	Coverage for intertidal:	
4 Dystrophic	Indigo blue	*1 Dune core	Zc
5 Marl	Indigo blue	*2 Green silted beds	Gc
6 Brackish (*includes saline lagoons)	Indigo blue	*3 Brown silted beds	Bc
2 Flushing water	Indigo blue	2 Saltmarsh	
Optional coverages:		3 Saltmarsh/low meadow	Peak + target rate
1 Eutrophic	E	4 Scattered plants	Peak
2 Mesotrophic	M	*6 Dense continuous	Peak
3 Oligotrophic	O	3 Shingle above high tide mark	} Ordinance Survey symbols
*4 Dystrophic	D	4 Bivalve/brachiopods above high tide mark	
*5 Macrobenthos	C	5 Strandline vegetation	Target rate
*6 Brackish	B	6 Sand dune	
		4 Dune stack	Indigo blue over Peak
		5 Dune grassland	Orange over Peak
		6 Dune heath	Yellow ochre over Peak
		7 Dune scrub	Green over Peak
		*8 Open dune	Peak
		Maritime cliff and slope	
		1 Hard cliff	Scarlet red
		2 Soft cliff	Scarlet red
		*3 Cliff-edge vegetation	Target rate
		*4 Coastal grassland	Orange
		*5 Coastal heathland	Yellow ochre

I Rock exposure and waste		
1 Natural		
1 Inland cliff		
1 Acid/neutral		Scarlet red
2 Basic		Scarlet red
2 Scree		
1 Acid/neutral		Scarlet red
2 Basic		Scarlet red
3 Limestone pavement		Scarlet red
4 Other exposures		
1 Acid/neutral		Scarlet red
2 Basic		Scarlet red
5 Cave		Scarlet red
2 Artificial		
1 Quarry		Scarlet red
2 Spoil		Scarlet red
3 Mine		Scarlet red
*4 Refuse-tip		Scarlet red

J Miscellaneous		
1 Cultivated/disturbed land		
*1 Arable		No colour
*2 Arseny grassland		Canary yellow
*3 Ephebraea/shoot perennial		Black
*4 Introduced scrub		Terra cotta
2 Boundaries (mapping optional)		
1 Intact hedge		
*1 Native species-rich		Green
*2 Species-poor		Green
2 Defunct hedge		
*1 Native species-rich		Green
*2 Species-poor		Green
3 Hedges and trees		
*1 Native species-rich		Green
*2 Species-poor		Green
4 Fence		Black
5 Wall		Scarlet Red
6 Dry ditch		Indigo blue
*7 Boundary removed		Black
*8 Earth bank		Black
3 Built-up areas		
4 Concrete site		Black
*5 Sea wall (artificial material)		Black
*6 Buildings		Black
4 Bare ground		Black
5 Other habitat		Black + target note

Appendix 2. Site Images



1



2



3



4

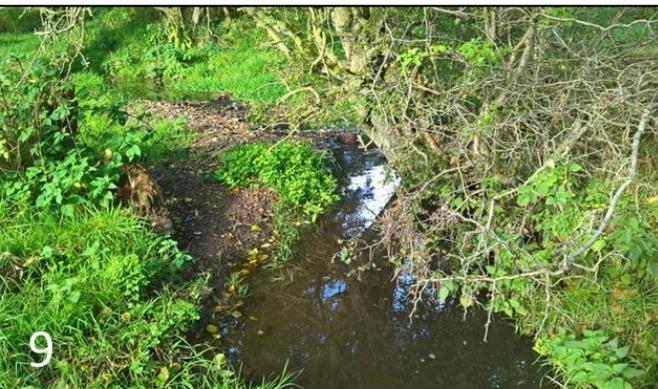
Legend

Plate 1. ADD01 site view, south.

Plate 2. ADD01 site view, north-east.
Hedgerow boundary with mature trees and tall ruderal vegetation at boundary corner.

Plate 3. ADD01 site view, north-west.
Hedgerow boundary.

Plate 4. ADD01 animal run (probably badger).



Legend

Plate 5. ADD03 northern part of site.

Plate 6. ADD03 southern part of site.

Plate 7. ADD03 scattered trees along watercourse.

Plate 8. ADD03 mature oak on field boundary.

Plate 9. ADD03 watercourse along northern boundary.

Plate 10. ADD03 watercourse along southern boundary.

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Appendix 1. Site Images – ADD03

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Legend

Plate 11. ADD04 northern fields with scattered mature trees.

Plate 12. ADD04 central fields.

Plate 13. ADD04 species-poor defunct hedgerow.

Plate 14. ADD04 pond 1.

Plate 15. ADD04 rank grass close to pond 1.

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Appendix 1. Site Images – ADD04

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Legend

Plate 16. ADD09 site view, south.

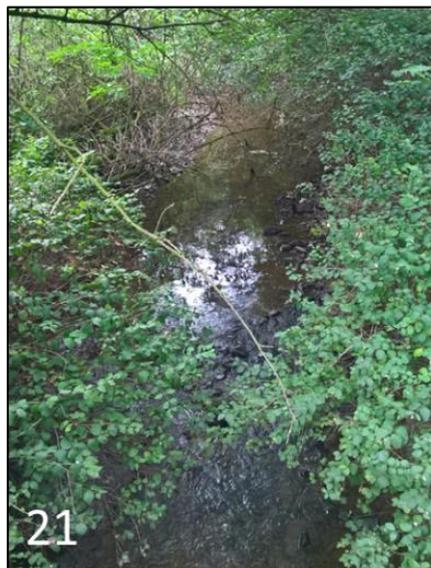
Plate 17. ADD09 site view, north.

Plate 18. ADD09 scattered mature trees.

Plate 19. ADD09 scattered mature trees.

Plate 20. ADD09 badger sett.

Plate 21. ADD09 Leek brook.



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Appendix 1. Site Images – ADD09

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Legend

Plate 22. BD076A hard standing.

Plate 23. BD076A building 1, east elevation.

Plate 24. BD076A building 2, west elevation.

Plate 25. BD076A building 3, west elevation.

Plate 26. BD076A building 4, east elevation.

Plate 27. BD076A building 5, north elevation.



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Appendix 1. Site Images - BD076A

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Legend

Plate 28. BD076A building 3, bat roost feature:
gap under roof board.

Plate 29. BD076A building 3, bat roost feature:
gap under roof board.

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Appendix 1. Site Images – BD076A

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Legend

Plate 30. BM014A/BM014B rank improved grassland and tall ruderal vegetation.

Plate 31. BM014A/BM014B amenity grassland and scattered trees.

Plate 32. BM014A/BM014B scattered trees and scrub.



Legend

Plate 32. Bolton Copperworks hardstanding with weathered scrub and trees.

Plate 34. Bolton Copperworks hardstanding with scattered trees along watercourse.

Plate 35. Bolton Copperworks hardstanding with occasional tall ruderal vegetation.

Plate 36. Bolton Copperworks with scattered trees and occasional tall ruderal vegetation.

Plate 37. Bolton Copperworks tall ruderal vegetation dominating abandoned farmland with scattered trees.

Plate 38. Bolton Copperworks orchard.



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Appendix 1. Site Images – Bolton Copperworks

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Legend

Plate 39. Bolton Copperworks tributary of the river Churnet.

Plate 40. Bolton Copperworks river Churnet.

Plate 41. Bolton Copperworks building 1.

Plate 42. Bolton Copperworks building 3.

Plate 43. Bolton Copperworks building 5.

Plate 44. Bolton Copperworks building 7 and amenity grassland.





Legend

Plate 45. Bolton Copperworks Japanese knotweed.



Legend

Plate 46. CH085D site view, south-west.



Legend

Plate 47. EN007 site view, east.



Legend

Plate 48. EN019 site view, north.



Legend

Plate 49. EN101 site view, north-east.



50



51



52

Legend

Plate 50. FID62 small holding area.

Plate 51. FID62, small holding area.

Plate 52. FID62 garden area.



Legend

Plate 53. KG049A site view, north.

Plate 54. KG049A site view, south-west.

Plate 55. KG049A site view, west.

Plate 56. KG049A pond 1.

Plate 57. KG049A pond 2.

Plate 58. KG049A mature oak.

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Appendix 1. Site Images – KG049A

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Legend

Plate 59. Northern gateway opportunity site improved grassland, hedgerow and scattered trees, northern area.

Plate 60. Northern gateway opportunity site improved grassland, northern area.

Plate 61. Northern gateway opportunity site improved grassland, southern area.

Plate 62. Northern gateway opportunity site species-poor hedgerow, northern area.

Plate 63. Northern gateway opportunity site, badger run.

Plate 64. Northern gateway opportunity site, badger footprints.

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Appendix 1. Site Images – Northern Gateway

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Appendix 3. Great Crested Newt Habitat Suitability Calculations

The HSI score is a geometric mean of ten suitability indices:

$$HSI = (SI_1 \times SI_2 \times SI_3 \times SI_4 \times SI_5 \times SI_6 \times SI_7 \times SI_8 \times SI_9 \times SI_{10})^{1/10}$$

The ten suitabilities are scored for a pond and converted on a scale from 0.01 to 1. These SI scores are created by reading off the values from graphs produced by Oldham *et al.* (2000). The SI scores are then multiplied together. The tenth root of this number is the calculated to give a HSI value between 0 and 1.

Table A2.1. ADD01

Pond number	Location	Area (m ²)	Pond Permanence	Water Quality	Shade (%)	Waterfowl	Fish	Pond Density	Terrestrial Habitat Quality	Macrophyte Cover (%)	Final HSI Score	Prediction (Likelihood of GCN)
1	1.00	0.20	0.50	0.33	1.00	0.67	0.33	0.55	1.00	0.35	0.52	Below average

Table A2.2. ADD04

Pond number	Location	Area (m ²)	Pond Permanence	Water Quality	Shade (%)	Waterfowl	Fish	Pond Density	Terrestrial Habitat Quality	Macrophyte Cover (%)	Final HSI Score	Prediction (Likelihood of GCN)
1	1.00	0.75	0.75	1.00	1.00	0.67	0.67	1.00	1.00	1.00	0.84	Excellent
2	1.00	0.30	0.90	0.33	1.00	0.67	0.01	1.00	1.00	0.40	0.43	Poor
3	1.00	0.80	0.50	0.67	1.00	0.67	0.33	1.00	0.67	0.31	0.64	Average
4	1.00	0.85	1.00	0.33	1.00	0.67	0.67	1.00	1.00	0.40	0.74	Good

Table A2.3. Bolton Copperworks

Pond number	Location	Area (m ²)	Pond Permanence	Water Quality	Shade (%)	Waterfowl	Fish	Pond Density	Terrestrial Habitat Quality	Macrophyte Cover (%)	Final HSI Score	Prediction (Likelihood of GCN)
1	1.00	0.40	0.90	1.00	1.00	0.67	0.33	0.65	0.67	1.00	0.71	Good
2	1.00	0.60	0.90	0.67	1.00	0.67	0.10	0.65	0.67	0.80	0.62	Average

Table A2.4. KG049A

Pond number	Location	Area (m ²)	Pond Permanence	Water Quality	Shade (%)	Waterfowl	Fish	Pond Density	Terrestrial Habitat Quality	Macrophyte Cover (%)	Final HSI Score	Prediction (Likelihood of GCN)
1	1.00	0.20	1.00	0.67	1.00	0.67	0.33	0.80	0.67	0.35	0.59	Below average
2	1.00	0.65	1.00	0.67	1.00	0.67	0.33	0.80	0.67	0.35	0.67	Average

Table A2.5. Northern gateway opportunity site.

Pond number	Location	Area (m ²)	Pond Permanence	Water Quality	Shade (%)	Waterfowl	Fish	Pond Density	Terrestrial Habitat Quality	Macrophyte Cover (%)	Final HSI Score	Prediction (Likelihood of GCN)
1	1.00	0.10	1.00	0.33	1.00	1.00	0.67	1.00	0.33	0.35	0.55	Below average
2	1.00	0.82	0.50	0.33	0.60	0.67	0.67	1.00	0.67	0.35	0.62	Average
3	1.00	0.10	0.50	0.33	0.20	0.67	0.67	1.00	0.67	0.35	0.45	Poor
4	1.00	0.05	0.10	0.33	0.20	0.67	1.00	1.00	0.67	0.30	0.36	Poor
5	1.00	0.10	0.10	0.33	0.20	0.67	0.67	1.00	0.67	0.10	0.34	Unsuitable
6	1.00	0.60	1.00	0.67	1.00	0.67	0.80	1.00	0.67	0.40	0.75	Good
7	1.00	1.00	0.90	0.33	1.00	0.67	0.01	1.00	0.67	0.40	0.37	Poor
8	1.00	0.90	0.90	0.33	1.00	0.67	0.01	1.00	0.67	0.70	0.49	Poor

Appendix 4: HSI Calculation information

How to collect data and calculate the HSI

The HSI is a geometric mean of ten suitability indices:

$$\text{HSI} = (\text{SI1} \times \text{SI2} \times \text{SI3} \times \text{SI4} \times \text{SI5} \times \text{SI6} \times \text{SI7} \times \text{SI8} \times \text{SI9} \times \text{SI10})^{1/10}$$

Ten factors are scored for a pond, in the field and from map work (field scores). The ten field scores are converted to SI scores, on a scale from 0.01 to 1 (0.01 is used as the lower end of the scale in stead of 0, because multiplying by 0 reduces all other SI scores to 0). The ten SI scores are multiplied together. The tenth root of this number is calculated (x) 1/10 i.e. x to the power of 0.1.

Summary of scoring system

SI 1 Location

A (optimal) 1 B (marginal) 0.5 C (unsuitable) 0.01

SI 2 Pond area

Measure pond surface area (m²) and round to nearest 50 m²

SI 3 Pond drying

Never 0.9 Never dries

Rarely 1.0 Dries no more than two years in ten or only in drought.

Sometimes 0.5 Dries between three years in ten to most years

Annually 0.1 Dries annually

SI 4 Water quality

Good 1.0 Abundant and diverse invertebrate community.

Moderate 0.67 Moderate invertebrate diversity

Poor 0.33 Low invertebrate diversity, few submerged plants

Bad 0.01 Clearly polluted, only pollution-tolerant invertebrates, no submerged plants.

SI 5 Shade

Estimate percentage perimeter shaded to a least 1 m from shore. Read off graph.

SI 6 Water fowl

Absent 1 No evidence of water fowl (although moorhen may be present)

Minor 0.67 Waterfowl present, but little sign of impacts

Major 0.01 Severe impact of waterfowl

SI 7 Fish

Absent 1 No records of fish stocking and no fish revealed during survey.

Possible 0.67 No evidence of fish, but local conditions suggest that they may be present.

Minor 0.33 Small numbers of crucian carp, goldfish or stickleback known to be present.

Major 0.01 Dense populations of fish known to be present.

SI 8 Pond density

Count the number of ponds within 1 km of survey pond, not separated by major barriers, and divide by 3.14.

This can be done from maps rather than in the field.

SI 9 Terrestrial habitat

Good 1 Moderate 0.67 Poor 0.33 None 0.01

SI 10 Macrophytes

Estimate the percentage of the pond surface area occupied by macrophyte cover (between May and the end of September)

Appendix 5. Glossary

Acronym	Description
BAS	Biodiversity Alert Site
BoCC	Birds of Conservation Concern
CIEEM	Chartered Institute for Ecology and Environmental Management
HEGS	Hedgerow Evaluation and Grading System
HSI	Habitat Suitability Index
LNR	Local Nature Reserve
MAGIC	Multi-Agency Geographic Information for the Countryside
NNR	National Nature Reserves
NPPF	National Planning Policy Framework
OS	Ordnance Survey
PSYM	Predictive System for Multimetrics
SBAP	Staffordshire Biodiversity Action Plan
SBI	Site of Biological Importance
SER	Staffordshire Ecological Record
SSSI	Site of Special Scientific Interest