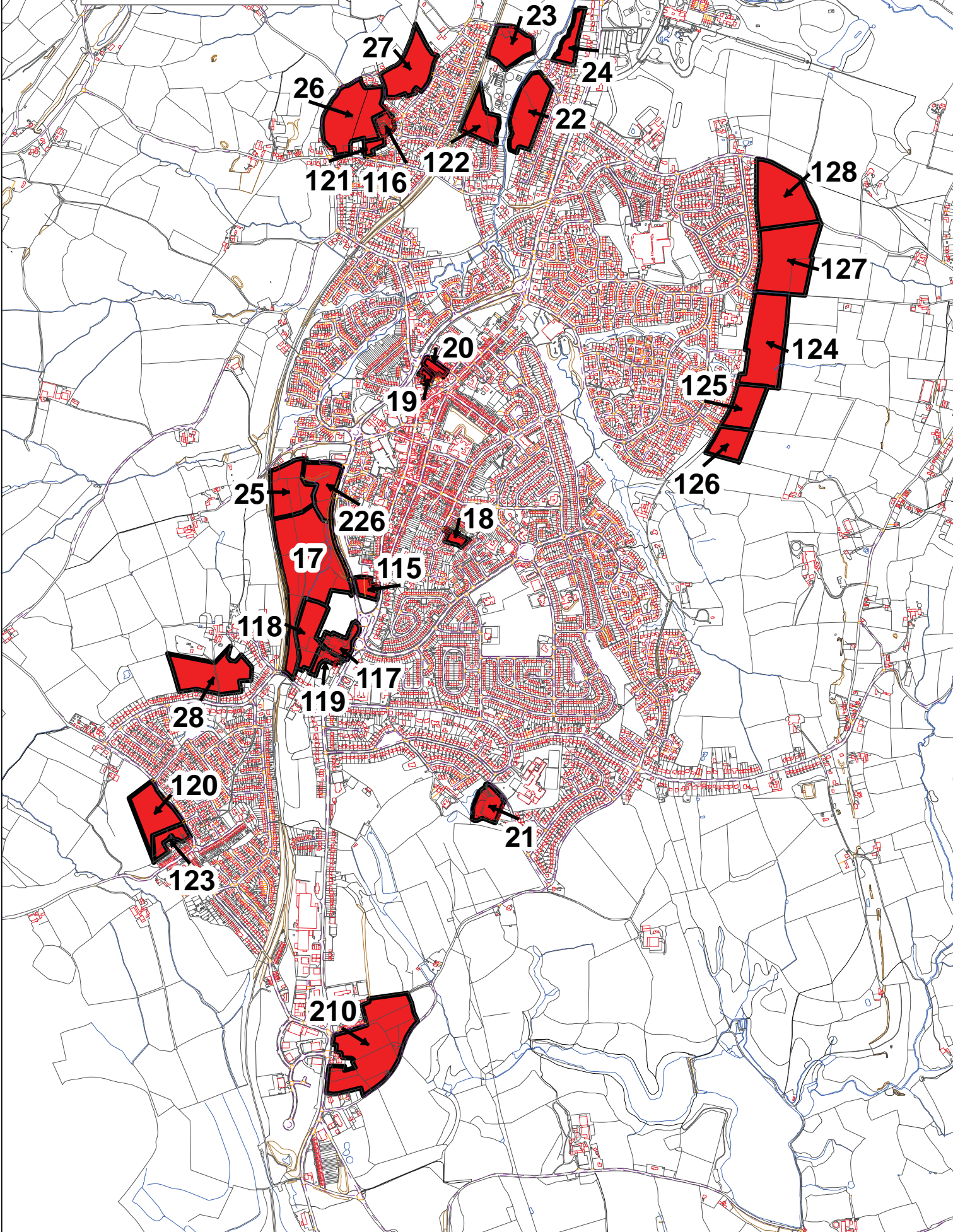


# Biddulph





# **FID 17**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	11
<b>6. Recommendations</b> .....	12
<b>7. Conclusions</b> .....	13



## **FID 17**

### **1. Introduction**

#### **1.1 Background**

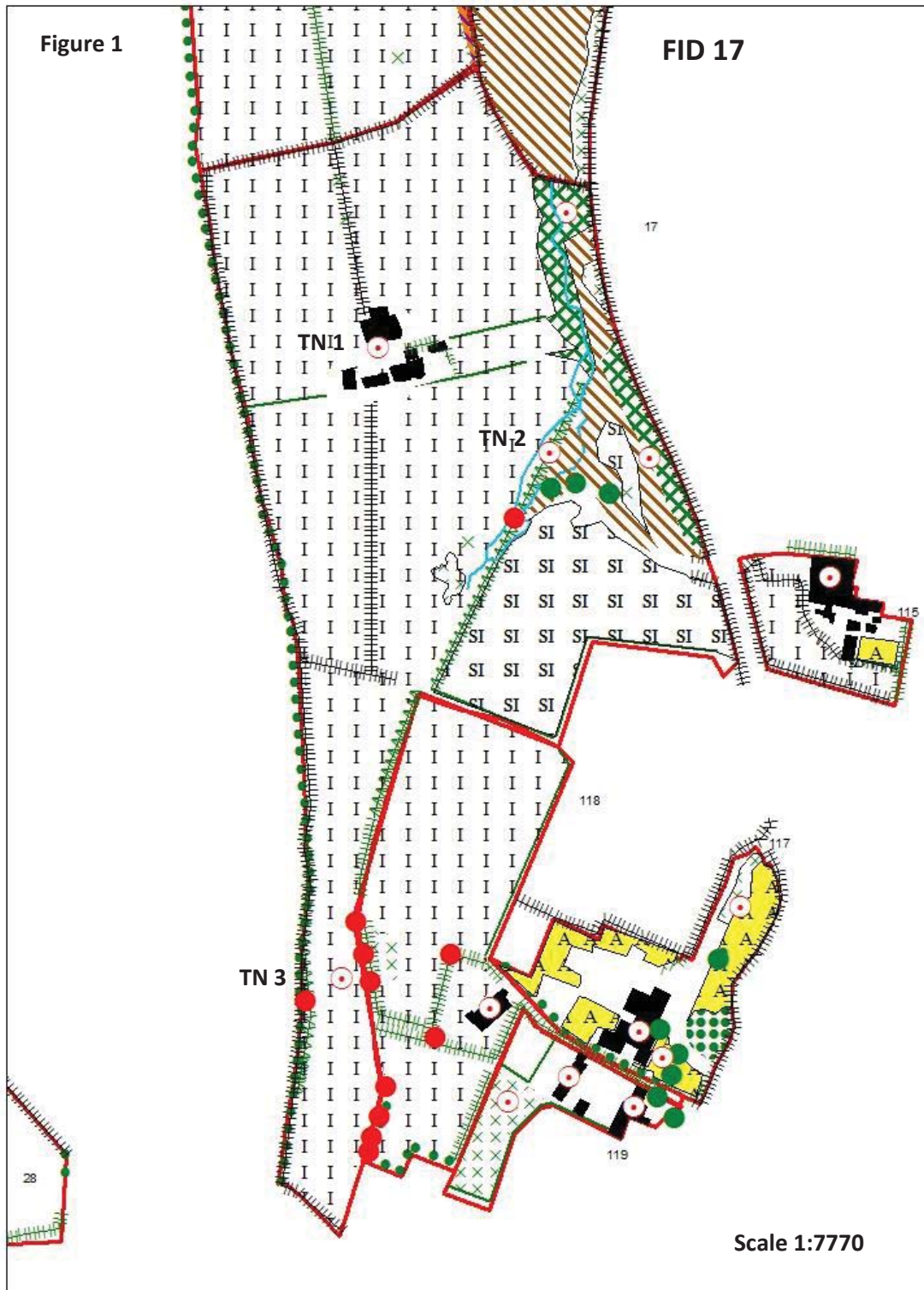
The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 17 O.S grid reference SJ8792757255.

FID 17 is located on the edge of Biddulph town in the Staffordshire Moorlands District, surrounded by housing and agricultural land.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).







## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 17 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.





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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Roe Park Woods
SSSI	Gannister Quarry
AWI/ BAS	Willocks Wood
AWI	Grotto Wood, Hanging Wood, Limekiln Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of) FID17 is adjacent to this BAS
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	Barn Swallow
	Black-headed Gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling



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	Common snipe
	Dark leaved hawkweed
	Dot Moth
	Dunnock
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Pennyroyal
	Pipistrelle
	Polecat
	Skylark
	Small Square-spot
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Polecat
	Soprano pipistrelle
	Whiskered bat
	Whiskered/Brandt's Bat



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BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Buildings x7
- Scattered trees
- Species rich hedgerows
- Running water
- Dense goat willow *Salix caprea* scrub
- Species poor hedgerows
- Dense hawthorn/ blackthorn scrub
- Tall ruderal vegetation
- Species poor amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	5.28	69	
SI	0.97	13	
TR	0.35	5	
DS	0.32	4	
OTHER	0.71	9	
BPT			2
TOTAL	7.64	100	2

TR- Tall ruderal vegetation, I – Improved grassland, SI – Species poor semi-improved grassland, DS – Dense Scrub, BPT – Bat Potential Trees

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , False oat grass <i>Arrhenatherum elatius</i> , Yorkshire fog <i>Holcus lanatus</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , curled dock <i>Rumex crispus</i> , creeping thistle <i>Cirsium arvense</i> , crested dog's tail <i>Cynosurus cristatus</i> , bramble <i>Rubus fruticosus agg</i> , creeping buttercup <i>Ranunculus repens</i>
Hedgerows/ trees/ scrub	Goat willow <i>Salix caprea</i> , hawthorn <i>Crataegus monogyna</i> , blackthorn <i>Prunus spinosa</i> , hazel <i>Corylus avellana</i> , pedunculate oak <i>Quercus robur</i>

#### 4.3.3 Invasive weeds

Himalayan balsam *Impatiens glandulifera* listed in Schedule 9 of the Wildlife and Countryside Act 1981 was found during the walkover survey in various areas along the stream and tall ruderal vegetation to the north east of the site.

Weeds listed under the Weeds Act 1959 including curled dock and creeping thistle have been recorded within the tall ruderal vegetation.

#### 4.3.4 Fauna

It is deemed that 3 out of the 7 buildings present on site are deemed suitable to support roosting bats as they are of brick and roof tile construction with occasional holes in the brick work and loose roof tiles.

##### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of scattered trees, hedgerows, dense scrub and tall ruderal vegetation from March to August when birds in the UK normally breed.

##### *Incidental records*

- Birds including magpie *Pica pica*, linnet *Carduelis cannabina* (UKBAP), goldfinch *Carduelis carduelis*, woodpigeon *Columba palumbus*
- Butterflies speckled wood *Pararge aegeria*, small tortoiseshell *Aglais urticae*, red admiral *Vanessa atalanta*, large white *Pieris brassicae*



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### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8801657378	Reptile survey
2	SJ8792757298	Buildings require bat survey
3	SJ8800757261	Requires hedgerow survey
4	SJ8805957255	Good reptile habitat
5	SJ8789056979	Large pile of brash and debris



5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerows			x		
Scattered trees			x		
Running water			x		
Tall ruderal vegetation				x	
Scattered scrub				x	
Species poor grassland					x
<b>Overall site importance</b>			x		
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site mainly consists of species poor grassland (82%). However the remaining habitats form an intricate mosaic of habitats which are likely to support a fairly diverse ecosystem. The species rich hedgerows run along the stream which is also adjacent to the dense willow scrub and tall ruderal vegetation.

The species rich hedgerow and trees with bat potential at potentially have regional value. They have good structure with frequent hazel *Corylus avellana* running throughout and particularly good connectivity to adjacent habitats.

The dense goat willow scrub is establishing itself within the site and is likely to form the climax vegetation in the near future. The tall ruderal vegetation is significantly large enough to potentially support ground nesting birds and possibly foraging barn owl *Tyto alba* and potentially a range of other species such as reptiles and amphibians. The site is therefore deemed to have a regional value within the matrix despite the main area of the site being species poor grassland.

A complex of 7 farm buildings are present on site of which 3 are deemed suitable to support roosting bats as they are >50 years old brick built with roof tiles of which some appear to be loose. The remaining buildings have low potential to support bats as they are outbuildings with corrugated roofs.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. A badger hole (possibly sett) has been recorded <160m away, therefore the exceptions could potentially include foraging badger, bats and owls, and despite running water being present the habitat is deemed unsuitable to support water vole.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Buildings with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 3 buildings deemed suitable to support bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004).

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 2 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Species rich hedgerows*

The Hedgerows Regulations 1997 were made under section 97 of the Environment Act 1995 and came into force on 1 June 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification.

Therefore it is recommended that a hedgerow survey be carried out on the hedgerow by an appropriately qualified ecologist to determine whether they qualify as a species rich hedgerow according to hedgerow qualification criteria applicable to the Staffordshire Moorlands area.

### *Reptiles and amphibians*

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.



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As reptiles could potentially be present on site due to the presence of the habitat mosaic to the north east of the site a reptile survey is recommended according to guidelines set out in the Herpetofauna workers manual (Gent and Gibson 1998), especially concentrated on the habitats directly adjacent to the wet woodland, tall ruderal vegetation and stream area.

### *Vegetation removal*

If at all possible it is recommended that as many trees and the habitat mosaic to the north east is not incorporated into development plans due to its intrinsic value to biodiversity within the area.

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site itself has 2 trees and buildings with bat potential, species rich hedgerows, dense willow scrub and tall ruderal vegetation which are connected to a series of other hedgerows and habitats, which forms an important potentially biodiverse mosaic and warrants the site being considered to have regionally important value.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the trees and buildings
- Reptile survey
- Hedgerow survey
- Vegetation removal at the appropriate time of year



# **FID 18**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11





## **FID 18**

### **1. Introduction**

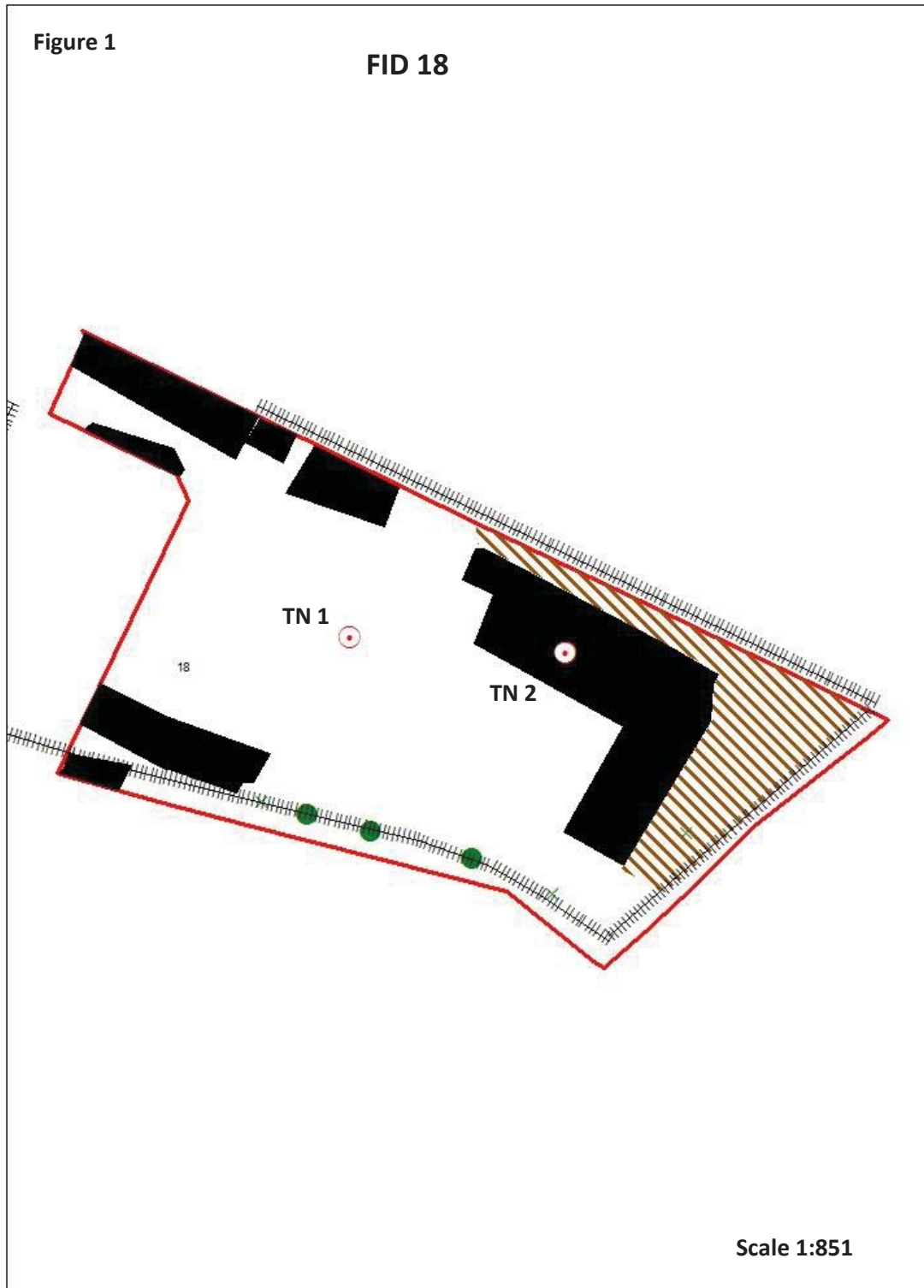
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 18 O.S grid reference SJ8846757338.

FID 18 is located within Biddulph town in the Staffordshire Moorlands District and is completely surrounded by housing.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 18 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

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The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

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In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

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All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

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The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.





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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
AWI	Crowborough Wood
AWI	Knypersley Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed on Ancient Woodland Inventory, BAS – Biological Action Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
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	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling
	Common snipe
	Dark leaved hawkweed
	Dot Moth



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	Dunnoek
	Eurasian curlew
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy leaved bellflower
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Pennyroyal
	Pipistrelle
	Polecat
	Skylark
	Small Square-spot
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	Least duckweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Polecat
	Soprano pipistrelle



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	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Buildings
- Scattered trees
- Tall ruderal vegetation

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
TR	0.04	13
OTHER	0.25	87
TOTALS	0.29	100

TR- Tall ruderal vegetation

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Trees	Sycamore <i>Acer pseudoplatanus</i>

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

#### 4.3.4 Fauna

##### Bats

The site has 4 buildings present on site of fairly old brick and tile construction that all have potential to support roosting bats.



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### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scattered trees and possibly tall ruderal vegetation from March to August when birds in the UK normally breed.

#### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8846457342	Hard standing
2	SJ8848857338	Bat surveys needed

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Tall ruderal vegetation					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by habitats of low biodiversity value, with domestic dwellings and industrial developments encompassing the site and hence very poor connectivity to the wider countryside.

87% of the site consists of industrial unit buildings and hard standing. The remaining habitats present on site are particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix. However, the presence of the buildings with bat roosting potential elevates the site’s ecological importance to district value.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include roosting bats although there is very little connective foraging habitat adjacent which potentially makes roosting less likely.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Buildings with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 4 buildings deemed as suitable to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that the building is checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees are retained if the site is to be developed.

If trees and tall ruderal vegetation is to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site has mostly low biodiversity value overall, is set within an urban environment with little connectivity to the wider countryside. However as the buildings could potentially support roosting bats the site is given district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the buildings
- Vegetation removal at the appropriate time of year



# **FID 19**





## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 19**

### **1. Introduction**

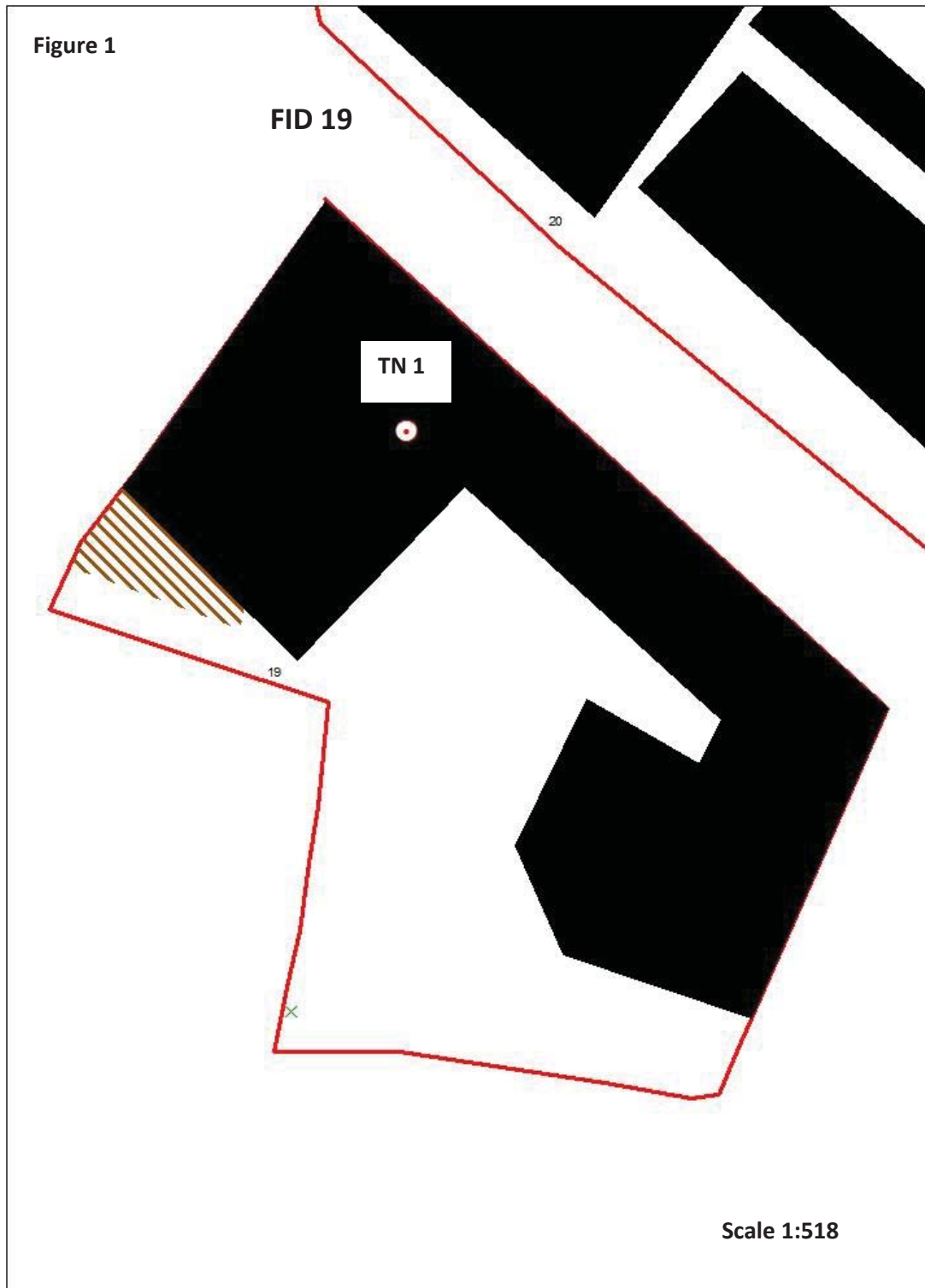
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 19 O.S grid reference SJ8836757913.

FID 19 is located within Biddulph town in the Staffordshire Moorlands District and is completely surrounded by housing.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 19 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.



**4. Results**

4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

<b>SITE DESIGNATION</b>	<b>NAME</b>
SSSI	Gannister Quarry
AWI/ BAS	Willocks Wood
AWI	Round Wood
AWI	Bailey's Wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemoor Wood
BAS	Knypersley Fishing Pool
BAS	Mow Cop Quarry
BAS	Newpool (east of)
BAS	The Nursery (near)
SBI	Congleton Edge (south of)
RIGS	Knypersley Meltwater Channe
RIGS	Wickenstone Rocks

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

<b>SPECIES TYPE</b>	<b>COMMON NAME</b>
BAP	Barn Swallow
	Black headed gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common snipe
	Common Starling
	Dark leaved hawkweed





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	Dot Moth
	Dunnock
	European Otter
	European water vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy leaved bellflower
	Knotgrass
	Latticed Heath
	Lesser Redpoll
	Meadow Pipit
	Noctule bat
	Pennyroyal
	Pipistrelle
	Polecat
	Small Square-spot
	Song thrush
	Soprano pipistrelle
	Tree bumble bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild pansy
INV	Canadian Waterweed
	Least duckweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK EPS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European water vole
	<i>Myotis</i> bat species
	Natterer's bat
	Noctule bat

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	Pennyroyal
	Polecat
	Soprano Pipistrelle
	Whiskered Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species,  
E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Buildings
- Tall ruderal vegetation

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
TR	0.00	2
OTHER	0.16	98
TOTAL	0.16	100

TR – Tall ruderal vegetation

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within tall ruderal vegetation.

Table 4

HABITAT	DOMINANT SPECIES
Tall ruderal vegetation	False oat grass <i>Arrhenatherum elatius</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i>

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

#### 4.3.4 Fauna

##### Bats

The site has 1 fairly old derelict brick and tiled roof building present on site with no visible roof tiles missing or loose. Occasional small holes were however observed within the brickwork that could potentially allow bats to roost.



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### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scattered trees and possibly tall ruderal vegetation from March to August when birds in the UK normally breed.

#### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8836657936	Bat survey needed

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Tall ruderal vegetation					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

98% of the site consists of buildings and hard standing. The buildings have potential to support roosting bats therefore the site is considered to have district ecological importance. The remaining habitats present on site are particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix

The site is also surrounded by habitats of low biodiversity value, with domestic dwellings and industrial developments encompassing the site and hence very poor connectivity to the wider countryside, which reduces the likelihood of the building supporting roosting bats.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exception could potentially include roosting bats.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Buildings with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

As the building is deemed to have potential to support roosting bats it is therefore recommended that the building should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that the building is checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

Despite the site incorporating a very small area of tall ruderal vegetation it is still recommended to be removed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site is deemed to have district overall ecological importance as the buildings could support roosting bats.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the buildings
- Vegetation removal at the appropriate time of year



# **FID 20**



## Table of Contents

<b>1. Introduction</b> .....	<b>1</b>
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	<b>2</b>
<b>2. Methodology</b> .....	<b>3</b>
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	<b>5</b>
<b>4. Results</b> .....	<b>6</b>
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	<b>10</b>
<b>6. Recommendations</b> .....	<b>11</b>
<b>7. Conclusions</b> .....	<b>11</b>





## **FID 20**

### **1. Introduction**

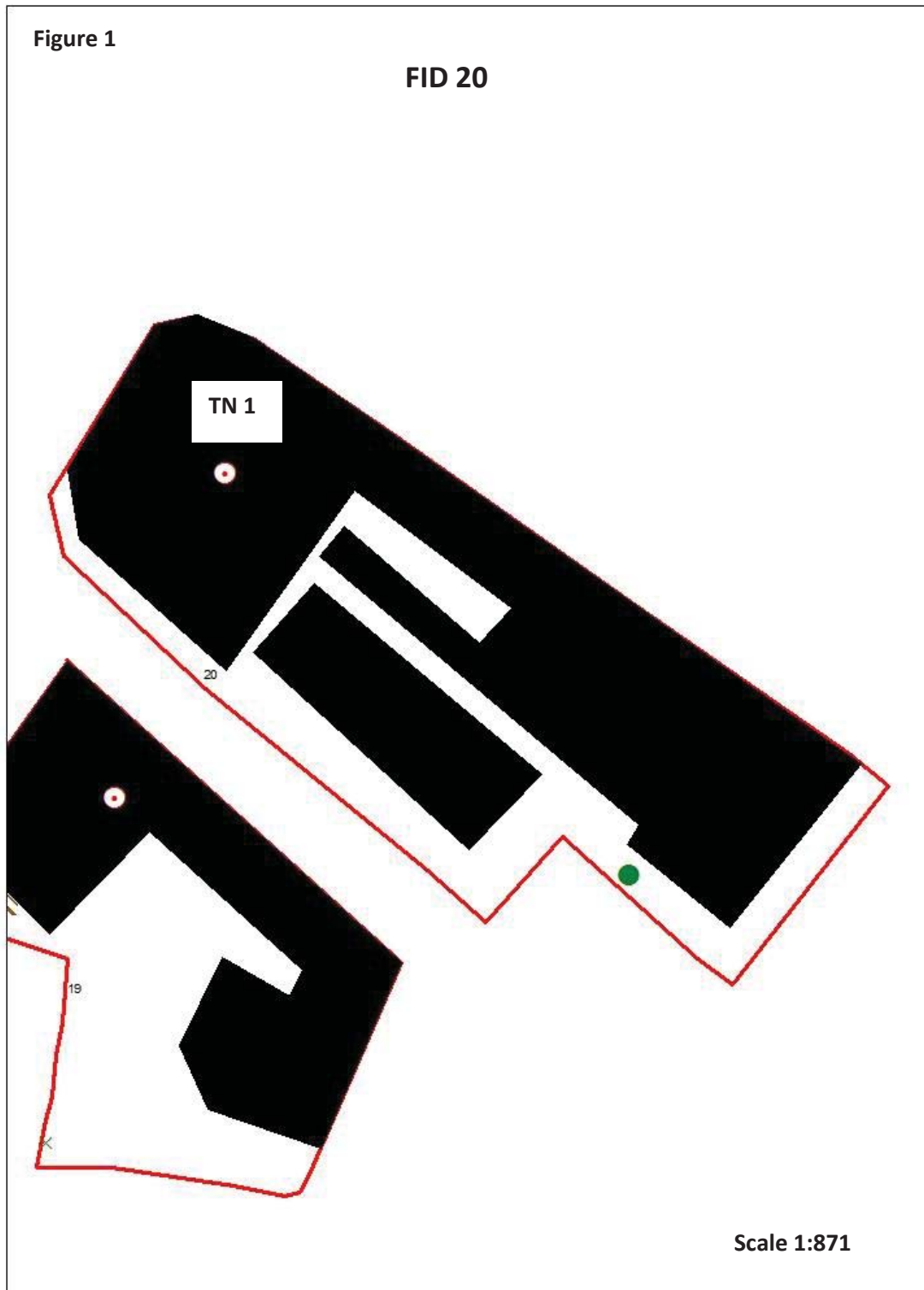
#### **1.1 Background**

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 20 O.S grid reference SJ8840457945.

FID 20 is located within Biddulph town in the Staffordshire Moorlands District and is completely surrounded by housing.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 20 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Gannister Quarry
AWI/ BAS	Willocks Wood
AWI	Round Wood
AWI	Bailey's Wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemoor Wood
BAS	Knypersley Fishing Pool
BAS	Mow Cop Quarry
BAS	Newpool (east of)
BAS	The Nursery (near)
SBI	Congleton Edge (south of)
RIGS	Knypersley Meltwater Channe
RIGS	Wickenstone Rocks

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	Barn Swallow
	Black headed gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common snipe
	Common Starling
	Dark leaved hawkweed



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	Dot Moth
	Dunnock
	European Otter
	European water vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy leaved bellflower
	Knotgrass
	Latticed Heath
	Lesser Redpoll
	Meadow Pipit
	Noctule bat
	Pennyroyal
	Pipistrelle
	Polecat
	Small Square-spot
	Song thrush
	Soprano pipistrelle
	Tree bumble bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild pansy
INV	Canadian Waterweed
	Least duckweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK EPS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European water vole
	<i>Myotis</i> bat species
	Natterer's bat
	Noctule bat

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	Pennyroyal
	Polecat
	Soprano Pipistrelle
	Whiskered Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species,  
E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Buildings
- Scattered trees

Table 3

HABITAT	AREA (HECTARES)	PERCENTAGE (%)
OTHER	0.29	100
TOTALS	0.29	100

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Annual meadow grass, cock's foot <i>Dactylis glomerata</i> ,
Scrub/ trees	Buddleia <i>Buddleia davidii</i> , sycamore <i>Acer pseudoplatanus</i>

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

#### 4.3.4 Fauna

##### Bats

The site is run by Minster Mills Furniture and has 4 buildings of which 3 are of brick and tile construction with no obvious roof tiles loose or missing. There are small holes in various places within the brickwork that could have potential to allow bats to roost. The remaining building is a prefabricated building with low potential to support roosting bats.





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### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scattered trees and possibly tall ruderal vegetation from March to August when birds in the UK normally breed.

#### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8837557966	Bat survey required

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Scattered scrub					x
Tall ruderal vegetation					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by habitats of low biodiversity value, with domestic dwellings and industrial developments encompassing the site and hence very poor connectivity to the wider countryside which lowers the potential for the buildings to support roosting bats.

However, 95% of the site consists of buildings and hard standing, scattered trees, scrub and very small patches of tall ruderal vegetation indicative of industrial land. The value of the site in terms of biodiversity is centred on the potential for the buildings to support roosting bats which elevates the overall ecological importance to district level.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exception could potentially include roosting bats.



## **6. Recommendations**

### *Buildings with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

As 3 of the buildings present on site are deemed potentially able to support roosting bats it is therefore recommended that the building should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that the building is checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and scrub is retained if the site is to be developed.

If trees and vegetation are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site has low ecological importance overall but the presence of buildings with potential to support roosting bats warrants the site being attributed district ecological importance..

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the 3 buildings
- Vegetation removal at an appropriate time of year



# **FID 21**



## Table of Contents

<b>1. Introduction</b> .....	<b>1</b>
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	<b>2</b>
<b>2. Methodology</b> .....	<b>3</b>
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	<b>5</b>
<b>4. Results</b> .....	<b>6</b>
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	<b>12</b>
<b>6. Recommendations</b> .....	<b>13</b>
<b>7. Conclusions</b> .....	<b>14</b>



## **FID 21**

### **1. Introduction**

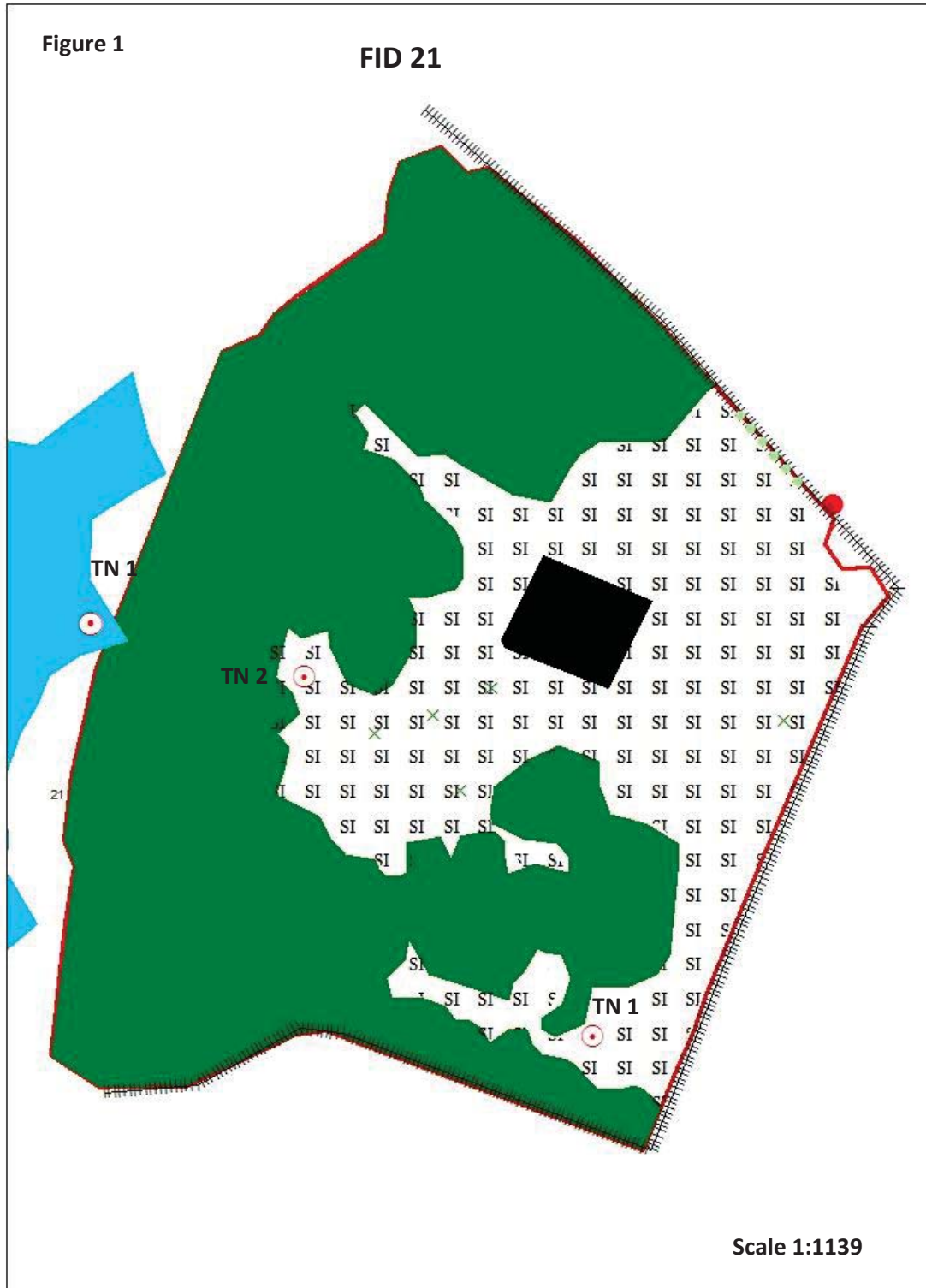
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 21 O.S grid reference SJ8859856381.

FID 21 is located to the south of Biddulph town in the Staffordshire Moorlands District, and is surrounded by agricultural land and housing.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 21 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).





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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

Access was not available for this site as it is completely surrounded by a palisade fence and housing therefore a walkover survey was not possible as part of the recommended Extended Phase 1 Habitat Survey according to CIEEM guidelines (2006). Therefore all observations have been made from the site's boundary, aerial photography and anecdotal records.



**4. Results**

4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Aerial photography

After studying aerial photographs of the area it is apparent that there is a large pond adjacent to the site at ST 88505643.

Table 1

<b>SITE DESIGNATION</b>	<b>NAME</b>
AWI	Crowborough Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	Hollin Wood
AWI	Knypersley Wood
AWI/ BAS	Dallows Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Rushy Moor Wood
BAS	Newpool (east of)
SBI	Bemersley Marshes and Banks
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

<b>SPECIES TYPE</b>	<b>COMMON NAME</b>
BAP	A moth
	A true fly
	Autumnal rustic
	Barn Swallow
	Bewick’s swan
	Black-headed Gull



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	Black tern
	Blood vein
	Broom moth
	Brown spot pinion
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Centre barred sallow
	Cinnabar
	Common Bullfinch
	Common cuckoo
	Common goldeneye
	Common Kestrel
	Common Pipistrelle
	Common Starling
	Common pochard
	Common redshank
	Common redstart
	Common sandpiper
	Common snipe
	Common swift
	Common tern
	Common whitethroat
	Deep brown dart
	Dot Moth
	Dunnock
	Dusky thorn
	Eurasian curlew
	Eurasian teal
	Eurasian trees sparrow
	European Water Vole
	Field cuckoo bee
	Freshwater white clawed crayfish
	Garden tiger
	Ghost Moth
	Great black backed gull
	Green brindled crescent
	Green woodpecker
	Grey dagger
	Grey partridge
	Grey Wagtail
	Heath dog violet



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	Hedge rustic
	Herring gull
	House martin
	House Sparrow
	Jacob's-ladder
	Knot grass
	Large wainscot
	Latticed Heath
	Lesser black backed gull
	Lesser redpoll
	Linnet
	Little grebe
	Mallard
	Marsh tit
	Meadow Pipit
	Mistle thrush
	Mottled rustic
	Noctule bat
	Northern lapwing
	Northern shoveler
	Pennyroyal
	Pipistrelle
	Polecat
	Powdered quaker
	Reed bunting
	Rosy minor
	Rosy rustic
	Sand martin
	September thorn
	Shaded broad bar
	Shoulder striped wainscot
	Skylark
	Small heath
	Small phoenix
	Small Square-spot
	Small water pepper
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree pipit
	Tree Wasp
	Tufted duck



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	West European Hedgehog
	White Ermine
	Wild Pansy
	Willow tit
	Wood warbler
	Yellow wagtail
	Yellowhammer
INV	Canadian Waterweed
	Chinese muntjac
	Greater Canada goose
	Indian balsam
	Least duckweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Bewick's swan
	Black tern
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Common goldeneye
	Common kingfisher
	Common tern
	Daubenton's bat
	Eurasian Badger
	European Water Vole
	Freshwater white clawed crayfish
	Noctule bat
	Pennyroyal
	Polecat
	Soprano pipistrelle
	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species



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### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Broadleaved woodland
- Species poor grassland
- Occasional scattered scrub within semi-improved grassland

Table 3

HABITAT	AREA (HECTARES)	PERCENTAGE (%)	NUMBER
BW	0.65	63	
SI	0.38	37	
OTHER	0.00	0	
BPT			1
	1.03	100	1

TR- Tall ruderal vegetation, I – Improved grassland, SI – Species poor semi-improved grassland, BW – Broadleaved Woodland, BPT – Bat Potential Trees

#### 4.3.2 Floral assemblage

The floral assemblage could not be ascertained as full access was not possible.

#### 4.3.3 Invasive weeds

A comprehensive survey for invasive weeds could not be carried out as full access was not available.

#### 4.3.4 Fauna

A full preliminary potential faunal assessment could not be made as full access was not possible therefore conclusions have not been fully ascertained.

##### *Bats*

The site has at least 1 tree recorded in the walkover survey that could potentially support roosting bats, as it has at least one of the corresponding features.

A building is also present on site that appears to have low potential to support roosting bats.

##### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of broadleaved woodland, scrub and possibly within the derelict buildings from March to August when birds in the UK normally breed.



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### *Incidental records of fauna*

During the walkover survey species observed include the following

- Rabbits *Oryctolagus cuniculus*

### *Anecdotal records*

A list of species was noted from a neighbour to the site, these include

- Kingfisher
- Lesser spotted woodpecker
- Nuthatch
- Bullfinch
- Badger
- Amphibians
- Fox
- Bats

Despite the potential importance of these species the area could not be fully evaluated to substantiate these records.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8853656395	Requires great crested newt survey
2	SJ8856456390	Requires reptile survey
3	SJ8861356339	Requires reptile survey



**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				X	
Semi-natural broadleaved woodland				X	
Scattered scrub					X
Species poor grassland					X
<b>Overall site importance</b>				X	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside and has been deemed as having district importance in terms of its loss within the wider countryside. If European and UK protected species are assessed to be potentially present after full access is granted, and found to be present after the recommended surveys are carried out the overall importance of the site will be elevated.

The site cannot be fully evaluated as it could not be fully accessed. The site has potential to support numerous groups of species including roosting bats in the trees and buildings, reptiles and amphibians especially as there is a large pond adjacent and badger setts in the broadleaved woodland. The site is also directly adjacent to a domestic housing estate to the north but within 500m of a lake to the south west and approximately 1500m from Knypersley reservoir to the south east. Therefore the site is deemed to have district ecological importance.

A number of European and UK protected species have been recorded within 2km and the site appears to be able to support many of these species. These could potentially include foraging/ roosting bats as well as potential badger setts.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

There is at least 1 tree present that has potential to support roosting bats. It is therefore recommended that this and any further trees as well as the building recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in 'bat mitigation guidelines' Mitchell-Jones (2004).

### *Great crested newt survey*

The great crested newt is afforded strict protection under the Conservation of Habitats and Species Regulations, 2010 and the Wildlife & Countryside Act 1981 (as amended by the CRoW Act 2000).

Under the legislation, it is an offence to intentionally kill, injure or take a great crested newt as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of great crested newts to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species. The legislation applies to great crested newts in both aquatic and terrestrial habitats and to all life stages.

Therefore as there is a pond adjacent to the site it is recommended that a great crested newt survey is carried out according to 'Common Standards Monitoring Guidance' (JNCC 2004).

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees are retained if the site is to be developed.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.



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### *Reptiles*

As reptiles are likely to be present on site a regime of reptile survey is likely to be recommended according to guidelines set out in the 'Herpetofauna workers manual' (Gent and Gibson, 1998).

### **7. Conclusion**

It is difficult to ascertain the biodiversity value of the site without full access.

The areas of semi-natural broadleaved woodland could also potentially contain badger setts.

As a preliminary assumption due to lack of a full survey the following surveys/ actions are at least recommended:

- An Extended Phase 1 Habitat Survey including assessment of bat roost potential within trees and buildings, badger survey, open water assessment and noxious weed survey as part of the walkover survey.

The following surveys/ actions are therefore recommended from the information gained from limited access:

- A bat survey regime is recommended to ascertain whether bats roost in the trees
- Reptile survey
- Great crested newt survey of nearby pond
- Vegetation removal at the appropriate time of year



# **FID 22**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	12



## **FID 22**

### **1. Introduction**

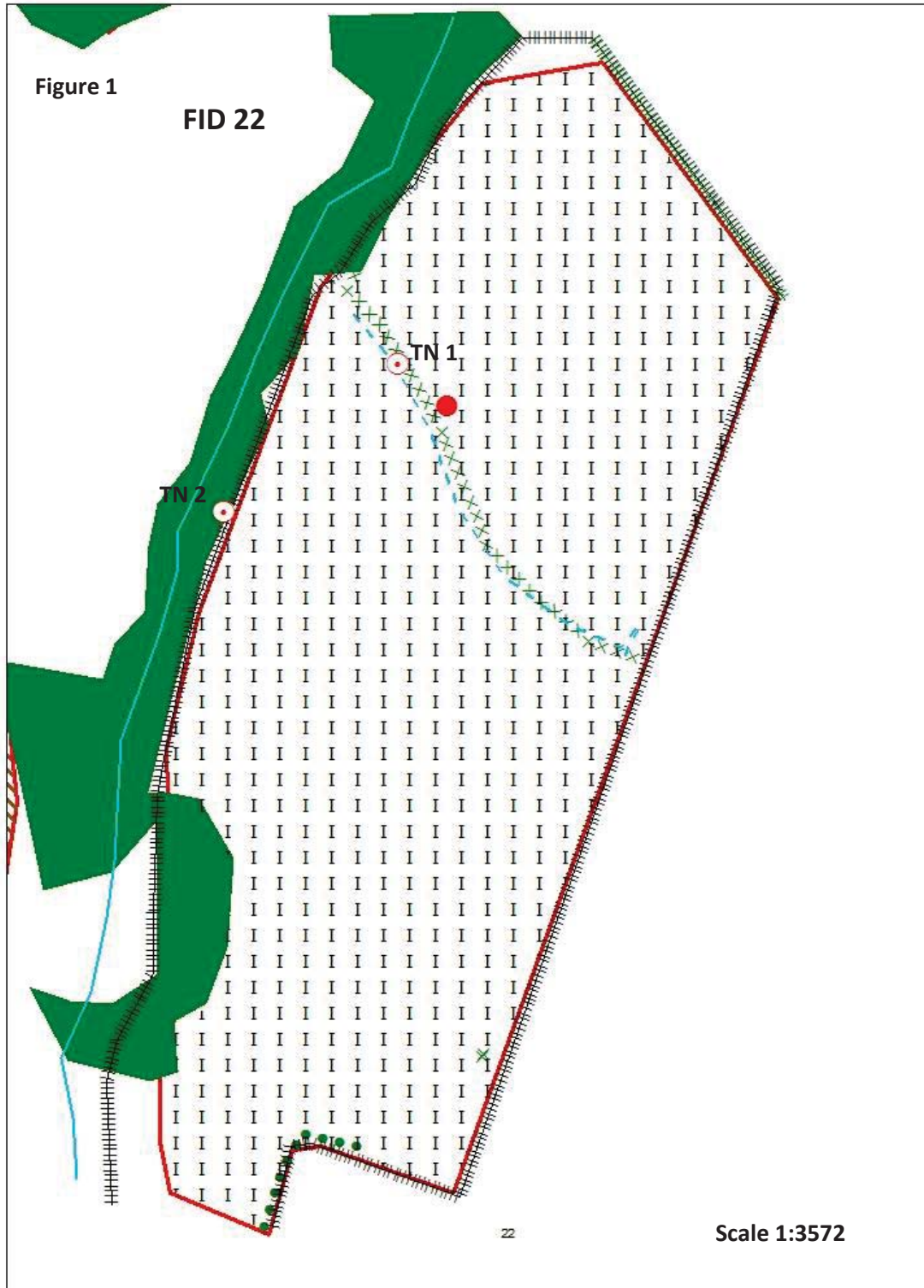
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 22 O.S grid reference SJ8872658848.

FID 22 is located within Gillow Heath in the Staffordshire Moorlands District, surrounded by a sewage works, housing and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 22 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).





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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.



**4. Results**

4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

<b>SITE DESIGNATION</b>	<b>NAME</b>
SSSI	Gannister quarry
LNR	Biddulph Valley Way
AWI	UNK
AWI	Bands Wood
AWI	Round Wood
AWI	Bailey's wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemore Wood
BAS/ AWI	Willocks Wood
BAS	The nursery
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Congleton Edge
SBI	Congleton Edge (South of)
SBI	Whitemoor Farm (east of)
SBI	Bands Wood and Cheshire Brook Wood
SBI	The Sprink
SBI	Troughstone Hill
RIGS	Wickenstone Rocks

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

<b>SPECIES TYPE</b>	<b>COMMON NAME</b>
BAP	A Flowering plant
	Barn swallow
	Brown Hare
	Brown Long-eared Bat



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	Buff Ermine
	Common Bullfinch
	Common kestrel
	Common Pipistrelle
	Common snipe
	Common Starling
	Dot Moth
	Dunnock
	Early bumble bee
	European Otter
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy-leaved Bellflower
	Knot Grass
	Latticed Heath
	Lesser Redpoll
	Noctule Bat
	Pipistrelle
	Polecat
	Small Square-spot
	Soprano Pipistrelle
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian Goldenrod
	Curly Waterweed
	Indian balsam
	Japanese Knotweed
	Least Duckweed
	Rhododendron
	Turkey oak
E/ UK PS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Myotis Bat Species



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	Natterer's Bat
	Noctule Bat
	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Soprano Pipistrelle
	Whiskered Bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Broadleaved woodland
- Scattered trees
- Scattered scrub
- Species poor hedge
- Dry ditch
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	2.54	97	
BW	0.07	3	
OTHER	0.00	0	
BPT			1
TOTALS	2.61	100	1

I – Improved grassland, BW – Broadleaved Woodland, BPT – Bat Potential Trees

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Annual meadow grass <i>Poa annua</i> , Perennial rye grass <i>Lolium perenne</i> , Yorkshire fog <i>Holcus lanatus</i> , cock's foot <i>Dactylis glomerata</i> , creeping thistle <i>Cirsium arvense</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , sycamore <i>Acer pseudoplatanus</i> , ash <i>Fraxinus excelsior</i>

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

Weeds listed under the Weeds Act 1959 including curled dock *Rumex crispus*, creeping thistle *Cirsium arvense* and broadleaved dock *Rumex obtusifolius* have all been recorded within the grassland and tall ruderal vegetation.

#### 4.3.4 Fauna

##### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of broadleaved woodland, scattered trees, species poor hedgerow and scattered scrub from March to August when birds in the UK normally breed.

##### *Incidental records of fauna*

During the walkover survey species observed include the following

- Birds including carrion crow *Corvus corone*, woodpigeon *Columbus palumba*

#### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8872258924	Ditch/ scrub habitat needs reptile survey
2	SJ8867358880	Woodland edge habitat needs reptile survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Broadleaved woodland				x	
Scattered trees				x	
Species poor hedge				x	
Scattered scrub				x	
Dry ditch					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside, the habitats have been given an elevated status due to their increased potential to support European and UK protected species.

The site is surrounded by mainly domestic dwellings and improved grassland to the south and east. The boundary habitats, dry ditch and species poor hedgerow form the main ecological interest at only 3% of the total site area. This is supported by networks of running water along the western boundary with a narrow strip of broadleaved woodland connecting to tall ruderal vegetation and scattered scrub to the south west which is likely to add increased biodiversity to this are of the site. The presence of the stream could support amphibian and reptile populations within the broadleaved woodland and area of scattered scrub which directly connect to the site. The whole site is therefore afforded district ecological importance.

The species poor grassland habitats are particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. A badger sett has been recorded to the south west of the site; therefore the exceptions could potentially include roosting/ foraging bats and certainly foraging badger from the nearby sett.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the tree recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Badger survey*

A badger survey was carried out as part of the walkover survey, and no setts or field signs were found within the recommended 30m disturbance criteria distance despite a badger sett being recorded to the south west. However it is recommended that another badger survey is carried out immediately prior to any development to make sure setts have not been recently excavated or activity is present.

### *Reptiles and amphibians*

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

As reptiles could potentially be present on site especially on the western boundary of the site and the dry ditch, a regime of reptile survey is recommended according to guidelines set out in the 'Herpetofauna workers manual' (Gent and Gibson 1998).

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and particularly the 3% of the more ecologically diverse western boundary is retained if the site is to be developed.





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If vegetation is to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.



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### **7. Conclusion**

The site has been deemed to have district ecological importance due to the presence of trees with bat roosting potential, potential reptile populations and good connectivity to other biodiverse habitats.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the tree
- Reptile survey
- Badger survey
- Vegetation removal at the appropriate time of year



# **FID 23**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	12



## **FID 23**

### **1. Introduction**

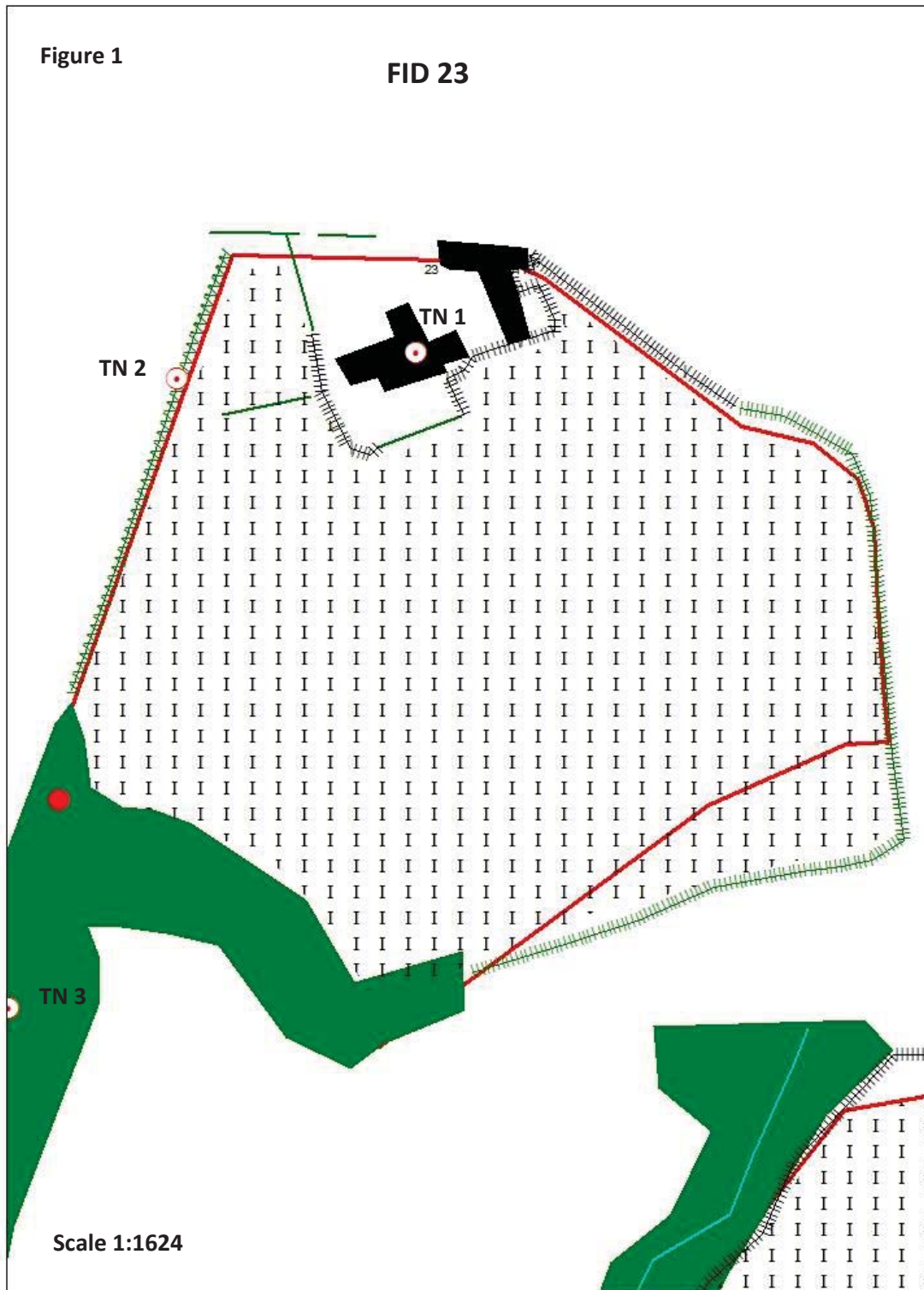
#### **1.1 Background**

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 23 O.S grid reference SJ8867259091.

FID 23 is located to the north of Gillow Heath in the Staffordshire Moorlands District, surrounded by agricultural land, farm buildings and housing.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 23 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.





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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.



**4. Results**

4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

<b>SITE DESIGNATION</b>	<b>NAME</b>
SSSI	Gannister quarry
LNR	Biddulph Valley Way
AWI	UNK
AWI	Bands Wood
AWI	Round Wood
AWI	Bailey's wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemore Wood
BAS/ AWI	Willocks Wood
BAS	The nursery
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Congleton Edge
SBI	Congleton Edge (South of)
SBI	Whitemoor Farm (east of)
SBI	Bands Wood and Cheshire Brook Wood
SBI	The Sprink
SBI	Troughstone Hill
RIGS	Wickenstone Rocks

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

<b>SPECIES TYPE</b>	<b>COMMON NAME</b>
BAP	A Flowering plant
	Barn swallow
	Brown Hare
	Brown Long-eared Bat



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	Buff Ermine
	Common Bullfinch
	Common kestrel
	Common Pipistrelle
	Common snipe
	Common Starling
	Dot Moth
	Dunnock
	Early bumble bee
	European Otter
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy-leaved Bellflower
	Knot Grass
	Latticed Heath
	Lesser Redpoll
	Noctule Bat
	Pipistrelle
	Polecat
	Small Square-spot
	Soprano Pipistrelle
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian Goldenrod
	Curly Waterweed
	Indian balsam
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E/ UK PS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Myotis Bat Species



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	Natterer's Bat
	Noctule Bat
	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Soprano Pipistrelle
	Whiskered Bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species,  
E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Species rich hedge
- Broadleaved woodland
- Species poor hedge
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.40	83	
BW	0.08	5	
OTHER	0.20	12	
BPT			1
TOTALS	1.68	100	1

I – Improved grassland, BW – Broadleaved Woodland, BPT – Bat Potential Trees

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , cock's foot <i>Dactylis glomerata</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , blackthorn <i>Prunus spinosa</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i> , hazel <i>Corylus avellana</i>

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

Weeds listed under the Weeds Act 1959 including curled dock *Rumex crispus*, creeping thistle *Cirsium arvense* and broadleaved dock *Rumex obtusifolius* have all been recorded within the grassland and tall ruderal vegetation.

#### 4.3.4 Fauna

##### *Bats*

The buildings present on site have brick and tile construction. Holes are present within the brickwork and some tiles are loose which could potentially allow bats to roost.

##### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of broadleaved woodland and hedgerows from March to August when birds in the UK normally breed.

##### *Incidental records of fauna*

During the walkover survey species observed include the following

- Birds including buzzard *Buteo buteo*
- Rabbit *Oryctolagus cuniculus*

#### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8865959145	Bat survey
2	SJ8861159139	Hedgerow survey
3	SJ8857459017	Broadleaved woodland

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Broadleaved woodland				x	
Species rich hedge				x	
Species poor hedge				x	
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside. The site is deemed to have district importance in terms of its potential loss within the wider countryside in terms of its southern and western boundaries although 83% is species poor grassland of low ecological importance.

The site is surrounded by domestic dwellings and improved grassland to the west, east and north. However there are networks of hedgerows connecting to small areas of broadleaved woodland, scattered scrub and running water which are likely to add increased biodiversity to the site. The presence of the stream within 50m of the eastern boundary could help support amphibian and reptile populations within the broadleaved woodland hedgerows.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include roosting/ foraging bats and foraging badger.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the tree recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Reptiles and amphibians*

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

As reptiles could potentially be present on site especially on the south and western boundary of the site, a regime of reptile survey is recommended according to guidelines set out in the 'Herpetofauna workers manual' (Gent and Gibson 1998).

### *Species rich hedgerows*

The Hedgerows Regulations 1997 were made under section 97 of the Environment Act 1995 and came into force on 1 June 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification.

Therefore it is recommended that a hedgerow survey be carried out on the 2 hedgerows by an appropriately qualified ecologist to determine whether they qualify as a species rich hedgerow according to hedgerow qualification criteria applicable to the Staffordshire Moorlands area.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.



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If at all possible it is recommended that as many trees and especially the hedgerows are retained if the site is to be developed.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

### **7. Conclusion**

The site has mostly low biodiversity value overall in terms of the species poor grassland area but has some fairly biodiverse areas to the south and west. The site is directly adjacent to a domestic housing estate to the east but is directly connected to more diverse habitats to the south and west and further connections to the north with a small copse and species poor hedgerow.

The following surveys/ actions are therefore recommended:

- A bat survey regime to ascertain whether bats roost in the tree
- Reptile survey
- Hedgerow survey
- Vegetation removal at the appropriate time of year





# FID 24



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 24**

### **1. Introduction**

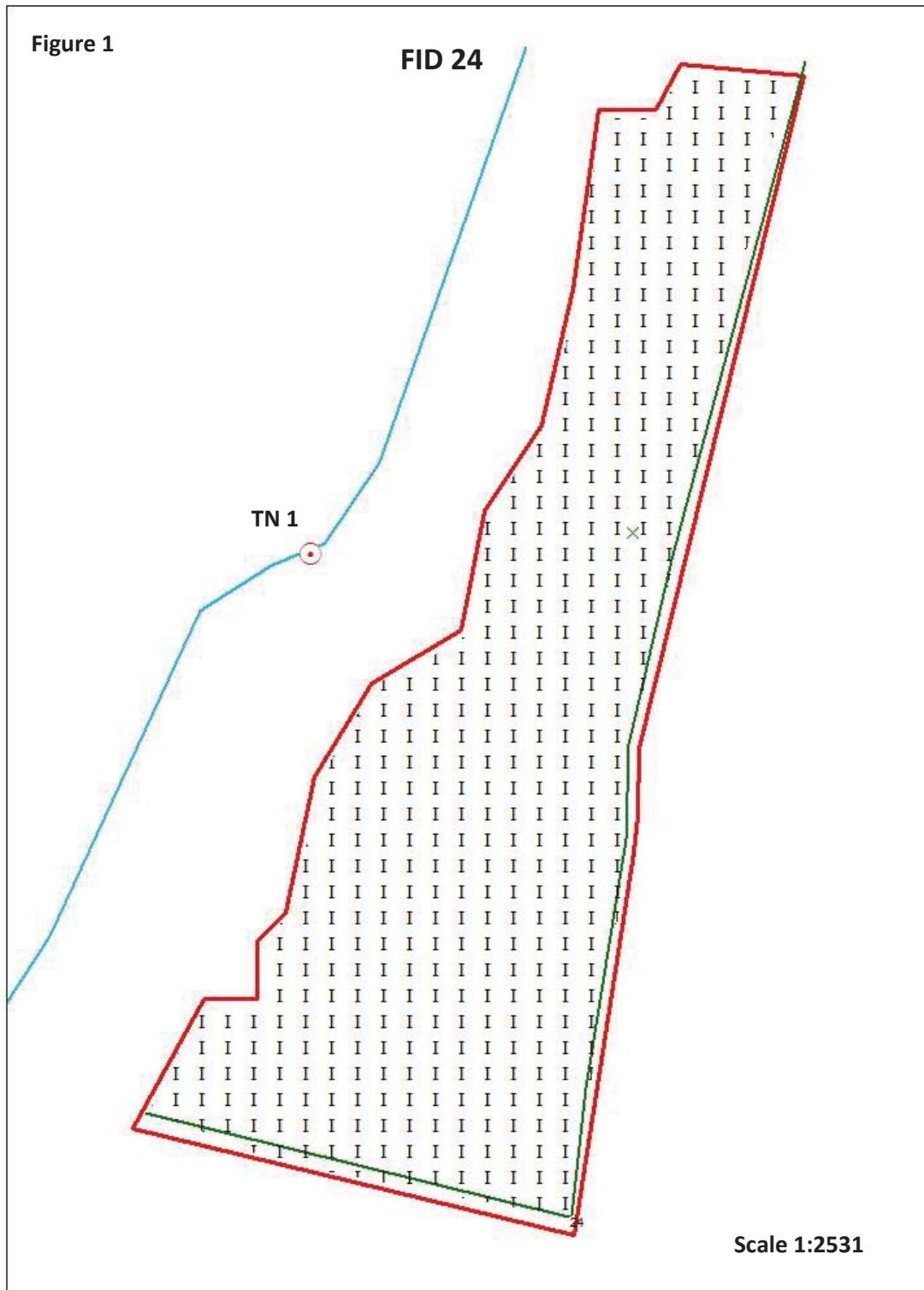
#### **1.1 Background**

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 24 O.S grid reference SJ888859136.

FID 24 is located to the north east of Gillow Heath in the Staffordshire Moorlands District, surrounded by farm buildings, housing and agricultural land.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 24 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Gannister quarry
LNR	Biddulph Valley Way
AWI	UNK
AWI	Bands Wood
AWI	Round Wood
AWI	Bailey's wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemore Wood
BAS/ AWI	Willocks Wood
BAS	The nursery
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Congleton Edge
SBI	Congleton Edge (South of)
SBI	Whitemoor Farm (east of)
SBI	Bands Wood and Cheshire Brook Wood
SBI	The Sprink
SBI	Troughstone Hill
RIGS	Wickenstone Rocks

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A Flowering plant
	Barn swallow
	Brown Hare
	Brown Long-eared Bat





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	Buff Ermine
	Common Bullfinch
	Common kestrel
	Common Pipistrelle
	Common snipe
	Common Starling
	Dot Moth
	Dunnock
	Early bumble bee
	European Otter
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy-leaved Bellflower
	Knot Grass
	Latticed Heath
	Lesser Redpoll
	Noctule Bat
	Pipistrelle
	Polecat
	Small Square-spot
	Soprano Pipistrelle
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian Goldenrod
	Curly Waterweed
	Indian balsam
	Japanese Knotweed
	Least Duckweed
	Rhododendron
	Turkey oak
E/ UK PS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Myotis Bat Species

	Natterer's Bat
	Noctule Bat
	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Soprano Pipistrelle
	Whiskered Bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

#### 4.3 Field survey

##### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Species poor hedgerow
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.94	100
OTHER		0
TOTALS	0.94	100

I – Improved grassland

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , timothy <i>Phleum pratense</i> , cock's foot <i>Dactylis glomerata</i> , creeping buttercup <i>Ranunculus repens</i>
Hedgerows/ trees / scrub	Hawthorn <i>Crataegus monogyna</i> , ash <i>Fraxinus excelsior</i> , sycamore <i>Acer pseudoplatanus</i> , leylandii <i>Cuprocypressus x leylandii</i>



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### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

Weeds listed under the Weeds Act 1959 including broadleaved dock *Rumex obtusifolius* were recorded within the grassland.

### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of broadleaved woodland and hedgerows from March to August when birds in the UK normally breed.

#### *Incidental records of fauna*

During the walkover survey species observed include the following

- Birds including magpie *Pica pica*,
- Peacock butterfly *Inachis io*
- Rabbit *Oryctolagus cuniculus*

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8885359145	Stream 12ft wide and shallow

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species poor hedge					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside, which is considered to be low.

The species poor grassland habitats are particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix.

The site is surrounded by domestic dwellings to the north, east and south and improved grassland to the west. However there are networks of hedgerows connecting to small areas of broadleaved woodland, scattered scrub and running water which are likely to add increased biodiversity to the site. The presence of the stream within 50m of the eastern boundary could help support amphibian and reptile populations within the hedgerows and therefore the site is given district ecological importance.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include reptiles, foraging bats and badger.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Reptiles and amphibians*

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

As reptiles could potentially be present on site especially on the south and northern boundary of the site, a regime of reptile survey is recommended according to guidelines set out in the 'Herpetofauna workers manual' (Gent and Gibson 1998).

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and hedgerows are retained if the site is to be developed.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site has mostly low biodiversity value overall in terms of the species poor grassland area, and has been given a district level rating of ecological importance in terms of loss within the wider countryside due to the potential presence of reptile populations.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Reptile survey
- Vegetation removal at the appropriate time of year



# **FID 25**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 25**

### **1. Introduction**

#### **1.1 Background**

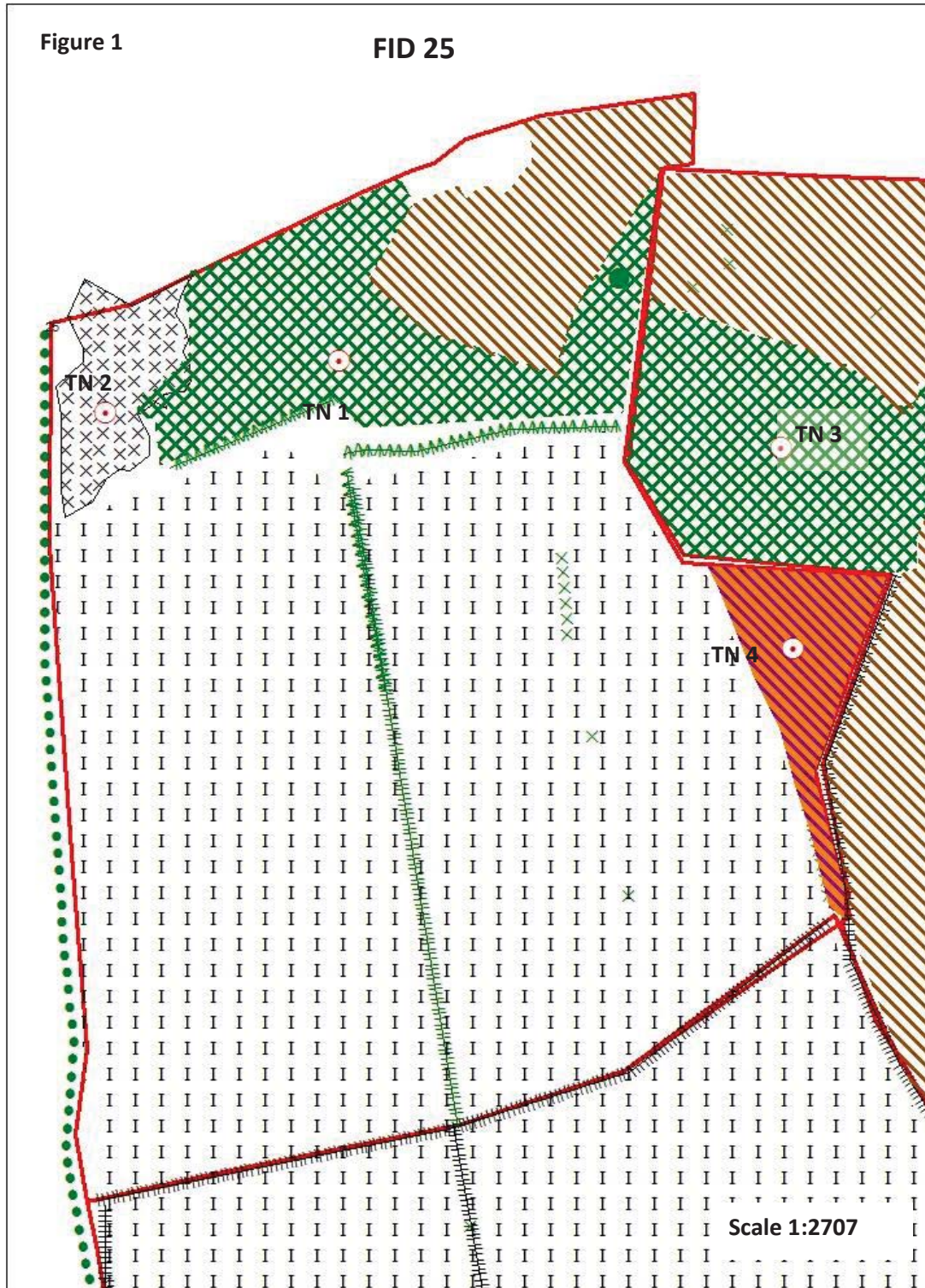
The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 25 O.S grid reference SJ8787957518.

FID 25 is located west of Biddulph in the Staffordshire Moorlands District, surrounded by farm buildings, housing and agricultural land.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).







## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 25 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

Livestock were present on site but did not hinder the walkover survey. Additionally to the north of the site consisted of almost impenetrable bramble *Rubus fruticosus* agg and tall ruderal vegetation that was extremely difficult to survey.





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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Roe Park Woods
SSSI	Gannister Quarry
AWI/ BAS	Willocks Wood
AWI	Grotto Wood, Hanging Wood, Limekiln Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of) FID25 abuts this BAS
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	Barn Swallow
	Black-headed Gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling



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	Common snipe
	Dark leaved hawkweed
	Dot Moth
	Dunnock
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Pennyroyal
	Pipistrelle
	Polecat
	Sky lark
	Small Square-spot
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Polecat
	Soprano pipistrelle



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	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Scattered trees
- Species rich hedgerows
- Running water
- Dense goat willow *Salix caprea* scrub
- Species poor hedgerows
- Dense scrub
- Tall ruderal vegetation
- Species poor amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	1.73	70
MG	0.08	3
TR	0.18	7
DS	0.26	11
EG	0.07	3
OTHER	0.14	6
TOTALS	2.46	100

I – Improved grassland, MG – Marshy grassland, TR – Tall ruderal vegetation, DS – Dense scrub, EG – Ephemeral grassland

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland	Perennial rye grass <i>Lolium perenne</i> , Yorkshire fog <i>Holcus lanatus</i> , soft rush <i>Juncus effusus</i>
Tall ruderal vegetation	False oat grass <i>Arrhenatherum elatius</i> , cock'foot <i>Dactylis glomerata</i> , rosebay willowherb <i>Chamerion angustifolium</i> , common nettle <i>Urtica dioica</i> ,
Hedgerows/ trees/ scrub	Goat willow <i>Salix caprea</i> , bramble <i>Rubus fruticosus</i> agg. alder <i>Alnus glutinosa</i> , hawthorn <i>Crataegus monogyna</i> , ash <i>Fraxinus excelsior</i> , silver birch <i>Betula pendula</i>

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

#### 4.3.4 Fauna

##### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of scattered trees, hedgerows, dense scrub and tall ruderal vegetation from March to August when birds in the UK normally breed.

##### *Incidental records*

- Birds including magpie *Pica pica*, linnet *Carduelis cannabina* (UKBAP), goldfinch *Carduelis carduelis*, woodpigeon *Columba palumbus*
- Butterflies speckled wood *Pararge aegeria*, small tortoiseshell *Aglais urticae*, red admiral *Vanessa atalanta*, large white *Pieris brassicae*

#### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8787257572	Good connectivity
2	SJ8782757564	Reptile survey required
3	SJ8796257523	Grazed and species poor marshy grassland



**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Running water				x	
Dense scrub				x	
Species poor hedgerows				x	
Tall ruderal vegetation				x	
Ephemeral grassland				x	
Scattered planted broadleaved trees					x
Species poor grassland					x
<b>Overall Site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside and their potential to support UK protected species.

The site is directly adjacent to another site FID226 to the east, which is also connected to another site FID17 that form a mosaic of wet woodland, running water, species rich hedgerows, tall ruderal vegetation and scattered scrub.

The site itself mainly consists of species poor grassland (70%) of low ecological value. However the remaining habitats to the north and east form an intricate mosaic of habitats which are likely to support a fairly diverse ecosystem as they are directly connected to aforementioned habitats.

The species poor hedgerow in the centre of the site is connected to the area of dense scrub to the north. The tall ruderal vegetation is also connected to the dense bramble scrub and ephemeral grassland/ hard standing area to the north-west. These habitats are further connected to a network of hedgerows that lead to areas of scrub and broadleaved woodland to the north-west.

The marshy grassland to the east is heavily grazed, improved and species poor, mainly consisting of soft rush and Yorkshire fog.

The habitats to the north, especially as they are well connected to other habitats could potentially support a range of other species such as reptiles and amphibians. The ephemeral grassland and hard standing area could be particularly important to support areas for basking reptiles.

The site is therefore deemed to have a district value within the matrix despite the main area of the site being species poor grassland.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include reptiles and foraging badger (sett found <80m away to the east) and bats.



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Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.

### 6. Recommendations

#### *Reptiles and amphibians*

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

As reptiles could potentially be present on site due to the presence of the habitat mosaic to the north of the site a reptile survey is recommended according to guidelines set out in the Herpetofauna workers manual (Gent and Gibson 1998).

#### *Vegetation removal*

If at all possible it is recommended that as many trees and the habitat mosaic to the north and east is not incorporated into development plans due to its intrinsic value to biodiversity within the area.

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

### 7. Conclusion

The site itself has scattered planted broadleaved trees, ephemeral grassland, dense scrub and tall ruderal vegetation which are connected to a series of other hedgerows and habitats, which form an important potentially biodiverse mosaic. Therefore the site is considered to be of at least district importance in terms of its loss within the wider countryside.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Reptile survey
- Vegetation removal at the appropriate time of year



# **FID 26**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	12



## **FID 26**

### **1. Introduction**

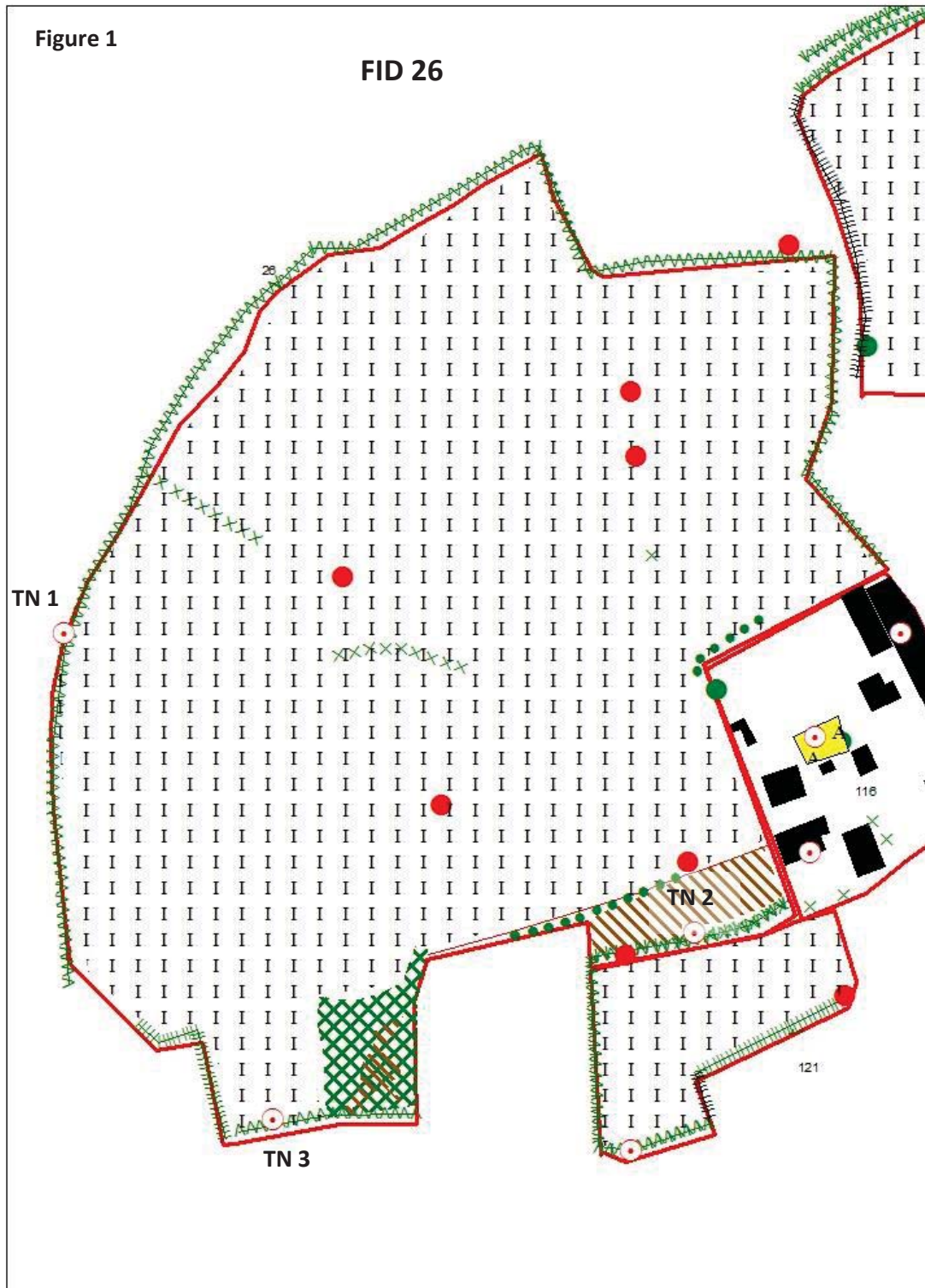
#### **1.1 Background**

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 26 O.S grid reference SJ8831659012.

FID 26 is located to the west of Gillow Heath in the Staffordshire Moorlands District, surrounded by agricultural land, farm buildings and housing.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 26 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).





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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.





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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Gannister quarry
LNR	Biddulph Valley Way
AWI	UNK
AWI	Bands Wood
AWI	Round Wood
AWI	Bailey's wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemore Wood
BAS/ AWI	Willocks Wood
BAS	The nursery
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Congleton Edge
SBI	Congleton Edge (South of)
SBI	Whitemoor Farm (east of)
SBI	Bands Wood and Cheshire Brook Wood
SBI	The Sprink
SBI	Troughstone Hill
RIGS	Wickenstone Rocks

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A Flowering plant
	Barn swallow
	Brown Hare
	Brown Long-eared Bat



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	Buff Ermine
	Common Bullfinch
	Common kestrel
	Common Pipistrelle
	Common snipe
	Common Starling
	Dot Moth
	Dunnock
	Early bumble bee
	European Otter
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy-leaved Bellflower
	Knot Grass
	Latticed Heath
	Lesser Redpoll
	Noctule Bat
	Pipistrelle
	Polecat
	Small Square-spot
	Soprano Pipistrelle
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian Goldenrod
	Curly Waterweed
	Indian balsam
	Japanese Knotweed
	Least Duckweed
	Rhododendron
	Turkey oak
E/ UK PS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Myotis Bat Species

	Natterer's Bat
	Noctule Bat
	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Soprano Pipistrelle
	Whiskered Bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

#### 4.3 Field survey

##### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Species rich hedgerow
- Scattered trees
- Dense and scattered scrub
- Tall ruderal vegetation
- Improved grassland
- Amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	3.61	90	
TR	0.09	2	
DS	0.07	2	
OTHER	0.23	6	
BPT			7
TOTALS	4.00	100	7

TR- Tall ruderal vegetation, I – Improved grassland, DS – Dense Scrub, BPT – Bat Potential Trees

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , creeping bent <i>Agrostis stolonifera</i> , creeping buttercup <i>Ranunculus repens</i> , creeping thistle <i>Cirsium arvense</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , sycamore <i>Acer pseudoplatanus</i> , ash <i>Fraxinus excelsior</i>

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

Weeds listed under the Weeds Act 1959 including creeping thistle have been recorded within the grassland and tall ruderal vegetation.

#### 4.3.4 Fauna

##### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of broadleaved woodland and scattered trees from March to August when birds in the UK normally breed.

##### *Incidental records of fauna*

During the walkover survey species observed include the following

- Birds including carrion crow *Corvus corone*, blackbird *Turdus merula*, wren *Troglodytes troglodytes*
- Butterflies including red admiral *Vanessa atalanta*
- Mammals including rabbit *Oryctolagus cuniculus*

#### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8818958761	Hedgerow survey required
2	SJ8805858711	Hedgerow survey required
3	SJ8801758865	Hedgerow survey required

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees				x	
Dense scrub					x
Scattered scrub					x
Tall ruderal vegetation					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by mainly by habitats of low biodiversity value, with domestic dwellings and improved grassland, small patches of dense and scattered scrub connected with occasional hedgerows.

The species rich hedgerow and scattered trees with 7 having roosting bat potential are the most important features on site and warrant the site to be considered of at least district importance. However the lack of connectivity to more biodiverse habitats reduces the value of these habitats within the wider countryside.

The species poor/ amenity grassland habitats (90% of the site) are particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include roosting/ foraging bats and badger (sett recorded <200m away).

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 7 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Species rich hedgerows*

The Hedgerows Regulations 1997 were made under section 97 of the Environment Act 1995 and came into force on 1 June 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification.

Therefore it is recommended that a hedgerow survey be carried out on the hedgerow by an appropriately qualified ecologist to determine whether they qualify as a species rich hedgerow according to hedgerow qualification criteria applicable to the Staffordshire Moorlands area.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees are retained if the site is to be developed.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.



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### 7. Conclusion

The site has mostly low biodiversity value overall in terms of area and is directly adjacent to a domestic housing estate and species poor grasslands, and poorly connected to the wider countryside which reduces the value of the site as a whole to bats and other species of wildlife.

However, the species rich hedgerow boundary containing mature trees, 7 of which could potentially support roosting bats could elevate the site's importance in terms of its loss within the wider countryside to district value.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the trees
- Hedgerow survey
- Vegetation removal at the appropriate time of year





# **FID 27**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 27**

### **1. Introduction**

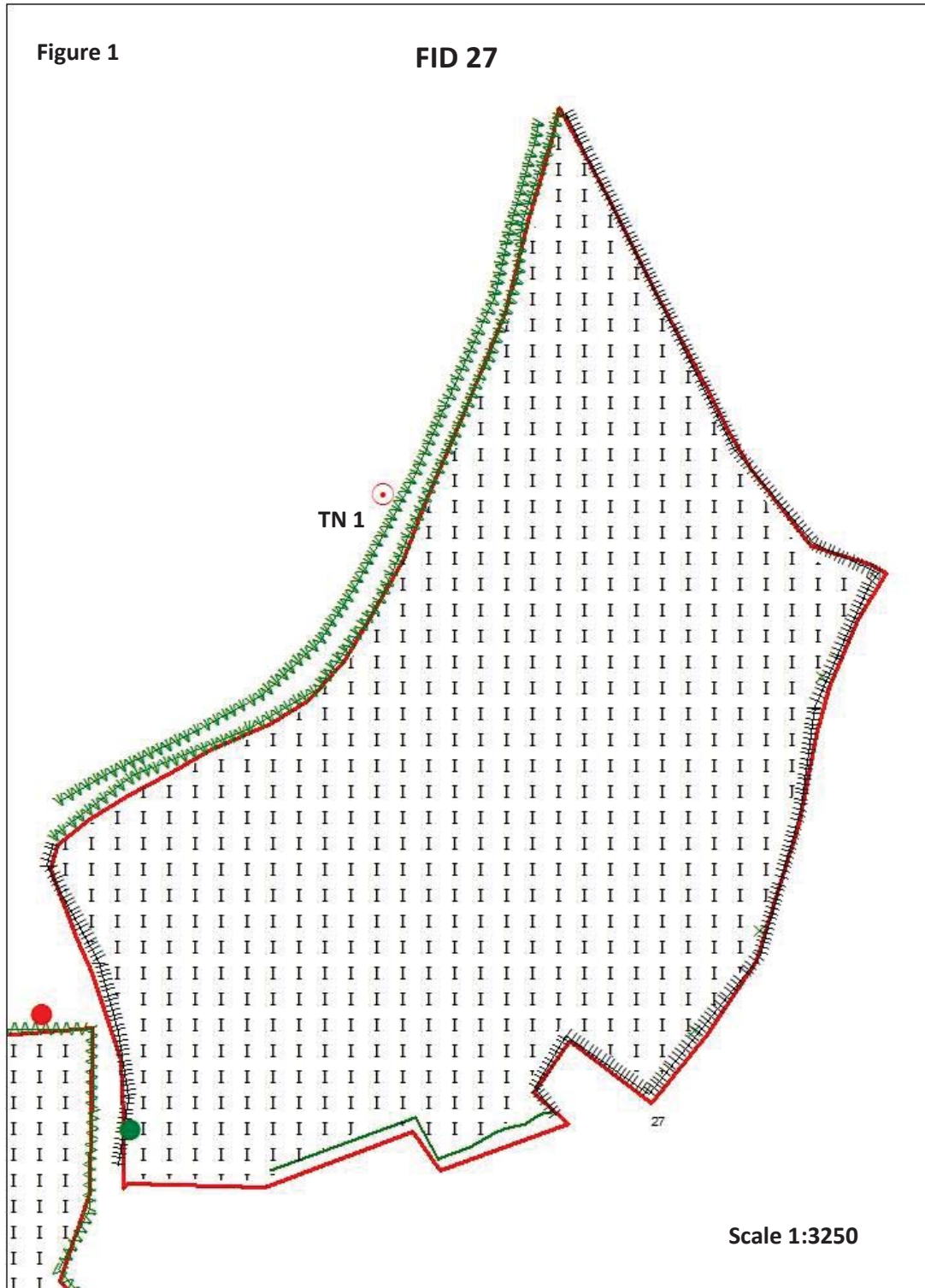
#### **1.1 Background**

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 27 O.S grid reference SJ8831659012.

FID 27 is located north east of Gillow Heath in the Staffordshire Moorlands District, surrounded by agricultural land, housing and farm buildings.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM) (2006).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 27 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There was no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Gannister quarry
LNR	Biddulph Valley Way
AWI	UNK
AWI	Bands Wood
AWI	Round Wood
AWI	Bailey's wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemore Wood
BAS/ AWI	Willocks Wood
BAS	The nursery
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Congleton Edge
SBI	Congleton Edge (South of)
SBI	Whitemoor Farm (east of)
SBI	Bands Wood and Cheshire Brook Wood
SBI	The Sprink
SBI	Troughstone Hill
RIGS	Wickenstone Rocks

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A Flowering plant
	Barn swallow
	Brown Hare
	Brown Long-eared Bat





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	Buff Ermine
	Common Bullfinch
	Common kestrel
	Common Pipistrelle
	Common snipe
	Common Starling
	Dot Moth
	Dunnock
	Early bumble bee
	European Otter
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy-leaved Bellflower
	Knot Grass
	Latticed Heath
	Lesser Redpoll
	Noctule Bat
	Pipistrelle
	Polecat
	Small Square-spot
	Soprano Pipistrelle
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian Goldenrod
	Curly Waterweed
	Indian balsam
	Japanese Knotweed
	Least Duckweed
	Rhododendron
	Turkey oak
E/ UK PS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Myotis Bat Species

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	Natterer's Bat
	Noctule Bat
	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Soprano Pipistrelle
	Whiskered Bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.2 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Species rich hedgerow
- Scattered trees
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	2.43	94
OTHER	0.16	6
TOTALS	2.59	100

I – Improved grassland

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	False oat grass <i>Arrhenatherum elatius</i> , Yorkshire fog <i>Holcus lanatus</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , hazel <i>Corylus avellana</i> , ash <i>Fraxinus excelsior</i> , bramble <i>Rubus fruticosus</i> agg, sycamore <i>Acer pseudoplatanus</i>



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### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

Weeds listed under the Weeds Act 1959 including creeping thistle *Cirsium arvense* and curled dock *Rumex crispus* have been recorded within the species poor grassland.

### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of broadleaved woodland and scattered trees from March to August when birds in the UK normally breed.

#### *Incidental records of fauna*

During the walkover survey species observed include the following

- Birds including blackbird *Turdus merula*, wren *Troglodytes troglodytes*
- Butterflies including red admiral *Vanessa atalanta*
- Mammals including rabbit *Oryctolagus cuniculus*

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8828859056	Requires hedgerow survey

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees					x
Species poor grassland					x
<b>Overall site importance</b>					x
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by mainly by habitats of low biodiversity value, with domestic dwellings and improved grassland.

These species poor grassland habitats are particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix.

The species rich hedgerow is the most important feature on site. However the lack of connectivity to more biodiverse habitats reduces the value of this habitat within the wider countryside, nevertheless the site is still considered to have district ecological importance.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include foraging bats and badger (sett recorded <100m away).

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Species rich hedgerows*

The Hedgerows Regulations 1997 were made under section 97 of the Environment Act 1995 and came into force on 1 June 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification.

Therefore it is recommended that a hedgerow survey be carried out on the hedgerow by an appropriately qualified ecologist to determine whether they qualify as a species rich hedgerow according to hedgerow qualification criteria applicable to the Staffordshire Moorlands area.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees are retained if the site is to be developed.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site has mostly low biodiversity value overall in terms of area, is directly adjacent to a domestic housing estate and species poor grasslands. However, the site has a species rich hedgerow which elevates the site's status to district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Hedgerow survey
- Vegetation removal at the appropriate time of year



# **FID 28**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 28**

### **1. Introduction**

#### **1.1 Background**

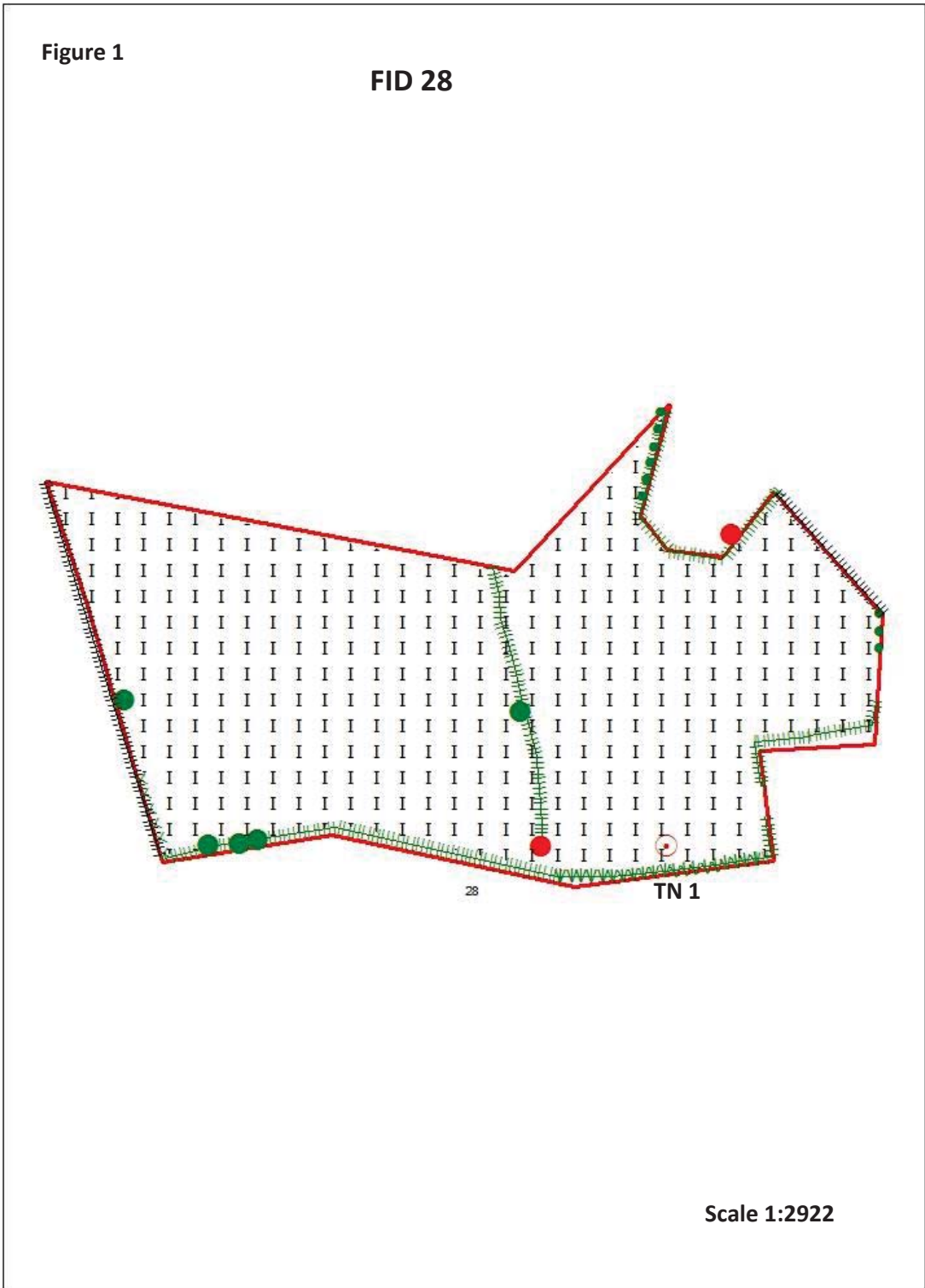
The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 28 O.S grid reference SJ8760856874.

FID 28 is located north of Knypersley in the Staffordshire Moorlands District, surrounded by housing and agricultural land.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).







## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 28 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger, and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Roe Park Woods
SSSI	Gannister Quarry
AWI/ BAS	Willocks Wood
AWI	Grotto Wood, Hanging Wood, Limekiln Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	Barn Swallow
	Black-headed Gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling



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	Common snipe
	Dark leaved hawkweed
	Dot Moth
	Dunnock
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Pennyroyal
	Pipistrelle
	Polecat
	Skylark
	Small Square-spot
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Polecat
	Soprano pipistrelle

	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

#### 4.3 Field survey

##### 4.3.5 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Species poor hedgerow
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	3.14	100	
BPT			2
TOTALS	3.14	100	2

I – Improved grassland, BPT – Bat potential trees

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , cock's foot <i>Dactylis glomerata</i>
Hedgerows/ trees	Hawthorn <i>Crataegus monogyna</i> , ash <i>Fraxinus excelsior</i> , elder <i>Sambucus nigra</i>

##### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

Weeds listed under the Weeds Act 1959 including broadleaved dock *Rumex obtusifolius* were recorded within the grassland.



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### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of broadleaved woodland and hedgerows from March to August when birds in the UK normally breed.

#### *Incidental records of fauna*

During the walkover survey species observed include the following

- Birds including magpie *Pica pica*
- Peacock butterfly *Aglais io*
- Rabbit *Oryctolagus cuniculus*



**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species poor hedge					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by domestic dwellings to the east and south and improved grassland to the west and north. There is also poor connectivity to the wider countryside.

Species poor grassland habitats present on site are particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix. The site also has 2 trees that could support roosting bats; therefore the site is considered to have district ecological importance.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include foraging bats and badger.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 2 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and hedgerows are retained if the site is to be developed.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site has mostly low biodiversity value overall in terms of the species poor grassland area but has some fairly biodiverse areas connected by hedgerows to the south and north, although the site is attributed district ecological importance due to the presence of trees with bat roosting potential.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the trees
- Vegetation removal at the appropriate time of year



# **FID 115**



## Table of Contents

<b>1. Introduction</b> .....	<b>1</b>
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	<b>2</b>
<b>2. Methodology</b> .....	<b>3</b>
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	<b>5</b>
<b>4. Results</b> .....	<b>6</b>
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	<b>10</b>
<b>6. Recommendations</b> .....	<b>11</b>
<b>7. Conclusions</b> .....	<b>11</b>



## **FID 115**

### **1. Introduction**

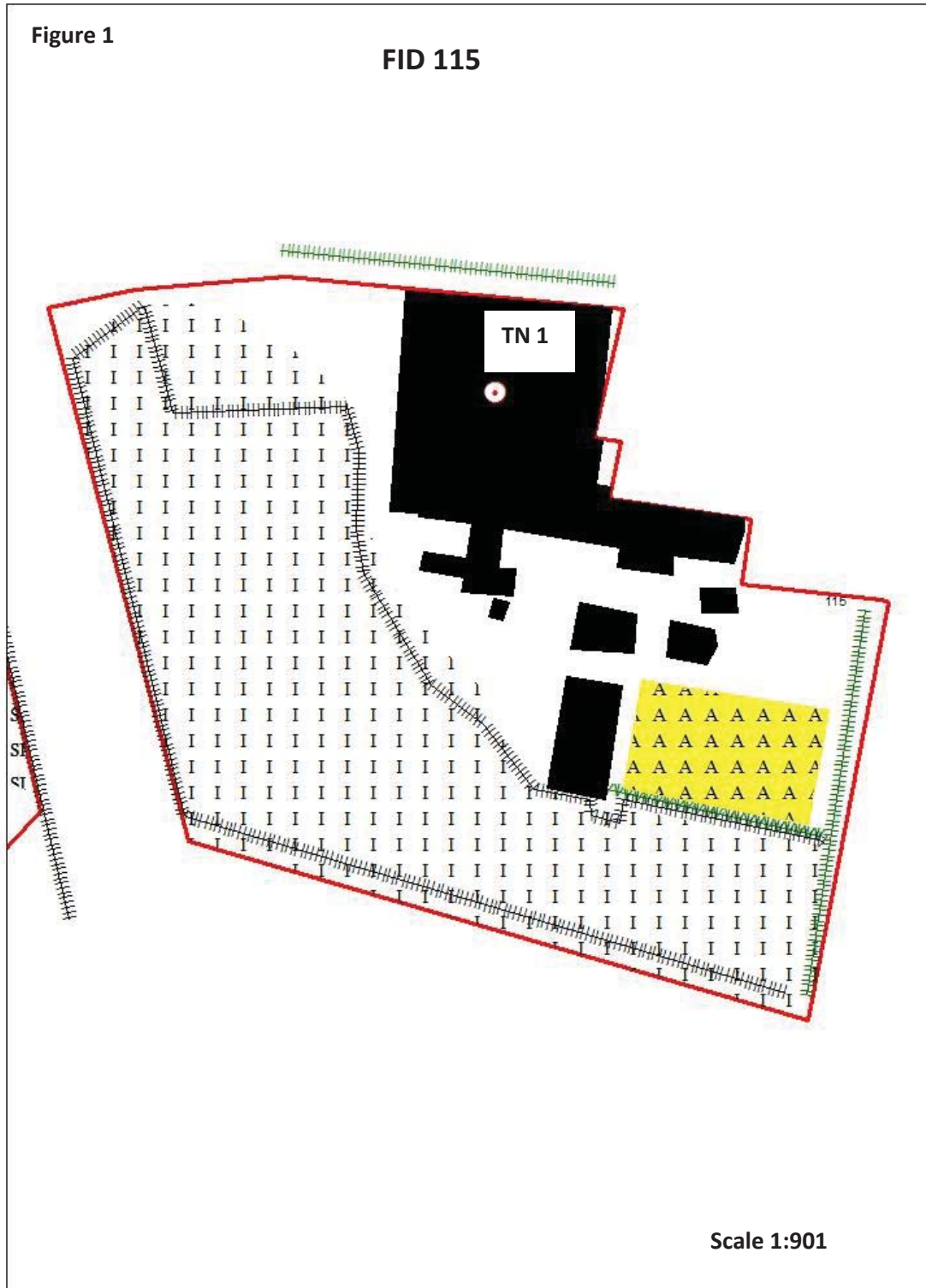
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 115 O.S grid reference SJ8815557159.

FID 115 is located within Biddulph in the Staffordshire Moorlands District, surrounded by farm buildings, housing and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 115 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.





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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



**4. Results**

4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

<b>SITE DESIGNATION</b>	<b>NAME</b>
AWI	Knypersley Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biological Action Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

<b>SPECIES TYPE</b>	<b>COMMON NAME</b>
BAP	Barn Swallow
	Black-headed Gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling
	Common snipe
	Common toad
	Dark leaved hawkweed
	Dot Moth



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	Dunnock
	Eurasian curlew
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Mistle thrush
	Northern lapwing
	Pennyroyal
	Pipistrelle
	Polecat
	Skylark
	Small Square-spot
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Polecat
	Soprano pipistrelle

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	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Buildings
- Scattered trees
- Species poor hedgerows
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.27	54
AM	0.03	5
OTHER	0.20	41
TOTALS	0.49	100

I – Improved grassland, AM – Amenity grassland

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Annual meadow grass <i>Poa annua</i> , Yorkshire fog <i>Holcus lanatus</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , soft rush <i>Juncus effusus</i> , red clover <i>Trifolium pratense</i> , creeping thistle <i>Cirsium arvense</i> , mugwort <i>Artemisia vulgaris</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , cherry <i>Prunus sp</i> , bramble <i>Rubus fruticosus agg</i> , elder <i>Sambucus nigra</i> , rowan <i>Sorbus aucuparia</i>

#### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.



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Weeds listed under the Weeds Act 1959 including creeping thistle, have been recorded within the tall ruderal vegetation.

### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could potentially nest in areas of hedgerows and scattered trees on site from March to August when birds in the UK normally breed.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8816157187	Corrugated roof/ shed style buildings, do not require bat survey

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species poor hedgerows					x
Scattered trees					x
Scattered scrub					x
Species poor improved and amenity grassland					x
<b>Overall site importance</b>					x
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is bordered by grazed species poor improved grassland, a main road to the east and west with domestic dwellings to the north, while being poorly connected to the wider countryside.

The site itself consists mainly of species poor grasslands (59%), species poor hedgerows consisting mainly of hawthorn and occasional elder. The remainder of the site consists of corrugated roofed outbuildings and their yard space. The site has species poor habitats present on site and is deemed to have a low score within the biodiversity matrix as it is unlikely that the site would support many protected species.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CROW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that the hedgerows are retained if the site is to be developed.

If the hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site has been attributed a low ecological value in its potential to support protected species as the habitats are species poor and poorly connected to other more biodiverse habitats.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Vegetation removal at the appropriate time of year



# **FID 116**





## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	12



## **FID 116**

### **1. Introduction**

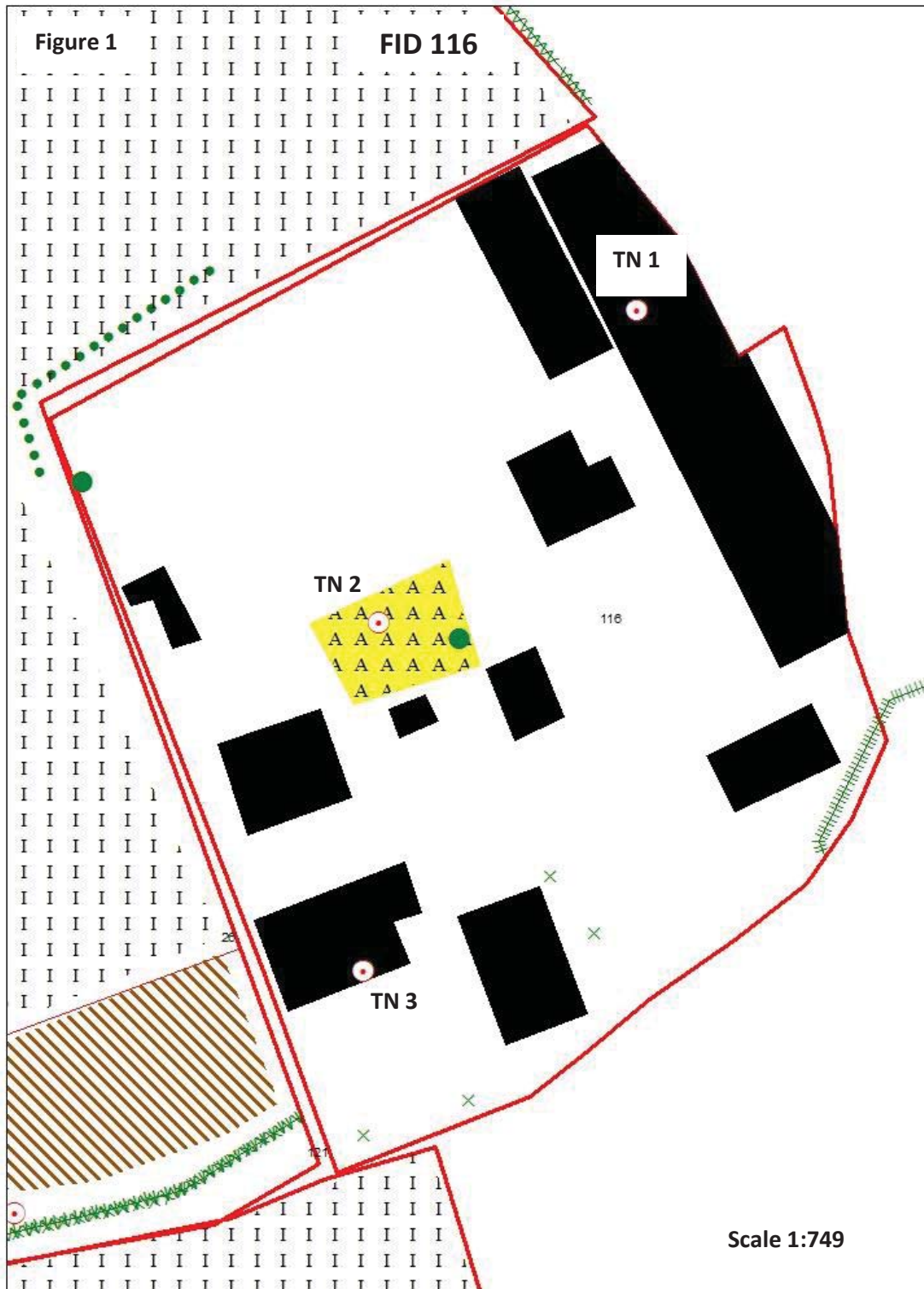
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 116 O.S grid reference SJ8822358818.

FID 116 is located north west of Gillow Heath, Biddulph in the Staffordshire Moorlands District, surrounded by a mixture of housing, and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 116 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Gannister quarry
SSSI	Roe Park Woods
LNR	Biddulph Valley Way
AWI	UNK
AWI	Grotto Wood, Hanging Wood, Limekiln Wood
AWI	Round Wood
AWI	Bailey's wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemore Wood
BAS/ AWI	Willocks Wood
BAS	The nursery
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Congleton Edge
SBI	Congleton Edge (South of)
SBI	Whitemoor Farm (east of)

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A Flowering plant
	Barn swallow
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common kestrel



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	Common Pipistrelle
	Common snipe
	Common Starling
	Dark leaved hawkweed
	Dot Moth
	Dunnock
	European Otter
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy-leaved Bellflower
	Knot Grass
	Latticed Heath
	Lesser Redpoll
	Meadow pipit
	Noctule Bat
	Pipistrelle
	Polecat
	Small Square-spot
	Soprano Pipistrelle
	West European Hedgehog
	White Ermine
INV	Canadian Goldenrod
	Curly Waterweed
	Japanese Knotweed
	Least Duckweed
	Rhododendron
	Turkey oak
E/ UK PS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Myotis Bat Species
	Natterer's Bat
	Noctule Bat
	Pipistrelle
	Pipistrelle Bat Species



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	Polecat
	Soprano Pipistrelle
	Whiskered Bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species,  
E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Buildings
- Scattered scrub
- Amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
AM	0.01	2
OTHER	0.44	98
TOTAL	0.45	100

AM – Amenity grassland

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Annual meadow grass <i>Poa annua</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , groundsel <i>Senecio vulgare</i> , hop trefoil <i>Trifolium campestre</i> , pineappleweed <i>Matricaria discoides</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i> , leylandii <i>Cuprocypressus x leylandii</i>

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.



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### 4.3.4 Fauna

#### *Bats*

The site has 11 farm buildings of which 4 are deemed potentially suitable to support roosting bats as they are of brick and roof tile construction with some loose tiles and holes within the brick work.

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could potentially nest in some of the buildings from March to August when birds in the UK normally breed.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8824158834	Require bat surveys
2	SJ8821258815	Amenity grassland as part of garden
3	SJ8820858783	Require bat surveys

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species poor amenity grassland					x
Scattered trees					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by habitats of fairly low biodiversity value with FID 26 and FID121, with domestic dwellings and species poor grassland and fairly poor connectivity to the wider countryside.

The habitats present on site are typical farm/ working yard structure and particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix. However, the site has buildings with potential to support roosting bats warrants the site being given district ecological importance.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include roosting bats and polecat.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Buildings with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 4 buildings deemed suitable to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that the building is checked for the presence of breeding birds and polecat at the same time as the bat surveys.

### *Polecat survey*

Polecats have been recorded during the desk study within 2km. As there are suitable outbuildings and stables to support polecats and potentially food sources around the locality it is recommended that these buildings are surveyed by a suitably qualified ecologist prior to any development works.

The polecat is afforded protection under the Wildlife and Countryside Act 1981 and is a UK BAP priority species mammal, protected as species of principal importance for the conservation of biological diversity in England under Section 74 of the Countryside and Rights of Way (CRoW) Act 2000.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If the scattered scrub is to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.



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### 7. Conclusion

The site is set within an urban environment with little connectivity to the wider countryside which lowers the biodiversity of the area considerably. Additionally the habitats are deemed to have low ecological value although as buildings with bat roosting potential are present the site is deemed to have district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime is therefore recommended to ascertain whether bats roost in the buildings
- Polecat survey of the buildings at the same time as the bat and breeding bird surveys, instigated by the presence of polecat records within 2km
- Vegetation removal at the appropriate time of year



# **FID 117**



## Table of Contents

<b>1. Introduction</b> .....	<b>1</b>
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	<b>2</b>
<b>2. Methodology</b> .....	<b>3</b>
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	<b>5</b>
<b>4. Results</b> .....	<b>6</b>
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	<b>10</b>
<b>6. Recommendations</b> .....	<b>11</b>
<b>7. Conclusions</b> .....	<b>12</b>



## **FID 117**

### **1. Introduction**

#### **1.1 Background**

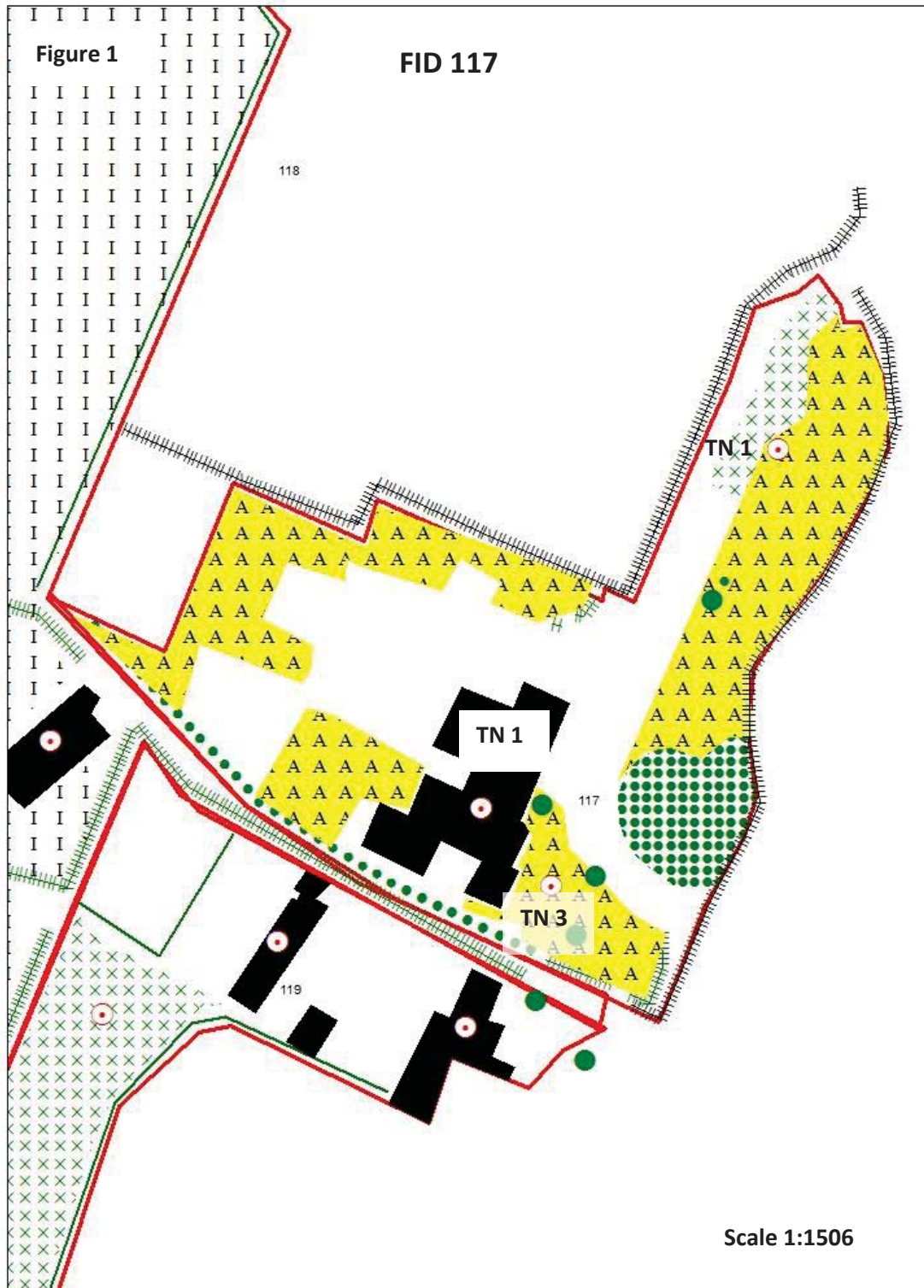
The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 117 O.S grid reference SJ8805056969.

FID 117 is located within Biddulph in the Staffordshire Moorlands District, surrounded by agricultural land and school playing fields.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).







## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 117 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was not carried out as the site is a disused site completely surrounded by fencing. All observations and recordings were from binoculars through the fencing around the perimeter. Although the site was not physically walked due to access restrictions the ephemeral and amenity nature of the habitats could be adequately assessed for this report. However the site will still need to be walked over as per normal Extended Phase 1 Habitat prerequisite.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
AWI	Knypersley Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	Barn Swallow
	Black-headed Gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling
	Common snipe
	Common toad
	Dark leaved hawkweed
	Dot Moth



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	Dunnoek
	Eurasian curlew
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Insect - Hymenopteran
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Mistle thrush
	Northern lapwing
	Pennyroyal
	Pipistrelle
	Polecat
	Skylark
	Small Square-spot
	Small water pepper
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	New Zealand Pigmyweed
	Rhodedendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Pipistrelle
	Polecat

	Soprano pipistrelle
	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Buildings
- Scattered scrub
- Scattered trees
- Amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p)	PERCENTAGE (%)
AM	0.35	40
SS	0.03	4
SBW	0.05	6
OTHER	0.43	50
TOTALS	0.86	100

AM – Amenity Grassland, TR- Tall ruderal vegetation, SBW – Scattered broadleaved Woodland, SS – Scattered scrub

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Annual meadow grass <i>Poa annua</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , white clover <i>Trifolium repens</i>
Hedgerows/ trees/ scrub	Whitebeam <i>Sorbus aria</i> sp, poplar <i>Populus</i> sp, beech <i>Fagus sylvatica</i> , Hawthorn <i>Crataegus monogyna</i> , ash <i>Fraxinus excelsior</i> , leylandii <i>Cuprocypressus x leylandii</i> , wych elm <i>Ulmus glabra</i>





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### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

### 4.3.4 Fauna

#### *Bats*

The site has 1 large derelict building which was observed through binoculars, appears to have potential to support roosting bats due to its brick and tiled roof construction. Although the building is fairly new its derelict nature potentially makes it more conducive to supporting roosting bats due to lack of disturbance.

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could potentially nest in some of the buildings, scattered trees and scattered scrub from March to August when birds in the UK normally breed.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8811257008	Scrub with reptile potential
2	SJ8805856944	Requires bat survey
3	SJ8806856926	Amenity grassland with future reptile potential





## 5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Scattered scrub					x
Species poor amenity grassland					x
<b>Overall site potential</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by a mixture of habitats of fairly low biodiversity value with FID118 and FID119 adjacent, with domestic dwellings and species poor grassland. However there is some connectivity to more biodiverse habitats (FID17) which could give more potential to support species such as reptiles and bats.

The site mainly consists of amenity grassland, buildings and hard standing (90%) with areas of scattered poplars and hawthorn scrub.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions would possibly include reptiles and roosting/ foraging bats. The site is deemed to have district ecological importance as there are buildings that could support roosting bats and the site has good connective habitat that could support reptile populations.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Buildings with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the building should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that the building is checked for the presence of breeding birds and polecat at the same time as the bat surveys.

### *Reptile survey*

The site could potentially support reptile populations with its 'brownfield' habitats with connectivity to adjacent habitats that are deemed to have potential to support reptiles, therefore it is recommended that a full reptile survey is carried out and any refugia present is removed by hand under watching brief of a suitably qualified ecologist.

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If the scattered scrub and scattered trees are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.



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### 7. Conclusion

The site is set within a fairly urban environment with some connectivity to variable habitats within the wider countryside. The sum of habitats and their connectivity to more biodiverse habitats as well as the presence of buildings with potential to support roosting bats suggests that the site has district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Although an adequate survey has been carried out through binoculars circumventing the perimeter, as the site was not fully walked it is recommended that the site is fully resurveyed
- A bat survey regime to ascertain whether bats roost in the buildings
- Reptile survey
- Vegetation removal at the appropriate time of year



# **FID 118**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	12



## **FID 118**

### **1. Introduction**

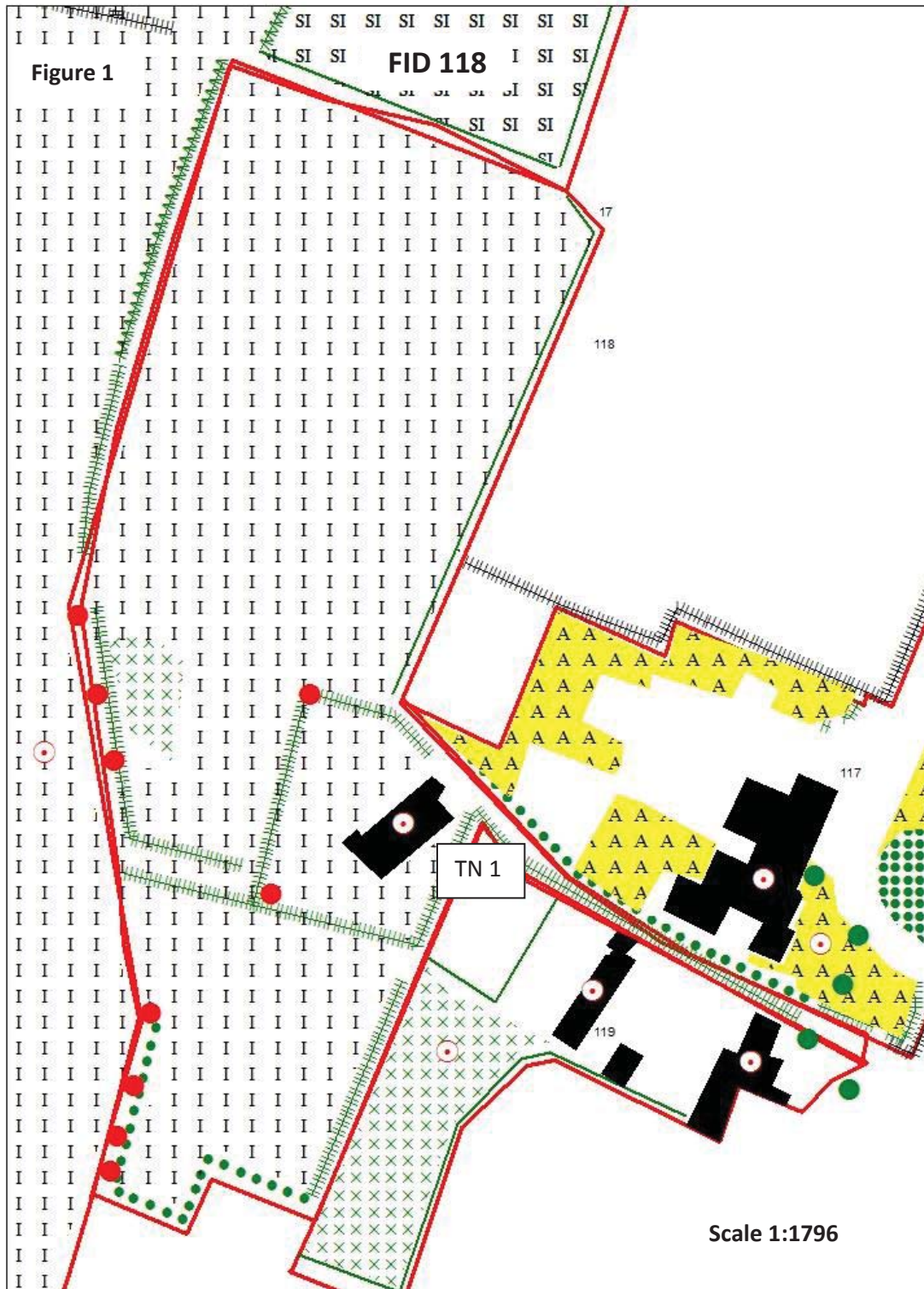
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 118 O.S grid reference SJ8795757055.

FID 118 is located within Biddulph in the Staffordshire Moorlands District, surrounded by agricultural land and school playing fields.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 118 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
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Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).





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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



**4. Results**

4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

<b>SITE DESIGNATION</b>	<b>NAME</b>
AWI	Knypersley Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

<b>SPECIES TYPE</b>	<b>COMMON NAME</b>
BAP	Barn Swallow
	Black-headed Gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling
	Common snipe
	Common toad
	Dark leaved hawkweed
	Dot Moth



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	Dunnock
	Eurasian curlew
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Insect - Hymenopteran
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Mistle thrush
	Northern lapwing
	Pennyroyal
	Pipistrelle
	Polecat
	Skylark
	Small Square-spot
	Small water pepper
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	New Zealand Pigmyweed
	Rhodedendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Pipistrelle
	Polecat

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	Soprano pipistrelle
	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Building
- Scattered trees
- Species poor hedgerows

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.57	84	
SS	0.03	2	
OTHER	0.27	14	
BPT			9
TOTALS	1.87	100	9

I – Improved grassland, SS – Scattered scrub, BPT – Bat Potential Trees

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , Yorkshire fog <i>Holcus lanatus</i> , common nettle <i>Urtica dioica</i> , white clover <i>Trifolium repens</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , ash <i>Fraxinus excelsior</i> , bramble <i>Rubus fruticosus</i> agg, oak <i>Quercus</i> sp, elder <i>Sambucus nigra</i>

#### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found during the walkover survey.



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Weeds listed under the Weeds Act 1959 including broadleaved dock *Rumex obtusifolius* and creeping thistle *Cirsium arvense* were recorded within the grassland.

### 4.3.4 Fauna

#### *Bats*

The site has 1 domestic building of brick and roof tile construction that is deemed potentially suitable to support roosting bats.

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of scattered trees, hedgerows and scattered scrub from March to August when birds in the UK normally breed.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8797656952	Requires bat survey

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species poor hedgerow				x	
Scattered scrub					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of each habitat in terms of their potential loss to the wider countryside.

The site mainly consists of species poor improved grassland (84%), with species poor hedgerows consisting of hawthorn, elder, oak and ash with 9 of the trees potentially being able to support roosting bats. Although the hedgerows are species poor their connectivity to species rich hedgerows, assemblage of mature trees with bat roosting potential and more biodiverse habitats warrants them being attributed at least district ecological importance. The remaining habitats are species poor and very common within the local area and the UK as a whole.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions would potentially include roosting/ foraging bats (roost recorded within 250m), badger and reptiles.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Buildings with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the building should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004).

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 9 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Reptile survey*

The site could potentially support reptile populations as the site is well connected to habitats that are deemed suitable to support reptile populations. Therefore it is recommended that a full reptile survey is carried out and any refugia present are removed by hand under watching brief of a suitably qualified ecologist. Reptile 'tins' should be concentrated adjacent to the hedgerows.

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

### *Vegetation removal*

If at all possible it is recommended that as many trees in the hedge rows be retained to preserve biodiversity within the locality.

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill,





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injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

### 7. Conclusion

The site itself has 9 trees and 1 building with bat roosting potential, species poor hedgerows, and tall ruderal vegetation which are well connected to a series of species rich hedgerows and habitats contained within FID17, 119 and 117. Therefore the site is deemed as having at least district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the trees and building
- Reptile survey
- Vegetation removal at the appropriate time of year



# **FID 119**



## Table of Contents

<b>1. Introduction</b> .....	<b>1</b>
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	<b>2</b>
<b>2. Methodology</b> .....	<b>3</b>
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	<b>5</b>
<b>4. Results</b> .....	<b>6</b>
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	<b>10</b>
<b>6. Recommendations</b> .....	<b>11</b>
<b>7. Conclusions</b> .....	<b>12</b>



## **FID 119**

### **1. Introduction**

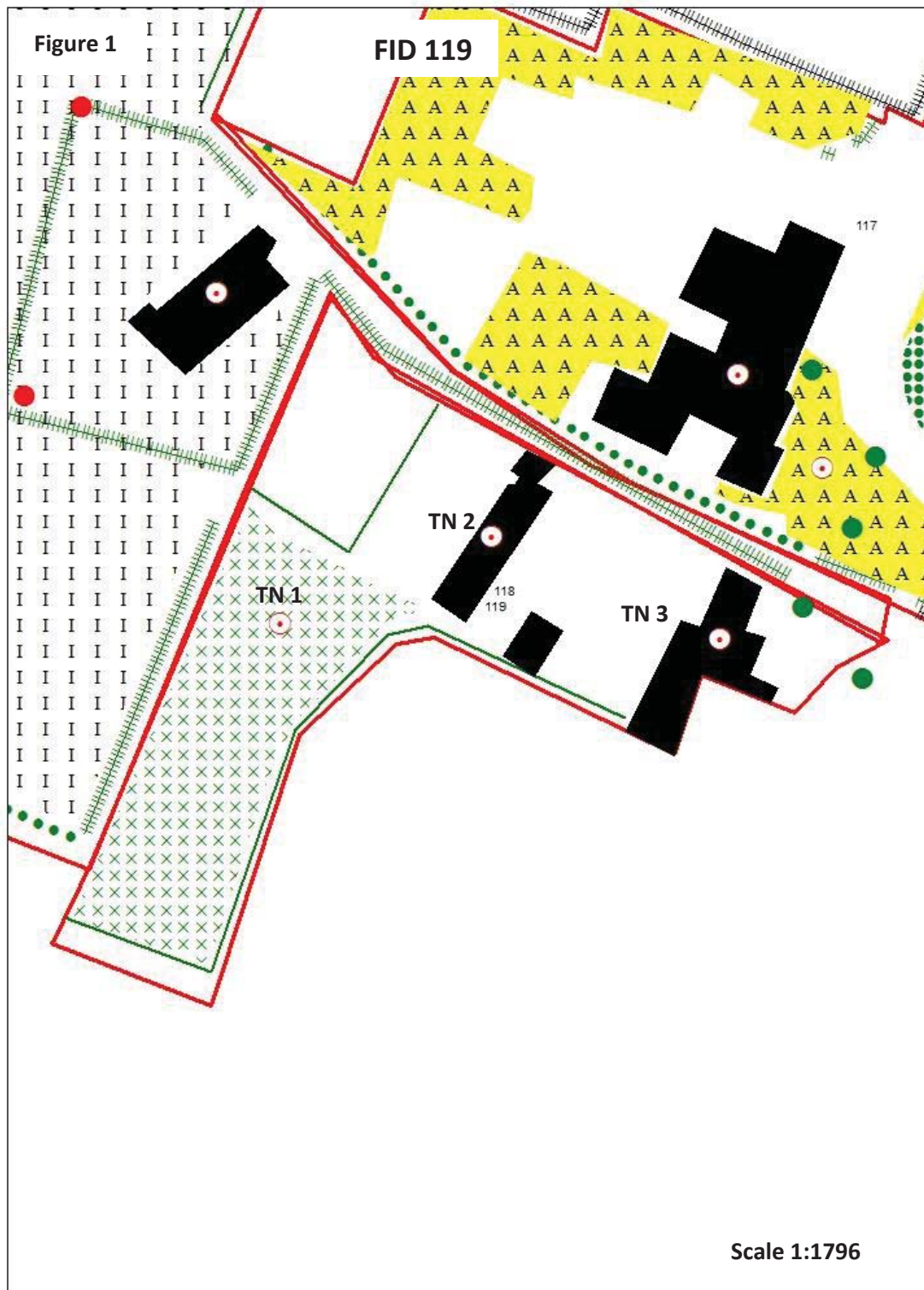
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 119 O.S grid reference SJ8800156924.

FID 119 is located within Biddulph in the Staffordshire Moorlands District, surrounded by agricultural land and housing.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 119 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.





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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
AWI	Knypersley Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	Barn Swallow
	Black-headed Gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling
	Common snipe
	Common toad
	Dark leaved hawkweed
	Dot Moth



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	Dunnock
	Eurasian curlew
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Insect - Hymenopteran
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Mistle thrush
	Northern lapwing
	Pennyroyal
	Pipistrelle
	Polecat
	Skylark
	Small Square-spot
	Small water pepper
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Pipistrelle
	Polecat

	Soprano pipistrelle
	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

#### 4.3 Field survey

##### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Building
- Scattered trees
- Scattered scrub
- Species poor amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
SS	0.14	69
OTHER	0.31	31
TOTALS	0.45	100

SS – Scattered scrub

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	False oat grass <i>Arrhenatherum elatius</i> , cock's foot <i>Dactylis glomerata</i> , field horsetail <i>Equisetum arvense</i> , rosebay willowherb <i>Chamerion angustifolium</i> , creeping thistle <i>Cirsium arvense</i> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Goat willow <i>Salix caprea</i> , bramble <i>Rubus fruticosus agg</i> , garden privet <i>Ligustrum sp</i> , Hawthorn <i>Crataegus monogyna</i>

##### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.



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### 4.3.4 Fauna

#### *Bats*

The site has 1 derelict building that appears to have some loose roof tiles and potential entrances that could allow bats to roost such as broken windows and holes within the brickwork.

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of scattered, hedgerow and buildings from March to August when birds in the UK normally breed.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8801956916	Scattered scrub with reptile potential
2	SJ8805156900	Derelict green house and outbuildings, no bat survey required
3	SJ8798556905	Bat survey required

**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Scattered scrub					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by FID117, FID118, a main road and domestic dwellings, with fairly good connectivity to the wider countryside.

The habitats present on site include species poor hedgerows with garden privet and scattered goat willow scrub mixed with tall ruderal vegetation consisting mainly of rosebay willowherb and creeping thistle. These habitats are particularly common in the UK, have low biodiversity value and therefore are deemed to have a low value within the matrix. However the site has good reptile habitat and is connected to habitats with reptile potential. Additionally as the building has bat roosting potential the overall ecological value of the site is deemed as having at least district importance.

Additionally the site suffers from extensive fly tipping, of which could provide refuge for reptiles and amphibians.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions would potentially include roosting/ foraging bats and reptiles.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Buildings with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the building should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that the building is checked for the presence of breeding birds at the same time as the bat surveys.

### *Reptile survey*

The site could potentially support reptile populations with the mosaic of 'brownfield' habitats and fly tipping refugia, which is well connected to habitats that are deemed suitable to support reptile populations. Therefore it is recommended that a full reptile survey is carried out and any refugia present are removed by hand under watching brief of a suitably qualified ecologist.

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and hedgerows are retained if the site is to be developed.

If trees and hedgerows are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.



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### 7. Conclusion

The site has mostly low biodiversity value overall, is set within a fairly urban environment with relatively good connectivity to the wider countryside. Nevertheless, as the site has good connectivity to other more biodiverse habitats, suitable reptile habitat and potential to support roosting bats the site is deemed as having at least district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the buildings
- Reptile survey
- Vegetation removal at the appropriate time of year



# **FID 120**





## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 120**

### **1. Introduction**

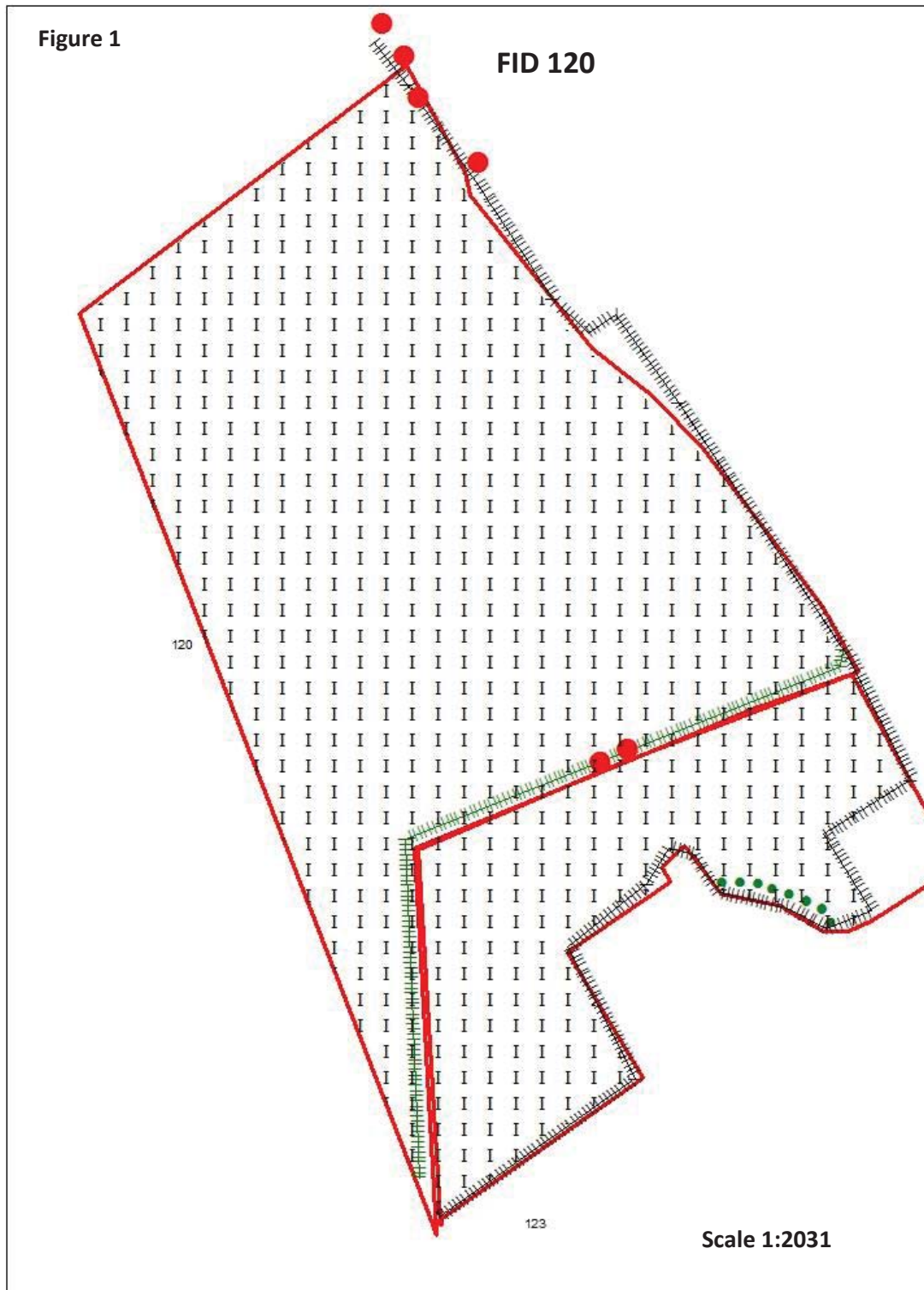
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 120 O.S grid reference SJ8736956391.

FID 120 is located west of Knypersley in the Staffordshire Moorlands District, surrounded by housing, farm buildings and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 120 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



**4. Results**

4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

<b>SITE DESIGNATION</b>	<b>NAME</b>
AWI	Knypersley Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	Dale Green (south west of)
BAS	Knypersley Fishing pool
BAS	Newpool (east of)
SBI	Greenway Bank
SBI	Bemersley Marshes and Banks
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Mow Cop Folly Quarry
RIGS	Mount Pleasant Quarry, west
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

<b>SPECIES TYPE</b>	<b>COMMON NAME</b>
BAP	Autumnal rustic
	Barn Swallow
	Black-headed Gull
	Blood vein
	Broom moth
	Brown spot pinion
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Centre barred sallow
	Cinnabar
	Common Bullfinch
	Common Kestrel



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	Common Pipistrelle
	Common snipe
	Common Starling
	Common toad
	Deep brown dart
	Dot Moth
	Dunnock
	Dusky thorn
	European Water Vole
	Garden tiger
	Ghost Moth
	Great crested newt
	Green brindled crescent
	Grey dagger
	Grey Wagtail
	Hedge rustic
	House Sparrow
	Insect - Hymenopteran
	Jacob's-ladder
	Large wainscot
	Latticed Heath
	Mallard
	Meadow Pipit
	Mistle thrush
	Mottled rustic
	Northern lapwing
	Oak hook tip
	Pennyroyal
	Pipistrelle
	Powdered quaker
	Rosy minor
	Rosy rustic
	September thorn
	Shaded broad bar
	Skylark
	Small heath
	Small phoenix
	Small Square-spot
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp





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	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	Japanese rose
	New Zealand Pigmyweed
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Great crested newt
	Pennyroyal
	Pipistrelle
	Pipistrelle bat species
	Soprano pipistrelle
	Whiskered/ Brandt's bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Scattered trees
- Species poor hedgerows
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	2.20	100	
OTHER	0.00	0	
BPT			6
TOTALS	2.20	100	6

I – Improved grassland, BPT – Bat potential trees



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### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , Yorkshire fog <i>Holcus lanatus</i> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i> , Pedunculate oak <i>Quercus robur</i>

### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.

### 4.3.4 Fauna

#### *Bats*

The site has 6 trees on or adjacent to the site that appear to have potential entrances that could allow bats to roost such as rot holes, split limbs etc.

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could potentially nest in areas of hedgerows and scattered trees on site from March to August when birds in the UK normally breed.

**5. Evaluation**

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species poor hedgerows					x
Species poor improved grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 5 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site has poor connectivity and is bordered by cut species poor improved grassland, domestic dwellings, and a road to the east.

The site itself consists mainly of species poor grasslands, species poor hedgerows with hawthorn and occasional elder, ash and oak with 6 standards deemed potentially being able to support roosting bats. The potential of these mature trees to support roosting bats has elevated the site’s overall importance to at least district value.

The site has species poor habitats present on site that are deemed to have a low score within the biodiversity matrix as it is unlikely that the site would support many protected species apart from roosting/ foraging bats, badger and West European Hedgehog (recorded within 150m).

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 6 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that the hedgerows and scattered trees are retained if the site is to be developed.

If the hedgerows and trees are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site mostly has low potential to support protected species as the habitats are species poor and poorly connected to other more biodiverse habitats. However as the site has 6 mature trees on site or immediately adjacent that have potential to support roosting bats the site is deemed to have at least district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime is therefore recommended to ascertain whether bats roost in the trees
- Vegetation removal at the appropriate time of year



# **FID 121**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	12



## **FID 121**

### **1. Introduction**

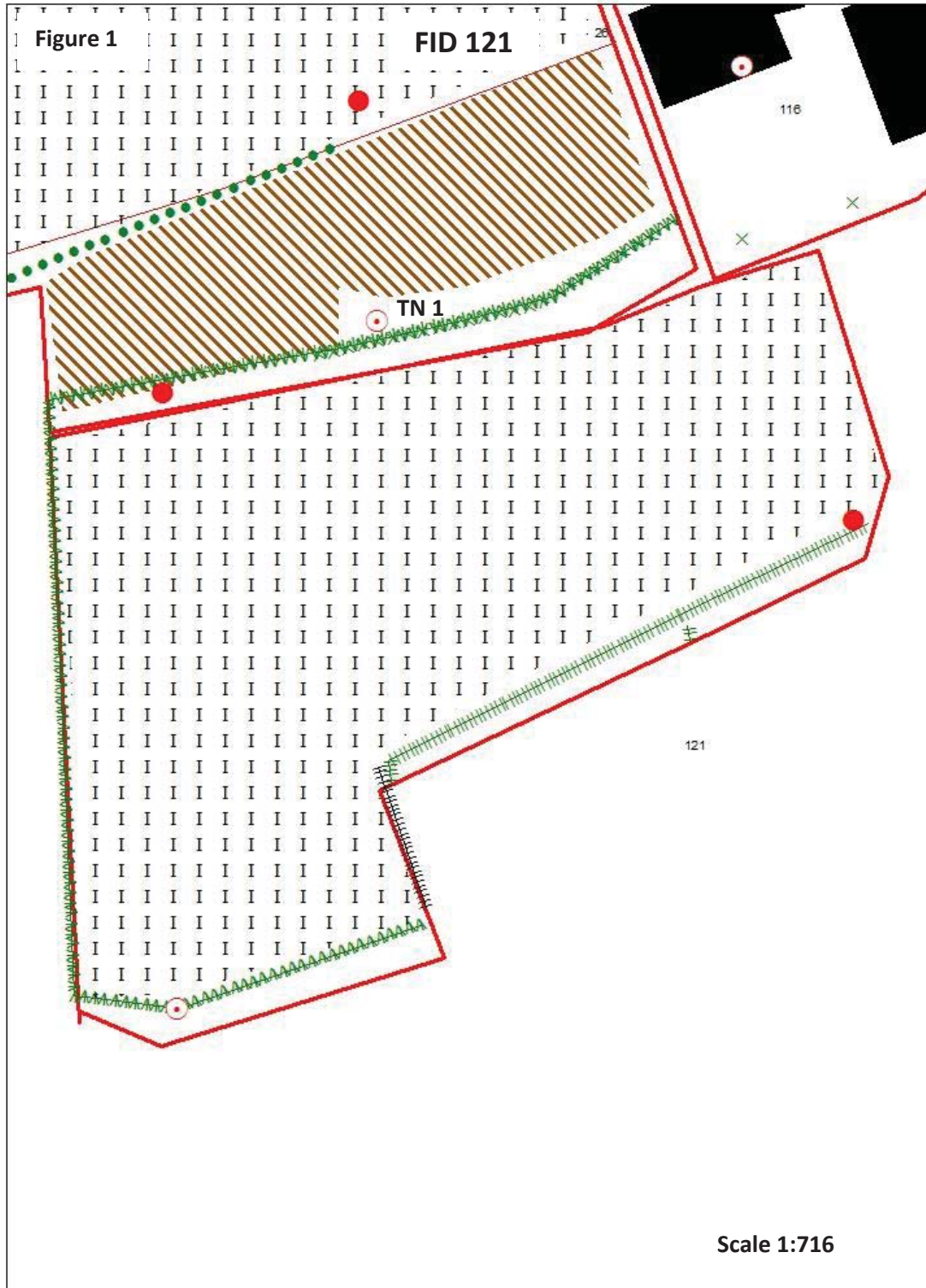
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 121 O.S grid reference SJ8818358742.

FID 121 is located north west of Gillow Heath, Biddulph in the Staffordshire Moorlands District, surrounded by a mixture of housing and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).







## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 121 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis* sp.

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Gannister quarry
SSSI	Roe Park Woods
LNR	Biddulph Valley Way
AWI	UNK
AWI	Grotto Wood, Hanging Wood, Limekiln Wood
AWI	Round Wood
AWI	Bailey's wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemore Wood
BAS/ AWI	Willocks Wood
BAS	The Nursery
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Congleton Edge
SBI	Congleton Edge (South of)
SBI	Whitemoor Farm (east of)

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A Flowering plant
	Barn swallow
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common kestrel



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	Common Pipistrelle
	Common snipe
	Common Starling
	Dark leaved hawkweed
	Dot Moth
	Dunnock
	European Otter
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy-leaved Bellflower
	Knot Grass
	Latticed Heath
	Lesser Redpoll
	Meadow pipit
	Noctule Bat
	Pipistrelle
	Polecat
	Small Square-spot
	Soprano Pipistrelle
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian Goldenrod
	Curly Waterweed
	Indian balsam
	Japanese Knotweed
	Least Duckweed
	Rhododendron
	Turkey oak
E/ UK PS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Myotis Bat Species
	Natterer's Bat
	Noctule Bat

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	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Soprano Pipistrelle
	Whiskered Bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Scattered trees
- Species rich hedgerow
- Species poor hedgerows
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE	NUMBER
I	0.25	87	
OTHER	0.04	13	
BPT			1
TOTALS	0.29	100	1

I – Improved grassland, BPT – Bat potential trees

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , ribwort plantain <i>Plantago lanceolata</i> , common nettle <i>Urtica dioica</i> , dandelion <i>Taraxacum officinale agg</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus agg</i> , ash <i>Fraxinus excelsior</i> , hazel <i>Corylus avellana</i>



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### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.

### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could potentially nest in areas of hedgerows and scattered trees on site from March to August when birds in the UK normally breed.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8816258701	Requires hedgerow survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species rich hedgerow				x	
Species poor hedgerows					x
Species poor improved grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is bordered by domestic dwellings and roads and FID26 to the north which has fairly poor connectivity with a hedgerow running from east to west.

The site itself consists mainly of species poor grasslands (87%), with a species rich hedgerow consisting mainly of hawthorn and occasional elder *Sambucus nigra*, guelder rose *Viburnum opulus*, hazel, ash and oak *Quercus robur* with 1 mature tree deemed as potentially being able to support roosting bats.

The site is deemed to have a district ecological value within the biodiversity matrix as it could support protected species including roosting/ foraging bats and badger (sett recorded within 150m) as well as having a potentially species rich hedgerow.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.





## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the tree recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Species rich hedgerows*

The Hedgerows Regulations 1997 were made under section 97 of the Environment Act 1995 and came into force on 1 June 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification.

Therefore it is recommended that a hedgerow survey be carried out on the hedgerow by an appropriately qualified ecologist to determine whether they qualify as a species rich hedgerow according to hedgerow qualification criteria applicable to the Staffordshire Moorlands area.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that the hedgerows and scattered trees are retained if the site is to be developed.

If the hedgerows and trees are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.



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### **7. Conclusion**

The site has fairly low potential to support protected species as the habitats are species poor and poorly connected to other more biodiverse habitats. However as the site has a potentially species rich hedgerow and tree with bat potential the site is given district ecological value.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Bat survey of the tree that could potentially support roosting bats
- Hedgerow survey
- Vegetation removal at the appropriate time of year



# **FID 122**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	12



## **FID 122**

### **1. Introduction**

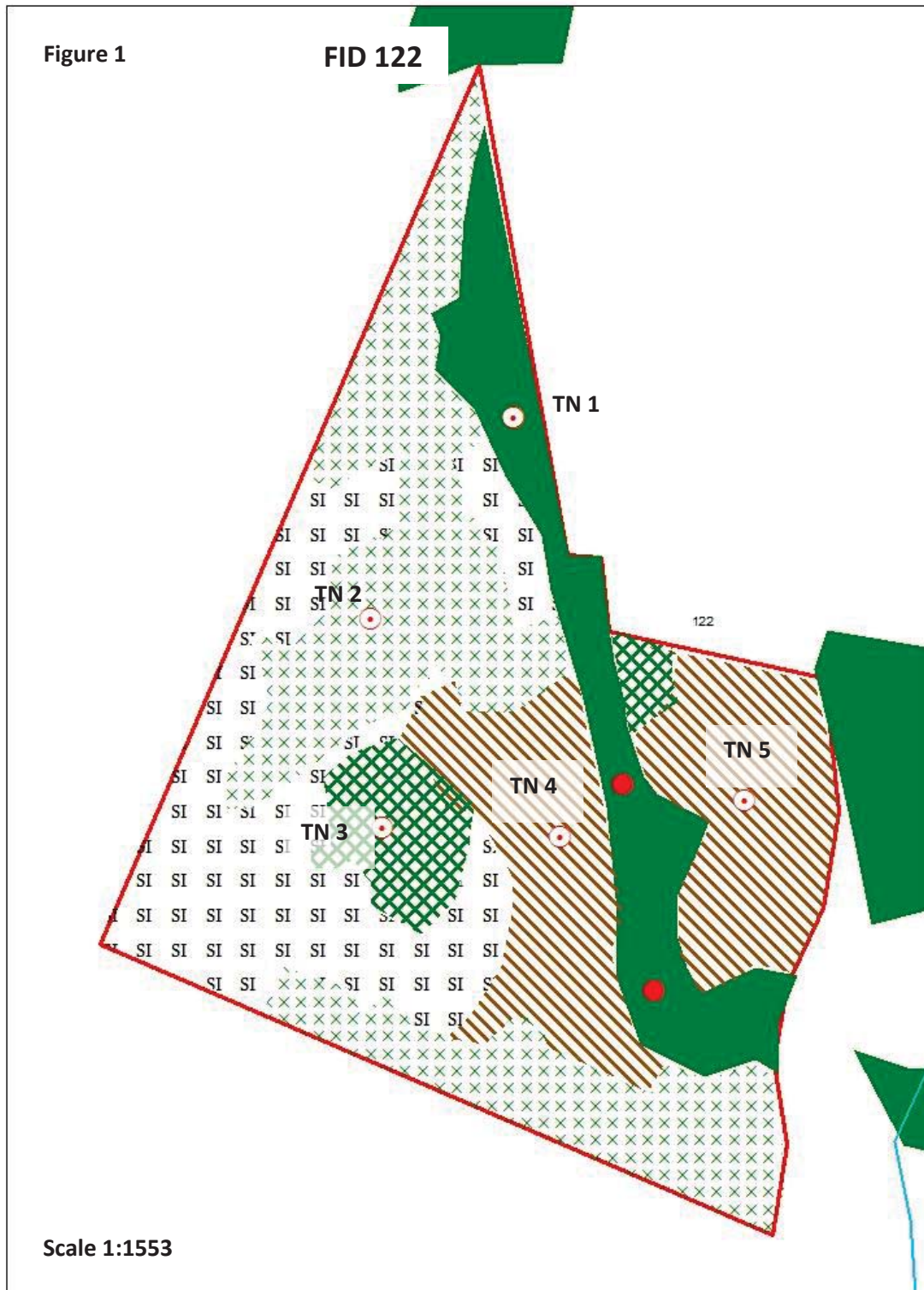
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 122 O.S grid reference SJ8857558842.

FID 122 is located east of Gillow Heath in the Staffordshire Moorlands District, surrounded by a sewage works, housing and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 122 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.





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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Gannister quarry
LNR	Biddulph Valley Way
AWI	UNK
AWI	Bands Wood
AWI	Round Wood
AWI	Bailey's wood
AWI	Spring Wood
AWI	Spring Wood, Biddulph Grange Country Park
AWI	Whitemore Wood
BAS/ AWI	Willocks Wood
BAS	The Nursery
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Congleton Edge
SBI	Congleton Edge (South of)
SBI	Whitemoor Farm (east of)
SBI	Bands Wood and Cheshire Brook Wood
SBI	The Sprink
SBI	Troughstone Hill
RIGS	Wickenstone Rocks

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A Flowering plant
	Barn swallow
	Brown Hare
	Brown Long-eared Bat



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	Buff Ermine
	Common Bullfinch
	Common kestrel
	Common Pipistrelle
	Common snipe
	Common Starling
	Dot Moth
	Dunnock
	Early bumble bee
	European Otter
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Ivy-leaved Bellflower
	Knot Grass
	Latticed Heath
	Lesser Redpoll
	Noctule Bat
	Pipistrelle
	Polecat
	Small Square-spot
	Soprano Pipistrelle
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian Goldenrod
	Curly Waterweed
	Indian balsam
	Japanese Knotweed
	Least Duckweed
	Rhododendron
	Turkey oak
E/ UK PS	A Bat
	Bluebell
	Brandt's Bat
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Myotis Bat Species

	Natterer's Bat
	Noctule Bat
	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Soprano Pipistrelle
	Whiskered Bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

#### 4.3 Field survey

##### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Broadleaved woodland
- Semi-improved species poor grassland
- Dense scrub
- Scattered scrub
- Tall ruderal vegetation

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
SI	0.30	21
SS	0.46	32
DS	0.09	6
TR	0.36	24
BW	0.22	15
OTHER	0.03	2
TOTALS	1.46	100

SI – Species poor semi-improved grassland, DS – Dense scrub, BW – Broadleaved Woodland, SS – Scattered scrub

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	False oat grass <i>Arrhenatherum elatius</i> , Yorkshire fog <i>Holcus lanatus</i> , cock's foot <i>Dactylis glomerata</i> , soft rush <i>Juncus effusus</i> , common bent <i>Agrostis capillaris</i> , Himalayan balsam <i>Impatiens glandulifera</i> , creeping thistle <i>Cirsium arvense</i> , rosebay willowherb <i>Chamerion angustifolium</i> , common nettle <i>Urtica dioica</i> , great willowherb <i>Epilobium hirsutum</i> , ribwort plantain <i>Plantago lanceolata</i> ,
Hedgerows/ trees/ scrub	Goat willow <i>Salix caprea</i> , willow <i>Salix species</i> , hawthorn <i>Crataegus monogyna</i> ash <i>Fraxinus excelsior</i> , alder <i>Alnus glutinosa</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus agg</i> , silver birch <i>Betula pendula</i>

#### 4.3.3 Invasive weeds

Himalayan balsam listed in Schedule 9 of the Wildlife and Countryside Act 1981 was recorded to be locally abundant in various locations around the site.

#### 4.3.4 Fauna

##### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scrub, broadleaved woodland and semi-improved species poor grassland habitat from March to August when birds in the UK normally breed.

##### *Incidental records*

- Birds including wood pigeon *Columba palumbus*, robin *Erithacus rubicella*, great tit *Parus major*, long-tailed tit *Aegithalos caudatus*, chaffinch *Fringilla coelebs*, greenfinch *Carduelis chloris*
- Butterflies speckled wood *Pararge aegeria*, peacock *Aglais io*

#### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8857958915	Broadleaved woodland with good connectivity
2	SJ8854658866	Scattered scrub with reptile potential
3	SJ8854858813	Dense scrub encroachment
4	SJ8857758805	Tall ruderal vegetation with occasional Himalayan balsam
5	SJ8861958819	Tall ruderal vegetation with patches of dense Himalayan balsam

## 5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Broadleaved woodland				x	
Species poor semi-improved grassland				x	
Dense scrub				x	
Scattered scrub				x	
Tall ruderal vegetation				x	
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by domestic dwellings; sewage works to the north and FID22 to the east, and is very well connected to other biodiverse habitats through hedgerows, scrub, broadleaved woodland and running water, which accentuates the value of the site.

The site itself consists of a potentially biodiverse woodland/ scrub habitat mosaic. The importance of this site is notable as it contains a range of habitat structures of different heights.

The semi-natural broadleaved woodland (15%) consists of mature ash, silver birch, alder, poplar *Populus species* and sycamore with an understorey of hawthorn, and willow *Salix species*.

The dense and scattered scrub (38%) consists of a mixture of goat willow, willow species *Salix species*, hawthorn, and regenerating alder and silver birch.

Semi-improved grassland (21%) is present throughout the site and consists of false oat grass, cock's foot, tufted hair grass and locally frequent soft rush. Herbs include rosebay willowherb, creeping buttercup *Ranunculus repens*, common nettle, ribwort plantain and great willowherb in varying degrees of frequency, and very occasionally orchid species (unable to identify genus). The herb sward also forms the more dense areas of tall ruderal vegetation (24%) though there are large patches of Himalayan balsam mixed within. The sward could potentially support ground nesting birds and provide hunting opportunities for owls and raptors.

The variation in vegetation structure throughout the site has good potential to support a fairly complex and diverse ecology which is accentuated by the sites good connectivity. From a protected species aspect the site could potentially support roosting bats within the 2 trees noted for bat roosting potential, foraging bats, badger (2 setts recorded within 200m) and



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reptiles as well as numerous species of birds and butterflies. Therefore the site is attributed district ecological importance.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.

### 6. Recommendations

#### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 2 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

#### *Reptiles and amphibians*

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

As reptiles could potentially be present on site due to the presence of running water and suitable terrestrial habitat it is recommended that a full reptile survey is carried out by a suitably qualified ecologist.

#### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees are retained if the site is to be developed.



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As Himalayan balsam is present on site it is recommended a regime of eradication either through spraying glyphosate, mowing or hand pulling over 2 years according to 'Information Sheet 3: Himalayan Balsam' (Centre for Ecology and Hydrology, 2004).

If trees, scrub and vegetation is to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

### **7. Conclusion**

The site has potential for protected species to be present due to the mosaic of habitats and habitat structure present, especially as the site is well connected to the wider countryside. Therefore the site is not recommended for potential development as the site is deemed to have district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Bat survey of the 2 trees with bat roosting potential
- Reptile survey
- Adoption of Himalayan balsam removal regime
- Vegetation removal at the appropriate time of year





# **FID 123**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 123**

### **1. Introduction**

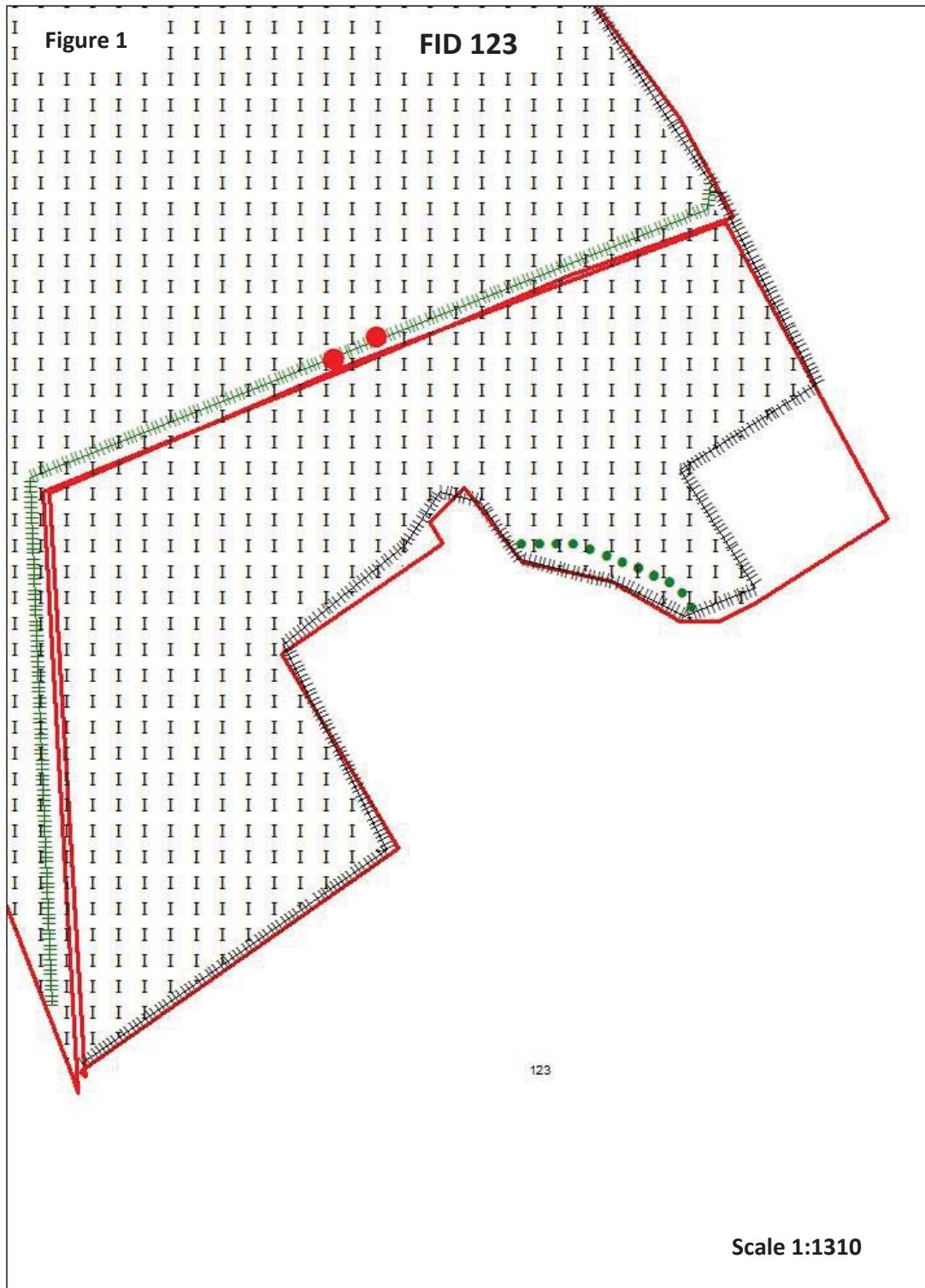
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 123 O.S grid reference SJ8745556285.

FID 123 is located west of Knypersley in the Staffordshire Moorlands District, surrounded by housing and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 123 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



**4. Results**

4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

<b>SITE DESIGNATION</b>	<b>NAME</b>
AWI	Knypersley Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	Dale Green (south west of)
BAS	Knypersley Fishing pool
BAS	Newpool (east of)
SBI	Greenway Bank
SBI	Bemersley Marshes and Banks
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Mow Cop Folly Quarry
RIGS	Mount Pleasant Quarry, west
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

<b>SPECIES TYPE</b>	<b>COMMON NAME</b>
BAP	Autumnal rustic
	Barn Swallow
	Black-headed Gull
	Blood vein
	Broom moth
	Brown spot pinion
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Centre barred sallow
	Cinnabar
	Common Bullfinch
	Common Kestrel





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	Common Pipistrelle
	Common snipe
	Common Starling
	Common toad
	Deep brown dart
	Dot Moth
	Dunnock
	Dusky thorn
	European Water Vole
	Garden tiger
	Ghost Moth
	Great crested newt
	Green brindled crescent
	Grey dagger
	Grey Wagtail
	Hedge rustic
	House Sparrow
	Insect - Hymenopteran
	Jacob's-ladder
	Large wainscot
	Latticed Heath
	Mallard
	Meadow Pipit
	Mistle thrush
	Mottled rustic
	Northern lapwing
	Oak hook tip
	Pennyroyal
	Pipistrelle
	Powdered quaker
	Rosy minor
	Rosy rustic
	September thorn
	Shaded broad bar
	Skylark
	Small heath
	Small phoenix
	Small Square-spot
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp

	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	Japanese rose
	New Zealand Pigmyweed
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Great crested newt
	Pennyroyal
	Pipistrelle
	Pipistrelle bat species
	Soprano pipistrelle
	Whiskered/ Brandt's bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

#### 4.3 Field survey

##### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.69	92
OTHER	0.06	8
TOTALS	0.75	100

I - Improved grassland

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.



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Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , False oat grass <i>Arrhenatherum elatius</i> , Yorkshire fog <i>Holcus lanatus</i> , common nettle <i>Urtica dioica</i> , dandelion <i>Taraxacum officinale agg</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , pedunculate oak <i>Quercus robur</i> , bramble <i>Rubus fruticosus agg</i>

### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.

**5. Evaluation**

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Species poor improved grassland					x
<b>Overall site importance</b>					x
I=International, N=National, R=Regional, D=District, L=Local					

Table 5 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site has poor connectivity and is bordered by cut species poor improved grassland, domestic dwellings and a road to the east with a shared northern border with FID120.

The site itself consists mainly of species poor grasslands, species poor hedgerow with scattered trees.

The site has species poor habitats present on site with poor connectivity and is deemed to have a low score within the biodiversity matrix as it is unlikely that the site would support many protected species apart potentially from foraging bats, badger and West European hedgehog (recorded within 50m to the east).

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CROW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that the scattered trees are retained if the site is to be developed.

If the trees are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site has low potential to support protected species as the habitats are species poor and poorly connected to other more biodiverse habitats, and therefore is given a low ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Vegetation removal at the appropriate time of year



# **FID 124**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 124**

### **1. Introduction**

#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 124 O.S grid reference SJ8957558028.

FID 124 is located east of Biddulph in the Staffordshire Moorlands District, surrounded by a school, housing and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).







## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 124 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
AWI	Crowborough Wood
AWI	Bailey's Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
AWI	Hollin Wood
AWI	The Sprink
AWI	Spring Wood, Biddulph Grange Park
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Newpool (east of)
SBI	Troughstone Hill
SBI	The Sprink
SBI	Greenway Bank
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biological Action Site, SBI – Site of Biological Importance – RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A bumble bee
	A flowering plant
	Barn Swallow
	Black headed gull
	Brown hare
	Brown long eared bat
	Buff tailed bumble bee
	Buff Ermine
	Common bullfinch
	Common carder bee
	Common kestrel



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	Common Pipistrelle
	Common starling
	Common wasp
	Dot Moth
	Dunnock
	Early bumble bee
	European otter
	European Water Vole
	Ghost Moth
	Grey wagtail
	House sparrow
	Ivy leaved bellflower
	Knot grass
	Latticed heath
	Lesser redpoll
	Mallard
	Meadow pipit
	Noctule Bat
	Northern Lapwing
	Pipistrelle
	Polecat
	Small garden bumble bee
	Small Square-spot
	Song thrush
	Soprano Pipistrelle
	Tree bumble bee
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian goldenrod
	Canadian waterweed
	Curly waterweed
	Indian balsam
	Japanese knotweed
	Least duckweed
	Rhododendron
	Russian vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Common Pipistrelle

	Daubenton's bat
	Eurasian Badger
	European otter
	European Water Vole
	Myotis bat species
	Natterer's bat
	Noctule Bat
	Pipistrelle
	Polecat
	Soprano Pipistrelle
	Whiskered bat
	Whiskered / Brandt's bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European/ UK Protected Species

#### 4.3 Field survey

##### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Scattered trees
- Species rich defunct hedgerow
- Scattered scrub
- Wet ditch
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	4.09	97	
SS	0.11	3	
OTHER	0.00	0	
BPT			9
TOTAL	4.20	100	9

I – Improved grassland, SS – Scattered scrub, BPT – Bat Potential Trees,

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.



Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	False oat grass <i>Arrhenatherum elatius</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , dandelion <i>Taraxacum officinale</i> agg, great willowherb <i>Epilobium hirsutum</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , pedunculate oak <i>Quercus robur</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i> , elder <i>Sambucus nigra</i> ,

4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.

4.3.4 Fauna

*Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scattered trees, hedgerow and scrub from March to August when birds in the UK normally breed.



5. Evaluation

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species rich hedgerow					x
Scattered scrub					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 5 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by domestic dwellings, and species poor grasslands which are connected to the wider countryside with a wet ditch and hedgerow to the south.

The site itself consists of species poor improved grassland (97%), scattered hawthorn and elder scrub and a small length of species rich hedgerow.

The species rich defunct hedge has 6 species present with hawthorn, hazel *Corylus avellana*, blackthorn *Prunus spinosa*, elder, oak and ash that lines the wet ditch to the east of the site that support species poor tall ruderal flora such as great willowherb and common nettle. The hedgerow is considered to have low ecological importance as it has no connective habitat apart from species poor grassland.

The site has 9 trees with potential to support roosting bats and although the site mainly has a low biodiversity value within the matrix it is deemed to have district importance due to this large assemblage of mature trees.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 9 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and the species rich hedgerow is retained if the site is to be developed.

If trees, scrub and vegetation is to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site has little potential to support protected species, although the site is fairly well connected to the wider countryside the surrounding habitats appear of low biodiversity value as well. However, the presence of 9 trees with potential to support roosting bats warrants the site being considered to have district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Bat survey of the 9 trees with bat roosting potential
- Vegetation removal at the appropriate time of year



# FID 125



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 125**

### **1. Introduction**

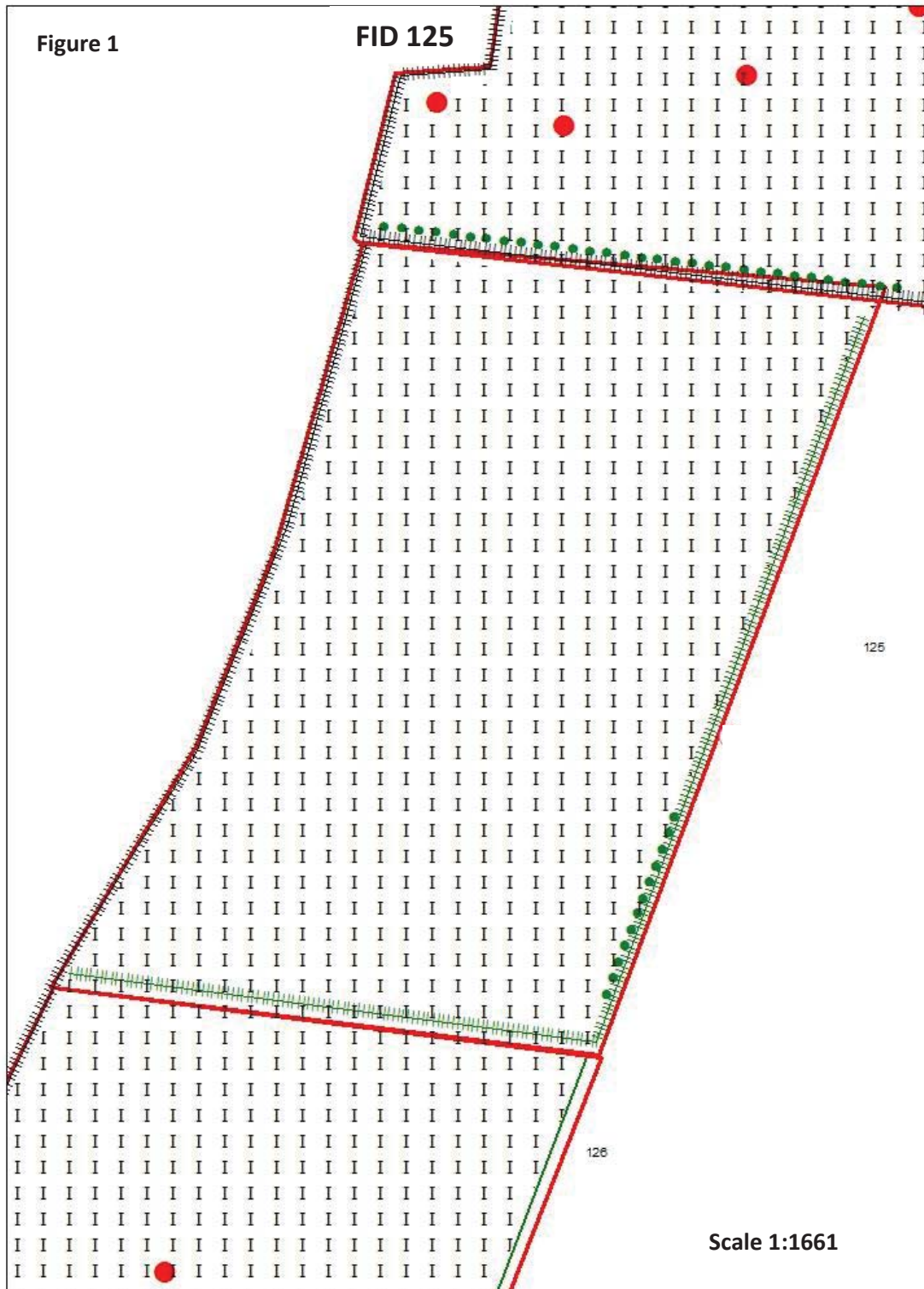
#### **1.1 Background**

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 125 O.S grid reference SJ8949757799.

FID 125 is located east of Biddulph in the Staffordshire Moorlands District, surrounded by a school, housing and agricultural land.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 125 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.





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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
AWI	Crowborough Wood
AWI	Bailey's Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
AWI	Hollin Wood
AWI	The Sprink
AWI	Spring Wood, Biddulph Grange Park
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Newpool (east of)
SBI	Troughstone Hill
SBI	The Sprink
SBI	Greenway Bank
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biological Action Site, SBI – Site of Biological Importance – RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A bumble bee
	A flowering plant
	Barn Swallow
	Black headed gull
	Brown hare
	Brown long eared bat
	Buff tailed bumble bee
	Buff Ermine
	Common bullfinch
	Common carder bee
	Common kestrel



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	Common Pipistrelle
	Common starling
	Common wasp
	Dot Moth
	Dunnock
	Early bumble bee
	European otter
	European Water Vole
	Ghost Moth
	Grey wagtail
	House sparrow
	Ivy leaved bellflower
	Knot grass
	Latticed heath
	Lesser redpoll
	Mallard
	Meadow pipit
	Noctule Bat
	Northern Lapwing
	Pipistrelle
	Polecat
	Small garden bumble bee
	Small Square-spot
	Song thrush
	Soprano Pipistrelle
	Tree bumble bee
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian goldenrod
	Canadian waterweed
	Curly waterweed
	Indian balsam
	Japanese knotweed
	Least duckweed
	Rhododendron
	Russian vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Common Pipistrelle

	Daubenton's bat
	Eurasian Badger
	European otter
	European Water Vole
	Myotis bat species
	Natterer's bat
	Noctule Bat
	Pipistrelle
	Polecat
	Soprano Pipistrelle
	Whiskered bat
	Whiskered / Brandt's bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European/ UK Protected Species

#### 4.3 Field survey

##### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Species poor hedge
- Scattered trees
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	1.63	98
OTHER	0.03	2
TOTALS	1.66	100

I – Improved grassland

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , great willowherb <i>Epilobium hirsutum</i> , hogweed <i>Heracleum sphondylium</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i>



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### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.

### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scattered trees and hedgerows from March to August when birds in the UK normally breed.

#### *Incidental records*

- Birds including long tailed tit *Aegithalos caudatus*, blue tit *Cyanistes caeruleus*

**5. Evaluation**

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Species poor hedgerows					x
Species poor grassland					x
<b>Overall site importance</b>					x
I=International, N=National, R=Regional, D=District, L=Local					

Table 5 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by domestic dwellings, and species poor grasslands which are fairly well connected to the wider countryside with hedgerows, and is adjacent to FID 124 and FID125.

The site itself consists of species poor improved grassland (98%), and scattered trees and the species poor hedgerows consist of hawthorn, ash and elder *Sambucus nigra*.

The site has poor biodiversity and poor connectivity, therefore the site has been given a low ecological importance value.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CROW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and the hedgerow is retained if the site is to be developed to retain some connectivity and biodiversity in the locality.

If trees and the hedgerow is to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

The site supports low biodiversity and poor connectivity therefore is attributed a low ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Vegetation removal at the appropriate time of year



# **FID 126**





## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 126**

### **1. Introduction**

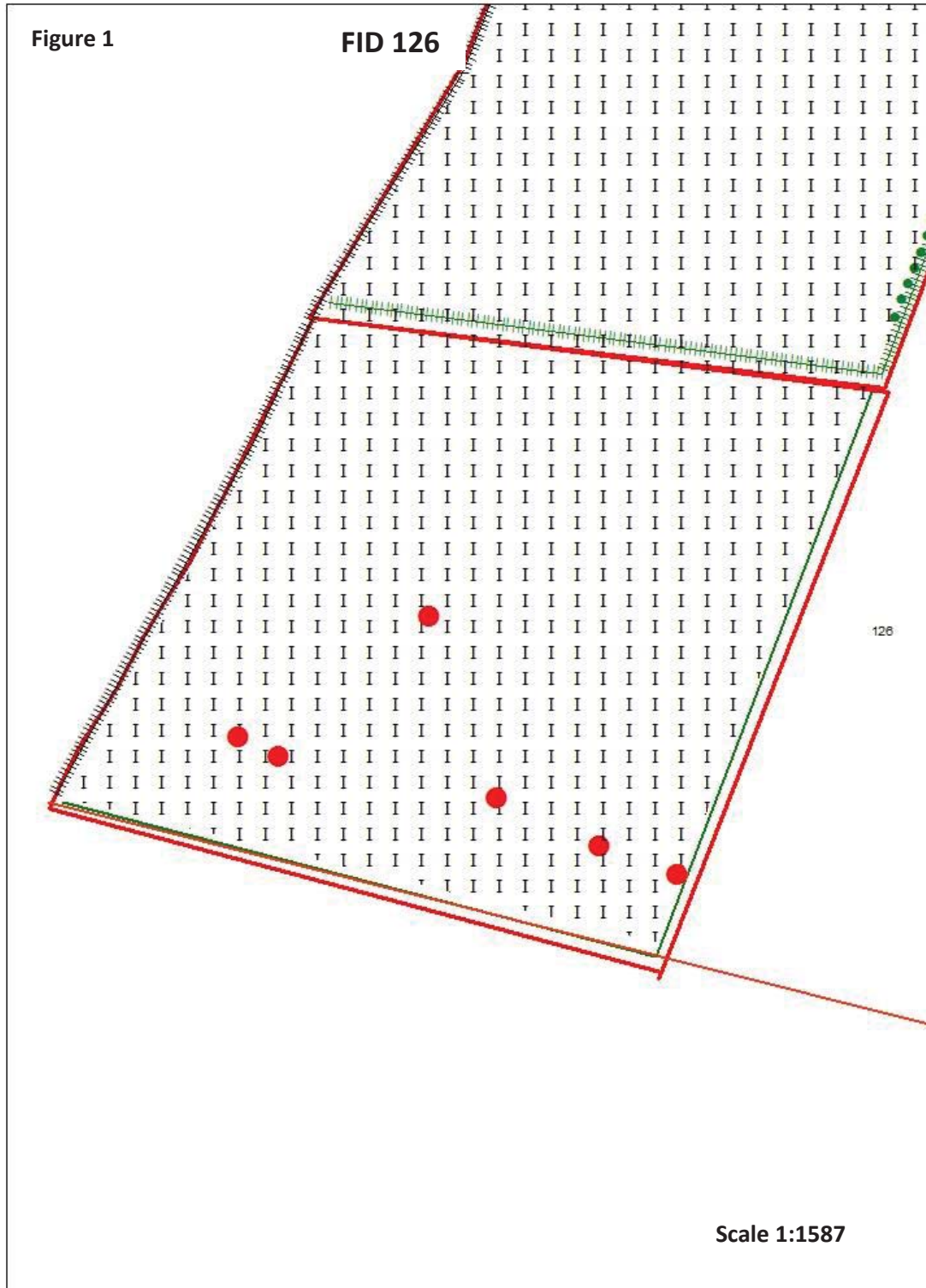
#### **1.1 Background**

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 126 O.S grid reference SJ8945057684.

FID 126 is located east of Biddulph in the Staffordshire Moorlands District, surrounded by housing and agricultural land.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 126 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
AWI	Crowborough Wood
AWI	Bailey's Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
AWI	Hollin Wood
AWI	The Sprink
AWI	Spring Wood, Biddulph Grange Park
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Newpool (east of)
SBI	Troughstone Hill
SBI	The Sprink
SBI	Greenway Bank
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biological Action Site, SBI – Site of Biological Importance – RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A bumble bee
	A flowering plant
	Barn Swallow
	Black headed gull
	Brown hare
	Brown long eared bat
	Buff tailed bumble bee
	Buff Ermine
	Common bullfinch
	Common carder bee
	Common kestrel



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	Common Pipistrelle
	Common starling
	Common wasp
	Dot Moth
	Dunnock
	Early bumble bee
	European otter
	European Water Vole
	Ghost Moth
	Grey wagtail
	House sparrow
	Ivy leaved bellflower
	Knot grass
	Latticed heath
	Lesser redpoll
	Mallard
	Meadow pipit
	Noctule Bat
	Northern Lapwing
	Pipistrelle
	Polecat
	Small garden bumble bee
	Small Square-spot
	Song thrush
	Soprano Pipistrelle
	Tree bumble bee
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian goldenrod
	Canadian waterweed
	Curly waterweed
	Indian balsam
	Japanese knotweed
	Least duckweed
	Rhododendron
	Russian vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Common Pipistrelle



	Daubenton's bat
	Eurasian Badger
	European otter
	European Water Vole
	Myotis bat species
	Natterer's bat
	Noctule Bat
	Pipistrelle
	Polecat
	Soprano Pipistrelle
	Whiskered bat
	Whiskered / Brandt's bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European/ UK Protected Species

#### 4.3 Field survey

##### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Scattered trees
- Species poor hedgerow
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.21	92	
OTHER	0.10	8	
BPT			6
TOTALS	1.31	100	6

I – Improved grassland, BPT – Bat Potential Trees

##### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , False oat grass <i>Arrhenatherum elatius</i> , white clover <i>Trifolium repens</i> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , pedunculate oak <i>Quercus robur</i> , elder <i>Sambucus nigra</i> , bramble <i>Rubus fruticosus agg</i>



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### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.

### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scattered trees, hedgerow and scrub from March to August when birds in the UK normally breed.

**5. Evaluation**

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species poor hedgerow					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 5 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by domestic dwellings, and species poor grasslands which are fairly poorly connected to the wider countryside, and adjacent to FID 125 to the north.

The site itself consists of species poor improved grassland (92%), and species poor hedgerow consisting of hawthorn and elder.

6 of the scattered pedunculate oak trees have potential to support roosting bats and this assemblage of mature oak trees warrant the site being attributed district ecological importance.

The site has low biodiversity and it is unlikely that the site would support many protected species apart potentially from roosting/ foraging bats and badger.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 6 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and the species rich hedgerow is retained if the site is to be developed.

If trees and hedgerow are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

Apart from roosting bats the site has little potential to support protected species and is poorly connected to the wider countryside, however the presence of 6 mature trees that have potential to support roosting bats elevates the site's status to district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Bat surveys of the 6 trees with bat roosting potential
- Vegetation removal at the appropriate time of year



# **FID 127**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 127**

### **1. Introduction**

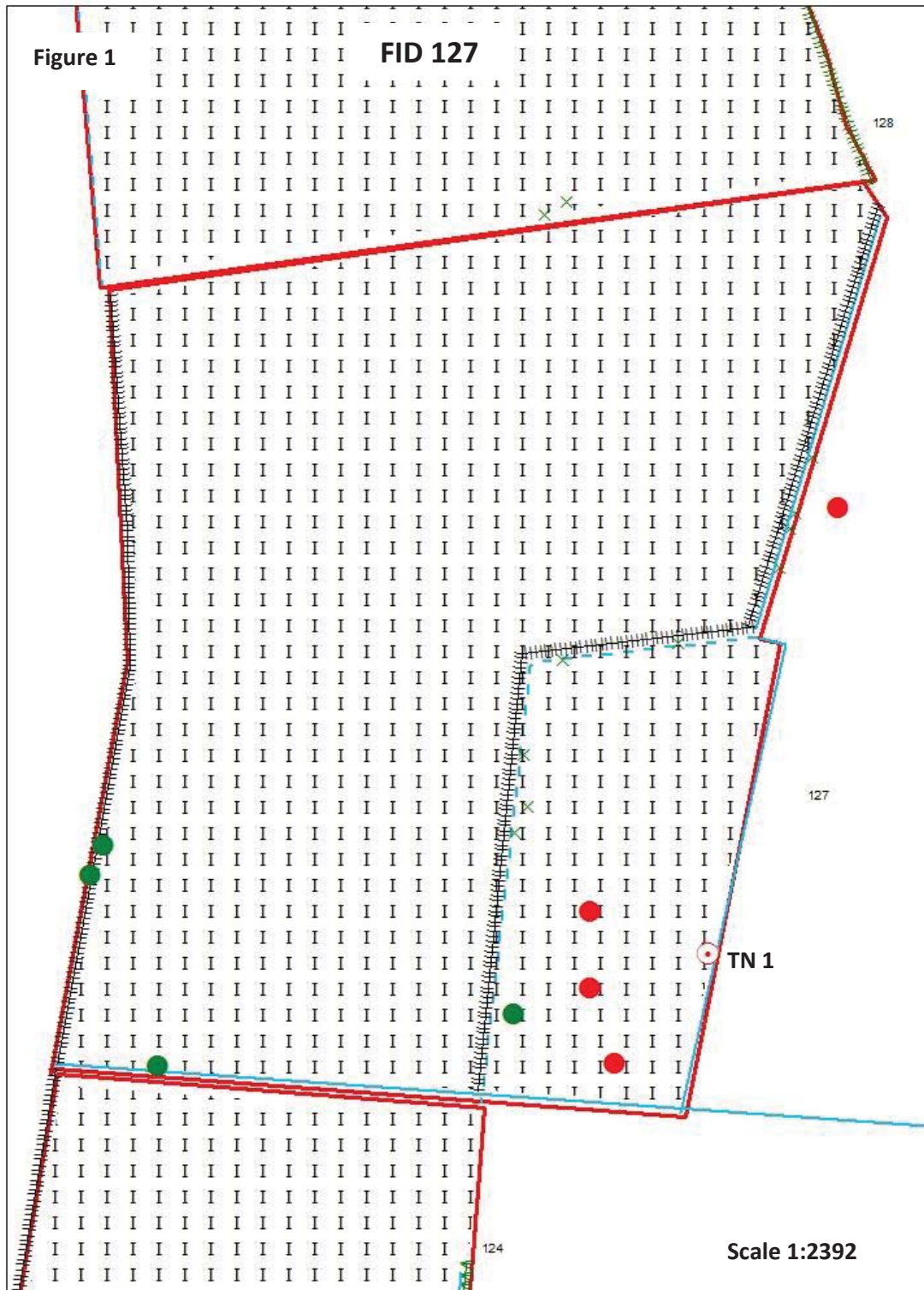
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 127 O.S grid reference SJ8966758349.

FID 127 is located north east of Biddulph in the Staffordshire Moorlands District, surrounded by housing and agricultural land.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).







## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 127 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

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The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
LNR	Biddulph Valley Way
AWI	Crowborough Wood
AWI	Bailey's Wood
AWI	Round Wood
AWI	UNK
AWI	Hollin Wood
AWI	The Sprink
AWI	Spring Wood, Biddulph Grange Park
BAS	The Nursery (near)
BAS	Newpool (east of)
SBI	Troughstone Hill
SBI	The Sprink
SBI	Congleton edge
SBI	Congleton edge (south of)
RIGS	Wickenstone Rocks

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biological Action Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A bumble bee
	A flowering plant
	Brown hare
	Brown long eared bat
	Buff tailed bumble bee
	Buff Ermine
	Common bullfinch
	Common carder bee
	Common kestrel
	Common Pipistrelle
	Common starling



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	Common wasp
	Dot Moth
	Dunnock
	Early bumble bee
	European otter
	European Water Vole
	Ghost Moth
	Grey wagtail
	House sparrow
	Ivy leaved bellflower
	Knot grass
	Latticed heath
	Lesser redpoll
	Mallard
	Meadow pipit
	Noctule Bat
	Northern Lapwing
	Pipistrelle
	Polecat
	Small garden bumble bee
	Small Square-spot
	Song thrush
	Soprano Pipistrelle
	Tree bumble bee
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian goldenrod
	Canadian waterweed
	Curly waterweed
	Indian balsam
	Japanese knotweed
	Least duckweed
	Rhododendron
	Russian vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Common Pipistrelle
	Daubenton's bat
	Eurasian Badger

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	European otter
	European Water Vole
	Myotis bat species
	Natterer's bat
	Noctule Bat
	Pipistrelle
	Polecat
	Soprano Pipistrelle
	Whiskered bat
	Whiskered / Brandt's bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European/ UK Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Scattered trees
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	4.62	100	
OTHER	0	0	
BPT			4
TOTALS	4.62	100	4

I – Improved grassland, BPT – Bat potential trees

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , False oat grass <i>Arrhenatherum elatius</i> , Yorkshire fog <i>Holcus lanatus</i> , common nettle <i>Urtica dioica</i> , redshank <i>Persicaria maculosa</i> , rosebay willowherb <i>Chamerion angustifolium</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , pedunculate oak <i>Quercus robur</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i>



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### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.

### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scattered trees and scrub from March to August when birds in the UK normally breed.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8972258245	Stream with species poor tall ruderal vegetation



**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Scattered scrub					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by domestic dwellings, and species poor grasslands which are fairly poorly connected to the wider countryside, and adjacent to FID 125 to the south and FID128 to the north.

The site itself consists of species poor improved grassland, and 4 scattered pedunculate oak and ash trees that have potential to support roosting bats.

The site has a low biodiversity value within the matrix as the habitats present are species poor with poor connectivity. However the site has 4 trees with potential to support roosting bats and therefore the site has elevated status to district ecological importance.





## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 4 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and the species rich hedgerow is retained if the site is to be developed.

If trees and hedgerow are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

Apart from roosting bats the site has little potential to support protected species and poorly connected to the wider countryside, though the 4 trees with bat potential increases the ecological value of the site to district importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Bat surveys of the 4 trees with bat roosting potential
- Vegetation removal at the appropriate time of year



# **FID 128**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 128**

### **1. Introduction**

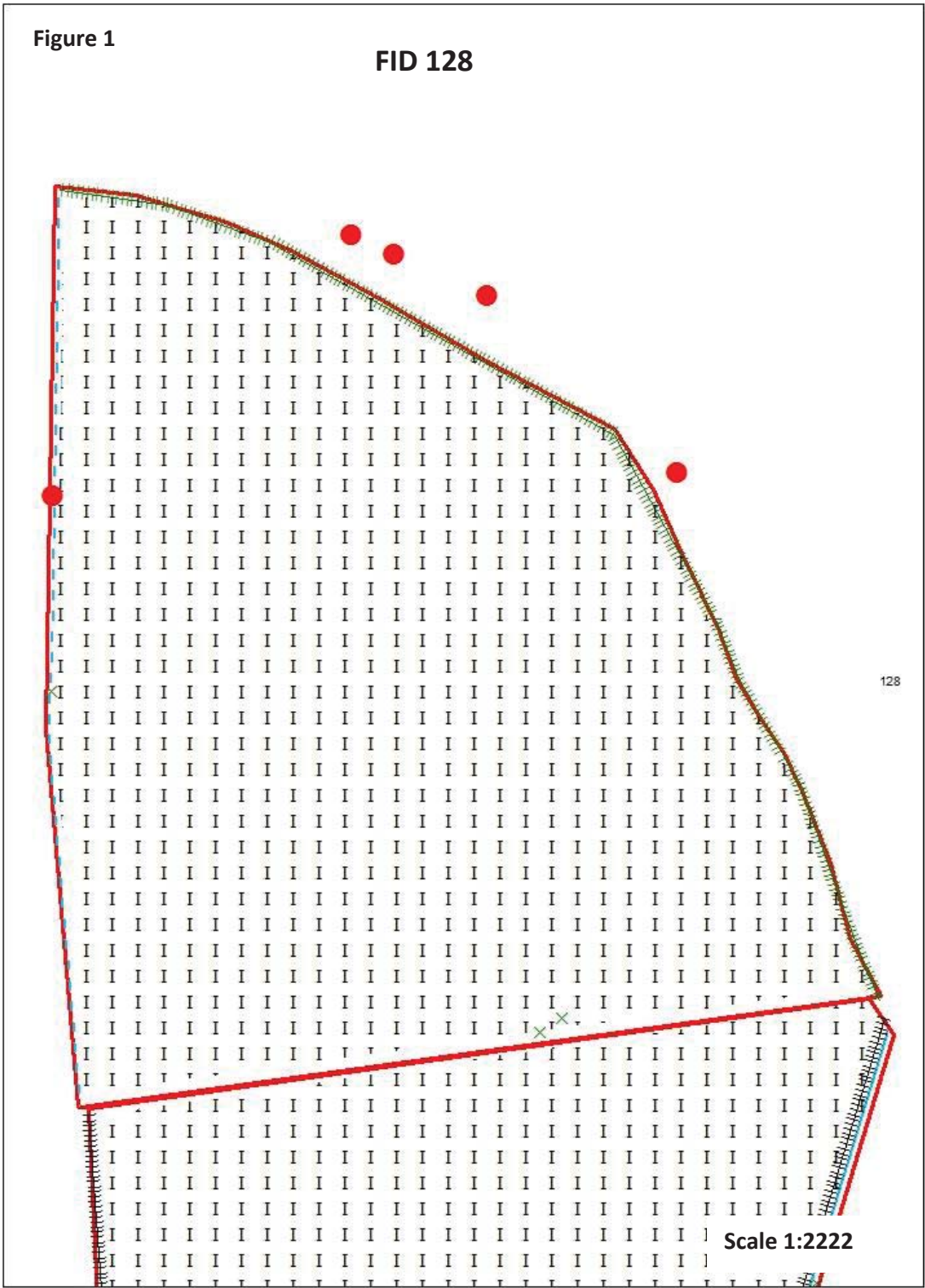
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 128 O.S grid reference SJ8964358542.

FID 128 is located north east of Biddulph in the Staffordshire Moorlands District, surrounded by agricultural land and farm buildings.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 128 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.





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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
LNR	Biddulph Valley Way
AWI	Crowborough Wood
AWI	Bailey's Wood
AWI	Round Wood
AWI	UNK
AWI	Hollin Wood
AWI	Whitemoor Wood
AWI	The Sprink
AWI	Spring Wood, Biddulph Grange Park
BAS	The Nursery (near)
BAS	Newpool (east of)
SBI	Troughstone Hill
SBI	The Sprink
SBI	Congleton edge
SBI	Congleton edge (south of)
SBI	Whitemoor Farm (east of)
RIGS	Wickenstone Rocks

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biological Action Site, SBI – Site of Biological Importance – RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A bumble bee
	A flowering plant
	Brown hare
	Brown long eared bat
	Buff tailed bumble bee
	Buff Ermine
	Common bullfinch
	Common carder bee



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	Common kestrel
	Common Pipistrelle
	Common starling
	Common wasp
	Dot Moth
	Dunnock
	Early bumble bee
	European otter
	European Water Vole
	Ghost Moth
	Grey wagtail
	House sparrow
	Ivy leaved bellflower
	Knot grass
	Latticed heath
	Lesser redpoll
	Mallard
	Meadow pipit
	Noctule Bat
	Northern Lapwing
	Pipistrelle
	Polecat
	Small garden bumble bee
	Small Square-spot
	Song thrush
	Soprano Pipistrelle
	Tree bumble bee
	Tree wasp
	West European Hedgehog
	White Ermine
INV	Canadian goldenrod
	Canadian waterweed
	Curly waterweed
	Indian balsam
	Japanese knotweed
	Least duckweed
	Rhododendron
	Russian vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat



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	Common Pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European Water Vole
	Myotis bat species
	Natterer's bat
	Noctule Bat
	Pipistrelle
	Polecat
	Soprano Pipistrelle
	Whiskered bat
	Whiskered / Brandt's bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European/ UK Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Scattered trees
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	3.76	100	
OTHER	0.00	0	
BPT			1
TOTALS	3.76	100	1

I – Improved grassland, BPT – Bat Potential Trees,

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.



Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Annual meadow grass <i>Poa annua</i> , Perennial rye grass <i>Lolium perenne</i> , False oat grass <i>Arrhenatherum elatius</i> , Yorkshire fog <i>Holcus lanatus</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus agg</i> , holly <i>Ilex aquifolium</i>

#### 4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded on site at the time of survey.

Weeds listed under the Weeds Act 1959 including broadleaved dock *Rumex obtusifolius* and creeping thistle *Cirsium arvense* have been recorded within very small patches of tall ruderal vegetation.

#### 4.3.4 Fauna

##### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could nest in areas of scattered trees and species poor hedgerow from March to August when birds in the UK normally breed.

**5. Evaluation**

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Species poor hedgerow					x
Species poor grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 5 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by domestic dwellings, and species poor grasslands which are fairly poorly connected to the wider countryside, and adjacent to FID 127 to the south.

The site itself consists of species poor improved grassland, and 1 ash tree that has potential to support roosting bats. The site is less likely to support foraging bats as the habitats are very fragmented and the bat roosting potential trees are fairly isolated which does not tend to suit normal bat behaviour. The site also has 4 trees adjacent to the north and north east of the site that have potential to support roosting bats, therefore the site is considered to have district ecological importance.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the tree recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If at all possible it is recommended that as many trees and the hedgerow is retained if the site is to be developed.

If trees and hedgerow are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

## **7. Conclusion**

Apart from roosting bats the site has little potential to support protected species and is poorly connected to the wider countryside, however the site does have 1 tree that could support roosting bats therefore is considered to have district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Bat survey of the tree with bat roosting potential
- Vegetation removal at the appropriate time of year



# **FID 210**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	12
<b>6. Recommendations</b> .....	13
<b>7. Conclusions</b> .....	13





## **FID 210**

### **1. Introduction**

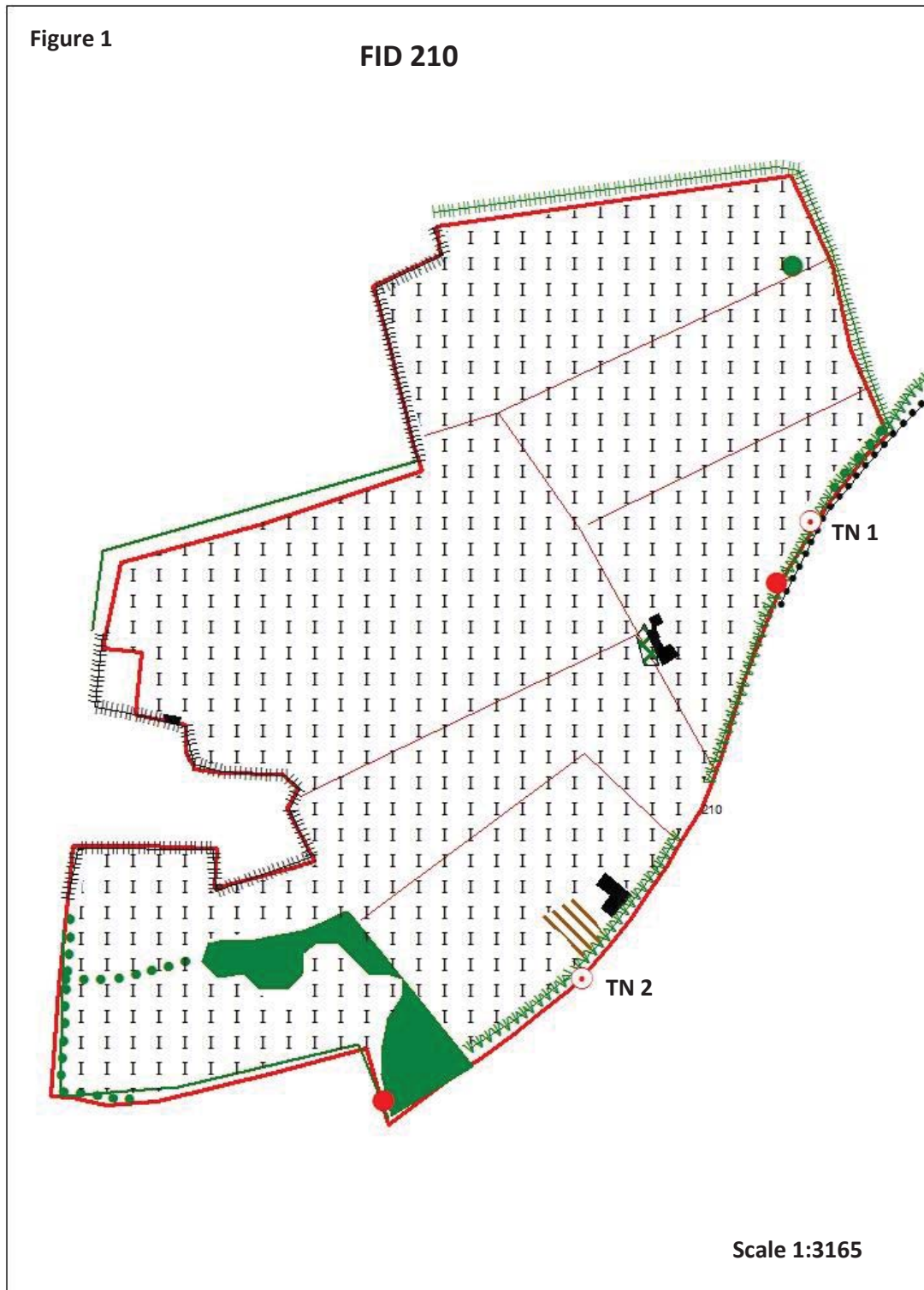
#### 1.1 Background

The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 210 O.S grid reference SJ8817055496.

FID 210 is located south of Knypersley surrounded by agricultural land, industrial buildings and housing.

#### 1.2 Survey

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).





## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 210 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.



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### **2.6.2 Badger**

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### **2.6.3 Reptiles and amphibians**

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### **2.6.4 Birds**

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### **2.6.5 Incidental records**

In addition any field signs or incidental sightings of all species were recorded as seen.

## **3. Limitations**

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
LNR	Whitfield Valley
AWI	Knypersley Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
AWI	Crowborough Wood
AWI	Hollin Wood
AWI/ BAS	Dallows Wood
BAS	Rushywood Wood
BAS	The Nursery
BAS	Knypersley Fishing pool
BAS	Newpool (east of)
SBI	Greenway Bank
SBI	Whitfield Valley NHS
SBI	Outclough Grasslands
SBI	Bemersley Marshes and Banks
SBI	Packmoor Hay Meadows
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Knypersley Meltwater Channel

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A moth
	A true fly
	Autumnal rustic
	Barn owl
	Barn Swallow
	Bewick's swan



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	Black-headed Gull
	Black tern
	Blood vein
	Broom moth
	Brown spot pinion
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Centre barred sallow
	Cinnabar
	Common Bullfinch
	Common cuckoo
	Common Kestrel
	Common Pipistrelle
	Common pochard
	Common snipe
	Common Starling
	Common toad
	Common whitethroat
	Deep brown dart
	Dot Moth
	Dunnock
	Dusky thorn
	Eurasian curlew
	Eurasian teal
	Eurasian tree sparrow
	European Water Vole
	Field cuckoo bee
	Freshwater white clawed crayfish
	Garden tiger
	Ghost Moth
	Grass snake
	Great black backed gull
	Great crested newt
	Green brindled crescent
	Grey dagger
	Grey partridge
	Grey Wagtail
	Heath dog violet
	Hedge rustic
	Herring gull
	House martin



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	House Sparrow
	Insect - Hymenopteran
	Jacob's-ladder
	Knot grass
	Large wainscot
	Latticed Heath
	Lesser black backed gull
	Lesser redpoll
	Linnet
	Little grebe
	Mallard
	Marsh tit
	Meadow Pipit
	Mistle thrush
	Mottled rustic
	Noctule bat
	Northern lapwing
	Northern shoveler
	Northern wheatear
	Oak hook tip
	Pennyroyal
	Pipistrelle
	Powdered quaker
	Reed bunting
	Rosy minor
	Rosy rustic
	September thorn
	Shaded broad bar
	Shoulder striped wainscot
	Skylark
	Small heath
	Small phoenix
	Small Square-spot
	Small water pepper
	Song Thrush
	Soprano pipistrelle
	Stock dove
	Tree Bumble Bee
	Tree pipit
	Tree Wasp
	Tufted duck
	West European Hedgehog





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	White Ermine
	Wild Pansy
	Willow warbler
	Yellowhammer
INV	Canadian Waterweed
	Chinese muntjac
	Greater Canada goose
	Indian balsam
	Least duckweed
	Marsh frog
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Barn owl
	Bewick's swan
	Black tern
	Bluebell
	Brown Long-eared Bat
	Common goldeneye
	Common kingfisher
	Common Pipistrelle
	Common tern
	Daubenton's bat
	Eurasian Badger
	European Water Vole
	Freshwater white clawed crayfish
	Grass snake
	Great crested newt
	Noctule bat
	Pennyroyal
	Pipistrelle
	Pipistrelle bat species
	Soprano pipistrelle
	Whiskered/ Brandt's bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

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### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Species rich hedgerow
- Species poor hedgerow
- Scattered trees
- Dense scrub
- Tall ruderal vegetation
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p)	PERCENTAGE (%)	NUMBER
I	6.19	92	
BW	0.21	3	
OTHER	0.34	5	
BPT			2
TOTALS	6.74	100	2

TR- Tall ruderal vegetation, I – Improved grassland,  
BW – Broadleaved Woodland, BPT – Bat Potential Trees

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , Yorkshire fog <i>Holcus lanatus</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , white clover <i>Trifolium repens</i> , curled dock <i>Rumex crispus</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i> , holly <i>Ilex aquifolium</i> , elder <i>Sambucus nigra</i> ,

#### 4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* or any other flora listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found at the time of survey.

Weeds listed under the Weeds Act 1959 including curled dock and creeping thistle *Cirsium arvense* have both been recorded within the site.



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### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds could potentially nest in areas of scattered trees and hedgerows from March to August when birds in the UK normally breed.

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8830655578	Requires hedgerow survey
2	SJ8821555407	Requires hedgerow survey

## 5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees				x	
Species poor hedgerow					x
Semi-natural broadleaved woodland					x
Dense scrub					x
Tall ruderal vegetation					x
Species poor improved grassland					x
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by a road and industrial estate to the west, farm buildings and domestic dwellings, a network of scrub to the north east and a network of broadleaved woodland and scrub habitats connecting to Knypersley reservoir to the east, although intersected by Mill Hayes Road.

The site mainly consists of species poor grassland (98%) and tall ruderal vegetation, with a small area of broadleaved woodland to the south west comprising hazel *Corylus avellana*, oak *Quercus species*, hawthorn and European larch *Larix decidua*.

The species rich hedgerow sits on top of an earth bank with species such as hazel, oak *Quercus robur*, elder, and holly, dog rose *Rosa canina* with ground flora such as dog's mercury *Mercurialis perennis*, red campion *Silene dioica* and ivy *Hedera helix*.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include roosting/ foraging bats and foraging badger which has afforded the site district ecological importance.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Trees with bat potential*

All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000) and The Conservation of Habitats and Species Regulations 2010. Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat. It is also an offence to deliberately disturb the species in such a way as to be likely significant to affect: i) the ability of a significant group of bats to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

It is therefore recommended that the 2 trees recorded as having potential to support roosting bats should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004). It is also additionally recommended that these trees are checked for the presence of breeding birds at the same time as the bat surveys.

### *Species rich hedgerows*

The Hedgerows Regulations 1997 were made under section 97 of the Environment Act 1995 and came into force on 1 June 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification.

Therefore it is recommended that a hedgerow survey be carried out on the hedgerow by an appropriately qualified ecologist to determine whether they qualify as a species rich hedgerow according to hedgerow qualification criteria applicable to the Staffordshire Moorlands area.

## **7. Conclusion**

The site has very low biodiversity value overall, however as there are 2 trees with bat roosting potential and species rich hedgerows. Therefore the site has been attributed district ecological importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- A bat survey regime to ascertain whether bats roost in the trees
- Hedgerow survey
- Vegetation removal at the appropriate time of year



# **FID 226**



## Table of Contents

<b>1. Introduction</b> .....	1
1.1 Background	
1.2 Survey	
<b>Figure 1 Extended Phase 1 Habitat Survey map</b> .....	2
<b>2. Methodology</b> .....	3
2.1 Introduction	
2.2 Aims	
2.3 Mapping	
2.4 Desk study	
2.5 Aerial photography	
2.6 Field survey	
2.6.1 Bats	
2.6.2 Badger	
2.6.3 Reptiles and amphibians	
2.6.4 Birds	
2.6.5 Incidental records	
<b>3. Limitations</b> .....	5
<b>4. Results</b> .....	6
4.1 Desk study - Habitats	
4.2 Desk study - Species	
4.3 Field survey	
4.3.1 Habitats	
4.3.2 Flora	
4.3.3 Invasive weeds	
4.3.4 Fauna	
4.3.5 Target notes	
<b>5. Evaluation</b> .....	10
<b>6. Recommendations</b> .....	11
<b>7. Conclusions</b> .....	11



## **FID 226**

### **1. Introduction**

#### **1.1 Background**

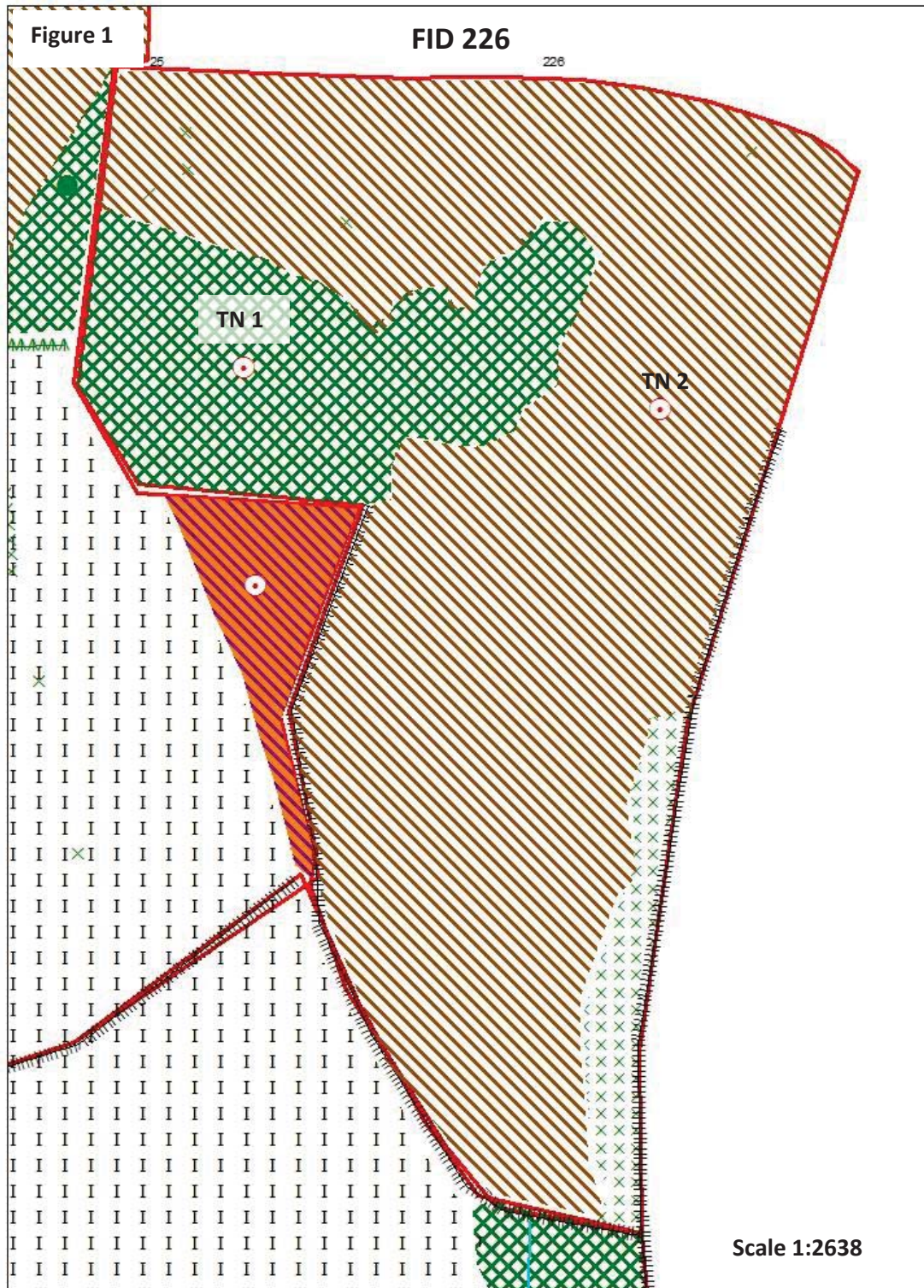
The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 226 O.S grid reference SJ8801157522.

FID 226 is located in the west of Biddulph surrounded by agricultural land and industrial/commercial buildings.

#### **1.2 Survey**

This baseline report has also been committed in taking into consideration the standard for ecological surveys set out in Guidelines for Ecological Impact Assessment in the United Kingdom (2006) and guidelines for Preliminary Ecological Appraisal (April 2013), published by the Chartered Institute of Ecology and Environmental Management (CIEEM).







## **2. Methodology**

### 2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 226 during September and October 2014 according to JNCC (2007) guidelines.

### 2.2 Aims

The aim of this survey is to ascertain in particular the presence of European, UK and UKBAP protected species/ habitats and common species inside the site, immediately surrounding and within 2km of the site, in accordance with CIEEM (2006), methodologies and the contract brief.

A desk study was instigated from available ecological records sources to determine the presence of all European, UK and UKBAP protected species, and European and UK sites designated for nature conservation within 2km of the site.

Therefore, both the desk study and walkover survey when used together culminate in an assessment into the value of importance for each ecological receptor found on site. The intention of these surveys being to determine the ecological value of the site as a prerequisite to potential development.

### 2.3 Mapping

The following Extended Phase 1 Habitat Survey map has been created using ArcGIS version 10.2.2 (2014).

All maps have been annotated according to the brief guidelines in accordance with the JNCC (2014) colour palette for ArcGIS, apart from one subjective annotation highlighting all trees with bat potential as a red spot instead of the usual green (see legend Appendix 1).

### 2.4 Desk study

The following statutory and non-statutory organisations were contacted with respect to the identification of existing ecological information in the vicinity, i.e. the survey area plus surrounding area within a minimum of 2 km from the site, following guidelines set out in the contract brief.

- Staffordshire Ecological Record
- RSPB
- British Trust for Ornithology (BTO)

Staffordshire Ecological Record is the primary archive for all ecological records in the Staffordshire Moorlands District area. Most records are up to date to the present day; however some groups such as BTO, local Lepidoptera groups and individual recorders submit their records annually or sporadically. Therefore all records are up to date to at least to December 2013.

In addition, a search for relevant nature conservation information was made on the Multi-Agency Geographic Information for the Countryside (MAGIC) website ([www.magic.gov.uk](http://www.magic.gov.uk)) and on the National Biodiversity Network website ([www.searchnbn.net](http://www.searchnbn.net)).



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### 2.5 Aerial photography

Remote sensing through aerial photography obtained from ArcGIS version 10.2.2 and Google Earth have also been studied to help identify local features that would not necessarily be seen or encountered during the walkover, as well as the potential connectivity of various habitats and geographical features that might influence the potential biodiversity of the site.

### 2.6 Field Survey

An Extended Phase 1 Habitat Survey was carried out in September/ October 2014 and covered the survey area shown in Figure 1. Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2007) with target notes made to describe features of interest.

In conjunction with the Extended Phase 1 Habitat Survey, the potential for the site to support any legally protected flora or faunal species and/or floral or faunal species of nature conservation importance, e.g. European, UK and Biodiversity Action Plan (BAP) species was assessed.

Detailed surveys for other faunal species were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. Particular protected species identified within the desk study were not necessarily discussed within this report if the site was deemed unable to support the species in any way.

All Latin names for species are contained within this report apart from species listed within the desk study, which are detailed in Appendix 2.

All references for the guidelines and methodologies that are needed to carry out all relevant potential protected species surveys are listed in Appendix 3.

#### 2.6.1 Bats

Mature trees can develop features such as rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which can allow bats to roost. Trees that had at least one of these features were deemed to have potential to support roosting bats and have been recorded during the walkover survey as such. Any remaining trees on site were either deemed too young or were observed to appear to have no features that would encourage bats to roost, but are considered within this report as being useful for foraging as part of a flight line and possibly for gleaning of invertebrates from species such as brown long eared bats and some *Myotis sp.*

Comprehensive building inspections were not carried out during the walkover survey. Buildings that were recorded on site were preliminarily assessed, often with binoculars where buildings were inaccessible, for bat roosting potential. Potential assessment was usually determined according to building structure, for example a warehouse or shed with corrugated roof and steel design is relatively unlikely to support roosting bats, whereas a derelict building made from bricks with missing roof tiles is recognised to have much more potential. All obvious or potential entrance points were however noted whenever observed.





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### 2.6.2 Badger

The site was examined for field signs of badger and all habitats within the site and at least 30m from the site were searched for setts, especially if adjacent to semi-natural broadleaved woodland or similarly suitable habitat.

### 2.6.3 Reptiles and amphibians

The site was searched for ponds and standing water, ditches, rubble/ log piles and wet areas or any habitat that could help support amphibian and reptile populations.

### 2.6.4 Birds

The site was assessed for the potential to support breeding birds and opportunities to support European, UK and UK BAP protected as well as common bird species.

### 2.6.5 Incidental records

In addition any field signs or incidental sightings of all species were recorded as seen.

## 3. Limitations

The walkover survey as part of the Extended Phase 1 Habitat Survey was carried out at an appropriate time of year according to CIEEM guidelines (2006). The only limitations to the survey were that specific flora and fauna might have been missed due to their phenology.

There were no access or other issues at the time of survey that limited the scope of this survey.



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### 4. Results

#### 4.1 Desk study - Habitats

The following statutory and non-statutory protected sites designated for nature conservation were located within 2km of the site.

Table 1

SITE DESIGNATION	NAME
SSSI	Roe Park Woods
SSSI	Gannister Quarry
AWI/ BAS	Willocks Wood
AWI	Grotto Wood, Hanging Wood, Limekiln Wood
AWI	Greenway Wood, Plankhollow Wood
AWI	UNK
BAS	The Nursery (near)
BAS	Knypersley Fishing pool
BAS	Mow Cop Quarry
BAS	Willocks Wood (south west of)
BAS	Newpool (east of)
SBI	Greenway Bank
RIGS	Knypersley Reservoir Sandstones, Greenway Ban Country Park
RIGS	Wickenstone Rocks
RIGS	Knypersley Meltwater Channel

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance, SSSI – Site of Special Scientific Interest, RIGS – Regionally Important Geological Site

#### 4.2 Desk study - Species

The following table illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	Barn Swallow
	Black-headed Gull
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Common Bullfinch
	Common Kestrel
	Common Pipistrelle
	Common Starling



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	Common snipe
	Dark leaved hawkweed
	Dot Moth
	Dunnock
	European Water Vole
	Ghost Moth
	Grey Wagtail
	House Sparrow
	Jacob's-ladder
	Latticed Heath
	Lesser redpoll
	Mallard
	Meadow Pipit
	Pennyroyal
	Pipistrelle
	Polecat
	Sky;ark
	Small Square-spot
	Song Thrush
	Soprano pipistrelle
	Tree Bumble Bee
	Tree Wasp
	West European Hedgehog
	White Ermine
	Wild Pansy
INV	Canadian Waterweed
	New Zealand Pigmyweed
	Rhododendron
	Russian-vine
E/ UK PS	A Bat
	Bluebell
	Brandt's bat
	Brown Long-eared Bat
	Common Pipistrelle
	Eurasian Badger
	European Water Vole
	Pennyroyal
	Polecat
	Soprano pipistrelle



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	Whiskered bat
	Whiskered/Brandt's Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European Protected Species

### 4.3 Field survey

#### 4.3.1 Habitats

The following habitats were recorded during the walkover survey and their individual areas measured through ArcGIS version 10.2.2.

- Dense scrub
- Scattered scrub
- Tall ruderal vegetation

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
TR	1.25	77
DS	0.32	19
SS	0.18	4
TOTALS	1.75	100

TR- Tall ruderal vegetation, DS – Dense scrub, SS – Scattered scrub

#### 4.3.2 Floral assemblage

No rare or endangered floral species were recorded at the time of survey. The floral assemblage present on site is consistent with typical common floral species encountered within these common habitats.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	False oat grass <i>Arrhenatherum elatius</i> , cock's foot <i>Dactylis glomerata</i> , grey willowherb <i>Epilobium hirsutum</i> , common nettle <i>Urtica dioica</i> , curled dock <i>Rumex crispus</i>
Hedgerows/ trees/ scrub	Goat willow <i>Salix caprea</i> , silver birch <i>Betula pendula</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i>

#### 4.3.3 Invasive weeds

Himalayan balsam *Impatiens glandulifera* listed in Schedule 9 of the Wildlife and Countryside Act 1981 was found during the walkover survey in various areas within the tall ruderal vegetation.



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### 4.3.4 Fauna

#### *Breeding birds*

No breeding birds were observed during the walkover survey and birds do not usually breed between September and February in the UK. However, a range of common birds are likely to nest in areas of scattered trees, hedgerows, dense scrub and tall ruderal vegetation from March to August when birds in the UK normally breed.

#### *Incidental records*

- Birds including magpie *Pica pica*, goldfinch *Carduelis carduelis*,
- Butterflies; speckled wood *Pararge aegeria*, small tortoiseshell *Aglais urticae*, red admiral *Vanessa atalanta*, large white *Pieris brassicae*

### 4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ8795757552	Patchy dense scrub
2	SJ8802757542	Requires reptile survey



**5. Evaluation**

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Tall ruderal vegetation				x	
Dense scrub				x	
Scattered scrub				x	
<b>Overall site importance</b>				x	
I=International, N=National, R=Regional, D=District, L=Local					

Table 6 illustrates the ecological importance of the site and each habitat in terms of their potential loss to the wider countryside.

The site is surrounded by a main road to the east, FID17 and FID25 to the west encompassed within a mosaic of stream/ riparian/ scrub/ hedgerows/ tall ruderal vegetation and grazed improved grasslands habitats.

The site itself mainly consists of species poor tall ruderal vegetation (77%), consisting of great willowherb, creeping thistle, common nettle, goat willow and ash regeneration.

The dense and scattered scrub comprises mainly goat willow of which forms a large part of the mosaic of wet/ scrub habitats in the vicinity, which potentially supports a fairly diverse ecosystem.

The dense goat willow scrub is establishing itself within the site and is likely to form the climax vegetation in the near future. The tall ruderal vegetation is significantly large enough to potentially support ground nesting birds and possibly foraging barn owl *Tyto alba* and potentially a range of other species such as terrestrial reptiles, amphibians and badger (sett recorded 75m away). The site is therefore deemed to have a district value within the matrix.

Additionally, species of flora could have been missed due to seasonal constraints such as vegetative die back, grazing or mowing and similarly fauna could have been missed due to migration or specific seasonal life cycles in which they might have been recorded at another time of the year.



## **6. Recommendations**

### *Reptiles and amphibians*

All common reptiles in the UK, i.e. slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally kill, injure or sell the animals.

As reptiles could potentially be present on site due to the presence of the habitat mosaic a reptile survey is recommended according to guidelines set out in the Herpetofauna workers manual (Gent and Gibson 1998).

### *Vegetation removal*

All species of wild bird and their nests are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

If scrub and vegetation are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

Despite a number of European protected and UKBAP species being recorded within 2km it is unlikely that the site would support most of the species. The exception would possibly include foraging bats. The site could also support reptile populations.

## **7. Conclusion**

The site is connected to a hedgerow and other potentially biodiverse habitats, and forms part of an important potentially biodiverse mosaic, therefore the site is attributed district importance.

The following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Reptile survey
- Vegetation removal at the appropriate time of year