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Site label numbers denote Site FID reference numbers used in Study.



FID 2



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FID 2

1. Introduction

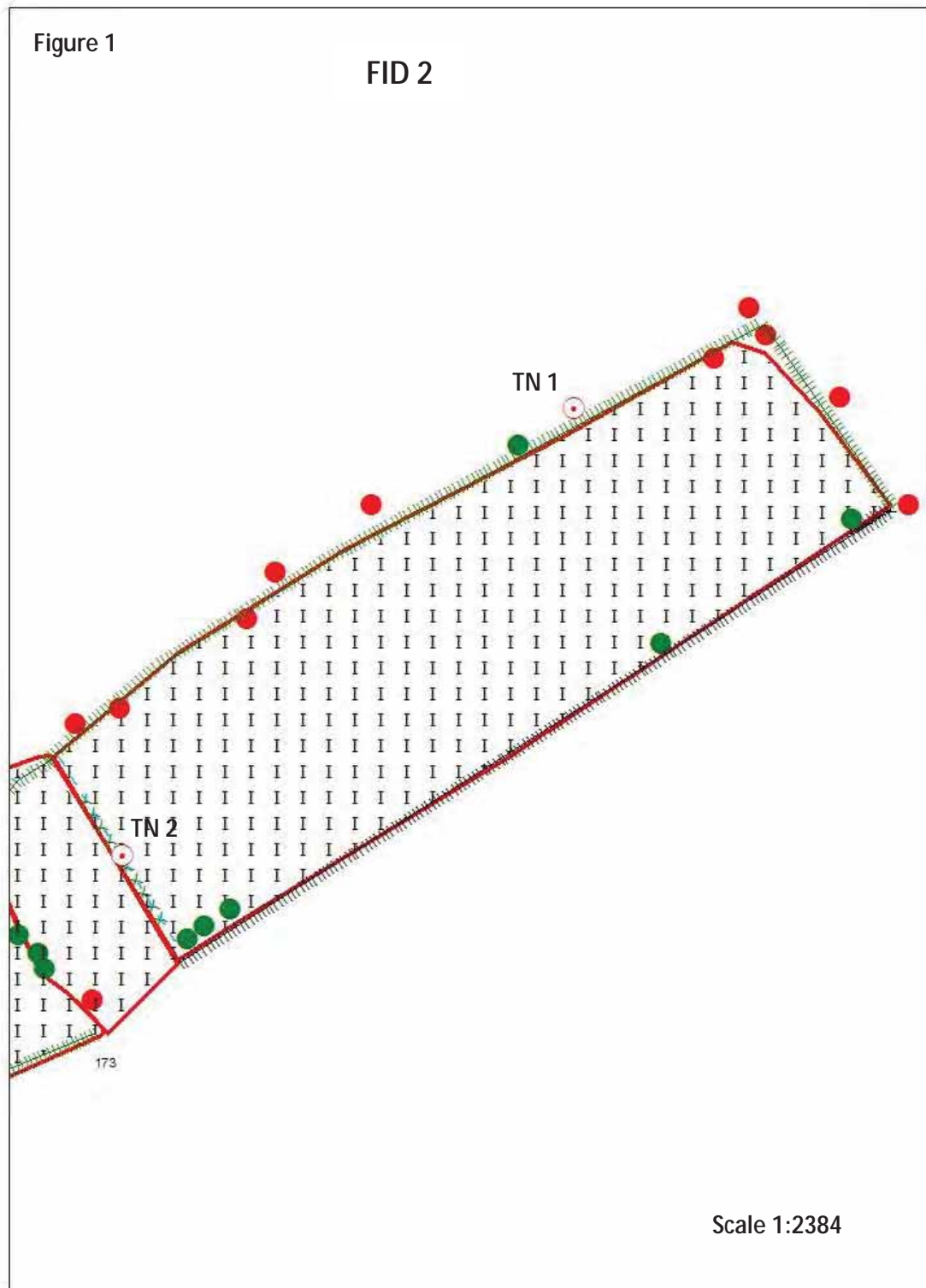
1.1 Background

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 2 O.S grid reference SJ9256253864.

FID 2 is located to the north of the village of Endon, approximately 6 km north east of Stoke on Trent in the Staffordshire Moorlands District, with a mixture of agricultural pasture to the north and housing to the south.

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 2 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

The following statutorily and non-statutorily protected sites designated for nature conservation can be found within 2km of the site.

Table 1

SITE DESIGNATION	NAME
LNR	Marshes Hill Common
AWI	Stoney Wood
AWI	Dalehouse Wood
AWI/ SBI	Tinster Wood
AWI/ SBI	Holly Wood
AWI/ SBI	Dun Wood
BAS	Hollinhurst Farm (north of)
BAS	Stanley Pool
BAS	Westfield Wood
BAS	Holehouse Farm
SBI	Postbridge Farm (west of)
SBI	Heakley Marshes
SBI	Marshes Hill
SBI	Park Lane Farm (north and east of), Caldon Canal

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Action Site, SBI – Site of Biological Importance

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 True Fly
	Adder
	Barn Owl
	Barn Swallow
	Brown Hare
	Brown Long-eared Bat
	Brown Trout
	Common Kingfisher
	Common Pipistrelle
	Common starling
	Common swift



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	Common Toad
	Corn Chamomile
	Cornflower
	Dunnock
	Eurasian Curlew
	Eurasian Tree Sparrow
	European water vole
	Grass Snake
	Great crested newt
	Green woodpecker
	Grey partridge
	Insect – beetle
	Latticed Heath
	A lichen
	Mallard
	Northern Lapwing
	Pipistrelle
	September thorn
	Sky lark
	Song thrush
	Wall
	West European Hedgehog
INV	American mink
	Indian Balsam
	Japanese Knotweed
	Japanese rose
	Montbretia
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	European water vole
	Eurasian Badger
	Grass Snake
	Great crested newt
	Pipistrelle
	Polecat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, EPS – 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 hedgerows
- Scattered trees
- Dry ditch
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.76	100	
BPT			10
TOTALS	1.76	100	10

I – Improved grassland, BPT – Bat Potential Trees

4.3.3 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> , meadow foxtail <i>Alopecurus pratensis</i> , crested dog's tail <i>Cynosurus cristatus</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , oak <i>Quercus robur</i> , ash <i>Fraxinus excelsior</i> , sycamore <i>Acer pseudoplatanus</i>

4.3.4 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 have all been recorded within the grassland and tall ruderal vegetation.

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4.3.5 Fauna

Bats

The site very significantly has 10 trees recorded in the walkover survey that could potentially support roosting bats, as they have at least one of the corresponding features.

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 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 house sparrow *Passer domesticus*, carrion crow *Corvus corone*
- Rabbits *Oryctolagus cuniculus*

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9259553922	Requires reptile survey
2	SJ9245753793	Requires reptile survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees			x		
Species poor hedgerows				x	
Tall ruderal vegetation					x
Species poor grassland					x
Overall potential site importance			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 large number of ash, oak and sycamore trees with bat potential is deemed to have the highest value their loss as roosts could adversely affect regional bat populations. Extra significance has been afforded to these trees as there are so many and they are well connected to a patchwork of other habitats and broadleaved woodland within the relatively near vicinity. The site is also adjacent to FID 174.

Scattered trees and species poor hedgerows are very common habitats but could support nesting birds and provide a wildlife corridor for numerous other species especially as there are numerous mature trees within the site. 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. The exceptions could potentially include bats, and badger could use the hedgerows as a wildlife corridor and forage within the improved grassland, especially as there are areas of broadleaved woodland in fairly close proximity that could potentially support badger setts.

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 10 trees 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).

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 connection to the habitat mosaic to the west 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

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. It is also recommended to obtain information as to whether these mature trees have Tree Preservation Orders (TPO) on them as they are close to a housing estate. Mature trees also evolve to have a greater biodiversity value over time as they develop more characteristics that wider families of invertebrates and vertebrates can utilise as shelter and food sources.

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 is directly adjacent to a domestic housing estate and species poor grasslands, but is well connected to other more biodiverse habitats.

The site also has mostly low biodiversity value overall in terms of area. However, the major aspects of interest are the significant bat roosting potential in the 10 trees, connectivity to other more biodiverse habitats and the dry ditch that could support reptile populations which warrants the site being attributed regional 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
- Reptile survey
- Vegetation removal at the appropriate time of year within this site



FID 3



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FID 3

1. Introduction

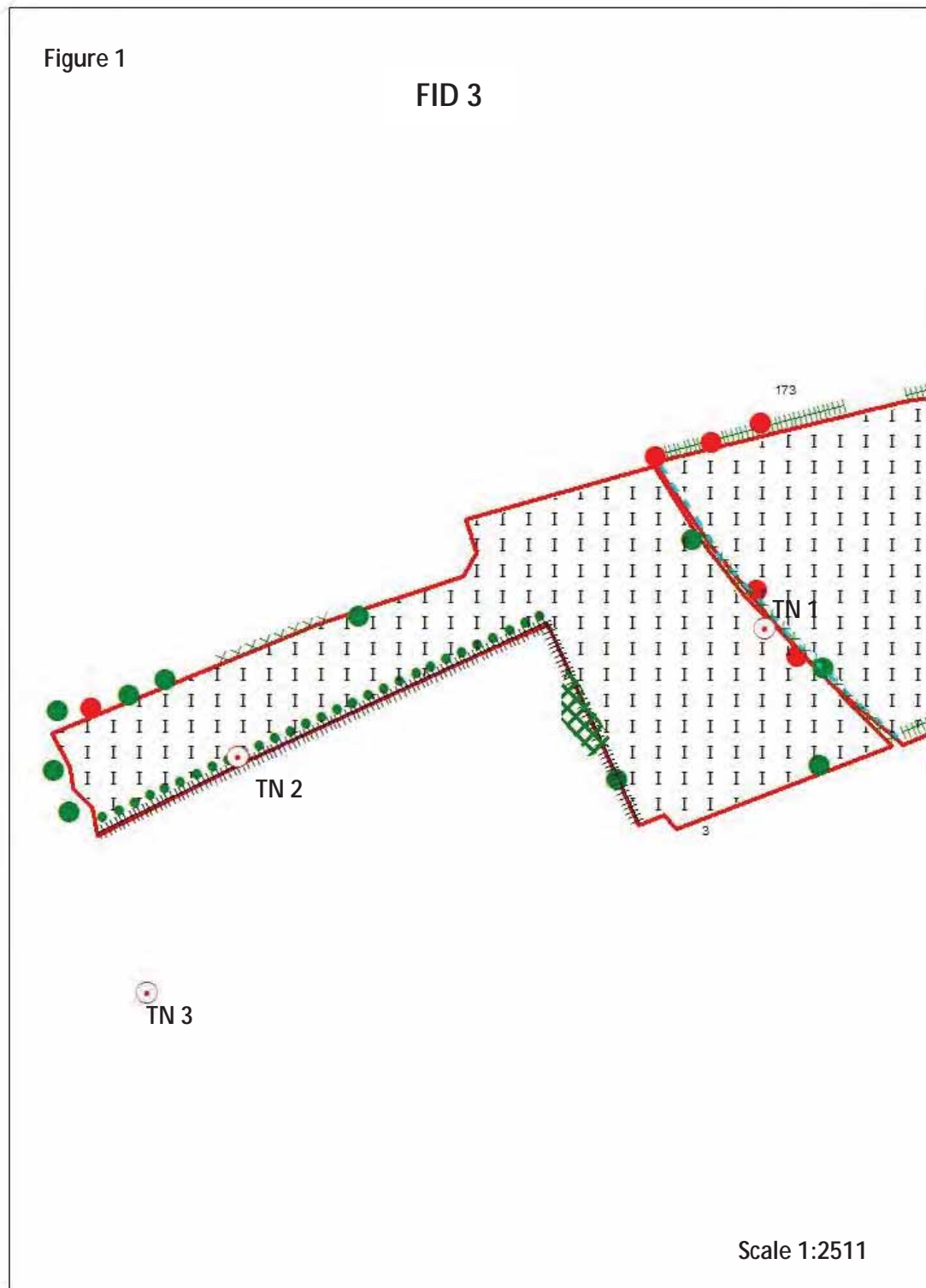
1.1 Background

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 3 O.S grid reference SK9222553737.

FID 3 is located to the north west of Endon village, approximately 3.5 km north east of Stoke on Trent in the Staffordshire Moorlands District, with a mixture of agricultural pasture to the north, housing to the south and abuts the corner of Westfield Wood BAS (Biodiversity Alert Site).

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 3 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

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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.

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

SITE DESIGNATION	NAME
LNR	Marshes Hill Common
AWI/ SBI	Dalehouse Wood
AWI/ SBI	Holly Wood
AWI/ SBI	Tinster Wood
AWI	Stoney Wood
BAS	Hollinhurst Farm (north of)
BAS	Stanley pool
BAS	Westfield Wood (FID 3 abuts the north west corner of this BAS)
BAS	Holehouse farm
SBI	Stonehouse drumble
SBI	Heakley Marshes
SBI	Ball Lane Wood
SBI	Marshes Hill
SBI	Park Lane Farm (north and east of) Caldon Canal
SBI	Greenway Hall Golf Course
SBI	Postbridge farm (west of)
SBI	Park Lane Farm (north and east of), Caldon Canal

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Action Site, SBI – Site of Biological Importance

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 True Fly
	Adder
	Barn Owl
	Barn Swallow
	Brown Hare
	Brown Long-eared Bat
	Brown Trout



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	Common Kingfisher
	Common Pipistrelle
	Common starling
	Common swift
	Common Toad
	Corn Chamomile
	Cornflower
	Dunnock
	Eurasian Curlew
	Eurasian Tree Sparrow
	European water vole
	Grass Snake
	Great crested newt
	Green woodpecker
	Grey partridge
	Insect – beetle
	Latticed Heath
	A lichen
	Mallard
	Northern Lapwing
	Pipistrelle
	Polecat
	Reed bunting
	September thorn
	Sky lark
	Small heath
	Song thrush
	Wall
	West European Hedgehog
	White tailed bumble bee
	Yellowhammer
INV	American mink
	Indian Balsam
	Japanese Knotweed
	Japanese rose
	Montbretia
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell

	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	European water vole
	Eurasian Badger
	Grass Snake
	Great crested newt
	Hazel dormouse
	Pipistrelle
	Polecat

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

4.3 Aerial photography

After studying aerial photographs of the area it is apparent that there is a pond at O.S Grid reference ST 92465342.

4.4 Field survey

4.4.1 Habitats

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

- Species poor hedgerows
- Scattered trees, including ash *Fraxinus excelsior*, oak *Quercus species*, Improved grassland
- Dry ditch

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.15	100	
DS	0.00	0	
BPT			2
TOTALS	1.16	100	2

I – Improved grassland, DS – Dense scrub, BPT – Bat potential trees

4.4.2 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> , Annual meadow grass <i>Poa annua</i> , white clover <i>Trifolium repens</i>
Hedgerow	Hawthorn <i>Crataegus monogyna</i> ,

4.4.3 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.

4.4.4 Fauna

Bats

The site significantly has 2 trees recorded in the walkover survey that could potentially support roosting bats, as they have at least one of the corresponding features.

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 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*
- Rabbits *Oryctolagus cuniculus*

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9227053728	Reptile survey
2	SJ9211153681	Reptile survey
3	SJ9211153601	Pond requires great crested newt survey

5. Evaluation

Table 6

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

Table 6 illustrates the ecological importance of each habitat/ overall site importance in terms of the potential loss to the wider countryside. The large number of trees with bat potential are deemed to have the highest value as their loss as roosts could adversely affect regional bat populations. Extra significance has been afforded to these trees as they are well connected to a patchwork of other habitats and broadleaved woodland within the relatively near vicinity. The directly adjacent semi-natural broadleaved woodland (Westfield Wood BAS) is connected to a pond to the south east, which increases the biodiversity of the site considerably with species such as grass snake and amphibians (potentially great crested newt) likely to be present on site within the terrestrial hedgerows and dry ditch habitats. Bats are also very likely to use the hedgerows and connecting habitat for foraging and potential roosting.

Scattered trees and species poor hedgerows are very common habitats but could support nesting birds and provide a wildlife corridor for numerous other species especially as there are mature trees, good connecting habitat within and nearby to the site.

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. The exceptions could potentially include grass snake, 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 trees 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 within 500m 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 and hedgerows are retained if the site is to be developed. It is also recommended to obtain information as to whether these mature trees have Tree Preservation Orders (TPO) on them as they are close to a housing estate. Mature trees also evolve to have a greater biodiversity value over time as they develop more characteristics that wider families of invertebrates and vertebrates can utilise as shelter and food sources.



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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.

Reptile survey

As grass snakes are likely to be present on site and have been recorded within 2km a regime of reptile survey is recommended according to guidelines set out in the Herpetofauna workers manual (Gent and Gibson 1998).

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.

7. Conclusion

The site has mostly low biodiversity value overall in terms of area though the dry ditch to the east adds some extra biodiversity to the site. The major aspects of interest across the site is the significant bat potential in the 2 trees and general potential for supporting reptiles and amphibians that 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 trees
- Reptile survey
- Great crested newt survey of nearby pond
- Vegetation removal at the appropriate time of year



FID 4



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FID 4

1. Introduction

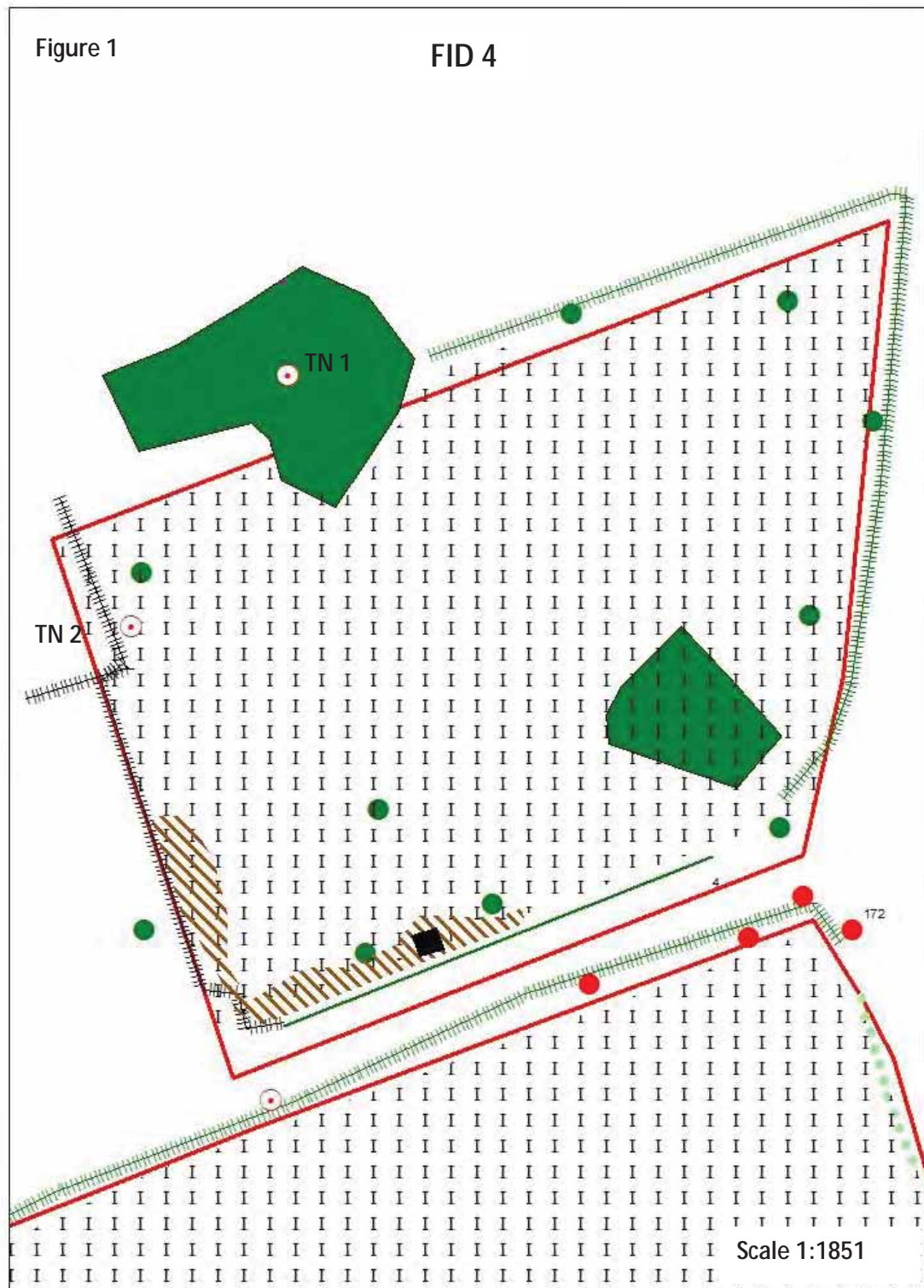
1.1 Background

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 4 O.S grid reference SKJ9291552948.

FID 4 is located to the south of the village of Endon, approximately 3km north east of Stoke on Trent in the Staffordshire Moorlands District, with a mixture of agricultural pasture to the south and housing to the north.

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 4 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 circle 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Dun Wood
AWI/ SBI	Holly Wood
AWI/ SBI	HoughWood
AWI	Hollinhurst Wood
AWI/ SBI	Tinster Wood
AWI	Stoney Wood
BAS	Hollinhurst Farm (north of)
BAS	Stanley pool
BAS	Westfield Wood
BAS	Holehouse farm
SBI	Windy Croft
SBI	Heakley Marshes
SBI	Cliff Wood
SBI	Denford (west of), Caldon Canal/ Endon Brook
SBI	Park Lane Farm (north and east of) Caldon Canal
SBI	Greenway Hall Golf Course
SBI	Postbridge farm (west of)
RIGS	Baddeley Edge Ridge
RIGS	Houghwood

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity 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 True Fly
	Adder
	Barn Owl
	Barn Swallow
	Black-headed gull
	Broom moth



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	Brown Hare
	Brown Long-eared Bat
	Brown Trout
	Buff ermine
	Common bullfinch
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common snipe
	Common starling
	Common Toad
	Corn Chamomile
	Cornflower
	Dunnock
	Dusky brocade
	Eurasian Curlew
	Eurasian Tree Sparrow
	European water vole
	Fieldfare
	Garden tiger
	Ghost moth
	Grass Snake
	Great crested newt
	Great brindled crescent
	Green woodpecker
	Grey partridge
	Grey wagtail
	Hedge rustic
	House sparrow
	Latticed Heath
	Lesser black backed gull
	Lesser redpoll
	A lichen
	Linnet
	Mallard
	Marsh tit
	Meadow pipit
	Northern Lapwing
	Pipistrelle
	Polecat
	Reed bunting



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	Rosy rustic
	September thorn
	Sky lark
	Small heath
	Small phoenix
	Small square spot
	Song thrush
	Tufted duck
	Wall
	West European Hedgehog
	White ermine
	Willow tit
	Yellowhammer
INV	American mink
	Giant hogweed
	Greater Canada goose
	Indian Balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	European water vole
	Eurasian Badger
	Fieldfare
	Grass Snake
	Great crested newt
	Redwing
	Pipistrelle
	Polecat

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 hedgerows
- Broadleaved woodland
- Scattered trees, including alder *Alnus glutinosa*, ash *Fraxinus excelsior*, Poplar *Populus species*,
- Improved grassland
- Tall ruderal vegetation

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
BW	0.03	5
TR	0.02	4
I	0.39	83
OTHER	0.04	8
TOTALS	0.47	100

TR- Tall ruderal vegetation, I – Improved grassland,
BW – Broadleaved Woodland

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> , false oat grass <i>Arrhenatherum elatius</i> , common nettle <i>Urtica dioica</i>
Trees and hedgerows	Hawthorn <i>Crataegus monogyna</i> , alder, ash

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.

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4.4.4 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 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*, dunnoek *Prunella modularis* (UKBAP), house sparrow *Passer domesticus* (UKBAP), blackcap *Sylvia atricapilla*

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9290052972	Small copse of alder, hawthorn and leylandi
2	SJ9288352944	Ornamental trees

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Species poor hedgerows					x
Species poor grassland					x
Overall potential site importance				x	
I=International, N=National, R=Regional, D=District, L=Local					

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

The site is surrounded by mainly by habitats of low biodiversity value, with domestic dwellings and improved grassland though there are trees with bat potential 5m away at FID172 and farmyard buildings that could potentially support bats within 50m. However there are 2 ponds <200m away that could potentially support great crested newts and amphibians and therefore the site has been attributed district ecological importance overall.

Scattered trees and species poor hedgerows are very common habitats and these are not connected to any significant habitats so are considered to have low biodiversity value.

There have been a number of European and UK protected species recorded within 2km according to the desk study, both grass snake *Natrix natrix* and brown hare *Lepus Europaeus* have been recorded within 100m. The site is located fairly close to 2 ponds which could potentially support foraging bats, great crested newt *Triturus cristatus* and grass snake *Natrix natrix*. However, the site has low potential to support these populations due to its intrinsically poor biodiversity and poor connection to the wider countryside.

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.

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

Great crested newt survey

As great crested newts could potentially be present on site due to the presence of ponds <200m away, a great crested newt survey is recommended of the ponds according to the 'Great crested newt conservation handbook' (Froglife, 2001). It is also recommended that any refugia present is removed by hand under watching brief of a suitably qualified great crested newt licensed ecologist.

The great crested newt is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species.

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.

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 ponds to the east and grass snake being recorded within 100m of the site 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 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 area and is poorly connected to other more diverse habitats apart from 2 ponds <200m away to the east, which increases the sites ecological importance in terms of its loss within the wider countryside as district value.

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

- Great crested newt survey of the nearby ponds
- Reptile survey, especially due to grass snake being recorded within 100m
- Vegetation removal at the appropriate time of year



FID 5

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FID 5

1. Introduction

1.1 Background

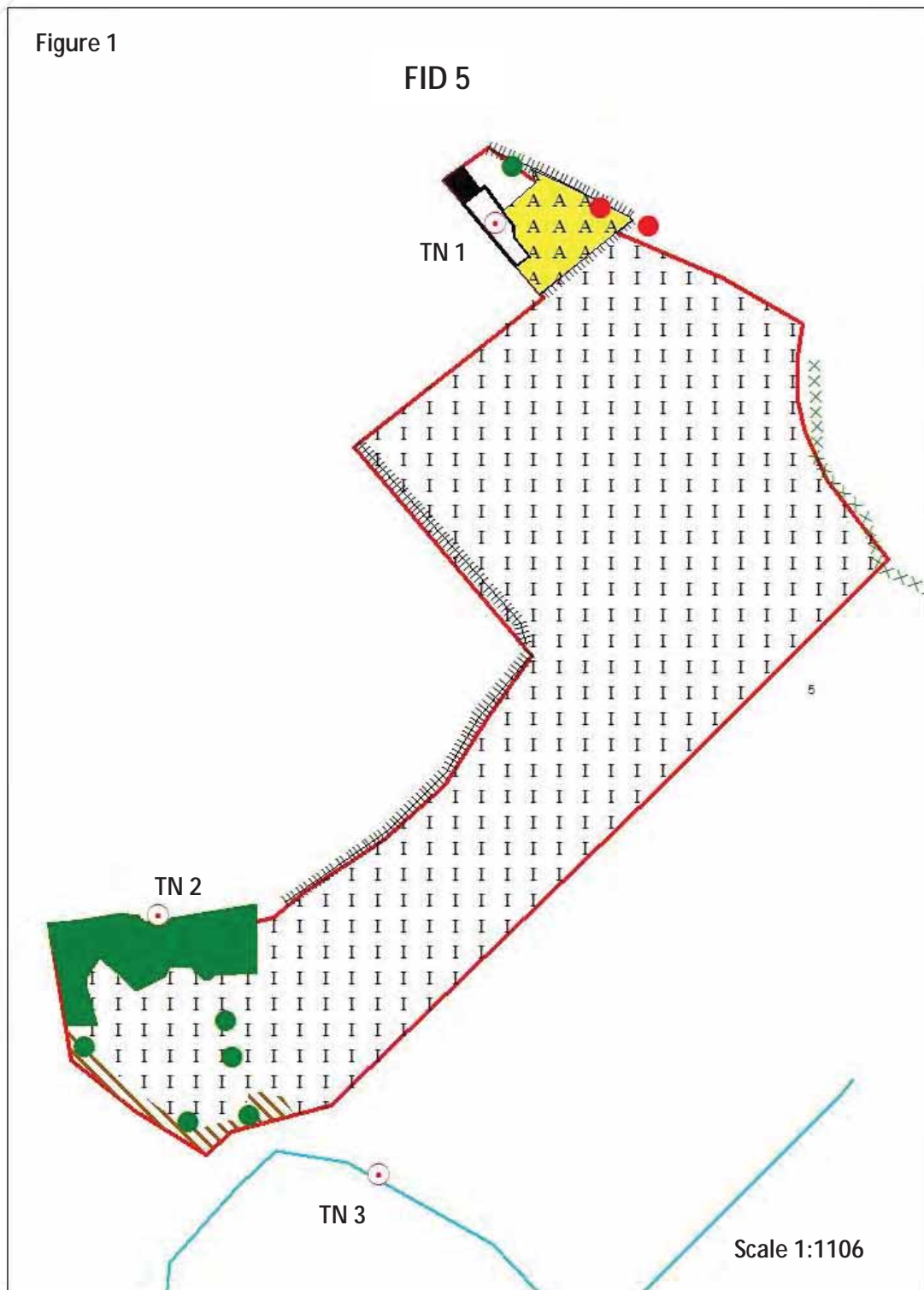
The Staffordshire Moorlands District Council has commissioned Lockwood Hall Associates to carry out an Extended Phase 1 Habitat Survey according to JNCC (2007) guidelines for FID 5 O.S grid reference SJ9297953442.

FID 5 is located to the east of Endon village, approximately 4km north east of Stoke on Trent surrounded by a mixture of agricultural pasture 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).

Figure 1





2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 5 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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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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Dun Wood
AWI/ SBI	Holly Wood
AWI/ SBI	HoughWood
AWI	Hollinhurst Wood
AWI/ SBI	Tinster Wood
AWI	Stoney Wood
BAS	Hollinhurst Farm (north of)
BAS	Stanley pool
BAS	Westfield Wood
BAS	Holehouse farm
SBI	Windy Croft
SBI	Heakley Marshes
SBI	Denford (west of), Caldon Canal/ Endon Brook
SBI	Park Lane Farm (north and east of) Caldon Canal
SBI	Greenway Hall Golf Course
SBI	Postbridge farm (west of)
RIGS	Baddeley Edge Ridge
RIGS	Houghwood

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity 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 True Fly
	Adder
	Barn Owl
	Barn Swallow
	Black-headed gull
	Broom moth
	Brown Hare



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	Brown Long-eared Bat
	Brown Trout
	Buff ermine
	Common bullfinch
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common Toad
	Corn Chamomile
	Cornflower
	Dark barred twin spot carpet
	Dusky brocade
	Eurasian Curlew
	Eurasian teal
	Eurasian Tree Sparrow
	European water vole
	Garden tiger
	Ghost moth
	Grass Snake
	Great crested newt
	Green brindled crescent
	Green woodpecker
	Grey partridge
	Grey wagtail
	Hedge rustic
	Latticed Heath
	A lichen
	Linnet
	Mallard
	Marsh tit
	Meadow pipit
	Northern Lapwing
	Pipistrelle
	Polecat
	Reed bunting
	Rosy rustic
	September thorn
	Sky lark
	Small phoenix
	Small square spot
	Tufted duck

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	Wall
	West European Hedgehog
	White ermine
	Willow tit
	Yellowhammer
INV	American mink
	Greater Canada goose
	Indian Balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	European water vole
	Eurasian Badger
	Grass Snake
	Great crested newt
	Pipistrelle
	Polecat

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.

- Broadleaved woodland
- Scattered trees, including oak *Quercus robur*, ash *Fraxinus excelsior*
- Improved grassland
- Amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.00	91	
BW	0.04	4	
AM	0.03	3	
TR	0.02	2	
OTHER	0.00	0	
BPT			2
TOTALS	1.10	100	2

TR- Tall ruderal vegetation, I – Improved grassland, SI – Species poor semi-improved grassland, BW – Broadleaved Woodland, AM – Amenity 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> , great willowherb <i>Epilobium hirsutum</i>
Hedgerow/ trees	Hawthorn <i>Crataegus monogyna</i> , pedunculate oak, ash, willow <i>Salix sp.</i>

4.3.3 Invasive weeds

Himalayan balsam *Impatiens glandulifera* is listed in Schedule 9 of the Wildlife and Countryside Act 1981 was found around the wet ditch area 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.

4.4.4 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.



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Incidental records of fauna

During the walkover survey species observed include the following

- Birds including carrion crow *Corvus corone*, domestic chicken *Gallus gallus species*

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9293553536	Domestic garden
2	SJ9286453394	Small copse of ash, white willow and hawthorn
3	SJ9292253339	Stream and marshy grassland

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Broadleaved woodland					x
Scattered trees				x	
Species poor grassland					x
Amenity grassland					x
Overall potential site importance				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 is surrounded by mainly by habitats of low biodiversity value, with domestic dwellings and improved grassland. To the south however there are networks of ditches, wet woodland and tall ruderal vegetation/ marshy grassland which is likely to add increased biodiversity to the site.

The species poor and amenity 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. The exceptions could potentially include bats and badger that could use the broadleaved woodland and species poor hedgerows for foraging. The presence of wet ditches/ woodland edge areas could also support terrestrial amphibian and reptile populations within the broadleaved woodland and scattered trees which directly connect to other habitats.

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 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 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.

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 and have been recorded within 2km a regime of 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/ marshy grassland area.



7. Conclusion

The site is directly adjacent to a domestic housing estate and species poor grasslands, which reduces the value of the site as a whole to bats and other species of wildlife. The site also has mostly low biodiversity value overall in terms of area, but due to its assemblage of mature trees and wet areas with associated fauna the site is deemed as of district ecological importance in terms of its loss to the wider countryside.

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



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FID 172

1. Introduction

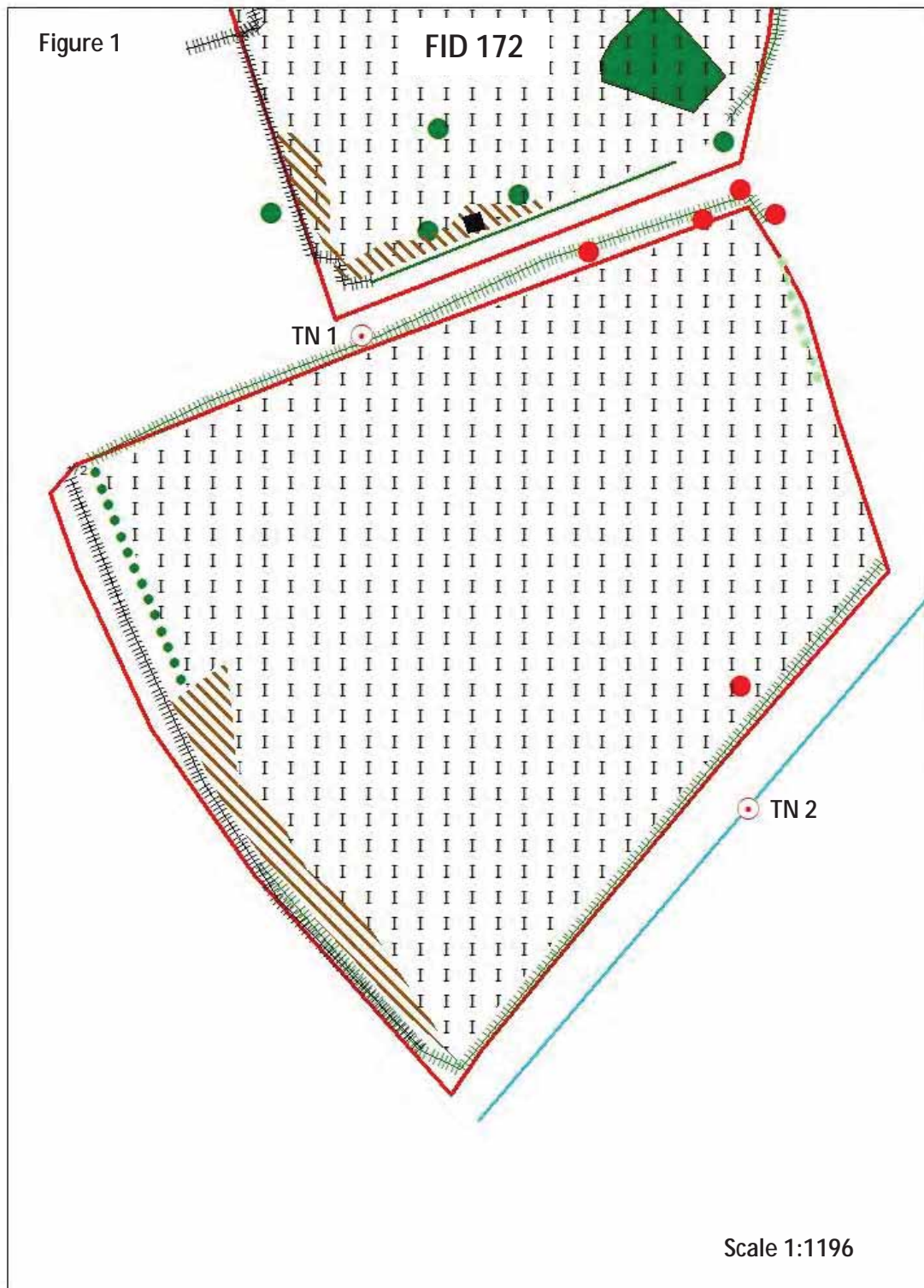
1.1 Background

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 172 O.S grid reference SJ9291852864.

FID 172 is located south/east of Endon village 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 172 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Dun Wood
AWI/ SBI	Greenway Wood
AWI/ SBI	HoughWood
AWI	Hollinhurst Wood
AWI/ SBI	Tinster Wood
AWI	Stoney Wood
BAS	Hollinhurst Farm (north of)
BAS	Stanley pool
BAS	Westfield Wood
BAS	Holehouse farm
SBI	Windy Croft
SBI	Heakley Marshes
SBI	Cliff Wood
SBI	Denford (west of), Caldon Canal/ Endon Brook
SBI	Park Lane Farm (north and east of) Caldon Canal
SBI	Greenway Hall Golf Course
SBI	Postbridge farm (west of)
RIGS/ SBI	Baddeley Edge Ridge
RIGS	Houghwood

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity 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 flowering plant
	A True Fly
	Adder
	Barn Owl
	Barn Swallow
	Black-headed gull

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	Broom moth
	Brown Hare
	Brown Long-eared Bat
	Brown Trout
	Buff ermine
	Common bullfinch
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common snipe
	Common starling
	Common Toad
	Corn Chamomile
	Cornflower
	Dark barred twin spot carpet
	Dunnock
	Dusky brocade
	Dyer's greenweed
	Eurasian Curlew
	Eurasian teal
	Eurasian Tree Sparrow
	European water vole
	Fieldfare
	Garden tiger
	Ghost moth
	Grass Snake
	Great crested newt
	Great brindled crescent
	Green woodpecker
	Grey partridge
	Grey wagtail
	Hedge rustic
	House sparrow
	Latticed Heath
	Lesser black backed gull
	Lesser redpoll
	A lichen
	Linnet
	Mallard
	Marsh tit
	Meadow pipit
	Northern Lapwing



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	Pipistrelle
	Polecat
	Redwing
	Reed bunting
	Rosy minor
	Rosy rustic
	September thorn
	Sky lark
	Small phoenix
	Small square spot
	Song thrush
	Tufted duck
	Wall
	West European Hedgehog
	White ermine
	Willow tit
	Yellowhammer
INV	American mink
	Giant hogweed
	Greater Canada goose
	Indian Balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	European water vole
	Eurasian Badger
	Fieldfare
	Grass Snake
	Great crested newt
	Pipistrelle
	Redwing
	Polecat
	Whiskered/ Brandt's bat

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

- Scattered trees
- Species poor hedgerows
- Tall ruderal vegetation
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	0.77	87	
TR	0.03	4	
OTHER	0.08	9	
BPT			5
TOTALS	0.89	100	5

TR- Tall ruderal vegetation, 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</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , curled dock <i>Rumex crispus</i> , mugwort <i>Artemisia vulgaris</i>
Hedgerows/ trees/ scrub	Alder <i>Alnus glutinosa</i> , hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus</i> agg, holly <i>Ilex aquifolium</i> , leylandii <i>Cuprocypressus x leylandii</i>

4.3.3 Invasive weeds

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

Weeds listed under the Weeds Act 1959 including curled dock have been recorded 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 could potentially nest in hedgerows and scattered trees 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	SJ9289952903	Requires hedgerow survey
2	SJ9295852834	Caldon canal
3	SJ9289052816	Requires reptile survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species poor hedgerow					x
Tall ruderal vegetation					x
Species poor semi-improved grassland					x
Overall site importance				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 and FID4 within 5m. There are also 2 ponds <200m away that could potentially support great crested newts and amphibians.

The site itself consists of species poor improved grassland (87%), with species poor hedgerows consisting of hawthorn, alder, holly and elder *Sambucus nigra*, with typical tall ruderal vegetation including cock's foot and curled dock.

There have been a number of European and UK protected species recorded within 2km according to the desk study. However, the site has poor biodiversity and is mostly poorly connected to other habitats but is located fairly close to 2 ponds and adjacent to the Caldon Canal so the site could potentially support roosting and foraging bats, brown hare (recorded on site) and potentially great crested newt *Triturus cristatus*, adder *Viperus berus* (recorded within 200m) and grass snake *Natrix natrix* (recorded within 110m).

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

Great crested newt survey

As great crested newts could potentially be present on site due to the presence of ponds <200m away, a great crested newt survey is recommended of the ponds according to the 'Great crested newt conservation handbook' (Froglife, 2001). It is also recommended that any refugia present is removed by hand under watching brief of a suitably qualified great crested newt licensed ecologist. Any individuals found should be moved to a previously agreed locality.

The great crested newt is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species.

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.

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 5 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 close proximity of ponds and the Caldon Canal a reptile survey is recommended according to guidelines set out in the Herpetofauna workers manual (Gent and Gibson 1998), concentrated on the tall ruderal vegetation and hedgerows.



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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 scattered 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 fairly poor biodiversity and has poor connectivity to the wider countryside. However, as the site has a number of trees with bat roosting potential and habitats that could support reptiles and terrestrial amphibians the site has been attributed district ecological importance.

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

- Great crested newt survey of the nearby ponds
- Bat survey of the 5 trees marked as having bat roosting potential
- Reptile survey
- Vegetation removal at the appropriate time of year



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FID 173

1. Introduction

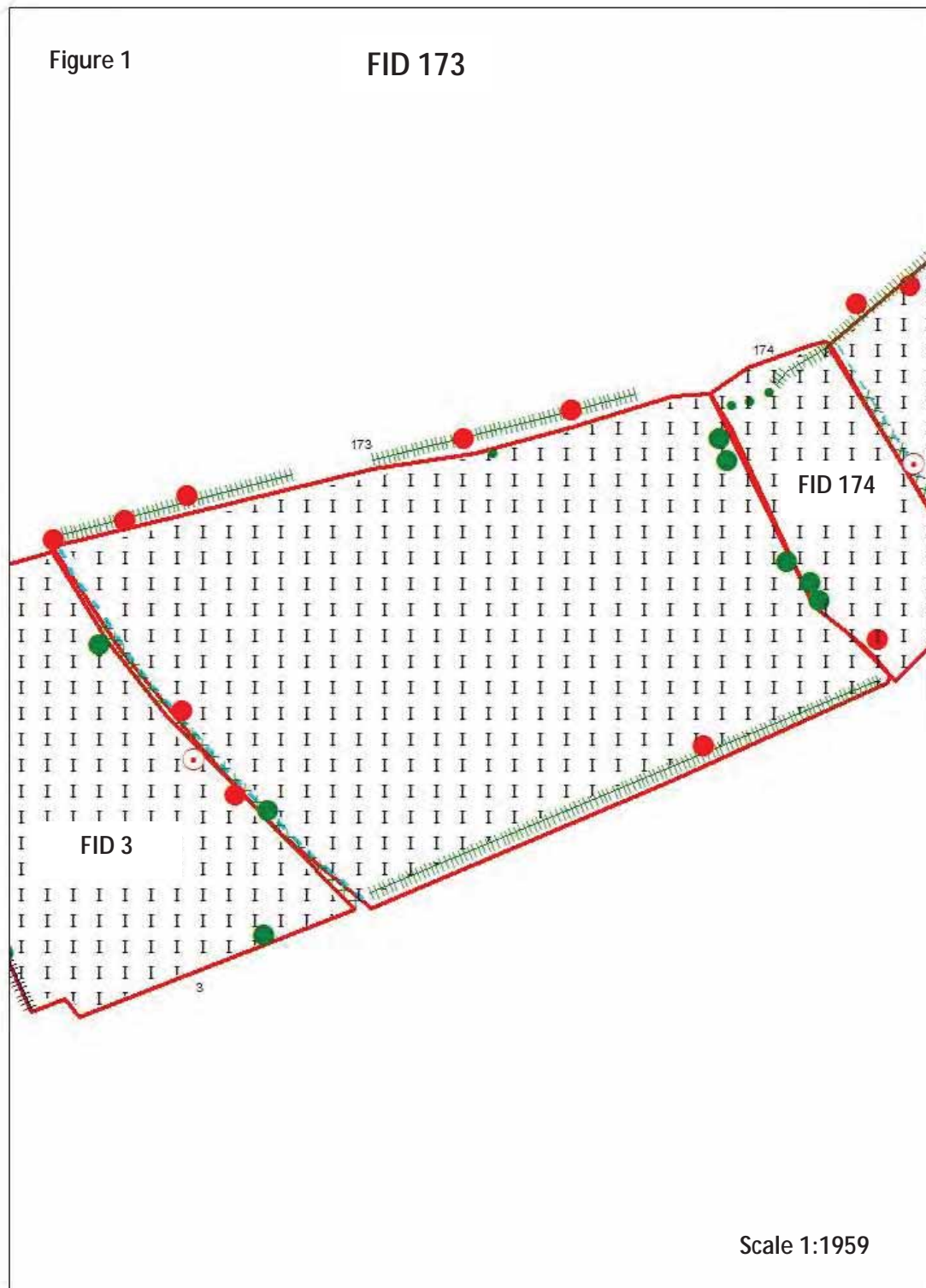
1.1 Background

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 173 O.S grid reference SJ9234753757.

FID 173 is located north-west of Endon village 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 173 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
LNR	Marshes Hill Common
AWI/ SBI	Dalehouse Wood
AWI/ SBI	Holly Wood
AWI/ SBI	Tinster Wood
AWI	Stoney Wood
BAS	Hollinhurst Farm (north of)
BAS	Stanley pool
BAS	Westfield Wood
BAS	Holehouse farm
SBI	Stonehouse drumble
SBI	Heakley Marshes
SBI	Marshes Hill
SBI	Park Lane Farm (north and east of) Caldon Canal
SBI	Greenway Hall Golf Course
SBI	Postbridge farm (west of)
SBI	Park Lane Farm (north and east of), Caldon Canal

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Action Site, SBI – Site of Biological Importance

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 True Fly
	Adder
	Barn Owl
	Barn Swallow
	Brown Hare
	Brown Long-eared Bat
	Brown Trout
	Common Kingfisher
	Common Pipistrelle



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	Common starling
	Common swift
	Common Toad
	Corn Chamomile
	Cornflower
	Dunnock
	Eurasian Curlew
	Eurasian Tree Sparrow
	European water vole
	Grass Snake
	Great crested newt
	Green woodpecker
	Grey partridge
	Insect – beetle
	Latticed Heath
	A lichen
	Mallard
	Northern Lapwing
	Pipistrelle
	Polecat
	Reed bunting
	September thorn
	Sky lark
	Small heath
	Song thrush
	Wall
	West European Hedgehog
	White tailed bumble bee
	Yellowhammer
INV	American mink
	Indian Balsam
	Japanese Knotweed
	Japanese rose
	Montbretia
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher

	Common Pipistrelle
	European water vole
	Eurasian Badger
	Grass Snake
	Great crested newt
	Hazel dormouse
	Pipistrelle
	Polecat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UKPS – 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 hedgerows
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.30	93	
OTHER	0.09	7	
BPT			7
TOTALS	1.39	100	7

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> , white clover <i>Trifolium repens</i> , dandelion <i>Taraxacum officinale</i> agg
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , blackthorn <i>Prunus spinosa</i> , hazel <i>Corylus avellana</i> , pedunculate oak <i>Quercus robur</i> , ash <i>Fraxinus excelsior</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 curled dock *Rumex crispus* and creeping thistle *Cirsium arvense* were recorded within the site.

4.3.4 Fauna

Bats

The site very significantly has 7 trees recorded in the walkover survey that could potentially support roosting bats, as they at least one of the corresponding features.

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 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 grassland					x
Overall site importance				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 7 scattered trees with bat potential including oak and ash are deemed to have the highest value as their loss as roosts could adversely affect regional bat populations. They are also well connected to a patchwork of other habitats and broadleaved woodland within the relatively near vicinity.

The species poor hedgerows consist mainly of hawthorn, hazel, blackthorn *Prunus spinosa* and elder *Sambucus nigra* but could support nesting birds and provide a wildlife corridor for numerous other species especially as there are numerous mature trees within the site.

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. However, the assemblage of trees with potential to support roosting bats and the connective value of the species poor hedgerow warrants the site being deemed to have district 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 trees 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).

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. It is also recommended to obtain information as to whether these mature trees have Tree Preservation Orders (TPO) on them as they are close to a housing estate. Mature trees also evolve to have a greater biodiversity value over time as they develop more characteristics that wider families of invertebrates and vertebrates can utilise as shelter and food sources.

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.

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 and foraging bats and badger also could use the hedgerows as a wildlife corridor and forage within the improved grassland, especially as there are areas of broadleaved woodland fairly near that could potentially contain badger setts.



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7. Conclusion

The site has mostly low biodiversity value overall in terms of area. However, the major aspects of interest are the significant bat potential in the 7 trees and the species poor hedgerows which warrant the site being valued as of district 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
- Vegetation removal at the appropriate time of year within this site



FID 174



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FID 174

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 174 O.S grid reference SJ9243953785.

FID 174 is located north-west of Endon village 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 174 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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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.

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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

SITE DESIGNATION	NAME
LNR	Marshes Hill Common
AWI/ SBI	Dalehouse Wood
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BAS	Hollinhurst Farm (north of)
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BAS	Holehouse farm
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SBI	Marshes Hill
SBI	Park Lane Farm (north and east of) Caldon Canal
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SBI	Postbridge farm (west of)
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LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Action Site, SBI – Site of Biological Importance

4.2 Desk study - Species

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

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SPECIES TYPE	COMMON NAME
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	Brown Trout
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	Common Pipistrelle



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	Common starling
	Common swift
	Common Toad
	Corn Chamomile
	Cornflower
	Dunnock
	Eurasian Curlew
	Eurasian Tree Sparrow
	European water vole
	Grass Snake
	Great crested newt
	Green woodpecker
	Grey partridge
	Insect – beetle
	Latticed Heath
	A lichen
	Mallard
	Northern Lapwing
	Pipistrelle
	Polecat
	Reed bunting
	September thorn
	Sky lark
	Small heath
	Song thrush
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	West European Hedgehog
	White tailed bumble bee
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	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher

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	Common Pipistrelle
	European water vole
	Eurasian Badger
	Grass Snake
	Great crested newt
	Hazel dormouse
	Pipistrelle
	Polecat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UKPS – 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 hedgerows
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	0.26	99	
OTHER	0.00	1	
BPT	0.00		1
TOTALS	0.26	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> , crested dog's tail <i>Cynosurus cristatus</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , yarrow <i>Achillea millefolium</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , hazel <i>Corylus avellana</i> , elder <i>Sambucus nigra</i> , holly <i>Ilex aquifolium</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* were recorded within the site.

4.3.4 Fauna

Bats

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

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 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 grassland					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 1 tree with bat potential, an oak *Quercus species* is deemed to have the highest value as its loss as a roost, especially as it is part of a line of mature trees linking to FID175 and FID2, which could adversely affect regional bat populations.

The species poor hedgerows consist mainly of hawthorn, hazel, holly and elder.

The species poor grassland and hedgerow habitats are particularly common in the UK and have low biodiversity value however the tree with bat roosting potential elevates the site's ecological importance to district 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

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 'bat mitigation guidelines' Mitchell-Jones (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 and hedgerows are retained if the site is to be developed. It is also recommended to obtain information as to whether these mature trees have Tree Preservation Orders (TPO) on them as they are close to a housing estate. Mature trees also evolve to have a greater biodiversity value over time as they develop more characteristics that wider families of invertebrates and vertebrates can utilise as shelter and food sources.

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.

Despite a number of European protected species being recorded within 2km it is unlikely that the site would support most of the species. The exceptions could potentially include roosting and foraging bats and badger also that could use the hedgerows as a wildlife corridor and forage within the improved grassland, especially as there are areas of broadleaved woodland fairly near that could potentially contain badger setts.



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7. Conclusion

The site has mostly low biodiversity value overall in terms of area with the major aspect of interest being the significant bat potential in the 1 tree, which raises the value of the site to 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 tree
- Vegetation removal at the appropriate time of year within this site



FID 193



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FID 193

1. Introduction

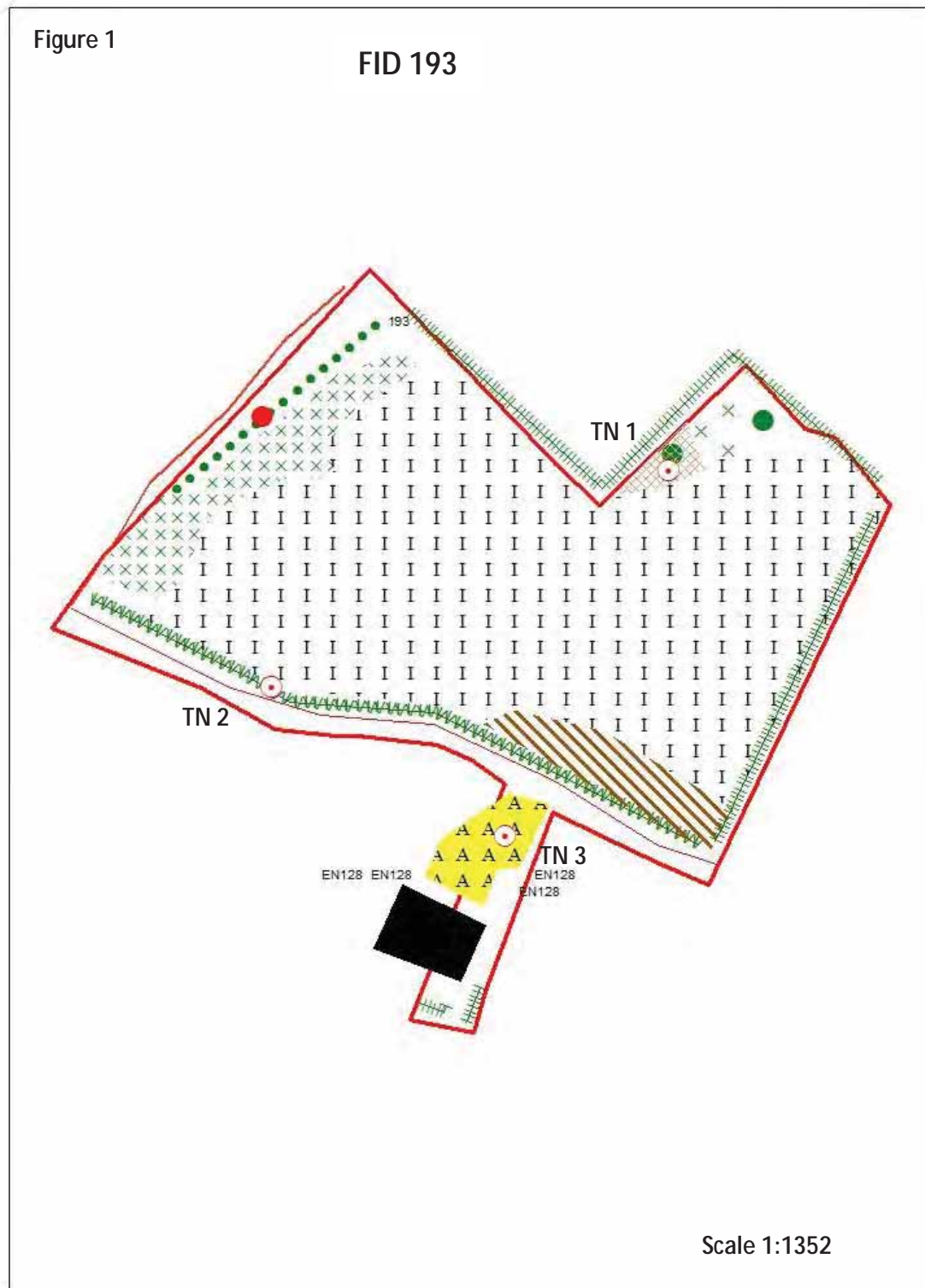
1.1 Background

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 193 O.S grid reference SJ9232953088.

FID 193 is located within Endon village surrounded by playing fields 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 193 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI/ SBI	Greenway Wood
AWI/ SBI	HoughWood
AWI/ SBI	Tinster Wood
AWI	Stoney Wood
BAS	Hollinhurst Farm (north of)
BAS	Stanley pool
BAS	Westfield Wood
BAS	Holehouse farm
SBI	Ball Lane Wood
SBI	The Green, Baddeley
SBI	Windy Croft
SBI	Heakley Marshes
SBI	Cliff Wood
SBI	Park Lane Farm (north and east of) Caldon Canal
SBI	Greenway Hall Golf Course
SBI	Postbridge farm (west of)
RIGS/ SBI	Baddeley Edge Ridge
RIGS	Houghwood

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity 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 flowering plant
	A True Fly
	Adder
	Barn Owl
	Barn Swallow
	Black-headed gull
	Broom moth



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	Brown Hare
	Brown Long-eared Bat
	Brown Trout
	Buff ermine
	Common bullfinch
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common snipe
	Common starling
	Common Toad
	Corn Chamomile
	Cornflower
	Dark barred twin spot carpet
	Duncock
	Dusky brocade
	Eurasian Curlew
	Eurasian teal
	Eurasian Tree Sparrow
	European water vole
	Fieldfare
	Garden tiger
	Ghost moth
	Grass Snake
	Great crested newt
	Great brindled crescent
	Green woodpecker
	Grey partridge
	Grey wagtail
	Hedge rustic
	House sparrow
	Latticed Heath
	Lesser black backed gull
	Lesser redpoll
	A lichen
	Linnet
	Mallard
	Marsh tit
	Meadow pipit
	Northern Lapwing
	Pipistrelle
	Polecat

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	Redwing
	Reed bunting
	Rosy minor
	Rosy rustic
	September thorn
	Sky lark
	Small phoenix
	Small square spot
	Song thrush
	Tufted duck
	Wall
	West European Hedgehog
	White ermine
	Willow tit
	Yellowhammer
INV	American mink
	Giant hogweed
	Greater Canada goose
	Indian Balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	European water vole
	Eurasian Badger
	Fieldfare
	Grass Snake
	Great crested newt
	Pipistrelle
	Polecat
	Redwing

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

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4.3 Flora and fauna

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
- Species rich hedgerow
- Species poor hedgerow
- Scattered trees
- Scattered scrub
- Tall ruderal vegetation
- Species poor amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p)	PERCENTAGE (%)	NUMBER
I	0.48	63	
SS	0.05	6	
IS	0.01	1	
AM	0.01	1	
OTHER	0.22	29	
BPT			1
TOTALS	0.77	100	1

AM – Amenity Grassland, I – Improved grassland, SS – Scattered scrub, BPT – Bat Potential Trees, IS – Introduced Shrub

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> , rosebay willowherb <i>Chamerion angustifolium</i> , dandelion <i>Taraxacum officinale</i> agg
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus</i> agg, beech <i>Fagus sylvatica</i> , leylandii <i>Cuprocypressus x leylandii</i> holly <i>Ilex aquifolium</i> , elder <i>Sambucus nigra</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*, and creeping thistle *Cirsium arvense* have been recorded within 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 are likely to nest in areas of scattered trees, hedgerows 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	SJ9236353116	Ornamental introduced shrub, garden escape
2	SJ9229553072	Requires hedgerow survey
3	SJ9232553046	Part of domestic garden

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species rich hedgerow				x	
Species poor hedgerow					x
Tall ruderal vegetation					x
Species poor amenity grassland					x
Overall site importance				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 completely surrounded by domestic dwellings and amenity grassland and is poorly connected to other more biodiverse habitats.

The site mainly consists of species poor grassland (63%), with scattered bramble scrub and species poor tall ruderal vegetation.

The species rich hedgerow consists of hawthorn, ash *Fraxinus excelsior*, holly, elder, hazel *Corylus avellana*, alder *Alnus glutinosa* and silver birch *Betula pendula*.

Scattered trees found across the site include beech *Fagus sylvatica*, copper beech *Fagus sylvatica* 'Purpurea', Norway spruce *Picea abies*, cherry *Prunus species* and oak *Quercus species* and sycamore of which 1 is deemed to have potential to support roosting bats.

Additionally to the south of the site the boundary includes half a domestic garden and half a domestic dwelling.

The habitats present on site are particularly common in the UK, have fairly low biodiversity value and therefore are deemed to have a low value within the matrix. However the presence of 1 tree with potential to support roosting bats and a species rich hedgerow constitutes the site being given district ecological importance.

Despite a number of European 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 (roost recorded within 150m) 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 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 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 fairly low biodiversity value overall and the site is set within a mainly urban environment with poor connectivity to the wider countryside. However, the site has been given district ecological importance due to the presence of 1 tree with bat roosting potential and a species rich hedgerow.

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



FID 220



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FID 220

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 220 O.S. grid reference SJ9231752723.

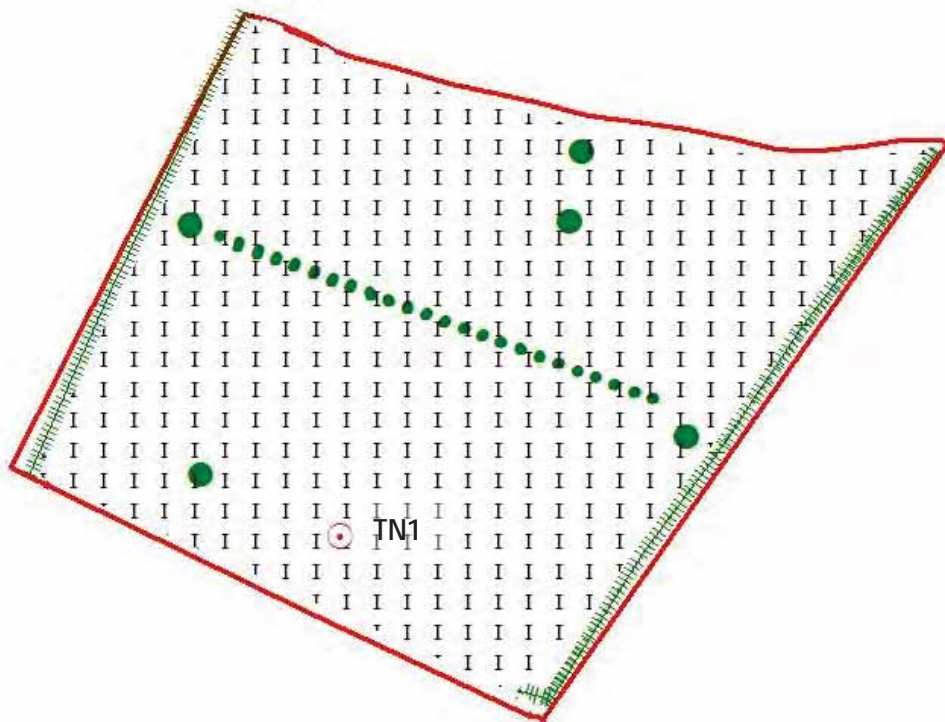
FID 220 is located south-east of Endon village surrounded by agricultural land and housing.

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).

Figure 1

FID 220



Scale 1:1241



2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID220 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI/ SBI	Greenway Wood
AWI/ SBI	HoughWood
AWI/ SBI	Tinster Wood
AWI	Stoney Wood
BAS	Hollinhurst Farm (north of)
BAS	Stanley pool
BAS	Westfield Wood
BAS	Holehouse farm
SBI	Ball Lane Wood
SBI	The Green, Baddeley
SBI	Windy Croft
SBI	Heakley Marshes
SBI	Cliff Wood
SBI	Park Lane Farm (north and east of) Caldon Canal
SBI	Greenway Hall Golf Course
SBI	Postbridge farm (west of)
RIGS/ SBI	Baddeley Edge Ridge
RIGS	Houghwood

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity 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 flowering plant
	A True Fly
	Adder
	Barn Owl
	Barn Swallow
	Black-headed gull
	Broom moth



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	Brown Hare
	Brown Long-eared Bat
	Brown Trout
	Buff ermine
	Common bullfinch
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common snipe
	Common starling
	Common swift
	Common Toad
	Corn Chamomile
	Cornflower
	Dark barred twin spot carpet
	Dunnock
	Dusky brocade
	Eurasian Curlew
	Eurasian teal
	Eurasian Tree Sparrow
	European water vole
	Ferret
	Fieldfare
	Freshwater white clawed crayfish
	Garden tiger
	Ghost moth
	Grass Snake
	Great crested newt
	Great brindled crescent
	Green woodpecker
	Grey partridge
	Grey wagtail
	Hedge rustic
	House sparrow
	Latticed Heath
	Lesser black backed gull
	Lesser redpoll
	A lichen
	Linnet
	Mallard
	Marsh tit
	Meadow pipit



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	Northern Lapwing
	Pipistrelle
	Polecat
	Redwing
	Reed bunting
	Rosy minor
	Rosy rustic
	September thorn
	Sky lark
	Small phoenix
	Small square spot
	Song thrush
	Tufted duck
	Wall
	West European Hedgehog
	White ermine
	Willow tit
	Yellowhammer
INV	American mink
	Giant hogweed
	Greater Canada goose
	Indian Balsam
	Japanese Knotweed
	Japanese rose
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	European water vole
	Eurasian Badger
	Ferret
	Fieldfare
	Grass Snake
	Great crested newt
	Pipistrelle
	Polecat
	Redwing

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	Whiskered/ Brandt's bat
--	-------------------------

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, EPS – 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 grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	1.51	94
OTHER	0.21	6
TOTALS	1.72	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> , Yorkshire fog <i>Holcus lanatus</i> , common nettle <i>Urtica dioica</i> , soft rush <i>Juncus effusus</i> , creeping buttercup <i>Ranunculus repens</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , bramble <i>Rubus fruticosus</i> agg, 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 creeping thistle *Cirsium arvense*, curled dock *Rumex crispus* and broadleaved dock *Rumex obtusifolius* have 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

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9235052675	Small animal enclosure

5. Evaluation

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Species poor hedgerow					x
Scattered trees					x
Species poor grassland					x
Overall site importance				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 bordered by species poor grasslands, domestic dwellings, the A53 to the west and the Caldon Canal <25m to the east. Additionally a small pond is located approximately 185m to the north-west. These adjacent watercourses could support populations of amphibians and reptiles therefore the site is deemed to potentially hold some terrestrial habitat and considered to have district ecological importance.

The site consists mainly of species poor grazed grassland (94%) and a species poor hedgerow consisting of hawthorn, holly and elder with scattered trees including alder *Alnus glutinosa*, ash *Fraxinus excelsior* and pedunculate oak *Quercus robur*.

Despite a number of European protected species being recorded within 2km it is unlikely that the site would support all of the species. The exceptions could potentially include foraging bats and foraging badger, amphibians and reptiles (grass snakes have been recorded within 100m).

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

Great crested newt survey

As great crested newts could potentially be present on site under refugia, or possibly use the terrestrial habitat present within the site due to the presence of the pond to the north, a great crested newt survey is recommended of the pond according to the 'Great crested newt conservation handbook' (Froglife, 2001). It is also recommended that any refugia present is removed by hand under watching brief of a suitably qualified great crested newt licensed ecologist. Any individuals found should be moved to a previously agreed locality.

The great crested newt is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species.

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.

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 pond to the north, and the Caldon Canal with its associated habitats 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.

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.



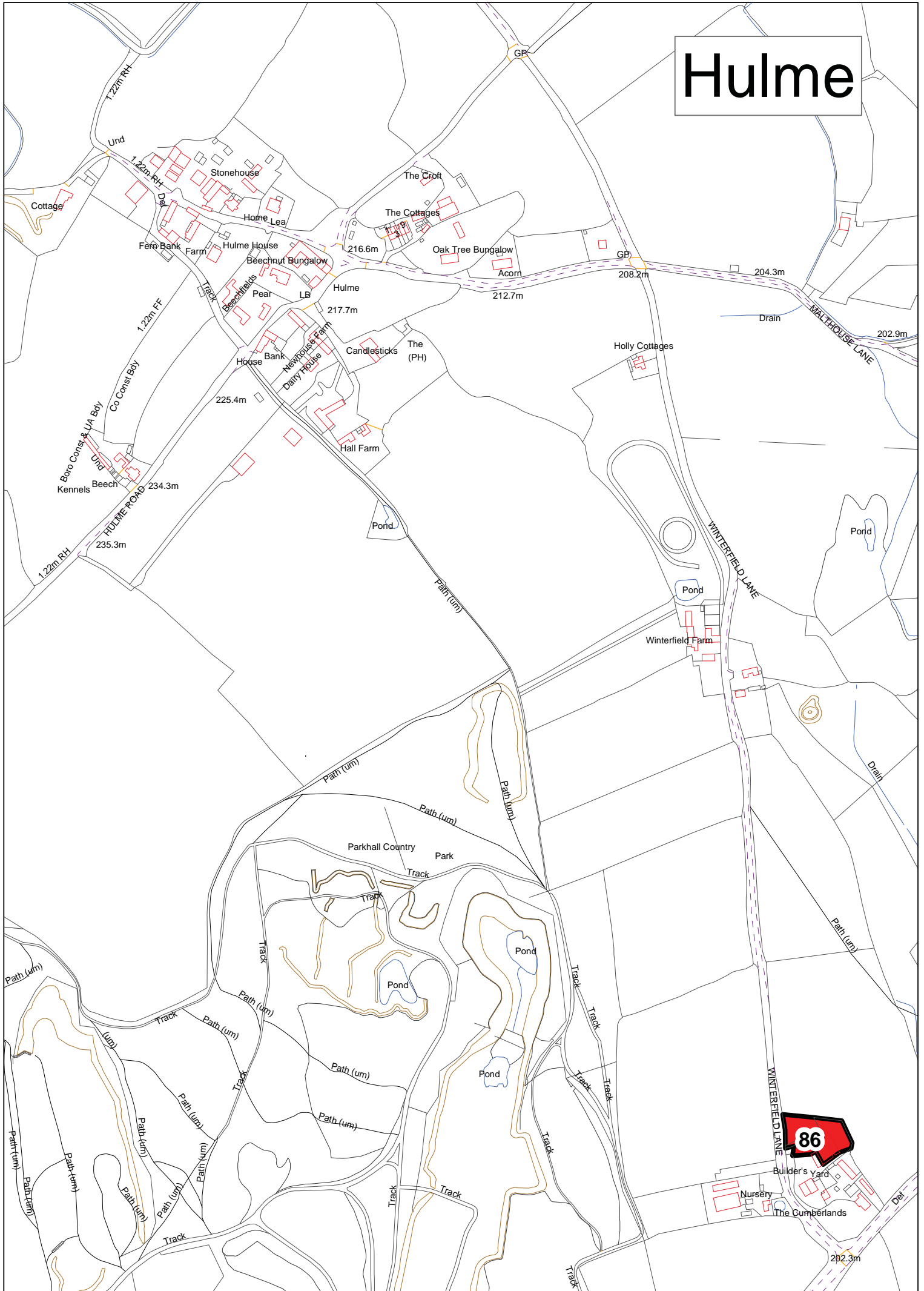
7. Conclusion

The site has fairly low biodiversity value overall, mainly being improved grazed grassland. The trees and hedgerow have potential for supporting foraging bats and badger as well as terrestrial habitat for amphibians and reptiles. Therefore the site is attributed district ecological importance.

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

- Great crested newt survey of the nearby pond
- Reptile survey
- Vegetation removal at the appropriate time of year

Hulme





FID 86



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FID 86

1. Introduction

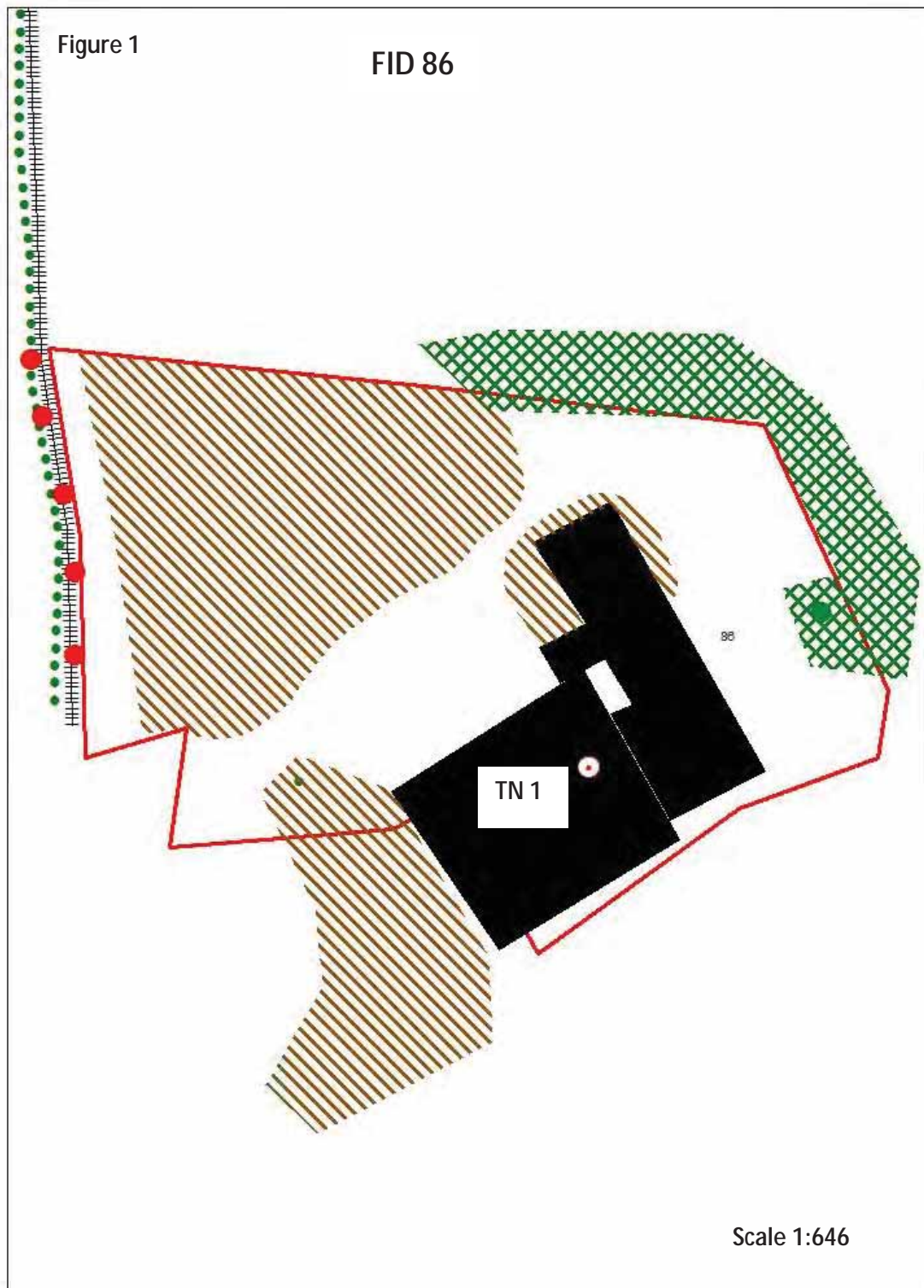
1.1 Background

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 86 O.S grid reference SJ9381544908.

FID 86 is located north of Weston Coyney, south east of Hulme village in the Staffordshire Moorlands District, surrounded by 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 86 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI/ NNR	Hulme Quarry
LNR	Weston
LNR	Birch Wood
LNR	Ransom
SBI	Creswell's Piece
SBI	Parkhall Country Park
SBI	Ransome Wood
SBI	Birch Wood
SBI	Weston Sprink

SSSI – Site of Special Scientific Interest, NNR – National Nature reserve, LNR – Local Nature Reserve, SBI – Site of Biological Importance

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
	A true fly
	Argent and sable
	Autumnal Rustic
	Barn Owl
	Barn swallow
	Beaded Chestnut
	Blood-vein
	Brindled Beauty
	Broom Moth
	Brown-spot Pinion
	Brown Hare
	Buff Ermine
	Centre-barred Sallow
	Cinnabar
	Common bullfinch
	Common carder bee

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	Common cudweed
	Common Kestrel
	Common Kingfisher
	Common pipistrelle
	Common Snipe
	Common starling
	Common swift
	Common toad
	Corn spurrey
	Dark-barred Twin-spot Carpet
	Dark Brocade
	Dark Spinach
	Deep Brown Dart
	Dingy skipper
	Dot Moth
	Double Dart
	Dunnock
	Dusky-lemon Sallow
	Dusky Brocade
	Dusky Thorn
	Ear Moth
	Early bumble bee
	Eurasian curlew
	Eurasian woodcock
	European water vole
	Feathered Gothic
	Field cuckoo bee
	Figure Of Eight
	Flounced chestnut
	Freshwater white clawed crayfish
	Galingale
	Garden Dart
	Garden Tiger
	Ghost Moth
	Great crested newt
	Green-brindled Crescent
	Grey Dagger
	Grey partridge
	Heath Rustic
	Hedge Rustic
	House martin
	Horsetail weevil



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	House sparrow
	Knot Grass
	Large red tailed bumble bee
	Large Wainscot
	Latticed Heath
	Mallard
	Minor Shoulder Knot
	Mistle thrush
	Monk's-rhubarb
	Mottled rustic
	Mouse Moth
	Noctule bat
	Northern lapwing
	Oak Hook-tip
	Oak Lutestring
	Oblique Carpet
	Orache Moth
	Pipistrelle
	Powdered Quaker
	Redwing
	Reed Bunting
	Rosy Minor
	Rosy Rustic
	Rustic
	Sallow
	September Thorn
	Shaded Broad-bar
	Shoulder-striped Wainscot
	Shrubby cinquefoil
	Sky Lark
	Small heath
	Small Phoenix
	Small Square-spot
	Spinach
	Streak
	Tall Hawkweed
	Tree bumble bee
	V-moth
	Wall
	Western European hedgehog
	White-line Dart
	White Ermine

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	Wild pansy
	Willow tit
	Willow warbler
	Yellowhammer
INV	Canadian goldenrod
	Japanese knotweed
	Japanese rose
	Montbretia
	New Zealand pigmyweed
	Nuttall's waterweed
	Russian vine
E/ UK PS	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common pipistrelle
	Daubenton's bat
	Eurasian badger
	European water vole
	Freshwater white clawed crayfish
	Noctule bat
	Pipistrelle
	Redwing
	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
- Tall ruderal vegetation
- Building

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
TR	0.08	37	
DS	0.01	4	
OTHER	0.13	59	
BPT			4
TOTALS	0.22	100	4

TR- Tall ruderal vegetation, 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	False oat grass <i>Arrhenatherum elatius</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , mugwort <i>Artemisia vulgaris</i> ,
Hedgerows/ trees/ scrub	Pendunculate oak <i>Quercus robur</i> , hawthorn <i>Crataegus monogyna</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 creeping thistle *Cirsium arvense* and curled dock *Rumex crispus* have been recorded within the tall ruderal vegetation.

4.3.4 Fauna

Bats

The buildings present on site are old prefabricated shed style with corrugated roofs as part of a working yard/ site.

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 and possibly tall ruderal vegetation from March to August when birds in the UK normally breed.



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4.3.4 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9382244895	2 buildings, no bat survey required

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Tall ruderal vegetation					x
Species poor grassland					x
Overall site importance				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 is surrounded by farm buildings to the south and species poor grassland to the north, east with a minor road to the west and is fairly well connected to the wider countryside.

The scattered trees on the edge of the site consist mainly of pedunculate oak with 5 having bat roosting potential; therefore the site is considered to have district ecological importance. The large area of tall ruderal vegetation consists mainly of species such as creeping thistle, curled dock and common nettle *Urtica dioica* indicative of these working sites.

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 (2 individuals were recorded within 50m to the south west).

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 and 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.

The buildings due to their prefabricated nature are considered to have very low potential to support roosting bats so are therefore considered unnecessary to carry out a bat survey.

It is therefore recommended that the 5 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 are retained if the site is to be developed.

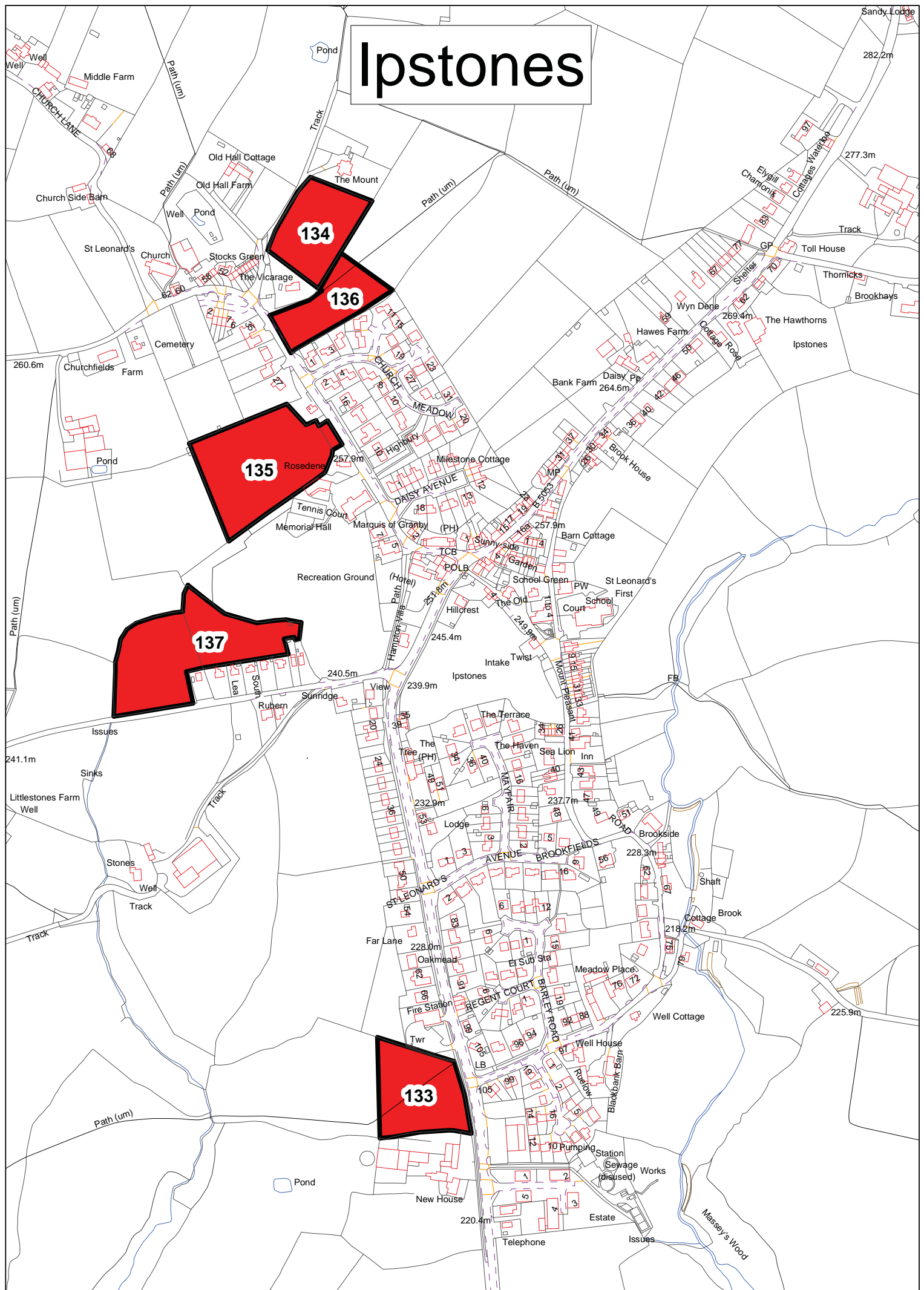
If trees and tall ruderal vegetation are to be removed it is recommended that this is completed according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act.

7. Conclusion

The site has fairly poor connectivity to other more biodiverse habitats and mostly low biodiversity value overall in terms of area. However, the main ecological interest is focussed on the mature oak trees with bat potential, therefore the site is attributed a district ecological importance.

The following surveys are recommended to avoid contravention of pertaining wildlife laws to satisfy planning policy:

- Bat surveys of the highlighted trees
- Vegetation removal at the appropriate time of year





FID 133



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FID 133

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 133 O.S grid reference SK0204049400.

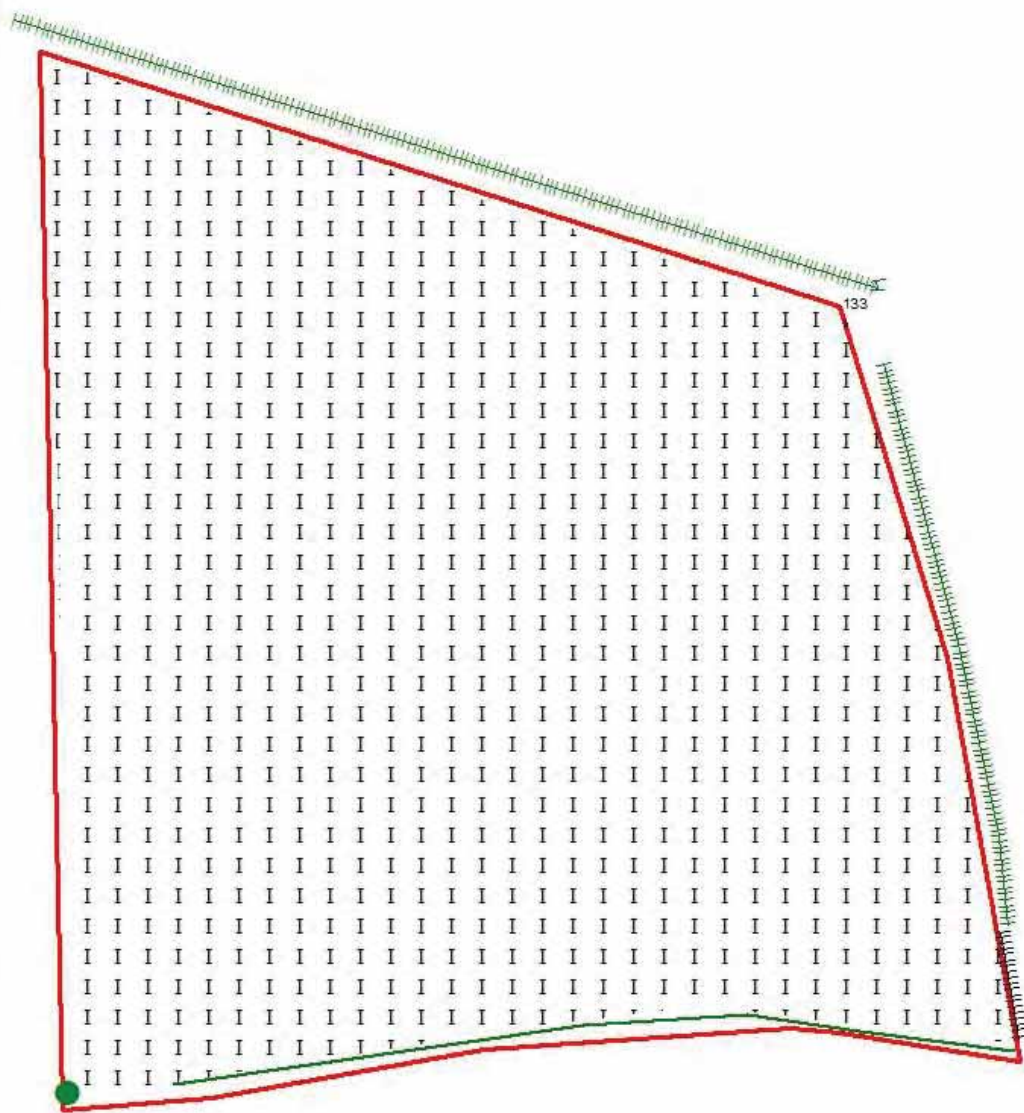
FID 133 is located south west of Ipstones village in the Staffordshire Moorlands District, surrounded by housing, farm buildings and agricultural land.

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).

Figure 1

FID 133



Scale 1:902



2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 133 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) and on the National Biodiversity Network website (www.searchnbn.net).

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.

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.

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.



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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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
AWI	Shirley Wood
AWI	Harston Wood
AWI/ BAS	Bank Sprink
AWI	Hazles Wood
AWI	Crowgutter Wood, Booth's Wood, Knipe Wood, Rough Knipe
AWI	Ruelow Wood
AWI	Booth's Wood, Newhouse Wood
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Massey's Wood, Blackbank Wood
BAS	Noonsun Common
SBI	Intake Farm (south of)
SBI	Greenstiles (north of)
SBI	Park farm (south of)
SBI	Newhouse Wood (part of)
SBI	Whieldon's Wood
SBI	Park Lane, Ipstones
SBI	Brookfields Road (east of)
SBI	Belmont Pastures
SBI	Coldly Banks
SBI	Harston Hill, Froghall Wharf
SBI	Froghall Bridge (east of)
SBI	Fernylee Farm (south of)
SBI	Foxt Wood
SBI	Collyhole (west of)
SBI	Blackbank Wood
SBI	Glenwood House (north of)
SBI	Foxt Banks
SBI	Hazlecross (east of)
SBI	Sexton farm (by)
SBI	Stakebank Wood
SBI	Whitehough Wood (near)
SBI	Summerhill (south west of)
SBI	The Clough

SBI	Brookfields Road (east of)
SBI	Belmont farm
SBI	Parkhead Farm
SBI	Park Gate (south of)
SBI	Foxt Wood (north of)
SBI	Massey's wood (south-west of)
RIGS	Hazles Wood

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 bumble bee
	A flowering plant
	A true fly
	Barn Owl
	Barn Swallow
	Brown birch bolette
	Brown Hare
	Brown long eared bat
	Buff tailed bumble bee
	Cinnabar
	Common Bullfinch
	Common kingfisher
	Common pipistrelle
	Common snipe
	Common Toad
	Common whitethroat
	Dunnock
	Dusky thorn
	Early mining bee
	Eurasian Curlew
	European otter
	European water vole
	Feathered gothic
	Freshwater White clawed crayfish
	Good king henry

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	Grass Snake
	Greater Butterfly-orchid
	Green Woodpecker
	Grey dagger
	Grey Wagtail
	House Sparrow
	Insect - Hymenopteran
	Large red tailed bumble bee
	Lesser Spotted Woodpecker
	Linnet
	Little Kneeling Eyebright
	Mallard
	Marsh stitchwort
	Meadow pipit
	Monk's rhubarb
	Northern Lapwing
	Pipistrelle
	Red mason bee
	Rosy rustic
	September thorn
	Shaded broad bar
	Sky lark
	Small heath
	Small pearl bordered fritillary
	Small phoenix
	Small square spot
	Song Thrush
	Spotted flycatcher
	Western European hedgehog
	Willow Warbler
	Yellow Meadow Ant
	Yellowhammer
INV	American mink
	Canadian goldenrod
	Canadian waterweed
	Giant hogweed
	Indian Balsam
	Japanese knotweed
	Japanese rose
	Rhododendron
E/ UK PS	A bat

	Barn Owl
	Bluebell
	Brown long eared bat
	Common kingfisher
	Common pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European water vole
	Freshwater white clawed crayfish
	Grass Snake
	Natterer's bat
	Northern goshawk
	Pipistrelle

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 hedgerow
- Scattered trees
- Species poor semi-improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.66	96
OTHER	0.03	4
TOTALS	0.69	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> , white clover <i>Trifolium repens</i> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Leylandii <i>Cuprocypressus x leylandii</i> , Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , cherry laurel <i>Prunus laurocerasus</i> , Scots pine <i>Pinus sylvestris</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.

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, scrub and hedgerows from March to August when birds in the UK normally breed.

5. Evaluation

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Species poor hedgerows					x
Scattered trees					x
Species poor grassland					x
Overall site importance					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 consists almost solely of species poor grasslands (96%) which is connected via 2 hedgerows to the wider countryside, which mainly consist of hawthorn, holly *Ilex aquifolium* and elder. The hedgerow to the south of the site is non-native and consists of *leylandii* and cherry laurel.

A number of European and UK protected species have been recorded within 2km, however as the site has poor biodiversity and connectivity so is deemed to have a low ecological importance as it is unlikely that the site would support many protected species apart potentially from foraging bats (nursery colony located 170m away) 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

Vegetation removal

If at all possible it is recommended that as many trees and especially the species rich hedgerow be retained to preserve some 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, 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 has low potential to support protected species as the habitats are species poor and poorly connected to other more biodiverse habitats, therefore the site is deemed as having 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 134



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FID 134

1. Introduction

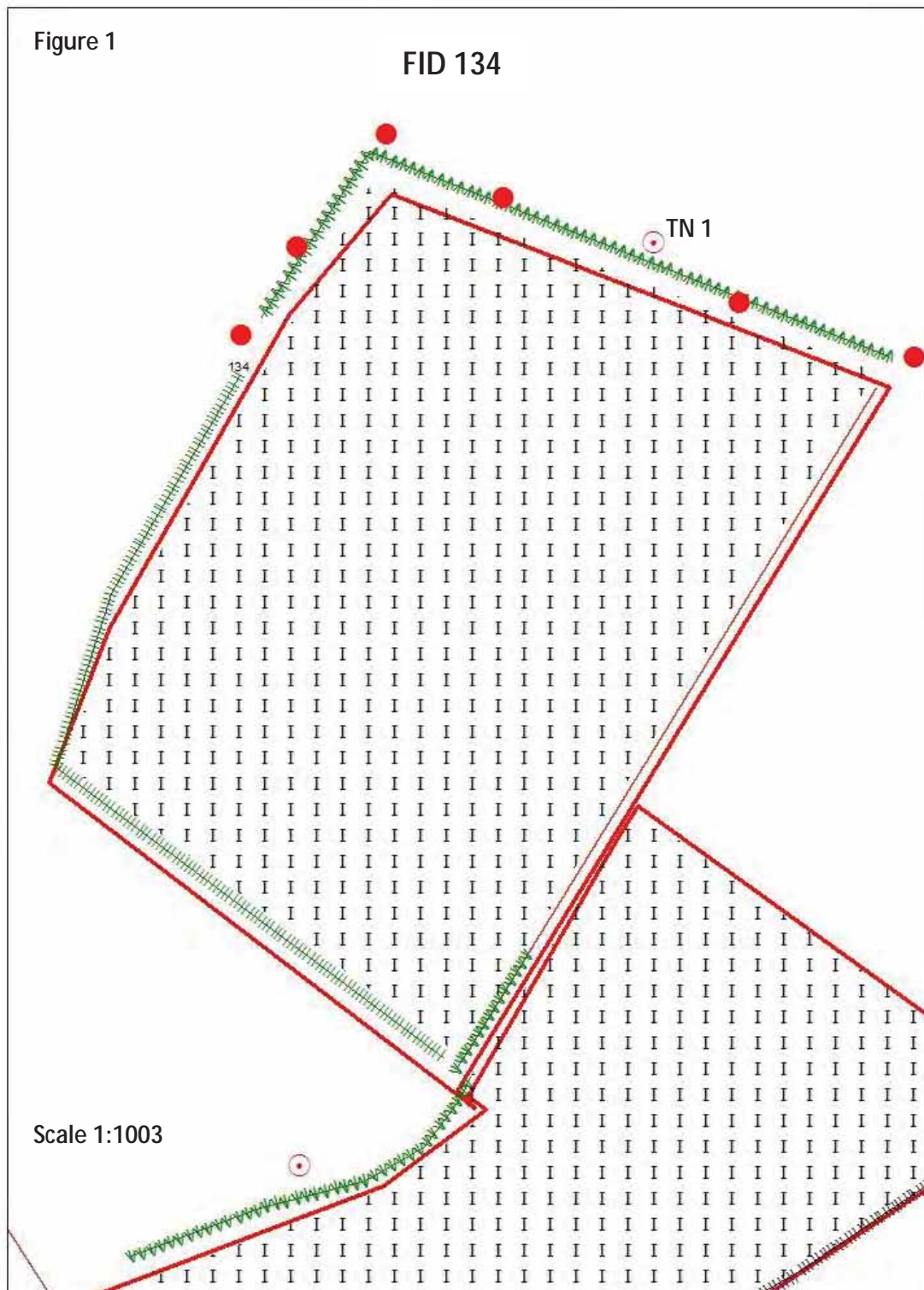
1.1 Background

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 134 O.S grid reference SK 0193350260.

FID 134 is located north of Ipstones village 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 134 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
AWI	Shirley Wood
AWI/ SBI	Calfcroft Sprink
AWI/ BAS	Bank Sprink
AWI	Spirithole Wood
AWI	Crowgutter Wood, Booth's Wood, Knipe Wood, Rough Knipe
AWI	Ruelow Wood
AWI	Booth's Wood, Newhouse Wood
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Massey's Wood, Blackbank Wood
AWI	Whitehough Wood
AWI	Spiritholes Wood, Low Wood, Mill Wood
AWI	Blackhill Wood, Sixoaks Wood
BAS	Noonsun Common
BAS	Knotbury (west of)
BAS	Sharpcliffe Edge
SBI	Intake Farm (south of)
SBI	Greenstiles (north of)
SBI	Bottomlane Farm (west of)
SBI	Park farm (south of)
SBI	Newhouse Wood (part of)
SBI	Whieldon's Wood
SBI	Park Lane, Ipstones
SBI	Brookfields Road (east of)
SBI	Belmont Pastures
SBI	Collyhole (west of)
SBI	Blackbank Wood
SBI	Glenwood House (north of)
SBI	Home Farm (south of)
SBI	Newhouse Wood (part of)
SBI	Sexton farm (by)
SBI	Stakebank Wood
SBI	Ipstone Edge Verges
SBI	Whitehough Wood (near)

SBI	Summerhill (south west of)
SBI	The Clough
SBI	Brookfields Road (east of)
SBI	Belmont farm
SBI	Greenhills
SBI	Upper Greenhills Farm (west of)
SBI	Park Gate (south of)
SBI	Massey's wood (south-west of)

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 bumble bee
	A flowering plant
	A true fly
	Barn Owl
	Barn Swallow
	Brown birch bolette
	Brown Hare
	Brown long eared bat
	Buff tailed bumble bee
	Cinnabar
	Common Bullfinch
	Common pipistrelle
	Common Toad
	Common whitethroat
	Dunnoch
	Eurasian Curlew
	European otter
	Freshwater White clawed crayfish
	Good king henry
	Grass Snake
	Greater Butterfly-orchid
	Green Woodpecker
	Grey Wagtail
	House Sparrow
	Linnet



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	Little Kneeling Eyebright
	Mallard
	Meadow pipit
	Monk's rhubarb
	Northern Lapwing
	Pipistrelle
	Red mason bee
	Rosy minor
	Sky lark
	Small heath
	Stock dove
	Wall
	Western European hedgehog
	Willow Warbler
	Yellowhammer
INV	Canadian goldenrod
	Giant hogweed
	Indian Balsam
	Japanese knotweed
	Japanese rose
	Rhododendron
E/ UK PS	A bat
	Barn Owl
	Bluebell
	Brown long eared bat
	Common pipistrelle
	Eurasian Badger
	European otter
	European water vole
	Freshwater white clawed crayfish
	Grass Snake
	Natterer's bat
	Pipistrelle

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

- Scattered trees
- Species rich hedgerow
- Species poor hedgerow
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	0.57	92	
OTHER	0.05	8	
BPT			5
TOTALS	0.62	100	5

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> , common nettle <i>Urtica dioica</i> , dandelion <i>Taraxacum officinale</i> agg
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> , beech <i>Fagus sylvatica</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 and hedgerows from March to August when birds in the UK normally breed.



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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0196250300	Requires hedgerow survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species rich hedgerow				x	
Species poor hedgerow					x
Species poor grassland					x
Overall site importance				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 farm buildings, and species poor grasslands which are fairly poorly connected to the wider countryside, and adjacent to FID 136 to the south.

The site itself consists of species poor improved grassland (92%) and 6 beech and sycamore trees that have potential to support roosting bats. The species rich hedgerow consists of hawthorn, elder, holly *Ilex aquifolium*, beech, sycamore and leylandii. Therefore the site is deemed to have district ecological importance.

Although the site is given district ecological importance it is deemed unlikely that it would support many protected species apart potentially from roosting/ foraging bats, badger and west European hedgehog (recorded within 90m).

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.

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 and particularly species rich 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

Although the site has little potential to support a large variety of protected species and is fairly poorly connected to the wider countryside, the site is attributed district ecological importance due to a number of trees with potential to support roosting bats and a species rich hedgerow.

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

- Bat survey of the trees with bat roosting potential
- Hedgerow survey
- Vegetation removal at the appropriate time of year



FID 135



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FID 135

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 135 O.S grid reference SK0188250027.

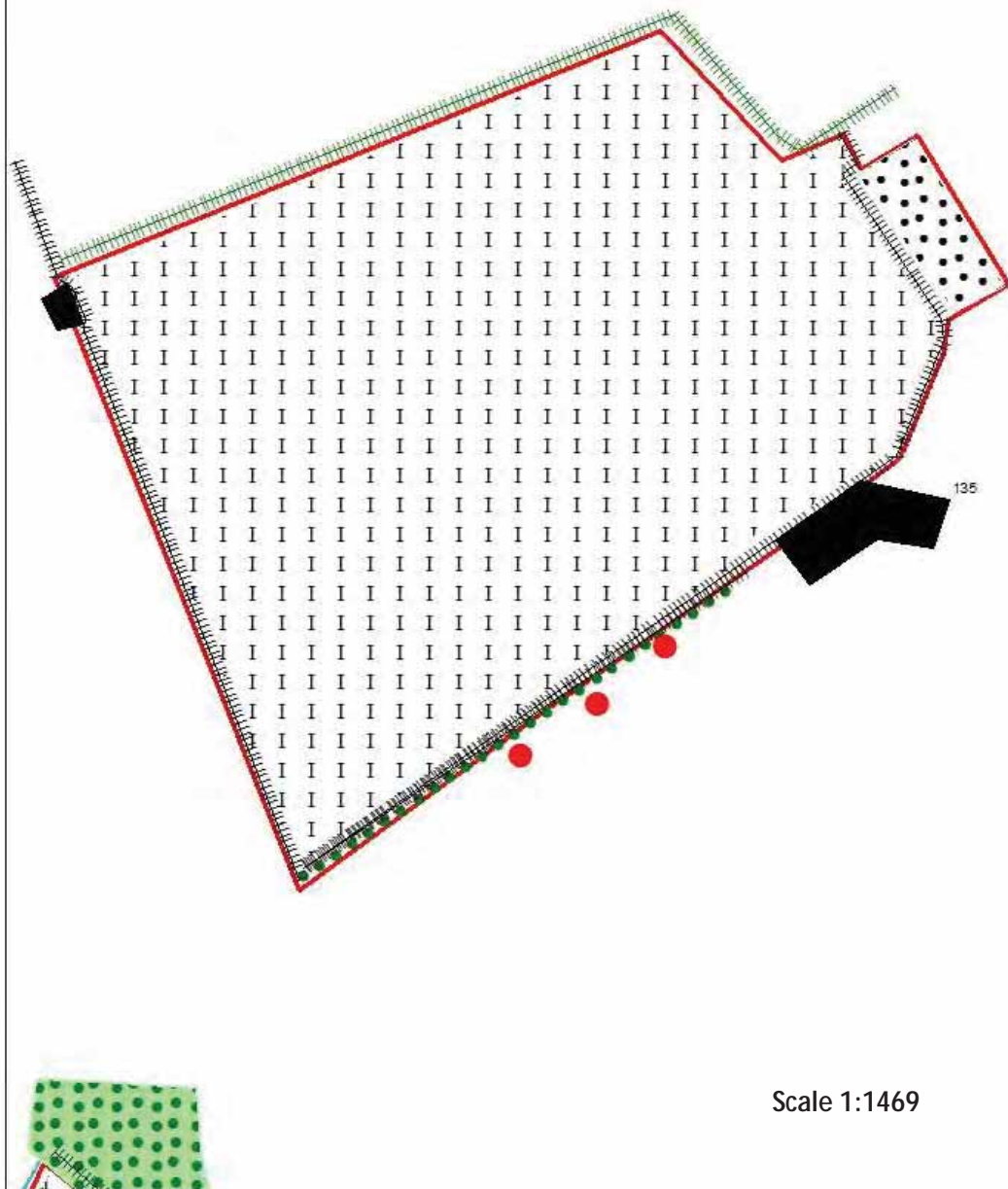
FID 135 is located north west of Ipstones village in the Staffordshire Moorlands District, surrounded by housing, farm buildings and agricultural land.

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).

Figure 1

FID 135



Scale 1:1469



2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 135 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
AWI	Shirley Wood
AWI/ SBI	Calfcroft Sprink
AWI/ BAS	Bank Sprink
AWI	Crowgutter Wood, Booth's Wood, Knipe Wood, Rough Knipe
AWI	Ruelow Wood
AWI	Booth's Wood, Newhouse Wood
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Massey's Wood, Blackbank Wood
AWI	Whitehough Wood
AWI	Spiritholes Wood, Low Wood, Mill Wood
AWI	Blackhill Wood, Sixoaks Wood
BAS	Noonsun Common
BAS	Knotbury (west of)
BAS	Sharpcliffe Edge
SBI	Intake Farm (south of)
SBI	Greenstiles (north of)
SBI	Bottomlane Farm (west of)
SBI	Park farm (south of)
SBI	Newhouse Wood (part of)
SBI	Whieldon's Wood
SBI	Park Lane, Ipstones
SBI	Brookfields Road (east of)
SBI	Belmont Pastures
SBI	Collyhole (west of)
SBI	Blackbank Wood
SBI	Glenwood House (north of)
SBI	Home Farm (south of)
SBI	Newhouse Wood (part of)
SBI	Sexton farm (by)
SBI	Stakebank Wood
SBI	Ipstone Edge Verges
SBI	Whitehough Wood (near)
SBI	Summerhill (south west of)

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SBI	The Clough
SBI	Brookfields Road (east of)
SBI	Belmont farm
SBI	Foxt Wood
SBI	Park Gate (south of)
SBI	Massey's wood (south-west of)

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 bumble bee
	A flowering plant
	A true fly
	Barn Owl
	Barn Swallow
	Brown birch bolette
	Brown Hare
	Brown long eared bat
	Buff tailed bumble bee
	Cinnabar
	Common Bullfinch
	Common pipistrelle
	Common Toad
	Common whitethroat
	Dunnock
	Eurasian Curlew
	European otter
	Freshwater White clawed crayfish
	Good king henry
	Grass Snake
	Greater Butterfly-orchid
	Green Woodpecker
	Grey Wagtail
	House Sparrow
	Linnet
	Little Kneeling Eyebright
	Mallard

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	Meadow pipit
	Monk's rhubarb
	Northern Lapwing
	Pipistrelle
	Red mason bee
	Rosy minor
	Sky lark
	Small heath
	Small pearl bordered fritillary
	Stock dove
	Wall
	Western European hedgehog
	Willow Warbler
	Yellowhammer
INV	American mink
	Canadian goldenrod
	Giant hogweed
	Greater Canada goose
	Indian Balsam
	Japanese knotweed
	Japanese rose
	Rhododendron
E/ UK PS	A bat
	Barn Owl
	Bluebell
	Brown long eared bat
	Common pipistrelle
	Eurasian Badger
	European otter
	Freshwater white clawed crayfish
	Grass Snake
	Natterer's bat
	Pipistrelle

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

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4.3 Field survey

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	1.01	91	
OTHER	0.11	9	
BPT			3
TOTALS	1.12	100	3

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> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus</i> agg, pedunculate oak <i>Quercus robur</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 and hedgerows 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
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 and close to FID 137 to the south.

The site itself consists of species poor improved grassland (91%), 3 pedunculate oak trees that have the potential to support roosting bats, with the species poor hedgerow consisting of hawthorn and elder. The presence of the 3 mature pedunculate oak trees with roosting bat potential has warranted the site to be given an elevated district ecological importance status.

A number of European and UK protected species have been recorded within 2km and it is deemed that the site could support some of the species including roosting/ foraging bats, badger and West European hedgehog (recorded within 100m).

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 3 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

Apart from roosting bats the site has little potential to support protected species and fairly poorly connected to the wider countryside, but their presence gives the site at least district ecological importance.

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

- Bat survey of the trees with bat roosting potential
- Vegetation removal at the appropriate time of year



FID 136



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FID 136

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 136 O.S grid reference SK0194150178.

FID 136 is located north west of Ipstones village 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 136 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
AWI	Shirley Wood
AWI/ SBI	Calfcroft Sprink
AWI/ BAS	Bank Sprink
AWI	Spirithole Wood
AWI	Crowgutter Wood, Booth's Wood, Knipe Wood, Rough Knipe
AWI	Ruelow Wood
AWI	Booth's Wood, Newhouse Wood
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Massey's Wood, Blackbank Wood
AWI	Whitehough Wood
AWI	Spiritholes Wood, Low Wood, Mill Wood
AWI	Blackhill Wood, Sixoaks Wood
BAS	Noonsun Common
BAS	Knotbury (west of)
BAS	Sharpcliffe Edge
SBI	Intake Farm (south of)
SBI	Greenstiles (north of)
SBI	Bottomlane Farm (west of)
SBI	Park farm (south of)
SBI	Newhouse Wood (part of)
SBI	Whieldon's Wood
SBI	Park Lane, Ipstones
SBI	Brookfields Road (east of)
SBI	Belmont Pastures
SBI	Collyhole (west of)
SBI	Blackbank Wood
SBI	Glenwood House (north of)
SBI	Home Farm (south of)
SBI	Newhouse Wood (part of)
SBI	Sexton farm (by)
SBI	Stakebank Wood
SBI	Ipstone Edge Verges
SBI	Whitehough Wood (near)

SBI	Summerhill (south west of)
SBI	The Clough
SBI	Brookfields Road (east of)
SBI	Belmont farm
SBI	Greenhills
SBI	Upper Greenhills Farm (west of)
SBI	Park Gate (south of)
SBI	Massey's wood (south-west of)

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 bumble bee
	A flowering plant
	A true fly
	Barn Owl
	Barn Swallow
	Brown birch bolette
	Brown Hare
	Brown long eared bat
	Buff tailed bumble bee
	Cinnabar
	Common Bullfinch
	Common pipistrelle
	Common Toad
	Common whitethroat
	Dunnoch
	Eurasian Curlew
	European otter
	Freshwater White clawed crayfish
	Good king henry
	Grass Snake
	Greater Butterfly-orchid
	Green Woodpecker
	Grey Wagtail
	House Sparrow
	Linnet



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	Little Kneeling Eyebright
	Mallard
	Meadow pipit
	Monk's rhubarb
	Northern Lapwing
	Pipistrelle
	Red mason bee
	Rosy minor
	Sky lark
	Small heath
	Stock dove
	Wall
	Western European hedgehog
	Willow Warbler
	Yellowhammer
INV	Canadian goldenrod
	Giant hogweed
	Indian Balsam
	Japanese knotweed
	Japanese rose
	Rhododendron
E/ UK PS	A bat
	Barn Owl
	Bluebell
	Brown long eared bat
	Common pipistrelle
	Eurasian Badger
	European otter
	European water vole
	Freshwater white clawed crayfish
	Grass Snake
	Natterer's bat
	Pipistrelle

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

- Scattered trees
- Tall ruderal vegetation
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.42	92
TR	0.04	8
OTHER	0.00	0
TOTALS	0.46	100

I – Improved grassland, 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
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , False oat grass <i>Arrhenatherum elatius</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , rosebay willowherb <i>Chamerion angustifolium</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , , bramble <i>Rubus fruticosus</i> agg, English elm <i>Ulmus procera</i> , elder <i>Sambucus nigra</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.

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.



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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0191850187	Requires hedgerow survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees					x
Tall ruderal vegetation					x
Species poor grassland					x
Overall site importance				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, species poor grasslands and planted mixed woodland which are fairly well connected to the wider countryside with a wet ditch and scattered trees, and adjacent to FID 134 to the north.

The site itself consists of species poor improved grassland (92%), with tall ruderal species such as rosebay willowherb and common nettle.

A number of European and UK protected species have been recorded within 2km and it is deemed that the site could support some of the species including roosting/ foraging bats, badger and West European hedgehog (recorded within 50m).

The site has a low biodiversity value within the matrix as the habitats present are common within the UK and the locality, species poor with fairly poor connectivity to the wider countryside. Nevertheless the site's importance is elevated to district ecological importance as the hedgerow present on site is species rich.

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 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 apart from foraging bats and badger, and is fairly poorly connected to the wider countryside, though as a species rich hedgerow is present the site is attributed 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 137



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FID 137

1. Introduction

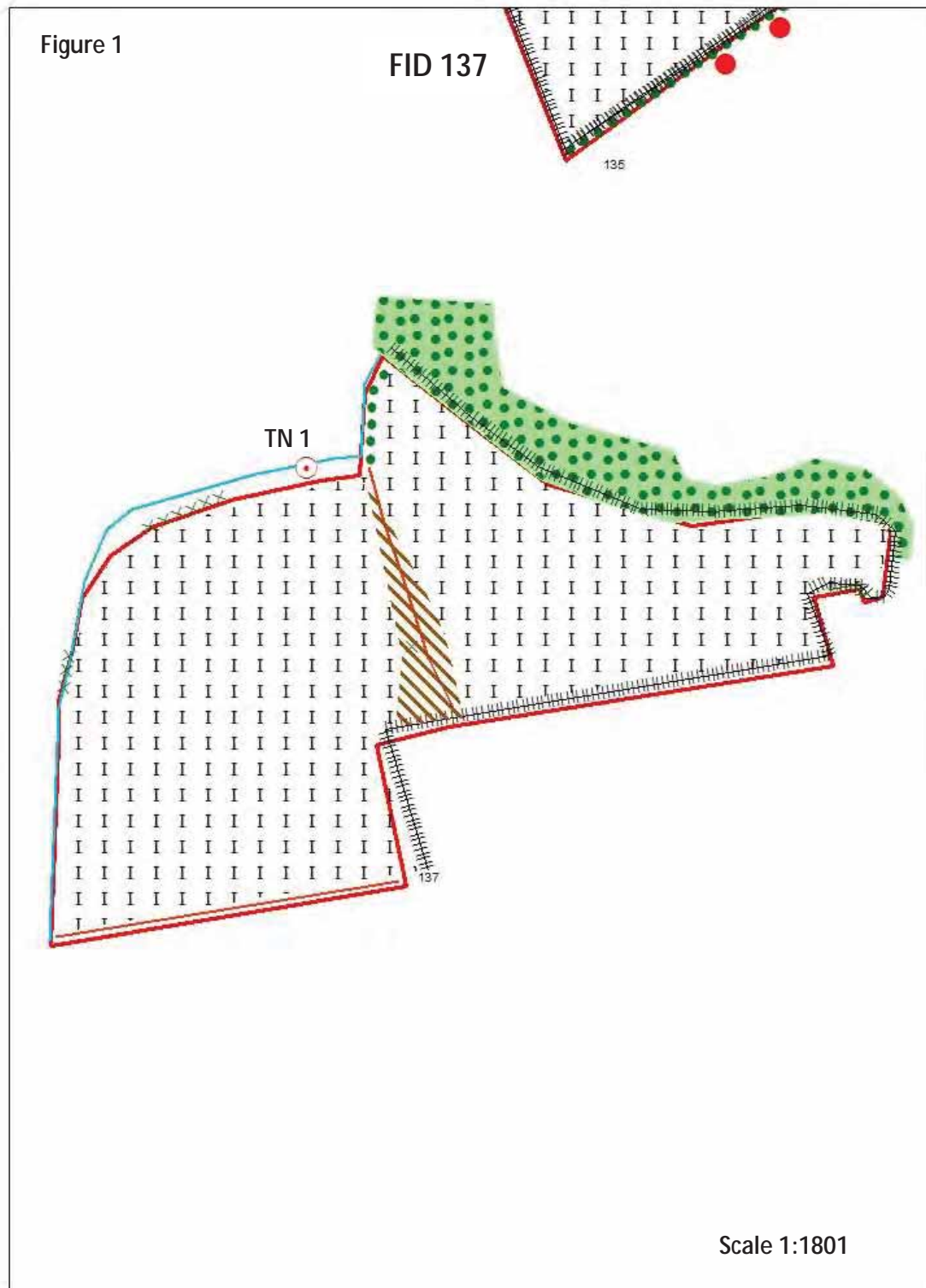
1.1 Background

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 137 O.S grid reference SK0181149847.

FID 137 is located north west of Ipstones village 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 137 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
AWI	Shirley Wood
AWI/ SBI	Calfcroft Sprink
AWI/ BAS	Bank Sprink
AWI	Crowgutter Wood, Booth's Wood, Knipe Wood, Rough Knipe
AWI	Ruelow Wood
AWI	Booth's Wood, Newhouse Wood
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Massey's Wood, Blackbank Wood
AWI	Whitehough Wood
AWI	Spiritholes Wood, Low Wood, Mill Wood
AWI	Blackhill Wood, Sixoaks Wood
BAS	Noonsun Common
BAS	Knotbury (west of)
BAS	Sharpcliffe Edge
SBI	Intake Farm (south of)
SBI	Greenstiles (north of)
SBI	Bottomlane Farm (west of)
SBI	Park farm (south of)
SBI	Newhouse Wood (part of)
SBI	Whieldon's Wood
SBI	Park Lane, Ipstones
SBI	Brookfields Road (east of)
SBI	Belmont Pastures
SBI	Collyhole (west of)
SBI	Blackbank Wood
SBI	Glenwood House (north of)
SBI	Home Farm (south of)
SBI	Newhouse Wood (part of)
SBI	Sexton farm (by)
SBI	Stakebank Wood
SBI	Ipstone Edge Verges
SBI	Whitehough Wood (near)
SBI	Summerhill (south west of)

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SBI	The Clough
SBI	Brookfields Road (east of)
SBI	Belmont farm
SBI	Foxt Wood
SBI	Park Gate (south of)
SBI	Massey's wood (south-west of)

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 bumble bee
	A flowering plant
	A true fly
	Barn Owl
	Barn Swallow
	Brown birch bolette
	Brown Hare
	Brown long eared bat
	Buff tailed bumble bee
	Cinnabar
	Common Bullfinch
	Common pipistrelle
	Common Toad
	Common whitethroat
	Dunnock
	Eurasian Curlew
	European otter
	Freshwater White clawed crayfish
	Good king henry
	Grass Snake
	Greater Butterfly-orchid
	Green Woodpecker
	Grey dagger
	Grey Wagtail
	House Sparrow
	Linnet
	Little Kneeling Eyebright



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	Mallard
	Marsh stitchwort
	Meadow pipit
	Monk's rhubarb
	Northern Lapwing
	Pipistrelle
	Red mason bee
	Rosy minor
	Rosy rustic
	September Thorn
	Shaded broad bar
	Sky lark
	Small heath
	Small pearl bordered fritillary
	Stock dove
	Tall hawkweed
	Wall
	Western European hedgehog
	Willow Warbler
	Yellowhammer
INV	American mink
	Canadian goldenrod
	Giant hogweed
	Greater Canada goose
	Indian Balsam
	Japanese knotweed
	Japanese rose
	Rhododendron
E/ UK PS	A bat
	Barn Owl
	Bluebell
	Brown long eared bat
	Common pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	Freshwater white clawed crayfish
	Grass Snake
	Natterer's bat

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	Northern Goshawk
	Pipistrelle

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.

- Wet ditch
- Scattered trees
- Tall ruderal vegetation
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	1.04	89
TR	0.04	4
OTHER	0.08	7
TOTALS	1.16	100

I – Improved grassland, 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
Grassland/ tall ruderal vegetation	Perennial rye grass <i>Lolium perenne</i> , white clover <i>Trifolium repens</i> , curled dock <i>Rumex crispus</i> , cock's foot <i>Dactylis glomerata</i> , false oat grass <i>Arrhenatherum elatius</i> , rosebay willowherb <i>Chamerion angustifolium</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , bramble <i>Rubus fruticosus</i> agg, 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.



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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 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	SK0178949881	Wet ditch with species poor tall ruderal vegetation

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Wet ditch				x	x
Scattered trees					x
Tall ruderal vegetation					x
Species poor grassland					x
Overall site importance					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, species poor grasslands and planted mixed woodland which are fairly well connected to the wider countryside with a wet ditch and scattered trees, and close to FID 136 to the north.

The site itself consists of species poor improved grassland (92%), and a shallow wet ditch which share tall ruderal species such as rosebay willowherb and common nettle. The ditches connectivity to other more biodiverse has elevated the habitats importance to a district level.

A number of European and UK protected species have been recorded within 2km and it is deemed that the site could support some of the species including roosting/ foraging bats and badger.

The site has a relatively low ecological value within the matrix as the habitats present are common within the UK and the locality, species poor but with fairly good connectivity through the wet ditch.

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 are retained if the site is to be developed.

If trees 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 apart from foraging bats and badger. The wet ditch also supports species poor tall ruderal vegetation which forms a connection to the wider countryside, although this is given a district level of ecological importance it does not elevate the site's overall low ecological importance as a whole.

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 0



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FID 0

1. Introduction

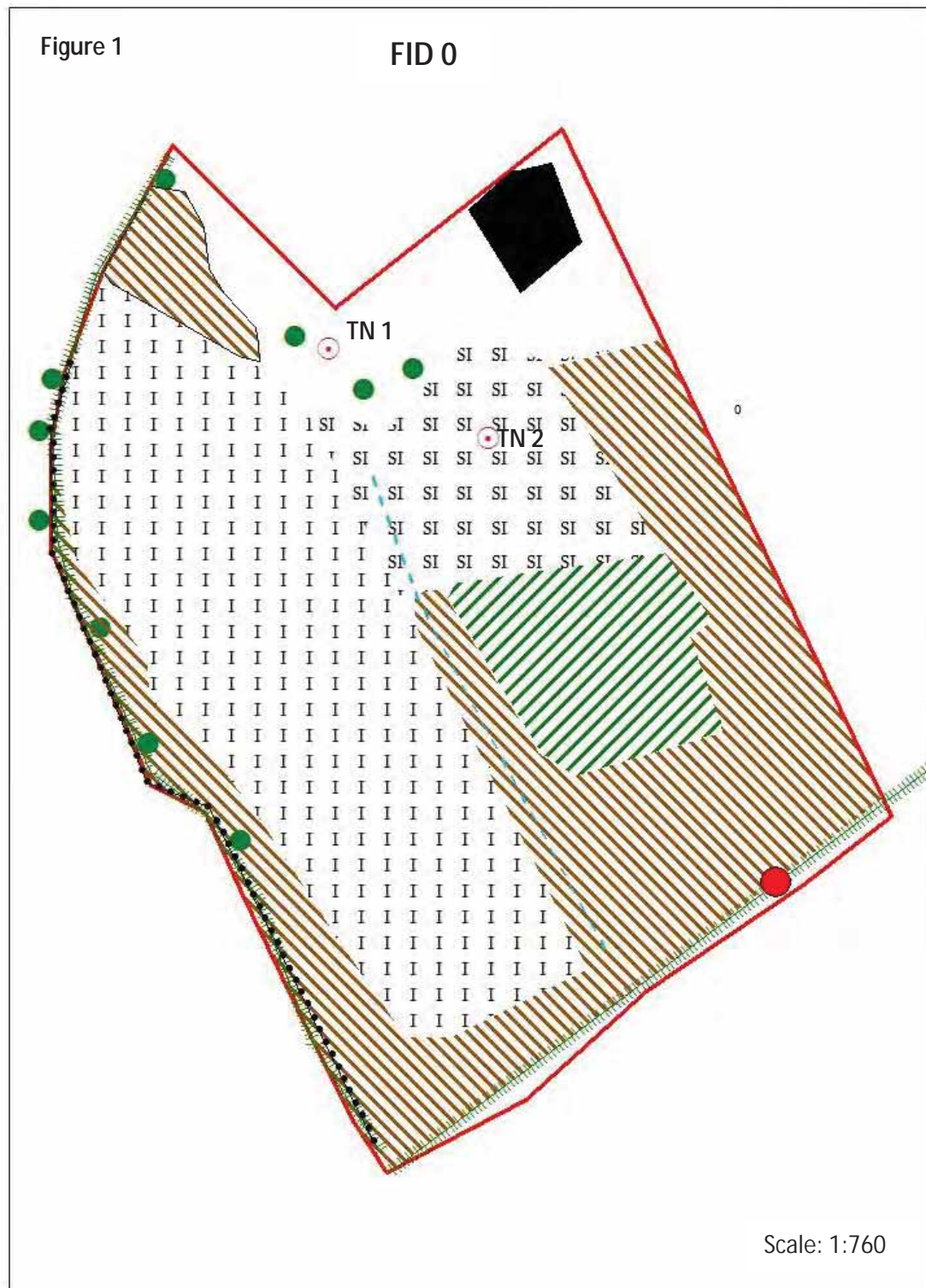
1.1 Background

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 0, O.S grid reference SK0092046830.

FID 0 is located within the village of Kingsley approximately 11 km east of Stoke on Trent in the Staffordshire Moorlands District, with a mixture of agricultural land to the south and domestic dwellings to the north.

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 0 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

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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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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) and on the National Biodiversity Network website (www.searchnbn.net).



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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
SSSI	Froghall Meadow and pastures
AWI	Crowgutter Wood, Booth's Wood, KnipeWood, Rough Knipe
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Blackbank Wood
AWI	Straighthills Wood
AWI	Hazles Wood
AWI	Ruelow Wood
AWI	Hag Wood
AWI	Banktop Woods
AWI	Consall Wood
AWI	Ashbourne Hey
AWI	Harston Wood
BAS	Bank Sprink
BAS	Gorsey Wood
BAS	Adams Hollow
SBI	Consall Forge
SBI	Foxt Wood
SBI	Foxt Wood (north of)
SBI	Dale Sprink pastures
SBI	Hazlescros (east of)
SBI	Brough's Wood
SBI	Whiston Bridge (west of)
SBI	Kingsley Holt (east of)
SBI	Whieldon's Wood
SBI	Coldley Banks
RIGS	Far Kingsley Banks
RIGS	Hazles Wood

SSSI – Site of Special Scientific Interest, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Action Site, SBI – Site of Biological Importance

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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	Adder
	Argent and Sable
	Barn Swallow
	Blue Mason Bee
	Brown Hare
	Brown long-eared bat
	Brown trout
	Buff tailed bumble bee
	Common Bullfinch
	Common Fan-foot
	Common kingfisher
	Common kestrel
	Common pipistrelle
	Common snipe
	Common Toad
	Dunnock
	Early Bumble Bee
	Eurasian Curlew
	European Water Vole
	Great Crested Newt
	Greater Butterfly-orchid
	Hornet
	House Sparrow
	Insect - Hymenopteran
	Large-flowered Hemp-nettle
	Large Red-tailed Bumble Bee
	Marsh Stitchwort
	Pipistrelle Bat
	Red Mason Bee
	Small Pearl-bordered Fritillary
	Song Thrush
	West European Hedgehog
	Wood Warbler
INV	American mink
	Canadian water weed

	Chinese muntjac
	Indian Balsam
	Japanese knotweed
	Least duckweed
	Rhododendron
	Turkey oak
E/ UK EPS	Adder
	Barn owl
	Bluebell
	Brown long eared bat
	Common kingfisher
	Daubenton's bat
	Eurasian Badger
	Eurasian hobby
	European otter
	European Water Vole
	Floating water plantain
	Grass snake
	Great Crested Newt
	Natterer's bat
	Northern goshawk
	Osprey
	Pine marten
	Pipistrelle Bat

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UKPS – 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, including ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus* and pendunculate oak *Quercus robur* among others.
- Planted broadleaved woodland in one small area including cherry *Prunus species* and apple *Malus species* saplings
- Improved grassland and semi-improved species poor grassland
- Tall ruderal vegetation
- Species poor hedgerows
- Dry ditch

Table 3

HABITAT	AREA (HECTAREs TO 2 D.P.)	PERCENTAGE (%)	NUMBER
TR	0.15	33	
I	0.15	33	
SI	0.05	11	
PBW	0.04	9	
OTHER	0.06	14	
BPT			1
TOTALS	0.45	100	1

TR- Tall ruderal vegetation, I – Improved grassland, SI – Species poor semi-improved grassland, PBW – Planted Broadleaved Woodland

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> , Perennial rye grass <i>Lolium perenne</i> , cocks foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i>
Hedgerows	Hawthorn <i>Crataegus mongyna</i> , ash <i>Fraxinus excelsior</i>

4.3.3 Invasive weeds

No noxious weeds such as Japanese knotweed *Fallopia japonica* Himalayan balsam *Impatiens glandulifera* and Rhodedendron *Rhodedendron Ponticum spp* 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 site has 1 tree which was recorded in the walkover survey that could potentially support roosting bats.

The site also has 1 large detached house present which was deemed potentially suitable for 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 are likely to nest in areas of scattered trees, tall ruderal vegetation, hedgerows, and possibly buildings within the survey area 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*, dunnock *Prunella modularis*,
- Speckled wood *Pararge aegeria* butterfly.

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0091646851	Domestic garden
2	SK0092646850	Species poor tall/ rank grassland

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Tree with bat potential				x	
Scattered trees				x	
Species poor hedgerows					x
Dry ditch					x
Tall ruderal vegetation					x
Species poor grassland					x
Planted broadleaved woodland					x
Overall potential site importance				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. Trees with bat potential are deemed to have the highest value as its loss as a roost could adversely affect regional bat populations.

Scattered trees and species poor hedgerows are very common habitats but could support nesting birds. These hedgerows have no connective habitats which is detrimental to their overall wildlife value. The dry ditch, although supporting species poor vegetation can provide a wildlife corridor for other species, especially when wet, although its course actually begins within the site.

The small area of planted saplings, tall ruderal vegetation and species poor grassland habitats are particularly common in the UK or have low biodiversity value and therefore are deemed to have a low value within the matrix.

The site is also fairly isolated with poor connecting habitat to the wider countryside, apart from a shallow dry ditch, nestled within a domestic housing estate, partly encompassing a garden and adjacent to species poor grasslands to the south.

Despite a number of European and UK protected and UKBAP species being recorded within 2km it is unlikely that the fairly poor biodiversity contained within the site would support most of the 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.

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 and 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 tree and building recorded as having potential to support roosting bats should both 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 and buildings 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 from according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act. Similarly removal of any tall ruderal vegetation should also be carried out outside the bird breeding season, or checked prior to removal by a suitably qualified ecologist then immediately removed prior to development works being carried out.

7. Conclusion

The site has fairly low biodiversity value overall, the major aspects of interest being the bat potential in the tree and building which has elevated the sites overall potential importance to a district level in terms of its loss to the wider countryside. This is supported by general potential for supporting breeding birds and foraging bats in the scattered trees, hedgerows and to a lesser extent the tall ruderal vegetation.

The following surveys/ actions are therefore recommended:

- Two separate bat survey regimes for the trees and buildings are therefore recommended to ascertain whether they support roosting bats
- Vegetation removal is recommended at the appropriate



FID 1



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FID 1

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 1 O.S grid reference SK0150446775 .

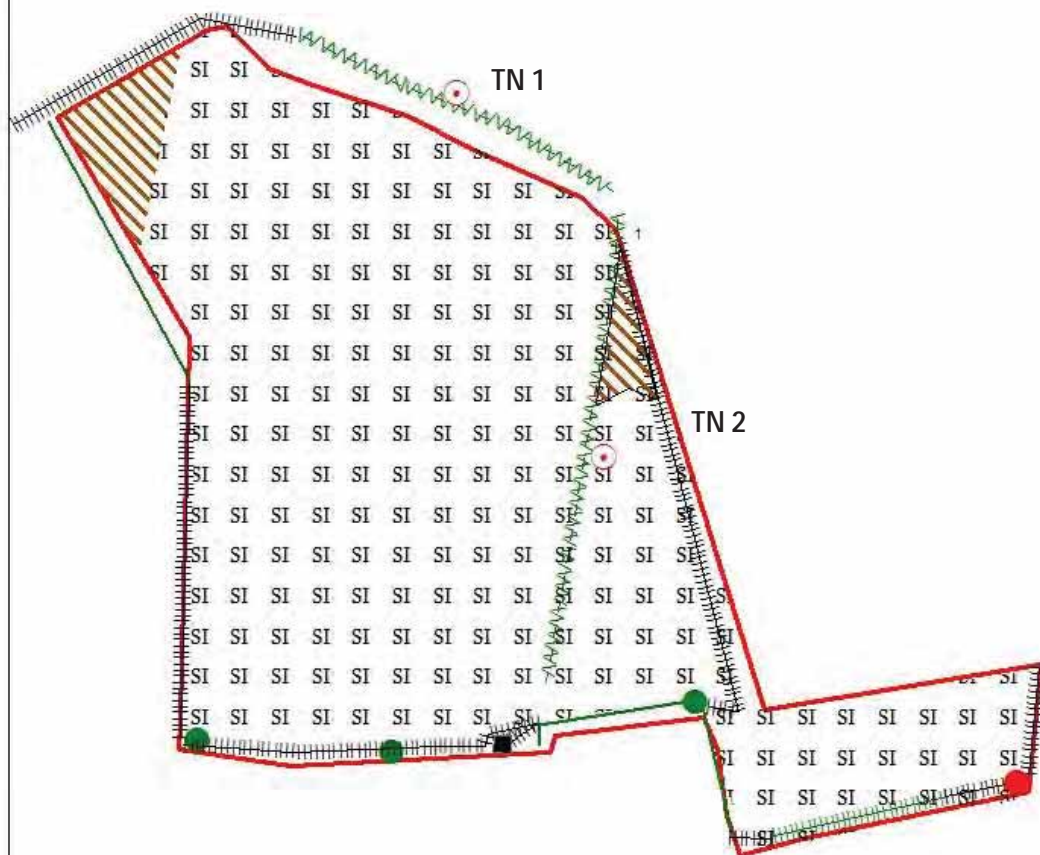
FID 1 is located to the east of the village of Kingsley, approximately 12 km from Stoke on Trent in the Staffordshire Moorlands District, surrounded by a mixture of agricultural pasture and houses.

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).

Figure 1

FID 1



Scale 1:1,710



2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 1 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) and on the National Biodiversity Network website (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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
SSSI	Froghall Meadows and Pastures
SSSI	Whiston Eaves
AWI	Waste Wood
AWI	Crowgutter Wood, Booth's Wood, KnipeWood, Rough Knipe
AWI	Murrel's Wood
AWI	Jackson Wood
AWI	Lock Wood/ Lockwood Waste
AWI	Ashbourne Wood
AWI	Ruelow Wood
AWI	Hag Wood
AWI	Banktop Woods
AWI	Consall Wood
AWI	Ashbourne Hey
AWI	Harston Wood
AWI	Straighthills Wood
AWI	Bank Sprink
AWI	Hazles Wood
AWI	Booth's Wood, Newhouse Wood
AWI	Moseywood Wood, Cloughhead Wood, Whieldon's Wood, Blackbank Wood
BAS	Gorse Wood
BAS	Bank Sprink
BAS	Adams Hollow
SBI	Harston Hill, Froghall Wharf
SBI	Lockwood pastures
SBI	Fernylee Farm (south of)
SBI	Foxt Wood
SBI	Ashbourne Hey
SBI	Jackson Wood
SBI	Little Eaves Farm
SBI	Whieldon's Wood
SBI	Tank Wood
SBI	Whistonbrook

SBI	Foxt Wood (north of)
SBI	Coldley Banks
SBI	Kingsley Holt (east of)
SBI	Whiston Bridge
SBI	Hazlescros (east of)
RIGS	Hazles Wood

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

4.2 Desk study - Species recorded within 2km.

The following table 1 illustrates all UKBAP, invasive species and European/ UK protected species found within 2km of the site.

Table 2

SPECIES TYPE	COMMON NAME
BAP	A true fly
	Barn Owl
	Barn Swallow
	Blue Mason Bee
	Brown hare
	Brown long-eared bat
	Brown Trout
	Common Bullfinch
	Common Kestrel
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Starling
	Common Toad
	Common Wasp
	Dunnock
	Dyer's Greenweed
	Early Bumble Bee
	Eurasian Curlew
	European Water Vole
	Good King Henry
	Grass snake
	Great crested newt
	Greater Butterfly-orchid
	Green Woodpecker
	Grey Wagtail

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	Hornet
	House Sparrow
	Insect – Hymenopteran
	Large-flowered Hemp-nettle
	Large Red-tailed Bumble Bee
	Marsh Stitchwort
	Pink Waxcap
	Pipistrelle
	Red Mason bee
	Small Heath
	Small Pearl-bordered Fritillary
	Song Thrush
	Spotted flycatcher
	True bumble bee
	Wall
	West European Hedgehog
	Wood Warbler
INV	American Mink
	Canadian water weed
	Indian Balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	Barn Owl
	Bluebell
	Brown long-eared bat
	Common Kingfisher
	Daubenton's bat
	Eurasian Badger
	European Water Vole
	Grass snake
	Great crested newt
	Natterer's bat
	Pipistrelle

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UK PS – European/ UK 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 and species poor hedgerows
- Scattered trees
- Improved grassland
- Tall ruderal vegetation

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
TR	0.05	4	
SI	1.14	96	
BPT			1
TOTALS	1.19	100	1

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

4.3.3 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	Cock's foot <i>Dactylis glomerata</i> , perennial rye grass <i>Lolium perenne</i> , creeping buttercup <i>Ranunculus repens</i>
Hedgerows	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , holly <i>Ilex aquifolium</i>

4.3.4 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.

4.3.5 Fauna

Bats

The site has 1 tree which was recorded in the walkover survey that could potentially support roosting bats, as it had at least one of the corresponding features including rot holes, cavities, peeling bark, split limbs, woodpecker holes and climbing ivy which develop with age. The 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 useful for foraging along flight lines and can be used for gleaning of invertebrates from species such as brown long eared and some *Myotis* sp.

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, tall ruderal vegetation, hedgerows, and possibly buildings within the survey area 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*, carrion crow *Corvus corone*

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0151546837	Requires hedgerow survey
2	SK0154446774	Requires hedgerow survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees				x	
Species poor hedgerows					x
Tall ruderal vegetation					x
Species poor grassland					x
Overall potential site importance				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. Trees with bat potential are usually deemed to have a fairly high value as its loss as a roost could adversely affect regional bat populations. Scattered trees and species poor hedgerows are very common habitats but could support nesting birds and provide a wildlife corridor for numerous other species. The tall ruderal vegetation and 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 fairly poor biodiversity value of the site would support most of the species. The exceptions would probably include foraging 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.

The site is also fairly isolated with poor connecting habitat to the wider countryside; the hedgerows present do not connect with other hedgerows and have gaps in them. The site is directly adjacent to a domestic housing estate and species poor grasslands to the south, which reduces the value of the site as a whole to bats and other species of wildlife.

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 and 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 single tree 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).

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 from according to BTO guidelines (September to February) to avoid the breeding bird season and contravention of the aforementioned Act. Similarly removal of any tall ruderal vegetation should also be carried out outside the bird breeding season, or checked prior to removal by a suitably qualified ecologist then immediately removed prior to development works being carried out.

7. Conclusion

The site has fairly low biodiversity value overall, the major aspects of interest being the bat roosting potential in the tree and the species rich hedgerows. Therefore the site is 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 single tree
- Vegetation removal at the appropriate time of year



FID 14



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FID 14

1. Introduction

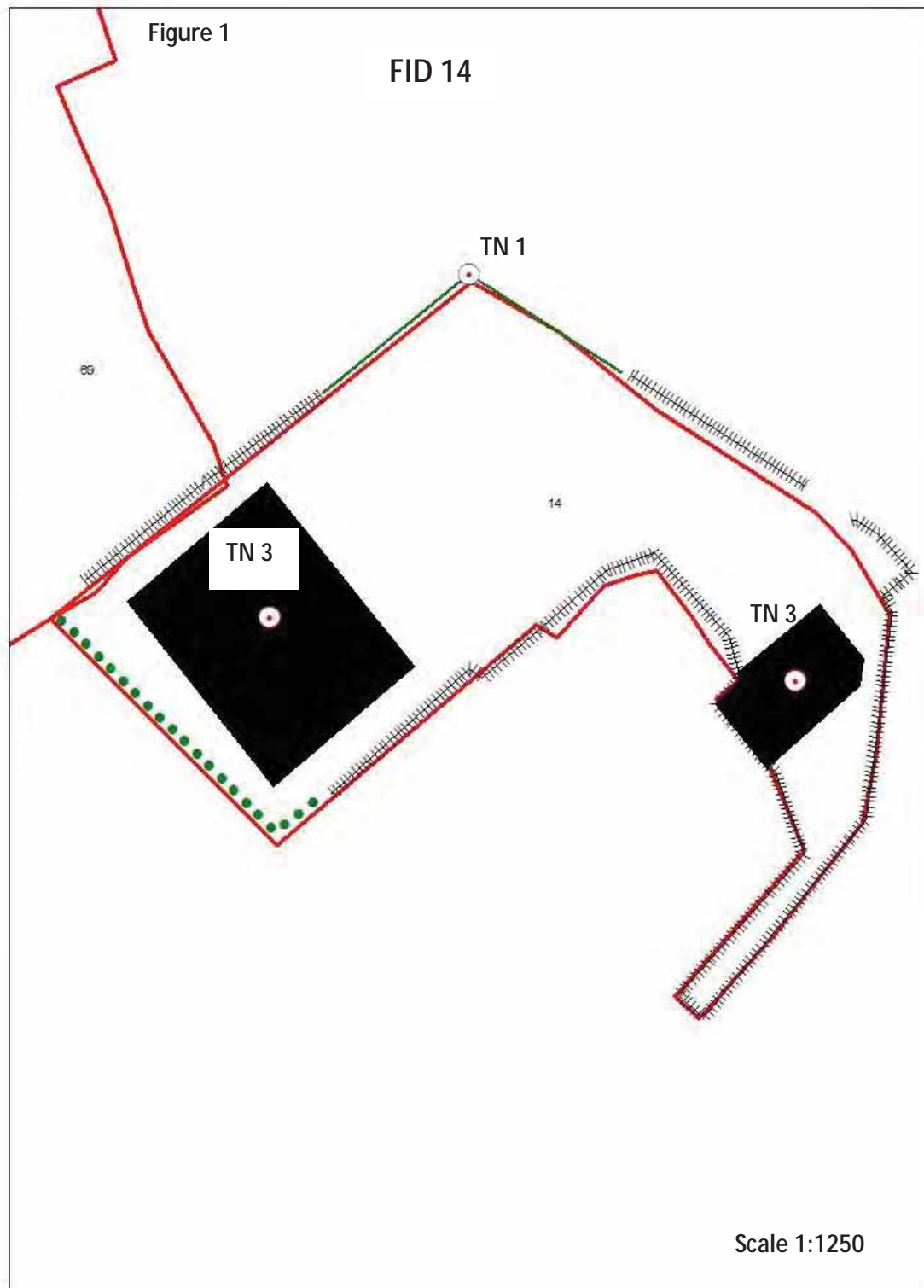
1.1 Background

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 14 O.S grid reference SK 0081947151.

FID 14 is located south of Kingsley village, approximately 10km east of Stoke on Trent in the Staffordshire Moorlands District and is surrounded mainly 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 14 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.

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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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
SSSI	Froghall Meadow and pastures
AWI	Crowgutter Wood, Booth's Wood, KnipeWood, Rough Knipe
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Blackbank Wood
AWI	Waste Wood
AWI	Booths Wood
AWI	Straighthills Wood
AWI	Hazles Wood
AWI	Ruelow Wood
AWI	Hag Wood
AWI	Banktop Woods
AWI	Consall Wood
AWI	Ashbourne Hey
AWI	Harston Wood
BAS/ AWI	Bank Sprink
BAS	Gorsey Wood
BAS	Adams Hollow
SBI	Harston Hill, Froghall Wharf
SBI	Froghall Bridge (east of)
SBI	Consall Forge
SBI	Foxt Wood
SBI	Foxt Wood (north of)
SBI	Dale Sprink pastures
SBI	Hazlescraze (east of)
SBI	Brough's Wood
SBI	Whiston Bridge (west of)
SBI	Kingsley Holt (east of)
SBI	Whieldon's Wood
SBI	Coldley Banks
RIGS	Far Kingsley Banks
RIGS	Hazles Wood

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

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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
	Adder
	Argent and Sable
	Barn Swallow
	Blue Mason Bee
	Brown Hare
	Brown long-eared bat
	Brown trout
	Buff tailed bumble bee
	Common Bullfinch
	Common Fan-foot
	Common kingfisher
	Common kestrel
	Common pipistrelle
	Common redstart
	Common snipe
	Common Toad
	Common wasp
	Common whitethroat
	Dunnock
	Dusky thorn
	Dyer's greenweed
	Early Bumble Bee
	Eurasian Curlew
	Eurasian woodcock
	European otter
	European Water Vole
	Floating water plantain
	Forester
	Four coloured cuckoo bee
	Frogbit
	Ghost moth
	Good King Henry
	Grass snake

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	Great Crested Newt
	Greater Butterfly-orchid
	Green woodpecker
	Grey dagger
	Grey mining bee
	Grey wagtail
	Hornet
	House Sparrow
	Insect - Hymenopteran
	Large-flowered Hemp-nettle
	Large Red-tailed Bumble Bee
	Lesser redpoll
	Mallard
	Marsh Stitchwort
	Marsh tit
	Noctule bat
	Osprey
	Pine marten
	Pink footed goose
	Pink waxcap
	Pipistrelle Bat
	Polecat
	Red Mason Bee
	Red wasp
	Rosy rustic
	September thorn
	Shaded broad bar
	Small garden bee
	Small heath
	Small Pearl-bordered Fritillary
	Small phoenix
	Small square spot
	Song Thrush
	Soprano pipistrelle
	Spotted flycatcher
	Tall hawkweed
	Tawny mining bee
	Tree pipit
	Tufted duck
	Wall
	West European Hedgehog
	White letter hairstreak

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	White tailed bumble bee
	Wild pansy
	Willow tit
	Willow warbler
	Wood Warbler
INV	American mink
	Canadian water weed
	Chinese muntjac
	Greater Canada goose
	Indian Balsam
	Japanese knotweed
	Least duckweed
	Rhododendron
	Turkey oak
E/ UK EPS	Adder
	Barn owl
	Bluebell
	Brambling
	Brandt's bat
	Brown long eared bat
	Common kingfisher
	Daubenton's bat
	Eurasian Badger
	Eurasian hobby
	European otter
	European Water Vole
	Floating water plantain
	Grass snake
	Great Crested Newt
	Natterer's bat
	Northern goshawk
	Osprey
	Peregrine falcon
	Pine marten
	Pipistrelle Bat
	Polecat
	Soprano pipistrelle
	White stork

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

- Building
- Hard standing
- Scattered trees/ scrub

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
OTHER	0.56	100
TOTALS	0.56	100

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
Hedgerows/ trees/ scrub	<i>Leylandii Cuprocypressus x leylandii</i> , sycamore <i>acer pseudoplatanus</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.

4.3.4 Fauna

Bats

The site has 1 large building that appears to have some loose roof tiles and potential entrances that could allow bats to roost, with the remaining buildings being a warehouse style outbuilding with corrugated roof that is deemed unlikely 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 possibly tall ruderal vegetation from March to August when birds in the UK normally breed.



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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0080847181	Leylandii hedge
2	SK0077947127	Does not require bat survey
3	SK0086047122	Requires bat survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Species poor hedgerow					x
Overall potential site importance				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 species poor grassland encompassing the site with some connectivity via species poor hedgerows to the wider countryside.

The 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 large building present on site appears to have potential to support roosting bats elevates the sites 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 exceptions could potentially include roosting bats as the site consists mainly of buildings.

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 buildings 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 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 with the main features of ecological interest contained within the potential for the buildings to support roosting bats, which 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:

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



FID 69

Unable to access site

Figure 1

FID 69



Sources: Esri, DigitalGlobe, GeoEye, IGN, Aerimag, Earthstar, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, Esri, and the GIS User Community

Scale 1:1249



FID 93



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FID 93

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 93 O.S grid reference SK0071246691.

FID 93 is located south west of Kingsley village 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).

Figure 1

FID 93



Scale 1:1484

2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 93 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
SSSI	Froghall Meadow and pastures
AWI	Crowgutter Wood, Booth's Wood, KnipeWood, Rough Knipe
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Blackbank Wood
AWI	Straighthills Wood
AWI	Waste Wood
AWI	Hazles Wood
AWI	Ruelow Wood
AWI	Hag Wood
AWI	Banktop Woods
AWI	Booth's Wood, Newhouse Wood
AWI	Consall Wood
BAS	Bank Sprink
BAS	Gorsey Wood
BAS	Adams Hollow
SBI	Consall Forge
SBI	Dale Sprink pastures
SBI	Hazlescros (east of)
SBI	Brough's Wood
SBI	Whiston Bridge (west of)
SBI	Kingsley Holt (east of)
SBI	Frohall Bridge (east of)
SBI	Coldley Banks
RIGS	Far Kingsley Banks
RIGS	Hazles Wood

SSSI – Site of Special Scientific Interest, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Action Site, SBI – Site of Biological Importance

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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	Adder
	Argent and Sable
	Barn owl
	Barn Swallow
	Blue Mason Bee
	Brown Hare
	Brown long-eared bat
	Brown trout
	Buff tailed bumble bee
	Common Bullfinch
	Common Fan-foot
	Common kingfisher
	Common kestrel
	Common pipistrelle
	Common snipe
	Common Toad
	Common whitethroat
	Dunnock
	Dusky thorn
	Dyer's greenweed
	Early Bumble Bee
	Early mining bee
	Eurasian Curlew
	Eurasian woodcock
	European otter
	European Water Vole
	Floating water plantain
	Frogbit
	Grass snake
	Great Crested Newt
	Greater Butterfly-orchid
	Green woodpecker
	Grey dagger
	Grey mining bee
	Grey wagtail

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	Hornet
	House Sparrow
	Insect - Hymenopteran
	Large-flowered Hemp-nettle
	Large Red-tailed Bumble Bee
	Mallard
	Marsh Stitchwort
	Noctule bat
	Osprey
	Pine marten
	Pipistrelle Bat
	Red Mason Bee
	Rosy rustic
	September thorn
	Shaded broad bar
	Skylark
	Small heath
	Small Pearl-bordered Fritillary
	Small phoenix
	Small square spot
	Song Thrush
	Soprano pipistrelle
	Spotted flycatcher
	Tall hawkweed
	wall
	West European Hedgehog
	White tailed bumble bee
	Wild pansy
	Wood Warbler
	Yellowhammer
INV	American mink
	Chinese muntjac
	Indian Balsam
	Japanese knotweed
	Least duckweed
	Rhododendron
	Turkey oak
E/ UK EPS	Adder
	Barn owl
	Bluebell
	Brown long eared bat

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	Common kingfisher
	Common pipistrelle
	Daubenton's bat
	Eurasian Badger
	Eurasian hobby
	European otter
	European Water Vole
	Floating water plantain
	Grass snake
	Great Crested Newt
	Noctule bat
	Northern goshawk
	Osprey
	Pine marten
	Pipistrelle Bat
	Polecat
	Soprano pipistrelle

BAP – Biodiversity Action Plan Species, INV – Invasive weed species, E/ UKPS – 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 hedgerows
- Scattered trees
- Species poor grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.02	92	
SI	0.02	2	
TR	0.04	3	
OTHER	0.04	3	
BPT			2
TOTALS	1.11	100	2

SI – Species poor semi-improved grassland, TR- Tall ruderal vegetation, 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> , False oat grass <i>Arrhenatherum elatius</i> , creeping thistle <i>Cirsium arvense</i> , common nettle <i>Urtica dioica</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> , pedunculate oak <i>Quercus robur</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 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 are likely to 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	SK0062146736	Requires hedgerow survey
2	SK0063746700	Dry ditch with tall ruderal vegetation

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees				x	
Species poor hedgerows					x
Dry ditch					x
Species poor grassland					x
Overall site importance				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 totally surrounded by domestic dwellings apart to the north, farm buildings to the south species poor grassland to the east and west and poorly connected to the wider countryside.

The site mainly consists of species poor improved grassland, cut for silage (92%). The species rich hedgerow consists of 5 species including hawthorn, blackthorn, holly, sycamore and ash, and is given a district value as it has 2 mature trees with potential to support roosting bats despite fairly poor connectivity to other biodiverse habitats.

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 should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (2004).

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 and particularly the potentially species rich 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.

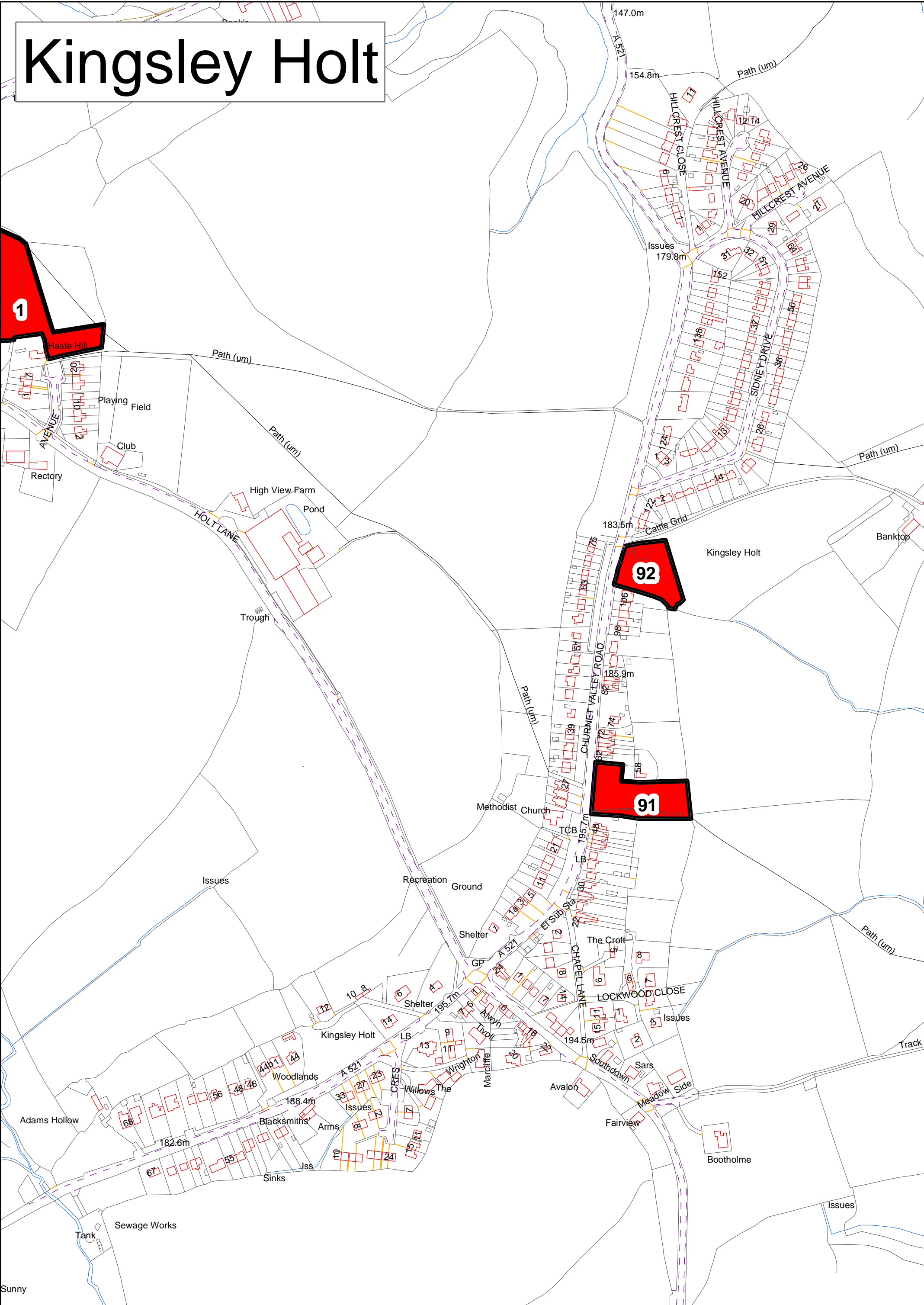
7. Conclusion

The site has mostly low biodiversity value overall in terms of area, is adjacent to farm buildings, domestic dwellings and species poor grasslands with poor connectivity to the wider countryside. However, the site is given district importance due to the potentially species rich hedgerow and 2 trees with bat potential.

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

Kingsley Holt





FID 91

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FID 91

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 91 O.S grid reference SK0213746279.

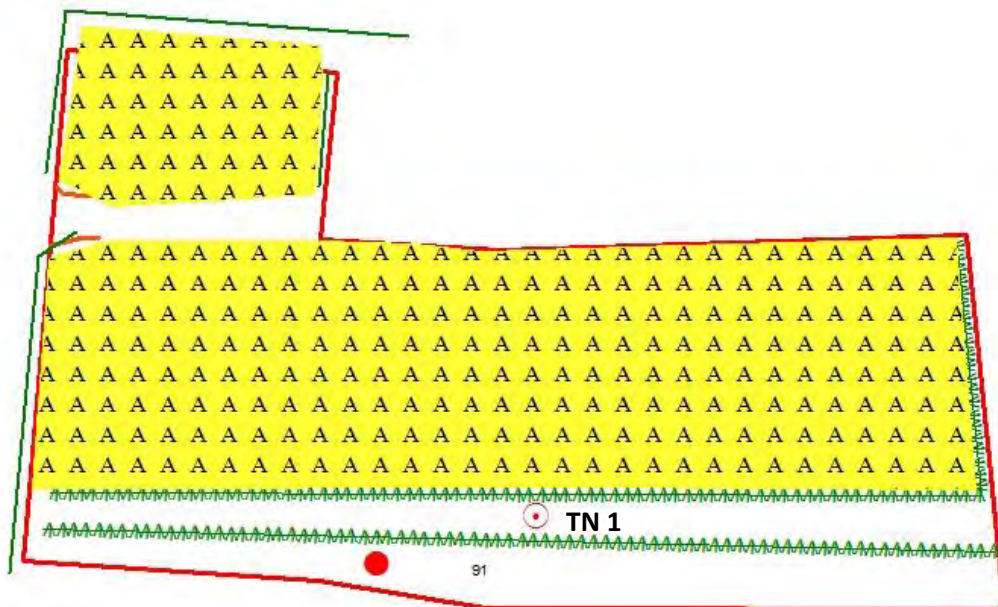
FID 91 is located in Kingsley Holt village in the Staffordshire Moorlands District, surrounded by housing and agricultural land.

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).

Figure 1

FID 91



Scale 1:945

2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 91 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Churnet Valley
SSSI	Froghall Meadows and Pastures
SSSI	Whiston Eaves
AWI	Waste Wood
AWI	Newhay Wood, Hzel Wood, Shore Wood, Hayes Wood
AWI	Murrel's Wood
AWI/ SBI	Gibriding Wood
AWI	Jackson Wood
AWI	Hawksmoor Wood
AWI	Lock Wood/ Lockwood Waste
AWI	Ashbourne Wood
AWI	Ruelow Wood
AWI	Hag Wood
AWI	Banktop Woods
AWI	Consall Wood
AWI	Ashbourne Hey
AWI	Harston Wood
AWI	Straighthills Wood
AWI	Bank Sprink
AWI	Hazles Wood
AWI	Booth's Wood, Newhouse Wood
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Blackbank Wood
BAS	Gorsey Wood
BAS	Bank Sprink
BAS	Adams Hollow
SBI	Harston Hill, Froghall Wharf
SBI	Lockwood Pasture
SBI	Froghall Bridge (east of)
SBI	Fernylee Farm (south of)
SBI	Foxt Wood
SBI	Hawksmoor Nature Reserve
SBI	Ashbourne Hey
SBI	Jackson Wood

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SBI	Little Eaves Farm
SBI	Whieldon's Wood
SBI	Tank Wood
SBI	Whistonbrook
SBI	Foxt Wood (north of)
SBI	Coldley Banks
SBI	Kingsley Holt (east of)
SBI	Whiston Bridge
SBI	Hazlescraze (east of)
RIGS	Hazles Wood

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

4.2 Desk study - Species recorded within 2km.

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 true fly
	Barn Owl
	Barn Swallow
	Blue Mason Bee
	Brown hare
	Brown long-eared bat
	Brown Trout
	Common Bullfinch
	Common Kestrel
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Starling
	Common Toad
	Corn buttercup
	Common Wasp
	Duncock
	Dyer's Greenweed
	Early Bumble Bee
	Eurasian Curlew
	European otter
	European Water Vole

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	Good King Henry
	Grass snake
	Great crested newt
	Greater Butterfly-orchid
	Green Woodpecker
	Grey Wagtail
	Hornet
	House Sparrow
	Insect - beetle
	Insect – Hymenopteran
	Large-flowered Hemp-nettle
	Large Red-tailed Bumble Bee
	Lesser spotted woodpecker
	Little kneeling eyebright
	Mallard
	Marsh Stitchwort
	Pink Waxcap
	Pipistrelle
	Red Mason bee
	Skylark
	Small Heath
	Small Pearl-bordered Fritillary
	Song Thrush
	Spotted flycatcher
	True bumble bee
	Wall
	West European Hedgehog
	Wild pansy
	Willow Warbler
	Wood warbler
	Yellow meadow ant
INV	American Mink
	Canadian water weed
	Indian Balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A bat
	Barn Owl
	Bluebell
	Brown Long-eared bat
	Common Kingfisher

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	Common pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European Water Vole
	Grass snake
	Great crested newt
	Natterer's bat
	Pipistrelle

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 rich hedgerow
- Species poor hedgerows
- Scattered trees
- Species poor amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
AM	0.13	66	
OTHER	0.25	34	
BPT			1
TOTALS	0.38	100	1

AM – Amenity 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> , Yorkshire fog <i>Holcus lanatus</i> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , ash <i>Fraxinus excelsior</i> , leylandii <i>Cuprocypressus x leylandii</i> , bramble <i>Rubus fruticosus agg</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

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 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	SK0215146262	Requires hedgerow survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerows				x	
Scattered trees				x	
Species poor hedgerows					x
Species poor amenity grassland					x
Overall site importance				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 totally surrounded by domestic dwellings to the north and south, main road to the west and species poor grassland to the east and is poorly connected to the wider countryside. The site has fairly low biodiversity value overall, though the presence of the species rich hedgerow and tree with potential to support roosting bats affords the site 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

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 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.

If at all possible it is recommended that as many trees and particularly the potentially species rich 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 area, is adjacent to a main road to the west with domestic buildings and species poor grasslands, and has poor connectivity to the wider countryside. The site is deemed as having district importance due to the presence of species rich hedgerows and a tree with bat roosting potential.

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

- Bat survey of the highlighted tree
- Hedgerow survey
- Vegetation removal at the appropriate time of year



FID 92

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FID 92

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 92 O.S grid reference SK0215546496.

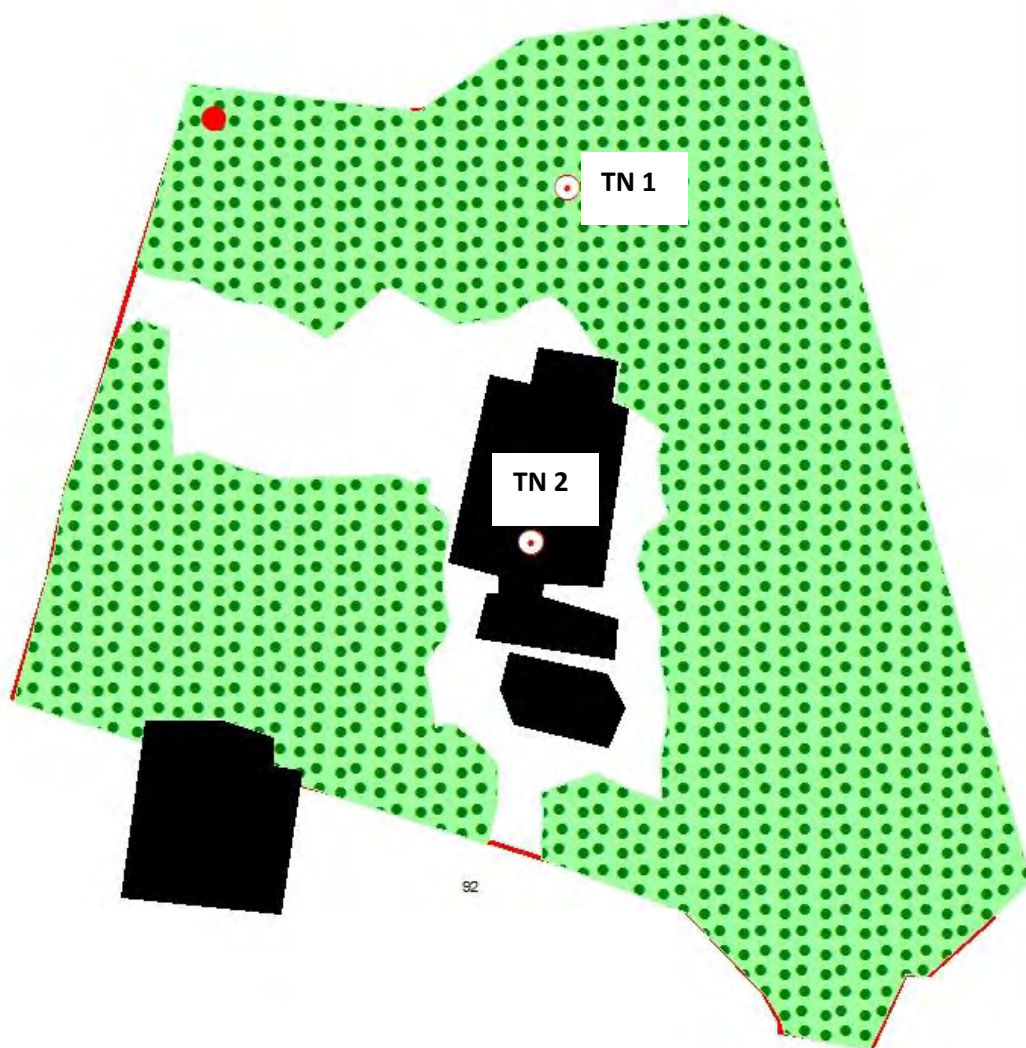
FID 92 is located in Kingsley Holt village in the Staffordshire Moorlands District, surrounded by housing and agricultural land.

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).

Figure 1

FID 92



Scale 1:659

2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 92 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) and on the National Biodiversity Network website (www.searchnbn.net).

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 was not carried out as part of the Extended Phase 1 Habitat Survey as access was not available. Observations were made along the perimeter of the property and aerial photography.

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	Churnet Valley
SSSI	Froghall Meadows and Pastures
SSSI	Whiston Eaves
AWI	Waste Wood
AWI	Newhay Wood, Hzel Wood, Shore Wood, Hayes Wood
AWI	Murrel's Wood
AWI/ SBI	Gibriding Wood
AWI	Jackson Wood
AWI	Hawksmoor Wood
AWI	Lock Wood/ Lockwood Waste
AWI	Ashbourne Wood
AWI	Ruelow Wood
AWI	Hag Wood
AWI	Banktop Woods
AWI	Consall Wood
AWI	Ashbourne Hey
AWI	Harston Wood
AWI	Straighthills Wood
AWI	Bank Sprink
AWI	Hazles Wood
AWI	Booth's Wood, Newhouse Wood
AWI	Moseymoor Wood, Cloughhead Wood, Whieldon's Wood, Blackbank Wood
BAS	Gorsey Wood
BAS	Bank Sprink
BAS	Adams Hollow
SBI	Harston Hill, Froghall Wharf
SBI	Lockwood Pasture
SBI	Froghall Bridge (east of)
SBI	Fernylee Farm (south of)
SBI	Foxt Wood
SBI	Hawksmoor Nature Reserve
SBI	Ashbourne Hey
SBI	Jackson Wood

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SBI	Little Eaves Farm
SBI	Whieldon's Wood
SBI	Tank Wood
SBI	Whistonbrook
SBI	Foxt Wood (north of)
SBI	Coldley Banks
SBI	Kingsley Holt (east of)
SBI	Whiston Bridge
SBI	Hazlescraze (east of)
RIGS	Hazles Wood

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

4.2 Desk study - Species recorded within 2km.

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 true fly
	Barn Owl
	Barn Swallow
	Blue Mason Bee
	Brown hare
	Brown long-eared bat
	Brown Trout
	Common Bullfinch
	Common Kestrel
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Starling
	Common Toad
	Corn buttercup
	Common Wasp
	Duncock
	Dyer's Greenweed
	Early Bumble Bee
	Eurasian Curlew
	European otter
	European Water Vole

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	Good King Henry
	Grass snake
	Great crested newt
	Greater Butterfly-orchid
	Green Woodpecker
	Grey Wagtail
	Hornet
	House Sparrow
	Insect - beetle
	Insect – Hymenopteran
	Large-flowered Hemp-nettle
	Large Red-tailed Bumble Bee
	Lesser spotted woodpecker
	Little kneeling eyebright
	Mallard
	Marsh Stitchwort
	Pink Waxcap
	Pipistrelle
	Red Mason bee
	Skylark
	Small Heath
	Small Pearl-bordered Fritillary
	Song Thrush
	Spotted flycatcher
	True bumble bee
	Wall
	West European Hedgehog
	Wild pansy
	Willow Warbler
	Wood warbler
	Yellow meadow ant
INV	American Mink
	Canadian water weed
	Indian Balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A bat
	Barn Owl
	Bluebell
	Brown Long-eared bat
	Common Kingfisher

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	Common pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European Water Vole
	Grass snake
	Great crested newt
	Natterer's bat
	Pipistrelle

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.

- Planted mixed woodland
- Buildings

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
MW	0.24	86	
OTHER	0.04	14	
BPT			1
TOTAL	0.28	100	

MW – Mixed 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	Common nettle <i>Urtica dioica</i> , dandelion <i>Taraxacum officinale</i> agg
Hedgerows/ trees/ scrub	Leylandii <i>Cuprocypressus x leylandii</i> , hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , cherry laurel <i>Prunus laurocerasus</i> , copper beech <i>Fagus sylvatica</i> 'purpurea', 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, scrub, woodland 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	SK0215846514	Scattered mixed woodland
2	SK0215546492	Domestic dwelling requires bat survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Mixed woodland				x	
Overall site importance				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 to the north and south with species poor grasslands to the east and main road to the west with poor connectivity to the wider countryside.

The planted mixed woodland (86%) has a mixture of leylandii, copper beech, sycamore and ash with holly and cherry laurel understorey and species poor ground flora. However, as the woodland was not fully surveyed it has been given district ecological importance.

The habitats present on site are therefore particularly common in the UK, have fairly low biodiversity value although 0.67 hectares of fairly mature woodland is significant enough from an ecological perspective to warrant a district value within the matrix, and at least one of the ash trees is deemed to have potential to support 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 exceptions would possibly include roosting/ foraging bats and badger (potentially badger setts) and potentially bluebell *Hyacinthoides non-scripta*, depending on whether a full survey is obtainable.

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

It is recommended that this site is should not be put forward for potential development due to the district importance of this mixed fairly mature woodland and the potential for the at least one tree and the building to support roosting bats.

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.

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 and building should be surveyed by a suitably qualified ecologist under criteria outlined in the bat mitigation guidelines Mitchell-Jones (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 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.

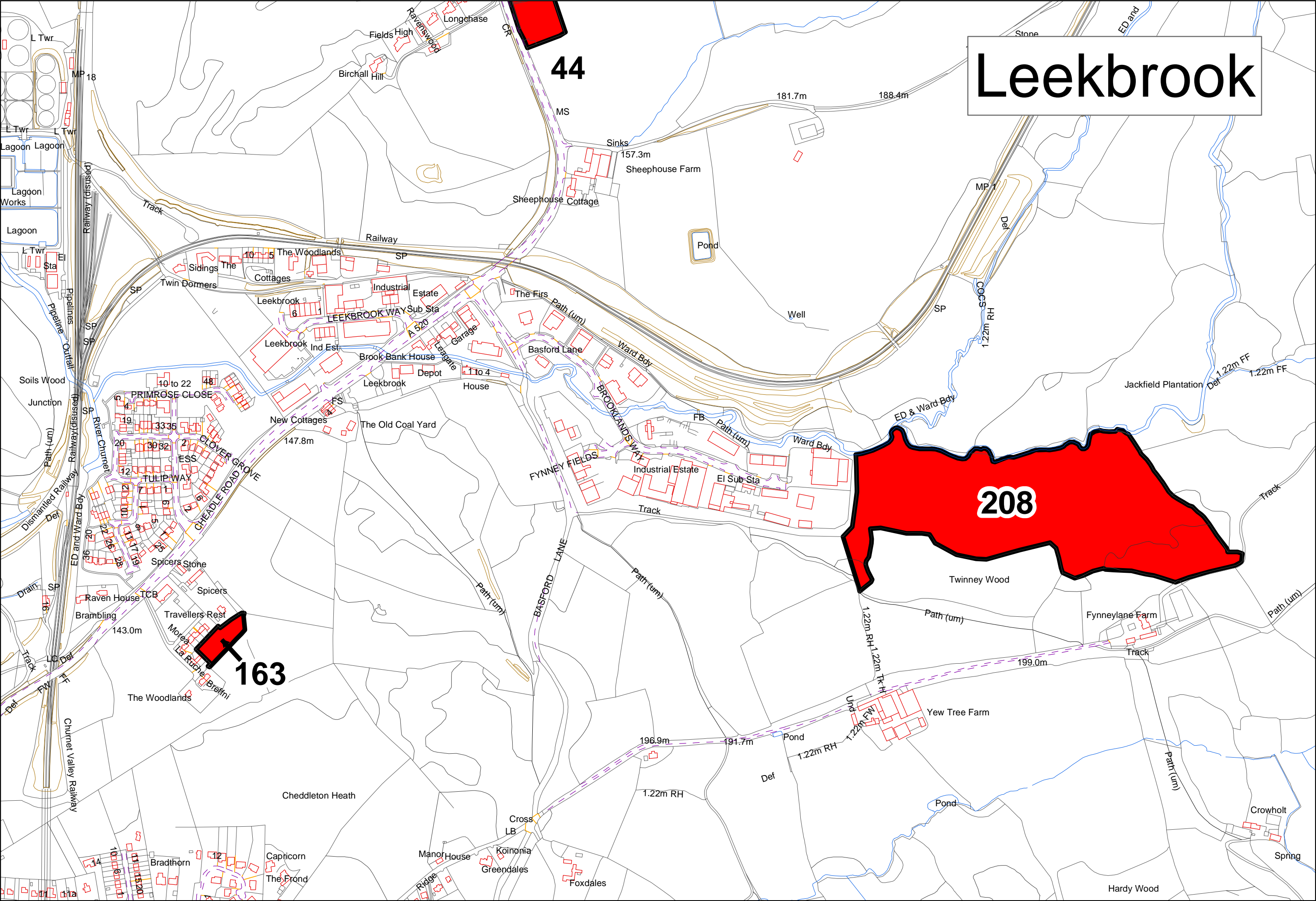


7. Conclusion

The site has mostly low biodiversity with numerous non-native and coniferous species present, is adjacent to a road to the west and domestic buildings to the north and species poor grasslands, with fairly good connectivity to the wider countryside. The site is deemed to have district importance from an ecological perspective.

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

- Full access for a walkover survey to ascertain full ecological potential
- Bat surveys of the tree (potentially more trees) and the building
- Vegetation removal at the appropriate time of year





FID 163

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FID 163

1. Introduction

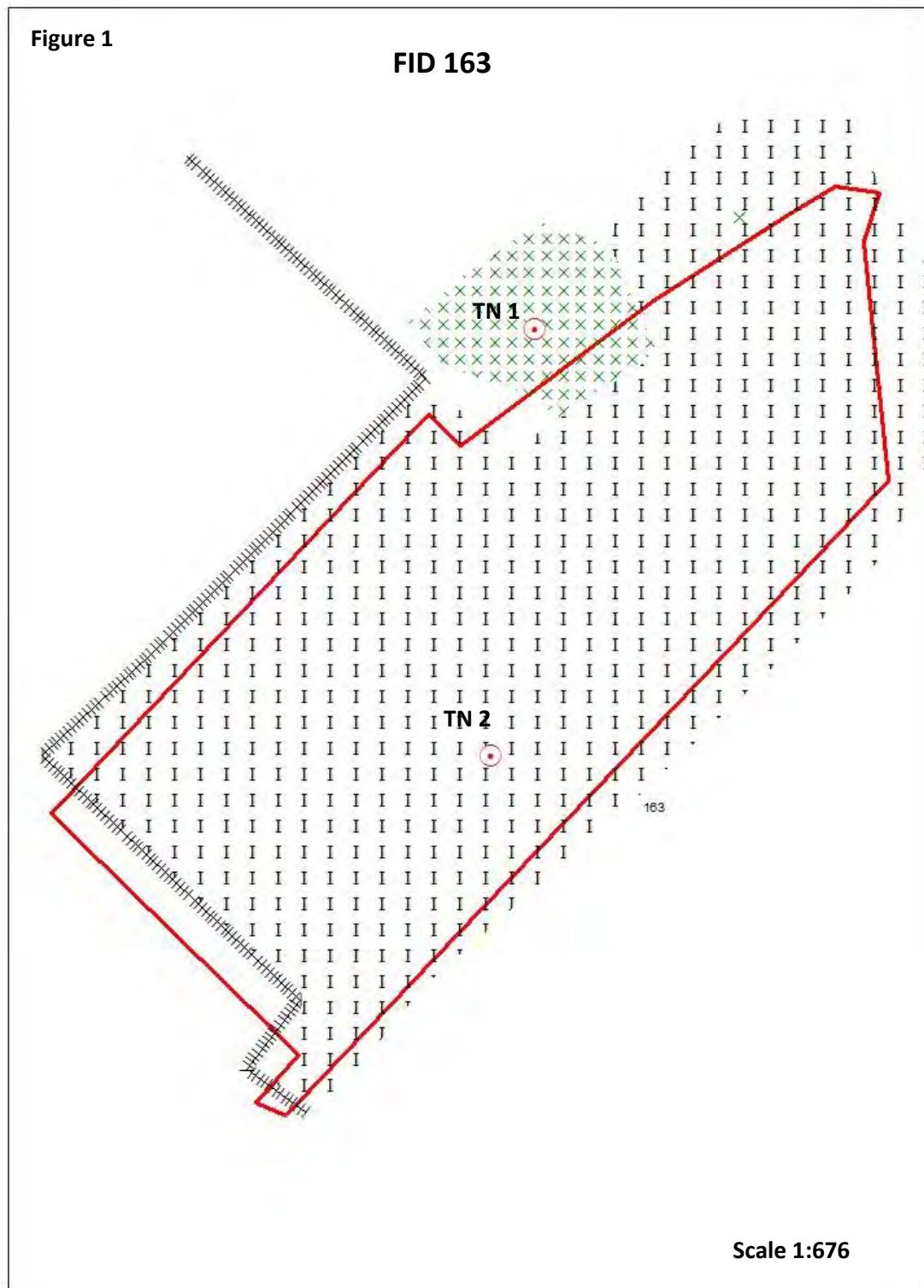
1.1 Background

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 163 O.S grid reference SJ9833753558.

FID 163 is located in the south of Leekbrook village 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 163 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
LNR	Ladderedge Country Park
AWI	Birchall Wood
AWI	Soils Wood
AWI	UNK
AWI	Longsdon Wood
AWI/ SBI	Ballington Wood
AWI	Hollinghay Wood
BAS	Birchall meadow
BAS	Horse Bridge (east of)
BAS	Leek Brook Meadow
SBI	Cheddleton Heath (dismantled Railway)
SBI	Twinney Wood and grassland
SBI	Beech Close (SW of), Longsdon
SBI	Caldon Canal (south of Basford Bridge)
SBI	Caldon canal
SBI	Ferny Hill
SBI	Cheddleton Marsh
SBI	Upper Fernyhill Farm (south east of)
SBI	Basford Green (west of)
SBI	Cheddleton Heath
SBI	Soils Wood
SBI	Caldon Canal (south of Hollinghay Wood)
SBI	Ringehay Grassland

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance

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 true fly
	Adder
	Autumnal rustic

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	Beaded chestnut
	Brown hare
	Centre barred sallow
	Cinnabar
	Common bullfinch
	Common carder bee
	Common kingfisher
	Common Pipistrelle
	Common redstart
	Common snipe
	Common Toad
	Common wasp
	Corn spurrey
	Dot moth
	Dusky thorn
	Ear moth
	Eurasian woodcock
	European otter
	European water vole
	Feathered gothic
	Floating water plantain
	Freshwater white clawed crayfish
	Grass snake
	Great Crested Newt
	Green Woodpecker
	Grey wagtail
	Greylag goose
	Heath dog violet
	Hedge rustic
	House martin
	House Sparrow
	Insect - beetle
	Insect-hymenopteran
	Little kneeling eyebright
	Mallard
	Noctule bat
	Northern lapwing
	Pipistrelle
	Polecat
	Rosy rustic
	Rustic
	Sky Lark

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	Small garden bee
	Small Heath
	Small phoenix
	Small square spot
	Song thrush
	Soprano Pipistrelle
	Tall hawkweed
	Tree bumble bee
	Tree wasp
	Tubular water dropwort
	Tufted duck
	Wall
	West European Hedgehog
	Wild pansy
	Yellowhammer
INV	American mink
	Chinese muntjac
	Greater Canada goose
	Indian balsam
	Japanese knotweed
	Japanese rose
	New Zealand Pigmyweed
	Rhododendron
E/ UK PS	A Bat
	Adder
	Bluebell
	Brown Long-eared Bat
	Common kingfisher
	Common Pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European water vole
	Floating water plantain
	Freshwater white clawed crayfish
	Grass snake
	Great Crested Newt
	Greylag goose
	Noctule bat
	Pipistrelle Bat Species
	Polecat

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	Soprano Pipistrelle
	Whiskered 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 scrub
- Semi-improved species poor grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.21	95
SS	0.00	2
OTHER	0.01	3
TOTAL	0.22	100

I – improved grassland, 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	Perennial rye grass <i>Lolium perenne</i> , False oat grass <i>Arrhenatherum elatius</i> , cock's foot <i>Dactylis glomerata</i> , common nettle <i>Urtica dioica</i> , curled dock <i>Rumex crispus</i>
Hedgerows/ trees/ scrub	Bramble <i>Rubus fruticosus</i> agg, hawthorn <i>Crataegus monogyna</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 across the 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

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in areas of scrub, broadleaved woodland and semi-improved species poor grassland habitat 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	SJ9834453575	Isolated scattered scrub
2	SJ9833053535	Chicken coups

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered scrub					x
Species poor semi-improved grassland					x
Overall site importance					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, species poor grassland and fairly close to a very large network of broadleaved woodland and scrub habitats (Cheddleton heath SBI).

The site itself consists of species poor semi-improved short grazed grassland (95%) with hawthorn and elder scrub and also contains coupes containing domestic chickens.

There have been a number of European and UK protected species recorded within 2km according to the desk study. Although the site is within 70m of Cheddleton Heath SBI it has poor biodiversity and is poorly connected to the wider countryside so it is unlikely that the site would support many European and UK 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 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 poor biodiversity and has poor connectivity to the wider countryside therefore is deemed to have 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 208

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FID 208

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 208 O.S grid reference SJ9944753737.

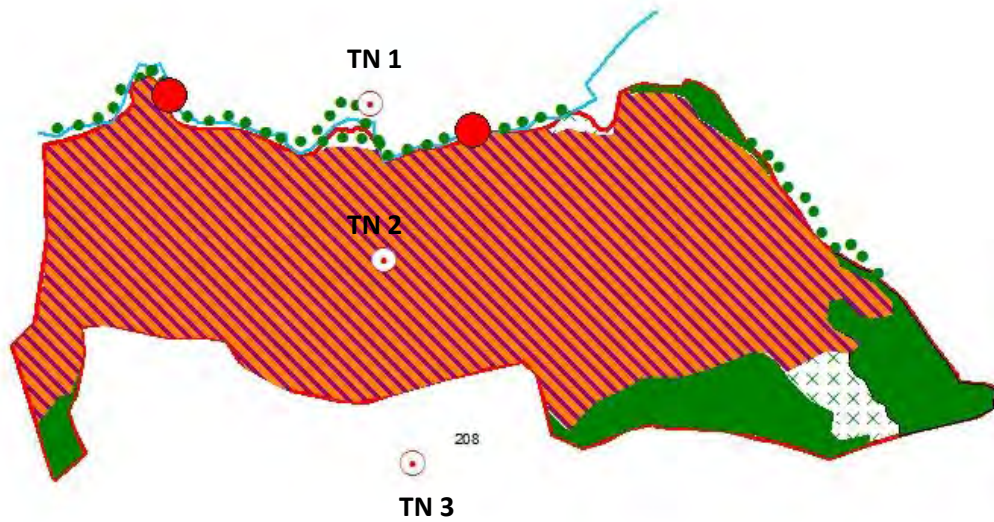
FID 208 is located east of Leekbrook village surrounded by agricultural land, woodland and industrial buildings, with the majority of the site designated as part of Twinney Wood and Grassland SBI (Site of Biological Importance).

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).

Figure 1

FID 208



Scale 1:5528

2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 208 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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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 in September. The site has been designated as an SBI based on its uncommon floral assemblage and as such September is not the most appropriate time to survey as certain species have naturally died off as part of their phenology. At the time of survey the whole site had been heavily grazed by cattle with mainly unpalatable species remaining visible which when combined with natural seasonal die back is very likely to under represent the site's floral diversity.

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

SITE DESIGNATION	NAME
SSSI	Combes Valley
WTNR	Rod Wood
RSPB NR	Coombes and Churnet RSPB Nature Reserve
AWI	Birchall Wood
AWI	Soils Wood
AWI	UNK
AWI/ SBI	The Ridge
AWI	Spiritholes Wood
AWI/ SBI	Ballington Wood
AWI	The Combes
AWI	Spiritholes Wood, Low Wood, Mill Wood
AWI	Blackhill Wood, Sixoaks Wood
BAS	Padwick
BAS	Birchall meadow
BAS	Lowe Hill
BAS	Leek Brook Meadow
SBI	Cheddleton Heath (dismantled Railway)
SBI	Twinney Wood and grassland (FID208 IS PART OF THIS SBI)
SBI	Home Farm (south of)
SBI	Beech Close (SW of), Longsdon
SBI	Padwick Wood
SBI	Roughstone Hole
SBI	Ladydale
SBI	Caldon Canal (south of Basford Bridge)
SBI	Caldon canal
SBI	Ferny Hill
SBI	Cheddleton Marsh
SBI	Upper Fernyhill Farm (south east of)
SBI	Basford Green (west of)
SBI	Cheddleton Heath
SBI	Soils Wood
SBI	Caldon Canal (south of Hollinghay Wood)
SBI	Ringehay Grassland

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SBI	Ladydale Wood Pasture
RIGS	Combes Brook, Combes Valley

SSSI – Site of Special Scientific Interest, WTNR – Wildlife Trust 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 true fly
	Argent and sable
	August thorn
	Autumnal rustic
	Barn owl
	Barn swallow
	Beaded chestnut
	Blood vein
	Brindled beauty
	Broom moth
	Brown spot pinion
	Brown hare
	Brown long eared bat
	Buff ermine
	Centre barred sallow
	Chalk carpet
	Cinnabar
	Common bullfinch
	Common carder bee
	Common kingfisher
	Common Pipistrelle
	Common redstart
	Common snipe
	Common Toad
	Common whitethroat
	Corn spurrey
	Dark barred twin spot carpet
	Dark brocade
	Deep brown dart
	Dingy skipper

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	Dot moth
	Double dart
	Dunnock
	Dusky lemon sallow
	Dusky brocade
	Dusky thorn
	Ear moth
	Eurasian woodcock
	European otter
	European water vole
	Feathered gothic
	Floating water plantain
	Freshwater white clawed crayfish
	Gallium carpet
	Garden dart
	Garden tiger
	Ghost moth
	Grass snake
	Great Crested Newt
	Greater butterfly orchid
	Green brindled crescent
	Green Woodpecker
	Grey mountain carpet
	Grey wagtail
	Greylag goose
	Grizzled skipper
	Heath rustic
	Hedge rustic
	High brown fritillary
	House Sparrow
	Insect - beetle
	Insect-hymenopteran
	Knot grass
	Latticed heath
	Lichen
	Mallard
	Meadow pipit
	Minor shoulder knot
	Monk's rhubarb
	Mottled rustic
	Mouse moth
	Neglected rustic

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	Noctule bat
	Northern lapwing
	Oak hook tip
	Oblique carpet
	Pied flycatcher
	Pink waxcap
	Pipistrelle
	Powdered quaker
	Red kite
	Rosy minor
	Rosy rustic
	Rustic
	Sallow
	September thorn
	Shaded broad bar
	Shoulder striped wainscot
	Small Heath
	Small pearl bordered fritillary
	Small phoenix
	Small square spot
	Song thrush
	Soprano Pipistrelle
	Spinach
	Spotted flycatcher
	Streak
	Tall hawkweed
	Tree bumble bee
	Tubular water dropwort
	Tufted duck
	Wall
	West European Hedgehog
	White letter hairstreak
	White line dart
	White ermine
	Wild pansy
	Willow tit
	Willow warbler
	Yellowhammer
INV	American mink
	Chinese muntjac
	Greater Canada goose

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	Indian balsam
	Rhododendron
	Signal crayfish
E/ UK PS	A Bat
	Barn owl
	Bluebell
	Brown Long-eared Bat
	Common Pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European water vole
	Floating water plantain
	Freshwater white clawed crayfish
	Grass snake
	Great Crested Newt
	Greylag goose
	Long eared bat species
	Natterer's bat
	Noctule bat
	Pipistrelle Bat Species
	Red kite
	Soprano Pipistrelle
	Whiskered 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.

- Marshy grassland
- Scattered scrub
- Broadleaved woodland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
MG	6.32	83	
SS	0.19	4	
BW	1.11	13	
BPT			2
TOTALS	7.62	100	

MG – Marshy grassland, SS – Scattered scrub, 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	Soft rush <i>Juncus effusus</i> , tufted hair grass <i>Deschampsia cespitosa</i> , creeping buttercup <i>Ranunculus repens</i>
Hedgerows/ trees	Alder <i>Alnus glutinosa</i> , hawthorn <i>Crataegus monogyna</i>

4.3.3 Invasive weeds

No species 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 however recorded within the site.

4.3.4 Fauna

Badger survey

The broadleaved woodland to the south and north east was surveyed for badger setts and their field signs within approximately 50m of the site boundary, but none were found at the time of survey.

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 semi-natural broadleaved woodland and ground nesting birds within dense stands of soft rush 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	SJ9943053834	Medium size stream with trees and riparian vegetation
2	SJ9940053740	Requires reptile survey
3	SJ9945053622	Well established semi-natural broadleaved woodland

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Semi-natural broadleaved woodland			x		
Scattered scrub			x		
Marshy grassland			x		
Overall site Importance			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.

Summary

The site is surrounded by semi-natural broadleaved woodland species, poor grassland and a number of industrial buildings to the west. The vast majority of the site has been designated as part of Twinney Wood and Grassland SBI and has been evaluated accordingly.

Close to the northern border a small stream cuts off further areas of broadleaved woodland with numerous alder *Alnus glutinosa* of which 2 are deemed to have potential to support roosting bats.

The semi-natural broadleaved woodland to the south consists of a mature community of oak *Quercus species*, silver birch *Betula pendula*, hazel *Corylus avellana* and occasional ash *Fraxinus excelsior* and rowan *Sorbus aucuparia* that broadly represents NVC W9 *Fraxinus excelsior* – *Sorbus aucuparia* – *Mercurialis perennis* woodland.

Grassland evaluation

The site itself appears to consist mainly of heavily grazed species poor marshy grassland with abundant soft rush *Juncus effusus*, tufted hair grass *Deschampsia cespitosa*, Yorkshire fog *Holcus lanatus*, creeping buttercup *Ranunculus repens* and occasional jointed rush *Juncus articulatus*. Very occasional small patchy slightly drier areas occur consist of

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perennial rye grass *Lolium perenne*, timothy *Phleum pratense* and occasional meadow buttercup *Ranunculus acris*, and broadleaved dock. The suite of common species previously listed are indicative of grasslands that have high nutrient content and have been intensively grazed, with the less palatable soft rush and tufted hair grass. Other less common species within the sward include occasional tormentil *Potentilla erecta* and small scabious *Scabiosa columbaria* which are more indicative of semi/ unimproved grasslands.

The cattle that have heavily grazed the grassland are likely to prefer grazing the more palatable grasses such as meadow foxtail *Alopecurus pratensis* or marsh foxtail *Alopecurus geniculatus* and broadleaved species such as bog stitchwort *Stellaria alsine* and common spotted orchid *Dactylorhiza fuchsia* all of which were previously recorded in June 2009 and not recorded during this survey in September 2014. Certain grasses could certainly be missed during the recording process as their closely cropped vegetative remains are likely to blend in within the remaining sward. The dominant more obvious species that were recorded within this survey tended to be more unpalatable, containing more siliceous soft rush and tufted hair grass and more visible and hardy species such as creeping buttercup and less palatable broadleaved dock.

There have been a number of European and UK protected species recorded within 2km according to the desk study. The site is connected to a scrub/ broadleaved woodland mosaic and stream/ associated riparian habitat. Therefore the site could potentially support foraging bats, badger especially within the drier woodland to the south, reptiles and possibly bluebell *Hyacinthoides non-scripta* within the woodland to the south also.

6. Recommendations

Given the current SBI status of most of the site, and owing to the ecological importance of the site as set out within this site record, it is recommended that any future development of FID 208 is considered in line with paras 7, 9, 17, 109, 114 and 117 NPPF; and also in relation to the Council's own Core Strategy Policy NE1.

Floral survey

It is recommended that a floral survey for the grassland sward is undertaken as, despite the survey having been carried out in September this would otherwise have been relatively appropriate if the sward had not been grazed, as the heavy grazing documented to have occurred across the site tends to hide more palatable vegetation and a more true reflection of overall floral diversity.

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.

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. 8 Badger records have been found within 2km, therefore 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 along the semi-natural broadleaved woodland edge and within the marshy grassland habitat it is recommended that a full reptile survey is carried out by a suitably experienced 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.

If 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 at the time of survey appeared to have mostly low biodiversity value overall in terms of the marshy grassland area, however given the precautionary principle to ecological protection, and given the sub-optimal time of year the survey was carried out, it is recommended that another full floral survey is conducted at an appropriate time of year. The site also has some broadleaved woodland, scrub and riparian vegetation within its boundary, and is adjacent to an important mosaic of semi-natural broadleaved woodland, scrub, a stream and grasslands.

Given that the SBI covers the majority of the site, and owing to the ecological importance of a third tier site designated for its ecological assemblage, it is recommended that any future development of this site is considered in line with paras 7, 9, 17, 109, 114 and 117 NPPF; and also in relation to the Council's own Core Strategy Policy NE1.

The following surveys/actions are therefore recommended if development works are to be carried out.

- Floral survey at an appropriate time of year, preferably between mid-June to July
- Badger survey
- Reptile survey
- Vegetation removal at the appropriate time of year

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Scale 1: 2500

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Site label numbers denote Site FID reference numbers used in Study.



FID 164

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FID 164

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 164 O.S grid reference SJ9619754617.

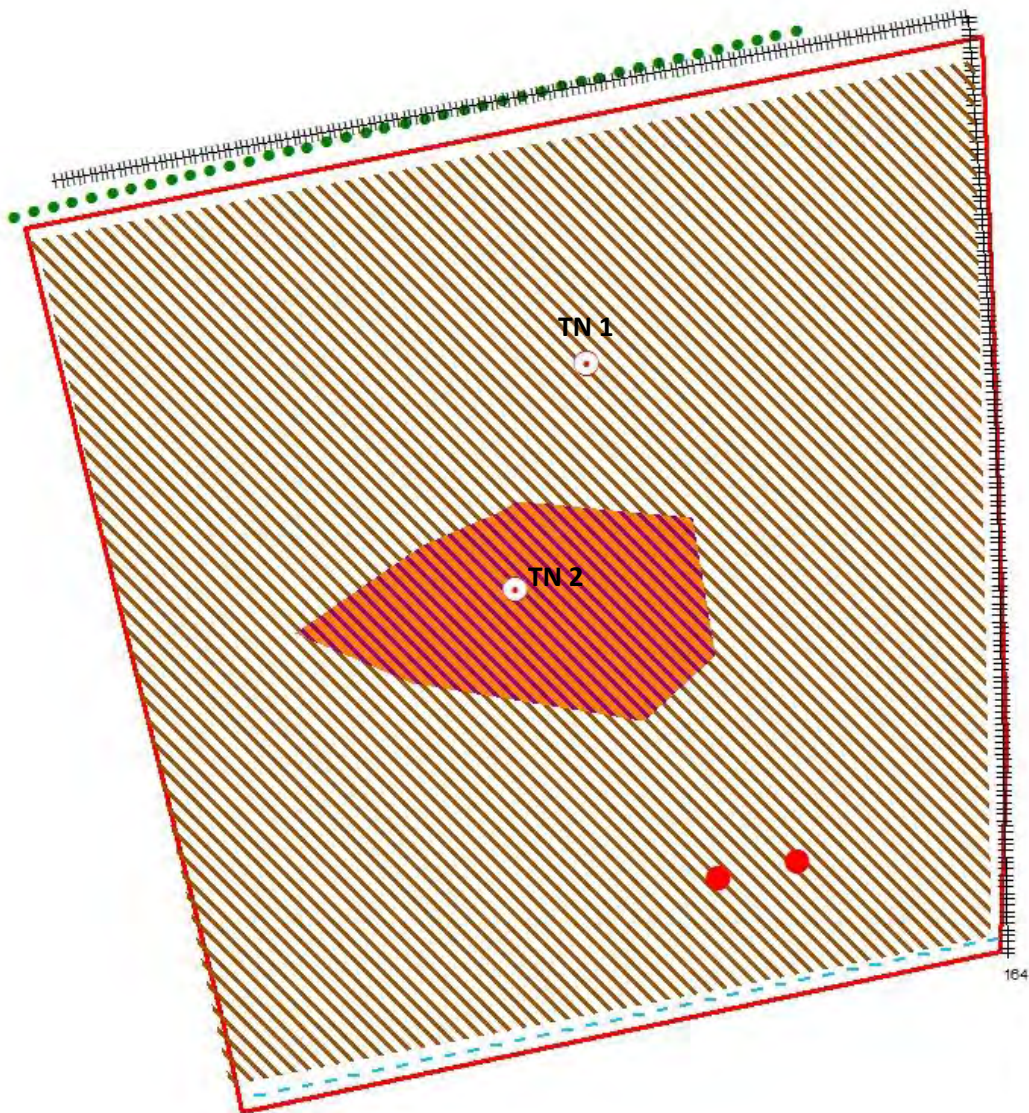
FID 164 is located in Longsdon village surrounded by agricultural land and housing.

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).

Figure 1

FID 164



Scale 1:687

2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 164 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
LNR	Ladderedge Country Park
AWI	Soils Wood
AWI	Cowhay Wood
AWI	Dun wood
AWI	UNK
AWI	Hollinhurst Wood
AWI	Longsdon Wood
AWI	West Wood
AWI	Hollinhay Wood
BAS	Hollinhurst Farm
BAS	Hazlehurst Aquaduct (west of)
BAS	Leek Brook Meadow
BAS	Stanlowe grassland
BAS	Horse Bridge (east of)
BAS	Horse Bridge
BAS	Birchall Meadow
SBI	Cheddleton Marsh
SBI	Cheddleton Heath (dismantled railway)
SBI	Denford (west of) Caldon Canal/ Endon Brook
SBI	Longsdon Mill Pond
SBI	Cheddleton Heath
SBI	Park Lane Farm (north and east of), caldon Canal
SBI	Deep Hayes Country park
SBI	Caldon Canal
SBI	Beech Close (SW of), Longsdon
SBI	Longsdon Wood & Cowhay Wood
SBI	Soils Wood
SBI	Caldon Canal (south of Hollinhay Wood)

LNR – Local Nature Reserve, AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance

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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	Adder
	Autumnal rustic
	Barn Owl
	Black headed cardinal bee
	Broom moth
	Brown spot pinion
	Brown hare
	Brown Long-eared Bat
	Buff ermine
	Common carder bee
	Common cudweed
	Common kingfisher
	Common Pipistrelle
	Common redstart
	Common Snipe
	Common starling
	Common Toad
	Common wasp
	Dot moth
	Double dart
	Dunnock
	Dusky brocade
	Dyer's greenweed
	Eurasian teal
	European otter
	European water vole
	Fieldfare
	Figure of eight
	Floating water plantain
	Flounced chestnut
	Freshwater white clawed crayfish
	Frogbit
	Galingale
	Grass snake
	Great Crested Newt

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	Greater butterfly orchid
	Green brindled crescent
	Green Woodpecker
	Greylag goose
	Heath dog violet
	Hedge rustic
	House Sparrow
	Insect-beetle
	Large flowered hemp nettle
	Linnet
	Little grebe
	Little kneeling eyebright
	Mallard
	Meadow pipit
	Minor shoulder knot
	Mistle thrush
	Mottled rustic
	Mouse moth
	Noctule bat
	Northern lapwing
	Pipistrelle
	Polecat
	Rosy minor
	Rosy rustic
	Sallow
	September thorn
	Shaded broad bar
	Shoulder striped wainscot
	Sky Lark
	Small garden bumble bee
	Small Heath
	Small phoenix
	Small square spot
	Song thrush
	Soprano Pipistrelle
	Streak
	Tree bumble bee
	Tree wasp
	Tufted duck
	V moth
	Wall
	West European Hedgehog

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	White ermine
	Wild pansy
	Willow tit
	Yellowhammer
INV	American mink
	Canadian waterweed
	Curly waterweed
	Greater Canada goose
	Indian balsam
	Japanese knotweed
	Japanese rose
	New Zealand Pigmyweed
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown Long-eared Bat
	Common kingfisher
	Common Pipistrelle
	Daubenton's bat
	Eurasian Badger
	European otter
	European water vole
	Floating water plantain
	Freshwater white clawed crayfish
	Grass snake
	Great Crested Newt
	Greylag goose
	Myotis bat species
	Natterer's Bat
	Noctule bat
	Pipistrelle Bat Species
	Polecat
	Soprano Pipistrelle
	Whiskered bat

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

- Tall ruderal vegetation
- Marshy grassland
- Scattered trees

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
TR	0.38	91	
MG	0.03	8	
OTHER	0.00	1	
BPT			2
TOTAL	0.41	100	2

TR- Tall ruderal vegetation, BPT – Bat Potential Trees, MG – Marshy 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> , cock's foot <i>Dactylis glomerata</i> , Himalayan balsam <i>Impatiens glandulifera</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , great willowherb <i>Epilobium hirsutum</i> , common knapweed <i>Centaurea nigra</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</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 around the site.

Weeds listed under the Weeds Act 1959 including creeping thistle *Cirsium arvense* have been recorded 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 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.

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9619754626	Tall vegetation and tall grassland
2	SJ9619254611	Fairly species poor marshy grassland

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Marshy grassland					x
Tall ruderal vegetation					x
Overall site importance				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, tall ruderal vegetation and derelict land.

The site itself consists of tall ruderal vegetation consisting of invasive species such as Himalayan balsam as well as common species including creeping thistle, common knapweed, cock's foot, common nettle and occasional goldenrod *Solidago vigaurea*.

The mainly species poor marshy grassland consists of great willowherb, creeping buttercup, and occasional greater bird's foot trefoil *Lotus pedunculatus*.

The scattered trees include 2 mature ash with potential to support roosting bats.

The sward could potentially support ground nesting birds, and provide hunting opportunities for owls and raptors.

There are a number of European and UK protected species recorded within 2km according to the desk study of which barn owl, bats and badger could use for foraging. The site has been deemed as having district ecological importance due to the presence of the 2 trees with bat roosting potential.

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.

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 the 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.

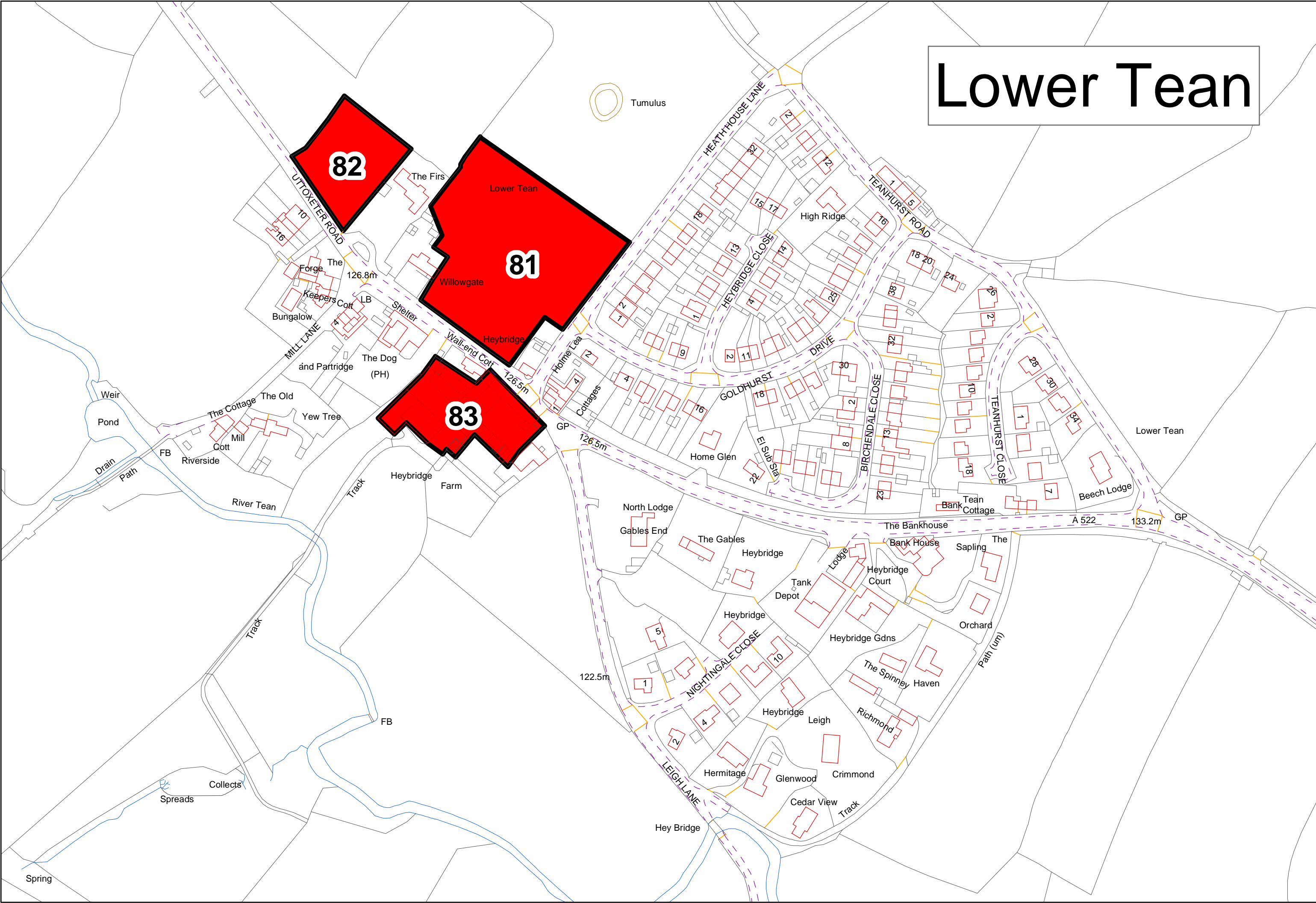
7. Conclusion

The site has low potential to support protected species, and the site is fairly poorly connected to the wider countryside, though is given district ecological value due to the presence of 2 trees with potential to support roosting bats.

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

- Bat survey of the 2 trees deemed to have potential to support roosting bats
- Adoption of Himalayan balsam removal regime
- Vegetation removal at the appropriate time of year

Lower Tean





FID 81

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FID 81

1. Introduction

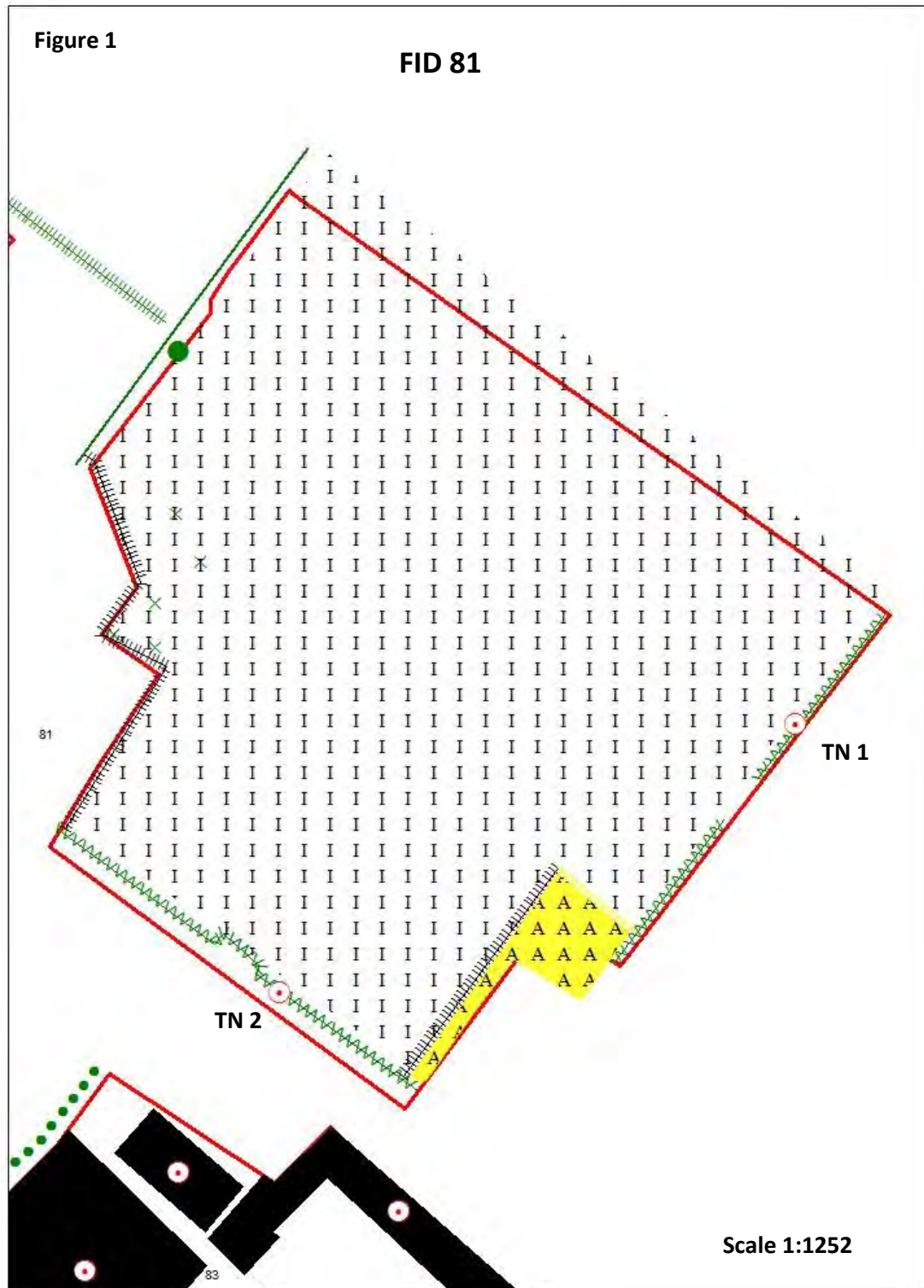
1.1 Background

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 81 O.S grid reference SK0166138654.

FID 81 is located north of Lower Tean village 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 81 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

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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.

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

SITE DESIGNATION	NAME
AWI	Huntley Wood
AWI	Slang Drumble
AWI/ BAS	The Wing Drumble
AWI/ SBI	Broadgatehall Drumble
AWI	Freehay Wood
BAS	Leighbank Gorse
BAS	Draycott Common Wood
SBI	Slang Drumble and Hell Clough
SBI	Brook Lane
SBI	Newton (north-east of)

AWI – listed on Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance,

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 owl
	Brown Hare
	Common bullfinch
	Common Pipistrelle
	Common Toad
	Eurasian woodcock
	European Otter
	European Water Vole
	German wasp
	Great Crested Newt
	hornet
	Insect - Hymenopteran
	Jacob's-ladder
	Lichen
	Northern lapwing

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	Pipistrelle
	Polecat
	Wall
	West European Hedgehog
	White ermine
INV	Indian Balsam
	Japanese rose
	Rhododendron
E/ UK PS	A Bat
	Bluebell
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species
	Polecat

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 rich hedgerow
- Species poor hedgerows
- Scattered trees
- Species poor grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.92	92
AM	0.02	6
OTHER	0.06	2
TOTALS	1.00	100

I – Improved grassland, AM – Amenity grassland

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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> , curled dock <i>Rumex crispus</i> , spear thistle <i>Cirsium vulgare</i> , white clover <i>Trifolium repens</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , wild privet <i>Ligustrum vulgare</i> , wych elm <i>Ulmus glabra</i> , bramble <i>Rubus fruticosus agg</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, spear thistle, creeping thistle have been recorded within the grassland sward.

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 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	SK0172038636	Hedgerow survey required
2	SK0163938592	Hedgerow survey required

5. Evaluation

Table 6

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

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

The site is totally surrounded by domestic dwellings apart from the north which consists of species poor grassland including amenity grassland and is well connected to the wider countryside by a network of hedgerows. Apart from the species rich hedgerows the habitats present on site are particularly common in the UK, have fairly low biodiversity value and therefore are deemed to have a low value within the matrix. However as the species rich hedgerow becomes more diverse further up Heath house lane 11 native species were recorded including guelder rose *Viburnum opulus* which would definitely constitute a species rich hedgerow and qualify for this under the HEGS regulations. This diversity usually reflects a very old, even ancient history and should be protected possibly as a separate SBI to the remainder of the site.

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

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. Moreover, the hedgerow should be assessed in its ability to qualify as an SBI due to the high number of native woody species present.

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 and certainly the hedgerow should be retained at all costs.

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 improved grassland area and is also directly adjacent to a domestic housing estate and species poor grasslands.

The hedgerow however has very good connectivity to the wider countryside becoming more diverse further north and should be retained and potentially qualify for SBI status, hence the site itself being deemed regionally important.

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

- Hedgerow survey and assessment for SBI status
- Vegetation removal at the appropriate time of year



FID 82

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FID 82

1. Introduction

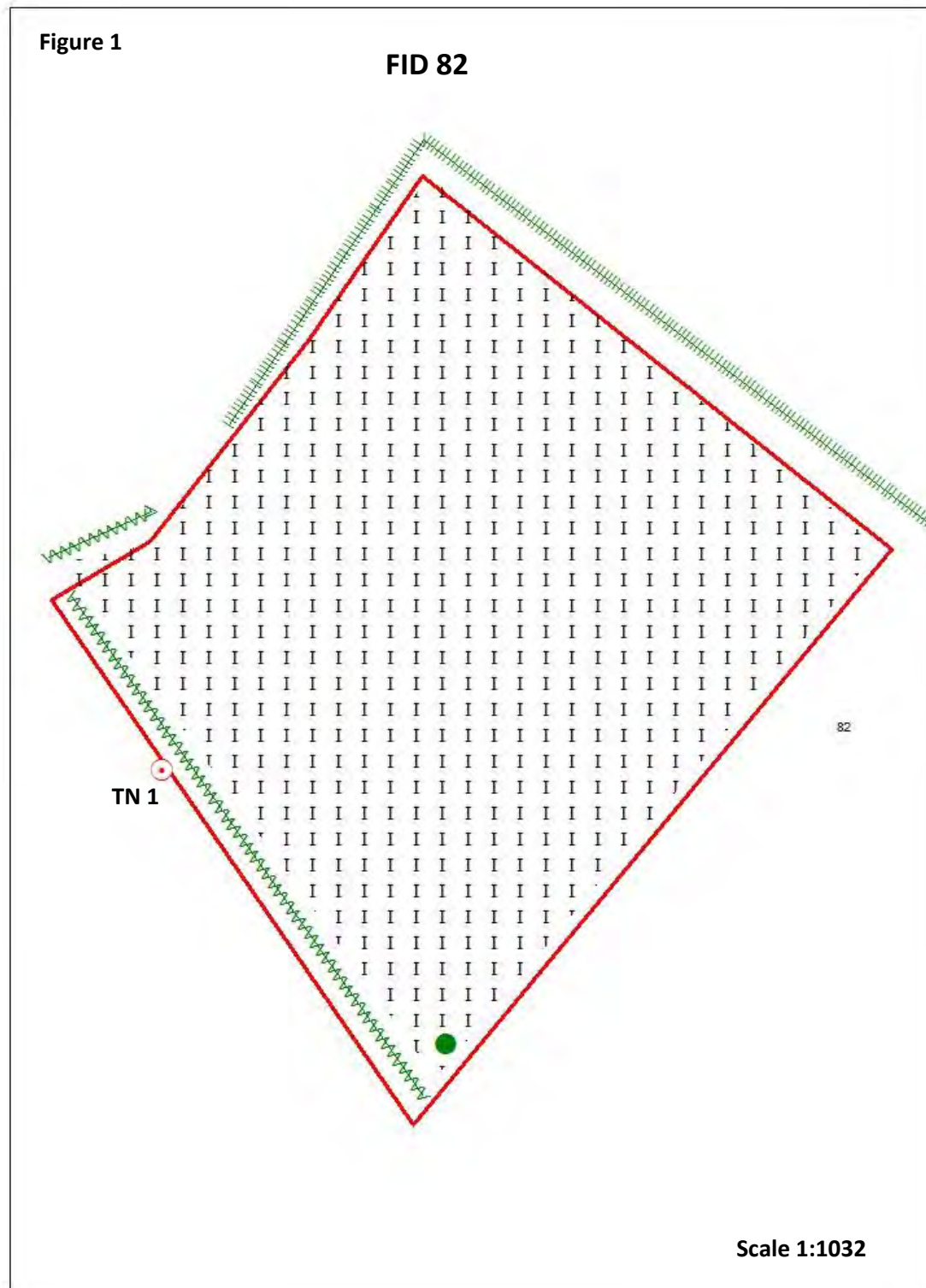
1.1 Background

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 82 O.S grid reference SK0156138708.

FID 82 is located north west of Lower Tean village 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 82 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Huntley Wood
AWI	Slang Drumble
AWI/ BAS	The Wing Drumble
AWI/ SBI	Broadgatehall Drumble
AWI	Freehay Wood
BAS	Leighbank Gorse
BAS	Draycott Common Wood
SBI	Slang Drumble and Hell Clough
SBI	Brook Lane
SBI	Newton (north-east of)

AWI – listed on Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance,

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 owl
	Brown Hare
	Common bullfinch
	Common Pipistrelle
	Common Toad
	Eurasian woodcock
	European Otter
	European Water Vole
	German wasp
	Great Crested Newt
	hornet
	Insect - Hymenopteran
	Jacob's-ladder
	Lichen
	Northern lapwing

	Pipistrelle
	Polecat
	Wall
	West European Hedgehog
	White ermine
INV	Indian Balsam
	Japanese rose
	Rhododendron
E/ UK PS	A Bat
	Bluebell
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species
	Polecat

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 rich hedgerow
- Species poor hedgerows
- Scattered trees
- Species poor grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.27	92
OTHER	0.03	8
TOTALS	0.30	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	Red fescue <i>Festuca rubra</i> , false oat grass <i>Arrhenatherum elatius</i> , Yorkshire fog <i>Holcus lanatus</i> , creeping buttercup <i>Ranunculus repens</i> , ribwort plantain <i>Plantago lanceolata</i>
Hedgerows/ trees/ scrub	Holly <i>Ilex aquifolium</i> , hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , English elm <i>Ulmus procera</i> , ash <i>Fraxinus excelsior</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

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 and hedgerows from March to August when birds in the UK normally breed.

Incidental records

- Birds including goldfinch *Carduelis carduelis*, house sparrow *Passer domesticus* and jackdaw *Corvus monedula*

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0153538691	Requires hedgerow survey

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerows				x	
Scattered trees					x
Species poor hedgerows					x
Species poor grassland					x
Overall site importance				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 totally surrounded by domestic dwellings apart from the north which consists of species poor grassland including amenity grassland and is well connected to the wider countryside by a network of hedgerows. Apart from the species rich hedgerows the habitats present on site are particularly common in the UK, have fairly low biodiversity value and therefore are deemed to have a low value within the matrix. However the site has been allocated a potential district 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

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 and particularly the potentially species rich 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 area, is adjacent to a main road to the south and farm buildings to the east and species poor grasslands to the north and west, but has good connectivity to the wider countryside through networks of species rich hedgerows. The presence of a species rich hedgerow constitutes 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:

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



FID 83

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FID 83

1. Introduction

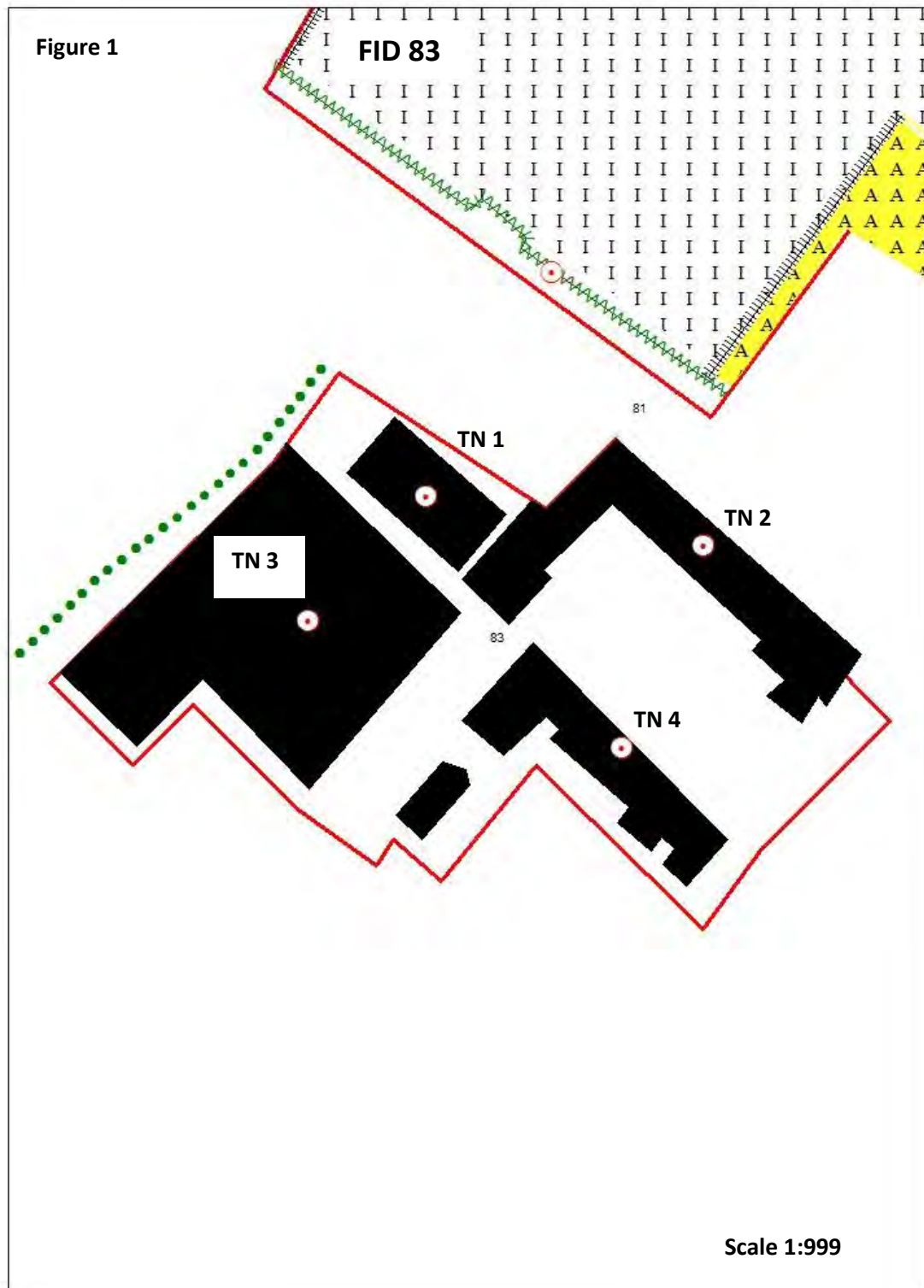
1.1 Background

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 83 O.S grid reference SK0163638547.

FID 83 is located in Lower Tean village 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 83 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Huntley Wood
AWI	Slang Drumble
AWI/ BAS	The Wing Drumble
AWI/ SBI	Broadgatehall Drumble
AWI	Freehay Wood
BAS	Leighbank Gorse
BAS	Draycott Common Wood
SBI	Slang Drumble and Hell Clough
SBI	Brook Lane
SBI	Newton (north-east of)

AWI – listed on Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance,

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 owl
	Brown Hare
	Common bullfinch
	Common Pipistrelle
	Common Toad
	Eurasian woodcock
	European Otter
	European Water Vole
	German wasp
	Great Crested Newt
	hornet
	Insect - Hymenopteran
	Jacob's-ladder
	Lichen
	Northern lapwing

	Pipistrelle
	Polecat
	Wall
	West European Hedgehog
	White ermine
INV	Indian Balsam
	Japanese rose
	Rhododendron
E/ UK PS	A Bat
	Bluebell
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species
	Polecat

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.

- Building
- Species poor hedgerow

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
OTHER	0.36	100
TOTALS	0.36	100

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.

Very little vegetation was recorded on site, only a leylandii *Cuprocypressus x leylandii* hedge and very occasional weeds such as groundsel *Senecio vulgare*.

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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 9 buildings on site, 6 of which are of brick and tiled roof construction and 3 of metal and corrugated roof as large farm outbuildings. The 6 brick buildings are fairly well maintained domestic dwellings/ garages with occasional loose roof tiles, especially on the north eastern building and occasional 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 could potentially nest in buildings and outbuildings from March to August when birds in the UK normally breed.

4.3.5 Target notes

Table 4

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0162838567	Building with tower requires bat survey
2	SK0165838561	Metal buildings, no bat survey required
3	SK0160738550	Brick and tiled roof building, bat survey required
4	SK0164838533	Brick and tiled roof building, bat survey required

5. Evaluation

Table 5

Habitat	Ecological Importance				
	I	N	R	D	L
Buildings				x	
Overall site importance					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 a main road to the north, public house to the west and species poor grassland to the south, and poorly connected to the wider countryside therefore is deemed to have district ecological importance as bats could potentially roost in the buildings.

Despite a number of European and UK protected species being recorded within 2km it is unlikely that the site would support many of the species apart potentially from 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.

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.

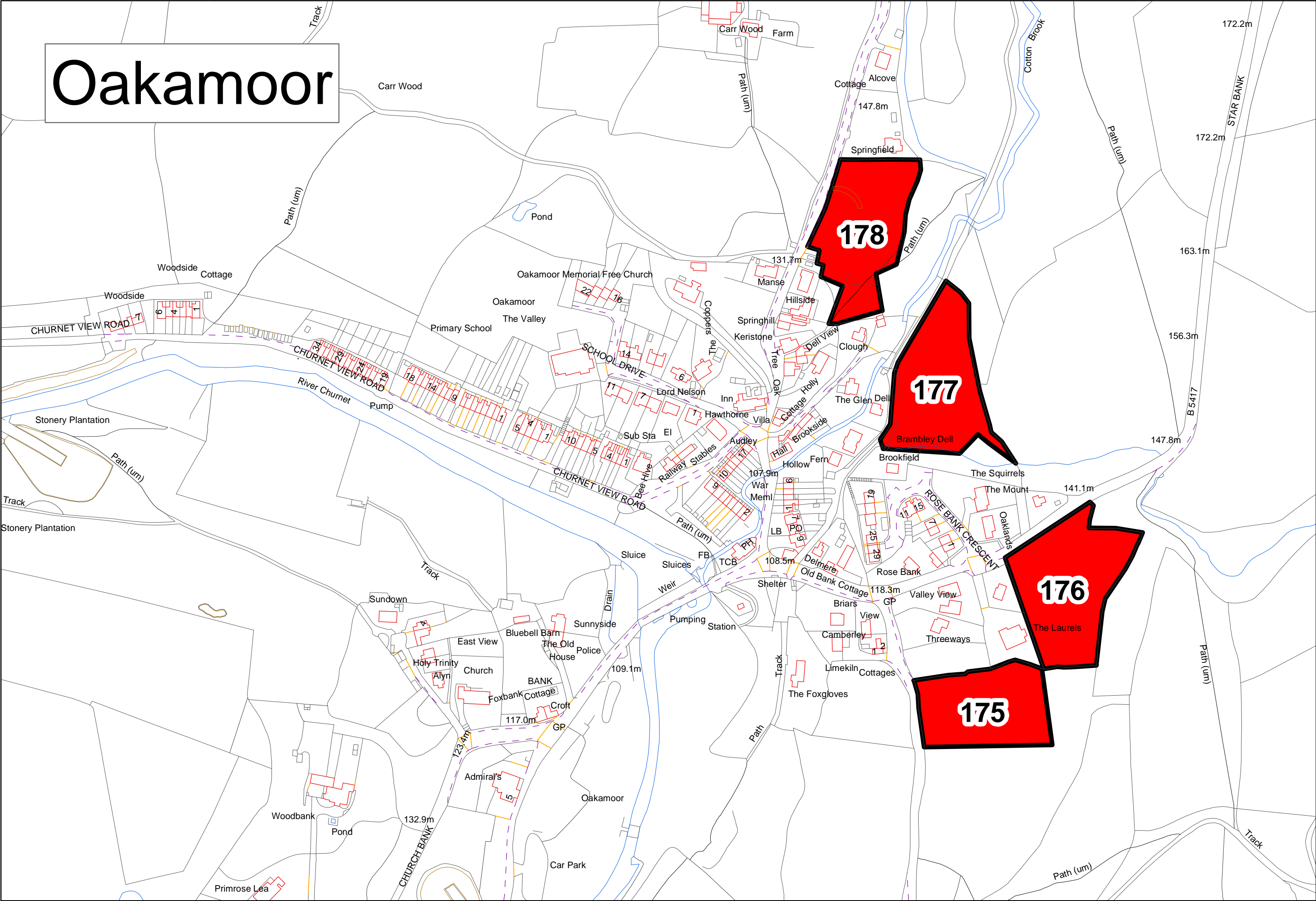
7. Conclusion

The site has mostly very low biodiversity value apart from potential for roosting bats and has little connectivity to the wider countryside. Therefore 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 to ascertain whether bats roost in the buildings

Oakamoor





FID 175

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FID 175

1. Introduction

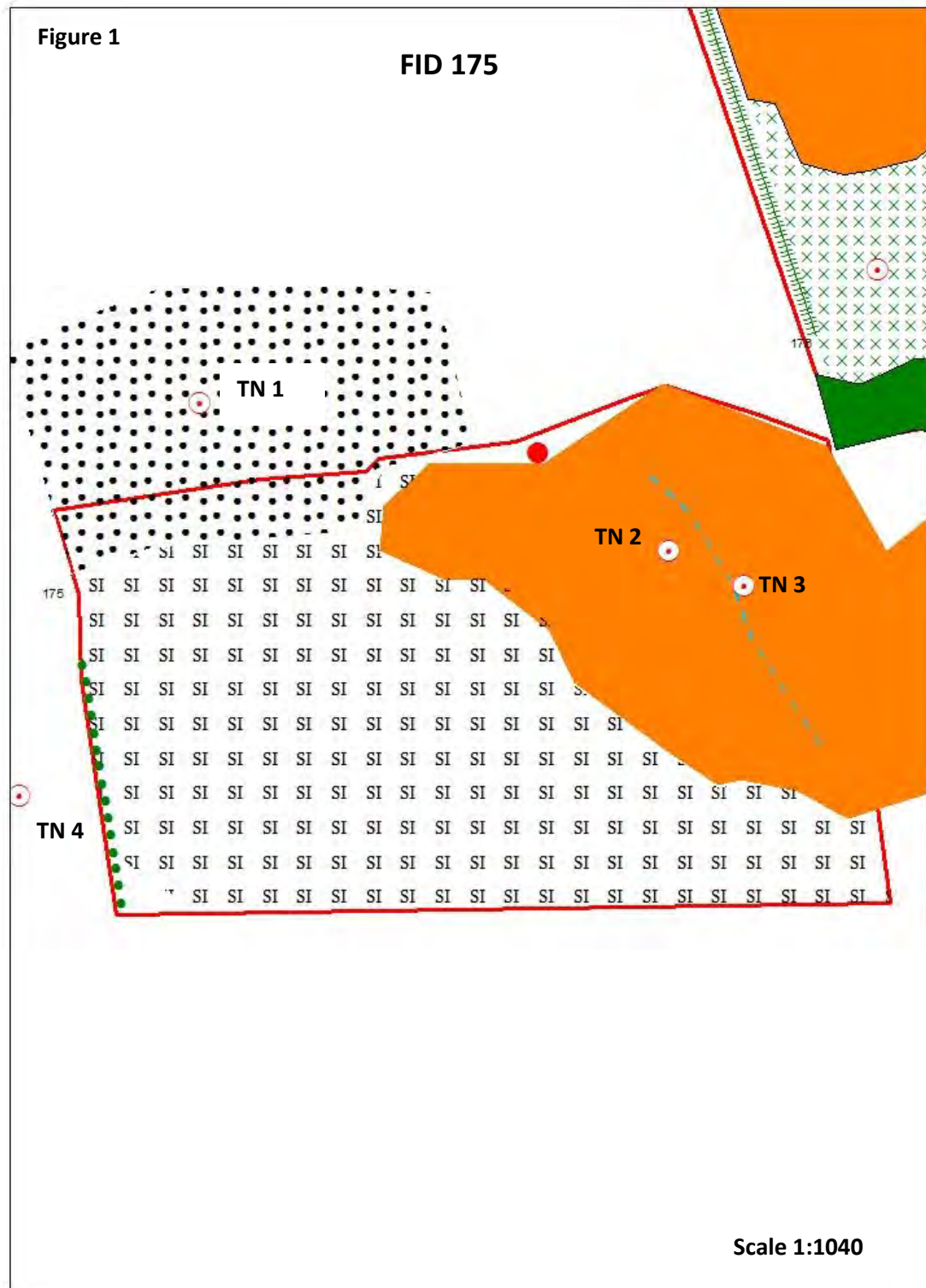
1.1 Background

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 175 O.S grid reference SK0562444776.

FID 175 is located south of Oakamoor 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 175 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Bath Pasture
SSSI	Dimmings Dale and The Ranger
AWI	Mather's Wood
AWI	Coppy Wood
AWI	Moss's Banks
AWI	Red Road (west of)
AWI	Star Wood, Bath Wood, Peggy's Wood
AWI	Abbey Wood
AWI	Dimmingsdale Wood
AWI	Newhay Wood, Hazel Wood, Shore Wood, Hayes Wood
AWI	Lightoaks Wood, Sutton's Wood
AWI	Carr Wood
AWI	Key Wood
AWI	Oakamoor CP
AWI	Star Wood, Oakamoor CP, Oulscrough, Cotton Bank
AWi	Barbary Gutter
AWi	Threap Wood
AWI	The Ranger (north of)
AWI	Sutton's Wood
AWI	Hawksmoor Wood
AWI	Counslow Wood
WTNR	Cotton Dell
WTNR	Side Farm Meadow
AWI	Cotton Banks
BAS	Moss Bog
BAS	Oakamoor
SBI	Orchard Farm (south of)
SBI	Ashbourne Hey
SBI	Ramshorn Common
SBI	Hayes Gate Farm
SBI	Little Eaves Farm (south-west of)
SBI	Cotton College
SBI	Hawksmoor Nature Reserve
SBI	Rainroach Rock

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SBI	Barbary Gutter
SBI	Lord's Bridge (north of)
SBI	Upper Cotton Dell
SBI	Heathy Gore (south)
SBI	Heathy Gore (north)
SBI	Abbey Wood
SBI	Orrils Wood and Basin Wood
SBI	Churnet Valley Railway
RIGS	Starwood

AWI – listed in Ancient Woodland Inventory, WTNR – Wildlife Trust Nature Reserve, 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	COMMONNAME
BAP	A Caddis Fly
	A Flowering Plant
	A moth
	A True Fly
	Autumnal rustic
	Barn owl
	Barn swallow
	Brown spot pinion
	Brown Birch Bolete
	Brown Hare
	Brown Long-eared Bat
	Buff-tailed Bumble Bee
	Common bullfinch
	Common kestrel
	Common kingfisher
	Common Lizard
	Common Pipistrelle
	Common redstart
	Common snipe
	Common Toad
	Common whitethroat
	Corn Buttercup
	Dunnock

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	Dyer's greenweed
	Eurasian curlew
	Eurasian Woodcock
	European Otter
	European Water Vole
	Freshwater White-clawed Crayfish
	Ghost moth
	Grass Snake
	Great Crested Newt
	Greater Butterfly-orchid
	Green woodpecker
	Grey Wagtail
	Hazel dormouse
	Hornet
	House martin
	Insect – beetle
	Jacob's ladder
	Knot grass
	Lichen
	Linnet
	Little grebe
	Little kneeling eyebright
	Mallard
	Mistle Thrush
	Northern lapwing
	Pipistrelle
	Reed bunting
	Rosy minor
	Slow-worm
	Small heath
	Song Thrush
	Soprano pipistrelle
	Streak
	Tree Pipit
	Tufted duck
	Weasel's-snout
	West European Hedgehog
	White-letter Hairstreak
	White tailed bumble bee
	Willow Warbler
	Wood Warbler
INV	American Mink

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	Canadian waterweed
	Chinese Muntjac
	Greater Canada goose
	Indian Balsam
	Rhododendron
E/ UK PS	A Bat
	Barn owl
	Bluebell
	Brown Long-eared Bat
	Common kingfisher
	Common Lizard
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Freshwater White-clawed Crayfish
	Grass Snake
	Great Crested Newt
	Hazel dormouse
	Myotis Bat Species
	Natterer's Bat
	Northern Goshawk
	Pipistrelle
	Slow-worm
	Soprano pipistrelle

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.

- Semi-improved species rich grassland
- Scattered trees
- Bare ground

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
SI	0.34	59	
SNG	0.20	34	
BG	0.03	5	
OTHER	0.01	2	
BPT			1
TOTALS	0.58	100	1

SI – Semi-improved grassland, SNG – Semi-improved species rich neutral grassland, BG – Bare ground, BPT – Bat potential trees

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	Sweet vernal grass <i>Anthoxanthum odoratum</i> , red fescue <i>Festuca rubra</i> , creeping bent <i>Agrostis stolonifera</i> , crested dog's tail <i>Cynosurus cristatus</i> , small scabious <i>Scabiosa columbaria</i> , marsh thistle <i>Cirsium palustre</i> , soft rush <i>Juncus effusus</i>
Hedgerows/ trees/ scrub	Oak <i>Quercus sp</i> , hawthorn <i>Crataegus monogyna</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 *Cirsium arvense* have been recorded within 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 are likely to nest in areas of broadleaved woodland and scattered trees from March to August when birds in the UK normally breed.

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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0559244808	Bare ground, recently excavated
2	SK0564544799	Requires botanical survey
3	SK0566644788	Dry ditch with patches of species rich flora
4	SK0556744762	Broadleaved woodland

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Semi-improved species rich calcareous grassland			x		
Scattered trees				x	
Bare ground					x
Overall site importance			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 to the north, FID 176 to the north east and a number of large semi-natural broadleaved woodlands, scrub and species poor grasslands.

Semi-improved species rich grassland

Species rich grasslands are generally rare in the UK due to intensive agricultural practices that have resulted in declines of over 90% of unimproved/ species rich hay meadows in recent times.

The area has been classified as species rich due to the high floral biodiversity in patches and presence of species such as small scabious, fairy flax *Linum catharticum*, salad burnet *Sanguisorba minor*, lady's bedstraw *Galium verum*, quaking grass *Briza media*, species that would not thrive in grassland areas that have been agriculturally improved. The sward also has frequent crested dog's tail, creeping bent, red fescue, common knapweed *Centaurea nigra*, locally frequent tormentil *Potentilla erecta* and bird's foot trefoil *Lotus corniculatus*. Although the site was surveyed in September the sward is very likely to support a more complex biodiversity feeding off its wealth of nectar and seed sources within the main flowering season from May to August.

The remaining grassland is species poor dominated by mainly grassland species such as red fescue, tufted hair grass *Deschampsia cespitosa* and sweet vernal grass *Anthoxanthum odoratum* with herbs mainly including red clover *Trifolium pratense* and occasional self heal *Prunella vulgaris*.

The scattered trees consist of sessile oak *Quercus petraea*, ash and sycamore.

The habitats present on site are uncommon in the UK, have fairly high biodiversity value and therefore are deemed to have a regional ecological value within the matrix.

A number of European protected have been recorded within 2km, and the site has potential to support a number of the species as the habitats are relatively undisturbed and in very close proximity to a large mosaic of scrub, semi-natural broadleaved woodland and ancient semi-natural woodland within 250m.

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

It is recommended that the site is not developed due to the regional importance of species rich grasslands. It is also recommended that the site has an appropriate management applied by removing or reducing grazing pressure as it appears that the sward is gradually declining in species diversity probably due to improvement from livestock. The whole sward should instead be cut at least once a year depending on appropriate local mowing practise. It is also recommended that a full botanical survey is carried out at a more appropriate time of year for grassland survey between June and July to ascertain the full diversity of the sward.

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 'bat mitigation guidelines' Mitchell-Jones (2004).

Reptiles and amphibians

As reptiles could potentially be present on site due to the presence of the semi-natural broadleaved woodland mosaic, woodland edge habitat, south facing habitats and therefore suitable terrestrial habitat so it is recommended that a full reptile survey is carried out by 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.



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If trees, hedgerows and the grassland sward 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 high potential biodiversity and fairly good connectivity to the wider countryside through broadleaved woodland to the north and south west and therefore is attributed regional ecological importance. The site is not recommended to be put forward for any potential future development, however if the site is deemed suitable for development 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
- Botanical survey
- Vegetation removal at the appropriate time of year



FID 176

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FID 176

1. Introduction

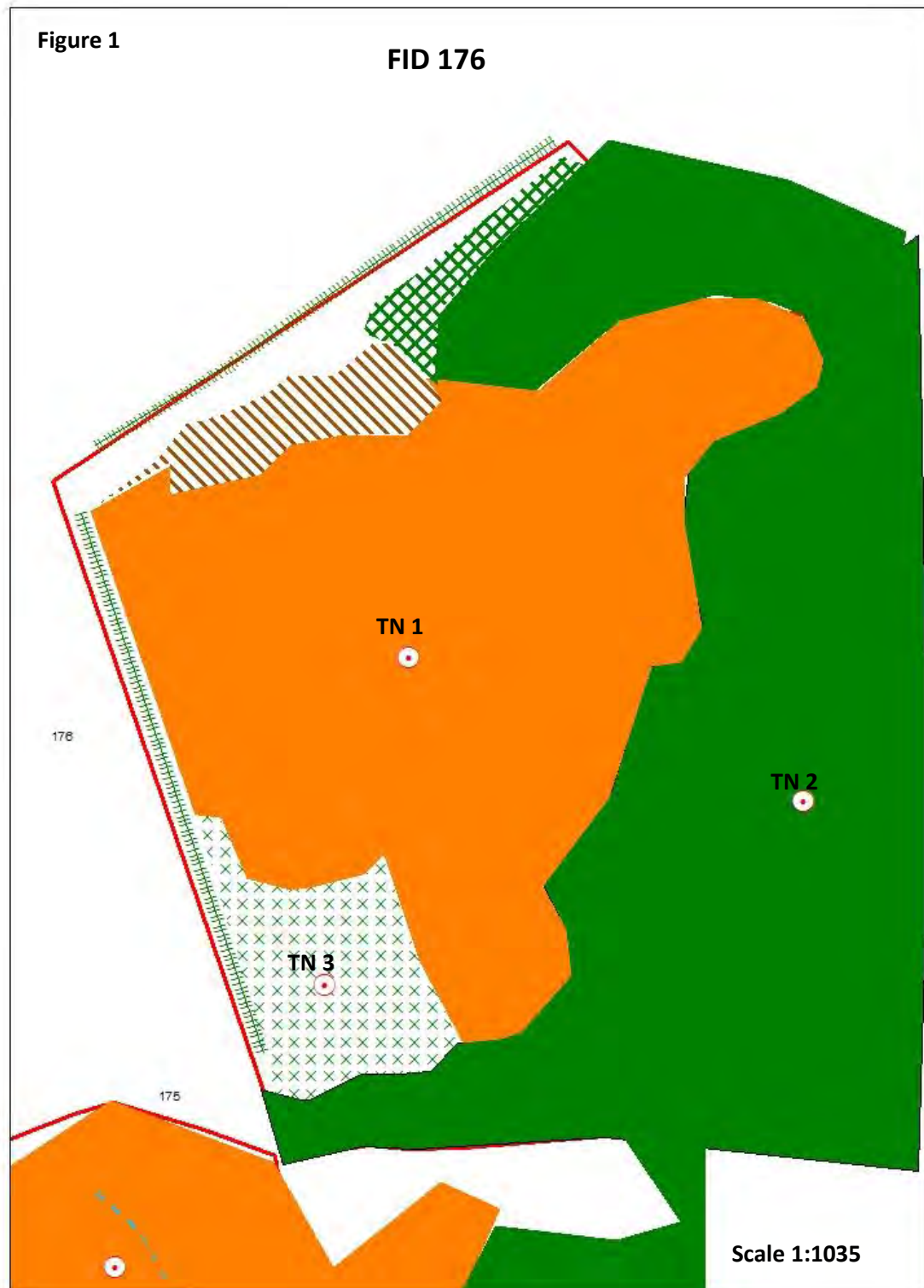
1.1 Background

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 176 O.S grid reference SK0567844865.

FID 176 is located east of Oakamoor village surrounded by agricultural land, woodland 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 176 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.

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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.

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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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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.

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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.

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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.

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

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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

SITE DESIGNATION	NAME
SSSI	Bath Pasture
SSSI	Dimmings Dale and The Ranger
AWI	Mather's Wood
AWI	Coppy Wood
AWI	Moss's Banks
AWI	Red Road (west of)
AWI	Star Wood, Bath Wood, Peggy's Wood
AWI	Abbey Wood
AWI	Dimmingsdale Wood
AWI	Newhay Wood, Hazel Wood, Shore Wood, Hayes Wood
AWI	Lightoaks Wood, Sutton's Wood
AWI	Carr Wood
AWI	Key Wood
AWI	Oakamoor CP
AWI	Star Wood, Oakamoor CP, Oulscrough, Cotton Bank
AWi	Barbary Gutter
AWI	Basin Wood
AWi	Threap Wood
AWI	The Ranger (north of)
AWI	Sutton's Wood
AWI	Hawksmoor Wood
AWI	Counslow Wood
AWI	Cotton Banks
WTNR	Cotton Dell
WTNR	Side Farm Meadow
BAS	Moss Bog
BAS	Oakamoor
BAS	Hazlehurst Brook
SBI	Orchard Farm (south of)
SBI	Ashbourne Hey
SBI	Ramshorn Common
SBI	Hayes Gate Farm
SBI	Little Eaves Farm (south-west of)
SBI	Cotton College

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SBI	Hawksmoor Nature Reserve
SBI	Rainroach Rock
SBI	Barbary Gutter
SBI	Lord's Bridge (north of)
SBI	Upper Cotton Dell
SBI	Heathy Gore (south)
SBI	Heathy Gore (north)
SBI	Abbey Wood
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SBI	Churnet Valley Railway
RIGS	Starwood

AWI – listed in Ancient Woodland Inventory, WTNR – Wildlife Trust Nature Reserve, 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	COMMONNAME
BAP	A Caddis Fly
	A Flowering Plant
	A moth
	A True Fly
	Autumnal rustic
	Barn owl
	Barn swallow
	Brown spot pinion
	Brown Birch Bolete
	Brown Hare
	Brown Long-eared Bat
	Buff-tailed Bumble Bee
	Common bullfinch
	Common kestrel
	Common kingfisher
	Common Lizard
	Common Pipistrelle
	Common redstart
	Common snipe
	Common Toad
	Common whitethroat

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	Corn Buttercup
	Dunnoek
	Dyer's greenweed
	Eurasian curlew
	Eurasian Woodcock
	European Otter
	European Water Vole
	Freshwater White-clawed Crayfish
	Ghost moth
	Grass Snake
	Great Crested Newt
	Greater Butterfly-orchid
	Green woodpecker
	Grey Wagtail
	Hazel dormouse
	Hornet
	House martin
	Insect – beetle
	Jacob's ladder
	Knot grass
	Lichen
	Linnet
	Little grebe
	Little kneeling eyebright
	Mallard
	Mistle Thrush
	Northern lapwing
	Pipistrelle
	Reed bunting
	Rosy minor
	Slow-worm
	Small heath
	Song Thrush
	Soprano pipistrelle
	Streak
	Tree Pipit
	Tufted duck
	Weasel's-snout
	West European Hedgehog
	White-letter Hairstreak
	White tailed bumble bee
	Willow Warbler

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	Wood Warbler
INV	American Mink
	Canadian waterweed
	Chinese Muntjac
	Greater Canada goose
	Indian Balsam
	Rhododendron
E/ UK PS	A Bat
	Barn owl
	Bluebell
	Brown Long-eared Bat
	Common kingfisher
	Common Lizard
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Freshwater White-clawed Crayfish
	Grass Snake
	Great Crested Newt
	Hazel dormouse
	Myotis Bat Species
	Natterer's Bat
	Northern Goshawk
	Pipistrelle
	Slow-worm
	Soprano pipistrelle

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.

- Unimproved calcareous grassland
- Semi-natural broadleaved woodland
- Scattered trees
- Tall ruderal vegetation
- Dense scrub
- Scattered scrub
- Species poor hedgerow

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)*
UCG	0.44	58
TR	0.03	4
DS	0.02	3
SS	0.06	8
BW	0.16	21
OTHER	0.05	7
TOTALS	0.76	100

*Percentages have been rounded either up or down to 2 decimal places, which in this case leads the total to add up to 101%

UCG – Unimproved calcareous grassland, TR- Tall ruderal vegetation,
DS – Dense scrub, BW – Broadleaved Woodland, 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.

Table 4

HABITAT	DOMINANT SPECIES
Grassland/ tall ruderal vegetation	Creeping bent <i>Agrostis stolonifera</i> , red fescue <i>Festuca rubra</i> , common knapweed <i>Centaurea nigra</i> , small scabious <i>Scabiosa columbaria</i> , bird's foot trefoil <i>Lotus corniculatus</i> , hogweed <i>Heracleum sphondylium</i> , betony <i>Stachys officinalis</i> , rosebay willowherb <i>Chamerion angustifolium</i> , creeping thistle <i>Cirsium arvense</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> , oak <i>Quercus</i> sp. holly <i>Ilex aquifolium</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 creeping thistle have been recorded within 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 are likely to

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nest in areas of broadleaved woodland and scattered trees 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	SK0566944867	Requires botanical survey
2	SK0572344844	Well established semi-natural broadleaved woodland
3	SK0567344827	Scattered scrub encroachment

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Unimproved species rich calcareous grassland			x		
Semi-natural broadleaved woodland			x		
Scattered trees				x	
Species poor hedgerow				x	
Dense scrub				x	
Scattered scrub				x	
Tall ruderal vegetation				x	
Overall site importance			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 to the north, FID176 to the north east and a number of large semi-natural broadleaved woodlands, scrub and species poor grasslands.

Unimproved species rich grassland

Species rich grasslands are generally rare in the UK due to intensive agricultural practices that have resulted in declines of over 90% of unimproved/ species rich hay meadows in recent times.

The area has been classified as species rich due to the high floral biodiversity in patches and presence of species such as small scabious, fairy flax *Linum catharticum*, lady's bedstraw *Galium verum*, betony and harebell *Campanula rotundifolia*, species that would not thrive in grassland areas that have been fully agriculturally improved. The sward also has frequent creeping bent *Agrostis stolonifera*, red fescue, common knapweed, locally frequent tormentil *Potentilla erecta* and bird's foot trefoil. Although the site was surveyed in September the sward is very likely to support a more complex botanical sward and faunal biodiversity feeding off its wealth of nectar and seed sources within the main flowering season from mid-May to August.

The semi-natural broadleaved woodland contains a developed structure containing mainly sessile oak *Quercus petraea*, ash, silver birch *Betula pendula* with an understorey of occasional holly and hazel *Corylus avellana*, with an abundance of pteridophytes such as broad buckler fern *Dryopteris dilatata*. The suite of species suggests that the woodland represents a broad NVC W9 *Fraxinus excelsior* – *Sorbus aucuparia* – *Mercurialis perennis* woodland.

The remaining habitats consist of tall ruderal vegetation dominated by rosebay willowherb, common nettle *Urtica dioica* and creeping thistle. Scattered and dense scrub mainly consists

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of bramble *Rubus fruticosus* agg and hawthorn. The whole area of tall ruderal vegetation is species poor and is gradually succeeding the unimproved grassland area.

The species poor hedgerow present on site includes hawthorn, sycamore, holly and leylandii x *Cuprocyparis leylandii*.

The unimproved grassland habitat present on site is uncommon in the UK, so the combination with the remaining habitats have high biodiversity value and therefore are deemed to have a regional value within the matrix, especially as the site is connected to FID155 and a network of other semi-natural broadleaved woodland and grassland habitats.

A number of European protected have been recorded within 2km, and the site has potential to support a number of the species as the habitats are relatively undisturbed and in very close proximity to a large mosaic of scrub, semi-natural broadleaved woodland and ancient semi-natural woodland within 250m. Species include common lizard *Zootoca vivipara*, slow worm *Anguilla fragilis*, roosting and foraging bats, foraging badger, and potentially floral species not recorded due to autumn/ winter die back.

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

Unimproved calcareous grassland is a UK BAP Priority Habitat and therefore it is recommended that the site is not developed due to its important assemblage of floral species, as well as a well-developed semi-natural broadleaved woodland that represents a broad NVC W9 community.

It is also recommended that the site has an appropriate management applied by removing the tall ruderal vegetation and scrub that is out competing the grassland sward, by mowing of the whole sward at least once a year and hand pulling thistles and weeds. It is also recommended that a full botanical survey/ survey for classification as an SBI is carried out at a more appropriate time of year for grassland survey from June to July to ascertain the full diversity of the sward.

Reptiles and amphibians

As reptiles could potentially be present on site due to the presence of the semi-natural broadleaved woodland mosaic, woodland edge habitat, south facing habitats and therefore suitable terrestrial habitat so it is recommended that a full reptile survey is carried out by 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 trees, hedgerows, scrub and grassland sward 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 high potential biodiversity and very good connectivity to the wider countryside through broadleaved woodland to the north. It is definitely recommended that the area is not considered for development due to its high biodiversity value, and especially as unimproved calcareous grassland is a UK BAP Priority Habitat.

If the site was put forward for development the following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Reptile survey
- Botanical survey/ survey for potential classification as an SBI
- Vegetation removal at the appropriate time of year



FID 177

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FID 177

1. Introduction

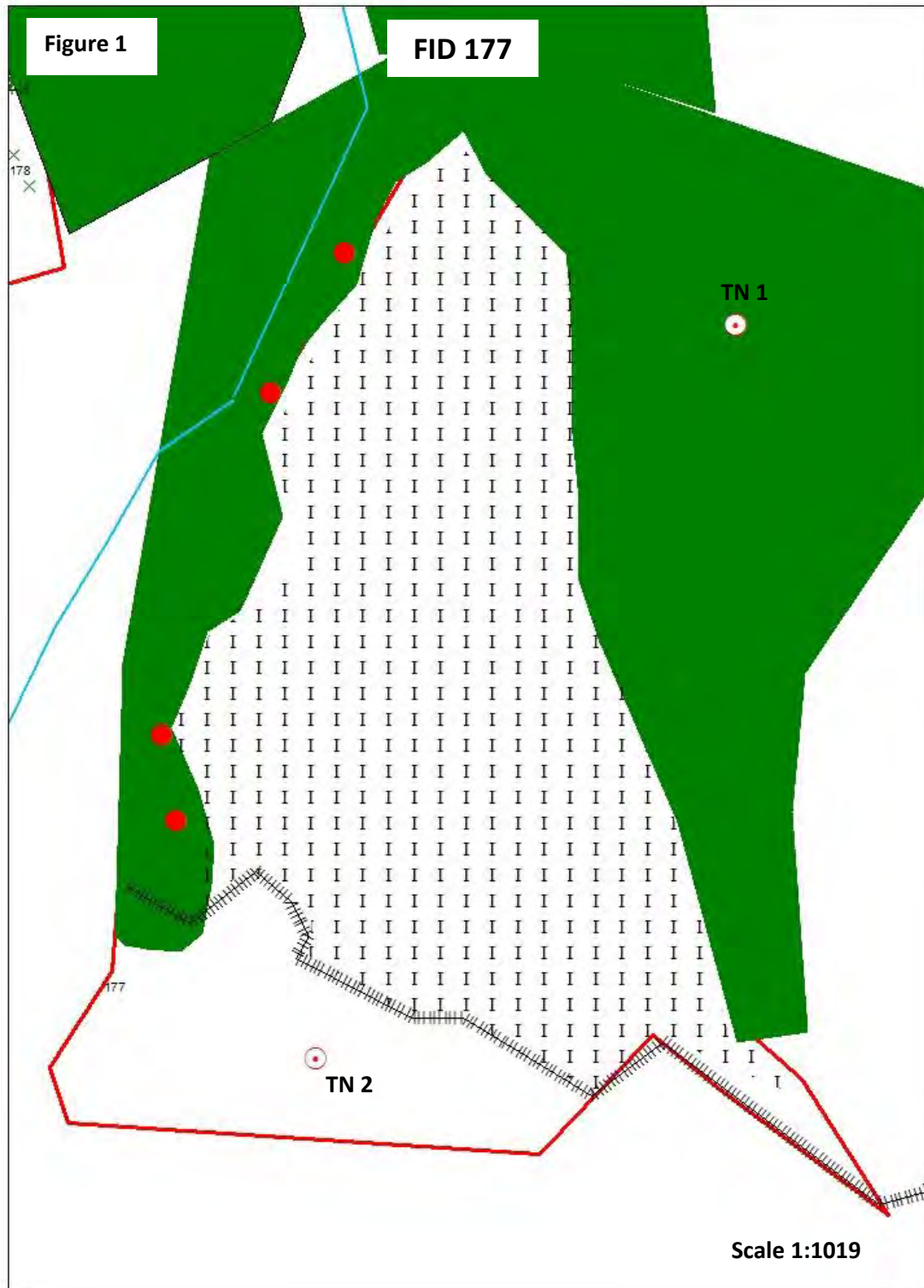
1.1 Background

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 177 O.S grid reference SK0558645030.

FID 177 is located east of Oakamoor village surrounded by agricultural land, woodland (Star Wood, Bath Wood and Peggy's Wood (listed on Ancient Woodland Inventory) AWI) 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 177 during September and October 2014 according to JNCC (2007) guidelines.

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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.

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SBI	Cotton College
SBI	Hawksmoor Nature Reserve
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	Common Lizard
	Common Pipistrelle
	Common redstart
	Common snipe
	Common Toad

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	Common whitethroat
	Corn Buttercup
	Duncock
	Dyer's greenweed
	Eurasian curlew
	Eurasian Woodcock
	European Otter
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	Freshwater White-clawed Crayfish
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	White-letter Hairstreak
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	Willow Warbler
	Wood Warbler
INV	American Mink
	Canadian waterweed
	Chinese Muntjac
	Greater Canada goose
	Indian Balsam
	Rhododendron
E/ UK PS	A Bat
	Barn owl
	Bluebell
	Brown Long-eared Bat
	Common kingfisher
	Common Lizard
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Freshwater White-clawed Crayfish
	Grass Snake
	Great Crested Newt
	Hazel dormouse
	Myotis Bat Species
	Natterer's Bat
	Northern Goshawk
	Pipistrelle
	Slow-worm
	Soprano pipistrelle

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.

- Semi-natural broadleaved woodland
- Scattered trees
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	0.46	63	
OTHER	0.26	37	
BPT			4
TOTALS	0.72	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	Yorkshire fog <i>Holcus lanatus</i> , red fescue <i>Festuca rubra</i> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Oak <i>Quercus sp</i> , sycamore <i>Acer pseudoplatanus</i> , hawthorn <i>Crataegus monogyna</i> , bramble <i>Rubus fruticosus agg</i> , ash <i>Fraxinus excelsior</i> , hazel <i>Corylus avellana</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

Bats

The site has 4 trees recorded in the walkover survey that could potentially support roosting bats, as it had at least one of the corresponding features.

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 from March to August when birds in the UK normally breed.

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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0561745072	Broadleaved woodland as part of AWI
2	SK0557644987	Working timber yard

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Species poor hedgerows				x	
Species poor grassland					x
Overall site importance				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 located south of Cotton Dell Local Nature Reserve and Star Wood, Bath Wood and Peggy's Wood AWI, surrounded by semi-natural broadleaved woodland, domestic dwellings and grasslands of undetermined improvement. This connectivity elevates the importance of the species poor hedgerow to district value.

The 4 trees with bat potential consist of oak *Quercus species* are deemed to have the highest value within the site, especially as they are directly linked to the semi-natural broadleaved woodland of Cotton Dell Nature Reserve.

The grassland is species poor and very closely grazed by sheep, which is a particularly common habitat in the UK, have low biodiversity value and therefore deemed to have a low value within the matrix.

The southerly section of the site consists of a small working arboricultural yard, with numerous log and brash piles and equipment, which reptiles could use as hibernaculum. Woodland edge habitat also often provides good habitat for 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

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 'bat mitigation guidelines' Mitchell-Jones (2004).

Reptiles and amphibians

Reptiles could potentially be present on site due to the presence of the semi-natural broadleaved woodland mosaic, woodland edge habitat, south facing habitats and suitable terrestrial habitat so it is recommended that a full reptile survey and any refugia present on site should be carried out and removed by 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 are retained if the site is to be developed.

If 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.

A number of European protected species have been recorded within 2km however due to the sites mainly poor biodiversity it is unlikely that the site would support most of the species. The exceptions could potentially include roosting and foraging bats and badger, especially as there is broadleaved woodland to the north that could potentially contain badger setts.



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7. Conclusion

The site has mostly low biodiversity value overall in terms of area, despite its close proximity to Cotton Dell Nature Reserve/ AWI. The major aspects of ecological interest is the bat potential in the 4 trees and general potential for supporting reptiles and the connective value of the vegetation to the Local Nature Reserve. The site is therefore considered 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 to ascertain whether bats roost in the trees
- Reptile survey
- Vegetation removal at the appropriate time of year within this site



FID 178

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FID 178

1. Introduction

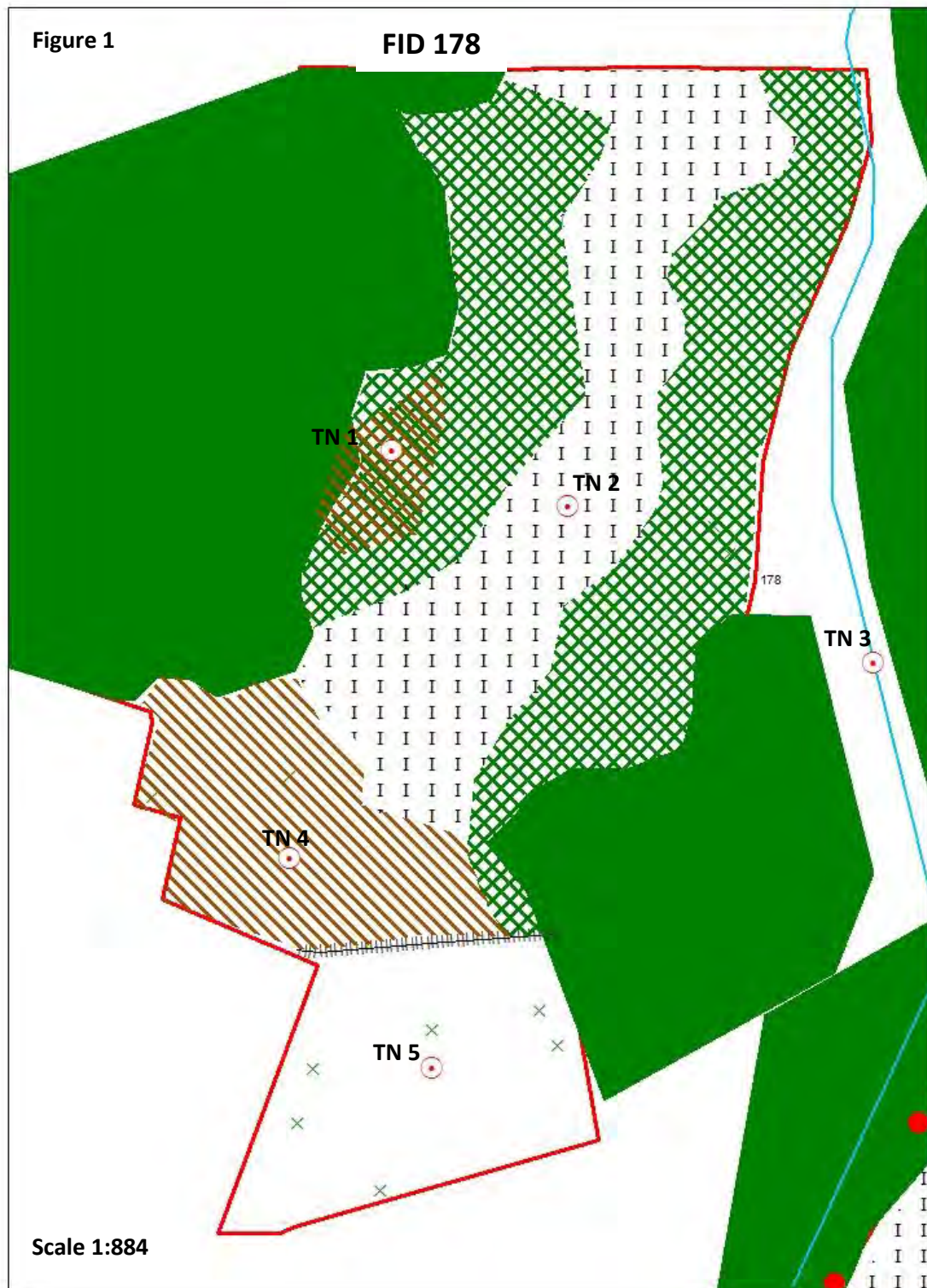
1.1 Background

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 178 O.S grid reference SK0552645134.

FID 178 is located north of Oakamoor village surrounded by woodland 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 178 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
SSSI	Bath Pasture
SSSI	Dimmings Dale and The Ranger
SSSI	Whiston Eaves
AWI	Mather's Wood
AWI	Coppy Wood
AWI	Moss's Banks
AWI	Red Road (west of)
AWI	Star Wood, Bath Wood, Peggy's Wood
AWI	Abbey Wood
AWI	Dimmingsdale Wood
AWI	Newhay Wood, Hazel Wood, Shore Wood, Hayes Wood
AWI	Lightoaks Wood, Sutton's Wood
AWI	Carr Wood
AWI	Key Wood
AWI	Oakamoor CP
AWI	Star Wood, Oakamoor CP, Oulscrough, Cotton Bank
AWi	Barbary Gutter
AWI	Basin Wood
AWi	Threap Wood
AWI	The Ranger (north of)
AWI	Sutton's Wood
AWI	Hawksmoor Wood
AWI	Counslow Wood
AWI	Cotton Banks
WTNR	Cotton Dell
WTNR	Side Farm Meadow
BAS	Moss Bog
BAS	Oakamoor
SBI	Orchard Farm (south of)
SBI	Ashbourne Hey
SBI	Ramshorn Common
SBI	Hayes Gate Farm
SBI	Little Eaves Farm (south-west of)
SBI	Cotton College

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SBI	Hawksmoor Nature Reserve
SBI	Rainroach Rock
SBI	Barbary Gutter
SBI	Lord's Bridge (north of)
SBI	Upper Cotton Dell
SBI	Heathy Gore (south)
SBI	Heathy Gore (north)
SBI	Abbey Wood
SBI	Orrils Wood and Basin Wood
SBI	Churnet Valley Railway
RIGS	Starwood

AWI – listed in Ancient Woodland Inventory, WTNR – Wildlife Trust Nature Reserve, 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	COMMONNAME
BAP	A caddis Fly
	A flowering Plant
	A moth
	A True Fly
	Autumnal rustic
	Barn owl
	Barn swallow
	Brown spot pinion
	Brown Birch Bolete
	Brown Hare
	Brown Long-eared Bat
	Buff-tailed Bumble Bee
	Common bullfinch
	Common kestrel
	Common kingfisher
	Common Lizard
	Common Pipistrelle
	Common redstart
	Common snipe
	Common Toad
	Common whitethroat

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	Corn Buttercup
	Dunnock
	Dyer's greenweed
	Eurasian curlew
	Eurasian Woodcock
	European Otter
	European Water Vole
	Freshwater White-clawed Crayfish
	Ghost moth
	Grass Snake
	Great Crested Newt
	Greater Butterfly-orchid
	Green woodpecker
	Grey Wagtail
	Hazel dormouse
	Hornet
	House martin
	Insect – beetle
	Jacob's ladder
	Knot grass
	Lichen
	Linnet
	Little grebe
	Little kneeling eyebright
	Mallard
	Mistle Thrush
	Northern lapwing
	Pipistrelle
	Reed bunting
	Rosy minor
	Slow-worm
	Small heath
	Song Thrush
	Soprano pipistrelle
	Streak
	Tree Pipit
	Tufted duck
	Weasel's-snout
	West European Hedgehog
	White-letter Hairstreak
	White tailed bumble bee
	Willow Warbler

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	Wood Warbler
INV	American Mink
	Canadian waterweed
	Chinese Muntjac
	Greater Canada goose
	Indian Balsam
	Rhododendron
E/ UK PS	A Bat
	Barn owl
	Bluebell
	Brown Long-eared Bat
	Common kingfisher
	Common Lizard
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Freshwater White-clawed Crayfish
	Grass Snake
	Great Crested Newt
	Hazel dormouse
	Myotis Bat Species
	Natterer's Bat
	Northern Goshawk
	Pipistrelle
	Slow-worm
	Soprano pipistrelle

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.

- Semi-natural broadleaved woodland
- Dense scrub
- Tall ruderal vegetation
- Improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE
I	0.14	20
DS	0.19	28
TR	0.09	13
BW	0.17	25
OTHER	0.10	14
TOTALS	0.69	100

TR- Tall ruderal vegetation, DS – Dense scrub, I – Improved grassland, BW – Broadleaved Woodland

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> , Himalayan balsam <i>Impatiens glandulifera</i> , common nettle <i>Urtica dioica</i> , common knapweed <i>Centaurea nigra</i> , hedge woundwort <i>Stachys sylvatica</i> , broad buckler fern <i>Dryopteris dilatata</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , bramble <i>Rubus fruticosus</i> agg, ash <i>Fraxinus excelsior</i> , hazel <i>Corylus avellana</i> , holly <i>Ilex aquifolium</i>

4.3.3 Invasive weeds

Himalayan balsam is listed in Schedule 9 of the Wildlife and Countryside Act 1981 was recorded around the 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 are likely to nest in areas of scattered trees, scrub and tall ruderal vegetation from March to August when birds in the UK normally breed.

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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0551545156	Tall ruderal vegetation and dense scrub with occasional Himalayan balsam
2	SK0553245148	Grazed by horses
3	SK0557545116	Large stream at the bottom of the valley
4	SK0551045121	Occasional Himalayan balsam
5	SK0552145093	Part of extensive domestic garden

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Semi-natural broadleaved woodland			x		
Dense scrub				x	
Tall ruderal vegetation				x	
Species poor grassland					x
Overall site importance			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 located south of Cotton Dell Local Nature Reserve/ Star Wood, Bath Wood and Peggy's Wood AWI and surrounded by semi-natural broadleaved woodland and domestic dwellings.

The semi-natural broadleaved woodland consists of ash, hazel, holly, hawthorn, with ferns including broad buckler fern. The semi-natural woodland community broadly represents NVC W9 *Fraxinus excelsior* – *Sorbus aucuparia* – *Mercurialis perennis* woodland.

The dense scrub/ tall ruderal vegetation and grassland is species poor and consists mainly of bramble, Himalayan balsam, common nettle, hogweed *Heracleum sphondylium* and perennial rye grass *Lolium perenne* which is grazed by horses. To the extreme south of the site the area consists of a rough landscaped sloping garden, with patches of common knapweed and various planted trees including rowan *Sorbus aucuparia*, cherry *Prunus species* and holly.

Apart from the broadleaved woodland, the habitats present on site are particularly common in the UK; however their biodiversity value is given a higher value due to the close proximity of Cotton Dell Nature Reserve/ AWI.

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

Reptiles could potentially be present on site due to the presence of the semi-natural broadleaved woodland mosaic, woodland edge habitat, south facing habitats and suitable terrestrial habitat so it is recommended that a full reptile survey and any refugia present on site should be carried out and removed by 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 are retained if the site is to be developed.

If 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.

A number of European protected species have been recorded within 2km however due to the sites mainly poor biodiversity it is unlikely that the site would support most of the species. The exceptions could potentially include roosting and foraging bats and badger, especially as there is broadleaved woodland to the north that could potentially contain badger setts.

7. Conclusion

The site has mostly low biodiversity value overall in terms of area, despite its close proximity to Cotton Dell LWS. The main features of ecological interest are the semi-natural broadleaved woodland and the potential to support reptiles which warrants the site being attributed regional ecological importance.

If development of the site is put forward 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 within this site



FID 170

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FID 170

1. Introduction

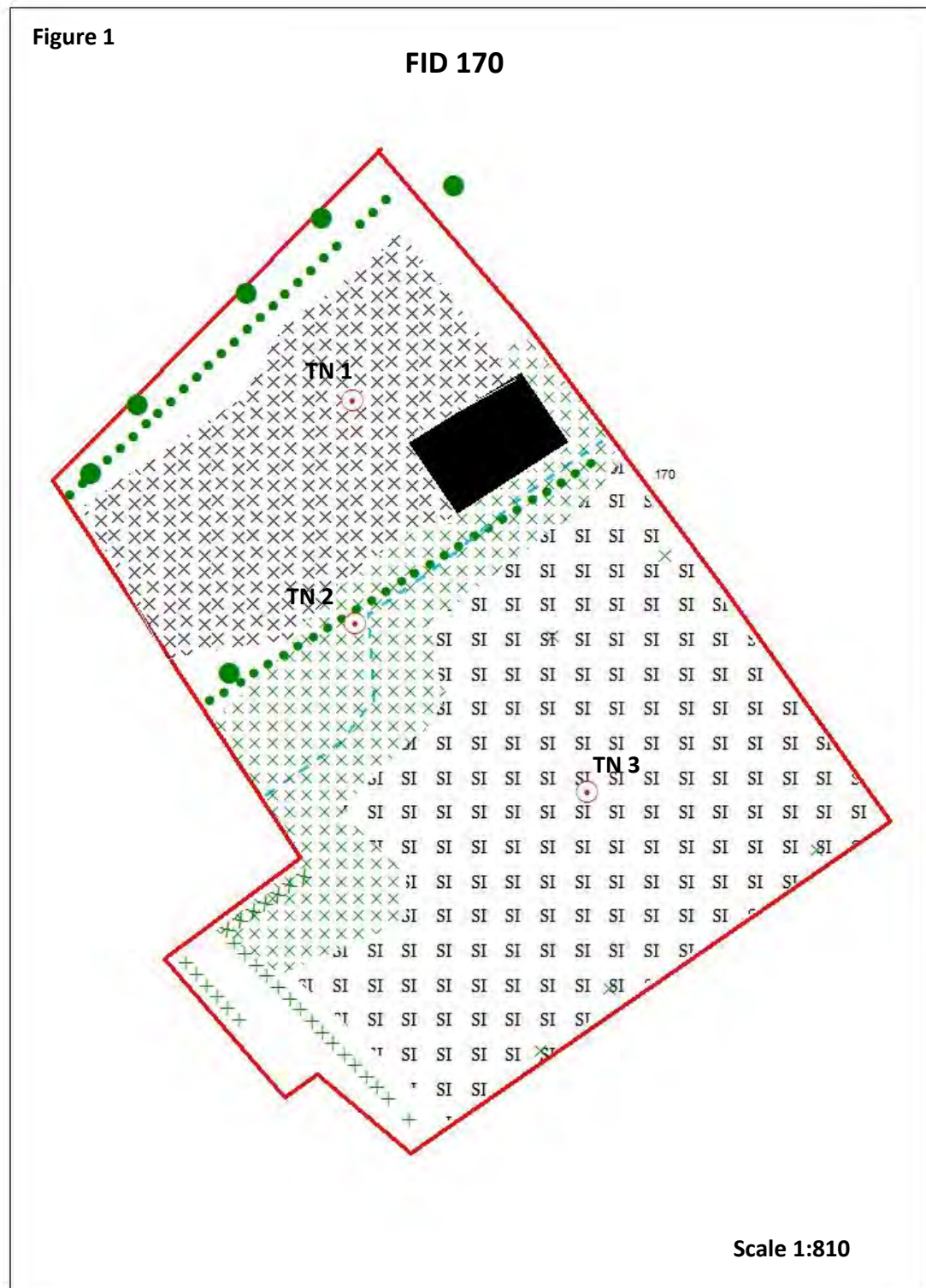
1.1 Background

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 170 O.S grid reference SJ9537657801.

FID 170 is located in Rudyard village surrounded by agricultural land and residential 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 170 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
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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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Cowhay Wood
AWI	UNK
AWI	Inglebrook
AWI	Longsdon Wood
AWI	Rea Cliffe Wood
BAS	Foker Grange
SBI	Coneygreave (east of)
SBI	Longsdon Mill Pond
SBI	Horton Hall (north-east of)
SBI	Harpers Gate
SBI	Rudyard Dismantled Railway
SBI	Longsdon Wood & Cowhay Wood

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site,

SBI – Site of Biological Importance

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
	Autumnal Rustic
	Barn Owl
	Barn Swallow
	Black headed cardinal beetle
	Black-headed Gull
	Black tailed godwit
	Blood-vein
	Box
	Broom Moth
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Centre-barred Sallow

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	Cinnabar
	Common Bullfinch
	Common Kestrel
	Common Kingfisher
	Common Pipistrelle
	Common redstart
	Common Snipe
	Common Starling
	Dot Moth
	Dunnock
	Ear Moth
	Eurasian Woodcock
	European Otter
	Galium Carpet
	Grass Snake
	Green Woodpecker
	Harvest Mouse
	House Martin
	House Sparrow
	Knot Grass
	Latticed Heath
	Linnet
	Mallard
	Meadow Pipit
	Noctule Bat
	Northern Lapwing
	Oblique Carpet
	Pipistrelle
	Reed Bunting
	Rosy Rustic
	September Thorn
	Shaded broad bar
	Shoulder-striped Wainscot
	Slow-worm
	Small Heath
	Small Phoenix
	Small Square-spot
	Song Thrush
	Soprano Pipistrelle
	Tall hawkweed
	West European Hedgehog
	White Ermine

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	Willow Warbler
INV	American Mink
	Canadian goldenrod
	Indian balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A Bat
	Barn Owl
	Black tailed godwit
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Grass Snake
	Myotis bat species
	Noctule Bat
	Pipistrelle
	Slow-worm
	Soprano Pipistrelle

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.

- Semi-improved species poor grassland
- Scattered scrub
- Scattered trees
- Ephemeral grassland
- Dry ditch

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
SI	0.19	44
SS	0.07	17
ESP	0.09	20
OTHER	0.08	19
TOTALS	0.43	100

SI – Species poor semi-improved grassland, ESP - Ephemeral Grassland,
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> , red fescue <i>Festuca rubra</i> , creeping bent <i>Agrostis stolonifera</i> , purple moor grass <i>Molinia caerulea</i> , heath bedstraw <i>Galium saxatile</i>
Hedgerows/ trees/ scrub	Goat willow <i>Salix caprea</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus</i> agg, rhododendron <i>Rhododendron ponticum</i> sp, silver birch <i>Betula pendula</i>

4.3.3 Invasive weeds

Rhododendron is listed in Schedule 9 of the Wildlife and Countryside Act 1981 was recorded in one location on the site.

Weeds listed under the Weeds Act 1959 including curled dock *Rumex crispus*, creeping thistle *Cirsium arvense* and spear thistle *Cirsium vulgare* 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 nest in areas of scrub, scattered trees and semi-improved species poor grassland habitat from March to August when birds in the UK normally breed.

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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9536757826	Reptile potential
2	SJ9536657804	Dry ditch and refugia
3	SJ9539057790	Reptile potential

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Semi-improved species poor grassland				x	
Scattered scrub				x	
Scattered trees					x
Ephemeral grassland					x
Dry ditch					x
Overall site importance				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 suburban type domestic dwellings to the north, tall ruderal vegetation and a network of other habitats such as broadleaved woodland and scrub. The site is also in fairly close proximity to a lake <500m away to the south east.

The site itself consists of a potentially biodiverse scrub/ tall ruderal ephemeral and acid grassland habitat mosaic. The importance of this site is notable as it consists of a derelict site connected to other biodiverse habitats.

The semi-improved species poor grassland (44%) is species poor consisting mainly of an interesting relict sward of upland acid grassland with mainly purple moor grass with common bent *Agrostis capillaris* and occasional heath bedstraw *Galium saxatile*. Although the grassland sward is fairly unusual in its floral species it is deemed not diverse enough to warrant being recorded as semi-improved species rich acid grassland.

The scattered trees to the north comprise of sycamore and goat willow with a laburnum tree *Laburnum anagyroides*.

The ephemeral grassland is colonising areas of disturbed ground and hard standing and consists of species such as cock's foot, rosebay willowherb *Chamerion angustifolium*, red clover *Trifolium pratense*, goat willow regeneration and Canadian goldenrod *Solidago canadensis*.

The scattered tree and scrub mosaic in the centre of the site consists of a mix of goat willow, hawthorn, willow species *Salix species*, wild cherry *Prunus avium*, silver birch and buddleia *Buddleia davidii* with locally abundant bramble.

The site could potentially support ground nesting birds, reptiles and terrestrial habitat for amphibians and provide hunting opportunities for owls and raptors.

There are a number of European and UK protected species recorded within 2km according to the desk study. The site could potentially support a number of these species such as



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reptiles, foraging bats and badger especially as the site is well connected to further scrub/ woodland habitats that are connected to a lake <500m away. Therefore the site as a whole 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

Reptiles and amphibians

The mosaic of suitable habitat on site and connective habitat could potentially support reptile populations so it is recommended that a full reptile survey is carried out by 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 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 a lake <500m away. Therefore 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:

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



FID 171



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FID 171

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 171 O.S grid reference SJ9525158033.

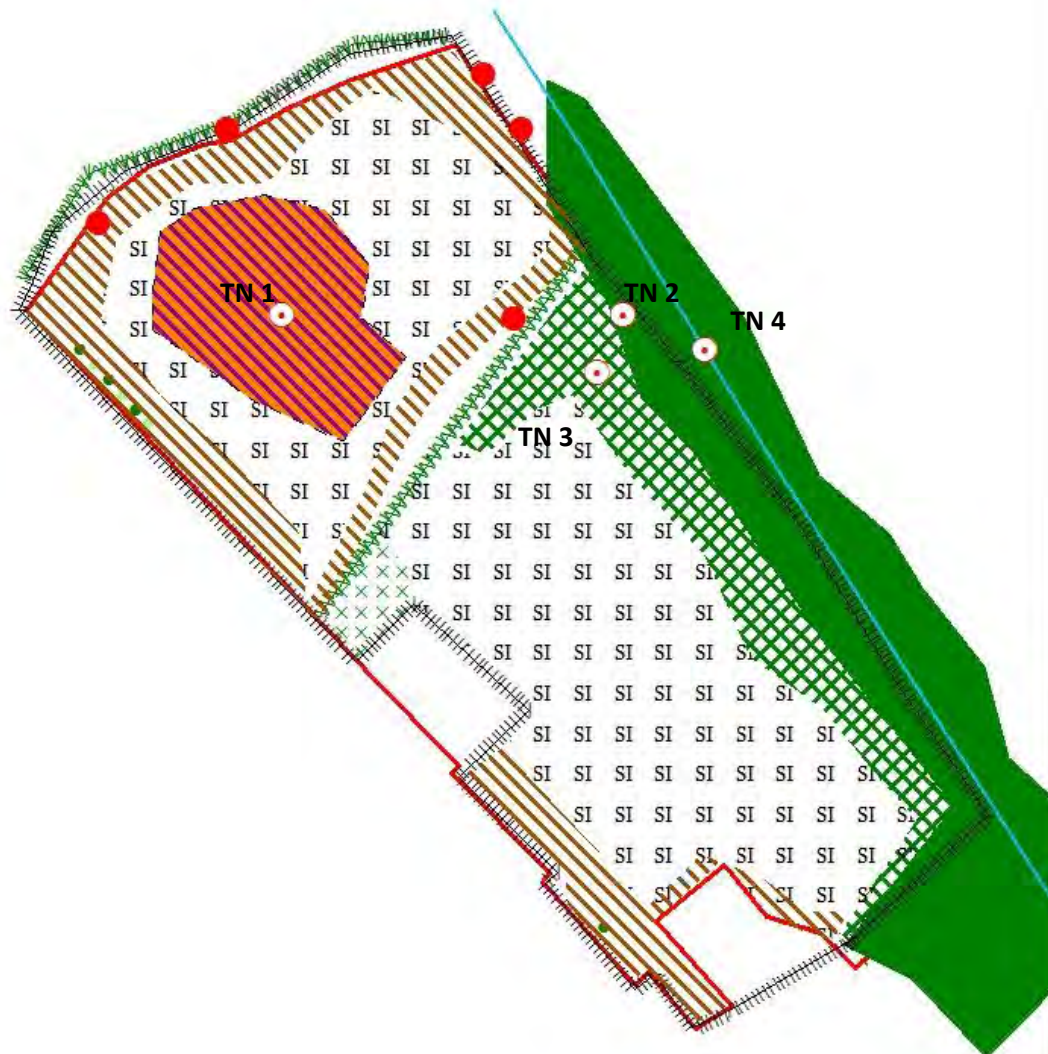
FID 171 is located east of Rudyard village surrounded by agricultural land, hotel grounds and housing.

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).

Figure 1

FID 171



Scale 1:1660

2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 171 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Cowhay Wood
AWI	UNK
AWI	Inglebrook
AWI	West Wood
AWI	Rea Cliffe Wood
BAS	Foker Grange
SBI	Coneygreave (east of)
SBI	Fairborough's Wood
SBI	Horton Hall (north-east of)
SBI	Harpers Gate
SBI	Rudyard Dismantled Railway
SBI	Longsdon Wood & Cowhay Wood

AWI – listed in Ancient Woodland Inventory, BAS – Biodiversity Alert Site,

SBI – Site of Biological Importance

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
	Autumnal Rustic
	Barn Owl
	Barn Swallow
	Black headed cardinal beetle
	Black-headed Gull
	Black tailed godwit
	Blood-vein
	Box
	Broom Moth
	Brown Hare
	Brown Long-eared Bat
	Buff Ermine
	Centre-barred Sallow

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	Cinnabar
	Common Bullfinch
	Common Kestrel
	Common Kingfisher
	Common Pipistrelle
	Common redstart
	Common Snipe
	Common Starling
	Dot Moth
	Dunnock
	Ear Moth
	Eurasian Woodcock
	European Otter
	Galium Carpet
	Grass Snake
	Green Woodpecker
	Harvest Mouse
	House Martin
	House Sparrow
	Knot Grass
	Latticed Heath
	Linnet
	Mallard
	Meadow Pipit
	Noctule Bat
	Northern Lapwing
	Oblique Carpet
	Pipistrelle
	Reed Bunting
	Rosy Rustic
	Rye brome
	September Thorn
	Shaded broad bar
	Shoulder-striped Wainscot
	Slow-worm
	Small Heath
	Small Phoenix
	Small Square-spot
	Song Thrush
	Soprano Pipistrelle
	Tall hawkweed
	West European Hedgehog

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	White Ermine
	Willow Warbler
INV	American Mink
	Canadian goldenrod
	Indian balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A Bat
	Barn Owl
	Black tailed godwit
	Bluebell
	Brown Long-eared Bat
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	Grass Snake
	Noctule Bat
	Pipistrelle
	Slow-worm
	Soprano Pipistrelle

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 rich hedgerow
- Broadleaved woodland
- Species poor hedgerows
- Marshy grassland
- Semi-improved species poor grassland
- Tall ruderal vegetation
- Dense scrub
- Scattered scrub

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
SI	0.63	49	
DS	0.18	14	
MG	0.12	10	
TR	0.22	18	
SS	0.02	1	
BW	0.09	7	
OTHER	0.02	1	
BPT	0.00		5
TOTALS	1.28	100	

SI – Species poor semi-improved grassland, TR- Tall ruderal vegetation, DS – Dense scrub, BW – Broadleaved woodland, SS – Scattered scrub, MG – Marshy 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	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 bent <i>Agrostis stolonifera</i> , soft rush <i>Juncus effusus</i> , hogweed <i>Heracleum sphondylium</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , oak <i>Quercus species</i> , bramble <i>Rubus fruticosus</i> agg, alder <i>Alnus glutinosa</i> , ash <i>Fraxinus excelsior</i> silver birch <i>Betula pendula</i>

4.3.3 Invasive weeds

Himalayan balsam *Impatiens glandulifera* is listed in Schedule 9 of the Wildlife and Countryside Act 1981 was recorded in various locations around the site.

Weeds listed under the Weeds Act 1959 including curled dock *Rumex crispus*, creeping thistle *Cirsium arvense* and spear thistle *Cirsium vulgare* have been recorded 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 could nest in areas of hedgerows, scattered trees, 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 wren *Troglodytes troglodytes*, long tailed tit *Aegithalos caudatus*, buzzard *Buteo buteo*, blackbird *Turdus merula*, blue tit *Cyaniste cyanistes*
- Butterflies including large white *Pieris brassicae*

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9520358078	Marshy grassland with occasional Himalayan balsam
2	SJ9526758057	Broadleaved woodland with occasional Himalayan balsam
3	SJ9525858054	Dense scrub with frequent Himalayan balsam
4	SJ9528558052	Major stream 8ft wide and 10-50cm deep

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Broadleaved woodland				x	
Species rich hedgerow				x	
Species poor hedgerow				x	
Marshy grassland				x	
Dense scrub				x	
Scattered scrub				x	
Tall ruderal vegetation				x	
Overall site importance			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 a network of other habitats such as broadleaved woodland, scrub, species poor grassland connected to Rudyard reservoir 380m away to the north.

The site itself consists of a potentially biodiverse woodland/ scrub/ marshy grassland/ tall ruderal habitat mosaic. The importance of this site is notable as it is connected to Rudyard reservoir and other biodiverse habitats. Therefore this complexed habitat mosaic warrants being attributed regional ecological importance.

The broadleaved woodland consists of beech *Fagus sylvatica*, sycamore, alder and occasional Scot's pine *Pinus sylvestris* with an understorey of hazel *Corylus avellana* and hawthorn.

The dense scrub consists of very tall bramble and Himalayan balsam.

The species poor grassland consists of mostly common species including false oat grass, cock's foot, common knapweed *Centaurea nigra*, common nettle and occasional birds' foot trefoil *Lotus corniculatus*.

Marshy grassland comprises mainly soft rush, marsh thistle *Cirsium palustre* and occasional greater bird's foot trefoil *Lotus pedunculatus*.

The species rich hedgerow has 6 species present including hawthorn, holly *Ilex aquifolium*, sycamore, silver birch, hazel and rowan *Sorbus aucuparia*.

There are 5 scattered trees with bat roosting potential include alder and oak *Quercus species*.

The sward could potentially support ground nesting birds, reptiles and terrestrial habitat for amphibians and provide hunting opportunities for owls and raptors.



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There are a number of European and UK protected species recorded within 2km according to the desk study. The site could potentially support many of these including grass snake, foraging barn owl, other owl species, foraging badger, roosting and foraging bats as well as ground nesting birds and invertebrate communities. Therefore the site is considered to have regional 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

Due to the intricate mosaic of habitats and potential protected species present, the site is not recommended for potential development as it has been deemed to have regional ecological importance.

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 5 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

As reptiles could potentially be present on site due to the presence of running water, nearby lake and suitable terrestrial habitat it is recommended that a full reptile survey is carried out by 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.

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 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.



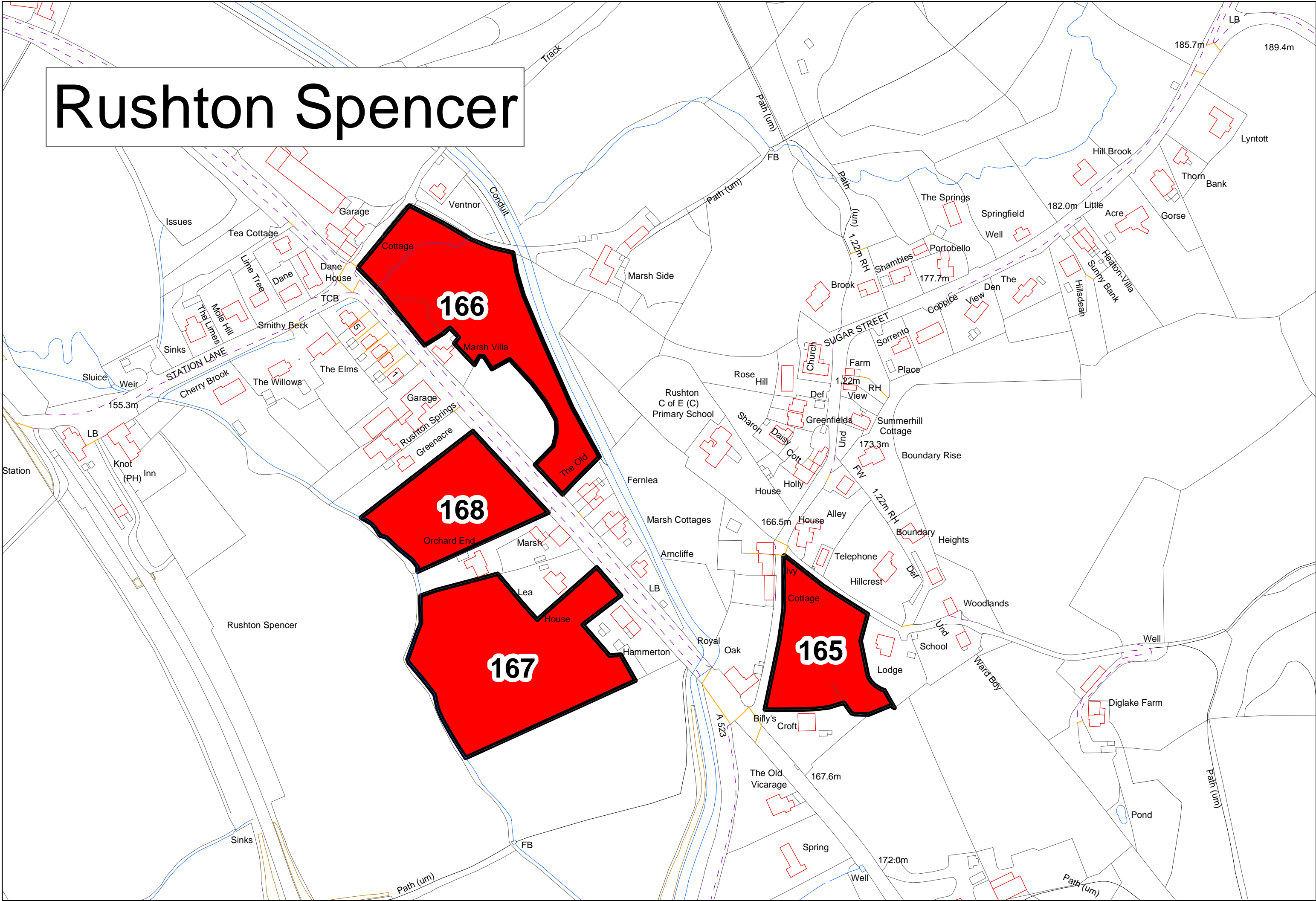
7. Conclusion

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 is not recommended for potential development as the site is considered to have regional ecological importance.

If however the site is put forward for potential development the following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Bat survey of 5 trees with roosting potential
- Reptile survey
- Adoption of Himalayan balsam removal regime
- Vegetation removal at the appropriate time of year

Rushton Spencer



Scale 1: 2000

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Site label numbers denote Site FID reference numbers used in Study.



FID 165

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FID 165

1. Introduction

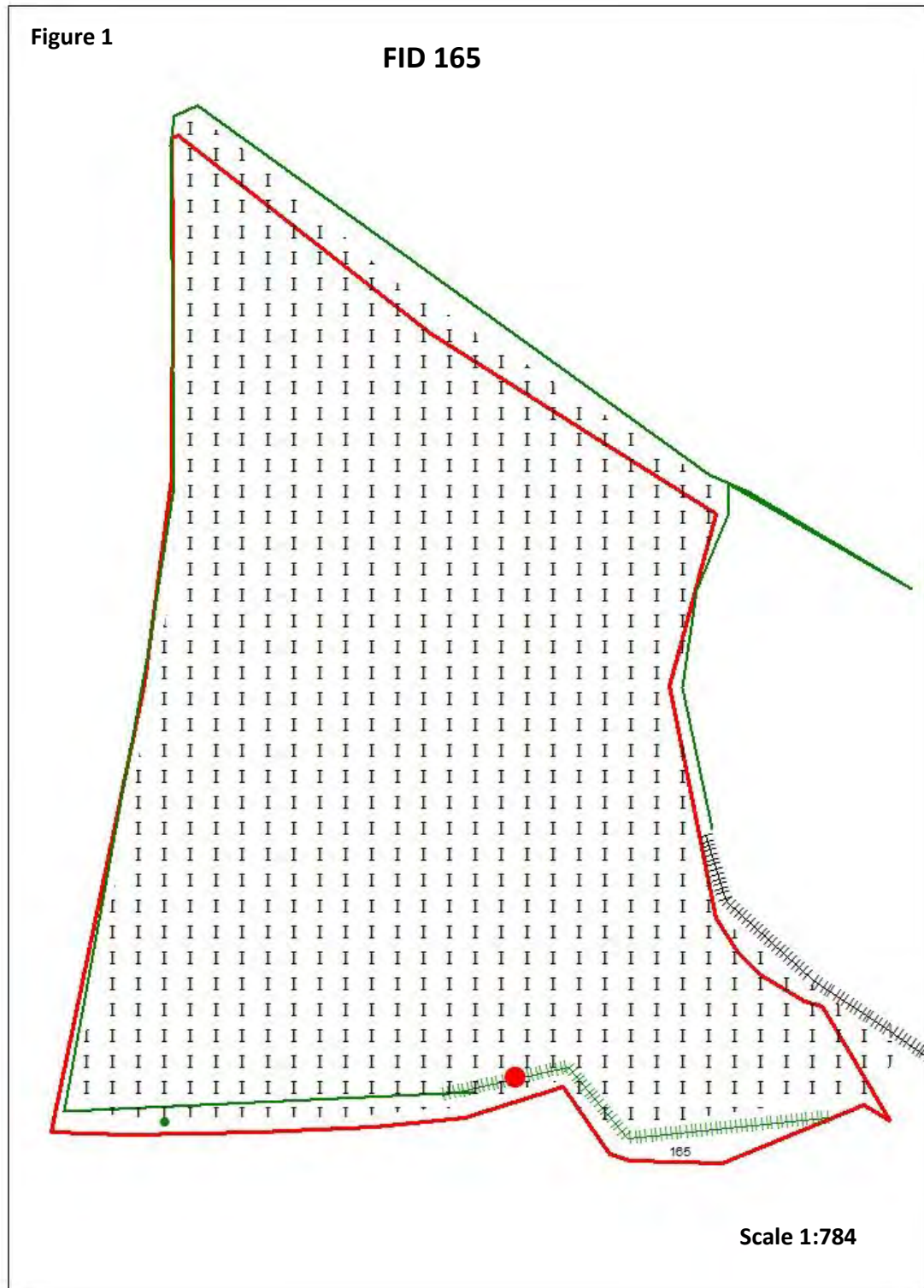
1.1 Background

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 165 O.S grid reference SJ9405162341.

FID 165 is located in Rushton Spencer village 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 165 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	UNK
AWI	Oulton Wood
AWI	Fadge Clough
AWI	Lee Wood
AWI	Meal-Ark Clough, Flashcroft Coppice
AWI/SBI	Ravensclough wood
AWI	Barnswood
AWI	Close Wood, Flash Wood
AWI	Carlidge Wood, Whiteridges Wood
BAS	Heaton (south of)
BAS	Dane Feeder Channel
BAS	Lee Wood
BAS	Oulton Wood
SBI	Flashcroft Coppice
SBI	Lane Ends Farm (north of)
SBI	Thompson (fields north of)
SBI	Sugar Street Fields
SBI	Brook Farm (south of)
SBI	Dingle Lane (north of the Dingle)
SBI	Dingle Brook Grassland
SBI	Hug Bridge
SBI	Meal-Ark Clough
SBI	Beat Lane Hedges
SBI	Rudyard Dismantled Railway
SBI	Fadge Clough (north of)
SBI	Primrose Hill
SBI	Rushton Bank (west of)

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

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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 true fly
	Barn owl
	Barn swallow
	Black headed gull
	Black tailed godwit
	Brown Hare
	Brown Long-eared Bat
	Common bullfinch
	Common cuckoo
	Common gull
	Common Kestrel
	Common Kingfisher
	Common starling
	Common Toad
	Corn buttercup
	Corn spurrey
	Dunnock
	Eurasian Curlew
	Eurasian teal
	Eurasian tree sparrow
	Eurasian woodcock
	Great crested newt
	Green woodpecker
	Grey mining bee
	Grey wagtail
	Honey bee
	House Sparrow
	Mallard
	Monk's rhubarb
	Northern lapwing
	Pillwort
	Pipistrelle
	Small water pepper
	Smooth cat's ear
	White letter hairstreak

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	Tall hawkweed
	Tree bumble bee
	Tufted duck
	Willow warbler
	Yellow wagtail
INV	American Mink
	Greater Canada goose
	Indian Balsam
	Japanese knotweed
	Least duckweed
	New Zealand pigmyweed
	Rhododendron
E/ UK PS	Barn owl
	Black tailed godwit
	Bluebell
	Brown long eared bat
	Common Kingfisher
	Eurasian Badger
	Great crested newt
	Little plover
	Pipistrelle

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 hedgerows
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	0.40	89	
OTHER	0.05	11	
BPT			1
TOTALS	0.45	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> , 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> , mugwort <i>Artemisia vulgaris</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus</i> agg

4.3.3 Invasive weeds

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

Weeds listed under the Weeds Act 1959 including curled dock have been 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 could potentially nest in hedgerows and scattered trees 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 semi-improved grassland					x
Overall site importance				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, species poor grassland and main road to the south west.

The site itself consists of species poor improved grazed grassland (89%), with species poor hedgerows consisting of hawthorn and elder.

There have been a number of European and UK protected species recorded within 2km according to the desk study. However, the site has poor biodiversity and is poorly connected to other habitats so it is unlikely that the site would support many European and UK protected species apart from roosting/ foraging bats and badger. The sites poor biodiversity warrants being attributed low ecological importance but the presence of a potential bat roost elevates its status to district.

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 scattered 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 generally has poor biodiversity and has poor connectivity to the wider countryside, but despite this is deemed to have district ecological importance due to the presence of a potential bat roost within one of the trees.

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

- Bat survey of the tree marked as having bat roosting potential
- Vegetation removal at the appropriate time of year



FID 166

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FID 166

1. Introduction

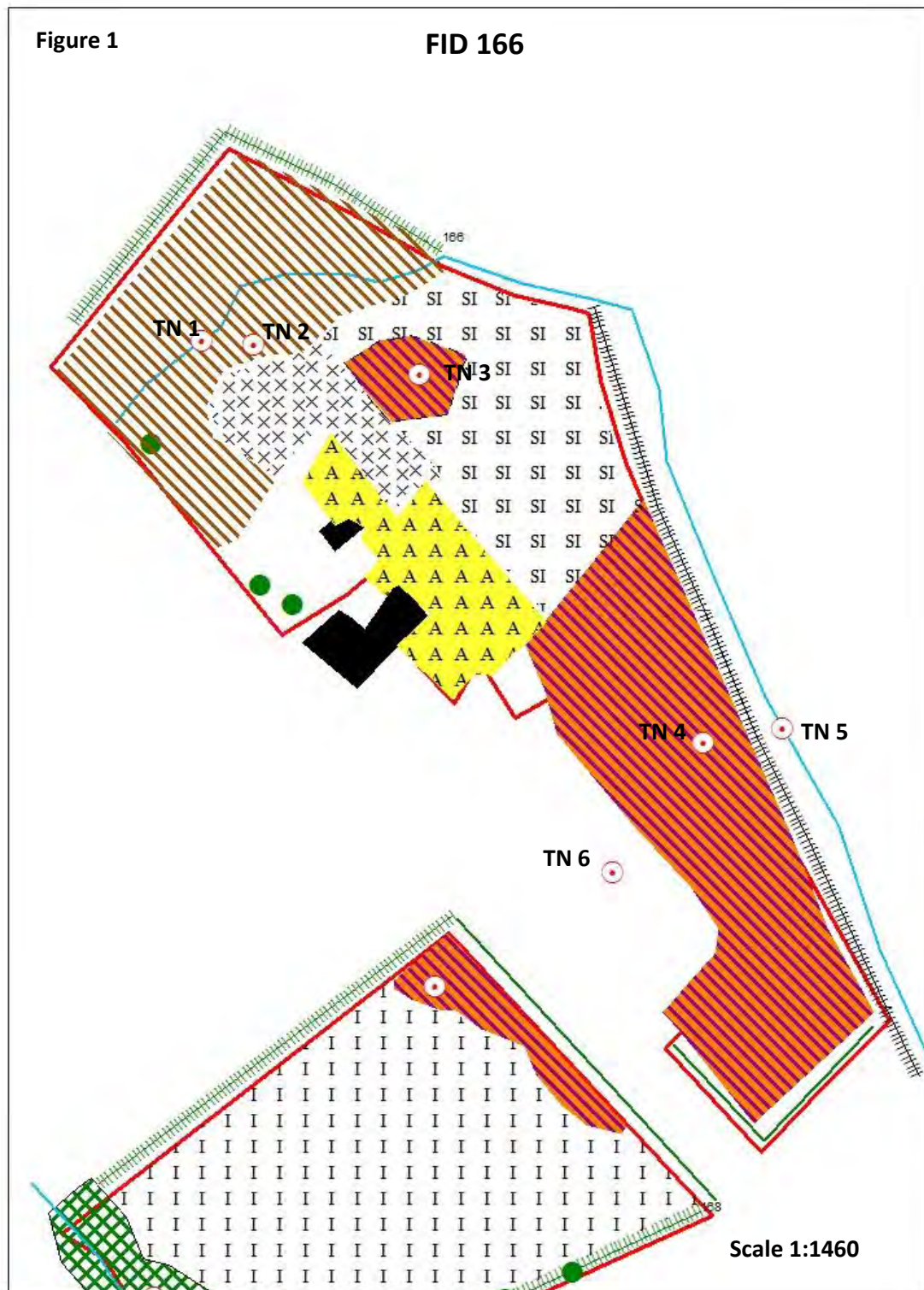
1.1 Background

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 166 O.S grid reference SJ9384762537.

FID 166 is located in Rushton Spencer village surrounded by agricultural land, housing and industrial land across the road to the west.

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 166 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	UNK
AWI	Oulton Wood
AWI	Fadge Clough
AWI	Lee Wood
AWI	Meal-Ark Clough, Flashcroft Coppice
AWI/SBI	Ravensclough wood
AWI	Barnswood
AWI	Close Wood, Flash Wood
AWI	Cartlidge Wood, Whiteridges Wood
BAS	Heaton (south of)
BAS	Dane Feeder Channel
BAS	Lee Wood
BAS	Oulton Wood
SBI	Flashcroft Coppice
SBI	Cloudwood End (north east of)
SBI	Lane Ends Farm (north of)
SBI	Thompson (fields north of)
SBI	Sugar Street Fields
SBI	Brook Farm (south of)
SBI	Dingle Lane (north of the Dingle)
SBI	Dingle Brook Grassland
SBI	Hug Bridge
SBI	Meal-Ark Clough
SBI	Beat Lane Hedges
SBI	Rudyard Dismantled Railway
SBI	Fadge Clough (north of)
SBI	Primrose Hill
SBI	Rushton Bank (west of)

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

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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 owl
	Barn swallow
	Black headed gull
	Black tailed godwit
	Brown Hare
	Brown Long-eared Bat
	Common bullfinch
	Common gull
	Common Kestrel
	Common Kingfisher
	Common starling
	Common Toad
	Corn buttercup
	Corn spurrey
	Dunnock
	Eurasian Curlew
	Eurasian teal
	Eurasian tree sparrow
	Eurasian woodcock
	Great crested newt
	Green woodpecker
	Grey wagtail
	Honey bee
	House Sparrow
	Mallard
	Monk's rhubarb
	Northern lapwing
	Pillwort
	Pipistrelle
	Small water pepper
	Smooth cat's ear
	White letter hairstreak
	Willow warbler
	Yellow wagtail
INV	American Mink

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	Greater Canada goose
	Indian Balsam
	Japanese knotweed
	Least duckweed
	New Zealand pigmyweed
	Rhododendron
E/ UK PS	Barn owl
	Black tailed godwit
	Bluebell
	Brown long eared bat
	Common Kingfisher
	Eurasian Badger
	Great crested newt
	Little plover
	Pipistrelle

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.

- Broadleaved woodland
- Running water
- Marshy grassland
- Amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
MG	0.23	28
SI	0.16	19
TR	0.20	24
ESP	0.06	7
AM	0.08	9
OTHER	0.11	13
TOTALS	0.84	100

SI – Species poor semi-improved grassland, AM – Amenity Grassland, TR- Tall ruderal vegetation, MG – Marshy 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	Soft rush <i>Juncus effusus</i> , tufted hairy grass <i>Deschampsia cespitosa</i> , False oat grass <i>Arrhenatherum elatius</i> , Himalayan balsam <i>Impatiens glandulifera</i> , common nettle <i>Urtica dioica</i> , common bent <i>Agrostis capillaris</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , goat willow <i>Salix caprea</i> , , bramble <i>Rubus fruticosus</i> agg, hazel <i>Corylus avellana</i> , ash <i>Fraxinus excelsior</i>

4.3.3 Invasive weeds

Himalayan balsam *is* listed in Schedule 9 of the Wildlife and Countryside Act 1981 was recorded in various locations at the time of survey.

Weeds listed under the Weeds Act 1959 including broadleaved dock *Rumex obtusifolius*, spear thistle *Cirsium vulgare*, ragwort *Senecio jacobea*, creeping thistle *Cirsium arvense* and curled dock *Rumex crispus* were 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 could nest in areas of marshy grassland, tall ruderal vegetation, scattered trees and species poor 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	SJ9378862583	Small enclosed stream with Himalayan balsam
2	SJ9380462582	Tall ruderal vegetation with Himalayan balsam
3	SJ9382662578	Small patch of marshy grassland
4	SJ9386962507	Large area of marshy grassland
5	SJ9389062515	Wide stream with protected species potential
6	SJ9386362476	Row of new build houses

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Marshy grassland			x		
Running water			x		
Tall ruderal vegetation				x	
Semi-improved species poor grassland				x	
Species poor hedgerows				x	
Scattered trees					x
Ephemeral grassland					x
Amenity grassland					x
Overall site importance			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 south and a large stream directly adjacent to the site and connected to a series of hedgerows and broadleaved woodland.

The site consists mainly of species poor marshy grassland (28%) with dominant soft rush and tufted hair grass, common bent *Agrostis capillaris* and occasional greater bird's foot trefoil *Lotus pedunculatus*.

Tall ruderal vegetation comprises rank species such as common nettle, creeping thistle, curled dock and hogweed *Heracleum sphondylium* with frequent invasive Himalayan balsam. This grades into the species poor grasslands consisting of rank species such as red clover *Trifolium pratense*, false oat grass, creeping bent *Agrostis stolonifera* and curled dock.

The shallow stream that runs through the west of the site is heavily overgrown by tall ruderal vegetation and bramble scrub, which connects to the larger stream to the north.

The species poor hedgerows consist of hawthorn, hazel and wild privet *Ligustrum vulgare*.

The importance of this site is very notable especially as it is so well connected to a mosaic of stream and riparian habitats with tall ruderal vegetation. The site could potentially support populations of reptiles, amphibians and ground nesting birds as well as foraging bats, brown hare (recorded within 110m) therefore it has been attributed regional 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

Reptiles and amphibians

As reptiles could potentially be present on site due to the presence of streams and wet habitat communities it recommended that a full reptile survey is carried out and any refugia present on site 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.

Water vole survey

The stream within the site is deemed unsuitable to support water vole *Arvicola aquatalis* populations. However if development works are to be carried out it could affect the adjacent large stream to the north and potential water vole populations.

Water voles received habitat protection in 1998 through inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of section 9(4) only. This section of the Act protects the water vole's place of shelter or protection e.g. their burrows, but does not protect the voles themselves. Under the legislation, it is an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or to disturb water voles whilst they are using such a place.

Otter survey

The stream to the north of the site could potentially support otter, although the stream is not part of the site it is in sufficient proximity to count as disturbance if development works are carried out.

Otters *Lutra lutra* are fully protected through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 2010 as European protected species. Under the legislation, it is an offence to intentionally kill, injure or take an otter as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by an otter. 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 otter to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

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 the hedgerows are retained if the site is to be developed.

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 and scrub 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 potential for protected species to be present due to close proximity of the wet habitat communities, under refugia and potentially using the area as a basking opportunity. The site is also well connected to more biodiverse habitats within the wider countryside and overall the site is deemed to have regional ecological importance.

Although the site itself is deemed unsuitable to support water vole and otter the adjacent large stream could potentially support both species. Therefore if works will affect the stream both an otter and water vole survey will need to be carried out prior to development works.

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

- Reptile survey
- Water vole survey
- Otter survey
- Removal of any refugia by hand under watching brief of a suitably qualified ecologist.
- Adoption of Himalayan balsam removal regime
- Vegetation removal at the appropriate time of year



FID 167

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FID 167

1. Introduction

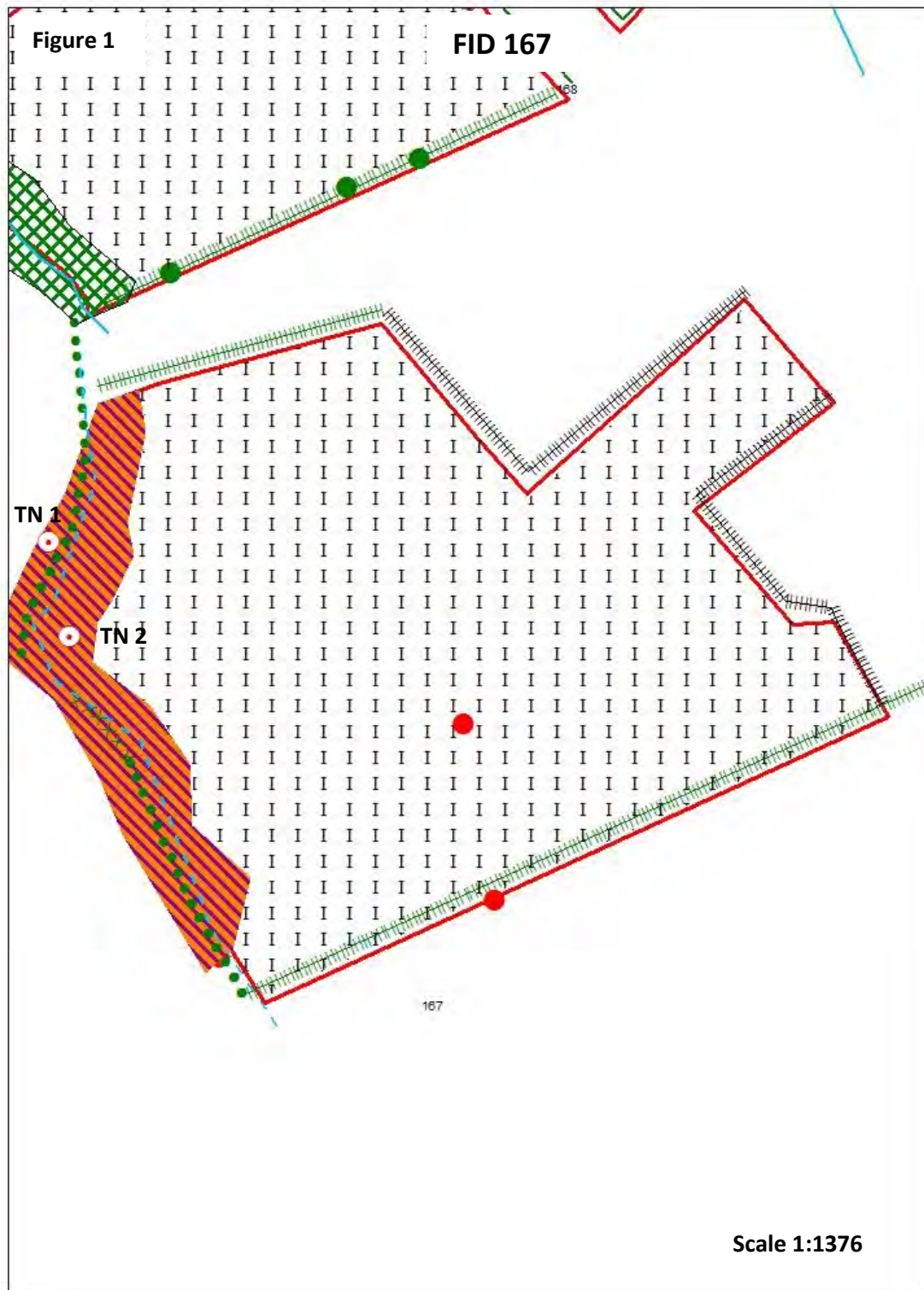
1.1 Background

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 167 O.S grid reference SJ9385862340.

FID 167 is located in Rushton Spencer village 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 167 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	UNK
AWI	Oulton Wood
AWI	Fadge Clough
AWI	Lee Wood
AWI	Meal-Ark Clough, Flashcroft Coppice
AWI/SBI	Ravensclough wood
AWI	Barnswood
AWI	Close Wood, Flash Wood
AWI	Cartlidge Wood, Whiteridges Wood
BAS	Heaton (south of)
BAS	Dane Feeder Channel
BAS	Lee Wood
BAS	Oulton Wood
SBI	Flashcroft Coppice
SBI	Cloudwood End (north east of)
SBI	Lane Ends Farm (north of)
SBI	Thompson (fields north of)
SBI	Sugar Street Fields
SBI	Brook Farm (south of)
SBI	Dingle Lane (north of the Dingle)
SBI	Dingle Brook Grassland
SBI	Hug Bridge
SBI	Meal-Ark Clough
SBI	Beat Lane Hedges
SBI	Rudyard Dismantled Railway
SBI	Fadge Clough (north of)
SBI	Primrose Hill
SBI	Rushton Bank (west of)

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

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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 owl
	Barn swallow
	Black headed gull
	Black tailed godwit
	Brown Hare
	Brown Long-eared Bat
	Common bullfinch
	Common gull
	Common Kestrel
	Common Kingfisher
	Common starling
	Common Toad
	Corn buttercup
	Corn spurrey
	Dunnock
	Eurasian Curlew
	Eurasian teal
	Eurasian tree sparrow
	Eurasian woodcock
	Great crested newt
	Green woodpecker
	Grey wagtail
	Honey bee
	House Sparrow
	Mallard
	Monk's rhubarb
	Northern lapwing
	Pillwort
	Pipistrelle
	Small water pepper
	Smooth cat's ear
	White letter hairstreak
	Willow warbler
	Yellow wagtail
INV	American Mink

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	Greater Canada goose
	Indian Balsam
	Japanese knotweed
	Least duckweed
	New Zealand pigmyweed
	Rhododendron
E/ UK PS	Barn owl
	Black tailed godwit
	Bluebell
	Brown long eared bat
	Common Kingfisher
	Eurasian Badger
	Great crested newt
	Little plover
	Pipistrelle

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
- Marshy grassland
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	0.91	92	
MG	0.06	6	
OTHER	0.02	2	
BPT	0.00		2
TOTALS	1.00	100	2

I – Improved grassland, BPT – Bat Potential Trees, MG – Marshy 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> , 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> , dandelion <i>Taraxacum officinale</i> agg
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , alder <i>Alnus glutinosa</i> , pedunculate oak <i>Quercus robur</i> , ash <i>Fraxinus excelsior</i> , leylandii <i>Cuprocypressus x leylandii</i>

4.3.3 Invasive weeds

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

Weeds listed under the Weeds Act 1959 including curled dock have been recorded within the grassland sward.

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.

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9379162347	Scattered trees and scrub, with gaps
2	SJ9379462332	Poached and grazed marshy grassland

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees				x	
Running water				x	
Species poor hedgerows					x
Marshy grassland					x
Species poor improved grassland					x
Overall site importance				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 grassland connected via a small stream with associated trees and sparse riparian habitat.

The site itself consists of species poor grassland (92%) with a poached marshy grassland area adjacent to the small shallow stream consisting mainly of soft rush *Juncus effusus* and common nettle with mainly scattered alder and pedunculate oak. The 2 scattered trees with bat roosting potential include oak and ash.

Species poor hedgerows include species such as hawthorn, elder, silver birch *Betula pendula* and leylandii.

There are a number of European and UK protected species recorded within 2km according to the desk study of which bats and badger could use the site for foraging. The site is considered to have district ecological importance due to the presence of 2 trees with potential to support roosting bats and the small stream to the west.

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 the hedgerows, scattered trees 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 to support protected species, though the site is fairly poorly connected to the wider countryside but 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 2 trees that have been marked as having potential to support roosting bats
- Vegetation removal at the appropriate time of year



FID 168

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FID 168

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 168 O.S grid reference SJ9382162433.

FID 168 is located In Rushton Spencer village surrounded by agricultural land, housing and across the roads industrial 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 168 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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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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	UNK
AWI	Oulton Wood
AWI	Fadge Clough
AWI	Lee Wood
AWI	Meal-Ark Clough, Flashcroft Coppice
AWI/SBI	Ravensclough wood
AWI	Barnswood
AWI	Close Wood, Flash Wood
AWI	Cartlidge Wood, Whiteridges Wood
BAS	Heaton (south of)
BAS	Dane Feeder Channel
BAS	Lee Wood
BAS	Oulton Wood
SBI	Flashcroft Coppice
SBI	Cloudwood End (north east of)
SBI	Lane Ends Farm (north of)
SBI	Thompson (fields north of)
SBI	Sugar Street Fields
SBI	Brook Farm (south of)
SBI	Dingle Lane (north of the Dingle)
SBI	Dingle Brook Grassland
SBI	Hug Bridge
SBI	Meal-Ark Clough
SBI	Beat Lane Hedges
SBI	Rudyard Dismantled Railway
SBI	Fadge Clough (north of)
SBI	Primrose Hill
SBI	Rushton Bank (west of)

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

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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 owl
	Barn swallow
	Black headed gull
	Black tailed godwit
	Brown Hare
	Brown Long-eared Bat
	Common bullfinch
	Common gull
	Common Kestrel
	Common Kingfisher
	Common starling
	Common Toad
	Corn buttercup
	Corn spurrey
	Dunnock
	Eurasian Curlew
	Eurasian teal
	Eurasian tree sparrow
	Eurasian woodcock
	Great crested newt
	Green woodpecker
	Grey wagtail
	Honey bee
	House Sparrow
	Mallard
	Monk's rhubarb
	Northern lapwing
	Pillwort
	Pipistrelle
	Small water pepper
	Smooth cat's ear
	White letter hairstreak
	Willow warbler
	Yellow wagtail
INV	American Mink

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	Greater Canada goose
	Indian Balsam
	Japanese knotweed
	Least duckweed
	New Zealand pigmyweed
	Rhododendron
E/ UK PS	Barn owl
	Black tailed godwit
	Bluebell
	Brown long eared bat
	Common Kingfisher
	Eurasian Badger
	Great crested newt
	Little plover
	Pipistrelle

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.

- Dense scrub
- Marshy grassland
- Species poor hedgerows
- Scattered trees
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.40	80
MG	0.03	7
DS	0.04	7
OTHER	0.03	6
TOTALS	0.50	100

DS – Dense scrub, I – Improved grassland, BPT – Bat Potential Trees, MG – Marshy 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> Yorkshire fog <i>Holcus lanatus</i> , soft rush <i>Juncus effusus</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , alder <i>Alnus glutinosa</i> , goat willow <i>Salix caprea</i> , 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 across the site at the time of survey.

Weeds listed under the Weeds Act 1959 including curled dock *Rumex crispus* have been recorded within the grassland sward.

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.

4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9383462470	Sparse marshy grassland
2	SJ9378062407	Dense scrub, poached in places

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Running water				x	
Dense scrub					x
Species poor hedgerows					x
Scattered trees					x
Marshy grassland					x
Species poor improved grassland					x
Overall site importance					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 is surrounded by domestic dwellings, main road and species poor grassland connected via a small stream to the west with associated scrub and riparian habitat.

The site itself consists of species poor grassland (80%) with a heavily poached marshy grassland area to the north consisting mainly of soft rush and creeping buttercup. The scrub present on the western boundary consists of mainly dense alder and goat willow scrub.

Species poor hedgerows include species such as hawthorn, elder and dog rose *Rosa canina*.

There are a number of European and UK protected species recorded within 2km according to the desk study of which bats and badger could use the site for foraging. However the assemblage of species poor habitats warrants the site being given low 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

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 hedgerows, scattered trees 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.

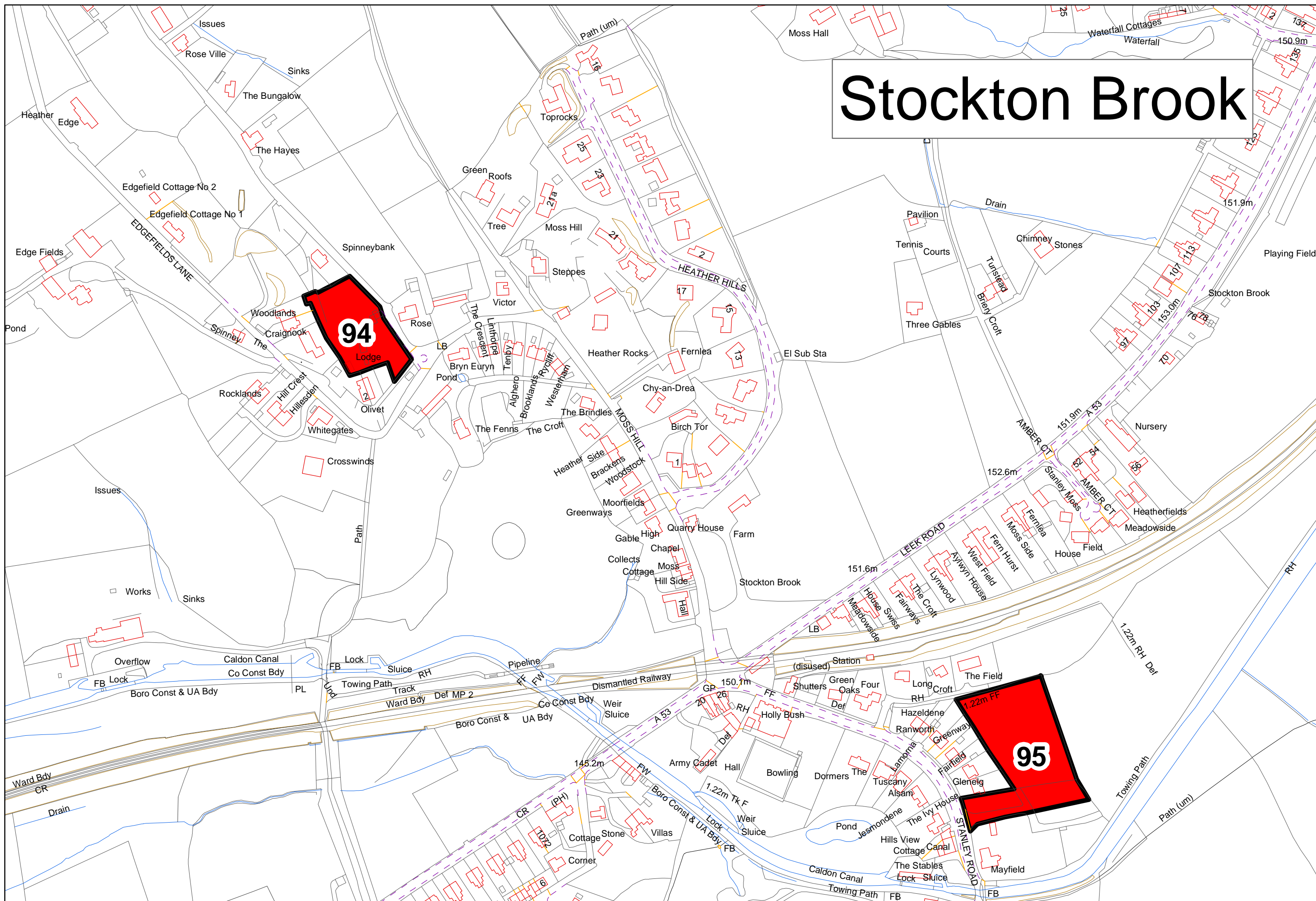
7. Conclusion

The site has low potential to support protected species, and the site is fairly poorly connected to the wider countryside therefore is deemed to have 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

Stockton Brook



Scale 1: 2500

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Site label numbers denote Site FID reference numbers used in Study.



FID 94

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FID 94

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 94 O.S grid reference SJ9144152309.

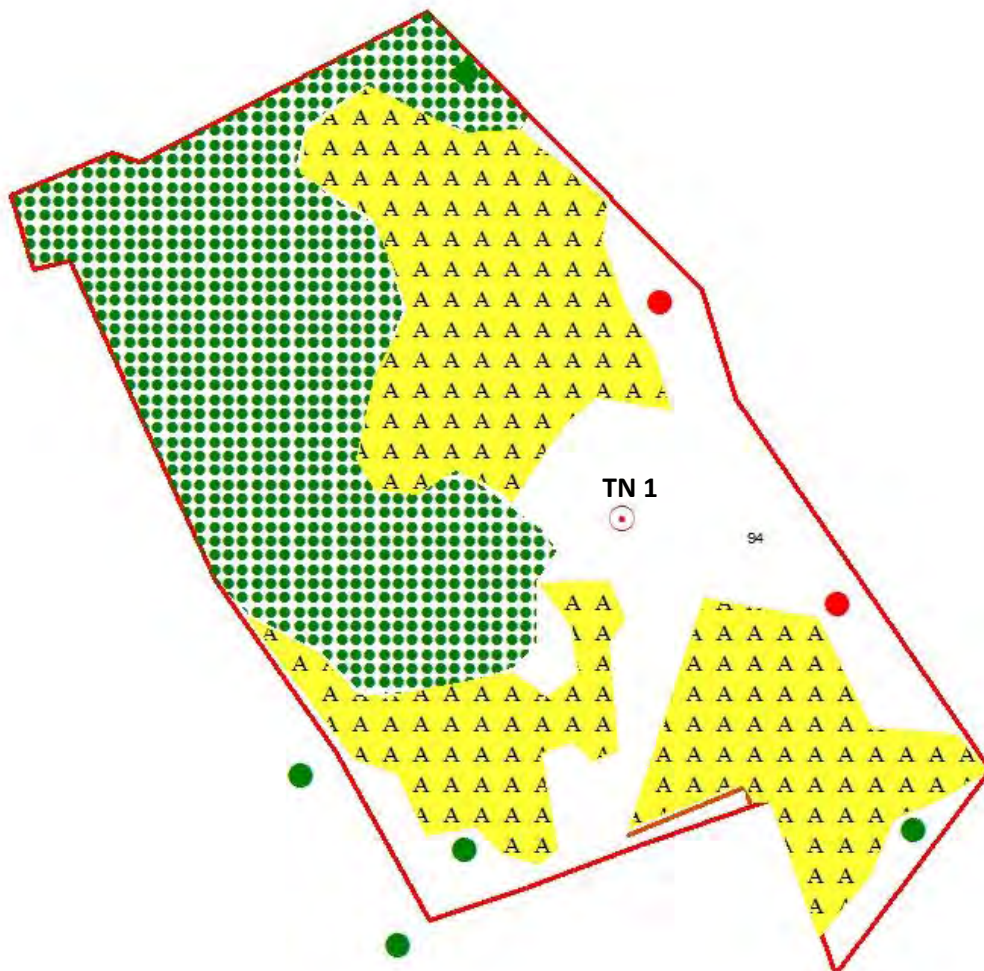
FID 94 is located in Stockton Brook village in the Staffordshire Moorlands District, surrounded by broadleaved woodland and housing.

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).

Figure 1

FID 94



Scale 1:814

2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 94 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Houghwood
AWI	Tinster Wood
AWI	Stoney Wood
AWI	Greenway Wood
BAS	Stanley Pool
BAS	Westfield Wood
BAS	Holehouse Farm
SBI	Windy Croft
SBI	Tank Field
SBI	Postbridge farm (west of)
SBI	Tinster Wood
SBI	Houghwood
SBI	Greenway Hall Golf Course
SBI	Heakley Marshes
SBI	Ball Lane Wood
SBI	The Green, Baddeley
SBI	Baddeley Edge Ridge
RIGS	Houghwood
RIGS	Baddeley Edge Ridge

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 Flowering Plant
	A True Fly
	Adder
	Barn Owl
	Barn Swallow
	Black headed gull
	Brown hare

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	Brown long eared bat
	Common Bullfinch
	Common grasshopper warbler
	Common Kestrel
	Common Kingfisher
	Common Pipistrelle
	Common snipe
	Common Starling
	Common Swift
	Common Toad
	Common whitethroat
	Corn Chamomile
	Cornflower
	Dunnock
	Eurasian Curlew
	Eurasian teal
	Eurasian tree sparrow
	European otter
	European Water Vole
	Ferret
	Fieldfare
	Freshwater Whited-clawed Crayfish
	Grass Snake
	Great Crested Newt
	Green Woodpecker
	Grey wagtail
	House Sparrow
	Insect - Hymenopteran
	Lesser Black-backed Gull
	Lesser Redpoll
	Linnet
	Mallard
	Marsh Tit
	Meadow pipit
	Northern Lapwing
	Pipistrelle
	Polecat
	Redwing
	Reed Bunting
	September Thorn
	Shrubby cinquefoil
	Sky lark

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	Song Thrush
	West European Hedgehog
	Willow Tit
	Willow warbler
	Yellow wagtail
	Yellowhammer
INV	American Mink
	Giant Hogweed
	Indian Balsam
	Japanese Knotweed
	Japanese rose
	Rhododendron
E/ UK PS	A Bat
	Adder
	Barn Owl
	Bluebell
	Brown long eared bat
	Common Kingfisher
	Common pipistrelle
	Eurasian Badger
	European otter
	European Water Vole
	Ferret
	Fieldfare
	Freshwater Whited-clawed Crayfish
	Grass Snake
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Redwing
	Whiskered/ Brandt's bat

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

- Scattered trees
- Scattered broadleaved woodland
- Species poor amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
AM	0.13	38	
SBW	0.12	36	
OTHER	0.09	26	
BPT			2
TOTALS	0.34	100	2

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> , common nettle <i>Urtica dioica</i>
Hedgerows/ trees/ scrub	Sycamore <i>Acer pseudoplatanus</i> , bramble <i>Rubus fruticosus</i> agg, 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 and hedgerows from March to August when birds in the UK normally breed.

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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SJ9145252302	Hard standing as part of domestic driveway

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered broadleaved woodland				x	
Scattered trees				x	
Species poor amenity grassland					x
Overall site importance				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 totally surrounded by domestic dwellings on all sides apart from connection to further scattered broadleaved woodland to the North West. The habitats present on site are particularly common in the UK, have fairly low biodiversity value but are deemed to have a district value within the matrix due to the assemblage of fairly mature trees and the potential to support roosting bats within 2 of these trees.

The site itself is a large domestic front garden consisting mainly of species poor amenity grassland (38%) and scattered broadleaved woodland (36%), with sycamore, ash and silver birch.

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.

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 are retained if the site is to be developed.

If 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 mostly low biodiversity value overall in terms of area, is adjacent to a main road with domestic buildings to the west and species poor grasslands, with fairly good connectivity to the wider countryside. The site is deemed to have district importance in terms of its ecological value for both its woodland assemblage and 2 trees with potential to support roosting bats.

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

- Bat survey of the 2 trees
- Vegetation removal at the appropriate time of year



FID 95

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FID 95

1. Introduction

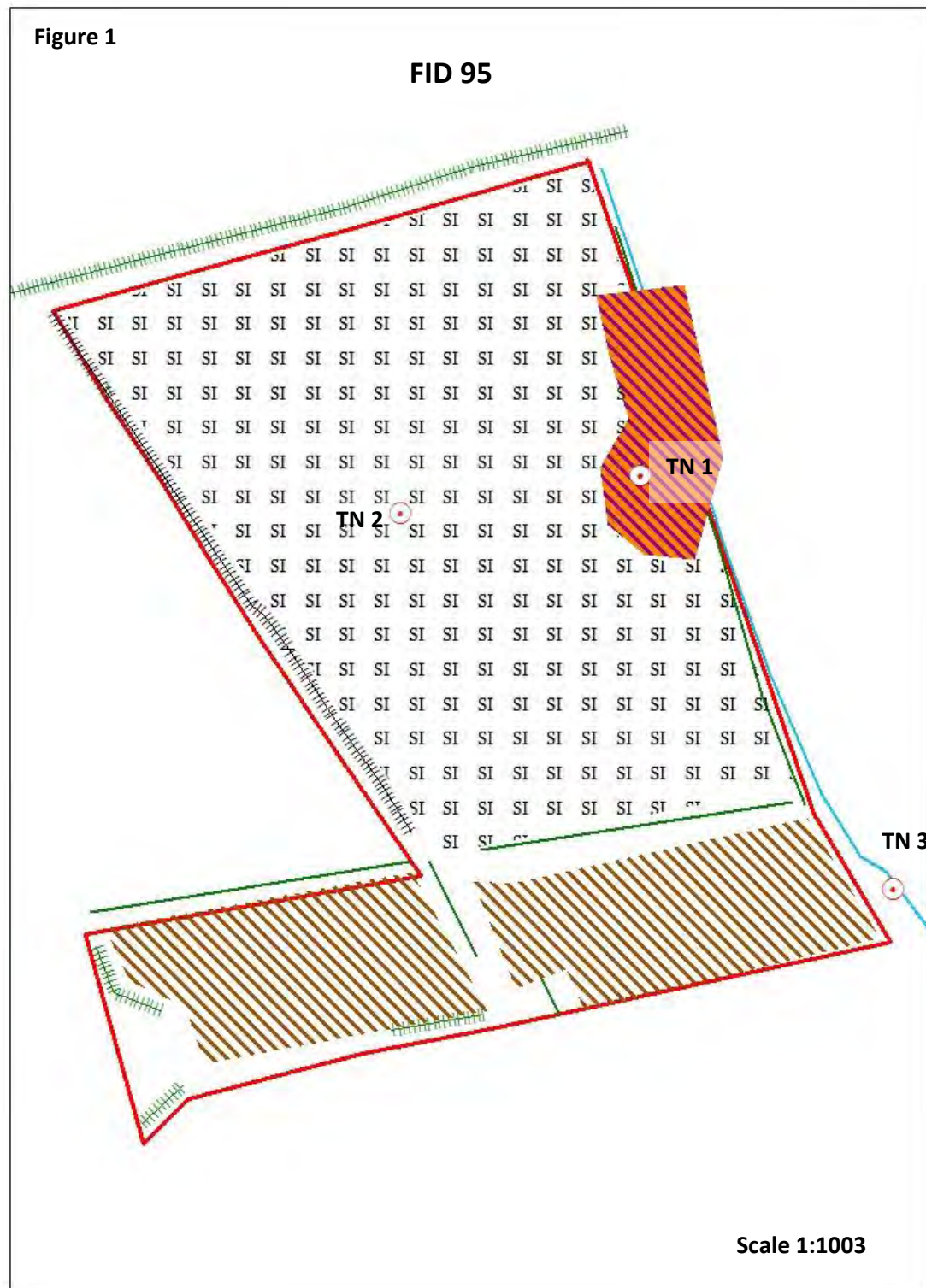
1.1 Background

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 95 O.S grid reference SJ9197251986.

FID 95 is located in Stockton Brook village in the Staffordshire Moorlands District, surrounded by broadleaved woodland 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 95 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Houghwood
AWI	Tinster Wood
AWI	Stoney Wood
AWI	Greenway Wood
BAS	Stanley Pool
BAS	Westfield Wood
BAS	Spring Bank
SBI	Lawn Farm Nursery (north east of)
SBI	Bagnall Springs
SBI	Cliff Wood
SBI	Bagnall Road Wood
SBI	Windy Croft
SBI	Tank Field
SBI	Postbridge farm (west of)
SBI	Tinster Wood
SBI	Houghwood
SBI	Greenway Hall Golf Course
SBI	Heakley Marshes
SBI	Ball Lane Wood
SBI	The Green, Baddeley
SBI	Baddeley Edge Ridge
RIGS	Houghwood
RIGS	Baddeley Edge Ridge

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 Flowering Plant
	A True Fly
	Adder

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	Autumnal rustic
	Barn Owl
	Barn Swallow
	Black headed gull
	Broom moth
	Brown spot pinion
	Brown hare
	Brown long eared bat
	Buff ermine
	Centre barred sallow
	Cinnabar
	Common Bullfinch
	Common grasshopper warbler
	Common Kestrel
	Common Kingfisher
	Common Pipistrelle
	Common snipe
	Common Starling
	Common Swift
	Common Toad
	Common whitethroat
	Corn Chamomile
	Cornflower
	Crescent
	Dark barred twin spot carpet
	Dot moth
	Duncock
	Dusky brocade
	Ear moth
	Eurasian Curlew
	Eurasian teal
	Eurasian tree sparrow
	European Water Vole
	Ferret
	Fieldfare
	Freshwater Whited-clawed Crayfish
	Ghost moth
	Grass Snake
	Great Crested Newt
	Great brindled crescent
	Green Woodpecker
	Grey wagtail

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	Hedge rustic
	Hornet
	House Sparrow
	Insect - beetle
	Lesser Black-backed Gull
	Lesser Redpoll
	Linnet
	Mallard
	Marsh Tit
	Meadow pipit
	Northern Lapwing
	Oak hook tip
	Pipistrelle
	Polecat
	Powdered quaker
	Redwing
	Reed Bunting
	Rosy minor
	Rosy rustic
	Sallow
	September Thorn
	Shaded broad bar
	Sky lark
	Small phoenix
	Small square spot
	Song Thrush
	Tufted duck
	West European Hedgehog
	White ermine
	Willow Tit
	Willow warbler
	Yellow wagtail
	Yellowhammer
INV	American Mink
	False acacia
	Giant Hogweed
	Greater Canada goose
	Indian Balsam
	Japanese Knotweed
	Rhododendron
E/ UK PS	A Bat

	Adder
	Barn Owl
	Bluebell
	Brown long eared bat
	Common Kingfisher
	Common pipistrelle
	Eurasian Badger
	European otter
	European Water Vole
	Ferret
	Fieldfare
	Freshwater Whited-clawed Crayfish
	Grass Snake
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species
	Polecat
	Redwing
	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.

- Marshy grassland
- Species poor hedgerows
- Wet ditch
- Tall ruderal vegetation
- Species poor semi-improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
SI	0.41	62
TR	0.14	21
MG	0.03	4
OTHER	0.09	13
TOTALS	0.66	100

SI – Species poor semi-improved grassland, TR- Tall ruderal vegetation, MG – Marshy grassland

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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	Yorkshire fog <i>Holcus lanatus</i> , tufted hair grass <i>Deschampsia cespitosa</i> , creeping bent <i>Agrostis capillaris</i> , great willowherb <i>Epilobium hirsutum</i> , common reed <i>Phragmites australis</i> , common nettle <i>Urtica dioica</i> , red clover <i>Trifolium pratense</i> , meadowsweet <i>Filipendula ulmaria</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , bramble <i>Rubus fruticosus</i> agg, leylandii <i>Cuprocypressus x leylandii</i> , ash <i>Fraxinus excelsior</i>

4.3.3 Invasive weeds

No species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were recorded 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 broadleaved woodland and riparian habitat 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	SJ9198652005	Species poor marshy grassland
2	SJ9194851992	Tall grassland
3	SJ9202451935	Small stream

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Marshy grassland				x	
Running water				x	
Semi-improved species poor grassland				x	
Species poor hedgerow				x	
Tall ruderal vegetation					x
Overall site importance				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 is very well connected to other biodiverse site including being <50m and directly connected to the Caldon Canal, scattered scrub and stream to the north as well as further semi-improved species poor grassland to the east. A pond is also present <150m to the west but its connectivity is dissected by Stanley road.

The marshy grassland consists mainly of common reed and great willowherb with occasional meadowsweet. The semi-improved species poor grassland sward is tall, mainly consisting of tufted hair grass and creeping bent grasses with ribwort plantain *Plantago lanceolata* and red clover. Tall ruderal vegetation mainly comprises creeping thistle and curled dock with some alder *Alnus glutinosa* regeneration. The hedgerows mainly consist of hawthorn, elder and ash.

The site could potentially support a number of European and UK protected species listed within 2km according to the desk study. These could include barn owl (recorded 350m away), foraging bats, badger, reptiles (grass snake recorded within 150m).

Due to the presence of the intricate habitat mosaic and close proximity to the Caldon Canal, nearby pond and riparian habitat that site is given a district importance 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

Great crested newt survey

Great crested newts could potentially use this site as terrestrial habitat, therefore it is recommended that the pond <150m to the west is surveyed according to the 'Great crested newt conservation handbook' (Froglife, 2001).

The great crested newt is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species.

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.

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 ponds to the north 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.

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 hedgerows 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.



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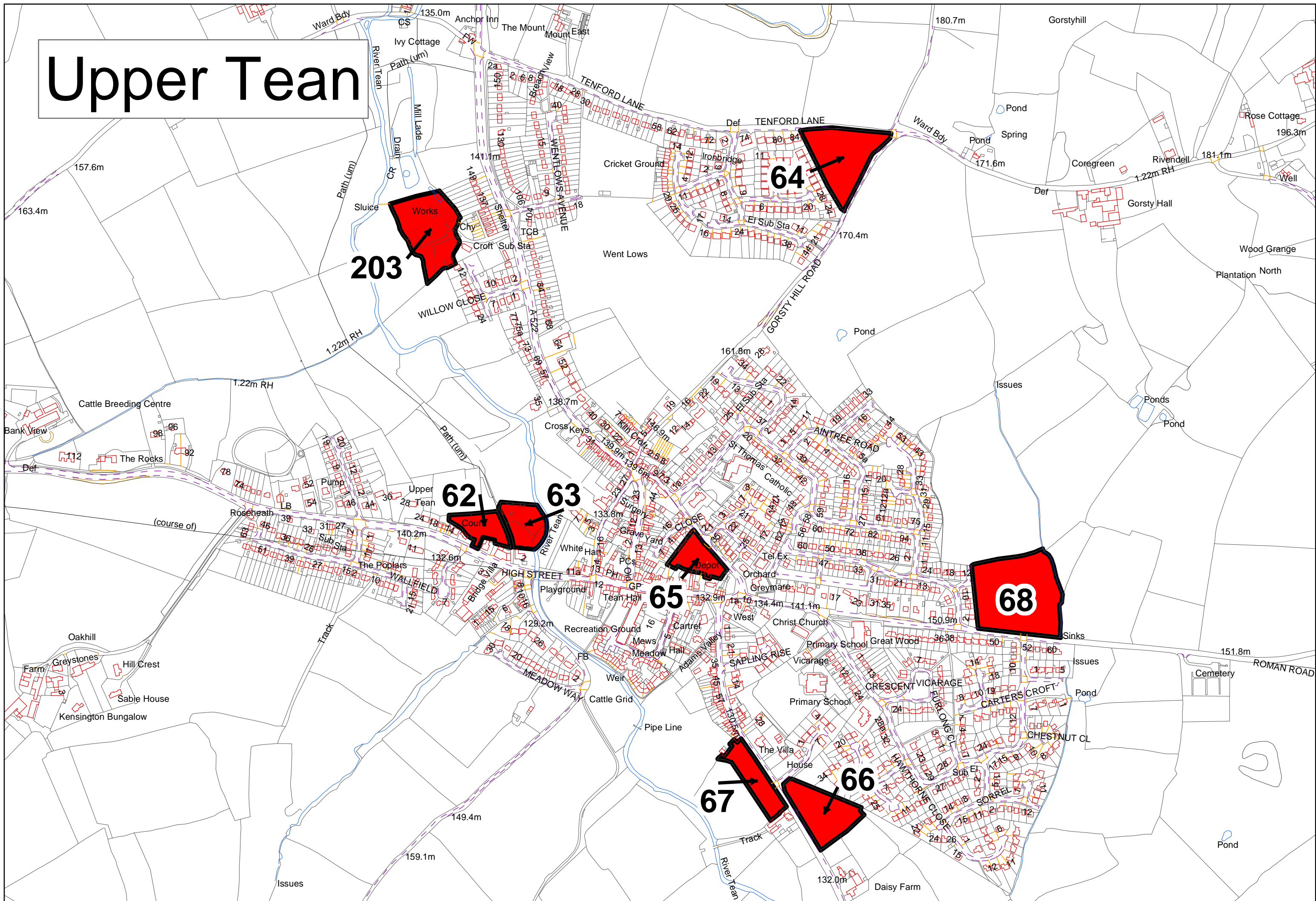
7. Conclusion

The site has potential for protected species to be present due to close proximity of ponds, Caldon Canal, and wetland habitat mosaic. The site is also well connected to more biodiverse habitats and the wider countryside. The site is therefore deemed to have a district importance in terms of its ecological value.

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

- Great crested newt survey
- Reptile survey
- Vegetation removal at the appropriate time of year

Upper Tean





FID 62

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FID 62

1. Introduction

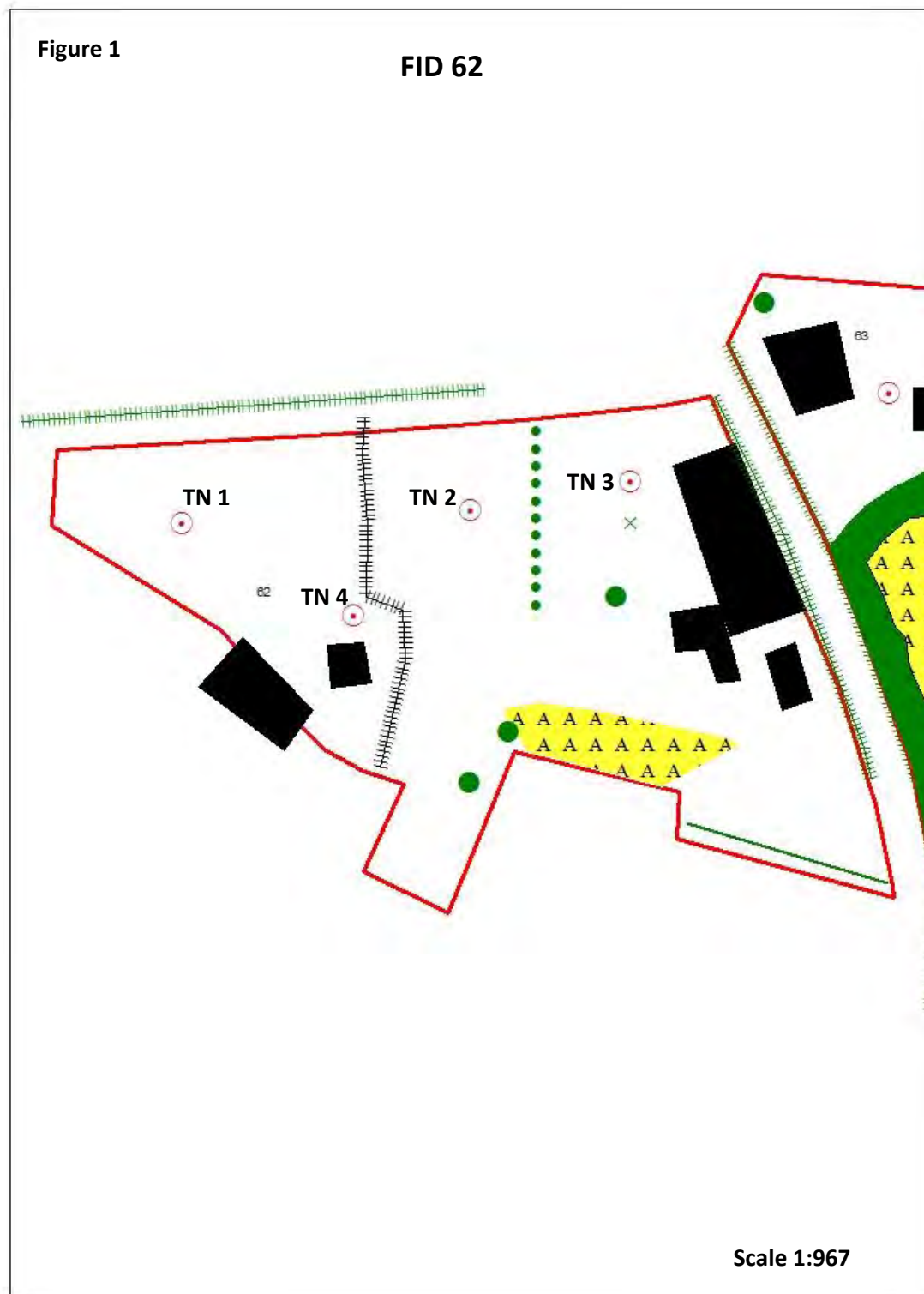
1.1 Background

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 62 Site O.S grid reference SK0072439674.

FID 62 is located in Tean village in the Staffordshire Moorlands District, surrounded by a mixture of 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 62 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Huntley Wood
AWI/ BAS	The Wing Drumble
AWI	Freehay Wood
BAS	Draycott Common Wood
SBI	Huntley Wood
SBI	Newton (north-east of)
RIGS	Huntley Railway Cutting

AWI – listed on 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	Adder
	Brown Hare
	Common bullfinch
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Toad
	Cornflower
	European Otter
	European Water Vole
	Great Crested Newt
	Grey Wagtail
	Hornet
	Insect - Hymenopteran
	Jacob's-ladder
	Large red tailed bumble bee
	Lichen

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	Mallard
	Native black poplar
	Pipistrelle
	Small heath
	Tall hawkweed
	Tree bumble bee
	Wall
	West European Hedgehog
	White tailed bumble bee
	White ermine
INV	Giant Hogweed
	Indian Balsam
	New Zealand Pigmyweed
	Rhododendron
	Signal Crayfish
E/ UK PS	A Bat
	Adder
	Bluebell
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species

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.

- Other - Working allotment/ farm
- Scattered trees
- Amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
AM	0.01	4
OTHER	0.33	96
TOTALS	0.34	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> , common nettle <i>Urtica dioica</i> , red fescue <i>Festuca rubra</i> , dandelion <i>Taraxacum officinale</i> agg, curled dock <i>Rumex crispus</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , sycamore <i>Acer pseudoplatanus</i> , damson <i>Prunus domestica</i> subsp <i>institia</i>

4.3.3 Invasive weeds

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

4.3.4 Fauna

Bats

The site has numerous buildings on site including greenhouses and wooden sheds for various animals which have very 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 could nest in areas of planted broadleaved woodland 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	SK0068339677	Domestic garden
2	SK0070839683	Allotment
3	SK0073039687	Allotment
4	SK0069839670	Animal shelter

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Allotment/ working garden					x
Amenity grassland					x
Overall site importance				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 consists of a drive through working farm/ allotment whereby its produce can be purchased on site, and is surrounded by domestic dwellings to the south and species poor grassland to the North West. The farm breeds a number of varieties of chickens and rabbits, and grows a large variety of vegetables, fruit and flowers either outside, in greenhouses or poly-tunnels.

To the north east a mosaic of ponds, ditches and riparian habitats with tall ruderal vegetation formed by run-off from the hills to the west which feed into the River Tean to the east. The site is also located adjacent to FID 63.

Although the site is considered a species poor habitat it could certainly support populations of reptiles, and both amphibians and reptiles have a multitude of places they could use as a refuge and hibernacula. Therefore the site is considered to have district ecological importance.

The site is known anecdotally to support populations of great crested newts *Triturus cristatus* and grass snake *Naatrix natrix*, and certainly the desk study has highlighted both species being recorded within 2km.

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.

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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 foraging bats and great crested newts that if present within the ponds to the north, could use paving slabs, wood piles as other debris as refugia. Similarly the site could be used by reptiles for refuge and basking opportunities and therefore the site is has elevated ecological importance to district level.

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

Great crested newt survey

As great crested newts could potentially be present on site under refugia, due to the presence of ponds to the north, it is recommended that any refugia present is removed by hand under watching brief of a suitably qualified great crested newt licensed ecologist. Any individuals found should be moved to a previously agreed locality.

The great crested newt is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species.

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.

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 under refugia, due to the presence of ponds to the north, so it is recommended that any refugia present is removed by hand under watching brief of 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



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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 the species poor hedge 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

Although the site has mostly low biodiversity value overall there is potential for protected species to be present due to close proximity of ponds, River Tean, and riparian habitat mosaic under refugia and potentially using the area as a basking opportunity. The site is also well connected to more biodiverse habitats and the wider countryside and therefore is considered to have at least district ecological importance.

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

- Removal of any refugia by hand under watching brief of a suitably qualified and licensed ecologist.
- Great crested newt survey
- Vegetation removal at the appropriate time of year



FID 63

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FID 63

1. Introduction

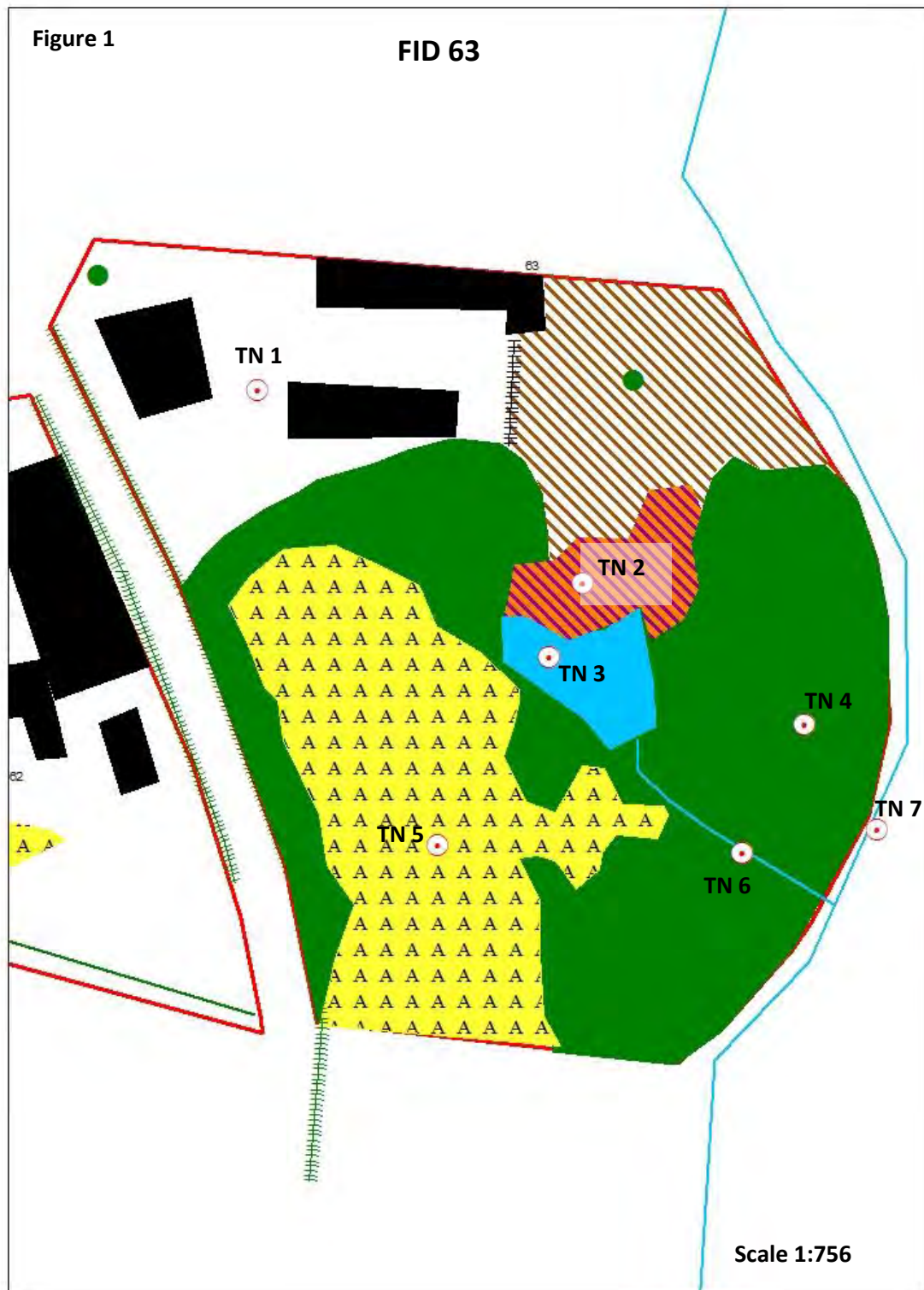
1.1 Background

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 63 Site O.S grid reference SK0078639670.

FID 63 is located in Tean village in the Staffordshire Moorlands District, surrounded by a mixture of 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 63 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Huntley Wood
AWI/ BAS	The Wing Drumble
AWI	Freehay Wood
BAS	Draycott Common Wood
SBI	Huntley Wood
SBI	Newton (north-east of)
RIGS	Huntley Railway Cutting

AWI – listed on 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	Adder
	Brown Hare
	Common bullfinch
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Toad
	Cornflower
	European Otter
	European Water Vole
	Great Crested Newt
	Grey Wagtail
	Hornet
	Insect - Hymenopteran
	Jacob's-ladder
	Large red tailed bumble bee
	Lichen

	Mallard
	Native black poplar
	Pipistrelle
	Small heath
	Tall hawkweed
	Tree bumble bee
	Wall
	West European Hedgehog
	White tailed bumble bee
	White ermine
INV	Giant Hogweed
	Indian Balsam
	New Zealand Pigmyweed
	Rhododendron
	Signal Crayfish
E/ UK PS	A Bat
	Adder
	Bluebell
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species

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.

- Broadleaved woodland
- Open water
- Marshy grassland
- Amenity grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
BW	0.19	45
AM	0.09	22
TR	0.05	13
MG	0.01	3
OW	0.01	3
OTHER	0.06	14
TOTALS	0.42	100

AM – Amenity Grassland, TR- Tall ruderal vegetation, BW – Broadleaved Woodland, BPT – Bat Potential Trees, MG – Marshy grassland, OW – Open water

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> , annual meadow grass <i>Poa annua</i> , Himalayan balsam <i>Impatiens glandulifera</i> , common nettle <i>Urtica dioica</i> , curled dock <i>Rumex crispus</i> , creeping buttercup <i>Ranunculus repens</i> , rough meadow grass <i>Poa trivialis</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , alder <i>Alnus glutinosa</i> , goat willow <i>Salix caprea</i> , elder <i>Sambucus nigra</i> ,

4.3.3 Invasive weeds

Himalayan balsam listed in Schedule 9 of the Wildlife and Countryside Act 1981 was frequently recorded in various locations adjacent to the River Tean at the time of survey.

4.3.4 Fauna

Bats

The site has 3 buildings which have very low potential to support roosting bats as they are open stables and outbuildings with corrugated roofs and timber construction.

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 broadleaved woodland and riparian habitat from March to August when birds in the UK normally breed.

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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0076039698	Stables/ outbuildings
2	SK0079339673	Marshy grassland
3	SK0079539665	Standing water
4	SK0082039656	Broadleaved woodland
5	SK0077739649	Amenity grassland as part of the domestic garden
6	SK0081439644	Shallow stream leading to river
7	SK0082139650	River Tean

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Open water			x		
Broadleaved woodland			x		
Running water			x		
Marshy grassland			x		
Amenity grassland					x
Overall site importance			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 consists of stables and outbuildings to the north surrounded by species poor improved grassland. The remaining habitats consist of a potentially biodiverse wet habitat mosaic formed by a wet ditch connected to the immediately adjacent River Tean. The importance of this site is very notable especially as it is so well connected to a mosaic of ponds, ditches and riparian habitats with tall ruderal vegetation formed by run off from the hills to the west which feed into the River Tean to the east. The site is also located adjacent to FID 62. The site could certainly support populations of reptiles, and amphibians.

The semi-natural broadleaved woodland consists mainly of alder, goat willow and hawthorn.

The site is known anecdotally to support populations of great crested newt *Triturus cristatus* common toad *Bufo bufo* and grass snake *Natrix natrix*; certainly the desk study has the former recorded within 2km. Additionally, otter *Lutra lutra*, kingfisher *Alcedo atthis* and potentially water vole *Arvicola amphibius* are likely to use the River Tean and its associated riparian habitat. Therefore the site is considered to have regional 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

Due to the presence of the intricate habitat mosaic and close proximity to the River Tean and nearby ponds and riparian habitat that it is recommended that the site is not considered for development.

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.

Great crested newt survey

As great crested newts could potentially be present on site under refugia, due to the presence of ponds to the north, a great crested newt survey is recommended of the pond according to the 'Great crested newt conservation handbook' (Froglife, 2001). It is also recommended that any refugia present is removed by hand under watching brief of a suitably qualified great crested newt licensed ecologist. Any individuals found should be moved to a previously agreed locality.

The great crested newt is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species.

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.

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 ponds to the north 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.

Water vole survey

Although the habitat on site is not ideal to support water vole being shaded riparian habitat it is still recommended to carry out a water vole survey at the same time as other prescribed surveys.

Water voles received habitat protection in 1998 through inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of section 9(4) only. This section of the Act protects the water vole's place of shelter or protection e.g. their burrows, but does not protect the voles themselves. Under the legislation, it is an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or to disturb water voles whilst they are using such a place.

Otter

Otter have been recorded within 2km of the site and are likely to use this stretch of the River Tean, therefore an otter survey is recommended to search for holts and field signs such as feeding remains, footprints and spraints.

Otters are fully protected through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 2010 as European protected species. Under the legislation, it is an offence to intentionally kill, injure or take an otter as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by an otter. 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 otter to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species.

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.

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 and scrub understorey 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 is not recommended for development due to its biodiversity and potential to support European and UK protected species.

The site has potential for protected species to be present due to the close proximity of ponds which contain great crested newts and reptiles, the River Tean and its riparian habitat mosaic, under refugia and potentially using the area as a basking opportunity. The site is also well connected to more biodiverse habitats and the wider countryside.

Although the site is not recommended to be put forward for development, the following surveys/ actions are therefore recommended prior to any potential development works being carried out:

- Great crested newt survey
- Reptile survey
- Otter survey
- Water vole survey
- Removal of any refugia by hand under watching brief of a suitably qualified and licensed ecologist.
- Adoption of Himalayan balsam removal regime
- Vegetation removal at the appropriate time of year



FID 64

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FID 64

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 64 O.S grid reference SK0130240275.

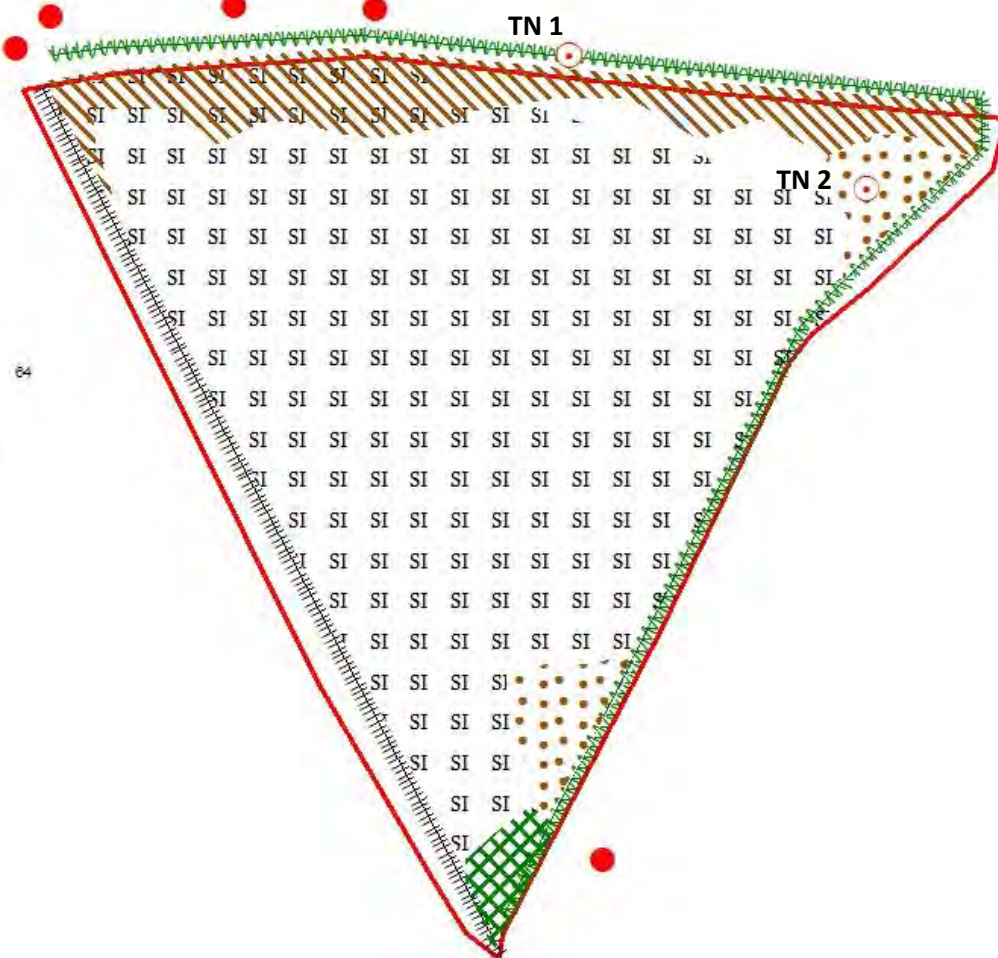
FID 64 is located in Tean village in the Staffordshire Moorlands District, surrounded by a mixture of agricultural land and housing.

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).

Figure 1

FID 64



Scale 1:1426

2. Methodology

2.1 Introduction

Trevor Hall BSc (hons), MSc, MCIEEM carried out a walkover survey for FID 64 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.

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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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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.

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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

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.

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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.

4. Results

4.1 Desk study - Habitats

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

Table 1

SITE DESIGNATION	NAME
AWI/ SBI	Huntley Wood
AWI/ BAS	Rakeway
AWI	Freehay Wood
BAS	Draycott Common Wood
SBI	Freehay
SBI	Rakeway House Farm (south of)
SBI	Newton (north-east of)
RIGS	Huntley Railway Cutting

AWI – listed on 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	Adder
	Barn swallow
	Black headed gull
	Brown Hare
	Brown long eared bat
	Brown/ sea trout
	Buff tailed bumble bee
	Common bullfinch
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common pochard
	Common Snipe
	Common starling
	Common Toad
	Cornflower
	Dingy skipper

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	Dunnoek
	Eurasian curlew
	Eurasian teal
	Eurasian tree sparrow
	Eurasian woodcock
	European Otter
	European Water Vole
	Fieldfare
	Great Crested Newt
	Green woodpecker
	Grey Wagtail
	Honey bee
	Hornet
	House sparrow
	Insect - Hymenopteran
	Jacob's-ladder
	Large red tailed bumble bee
	Lesser black backed gull
	Lesser redpoll
	Lichen
	Little grebe
	Mallard
	Meadow pipit
	Native black poplar
	Northern lapwing
	Osprey
	Pipistrelle
	Red kite
	Redwing
	Reed bunting
	Ruddy shelduck
	Sand martin
	Small heath
	Song thrush
	Spotted flycatcher
	Stock dove
	Tall hawkweed
	Tree bumble bee
	Tufted duck
	Wall
	West European Hedgehog

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	White tailed bumble bee
	White ermine
	Willow warbler
INV	Giant Hogweed
	Greater Canada goose
	Indian Balsam
	New Zealand Pigmyweed
	Rhododendron
E/ UK PS	A Bat
	Adder
	Bluebell
	Brown long eared bat
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	Eurasian hobby
	European Otter
	European Water Vole
	Fieldfare
	Great Crested Newt
	Osprey
	Peregrine falcon
	Pipistrelle
	Pipistrelle Bat Species
	Red kite
	Redwing
	Ruddy shelduck
	White stork

BAP – Biodiversity Action Plan Species, INV – Invasive weed species,
E/ UK PS – European/ UK 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 hedgerows
- Scattered trees
- Tall ruderal vegetation
- Dense scrub
- Non-ruderal vegetation (bracken *Pteridium aquilinum*)
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
SI	0.66	69	
SB	0.04	5	
TR	0.09	10	
DS	0.01	1	
OTHER	0.14	15	
BPT	0.00		5
TOTALS	0.96	100	5

SI – Species poor semi-improved grassland, TR- Tall ruderal vegetation, DS – Dense scrub, BPT – Bat Potential Trees, SB – Scattered bracken

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> , white clover <i>Trifolium repens</i> , creeping buttercup <i>Ranunculus repens</i> , common nettle <i>Urtica dioica</i> , ribwort plantain <i>Plantago lanceolata</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , blackthorn <i>Prunus spinosa</i> , damson <i>Prunus domestica subsp institia</i> , Oak <i>Quercus sp</i> , wych elm <i>Ulmus glabra</i> , crab apple <i>Malus sylvestris</i>

4.3.3 Invasive weeds

No floral species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found during the walkover survey.

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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, hedgerows, dense scrub and 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	SK0131440313	Hedgerow survey required
2	SK0136040297	Area of mainly bracken

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees				x	
Species poor hedgerow					x
Non ruderal vegetation					x
Species poor grassland					x
Overall site importance				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 species poor grassland with roads on the east and northern boundaries and domestic dwellings to the west, and mainly consists of species poor improved grassland (61%) grazed by horses at the time of survey. The remaining habitats are species poor and very common within the local area and the UK as a whole with limited connectivity to the wider countryside.

The hedgerows support up to 7 native species with 5 trees immediately adjacent to the site within the hedgerow that could potentially support roosting bats. Therefore the site is deemed to have district importance.

Despite a number of European and UK protected species being recorded within 2km (such as great crested newt *Triturus cristatus* recorded <250m away to the north) it is unlikely that the site would support most of these species. The exceptions could potentially include 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 5 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

If at all possible it is recommended that as many trees and especially the potentially species rich hedgerows be retained to preserve some 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, 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 5 trees with bat potential and a species rich hedgerow which is poorly connected to habitats within a rural landscape, and 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 to ascertain whether bats roost in the trees
- Hedgerow survey
- Vegetation removal at the appropriate time of year



FID 65



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FID 65

1. Introduction

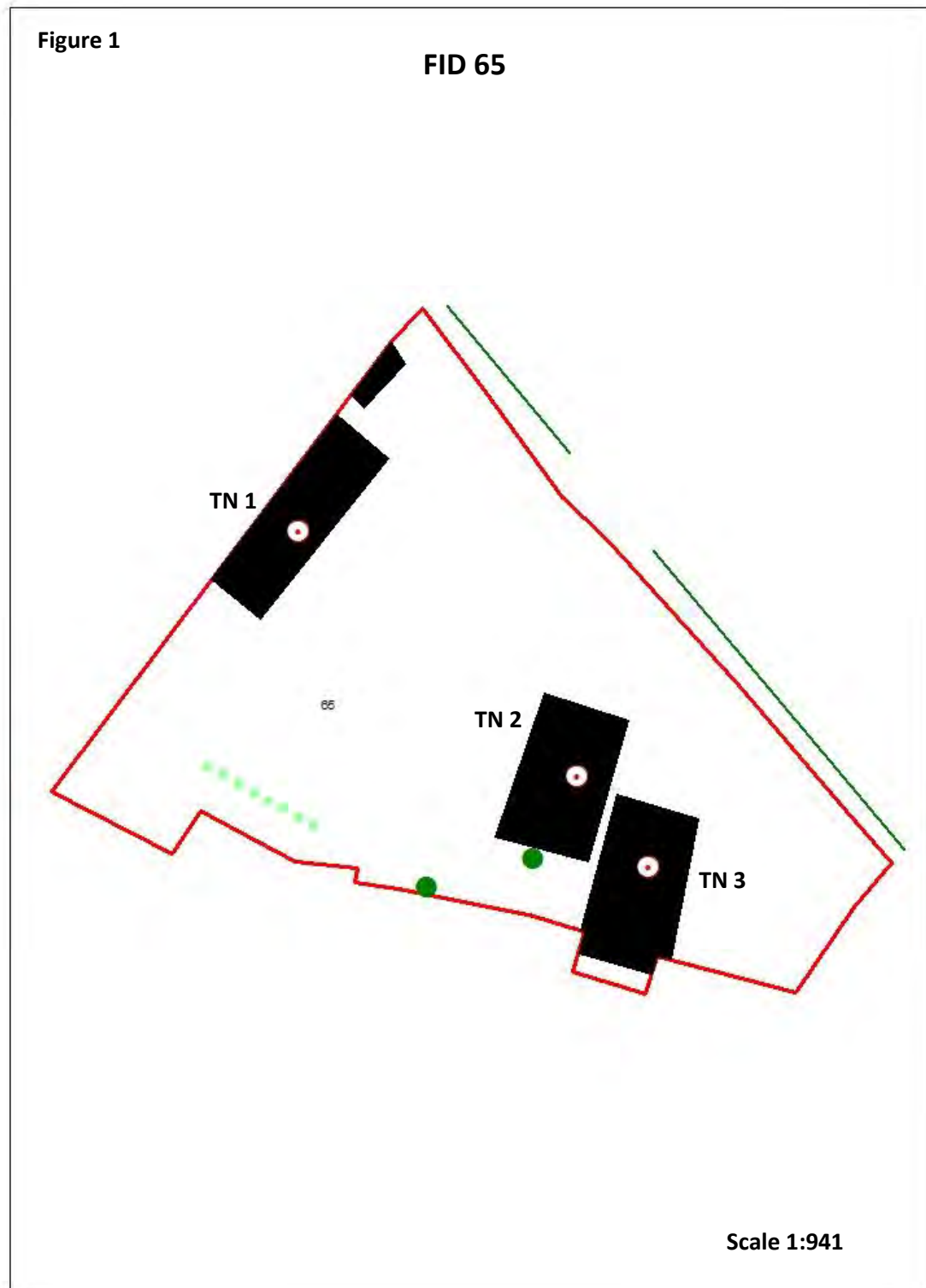
1.1 Background

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 65 O.S grid reference SK0106839625.

FID 65 is located in Tean village in the Staffordshire Moorlands District, surrounded by a mixture of 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 65 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Huntley Wood
AWI/ BAS	The Wing Drumble
AWI	Freehay Wood
BAS	Draycott Common Wood
SBI	Huntley Wood
SBI	Freehay
SBI	Newton (north-east of)
RIGS	Huntley Railway Cutting

AWI – listed on 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	Adder
	Brown Hare
	Brown long eared bat
	Brown/ sea trout
	Buff tailed bumble bee
	Common bullfinch
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Toad
	Cornflower
	European Otter
	European Water Vole
	Great Crested Newt
	Grey Wagtail
	Hornet
	Insect - Hymenopteran

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	Jacob's-ladder
	Lichen
	Mallard
	Native black poplar
	Pipistrelle
	Tall hawkweed
	Tree bumble bee
	Wall
	West European Hedgehog
	White ermine
INV	Giant Hogweed
	Indian Balsam
	New Zealand Pigmyweed
	Rhododendron
	Signal Crayfish
E/ UK PS	A Bat
	Adder
	Bluebell
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species

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.

- Building
- Scattered trees

Table 3

HABITAT	AREA (HECTARES to 2 d.p)	PERCENTAGE (%)
OTHER	0.36	100
TOTALS	0.36	100

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	Common nettle <i>Urtica dioica</i> , groundsel <i>Senecio vulgaris</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , leylandii <i>Cuprocypressus x leylandii</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 has 3 buildings of metal construction in a warehouse/ hangar style which by design has 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 scattered trees, hedgerows 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	SK0104339642	No bat survey required
2	SK0107439610	No bat survey required
3	SK0108339599	No bat survey required

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Scattered trees					x
Overall site importance					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 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 surrounded by habitats of low biodiversity value, with domestic dwellings encompassing the site and hence very poor connectivity to the wider countryside.

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 apart potentially from foraging 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

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 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 is set within an urban environment with little connectivity to the wider countryside which lowers the biodiversity of the area considerably. The site has mostly low biodiversity value overall and is therefore deemed to have 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 66

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FID 66

1. Introduction

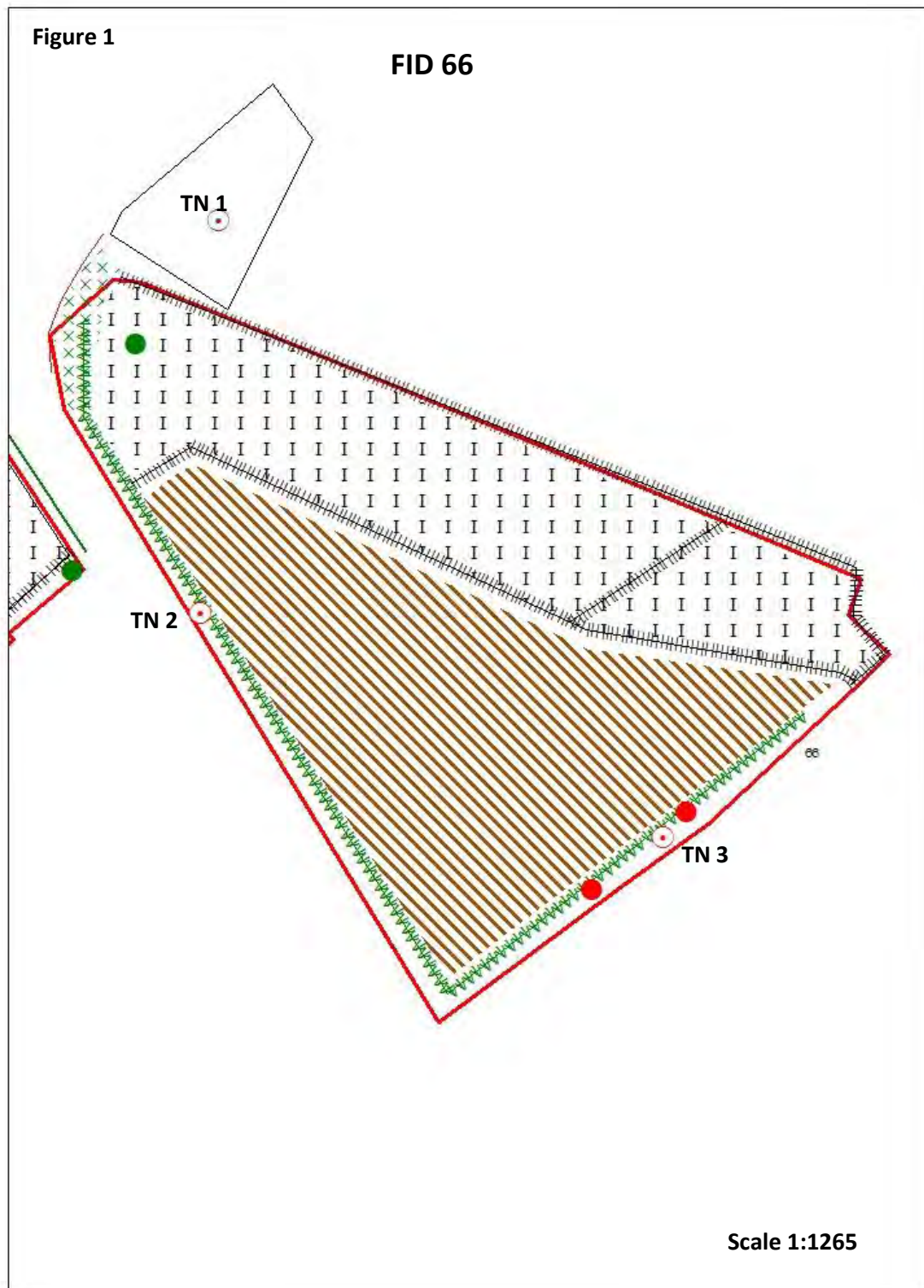
1.1 Background

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 66 O.S grid reference SK0127339213.

FID 66 is located south of Tean village in the Staffordshire Moorlands District, surrounded by a mixture of 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 66 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI	Huntley Wood
AWI/ BAS	The Wing Drumble
AWI/ SBI	Broadgatehall Drumble
AWI	Freehay Wood
BAS	Leighbank Gorse
BAS	Draycott Common Wood
SBI	Newton (north-east of)

AWI – listed on Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance

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	Adder
	Barn owl
	Brown Hare
	Brown long eared bat
	Common bullfinch
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Toad
	European Otter
	European Water Vole
	Great Crested Newt
	Grey Wagtail
	Insect - Hymenopteran
	Jacob's-ladder
	Lichen
	Mallard
	Pipistrelle

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	Tall hawkweed
	Tree bumble bee
	Wall
	West European Hedgehog
	White ermine
INV	Giant Hogweed
	Indian Balsam
	New Zealand Pigmyweed
	Rhododendron
	Signal Crayfish
E/ UK PS	A Bat
	Adder
	Bluebell
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species

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 rich hedgerows
- Scattered trees
- Tall ruderal vegetation
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
TR	0.33	46	
I	0.26	36	
SS	0.01	1	
OTHER	0.13	17	
BPT			2
TOTALS	0.73	100	2

SI – Species poor semi-improved grassland, TR- Tall ruderal vegetation,
I – Improved grassland, 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> , Perennial rye grass <i>Lolium perenne</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , rosebay willowherb <i>Chamerion angustifolium</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , wych elm <i>Ulmus glabra</i> , blackthorn <i>Prunus spinosa</i> , field maple <i>Acer campestre</i>

4.3.3 Invasive weeds

No floral species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found during the walkover 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 scattered trees, hedgerows and tall ruderal vegetation from March to August when birds in the UK normally breed.

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4.3.5 Target notes

Table 5

TARGET NOTE	OS GRID REFERENCE	COMMENT
1	SK0122839271	Plot of land under construction
2	SK0122639210	Hedgerow survey required
3	SK0129539172	Hedgerow survey required

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees				x	
Species poor hedgerow					x
Non ruderal vegetation					x
Species poor grassland					x
Overall site importance				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 species poor grassland to the south east with the A522 road to the west and domestic dwellings to the north and south east, and mainly consists of species poor tall ruderal vegetation (46%).

2 trees are present immediately within the species rich hedgerow that could potentially support roosting bats and these features are 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/ 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.

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 hedgerow surveys be carried out 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

If at all possible it is recommended that as many trees and especially the potentially species rich hedgerows be retained to preserve some 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, 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 has low ecological value and is poorly connected to habitats within a rural landscape. However, the site has 2 trees with bat potential and a species rich hedgerow therefore is deemed to have district ecological importance overall.

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



FID 67

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FID 67

1. Introduction

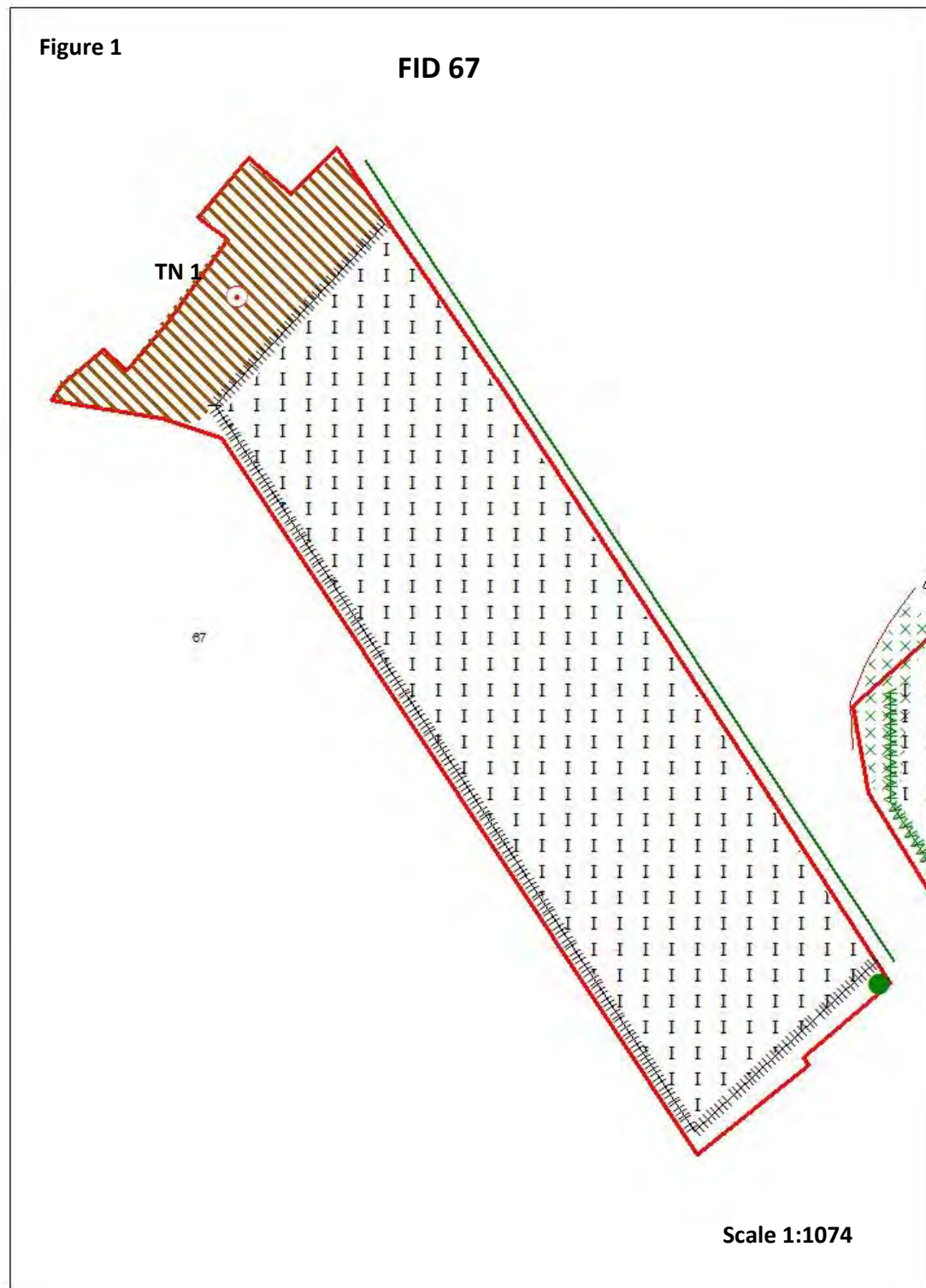
1.1 Background

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 67 O.S grid reference SK 0115739267.

FID 67 is located south of Tean village in the Staffordshire Moorlands District, surrounded by a mixture of 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 67 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

There are no designated sites for nature conservation within 2km of the site.

4.2 Desk study - Species recorded within 2km.

Table 1

SITE DESIGNATION	NAME
AWI	Huntley Wood
AWI/ BAS	The Wing Drumble
AWI/ SBI	Broadgatehall Drumble
AWI	Freehay Wood
BAS	Leighbank Gorse
BAS	Draycott Common Wood
SBI	Newton (north-east of)

AWI – listed on Ancient Woodland Inventory, BAS – Biodiversity Alert Site, SBI – Site of Biological Importance,

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	Adder
	Barn owl
	Brown Hare
	Brown long eared bat
	Common bullfinch
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Toad
	European Otter
	European Water Vole
	Great Crested Newt
	Grey Wagtail
	Insect - Hymenopteran
	Jacob's-ladder
	Lichen
	Mallard
	Pipistrelle

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	Tall hawkweed
	Tree bumble bee
	Wall
	West European Hedgehog
	White ermine
INV	Giant Hogweed
	Indian Balsam
	New Zealand Pigmyweed
	Rhododendron
	Signal Crayfish
E/ UK PS	A Bat
	Adder
	Bluebell
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species

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 hedgerow
- Tall ruderal vegetation
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
I	0.36	78
TR	0.06	13
OTHER	0.04	9
TOTALS	0.47	100

I – Improved grassland, 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
Grassland/ tall ruderal vegetation	False oat grass <i>Arrhenatherum elatius</i> , red fescue <i>Festuca rubra</i> , common nettle <i>Urtica dioica</i> , dandelion <i>Taraxacum officinale</i> agg, creeping thistle <i>Cirsium arvense</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , elder <i>Sambucus nigra</i> , bramble <i>Rubus fruticosus</i> agg

4.3.3 Invasive weeds

No floral species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found during the walkover survey. However, Himalayan balsam *Impatiens glandulifera* has been recorded previously on the southern border to the site.

Weeds listed under the Weeds Act 1959 including curled dock *Rumex crispus*, and 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 scattered tree, hedgerows and 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	SK0151546837	False oat grass, creeping thistle, common nettle

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species poor hedgerow					x
Scattered trees					x
Tall ruderal vegetation					x
Species poor improved grassland					x
Overall site importance					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 species poor grassland to the north and west with the A522 road to the east and domestic dwellings to the south east and mainly consists of species poor improved grassland (80%). The remaining habitats are species poor and very common within the local area and the UK as a whole with limited connectivity to the wider countryside via hedgerows therefore the site is attributed low ecological importance.

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

Vegetation removal

If at all possible it is recommended that as many trees in the hedgerow be retained to preserve some 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, 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 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

The site itself has a species poor hedgerow and habitats of low biodiversity which is poorly connected to other habitats within a rural landscape, therefore is deemed to 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 68

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FID 68

1. Introduction

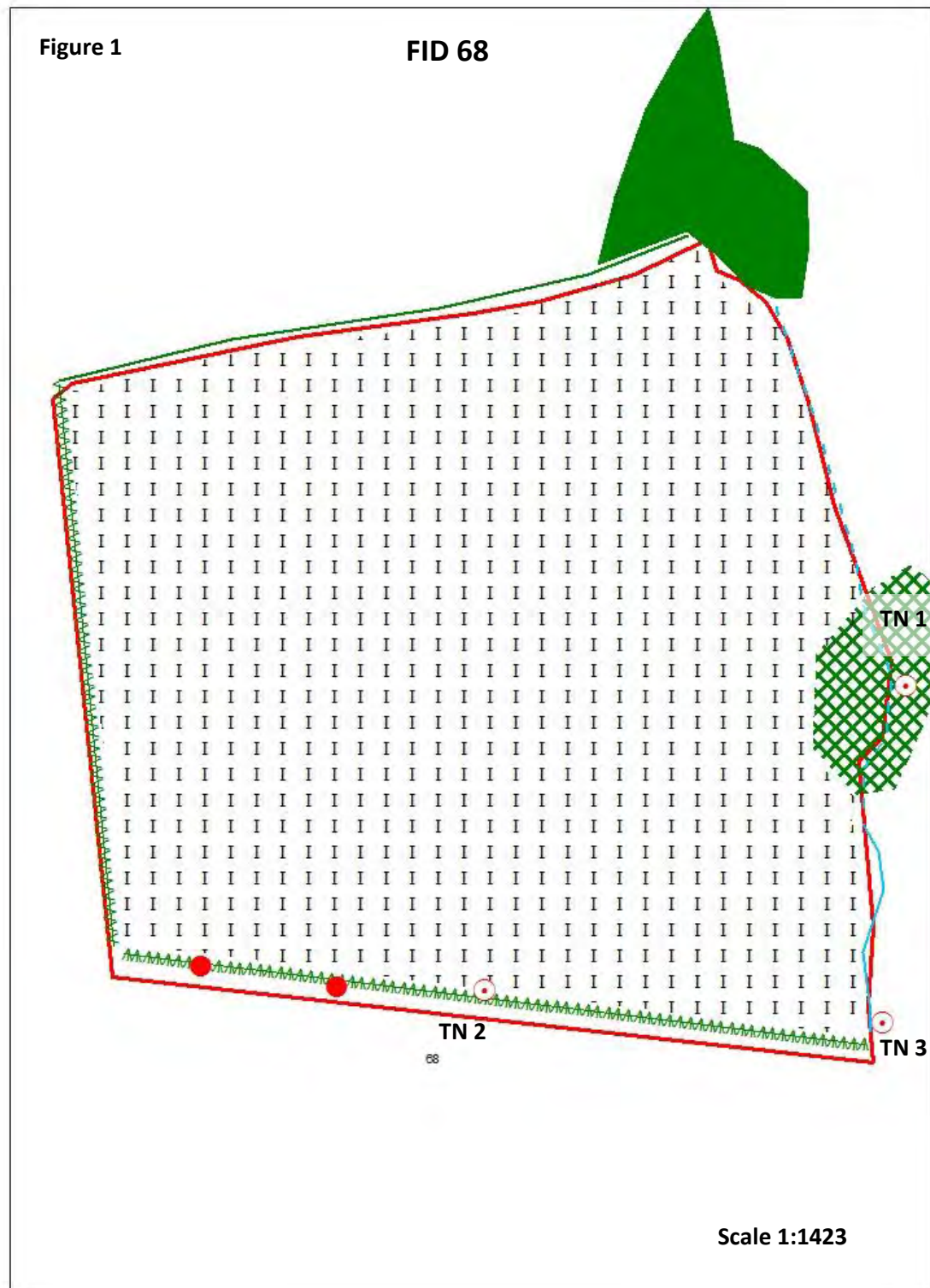
1.1 Background

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 68 O.S grid reference SK0158039563.

FID 68 is located east of Tean village in the Staffordshire Moorlands District, surrounded by a mixture of 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 68 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

There are no designated sites for nature conservation within 2km of the site.

Table 1

SITE DESIGNATION	NAME
AWI/ SBI	Broadgatehall Drumble
AWI	Huntley Wood
AWI/ BAS	The Wing Drumble
AWI	Freehay Wood
BAS	Draycott Common Wood
SBI	Freehay
SBI	Newton (north-east of)
RIGS	Huntley Railway Cutting

AWI – listed on 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	Adder
	Brown Hare
	Common bullfinch
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common Toad
	Cornflower
	European Otter
	European Water Vole
	Great Crested Newt
	Grey Wagtail
	Insect - Hymenopteran
	Jacob's-ladder
	Lichen
	Mallard
	Pipistrelle
	Tree bumble bee

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	Wall
	West European Hedgehog
	White ermine
INV	Giant Hogweed
	Indian Balsam
	New Zealand Pigmyweed
	Rhododendron
	Signal Crayfish
E/ UK PS	A Bat
	Adder
	Bluebell
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	European Otter
	European Water Vole
	Great Crested Newt
	Pipistrelle
	Pipistrelle Bat Species

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 rich hedgerow
- Scattered trees
- Dense scrub
- Species poor improved grassland

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)	NUMBER
I	1.49	90	
DS	0.03	2	
OTHER	0.13	8	
BPT			2
TOTALS	1.65	100	2

DS – Dense scrub, 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	Yorkshire fog <i>Holcus lanatus</i> , red clover <i>Trifolium pratense</i> , common nettle <i>Urtica dioica</i> , creeping thistle <i>Cirsium arvense</i> , rosebay willowherb <i>Chamerion angustifolium</i>
Hedgerows/ trees/ scrub	Hawthorn <i>Crataegus monogyna</i> , blackthorn <i>Prunus spinosa</i> , goat willow <i>Salix caprea</i> , hazel <i>Corylus avellana</i> , bramble <i>Rubus fruticosus agg</i>

4.3.3 Invasive weeds

No floral species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were found during the walkover survey.

Weeds listed under the Weeds Act 1959 including curled dock *Rumex crispus*, and creeping thistle *Cirsium arvense* 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 scattered trees, hedgerows and dense 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	SK0164939556	Goat willow scrub
2	SK0158839502	Hedgerow survey required
3	SK0165239498	Running water

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Species rich hedgerow				x	
Scattered trees				x	
Wet ditch				x	
Dense scrub					x
Species poor improved grassland					x
Overall site importance					
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 species poor grassland to the north and east with domestic dwellings to the south and west, and mainly consists of species poor improved grassland (90%). The wet ditch forms the eastern boundary and is intersected by a small area of dense goat willow *Salix caprea* scrub that continues to the north for 400m and flows into the River Tean to the south west. The remaining habitats are species poor and very common within the local area and the UK as a whole though have good connectivity to the wider countryside via a network of hedgerows which link to an extensive woodland mosaic <900m to the north east.

2 trees are present within the species rich hedgerow that could potentially support roosting bats therefore the site is attributed 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/ foraging bats (a pipistrelle maternity roost has been recorded 150m away) 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.

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

If at all possible it is recommended that as many trees in the hedgerow be retained to preserve some 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, 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 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.



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7. Conclusion

The site itself has habitats mainly of low biodiversity which are poorly connected to habitats within a rural landscape. However, the presence of a species rich hedgerow and 2 trees with potential to support roosting bats is considered to give the site district ecological importance.

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

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



FID 203

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FID 203

1. Introduction

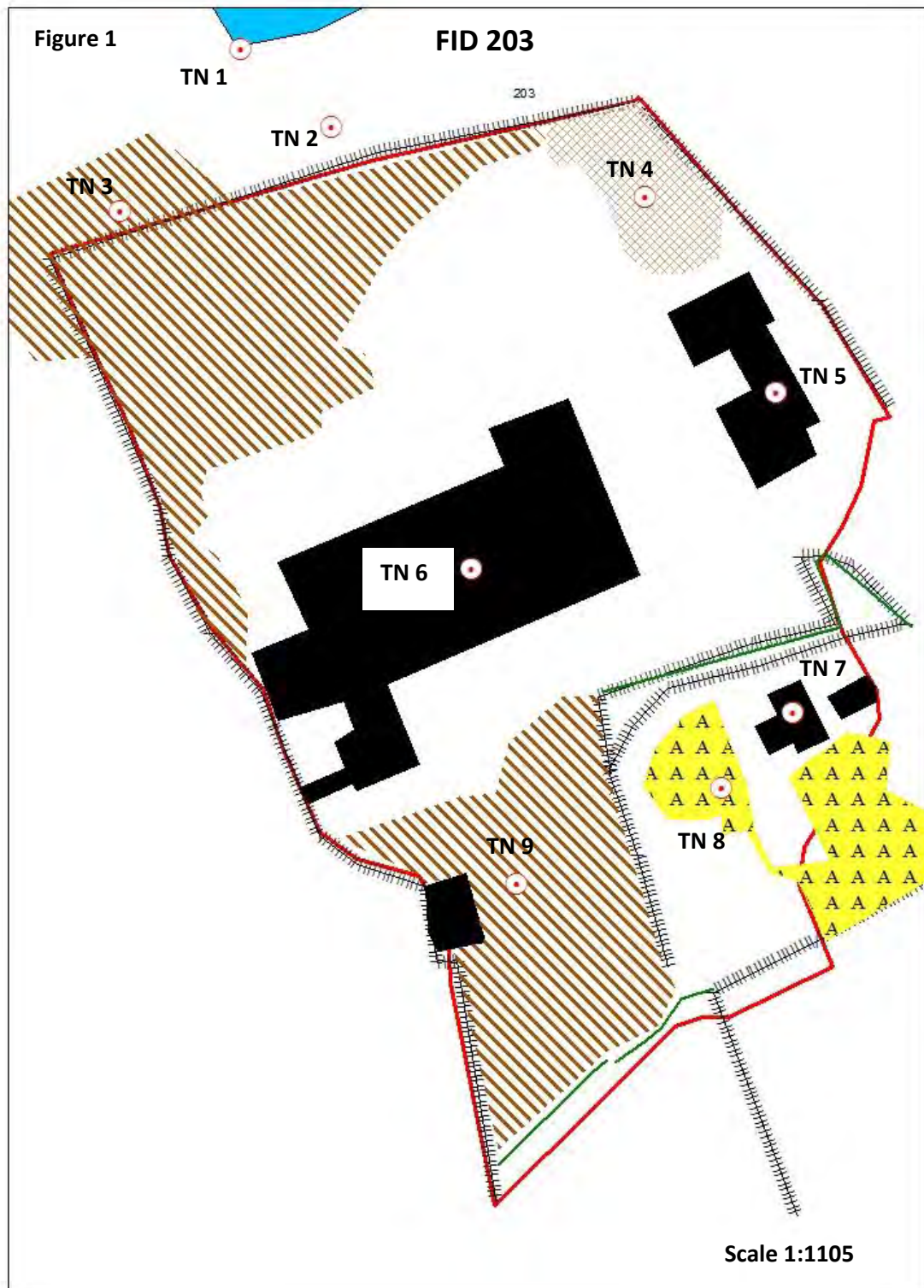
1.1 Background

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 203 O.S grid reference SK00641401060.

FID 203 is located north-west of Upper Tean village 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 203 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) and on the National Biodiversity Network website (www.searchnbn.net).

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

SITE DESIGNATION	NAME
AWI/ SBI	Huntley Wood
AWI	Freehay Wood
BAS	Draycott Common Wood
SBI	Freehay
SBI	Rakeway House Farm (south of)
SBI	Newton (north-east of)
RIGS	Huntley Railway Cutting

AWI – listed on 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 flowering plant
	Adder
	Brown Hare
	Brown/ sea trout
	Buff tailed bumble bee
	Common bullfinch
	Common carder bee
	Common kestrel
	Common Kingfisher
	Common Pipistrelle
	Common Snipe
	Common spiny digger wasp
	Common starling
	Common Toad
	Cornflower
	Dingy skipper
	Early mining bee
	Eurasian curlew

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	Eurasian teal
	Eurasian tree sparrow
	European Otter
	European Water Vole
	Fieldfare
	Four coloured cuckoo bee
	Great Crested Newt
	Green woodpecker
	Grey mining bee
	Grey Wagtail
	Gwynne's mining bee
	Honey bee
	Hornet
	House sparrow
	Insect - Hymenopteran
	Jacob's-ladder
	Large red tailed bumble bee
	Leaden spider wasp
	Lesser redpoll
	Lichen
	Mallard
	Native black poplar
	Northern lapwing
	Northern wheatear
	Ornate tailed digger wasp
	Osprey
	Pipistrelle
	Red kite
	Redwing
	Reed bunting
	Sand martin
	Small heath
	Spotted flycatcher
	Tall hawkweed
	Tree bumble bee
	Tufted duck
	Wall
	West European Hedgehog
	White tailed bumble bee
	White ermine
	Willow warbler

INV	Giant Hogweed
	Indian Balsam
	New Zealand Pigmyweed
	Rhododendron
	Signal crayfish
E/ UK PS	A Bat
	Adder
	Bluebell
	Common Kingfisher
	Common Pipistrelle
	Daubenton's Bat
	Eurasian Badger
	Eurasian hobby
	European Otter
	European Water Vole
	Fieldfare
	Great Crested Newt
	Osprey
	Peregrine falcon
	Pipistrelle
	Pipistrelle Bat Species
	Red kite
	Redwing
	White stork

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.

- Buildings
- Scattered trees
- Tall ruderal vegetation
- Species poor hedgerow
- Amenity grassland
- Introduced shrub

Table 3

HABITAT	AREA (HECTARES to 2 d.p.)	PERCENTAGE (%)
TR	0.26	27
IS	0.03	3
AM	0.02	2
OTHER	0.67	68
TOTALS	0.98	100

TR – Tall ruderal vegetation, IS – Introduced shrub, 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	Cock's foot <i>Dactylis glomerata</i> , False oat grass <i>Arrhenatherum elatius</i> , Himalayan balsam <i>Impatiens glandulifera</i> , common nettle <i>Urtica dioica</i> rosebay willowherb <i>Chamerion angustifolium</i> , creeping thistle <i>Cirsium arvense</i> , hedge bindweed <i>Calystegia sepium</i> , annual meadow grass <i>Poa annua</i> , curled dock <i>Rumex crispus</i>
Hedgerows/ trees/ scrub	Japanese knotweed <i>Fallopia japonica</i> , leylandii <i>Cuprocypressus x leylandii</i> , apple <i>Malus sp</i> , hawthorn <i>Crataegus monogyna</i>

4.3.3 Invasive weeds

Japanese knotweed can be located to the north east of the site and is listed in Schedule 9 of the Wildlife and Countryside Act 1981 as is Himalayan balsam which was recorded frequently in the north and north-west of the site.

Weeds listed under the Weeds Act 1959 including curled dock, were recorded within 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 potentially nest in areas of scattered trees and hedgerow 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	SK0060040177	Requires great crested newt survey
2	SK0060540175	Tall ruderal vegetation with Himalayan balsam
3	SK0058840168	Tall ruderal vegetation with Himalayan balsam
4	SK0064540198	Japanese knotweed
5	SK0066440172	Requires bat survey
6	SK0062040147	Requires bat survey
7	SK0066740129	Requires bat survey
8	SK0065540124	Part of domestic garden
9	SK0062840108	Tall ruderal vegetation with derelict allotments and chicken coups

5. Evaluation

Table 6

Habitat	Ecological Importance				
	I	N	R	D	L
Tall ruderal vegetation				x	
Amenity grassland					x
Introduced shrub					x
Overall site importance				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 a working yard/ farm complex consisting mainly of buildings of which 3 are deemed potentially suitable to support roosting bats and hard standing (68%).

The main area of interest is the pond located approximately 35m to the north that has potential to support great crested newts and reptiles within the surrounding terrestrial habitats. The site also has numerous refugia located around the site with timber piles, old machinery, rubble piles and other farmyard equipment that both reptiles and amphibians can use as a refuge, therefore is deemed to have district ecological importance.

The tall ruderal vegetation to the north consists of a mix of species poor vegetation such as cock's foot, creeping thistle, and hogweed *Heracleum sphondylium* with locally frequent Himalayan balsam.

To the north east there are large patches of Japanese knotweed that has spread around the timber piles.

The tall ruderal vegetation to the south is species poor consisting of typical species such as rosebay willowherb, curled dock and cock's foot grass. The vegetation here has succeeded a derelict allotment and working chicken coups have also been erected in this area.

The site has fairly low biodiversity value overall. However, the buildings with potential to support roosting bats (a roost has been recorded 30m away to the south), the close proximity of the pond to the site and the variety of tall ruderal vegetation and numerous refuges within the site that could support reptiles and amphibians terrestrial life warrants the site being 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

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 buildings 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.

Great crested newt survey

Great crested newts have been recorded within 2km the pond and could potentially use the pond to the north of the site as a breeding pond, and the surrounding terrestrial habitats and refugia. It is therefore recommended that a great crested newt survey according to the 'great crested newt conservation handbook' (Froglife, 2001) is carried out prior to any development works.

The great crested newt is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species.

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.

Reptile survey

The site could potentially support reptile populations with the mosaic of garden habitats next to a pond providing adequate habitats, 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.

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Noxious weed removal

It is extremely important that a regime of Japanese knotweed eradication is applied to the area present on site following guidelines set out in 'Managing Japanese knotweed on development sites' (Environment Agency, 2013).

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).

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 the trees, hedgerow and tall ruderal 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 species poor habitats present on site, but good connectivity to the wider countryside and potential to support roosting bats, reptiles and terrestrial populations of amphibians, therefore the site is attributed district ecological importance.

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

- Bat surveys of the highlighted buildings
- Reptile survey
- Eradication of Japanese knotweed and Himalayan balsam
- Vegetation removal at the appropriate time of year