

Land at Ashroyd Business Park - Plots 3 & 5, Barnsley

Ecological Assessment

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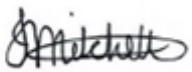
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1.0 INTRODUCTION

Smeeden Foreman Limited has been commissioned by Network Space Developments Ltd. to carry out a preliminary ecological appraisal of land at Ashroyd Business Park, Barnsley, Plots 3 and 5 (central grid reference SE 36479 01200), hereafter referred to as 'the site'.

The report will include the following information gathered by desk study and site survey including:

- Proximity to statutory and non-statutory designated sites.
- Proximity to existing records for protected species.
- Site habitat appraisal and protected species assessment.
- HSI and eDNA of ponds within 500m to assess the presence/absence of great crested newt.
- Bat activity surveys.

A review of the above information will be made to identify any features or sites of ecological interest which may be affected by the development proposals. Where potential impacts or protected species are identified the need for mitigation measures and any additional specific species surveys will be discussed and recommendations for potential environmental enhancements will be made.

2.0 SITE DESCRIPTION

The site comprises two plots of land previously cleared for development located within Ashroyd Business Park off the Dearne Valley Parkway (A6195) approximately 5.5km south of Barnsley town centre. Habitats surrounding the site include adjacent industrial units immediately to the north, beyond which lies agricultural land to the north of the A6195, industrial buildings and the residential village of Hoyland to the south and west.



Figure 01: Aerial view of Plots 3 and 5 and surrounding habitats

Habitats within the two plots are similar, predominantly comprising semi-improved grassland, tall ruderal herb and scrub vegetation and small areas of marshy grassland. Native plantation woodland lies to the northern and southern boundaries of both plots, the western boundary of Plot 3 and the eastern boundary of Plot 5. A wet ditch runs along the southern and eastern boundaries of Plot 5. The two plots are separated by a pedestrian walkway. Both plots are bounded by a mix of residential housing, industrial units and Lower Sycamore Farm is located to the north of Plot 3.

3.0 THE DEVELOPMENT

The development proposals involve the construction of a single industrial unit on Plot 3 and 4 units on Plot 5, both with associated road infrastructure and car parking, refer to **Figure 02** below:

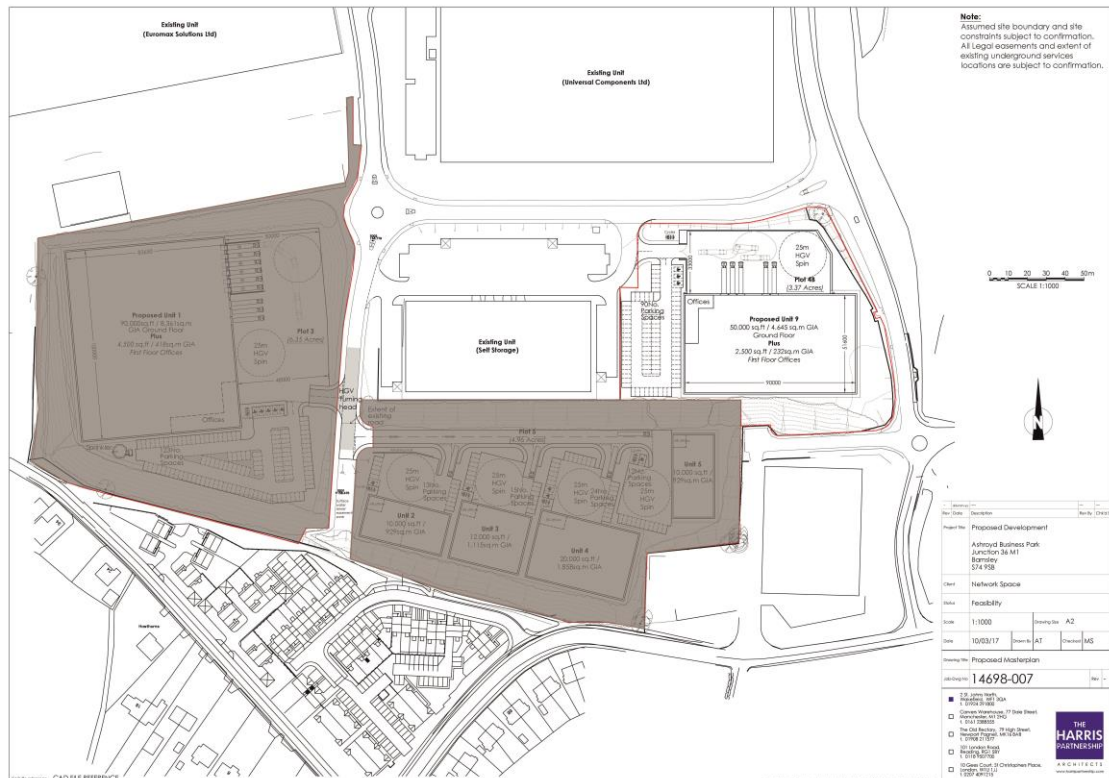


Figure 02: Development proposals drawing excluding the grey areas (drawing 14698-007 provided by The Harris Partnership Architects).

4.0 BASELINE INFORMATION

4.1 Methodology

The ecological interest of the site has been investigated by a combination of desk study, consultation and field survey.

Information was requested from the following organisations:

- Sheffield Biological Records Centre (SBRC)
- South Yorkshire Bat Group (SYBG)

The following sources of information were consulted:

- www.magic.gov.uk (government web sites for nature conservation and environmental information)

- Barnsley Biodiversity Action Plan
- Aerial photographs

The following field surveys were undertaken:

- Phase I habitat survey
- HSI and eDNA of ponds within 500m to assess the presence/absence of great crested newt
- Bat activity surveys

4.2 Nature Conservation Designated Sites

4.2.1 Statutory designations

There are no statutorily designated sites such as Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Local Nature Reserves (LNR), Special Protection Areas (SPA), Special Areas of Conservation (SAC) or Ramsar sites within 2km of the proposed development site.

4.2.2 Non-statutory designations

Consultation with Sheffield Biological Records Centre provided information on four Local Wildlife Sites within 2km of the proposed development site.

Local Wildlife Sites (LWS) are areas identified and selected locally for their wildlife value. The designation is non-statutory but is recognition of a site's significance with many LWS being of county and often regional importance for wildlife. Examples range from field ponds, streams and reed beds, to ancient woodlands, flower-rich meadows and hedgerows. This designation is equivalent to a SINC (Site of Importance for Nature Conservation). This designation is used by local authorities to allow the ecological value of a site to be considered within the planning system. These sites are detailed in the table 01 below:

Table 01: Local Wildlife Sites

Site ID	Site Name	Grid reference	Site description	Approx. distance from site
637	Short Wood and Hay Green	SE 353 017	Ancient woodland, lowland mixed deciduous woodland, wet woodland, lowland meadow, semi-improved neutral grassland, with a species-poor hedgerow.	0.7km to the north west
1158	Barrow Colliery	SE 361 028	Open mosaic habitats on previously developed land, and lowland mixed deciduous woodland	0.8km to the north
662	Wombwell Wood	SE 378 025	Ancient woodland, lowland mixed deciduous woodland, ponds and remnants of heath.	1.1km to the north-east
657	Skiers Spring Wood	SK 369 994	Ancient woodland and lowland mixed deciduous woodland	1.5km to the south

Refer to Appendix 01 which shows the proximity of these designated sites to the application site.

Due to the nature and size of the proposed development, the difference between the habitat types and/or the intervening land uses, it is anticipated that there will be no adverse effects on these sites.

4.3 Existing Species Records

4.3.1 Sheffield Biological Records Centre

The full list of species was provided by consultation undertaken with Sheffield Biological Records Centre (SBRC). A filtered list of records which includes species listed under the Wildlife and Countryside Act 1981 (as amended), and records considered to be most relevant to the site is

included within Appendix 02. The records listed below in Table 02 are a summary of the relevant data in closest proximity to the site.

Table 02: Records for Protected Species from SBRC within 2km

Common Name	Scientific Name	Grid reference	Distance of nearest record (km)*	No. of Records	Wildlife Barrier***	Nearest Record Notes
Great crested newt	<i>Triturus cristatus</i>	SE352010	1.1km west	5	Yes	Rockingham 1b site pond, Birdwell, 01/05/2014
Goshawk	<i>Accipiter gentilis</i>	SE363022	0.9km north	1	n/a	Birdwell, Short Wood Area 18/03/2015
Little ringed plover	<i>Charadrius dubius</i>	SE360023	1.1km north	14	n/a	South pond, Barrow Colliery Barnsley, 06/04/1997
Quail	<i>Coturnix coturnix</i>	SE353024	1.5 north west	2	n/a	Back Lane, Worsbrough Village, 'BARNSELEY MBC', 16/07/2010
Merlin	<i>Falco columbarius</i>	SE3502	Limited grid reference**	4	n/a	Bennett's Ridge, Barrow Colliery Barnsley, 28/09/2001
Peregrine falcon	<i>Falco peregrinus</i>	SE3502	Limited grid reference**	2	n/a	Pit Lane el. sub-station, Barrow Colliery Barnsley, 13/08/2012
Brambling	<i>Fringilla montifringilla</i>	SE3501	Limited grid reference**	3	n/a	Short Wood near Birdwell, Worsbrough 22/03/1997
Woodlark	<i>Lullula arborea</i>	SE3502	Limited grid reference**	1	n/a	Barrow Colliery Barnsley, 04/03/1994
Red kite	<i>Milvus milvus</i>	SE3502	Limited grid reference**	1	n/a	Barrow Colliery Barnsley, 22/04/2015
Osprey	<i>Pandion haliaetus</i>	SE3502	Limited grid reference**	1	n/a	Barrow Colliery Barnsley, 14/05/1989
Black redstart	<i>Phoenicurus ochruros</i>	SE3502	Limited grid reference**	2	n/a	Sub station, Barrow Colliery Barnsley, 01/04/2005
Greenshank	<i>Tringa nebularia</i>	SE360023	1.1km north	3	n/a	South pond, Barrow Colliery Barnsley, 28/08/1997
Green sandpiper	<i>Tringa ochropus</i>	SE360023	1.1km north	3	n/a	Barrow Colliery Barnsley, 14/04/2012

Redwing	<i>Turdus iliacus</i>	SE362031	1.8km north	16	n/a	Barrow Colliery Barnsley, Northern edge of LWS, 18/12/2015
Fieldfare	<i>Turdus pilaris</i>	SE3502	2km west	12	n/a	Barnsley MBC, Barnsley
Cetti's warbler	<i>Cettia cetti</i>	SE3502	Limited grid reference**	1	n/a	Worsbrough Reservoir, Dove Valley, 01/03/2005
Barn owl	<i>Tyto alba</i>	SE365015	175m north	18	n/a	Platts Common 07/11/2006
Grass snake	<i>Natrix natrix</i>	SE3741802 247	1.2km north east	15	Yes	Wombwell Wood LWS, 15/06/2017
Adder	<i>Vipera berus</i>	SE364025	1.2km north	4	Yes	Barrow Colliery Barnsley 01/05/2013
Badger	<i>Meles meles</i>	-	Confidential	3	Yes	Location confidential, most recent record 24/02/2016
Unknown bat species	<i>Chiroptera species</i>	SK369993	1.7km south	10	No	Skiers Spring Wood, Elsecar 29/05/1981
Whiskered/ Brandt's bat	<i>Myotis mystacinus/ brandtii</i>	SE3502	Limited grid reference**	1	No	Worsbrough Hall 01/08/1989
Nyctalus species	<i>Nyctalus species</i>	SE360023	1.0km north	4	No	South pond, Barrow Colliery Barnsley, 14/08/2001
Leisler's bat	<i>Nyctalus leisleri</i>	SE371024	1.3km north east	2	No	Upper Wood Head Farm, 14/06/2012
Noctule bat	<i>Nyctalus noctula</i>	SE356014	0.7km west	4	No	Shortwood Business Park, 21/07/2014
Pipistrelle bat species	<i>Pipistrellus species</i>	SE360023	1.0km north	3	No	South pond, Barrow Colliery Barnsley, 01/08/2001
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	SE371024	1.2km north east	9	No	Upper Wood Head Farm, 06/07/2012
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	SE371024	1.2km north	2	No	Upper Wood Head Farm, 'BARNLEY MBC', 29/05/2012
* approximate distance ** Location unknown due grid reference to limited to 1km grid square. *** Wildlife barriers between the application site and records, e.g. major roads and built up areas.						

4.3.2 South Yorkshire Bat Group

The full list of bat records provided from consultation undertaken with South Yorkshire Bat Group (SYBG) is included within Appendix 03 of this report. The records listed below in Table 03 are a summary of the relevant data in closest proximity to the site.

Table 03: Records for Bats from SYBG within 2km

Species	Grid reference	Date of record	Approx. location/Notes
Brown long-eared bat	SE 350028	05/09/2001	Hall Close, Worsbrough – 2km north-west of site.
Common pipistrelle	SE 368021	12/07/2014	Woodhead Drive, Barnsley – 850m north of site. Bat dead on arrival (bat care).
Leisler's	SE 371024	14/06/2012	Upper Wood Head Farm – 1.2km north-east of site. Commuting bat.
Myotis sp.	SE 352032	21/08/1981	Worsbrough – +2km north-west of site. Three bats recorded.
Noctule	SE 371024	06/07/2012	Upper Wood Head Farm – 1.2km north-east of site. 10+ bats commuting to roost (north).
Noctule/Leisler's	SE 351034	2012	Roost – +2km north-west of site.
Unknown pipistrelle	SE 361005	15/07/2016	Bat Care/Callout – 730m south west of the site
Soprano pipistrelle	SE 371024	29/05/2012	Upper Wood Head Farm – 1.2km north-east of site. Commuting bat.
Whiskered	SE 346001	25/04/2016	Bat Care/Callout – +2km south-west of site. One bat recorded.
Unknown bat sp.	SE 369011	28/08/2004	Market St, Hoyland – 175m south-east of site. Bat flying in sitting room.
	SE 367018	08/03/2011	Grange View, Platts Common - 600m north of site.

4.3.3 South Yorkshire Badger Group

Consultation with South Yorkshire Badger Group provided seven records for badger within 2km of the site, the closest being approximately 1.7km from the site. Between the site and all records provided there are intervening land uses including major roads and housing which creates a degree of severance. South Yorkshire Badger Group also highlighted that the habitats local to the site are generally unfavourable for badger as it is an old mining area with very poor soil, therefore food for badger is limited and the ground is often unstable and unsuitable for badger setts.

4.4 Biodiversity Action Plan

4.4.1 UK Biodiversity Action Plan

The UK Biodiversity Action Plan (UK BAP) identifies priority species and habitats which are those considered to be the most threatened and therefore most in need of conservation action. The lists were updated in 2007 to include 1150 species and 65 habitats.

The existing records for UK priority species within 2km of the site include:

- **Birds:** Bullfinch, grasshopper warbler, linnet, starling, cuckoo, curlew, dunnoek, grey partridge, hawfinch, house sparrow, tree sparrow, lapwing, lesser redpoll, lesser spotted woodpecker, reed bunting, ring ouzel, skylark, song thrush, spotted flycatcher, tree pipit, turtle dove, twite, willow tit, yellow wagtail and yellowhammer.
- **Invertebrates:** Cinnabar moth, Latticed heath, shaded broad-bar, mottled rustic, dingy skipper, small heath,
- **Amphibians:** Common toad
- **Mammals:** West European hedgehog, harvest mouse and brown hare
- **Plants:** Cornflower and pennyroyal

4.4.2 *Local Biodiversity Action Plan*

Habitat types for which action plans have been prepared for the Barnsley Biodiversity Action Plan (BAP) include:

- Mixed deciduous woodland
- Upland oakwood
- Wet woodland
- Wood pasture, parkland and veteran trees
- Traditional orchard
- Scrub
- Hedgerows
- Arable field margins
- Amenity grassland
- Floodplain grazing marsh
- Acid grassland
- Upland heathland
- Lowland heath
- Reedbeds
- Lowland fen
- Upland flushes, fens and swamps
- Purple moor grass and rush pasture
- Blanket bog
- Ponds and standing water
- Rivers and streams
- Open mosaic habitats and previously developed land
- Built environment and gardens

The site is considered to contain ‘open mosaic habitats’ and ‘mixed deciduous woodland’ as the site contains patches of early successional vegetation semi-improved grassland, scrub vegetation and scattered young trees/saplings, and native plantation woodland to the site boundaries. There are no other habitats within the proposed development site which fall under the habitat types included within the local BAP. The plantation woodland is to remain unaffected by the proposed development and protective fencing will be installed to ensure this.

Species for which action plans have been prepared for the Barnsley Biodiversity Action Plan (BAP) include:

- Glow worm
- Dingy skipper
- White-clawed crayfish
- Bullhead
- Salmon
- Bittern
- Lapwing
- Little ringed plover
- Grey partridge
- Tree sparrow
- Skylark
- Barn owl
- Kestrel
- Twite
- Great crested newt
- Water vole
- Otter
- Bats
- Hedgehog
- Bluebell

Bat species, barn owl, kestrel and hedgehog may utilise the site including the plantation woodland to the site boundaries for foraging and commuting purposes.

4.5 Phase I Habitat Survey

A walkover survey of Plots 3 and 5 was undertaken during May 2017. Habitat types and key species were noted and are presented in the Phase I Habitat format (*Refer to Figure 03 Phase I Habitat Map*) proposed by the Joint Nature Conservation Committee (2010).

Plot 3

This plot is located to the west of site and measures approximately 6.35 acres in area. Habitats on site predominantly comprise semi-improved grassland with areas of tall ruderal herbs, scrub vegetation and marshy grassland, a dry ditch running along the southern and western boundaries, native tree and shrub planting to the north, south and western boundaries and scattered young trees/saplings. This native planting has formed a belt of established plantation woodland which bounds the site. Ground elevation varies to the boundaries with high banks existing to the east, meeting with the tree belt at the south, and to the west to meet the adjoining access road off Ashroyds Way. The boundary to the east is not marked and abuts a pedestrian walkway.

4.5.1 Species-poor semi-improved grassland

The majority of grassland on site is semi-improved (**target note 1**). Tall rank grasses such as cock's foot *Dactylis glomerata* and Yorkshire-fog grass *Holcus lanatus* dominate the area with less frequently occurring species such as rough meadow-grass *Poa trivialis* and perennial rye-grass *Lolium perenne* also recorded. Other species occurring frequently to occasionally within the sward include hedge woundwort *Stachys sylvatica*, great willowherb *Epilobium hirsutum*, ragwort *Senecio jacobaea*, coltsfoot *Tussilago farfara*, creeping thistle *Cirsium arvense*, red clover *Trifolium pratense*, common bird's foot trefoil *Lotus corniculatus*, daisy *Bellis perennis*, creeping buttercup *Ranunculus repens*, common vetch *Vicia sativa*, curly dock *Rumex crispus*, common cat's ear *Hypochaeris radicata*, dandelion *Taraxacum* agg, common sorrel *Rumex acetosa*, broad-leaved dock *Rumex obtusifolius*, lesser trefoil *Trifolium dubium*, meadow buttercup *Ranunculus acris*, common nettle *Urtica dioica*, ribwort plantain *Plantago lanceolata*, bush vetch *Vicia sepium*, common mouse-ear *Cerastium fontanum*, cow parsley *Anthriscus sylvestris*, nipplewort *Lapsana communis*, rosebay willowherb *Chamaenerion angustifolium*, hairy tare *Vicia hirsuta*, a fern species *Dryopteris* sp. and moss *Rytidiadelphus squarrosus*. Self-sown goat willow *Salix caprea* and silver birch *Betula pendula* saplings are scattered across this habitat.

4.5.2 Marshy grassland

Areas of marshy grassland can be found across the site (**target note 2**). These areas are dominated by soft rush *Juncus effusus* with common reed *Phragmites australis*, hard rush *Juncus inflexus*, a fescue grass species *Festuca* sp., reedmace *Typha latifolia*, broom *Cytisus scoparius* and scattered alder *Alnus glutinosa* saplings.

4.5.3 Tall ruderal herb

Stands of tall ruderal herbs are present, particularly in association with landscape bunds located to the south and north-western corner of the plot (**target note 3**) and to the site boundaries at the east and west. These areas are dominated by common nettle, with abundant great willowherb and rosebay willowherb also present. Other species recorded in association with this habitat include broad-leaved dock, cow parsley, cleavers *Galium aparine*, creeping thistle, hedge bindweed *Calystegia sepium* and red campion *Silene dioica*. Self-sown sycamore *Acer pseudoplatanus*, hawthorn *Crataegus monogyna* and ash *Fraxinus excelsior* saplings also occur to the south.

4.5.4 Bramble scrub

Dense patches of bramble *Rubus fruticosus* scrub are present in association with tall ruderal vegetation to the north-western corner and along the banking at the eastern site (**target note 4**).

4.5.5 Native plantation woodland

Native planting borders the grassland, forming an established belt of trees to the southern and western boundaries (**target note 5**). Species include oak *Quercus robur*, goat willow, hawthorn, field maple *Acer campestre*, dog rose *Rosa canina*, scots pine *Pinus sylvestris*, silver birch, ash, sycamore, elder *Sambucus nigra*, bird cherry *Prunus padus*, a laurel species *Lauraceae sp.*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia* and privet *Ligustrum ovalifolium*. Common nettle, cleavers and cow parsley occur within the understorey.

4.5.6 Dry ditch

A dry ditch with occasional ephemeral patches of water runs adjacent to the established tree planting along the length of the southern and western site boundaries (**target note 6**).

	
Photo 01: Panorama of Plot 3, viewed from south-east corner	
	
Photo 02: Marshy grassland (TN2),	Photo 03: Tall ruderal vegetation and native planting to north-western boundary (TN3 and TN5)
	
Photo 04: Banking with bramble scrub to eastern boundary (TN4)	Photo 05: Dry ditch present to the south (TN6)

Plot 5

This smaller plot is located to the east of site measuring approximately 4.96 acres in area and comprising similar habitats to those listed above in Plot 3 with additional species detailed below. Habitats present include semi-improved grassland with areas of tall ruderal herbs, scrub vegetation and marshy grassland, native tree and shrub planting to the north, south and eastern boundaries and scattered young trees/saplings. A wet ditch runs along the southern and eastern boundaries. Ground elevation varies to the boundaries with high banks existing to the north, meeting with the adjacent development, and at the south backing onto residential housing. The boundary to the west is not marked and abuts a pedestrian walkway.

4.5.7 Species-poor semi-improved grassland

The site predominantly comprises semi-improved grassland and the following species were identified in addition to those species listed for Plot 3 above (**target note 7**), occurring frequently to occasionally within the sward: meadow vetchling *Lathyrus pratensis*, field horsetail *Equisetum arvense*, dovesfoot cranesbill *Geranium molle* and cut-leaved cranesbill *Geranium dissectum*.

4.5.8 Marshy grassland

Scattered patches of marshy grassland are present on site (**target note 8**) with the following species recorded in addition to those listed for Plot 3: common cotton-grass *Eriophorum angustifolium*, common spike-rush *Eleocharis palustris* and hairy bittercress *Cardamine hirsuta*.

4.5.9 Tall ruderal herb

The banking to the southern boundary of the site is dominated by tall ruderal herb species common nettle and rosebay willowherb (**target note 9**).

4.5.10 Bramble scrub

Dense bramble scrub patches are present to the west of site close to the boundary (**target note 10**).

4.5.11 Native plantation woodland

An established belt of native planting occurs to the northern, eastern and southern boundaries (**target note 11**) with species recorded as listed for Plot 3 with the addition of gorse *Ulex europaeus* to the north.

4.5.12 Wet ditch

A wet ditch runs the majority of the southern site boundary (**target note 12**), measuring approximately 300m in length. Choked with rosebay willowherb, reedmace and common duckweed *Lemna minor*; the water within this ditch is shallow. Refer to section 4.6 for further details in relation to a habitat suitability assessment for great crested newt.



Photo 06: Panorama of Plot 5, viewed from north-west corner

	
Photo 07: View of Plot 3 from the western boundary of Plot 5 separated by a pedestrian walkway	
	
Photo 08: Marshy grassland (TN8)	Photo 09: Wet ditch to eastern boundary (TN12)
	NO PHOTOGRAPH
Photo 11: Wet ditch to southern boundary (TN12)	

4.5.13 Fauna

Bird species recorded during the survey of Plots 3 and 5 include whitethroat *Sylvia communis*, goldfinch *Carduelis carduelis*, carrion crow *Corvus corone*, wren *Troglodytes troglodytes*, robin *Erithacus rubecula*, magpie *Pica pica*, collared dove *Streptopelia decaocto*, starling *Sturnus vulgaris*, blue tit *Cyanistes caeruleus*, blackbird *Turdus merula* and swift *Apus apus*.

4.6 Great Crested Newt Assessment

4.6.1 Habitat Suitability Index Assessment

Three waterbodies within 500m of the site were identified and assessed using the Habitat Suitability Index (HSI) survey method in terms of their suitability to support great crested newt (*Triturus cristatus*) to consider the requirement for further assessment and potential mitigation measures in regards to the proposed development. Consultation with the SBRC provided five records of great crested newts within 2km of the proposals site, the closest being approximately 1.1km to the north west of the site.

The waterbodies include one wet ditch which situated on site (**Ditch 1**), and one pond (**Pond 1**) and one additional wet ditch (**Ditch 2**) were identified within 500m of the site. Refer to Figure 03 for waterbodies locations.

Ditch 1 is detailed within section 4.5.12. Ditch 2 is located within plot 4b of Ashroyd Business Park, approximately 30m to the north of the site (refer to Figure 02 for plot 4b location). This ditch is choked with rosebay willowherb and common duckweed; water within this ditch is shallow. A large amount of flytipped waste debris is scattered throughout the length of the ditch. Pond 1 is located within farmland approximately 300m to the north of the site and separated from the site by a dual carriageway. This pond was found to be dry and heavily vegetated at the time of the assessment.

Ditch 1 and Ditch 2 were assessed using the HSI survey methodology to consider their suitability for great crested newts. Pond 1 was not assessed using this method as was dry during all site assessments, and is anticipated to only contain water for minimal periods.

The HSI survey is a method produced by *Oldham *et al.* (2000) to assess the suitability of ponds for great crested newts by quantifying ten factors (suitability indices) which can affect great crested newt occurrence, such as the presence of fish and wildfowl, shading, coverage of aquatic vegetation, etc. and provides a score which can indicate the suitability of a pond to support breeding great crested newts. The HSI is calculated as a geometric mean of the ten suitability indices using the formula below:

$$HSI = (SI_1 \times SI_2 \times SI_3 \times SI_4 \times SI_5 \times SI_6 \times SI_7 \times SI_8 \times SI_9 \times SI_{10})^{1/10}$$

The score can range from 0 to 1, 0 indicating low suitability and 1 indicating a high suitability. The HSI has been adapted by the National Amphibian and Reptile Recording Scheme (NARRS) who have categorised the suitability of a pond to support great crested newts by the HSI obtained, which is as follows:

Table 04: HSI Suitability

HSI	Pond Suitability
<0.5	Poor
0.5-0.59	Below average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

**Reference:*

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143-155.

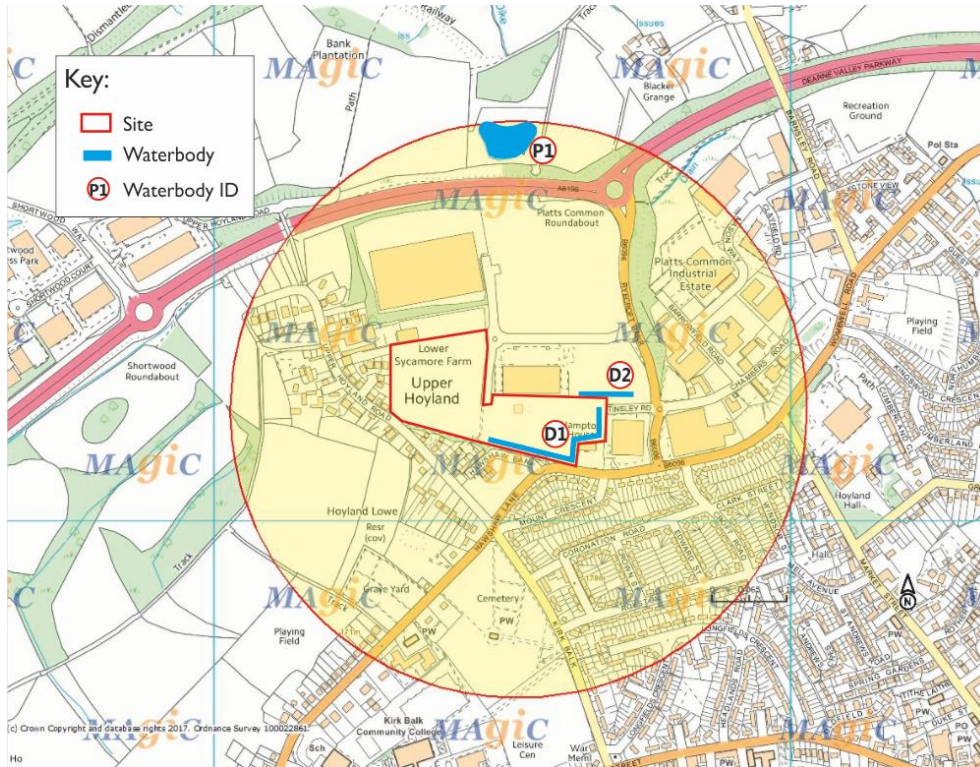


Figure 03: Waterbodies located within 500m of the site boundary

The results of the HSI survey are detailed in the tables below:

Table 05: Ditch 1 HSI

Waterbody location: on site		
SI ₁ Location	A (optimal)	I
SI ₂ Pond area	115m ²	0.23
SI ₃ Pond drying	Dries annually	0.1
SI ₄ Water quality	Moderate	0.67
SI ₅ Perimeter Shade	75%	0.7
SI ₆ Fowl	Absent	I
SI ₇ Fish	Absent	I
SI ₈ Ponds within 1km (not to include those separated by major barriers)	I	0.38
SI ₉ Terrestrial habitat	Poor	0.33
SI ₁₀ Macrophytes	80%	I
HSI = 0.52 (below average suitability)		

Table 06: Ditch 2 HSI

Waterbody location: 30m to the north of the site boundary		
SI ₁ Location	A (optimal)	I
SI ₂ Pond area	65m ²	0.1
SI ₃ Pond drying	Dries annually	0.1
SI ₄ Water quality	Poor	0.33
SI ₅ Perimeter Shade	90%	0.4
SI ₆ Fowl	Absent	I
SI ₇ Fish	Absent	I
SI ₈ Ponds within 1km (not to include those separated by major barriers)	I	0.38
SI ₉ Terrestrial habitat	Poor	0.33
SI ₁₀ Macrophytes	0%	0.3
HSI = 0.33 (poor suitability)		

	
Ditch 1: located 30m from the southern site boundary	Ditch 2: on site, located along the woodland plantation to the south of the site.
	NO PHOTOGRAPH
Pond 1: located 340m from the northern site boundary	

4.6.2 eDNA Analysis

To confirm the presence/absence of great crested newts from the waterbodies on site and within 500m of the site eDNA surveys were undertaken, where possible. Water samples were taken from Ditch 1 on the 26th June 2017, however no samples were taken from Ditch 2 and Pond 1 as both were dry when the eDNA site visit took place. Refer to Figure 03 for pond locations.

Water samples were taken following the survey methodology detailed within the document 'Analytical and methodological development for improved surveillance of Great Crested Newt Appendix 5: Technical advice note for field and laboratory sampling of great crested newt environmental DNA (2014)' published by DEFRA and adopted by Natural England. Water samples were then sent to and tested by Surescreen Scientifics.

The analysis confirmed the likely absence of great crested newts from the surveyed waterbody with a **negative** result for great crested newt eDNA (refer to Appendix 05 for results provided by Surescreen Scientifics).

4.7 Bat Activity Survey

4.7.1 Methodology

Overall the habitats within the sites are considered to offer low quality bat foraging habitat, however the plantation woodland strips to the boundaries of the site increases the ecological value of the sites. Consultation with SBRC and SYBG provided a number of bat records within close proximity to the site. It was therefore considered that the site has potential to support foraging and commuting bats.

A total of three dusk transect activity surveys were undertaken between the months of June, August, and September 2017. One surveyor was present for each plot per survey, walking transect routes incorporating habitats that were considered important for bats.

The surveyors were equipped with a Batbox Duet bat detector, and to record bat activity Anabat Express detectors were used. Bat activity transects were based on methodologies outlined within the Bat Conservation Trust's 'Bat Surveys: Good Practice Guidelines 2016'.

4.7.2 Survey Results

The locations of bat activity identified during the surveys are described below and shown in **Figure 05** (appended). Table 08 below includes information on the timing and conditions of the surveys.

Table 08: Survey Logistics

Date	Start time	Finish time	Sunset	Temp.	Cloud cover	Wind speed	Rain	Humidity
26.06.17	21:39	23:39	21:39	17°C	80%	9mph	0%	56-66%
01.08.17	21:03	23:03	21:03	16°C	40%	7mph	0%	76%
11.09.17	19:32	21:32	19:32	13°C	10%	15mph	0%	73-77%

Survey 1 – 26.06.17

A number of bat passes were noted from 21:58, approximately 19 minutes after sunset, until the end of the survey. Activity included common pipistrelle bats foraging and commuting within the site, with a peak count of 1-2 bats recorded at a time. Activity was predominantly noted in the vicinity of the plantation woodland to the south and east of Plot 5, and to the south and west of Plot 3. No other bat species or activity was noted throughout the survey.

Two Anabat Express recorders were positioned adjacent to the plantation woodland strips to the west of Plot 3 and the south east of Plot 5. The analysis of call recordings confirmed that the bat species utilising this area of the site were common pipistrelle. No other bat species were recorded throughout the survey.

Survey 2 – 01.08.17

Bat activity on site was largely consistent with the previous survey results, with a reduced level of activity noted within Plot 5. Activity was again predominantly noted in the vicinity of the plantation woodland to the south and east of Plot 5, and to the south and west of Plot 3, with a peak count of 1-2 bats recorded at a time. All bats noted were common pipistrelle. No other bat species or activity was noted throughout the survey.

Two Anabat Express recorders were positioned adjacent to the plantation woodland strips to the west of Plot 3 and the south east of Plot 5. The analysis of call recordings confirmed that the bat species utilising this area of the site were common pipistrelle. No other bat species were recorded throughout the survey.

During this survey a hedgehog was observed passing through the site to the west of Plot 3, adjacent to the plantation woodland boundary feature.

Survey 3 – 11.09.17

Bat activity during this survey was highly limited, with only a single pass from a common pipistrelle bat being recorded within the south western corner of Plot 3. No bat activity was recorded within Plot 5.

Two Anabat Express recorders were positioned adjacent to the plantation woodland strips to the north of Plot 3 and the south east of Plot 5. No activity was recorded on either detector, which correlates with the surveyor survey results.

4.8.3 *Survey Conclusions*

The activity surveys found bat activity to be limited, with only the plantation woodland strips to the site boundaries of Plot 3 and Plot 5 provide habitat for foraging and commuting bats, which creates connectivity on site with habitats adjacent to the site. The bats recorded during the activity surveys on site were common pipistrelle, which are locally common bat species. No other species were recorded.

5.0 IMPLICATIONS / RECOMMENDATIONS

5.1 Nature Conservation Designated Sites

There are no statutorily designated sites within 2km of the proposed development site.

The non-statutory sites within closest proximity to the site are LWS sites including: Barrow Colliery (approx. 0.8km to the north of the site), Wombwell Wood (approximately 1.1km to the north east of the site), Short Wood and Hay Green (approximately 0.7km to the north west of the site), and Skiers Spring Wood (approximately 1.5km to the south of the site).

Due to the nature and size of the proposed development, the difference between the habitat types and/or the intervening land uses including roads and housing which create a degree of severance, it is anticipated that there will be no adverse effects on these sites as a result of the development.

5.2 Habitats

The site is considered to hold low value in terms of biodiversity largely comprising bare ground habitat with re-establishing common species of limited botanical value. The plant communities at the site are of widespread occurrence and are characteristic of the habitats present in the wider area and common nationally. No rare or locally uncommon plant species or invasive species as listed under the Wildlife and Countryside Act 1981 (as amended) were detected at the site.

Features on site which are of some ecological value include the plantation woodland existing to the site boundaries which is likely to be of value to wildlife, such as foraging and nesting birds and foraging and commuting bats. This habitat is to be retained within the proposals and demarcation fencing is to be installed to protect these features during construction.

5.3 Protected Species

Refer to **Appendix 04** which details the legal status of the species mentioned below.

Great crested newts

There is one wet ditch within the site boundary (Plot 5), and one pond and one additional wet ditch within 500m of the site boundary. Habitats within the site have the potential to support amphibian species during their terrestrial phase, with the woodland potentially providing opportunities for foraging, refuge, hibernation and grassland foraging.

From consultation undertaken with SBRC, there are no records of great crested newt within 500m of the site boundary, the closest record being approximately 1.1km from the site.

The waterbodies were subject to a Habitat Suitability Index (HSI) survey to assess their suitability for great crested newts (refer to section 4.6 of the report) with the HSI score obtained indicating that both are of below average to poor suitability for great crested newts, scoring low on factors such as the coverage of aquatic vegetation, presence of water fowl and fish, and the number of other ponds within 1km. 'Ditch 1' was also subject to an eDNA assessment ('Ditch 2' and 'Pond 1' were not undertaken as they were both dry during the eDNA site survey), the results of which were 'negative' for great crested newt, confirming their likely absence from this waterbody.

No adverse impact upon great crested newts is therefore anticipated as a result of the development and no further survey for this species is considered necessary.

Although being considered to be of poor suitability for great crested newts following a HSI survey, and eDNA survey of Ditch 1, they may be of value to other amphibian species such as smooth newt, common frog and common toad (a priority UKBAP species) and species such as bats as a foraging feature. It is therefore recommended that the ditch or some form of waterbody is retained or incorporated within the site proposals.

Bats

From consultation undertaken with SBRC and SYBG, there are no records on site, however records of brown long eared, common pipistrelle, soprano pipistrelle, Leisler's, noctule, whiskered/Brandt's, unknown *Nyctalus* species, unknown *Myotis* species, unknown pipistrelle and unknown bat species within 2km of the site. The closest records are unknown bat species recorded approximately 175m to the south east of the site (dated 2004) and 600m to the north of the site (dated 2011), and an unknown pipistrelle recorded approximately 730m to the south west of site (dated 2016).

Generally the site is classified as having a low conservation value, with low quality vegetation, however there is increased value with the plantation woodland strips along the sit boundaries. There are no buildings on site, and no trees on site considered to have bat roosting potential.

The activity surveys found bat activity to be limited, with the plantation woodland strips provides the main habitat for foraging and commuting bats, which creates connectivity on site with habitats adjacent to the site. The bats recorded during the activity surveys on site are locally common bat species.

The development proposals involve the construction of a single industrial unit with associated road infrastructure, car parking and HGV access. Habitats considered to be of low conservation value including are to be cleared as a result of the development, including bare ground with colonising vegetation with areas of semi-improved grassland, tall ruderal herb and scrub vegetation. The plantation woodland strips however, are to be retained within the development proposals, therefore minimal impact on bats using this linear feature is anticipated. There will be an increase in lighting levels post-development as there will a new structures and associated access on site, which may impact foraging and/or commuting bats.

In order to protect and enhance habitats of value to bats the following recommendations are highlighted;

- The retention of the trees at the site where feasible, or replacement planting using native species;
- Landscaping to include native trees and shrubs, where possible. Planting should include a variety of nut-bearing and flowering trees, shrubs and plants that would offer year-round interest for a range of invertebrates, and as such provide feeding opportunities for the local bat population. Plants should include flowers that bloom throughout the year, including both annuals and herbaceous perennials, with night flowering blossoms to attract night-flying insects;
- It is recommended that a variety of bat boxes are installed upon new buildings or within trees to be retained on site, in order to provide roosting opportunities for the local bat population. Refer to Appendix 06: Recommended Bat and Bird Boxes for details.
- Use of directional lighting during works and post development, which will not illuminate the site boundaries, plantation woodland or bat boxes within the site. Reference can be made to the Bat Conservation Trusts 'Artificial Lighting and Wildlife' (2014);

Breeding birds

Birds recorded during the site survey include pied wagtail, starling, magpie and dunnoek. Nesting birds are afforded protection under the Wildlife and Countryside Act with additional protection against disturbance given to those on Schedule 1 (W & CA 1981 *amended*). Habitats within the site are considered to offer moderate opportunities for breeding bird species including all species observed during the survey and are considered likely to utilise the plantation woodland to site boundaries and bramble scrub within the site. The woodland habitat is to be retained within the proposals. Loss of scrub habitat should be mitigated by the inclusion of appropriate native species within the site proposals, where possible. Any vegetation clearance works such as removal of scrub will be undertaken outside the bird nesting season, (March – August, inclusive) unless checks by an appropriately qualified ecologist find no active nests immediately prior to clearance works commencing.

Consultation with Sheffield Biological Records Centre provided records of the following protected species Schedule 1 (Wildlife & Countryside Act 1981) within 2km of the site: goshawk, little ringed

plover, quail, merlin, peregrine falcon, brambling, woodlark, red kite, osprey, black redstart, greenshank, green sandpiper, redwing, fieldfare, Cetti's warbler and barn owl. There is no suitable breeding habitat for these species on or adjacent to the site. Fieldfare, redwing and brambling are overwintering species/passage migrants and may use the site for foraging opportunities.

Records of house sparrow and house martin were found within 2km of the site. In order to enhance the site for breeding birds it is recommended that two house sparrow nesting terraces (Schwegler ISP) and two house martin nests (Façade Nest No.11) are installed on the proposed new buildings on site or on fencing close to vegetation.

Reptiles

Records of grass snake and adder records were provided through consultation; with the closest records for each species located approximately 1.1km to the north east and 1.1km to the north of the site respectively. Due to this distance and the severance provided by the A6195 dual carriageway together with the lack of suitable habitat for snakes, such as basking habitat no further surveys for this species are recommended and the presence of this species can be discounted.

Badger

There are records of badger in the local area, however no signs of badger were recorded within the site during the survey. Due to the suitability of the habitats on site for badger, it is anticipated that this species may access the site for commuting and foraging purposes. Precautionary working methods are therefore recommended to be adopted during construction works, which will include the covering or providing a means of escape to any trenches and capping any open pipework at the end of each working day.

Other species

There are no records for species including otter, water vole or white clawed crayfish. No adverse impact upon these protected species is anticipated as part of the proposed development due to the lack of suitable habitat within or immediately adjacent to the site. No further surveys are recommended.

5.4 Other Notable Species

There are records of hedgehog in the local area, and an individual was noted on site during a bat activity survey. Precautionary working methods are recommended to ensure hedgehogs are not harmed/killed during works, as this species is listed as a priority species within the UKBAP. Such works would include the removal of any tree/shrub cuttings from site, once vegetation is cut so as to avoid the creation of brash piles; these may be attractive to hedgehogs, which could subsequently be harmed if the brash pile is burnt or removed with machinery. In addition, any trenches created on site will be covered or a means of escape shall be provided and any open pipe work will be capped at the end of each working day. It is also recommended that small gaps (0.15m) are left under sections of new fencing/walls within the development to allow passage of hedgehog across the site.

5.5 Habitat Mitigation and Creation

The habitat mitigation and creation measures recommendations, and additional recommendations are listed below:

- Native tree and shrub planting across site where possible to further site biodiversity.
- Retention/incorporation of a waterbody in some form.
- Incorporation of wildflower grassland, if possible.
- Bird and bat boxes to be installed on new buildings and/or within the plantation woodland to south of the site to provide nesting/roosting opportunities for a variety of species.
- Good horticultural practice should be followed with, where possible, the shrub species planted should be of local provenance, all planting compost used should be peat-free and herbicide use should be restricted to the minimum required of a non-residual variety.

- Temporary protective fencing should be installed around all plantation woodland to be retained. The installation of protective fencing will ensure there is no damage to the trees or their root zones during the construction phase. The protection fencing will also discourage the storage of construction material around the base of the trees.
- Proposed lighting would ideally be directed away from retained and any new areas of tree and shrub planting in order for these areas to remain attractive to local wildlife. Low wattage lighting would be used, where possible.

6.0 SUMMARY

Smeeden Foreman Limited has been commissioned by Network Space Developments Ltd. to carry out a preliminary ecological appraisal of land at Ashroyd Business Park, Barnsley (central grid reference SE 36441 01209). The proposals include the construction of a single industrial unit with associated road infrastructure, car parking and HGV access.

Designated sites

There are no statutorily designated sites within 2km of the proposed development site. The non-statutory sites within closest proximity to the site are LWS sites including: Barrow Colliery (approx. 0.8km to the north of the site), Wombwell Wood (approximately 1.1km to the north east of the site), Short Wood and Hay Green (approximately 0.7km to the north west of the site), and Skiers Spring Wood (approximately 1.5km to the south of the site).

Due to the nature and size of the proposed development, the difference between the habitat types and/or the intervening land uses including roads and housing which create a degree of severance, it is anticipated that there will be no adverse effects on these sites as a result of the development.

Habitats

The site is considered to hold low value in terms of biodiversity largely comprising semi-improved and marshy grassland with common species of limited botanical value typical of prepared development sites. The plant communities at the site are of widespread occurrence and are characteristic of the habitats present in the wider area and common nationally. No rare or locally uncommon plant species or invasive species as listed under the Wildlife and Countryside Act 1981 (as amended) were detected at the site.

Features on site which are of some ecological value include the plantation woodland strips existing along site boundaries which is likely to be of value to wildlife, such as foraging and nesting birds and foraging and commuting bats. This habitat is to be retained within the proposals and demarcation fencing is to be installed to protect these features during construction.

Protected Species

- **Great crested newts** – HSI and eDNA indicate likely absence of this species. No adverse impact upon this species is anticipated and no further survey is considered necessary.
- **Bats** – No buildings or trees considered suitable to support bat roosts were recorded on site. Bat activity on site was found to be limited, with only a small number of common species being recorded on site. Site connectivity to the surrounding local area is to be maintained with the retention of the plantation woodland on site. Minimal adverse impact is anticipated upon bat species from this development. Enhancement recommendations for bats include the installation of bat boxes (see section 5.3). Lighting is to be sympathetic to bats i.e. not shining onto site boundaries, plantation woodland, and bat boxes.
- **Breeding birds** – Any vegetation clearance works should be undertaken outside the breeding bird period (March – August inclusive) unless checks by an appropriately qualified ecologist have found active nests to be absent immediately prior to clearance works commencing. Enhancement recommendations for breeding birds include the installation of nest boxes (see section 5.3).
- **Reptiles** – Presence is considered to be unlikely. No adverse impact upon this species is anticipated from the proposed development.
- **Badger** – Precautionary working methods should be adopted to avoid harming this species during construction works.
- **Hedgehog** – precautionary works should be adopted to avoid harm to this species and small gaps (0.15m) should be left under sections of new fencing/walls within the development to allow passage of hedgehog across the site.

The habitat mitigation and creation measures recommended are included within the landscape proposals and biodiversity strategy document are listed below (see section 5.5 for details);

- Native tree and shrub planting;
- Retention/incorporation of a waterbody;
- Incorporation of wildflower grassland, where possible;
- Installation of bird and bat boxes;
- Follow good horticultural practice - where possible the shrub species planted should be of local provenance, all planting compost used should be peat free and herbicide use should be restricted to the minimum required of a non-residual variety;
- Temporary protective fencing to be installed around the southern woodland boundary;
- Proposed lighting would be low wattage and ideally be directed away from retained and any new areas of tree and shrub planting in order for these areas to remain attractive to local wildlife.

FIGURES

FIGURE 01: Aerial Photograph (included within the report)

FIGURE 02: Landscape Proposals (included within the report)

FIGURE 03: Waterbodies within 500m (included within the report)

FIGURE 04: Phase I Habitat Map

FIGURE 05: Bat Activity Survey Plan

FIGURE 04: Phase I Habitat Map

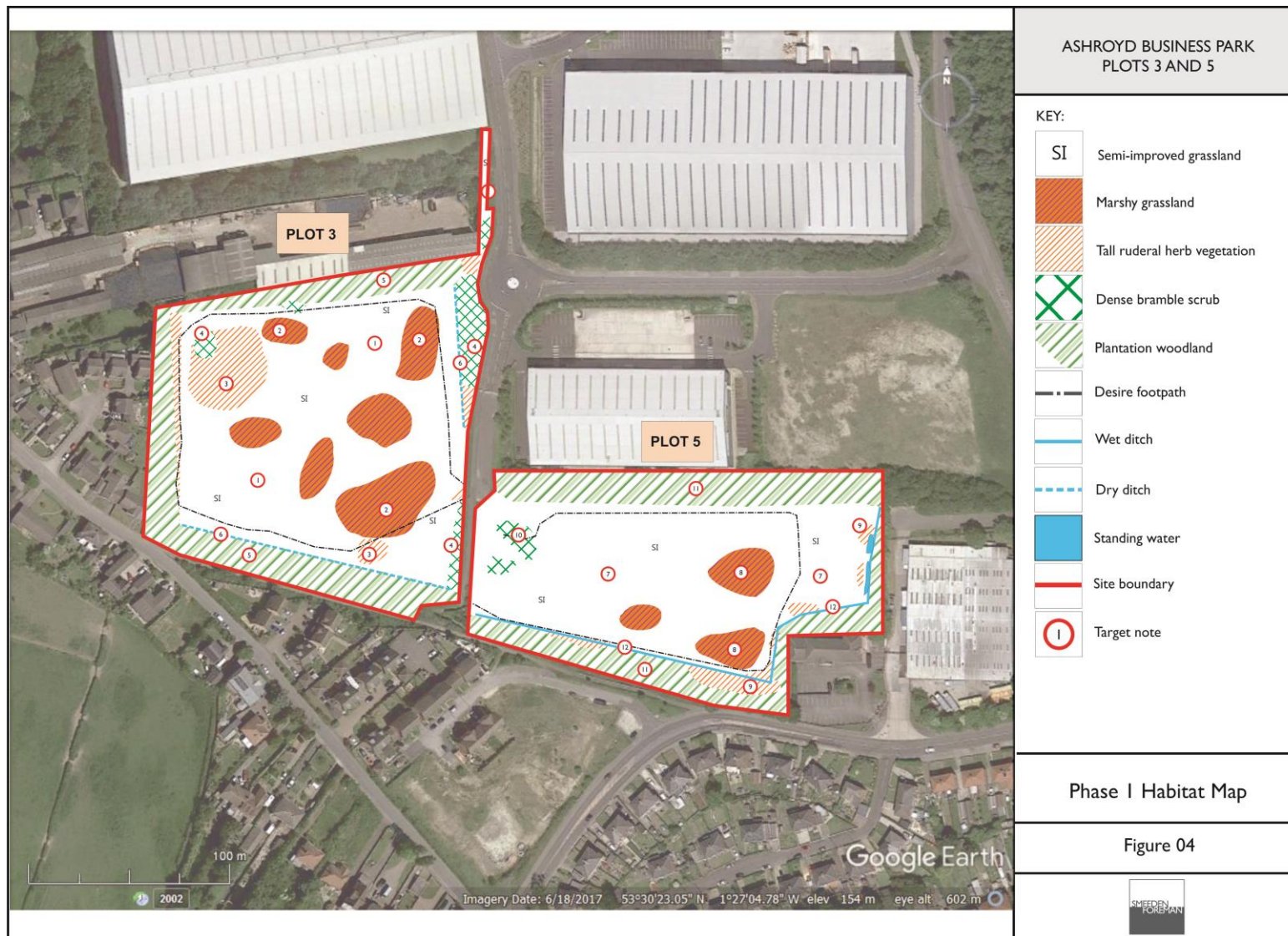
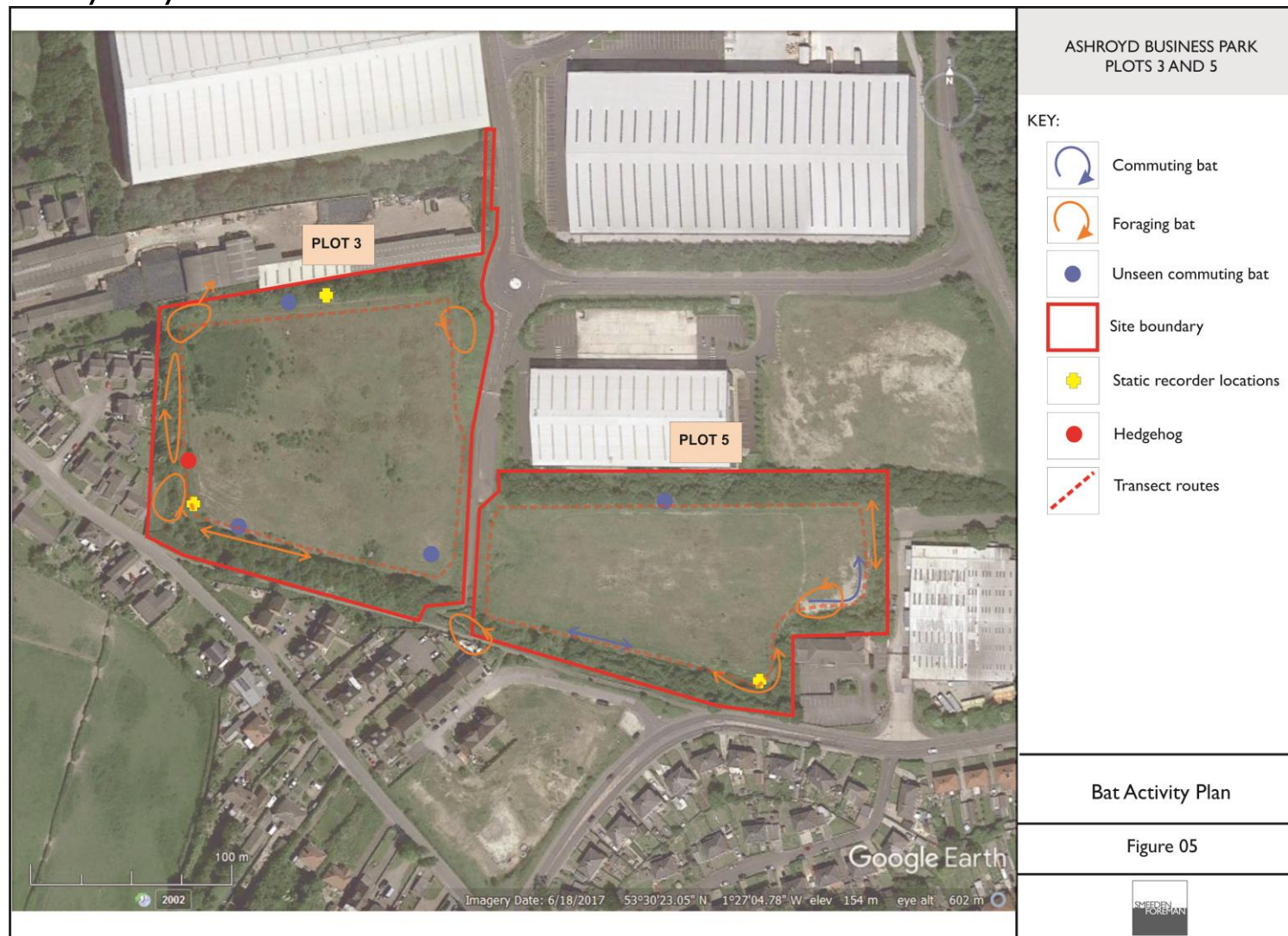


FIGURE 05: Bat Activity Survey Plan



APPENDICES

APPENDIX 01: Designated Sites

APPENDIX 02: Species Records (SYBC)

APPENDIX 03: Bat Records (SYGB)

APPENDIX 04: Legal Status of Protected Species

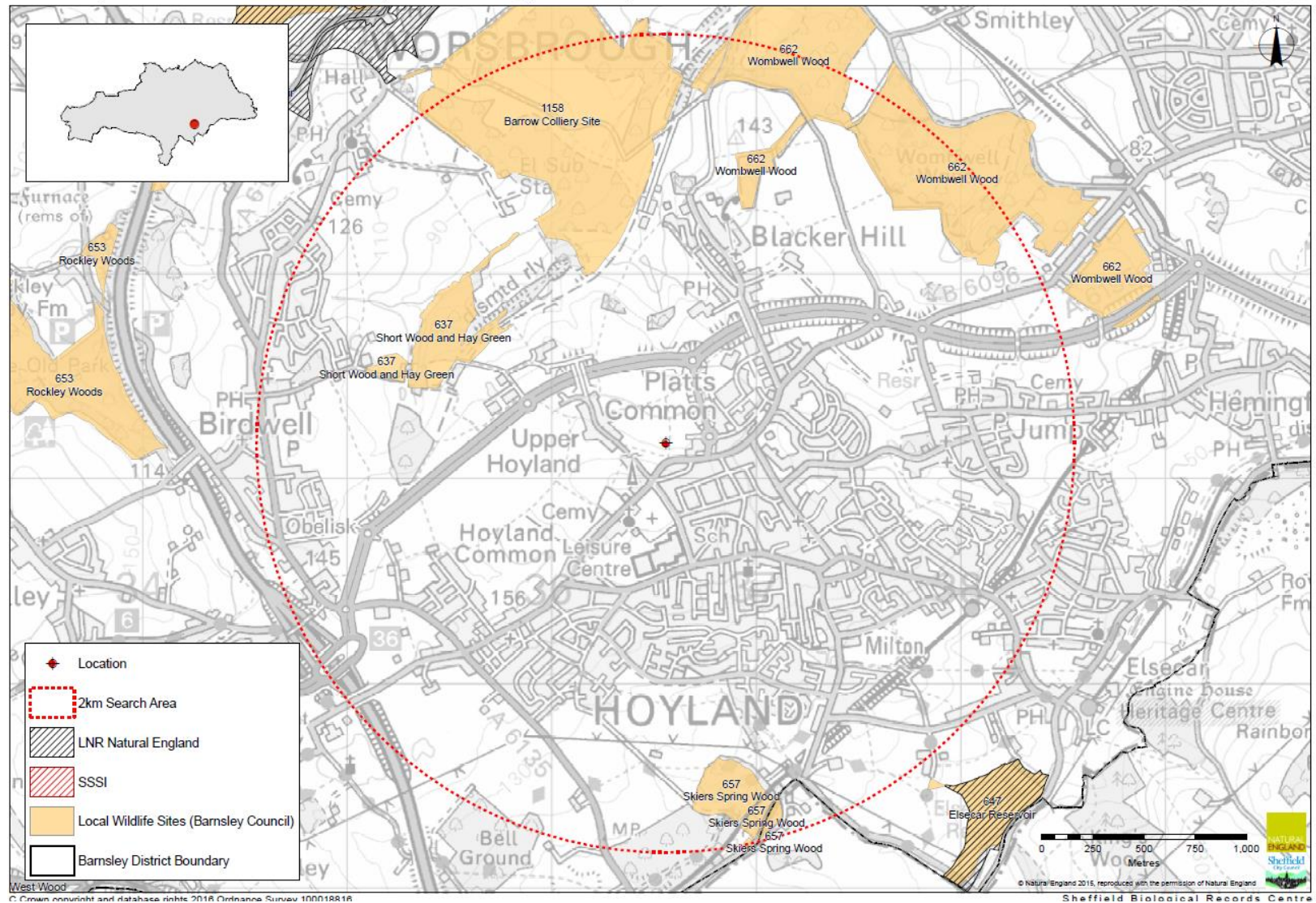
APPENDIX 05: eDNA Analysis Report

APPENDIX 06: Recommended Bird and Bat Boxes

APPENDIX 01: DESIGNATED SITES

Statutory and Local Wildlife Sites (non statutory) - Ashroyd Business Park

Date - 02 Jun 2017



APPENDIX 02: SPECIES RECORDS (SBRC)

Note: Filtered records only, the full records list is available on request

Grid Ref	Location	Location Name	Date	Group	Scientific Name	Common Name	Comments
SE358014	'BARNLEY MBC'	near Highroyd Farm Shortwood	21/07/2004	terrestrial mammal	Pipistrellus pipistrellus 45kHz	45 Khz Pipistrelle	1-2 feeding along lane
SE371024	'BARNLEY MBC'	Upper Wood Head Farm	29/05/2012	terrestrial mammal	Pipistrellus pipistrellus 55kHz	55 Khz Pipistrelle	
SE347016	'BARNLEY MBC'	Asprey Avenue Birdwell	22/08/2001	terrestrial mammal	Pipistrellus pipistrellus 55kHz	55 Khz Pipistrelle	1
SE364025	Barrow Colliery Barnsley	Barrow	01/05/2013	reptile	Vipera berus	Adder	Male seen on two occasions in grassland
SE363026	Barrow Colliery Barnsley	Barrow	01/01/2010	reptile	Vipera berus	Adder	Freshly cast skin in grassland
SE363028	Barrow Colliery Barnsley	Barrow	01/08/2012	reptile	Vipera berus	Adder	Immature
SE365029	Barrow Colliery Barnsley	Barrow	01/03/2011	reptile	Vipera berus	Adder	Crossing open area towards Dovecliffe Wood
			24/02/2016	terrestrial mammal	Meles meles	Badger	Fresh prints in soft clay near pond.
			14/10/2015	terrestrial mammal	Meles meles	Badger	Very clear tracks in soft mud.
			01/09/2010	terrestrial mammal	Meles meles	Badger	sett
SE3600	'BARNLEY MBC'	Barnsley	22/04/2011	bird	Tyto alba	Barn Owl	1 pair - probably breeding. Recorded for Barnsley Bird Atlas 2006-2011.
SE3502	Barrow Colliery Barnsley		24/10/2006	bird	Tyto alba	Barn Owl	On managed grassland.
SE365015	Platts Common		39028	bird	Tyto alba	Barn Owl	At 03.15 hrs. Occasional sightings.
SE3502	Barrow Colliery Barnsley	Bennett's Ridge	02/12/1998	bird	Tyto alba	Barn Owl	Hunting
SE3502	Barrow Colliery Barnsley	Bennett's Ridge	13/08/1999	bird	Tyto alba	Barn Owl	
SE367018	Platts Common	Blacker Grange Farm	08/03/2011	bird	Tyto alba	Barn Owl	No signs. Barn owl possible nest site.
SE371024	'BARNLEY MBC'	Upper Wood Head Farm	29/05/2012	bird	Tyto alba	Barn Owl	
SE371024	Upper Wood Head Farm		06/07/2012	bird	Tyto alba	Barn Owl	
SE364028	Barrow Colliery Barnsley	Eastern sector	03/03/2008	bird	Tyto alba	Barn Owl	1 hunting over young plantation in daylight at 15:50 pm
SE359028	Barrow Colliery Barnsley	upper grassland N of Blacker Lane	05/06/2010	bird	Tyto alba	Barn Owl	1 hunting over grassland at 21:00pm
SE3502	Birdwell	Shortwood	01/04/1979	bird	Tyto alba	Barn Owl	pellets
SE3502	Barrow Colliery Barnsley		10/05/2004	bird	Tyto alba	Barn Owl	
SE3502	Barrow Colliery Barnsley		09/08/2003	bird	Tyto alba	Barn Owl	
SE3502	Barrow Colliery Barnsley		01/07/1999	bird	Tyto alba	Barn Owl	on few dates
SE3502	Barrow Colliery Barnsley		13/08/1999	bird	Tyto alba	Barn Owl	
SE3502	Barrow Colliery Barnsley		02/12/1998	bird	Tyto alba	Barn Owl	hunting gorse bank in moonlight at dusk (17.00h) came within 5m of observer
SE3502	Barrow Colliery Barnsley		05/10/2007	bird	Tyto alba	Barn Owl	
SE3502	Barrow Colliery Barnsley		12/10/2007	bird	Tyto alba	Barn Owl	
SE3502	Worsbrough Hall		11/08/1981	terrestrial mammal	Chiroptera	Bats	several
SE3502	Worsbrough Hall		27/07/1981	terrestrial mammal	Chiroptera	Bats	several
SE3502	Wentworth Castle Stainborough		28/07/1981	terrestrial mammal	Chiroptera	Bats	2
SE3502	Worsbrough Hall		09/04/1981	terrestrial mammal	Chiroptera	Bats	1
SK3699	Elsecar		29/05/1981	terrestrial mammal	Chiroptera	Bats	3
SE3502	Worsbrough	Hall Close, 2	28/08/1982	terrestrial mammal	Chiroptera	Bats	
SE3502	Worsbrough	Hall Close, 2	21/04/1983	terrestrial mammal	Chiroptera	Bats	
SE3502	Worsbrough	Wellcroft	16/07/1983	terrestrial mammal	Chiroptera	Bats	
SE3502	Worsbrough	Wellcroft	28/07/1983	terrestrial mammal	Chiroptera	Bats	
SK369993	Elsecar	Skiers Spring Wood	29735	terrestrial mammal	Chiroptera	Bats	
SE3502	Barrow Colliery Barnsley		06/05/1989	bird	Phoenicurus ochruros	Black Redstart	
SE3501	Short Wood near Birdwell, Worsbrough		22/03/1997	bird	Fringilla montifringilla	Brambling	also on 29th
SE3501	Short Wood near Birdwell, Worsbrough		03/03/1997	bird	Fringilla montifringilla	Brambling	
SE3501	Short Wood near Birdwell, Worsbrough		20/03/1997	bird	Fringilla montifringilla	Brambling	
SE3502	Worsbrough Reservoir, Dove Valley		01/03/2005	bird	Cettia cetti	Cetti's Warbler	presumed female present all month to %0AApril 1st
SE3500	Hoyland Common		27/12/1996	bird	Turdus pilaris	Fieldfare	sev small feeding flocks in Tankersley/Hoyland

							Common area 15.15h
SE3502	Worsbrough Park (not Country Pk)	Dove Valley Worsbrough	27/12/2004	bird	Turdus pilaris	Fieldfare	
SE3502	Barrow Colliery Barnsley		08/04/1995	bird	Turdus pilaris	Fieldfare	
SE3502	Barrow Colliery Barnsley		17/09/1991	bird	Turdus pilaris	Fieldfare	
SE3502	Barrow Colliery Barnsley		20/09/1991	bird	Turdus pilaris	Fieldfare	
SE3502	Worsbrough Park (not Country Pk)	Dove Valley Worsbrough	24/04/2004	bird	Turdus pilaris	Fieldfare	
SE3502	Worsbrough Park (not Country Pk)	Dove Valley Worsbrough	05/03/2003	bird	Turdus pilaris	Fieldfare	
SE3700	Hoyland		10/02/1996	bird	Turdus pilaris	Fieldfare	
SE347007	'BARNSELEY MBC'	Barnsley	25/01/2009	bird	Turdus pilaris	Fieldfare	
SE347007	'BARNSELEY MBC'	Barnsley	25/01/2009	bird	Turdus pilaris	Fieldfare	
SE3502	Barrow Colliery Barnsley	Pit Road area	21/11/1999	bird	Turdus pilaris	Fieldfare	Min. 10 in to roost on Bennett's Ridge west (5) and LRP Platform (5)
SE3502	Barrow Colliery Barnsley		20/03/2005	bird	Turdus pilaris	Fieldfare	
SE363022	Birdwell	Short Wood Area	18/03/2015	bird	Accipiter gentilis	Goshawk	male moving around hunting
SE3502	Barrow Colliery Barnsley	Pit Road	31/07/2014	reptile	Natrix natrix	Grass Snake	Dead
SE358030	Barrow Colliery Barnsley	Barrow	01/01/2014	reptile	Natrix natrix	Grass Snake	Snake bit the observer's dog
SE360024	Barrow Colliery Barnsley	South Pond	01/01/2014	reptile	Natrix natrix	Grass Snake	A few singles including a large female
SE37030291	Wombwell Wood LWS	Wombwell Wood	31/07/2015	reptile	Natrix natrix	Grass Snake	Large dead specimen (approx 80 cm long) in edge of wood near Wombwell Lane - being fed on by buzzard.
SE36870294	Blacker Hill	Wombwell Lane	01/08/2015	reptile	Natrix natrix	Grass Snake	Juvenile dead on edge of Wombwell Lane.
SE3741802247	Wombwell Wood LWS	Wombwell Woods	42901	reptile	Natrix natrix	Grass Snake	1 x c.300mm long and 1 x c. 200mm long. Also a sloughed N. natrix skin. (See attached copyrighted images)
SE356015	'BARNSELEY MBC'	Shortwood waste ground	05/06/2016	reptile	Natrix natrix	Grass Snake	30 inches
SE364025	Barrow Colliery Barnsley	SE sector	12/05/2016	reptile	Natrix natrix	Grass Snake	1 snake disturbed in grassland
SE379021	Wombwell Wood LWS	pond	11/04/2011	reptile	Natrix natrix	Grass Snake	
SE360023	Barrow Colliery Barnsley	South Pond	25/07/2000	reptile	Natrix natrix	Grass Snake	
SE3502	Barrow Colliery Barnsley	Bennett's Ridge	01/01/2000	reptile	Natrix natrix	Grass Snake	sub-adult
SE3502	Barrow Colliery Barnsley	Pit Lane	07/05/2013	reptile	Natrix natrix	Grass Snake	1 snake
SE364025	Barrow Colliery Barnsley	SE sector	12/06/2014	reptile	Natrix natrix	Grass Snake	1 dark coloured snake in damp grassland
SE3502	Worsbrough	Barrow	26/05/2012	reptile	Natrix natrix	Grass Snake	one
SE365030	Barrow Colliery Barnsley	Eastern edge of LWS	04/08/2015	reptile	Natrix natrix	Grass Snake	Basking in edge of bramble thicket.
SE353000	Tankersley Common		05/07/2013	amphibian	Triturus cristatus	Great Crested Newt	Nymph
SE353000	Tankersley Common		12/07/2013	amphibian	Triturus cristatus	Great Crested Newt	Nymph
SE353000	Tankersley Common		18/07/2013	amphibian	Triturus cristatus	Great Crested Newt	Nymph
SE353010	Birdwell	Pond south of A6195	12/07/2013	amphibian	Triturus cristatus	Great Crested Newt	Nymphs
SE352010	Birdwell	Rockingham 1b site pond	01/05/2014	amphibian	Triturus cristatus	Great Crested Newt	
SE360023	Barrow Colliery Barnsley	Barrow Pond	14/04/2012	bird	Tringa ochropus	Green Sandpiper	1 passage bird on mud, edge of pond
SE3502	Barrow Colliery Barnsley		14/04/1992	bird	Tringa ochropus	Green Sandpiper	
SE3502	Barrow Colliery Barnsley		24/04/1990	bird	Tringa ochropus	Green Sandpiper	
SE3502	Barrow Colliery Barnsley		01/09/1997	bird	Tringa nebularia	Greenshank	
SE3502	Barrow Colliery Barnsley		04/08/1999	bird	Tringa nebularia	Greenshank	to SE
SE360023	Barrow Colliery Barnsley	South Pond	28/08/1997	bird	Tringa nebularia	Greenshank	
SE3502	Worsbrough Hall		01/10/1986	terrestrial mammal	Nyctalus leisleri	Leisler's Bat	roost
SE371024	'BARNSELEY MBC'	Upper Wood Head Farm	14/06/2012	terrestrial mammal	Nyctalus leisleri	Leisler's Bat	
SE3502	Barrow Colliery Barnsley		08/04/1995	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		01/06/1993	bird	Charadrius dubius	Little Ringed Plover	2 dates
SE3502	Barrow Colliery Barnsley		08/04/1993	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		07/07/1992	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		01/06/1991	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		01/07/1991	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		01/08/1991	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		12/05/1991	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		23/03/1991	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		30/03/1991	bird	Charadrius dubius	Little Ringed Plover	

SE3502	Barrow Colliery Barnsley		13/05/1990	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		01/04/1990	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley		01/05/1989	bird	Charadrius dubius	Little Ringed Plover	
SE360023	Barrow Colliery Barnsley	South Pond	06/04/1997	bird	Charadrius dubius	Little Ringed Plover	
SE3502	Barrow Colliery Barnsley	Bennett's Ridge	04/03/2001	bird	Falco columbarius	Merlin	In to roost
SE3502	Barrow Colliery Barnsley		29/08/1993	bird	Falco columbarius	Merlin	prob attracted by finch flocks
SE3502	Barrow Colliery Barnsley		16/03/1993	bird	Falco columbarius	Merlin	
SE3502	Barrow Colliery Barnsley		28/09/2001	bird	Falco columbarius	Merlin	
SE371024	Upper Wood Head Farm		06/07/2012	terrestrial mammal	Nyctalus noctula	Noctule	
SE371024	'BARNLEY MBC'	Upper Wood Head Farm	14/06/2012	terrestrial mammal	Nyctalus noctula	Noctule	
SE356014	Shortwood Business Park		21/07/2004	terrestrial mammal	Nyctalus noctula	Noctule	Briefly picked up by bat detectoe at 21.45
SE358014	Upper Hoyland	Shortwood	21/07/2004	terrestrial mammal	Nyctalus noctula	Noctule	heard
SE360023	Barrow Colliery Barnsley	South Pond	14/08/2001	terrestrial mammal	Nyctalus	Nyctalus Bat species	Feeding
SE360023	Barrow Colliery Barnsley	South Pond	11/07/1999	terrestrial mammal	Nyctalus	Nyctalus Bat species	Feeding
SE360023	Barrow Colliery Barnsley	South Pond	14/08/2001	terrestrial mammal	Nyctalus	Nyctalus Bat species	Feeding over pond
SE3602	Worsbrough	Worsbrough Village	18/07/1983	terrestrial mammal	Nyctalus	Nyctalus Bat species	
SE3502	Barrow Colliery Barnsley		14/05/1989	bird	Pandion haliaetus	Osprey	
SE3602	Barrow Colliery Barnsley	SE sector	27/02/2012	bird	Falco peregrinus	Peregrine	2 (m, f) flying over
SE3502	Barrow Colliery Barnsley	Pit Lane el. sub-station	41/134	bird	Falco peregrinus	Peregrine	1 over sub-station
SE371024	'BARNLEY MBC'	Upper Wood Head Farm	29/05/2012	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle	
SE371024	Upper Wood Head Farm		06/07/2012	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle	
SE371024	'BARNLEY MBC'	Upper Wood Head Farm	14/06/2012	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle	
SE3502	Worsbrough Hall		22/08/1981	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle	50 in roost
SE3502	Worsbrough Hall		10/08/1980	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle	1 juv dead
SE347016	Birdwell	32 Osprey Avenue, Birdwell, Barnsley, S70 5SH	30/05/2008	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle	Record emailed to WYE from John Gardner on 02/06/2008. Injured Common pip (male), collected from 32 %0D%0A Osprey Avenue.
SE346015	'BARNLEY MBC'	14 Kestrel Rise Birdwell	25/05/2000	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle	maternity roost 39 emerged
SE356014	Shortwood Business Park		21/07/2004	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle	Foraging amongst trees. Arrived from direction of High Royd Farm at 21.50. Had left the area by 22.00.
SE3602	Barrow Colliery Barnsley	Blacker Lane	20/10/2005	terrestrial mammal	Pipistrellus	Pipistrelle Bat species	
SE360023	Barrow Colliery Barnsley	South Pond	01/08/2001	terrestrial mammal	Pipistrellus	Pipistrelle Bat species	Feeding
SE3502	Barrow Colliery Barnsley	Blacker Lane old hedgerow	27/07/2001	terrestrial mammal	Pipistrellus	Pipistrelle Bat species	Feeding
SE353024	'BARNLEY MBC'	Back Lane, Worsbrough Village	12/07/2010	bird	Coturnix coturnix	Quail	a male heard calling in cereal field
SE353024	'BARNLEY MBC'	Back Lane, Worsbrough Village	16/07/2010	bird	Coturnix coturnix	Quail	last record of bird calling at this sight from 12th-16th July
SE3502	Barrow Colliery Barnsley	South West sector	22/04/2015	bird	Milvus milvus	Red Kite	1 bird flying NW over the LWS at 10:41 hrs
SK3599	Tankersley	Tankersley SK39P (SK39 P)	26/02/2007	bird	Turdus iliacus	Redwing	
SE347007	'BARNLEY MBC'	Barnsley	25/01/2009	bird	Turdus iliacus	Redwing	
SE362031	Barrow Colliery Barnsley	Northern edge of LWS	18/12/2015	bird	Turdus iliacus	Redwing	Calling in scrub near Powder Mill Lane.
SE347007	'BARNLEY MBC'	Barnsley	25/01/2009	bird	Turdus iliacus	Redwing	
SE3502	Barrow Colliery Barnsley		16/10/2006	bird	Turdus iliacus	Redwing	
SE3502	Barrow Colliery Barnsley		13/10/2006	bird	Turdus iliacus	Redwing	First 2 over.
SE3502	Barrow Colliery Barnsley		24/10/2006	bird	Turdus iliacus	Redwing	
SE351025	Worsbrough Village	Back Lane	26/11/2015	bird	Turdus iliacus	Redwing	11 birds
SE3502	Barrow Colliery Barnsley		29/12/2004	bird	Turdus iliacus	Redwing	
SE3502	Barrow Colliery Barnsley		20/10/1990	bird	Turdus iliacus	Redwing	to SW
SE3502	Barrow Colliery Barnsley		22/10/1990	bird	Turdus iliacus	Redwing	to S/SW
SE3502	Barrow Farm		07/01/2004	bird	Turdus iliacus	Redwing	
SE3502	Worsbrough Park (not Country Pk)	Dove Valley Worsbrough	11/11/2003	bird	Turdus iliacus	Redwing	
SE3502	Barrow Colliery Barnsley		26/10/1999	bird	Turdus iliacus	Redwing	
SE3502	Barrow Colliery Barnsley		07/10/1999	bird	Turdus iliacus	Redwing	
SE3502	River Dove Valley Worsbrough (Worsbrough CP)		23/03/2005	bird	Turdus iliacus	Redwing	widely distributed
SE3502	Barrow Colliery Barnsley		04/03/1994	bird	Lullula arborea	Woodlark	

APPENDIX 03: BAT RECORDS (SYBG)

Recorder	Date	GridRef 6Fig	Address line 1	Address line 2	Type	Notes	Species	No.	Evidence
Eric Bennett	05/09/2001	SE350028	Hall Close	Worsborough	Converted mansion		Brown long-eared bat	+Dr	
Eric Bennett	05/09/2001	SE350028	Hall Close	Worsborough			Brown long-eared bat	Unknown	
Nicky Rivers	2012	SE351034			Roost emergence count		Common pipistrelle	2	
Martin Derbyshire	01/06/2009	SE351032	The Pub		Known summer roost	Observed emerging	Common pipistrelle	44	
SYBG/NBM	01/06/2009		The Button Mill Inn	Dunninc Road		Observed emerging	Common pipistrelle	44	
Karen Larkin	12/07/2014	SE368021	Woodhead Drive	Barnsley	Bat Care	DOA	Common pipistrelle	1	
P Middleton	29/05/2012	SE371024	Upper Wood Head Farm			foraging	Common pipistrelle	3	foraging
P Middleton	14/06/2012	SE371024	Upper Wood Head Farm			foraging	Common pipistrelle	1	foraging
P Middleton	06/07/2012	SE371024	Upper Wood Head Farm			foraging	Common pipistrelle	1	foraging
Karen Larkin	27/08/2014	SE385021	Wood Walk		Bat Care		Common pipistrelle	1	
Householder Unknown	24/08/1990	SE343011		Birdwell		Large bats reported emerging from wall cavity. Chattering heard at 5am.	large Bat	4	
Householder Unknown	01/01/1990	SE350029	Hall Close	Worsborough		Large dead bat found in bedroom	large Bat	1	
Karen Larkin	07/07/2014	SE347016			Bat Care	R 11.9.14	Leisler's	1	
Jerry Brown	21/08/1986	SE350029	Hall Close	Worsborough			Leisler's bat	32	
Jerry Brown	27/08/1986	SE350029	Hall Close	Worsborough			Leisler's bat	17	
Jerry Brown	18/08/1989	SE350029	Hall Close	Worsborough			Leisler's bat	1	
P Middleton	14/06/2012	SE371024	Upper Wood Head Farm			commuting	Leisler's bat	1	commuting
Jerry Brown	21/08/1981	SE352032		Worsbrough			Myotis sp.	3	
Brooks Ecological	06/08/2014	SE358036	Broadway	Barnsley			No bats	Unknown	
Eric Bennett	22/05/1982	SE347028	Bell Bank Wood Tree 2	Worsborough	Tree Oak	Lost - snow	Noctule	10	
Eric Bennett	25/05/1982	SE347028	Bell Bank Wood Tree 1	Worsborough	Tree Oak	Felled by vandals	Noctule	14	
Jerry Brown	25/05/1982	SE347028	Bell Bank Wood -Tree 1.	Worsbrough			Noctule	14	
Jerry Brown	25/05/1982	SE347028	Bell Bank Wood Tree 2	Worsbrough			Noctule	10	
Eric Bennett	22/05/1988	SE347028	Bell Bank Wood Tree 2	Worsbrough			Noctule	6	
Jerry Brown	11/08/1981	SE350029	Hall Close	Worsborough			Noctule	1	
Eric Bennett	23/04/1990	SE351028		Worsbrough Village			Noctule	1	
Eric Bennett	01/08/1990	SE350029	Hall Close	Worsborough			Noctule	1	
Jerry Brown	01/08/1990	SE350029	Hall Close	Worsborough			Noctule	1	
Jerry Brown	21/08/1981	SE352032		Worsbrough			Noctule	4	
Eric Bennett	06/07/1991	SE352032		Worsbrough			Noctule	1	
Eric Bennett	17/07/1991	SE3503		Worsbrough			Noctule	1	
Eric Bennett	24/06/1999	SE352032		Worsbrough			Noctule	1	
P Middleton	14/06/2012	SE371024	Upper Wood Head Farm			foraging	Noctule	1	foraging
P Middleton	06/07/2012	SE371024	Upper Wood Head Farm			commuting to roost nearby (north)	Noctule	10+	commuting to roost nearby (north)
Nicky Rivers	2012	SE351034			Roost emergence count		Noctule / leisler's bat	1	
Jerry Brown	17/07/1986	SE3402	Worsbrough Country Park	Worsbrough			Noctule/Leislars	1	
Jerry Brown	07/07/1979	SE350029	Hall Close	Worsborough			Noctule/Leislars	1	
Jerry Brown	26/05/1981	SE350029	Hall Close	Worsborough			Noctule/Leislars	1	

Jerry Brown	15/10/1986	SE350029	Hall Close	Worsborough			Noctule/Leislars	4	
Eric Bennett	01/02/1993	SE350029	Hall Close	Worsborough			Noctule/Leislars	Unknown	
Jerry Brown	18/07/1983	SE3602		Worsborough Village			Noctule/Leislars	3	
Karen Larkin	24/09/2016	SE 355035				Bat Care/Callout - CAT VICTIM - PTS	PIP	1	Bat Care/Callout
Karen Larkin	15/07/2016	SE 361005				Bat Care/Callout - JUV -	PIP	1	Bat Care/Callout
Karen Larkin	15/07/2016	SE 361005				Bat Care/Callout - - REL	PIP	1	Bat Care/Callout
Karen Larkin	05/01/2016	SE 384002				Bat Care/Callout - - REL	PIP	1	Bat Care/Callout
Karen Larkin	04/02/2016	SE 384002				Bat Care/Callout - - REL	PIP	1	Bat Care/Callout
Natural England	26/07/2007	SE345001	Walker Road	Tankersley		Bat found in doorway yesterday. Failed to fly last night. Possible roost noises above bedroom. JG visit. No roost identified. Bat collected for care. Bat died	Pipistrelle sp.	Unknown	
Eric Bennett	25/05/2000	SE346015		Birdwell	House		Pipistrelle sp.	39	
Eric Bennett	25/05/2000	SE346015		Birdwell			Pipistrelle sp.	39	
English Nature	05/07/2006	SE345011	Sheffield Road	Birdwell	Roost	Baby bats found in house being repairedTook babies for temp care & returned to roost.	Pipistrelle sp.	Unknown	
Jerry Brown	25/05/1982	SE347028	Bell Bank Wood Tree 2	Worsbrough			Pipistrelle sp.	6	
Jerry Brown	10/08/1980	SE350029	Hall Close	Worsborough			Pipistrelle sp.	2	
Jerry Brown	16/08/1981	SE350029	Hall Close	Worsborough			Pipistrelle sp.	4	
Jerry Brown	19/08/1981	SE350029	Hall Close	Worsborough			Pipistrelle sp.	38	
Jerry Brown	20/08/1981	SE350029	Hall Close	Worsborough			Pipistrelle sp.	34	
Eric Bennett	22/08/1981	SE350029	Hall Close	Worsborough	Mansion		Pipistrelle sp.	50	
Jerry Brown	22/08/1981	SE350029	Hall Close	Worsborough			Pipistrelle sp.	50	
Jerry Brown	30/06/1982	SE350029	Hall Close	Worsborough			Pipistrelle sp.	2	
Jerry Brown	19/04/1987	SE350029	Hall Close	Worsborough			Pipistrelle sp.	2	
Eric Bennett	23/04/1990	SE350025		Worsbrough	Offices		Pipistrelle sp.	2	
Eric Bennett	23/04/1990	SE351028		Worsbrough Village		bat found under ridge tile during repair work	Pipistrelle sp.	2	
Eric Bennett	01/08/1990	SE350029	Hall Close	Worsborough			Pipistrelle sp.	Unknown	
Jerry Brown	01/08/1990	SE350029	Hall Close	Worsborough			Pipistrelle sp.	1	
Eric Bennett	01/06/1990	SE355037		Worsbrough Bridge		Cat damaged bat, died.	Pipistrelle sp.	1	
Eric Bennett	06/07/1991	SE352032		Worsbrough			Pipistrelle sp.	1	
Eric Bennett	06/07/1991	SE352032		Worsbrough			Pipistrelle sp.	238	
Eric Bennett	06/07/1991	SE352032		Worsborough	Public House		Pipistrelle sp.	467	
Eric Bennett	17/07/1991	SE352032		Worsbrough			Pipistrelle sp.	201	
Eric Bennett	02/08/1991	SE352032		Worsbrough			Pipistrelle sp.	311	
Eric Bennett	01/06/1992	SE352032		Worsbrough			Pipistrelle sp.	237	
Eric Bennett	15/06/1992	SE352032		Worsbrough			Pipistrelle sp.	310	
Eric Bennett	16/07/1992	SE352032		Worsbrough			Pipistrelle sp.	525	
Eric Bennett	21/08/1992	SE352032		Worsbrough			Pipistrelle sp.	160	
Eric Bennett	03/06/1993	SE352032		Worsbrough			Pipistrelle sp.	369	
Eric Bennett	10/06/1993	SE352032		Worsbrough			Pipistrelle sp.	283	
Eric Bennett	16/06/1993	SE352032		Worsbrough			Pipistrelle sp.	366	
Eric Bennett	02/06/1994	SE352032		Worsbrough			Pipistrelle sp.	444	
Eric Bennett	23/06/1994	SE352032		Worsbrough			Pipistrelle sp.	374	
Eric Bennett	03/06/1996	SE352032		Worsbrough			Pipistrelle sp.	412	
Eric Bennett	19/06/1996	SE352032		Worsbrough			Pipistrelle sp.	451	
Eric Bennett	03/06/1997	SE352032		Worsbrough			Pipistrelle sp.	467	
Eric Bennett	11/06/1997	SE352032		Worsbrough			Pipistrelle sp.	450	
Eric Bennett	24/06/1999	SE352032		Worsbrough			Pipistrelle sp.	112	
Eric Bennett	07/06/2000	SE352032		Worsbrough			Pipistrelle sp.	100	

Eric Bennett	19/06/2000	SE352032		Worsbrough			Pipistrelle sp.	122	
Eric Bennett	28/06/2000	SE352032		Worsbrough			Pipistrelle sp.	366	
Derek Drew	26/03/1982	SE3603		Worsbrough			Pipistrelle sp.	1	
Eric Bennett	13/07/1999	SE389012	New Street	Hemingfield	House		Pipistrelle sp.	+ (51-100)	
English Nature	28/06/2005	SE353001	Carr Lane	Tankersley	Roost	67 bats counted out of eaves Need loft checked. EB visit. Roost confirmed. Gen info letter to be passed to landlord. Id probable	Probably pipistrelle	67	
Eric Bennett	22/08/2001	SE347016		Birdwell		Grounded bat 112	Soprano pipistrelle	1	
Karen Larkin	02/03/2012	SE345013				adult male	Soprano pipistrelle	Unknown	
Eric Bennett	05/09/2001	SE350028	Hall Close	Worsborough	Converted Mansion		Soprano pipistrelle	61	
Eric Bennett	05/09/2001	SE350028	Hall Close	Worsborough			Soprano pipistrelle	28	
Eric Bennett	11/09/2001	SE350029	Hall Close	Worsborough			Soprano pipistrelle	61	
Mr Eric Bennett	1998	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle		No bats were present at all this year; Species ID method = UN: Unspecified ID method
Mr Eric Bennett	2001	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle		No bats were present at all this year; Species ID method = UN: Unspecified ID method
Mr Eric Bennett	2002	SE352032	Barnsley	South Yorkshire			Soprano pipistrelle		No bats were present during the survey dates but were present at other times; Species ID method = UN: Unspecified ID method
Mr Eric Bennett	2002	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle		No bats were present at all this year; Species ID method = UN: Unspecified ID method
Mr Eric Bennett	03/06/1997	SE352032	Barnsley	South Yorkshire			Soprano pipistrelle	467	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	11/06/1997	SE352032	Barnsley	South Yorkshire			Soprano pipistrelle	450	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	15/06/1997	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	467	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	08/06/1999	SE352032	Barnsley	South Yorkshire			Soprano pipistrelle	0	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	15/06/1999	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	112	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	24/06/1999	SE352032	Barnsley	South Yorkshire			Soprano pipistrelle	112	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	07/06/2000	SE352032	Barnsley	South Yorkshire			Soprano pipistrelle	100	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	15/06/2000	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	366	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	19/06/2000	SE352032	Barnsley	South Yorkshire			Soprano pipistrelle	122	Species ID method = UN: Unspecified ID method
Mr Eric Bennett	28/06/2000	SE352032	Barnsley	South Yorkshire			Soprano pipistrelle	366	Species ID method = UN: Unspecified ID method
Nicky Rivers	31/05/2009	SE3503					Soprano pipistrelle	73	
Nicky Rivers	31/05/2009	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	730	Species ID method = UN: Unspecified ID method
Nicky Rivers	13/06/2009	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	0	Species ID method = UN: Unspecified ID method
Nicky Rivers	21/06/2009	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	0	Species ID method = UN: Unspecified ID method
Nicky Rivers	06/06/2010	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	44	Species ID method = UN: Unspecified ID method
Nicky Rivers	20/06/2010	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	0	Species ID method = UN: Unspecified ID method

									Unspecified ID method
Martin Derbyshire	19/06/2011	SE351032	The Pub		Known summer roost	Observed emerging from roost	Soprano pipistrelle	38	
Nicky Rivers	19/06/2011	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	38	Species ID method = UN: Unspecified ID method
Martin Derbyshire	06/07/2011	SE351032	The Pub		Known summer roost	Observed emerging from roost	Soprano pipistrelle	58	
Nicky Rivers	06/07/2011	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	58	Species ID method = UN: Unspecified ID method
Nicky Rivers	17/06/2012	SE351034			Roost emergence count		Soprano pipistrelle	5	
Nicky Rivers	17/06/2012	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	5	Species ID method = UN: Unspecified ID method
Nicky Rivers	09/06/2013	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	0	Species ID method = UN: Unspecified ID method
Nicky Rivers	16/06/2013	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	52	Species ID method = UN: Unspecified ID method
Undisclosed	15/06/2014	SE351034	Barnsley	South Yorkshire			Soprano pipistrelle	0	Species ID method = UN: Unspecified ID method
P Middleton	29/05/2012	SE371024	Upper Wood Head Farm			commuting	Soprano pipistrelle	1	commuting
English Nature	22/07/2003	SE346002	Westwood New Road	Tankersley		Bat found in playground. Box & dusk release advised.	Vespertilionidae	Unknown	
Jerry Brown	08/04/1981	SE3401		Worsbrough Village			Vespertilionidae	1	
Jerry Brown	08/04/1981	SE3402		Worsbrough Village			Vespertilionidae	1	
Jerry Brown	26/05/1982	SE3402	Bell Bank Wood	Worsbrough			Vespertilionidae	1	
Eric Bennett	21/07/2004	SE358014	Stackwith Lane	Upper Hoyland		tree survey. P.pip arrived from dir of Highroyd farm. 1-2 P.pip feeding along lane. 1 N.noct	Vespertilionidae	Unknown	
BCT/NE	14/02/2012	SE346013	Sheffield Road				Vespertilionidae	4	
Jerry Brown	22/07/1977	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	08/08/1977	SE350029	Hall Close	Worsborough			Vespertilionidae	3	
Jerry Brown	06/05/1978	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	30/06/1978	SE345034	Hall Close	Worsborough			Vespertilionidae	30	
Jerry Brown	27/08/1978	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	22/07/1979	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	28/07/1979	SE350029	Hall Close	Worsborough			Vespertilionidae	2	
Jerry Brown	06/09/1979	SE350029	Hall Close	Worsborough			Vespertilionidae	2	
Jerry Brown	19/06/1980	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	30/07/1980	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	04/08/1980	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	05/08/1980	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	11/08/1980	SE350029	Hall Close	Worsborough			Vespertilionidae	3	
Jerry Brown	13/08/1980	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	20/08/1980	SE350029	Hall Close	Worsborough			Vespertilionidae	4	
Jerry Brown	01/09/1980	SE350029	Hall Close	Worsborough			Vespertilionidae	Unknown	
Jerry Brown	09/04/1981	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	27/07/1981	SE350029	Hall Close	Worsborough			Vespertilionidae	Unknown	
Jerry Brown	30/07/1981	SE350029	Hall Close	Worsborough			Vespertilionidae	6	
Jerry Brown	09/08/1981	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	11/08/1981	SE350029	Hall Close	Worsborough			Vespertilionidae	10	
Jerry Brown	13/08/1981	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	22/04/1982	SE350029	Hall Close	Worsborough			Vespertilionidae	2	
Jerry Brown	16/05/1982	SE350029	Hall Close	Worsborough			Vespertilionidae	2	
Jerry Brown	28/06/1982	SE350029	Hall Close	Worsborough			Vespertilionidae	2	

Jerry Brown	08/08/1982	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	28/08/1982	SE3502	Hall Close	Worsbrough Village			Vespertilionidae	1	
Jerry Brown	21/04/1983	SE3502	Hall Close	Worsbrough Village			Vespertilionidae	1	
Jerry Brown	07/06/1983	SE350029	Hall Close	Worsborough			Vespertilionidae	3	
Jerry Brown	16/07/1983	SE3502		Worsbrough Village			Vespertilionidae	1	
Jerry Brown	28/07/1983	SE3502		Worsbrough Village			Vespertilionidae	1	
Jerry Brown	15/08/1983	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	03/10/1983	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	11/08/1984	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	13/09/1984	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Jerry Brown	13/09/1986	SE350029	Hall Close	Worsborough			Vespertilionidae	1	
Eric Bennett	01/02/1993	SE350029	Hall Close	Worsborough	Tree		Vespertilionidae	6	
Eric Bennett	24/08/2001	SE350028	Hall Close	Worsborough			Vespertilionidae	Unknown	
Bob Boreham	16/05/1978	SE3503		Worsbrough			Vespertilionidae	1	
Eric Bennett	15/06/1997	SE0335					Vespertilionidae	Unknown	
Eric Bennett	15/06/1999	SE0335					Vespertilionidae	Unknown	
Jerry Brown	15/07/2001	SE353030		Worsbrough			Vespertilionidae	4	
Jerry Brown	29/05/1981	SK369993	Skiers Spring Wood	Elsecar			Vespertilionidae	3	
Eric Bennett	03/09/2000	SE361003	Springfield Road	Hoyland Common			Vespertilionidae	1	
English Nature	28/08/2004	SE369011	Market Street	Hoyland		Bat flying in sitting room last night - gone into gap in high beam. EB to contact. Bat gone.	Vespertilionidae	Unknown	
Eric Bennett	08/03/2011	SE367018	Grange View	Platts Common		No signs. Barn owl possible nest site.	Vespertilionidae	Unknown	
Jerry Brown	24/03/1982	SE3603		Worsbrough			Vespertilionidae	7	
English Nature	05/06/2003	SE377006	Barber Street	Hoyland		Concerned about work on soffits & guttering at 35/37? Eaden Crescent. Bats seen in garden. Advice given. FOB sent.	Vespertilionidae	Unknown	
English Nature	17/09/2003	SE376007	Green Street	Hoyland	Roost	Roof repairs imminent. Bats seen emerging from under eaves. EB considers work unlikely to affect bats as mainly at ridge of roof. Work to proceed with caution.	Vespertilionidae	Unknown	
Eric Bennett	17/09/2003	SE376007		Hoyland	House		Vespertilionidae	-	
English Nature	20/06/2005	SE379004	King Street	Hoyland		Concern over bats seen flying around old surgery due to be demolished	Vespertilionidae	Unknown	
English Nature	21/07/2006	SE375000	Weir Close	Hoyland	Roost	Concerns about bat droppings & noise above child's bedroom.	Vespertilionidae	Unknown	
Natural England	01/08/2007	SE375000	Weir Close	Hoyland	Roost	Roost access under fascias. Needing to renew fascias soon. DW visit.	Vespertilionidae	Unknown	
Karen Larkin	25/04/2016	SE 346001				Bat Care/Callout - - REL	WHISKERED	1	Bat Care/Callout
Eric Bennett	01/08/2000	SE350029		Pilley			Whiskered bat	4	
P Middleton	14/06/2012	SE371024	Upper Wood Head Farm			foraging	Wood mouse	1	foraging

APPENDIX 04: LEGAL STATUS OF PROTECTED SPECIES

Badger

Badgers and their setts are protected by the Protection of Badgers Act 1992. Under the Act it is illegal to:

- Wilfully kill, injure or take a badger or attempt to do so;
- Cruelly ill-treat a badger; and,
- Interfere with a sett by doing any of the following:
 - damaging a badger sett or any part of it;
 - destroying a badger sett;
 - obstructing access to a badger sett;
 - causing a dog to enter a sett; and,
 - disturbing a badger while it is occupying a sett.

Disturbance to a badger in a sett can be caused by working close to a sett. Before any work goes ahead which will cause damage to setts or disturbance to badgers, a licence will be needed from Natural England in accordance with their guidelines. Penalties for offences under the Act are up to six months in prison and a fine of £5,000 for each offence.

Bats

Bats and their roosts are afforded full legal protection under both UK and European legislation. The Conservation (Natural Habitats & c.) Regulations 1994 (as amended, 2007) transpose the Habitats Directive into UK law, making it an offence to-

- deliberately disturb a bat
- deliberately kill, injure or capture a bat
- damage, destroy or obstruct access to a breeding site or resting place (note this applies to both deliberate and reckless actions).
- The Wildlife and Countryside Act 1981 (as amended) (Schedule 5) made it an offence to
 - intentionally kill, injure or take a bat
 - damage, destroy or obstruct a bat roost *,
 - disturb a bat at a roost *
 - possess or control a bat or any part thereof
 - sell, offer for sale, possess or transport for sale any bat or part thereof
 - set traps for catching, killing or injuring bats
 - possess articles for the purposes of committing offences against bats

[*= intentional and reckless offences covered]

This protection applies whether bats are present within the roost at the time or not.

Breeding Birds

The Wildlife and Countryside Act 1981 (as amended) gives protection to all wild nesting birds, which makes it an offence to intentionally kill, injure, or take any wild bird or their eggs or nests. This protection applies from the moment the nest is being built. Additional protection against disturbance on the nest or of dependant young is provided for birds included on Schedule 1.

Great Crested Newt

The Wildlife and Countryside Act 1981 (as amended) transposes into UK law and the Convention on the Conservation of European and Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'). The 1981 Act was amended by the Countryside and Rights of Way ['CRoW'] Act 2000. The great crested newt is listed on Schedule 5 of the 1981 Act, and is therefore subject to the provisions of Section 9, which make it an offence to:

- Intentionally kill, injure or take a great crested newt [Section 9 (1)]
- Possess or control any live or dead specimen or anything derived from a great crested newt [Section 9 (2)]
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt [Section 9 (4)(a)]
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose [Section 9(4)(b)]

The Conservation (Natural Habitats &c.) Regulations 1994 (the Habitats Regulations) transpose into the UK law Council Directive 92/43/EEC of 21st May 1992 on the conservation of Natural Habitats and of Wild Fauna and Flora (often referred to as the 'Habitats [and Species] Directive'). The great crested newt is listed on Annex II and Annex IV of the Directive. The former Annex relates to the designation of Special Areas of Conservation (SACs) for this species; even where great crested newts occur outside SACs, the inclusion on Annex II serves to

underline their conservation significance. Inclusion of the Annex IV ('European Protected Species') means that member states are required to put in place a system of strict protection as outlined in Article 12, and this is done through inclusion on Schedule 2 of the Regulations. Regulation 39 makes it an offence to:

- Deliberately capture or kill a great crested newt [Regulation 39 (1)(a)]
- Deliberately disturb a great crested newt [Regulation 39(1)(b)]
- Deliberately take or destroy the eggs of a great crested newt [Regulation 39 (1)(c)]
- Damage or destroy a breeding site or resting place of a great crested newt [Regulation 39(1)(d)]

The legislation applies to all life stages of great crested newts.

Reptiles

The Wildlife and Countryside Act 1981 makes it an offence to intentionally kill any of our native snakes and lizards. The sand lizard and smooth snake receive additional protection; for these species, it is unlawful to capture or possess them, or to damage/obstruct access to places they use for shelter or protection, or to disturb them whilst in such a place.

APPENDIX 05: eDNA ANALYSIS REPORT

Folio No: E1448
Report No: 1
Order No: SF2679
Client: Smeeden Foreman
Contact: Jessica Mitchell
Contact Details: jessica@smeedenforeman.co.uk
Date: 17/07/2017

TECHNICAL REPORT**ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE
DETECTION OF GREAT CRESTED NEWTS**

Date sample received at Laboratory: 04/07/2017
Date Reported: 17/07/2017
Matters Affecting Results: None

RESULTS

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
33273	Ditch 1, Ashroyd Business Park, Ashroyd Way, Hoyland	SE 36668 01146	Pass	Pass	Pass	Negative	0

SUMMARY

When Great Crested Newts (GCN); *Triturus cristatus* inhabit a pond, they deposit traces of their DNA in the water as evidence of their presence. By sampling the water, we can analyse these small environmental DNA (eDNA) traces to confirm GCN habitation, or establish GCN absence.

The water samples detailed below were submitted for eDNA analysis to the protocol stated in DEFRA WC1067 (Latest Amendments). Details on the sample submission form were used as the unique sample identity.

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RESULTS INTERPRETATION

Lab Sample No.- When a kit is made it is given a unique sample number. When the pond samples have been taken and the kit has been received back in to the laboratory, this sample number is tracked throughout the laboratory.

Site Name- Information on the pond.

O/S Reference - Location/co-ordinates of pond.

SIC- Sample Integrity Check. Refers to quality of packaging, absence of tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to results errors. Inspection upon receipt of sample at the laboratory. To check if the Sample is of adequate integrity when received. Pass or Fail.

DC- Degradation Check. Analysis of the spiked DNA marker to see if there has been degradation of the kit since made in the laboratory to sampling to analysis. Pass or Fail.

IC- Inhibition Check- PCR inhibitors can cause false results. Inhibitors are analysed to check the quality of the result. Every effort is made to clean the sample pre-analysis however some inhibitors cannot be extracted. An unacceptable inhibition check will cause an indeterminate sample and must be sampled again.

Result- NEGATIVE means that GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as no evidence of GCN presence. POSITIVE means that GCN eDNA was found at or above the threshold level and the presence of GCN at this location at the time of sampling or in the recent past is confirmed. Positive or Negative.

Positive Replicates- To generate the results all of the tubes from each pond are combined to produce one eDNA extract. Then twelve separate analyses are undertaken. If one or more of these analyses are positive the pond is declared positive for the presence of GCN. It may be assumed that small fractions of positive analyses suggest low level presence but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive.

METHODOLOGY

The laboratory testing adheres to strict guidelines laid down in WC1067 Analytical and Methodological Development for Improved Surveillance of The Great Crested Newt, Version 1.1

The analysis is conducted in two phases. The sample first goes through an extraction process where all six tubes are pooled together to acquire as much eDNA as possible. The pooled sample is then tested via real time PCR (also called q-PCR). This process amplifies select part of DNA allowing it to be detected and measured in 'real time' as the analytical process develops. qPCR combines PCR amplification and detection into a single step. This eliminates the need to detect products using gel electrophoresis. With qPCR, fluorescent dyes specific to the target sequence are used to label PCR products during thermal cycling. The accumulation of fluorescent signals during the exponential phase of the reaction is measured for fast and objective data analysis. The point at which amplification begins (the Ct value) is an indicator of the quality of the sample. True positive controls, negatives and blanks as well as spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared so they act as additional quality control measures.

The primers used in this process are specific to a part of mitochondrial DNA only found in GCN ensuring no DNA from other species present in the water is amplified. The unique sequence appropriate for GCN analysis is quoted in DEFRA WC 1067 and means there should be no detection of closely related species. We have tested our system exhaustively to ensure this is the case in our laboratory. We can offer eDNA analysis for most other species including other newts.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. Kits are manufactured by SureScreen

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Scientifics to strict quality procedures in a separate building and with separate staff, adopting best practice from WC1067 and WC1067 Appendix 5. Kits contain a 'spiked' DNA marker used as a quality control tracer (SureScreen patent pending) to ensure any DNA contained in the sampled water has not deteriorated in transit. Stages of the DNA analysis are also conducted in different buildings at our premises for added

SureScreen Scientifics Ltd also participate in Natural England's proficiency testing scheme and we also carry out inter-laboratory checks on accuracy of results as part of our quality procedures.

Reported by: Harry Neal

Approved by: Josh Estella

End Of Report

Forensic Scientists and Consultant Engineers
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APPENDIX 06: RECOMMENDED BAT AND BIRD BOXES

Model	Installation	Dimensions	Cleaning	
Sparrow Terrace ISP Triple Nesting Aid	2 metres or more above ground level. Installed to face between north and east, unless shaded by buildings. Simple, surface installation using the plugs and screws supplied. or Complete installation as a nesting block within brick or concrete walls. To avoid conducting low temperatures please also use wall insulation, or install at a suitable depth in the wall	Brood chambers: height 16, width 10.5, depth approx. 15 cm External dimensions height 24.5, width 43, depth 20cm Weight 15kg	Cleaning is advised but is not essential. By turning the screw hook by 180° the front panel can be removed. Cleaning should take place outside the breeding season, (March – August, inclusive).	
Facade Nest for House Martins No. 11	On an unobstructed external facade without overhanging roof, or alternatively, directly under overhanging eaves. House Martins always nest on the outside and never on the inside of buildings. Height above ground: at least 2 m or above.	Height: 17.5 cm, width: 43.0 cm and depth 17.5 cm Colour: Corpus shaded white, grey nests Weight: 6.25 kg	Both of these nests can be removed from the base. Cleaning should take place outside the breeding season, (March – August, inclusive).	

Model	Installation	Dimensions	Cleaning	
Schwegler General Purpose Nest Box 1B (entrance hole 32mm)	Ideal for small hole nesting birds such as tit species, great tit, blue tit and coal tit and sparrows such as tree and house sparrow. Fixing height is between 1.5 and 5 metres above the ground. Installed to face between north and east, unless shaded. Supplied with aluminium nail.	260h x 170w x 180d	Cleaning is advised but is not essential. Cleaning should take place outside the breeding season, (March – August, inclusive).	
CedarPlus Triple Sparrow House	These boxes should be positioned out of direct sunlight, generally between north and east, thus avoiding strong sunlight and the wettest winds. The boxes should be erected as high as possible with house sparrows known to nest high up under the eaves of buildings (approx. 4-5.5m) In order to install the terrace box onto a pole, a sheet of plywood should be fixed onto the pole to allow for the box to be installed onto the plywood sheet.	310 x 370 x 185mm		
Schwegler Deep Nest Box 1N	This box is suitable for use by bird species such as flycatchers, house sparrows, tits, robins and wrens and offers excellent protection against predators such as magpies. These boxes should be positioned out of direct sunlight, generally between north and south-east, away from prevailing winds and angled slightly downwards so that rain is directed away from the entrance hole. The boxes should be erected at a height of between 1.5 to 5.5m. Robins are particularly attracted to this type of box, especially if it is placed approx. 1.0 to 1.5 m above the ground, preferably in a moist, shady area.	20h x 20w x 30d		

Model	Installation	Dimensions	Cleaning	
Schwegler General Purpose Bat Box 2F with double fronted panel	This general purpose model is suitable for many situations. The wooden panel on the inside of the box provides inner spaces of different temperatures. Bat boxes should ideally be sited in open sunny positions and in groups of 3 to 5 boxes facing different directions to provide a variety of micro-habitats. Boxes are best positioned at a minimum height of 4m up to 6 metres. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers. Boxes to be positioned facing south-west, south-east or north, at a minimum height of 4m and positioned to provide a clear flight path and out of strong winds. Can be hung from wall or tree and is supplied with aluminium nail.	Diameter: 16 cm Height: 33 cm Weight: 3.8 kg	The front panel can be removed. Cleaning should only be conducted by a licensed bat worker.	