

**PRELIMINARY ECOLOGICAL APPRAISAL
REPORT**

at

**The Land East of Penistone Road
Fenay Bridge
Huddersfield
West Yorkshire
HD8 0JS**

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Contents

1	Introduction and Terms of Reference	6
1.1	Purpose of the Report	6
1.2	Terms of Reference	6
1.3	Scope of the Report	6
1.4	Details of Proposed Development	6
1.5	Site Description	6
2	Methodology	7
2.1	Desktop Study Methodology	7
2.2	Site Assessment Methodology	7
3	Results	8
3.1	Desktop Study Results.....	8
3.2	Site Assessment Results	10
4	Evaluation	14
4.1	Nature Conservation Designations	14
4.2	On-site Habitat	14
4.3	Potential for Protected Species.....	15
5	Ecological Constraints and Recommendations	17
6	References	22
	Appendix 1: Phase 1 Habitat Map	25
	Appendix 2: Photographic Evidence	26
	Appendix 3: Data Search	35
	Appendix 4: Site Map	36
	Appendix 5: Floral Species List	37
	Appendix 6: Protected Species Information	39
	Appendix 7: Survey Calendar	40
	Appendix 8: Author Qualifications	41

Summary

A report is required for **The Land East of Penistone Road, Fenay Bridge** to assess the ecological value of the site by documenting the habitat types present and the site's potential for supporting rare and protected species. The development proposed on this site is the construction of 286 residential housing units.

A desktop study has been undertaken in order to obtain any relevant ecological records that may be present within a 2km radius of the site. This includes protected and notable species records, as well as nature conservation designations. A thorough site assessment was undertaken following the guidelines set out in the JNCC's *Handbook for Phase 1 habitat surveys*. The entire site was walked over by an experienced consultant who mapped and described each habitat type that was present. Whilst conducting the site walk-over, any features that may be of value to or have the potential to support protected species were noted and photographic evidence taken.

After conducting a thorough site investigation and a detailed Desktop Study, we consider **The Land East of Penistone Road, Fenay Bridge** to contain habitats of high ecological and low ecological value (please see **Section 3.2**).

The site is situated within influencing distance of **Designated Site**; Lepton Great Wood, Site of Special Importance, which is only 88m to the east of the proposed development site, connected by a thin strip of riparian habitat along Beldon Brook. Sections of the proposed development site, namely the woodland, pond and brook that run along the southern boundary of the eastern field, as well the disused railway line which separates the western and eastern fields, lie within the Kirklees Wildlife Habitat Network.

The western field is of low ecological value. However, a large tree and hedgerow need further ecological investigation with regard to a number of protected species.

The eastern field is much more ecologically diverse and valuable, offering habitat for a number of protected species. The pond and surrounding habitat could support great crested newts. The eastern field has potential for supporting foraging barn owls. The woodland, hedgerows and riparian habitat, as well as connectivity through the wildlife network, could likely be supporting roosting, foraging and commuting bats.

Under the proposed development plans, there are a number of opportunities to offset, enhance and gain habitat for the potential protected species and known protected species, as much of the surrounding land is owned by the landowners of this development. Connectivity is a key issue on site, and any development will have to put this as a high priority.

1 Introduction and Terms of Reference

1.1 Purpose of the Report

- 1.1.1 A report is required for **The Land East of Penistone Road, Fenay Bridge** to assess the ecological value of the site to inform the design process by documenting the habitat types present and the site's potential for supporting rare and protected species.

1.2 Terms of Reference

- 1.2.1 This report has been compiled/written by David Bodenham *BSc Ind (Hons), MSc.*
- 1.2.2 I am instructed by **Peacock and Smith** to visit the site and prepare my findings in a report.
- 1.2.3 For this purpose I have been supplied with a site map and brief details of the proposal.

1.3 Scope of the Report

- 1.3.1 This survey was carried out in accordance with the Joint Nature Conservation Committee's (JNCC's) *Handbook for Phase 1 habitat survey - A technique for environmental audit* (2010).

1.4 Details of Proposed Development

- 1.4.1 The development proposed on this site is the construction of 286 residential housing units.

1.5 Site Description

- 1.5.1 **The Land East of Penistone Road, Fenay Bridge** is situated in the town of Fenay Bridge, approximately 4km southeast of Huddersfield town centre, at grid reference: SE 18858 14397.
- 1.5.2 The site is separated into two distinct sections; an arable field to the west and a mixture of grassland and deciduous woodland to the east.
- 1.5.3 The site is surrounded by predominantly agricultural land to the south, east and west. To the north are residential properties found within the town of Fenay Bridge. A map of the site in relation to the surrounding habitats can be seen in **Appendix 4**.

2 Methodology

2.1 Desktop Study Methodology

- 2.1.1 A desktop study was undertaken on 08/02/2017 in order to obtain any relevant ecological records that may be present within a 2km radius of the site. This includes protected and notable species records, as well as nature conservation designations. For this information, West Yorkshire Ecology was contacted.
- 2.1.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website was used to locate any designated sites, both statutory and non-statutory, such as Local Nature Reserves (LNRs), Ramsar Sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Sites of Special Scientific Interest (SSSIs) that may be present within 2km of the survey site.

2.2 Site Assessment Methodology

- 2.2.1 A thorough site assessment was undertaken on 06/02/2017 by David Bodenham *BSc Ind (Hons), MSc*, following the guidelines set out in the JNCC's *Handbook for Phase 1 habitat surveys*.
- 2.2.2 The entire site was walked over by David Bodenham who mapped and described each habitat type that was present. The dominant floral species of each habitat were noted as well as any faunal species that were encountered.
- 2.2.3 Whilst conducting the site walk-over, any features that may be of value to or have the potential to support protected species were noted and photographic evidence taken (please refer to **Appendix 2**). Such protected species include, but are not limited to, Badgers, Bats, Dormice, Great Crested Newts, Nesting Birds, Otters, Reptiles, Water Voles, White-Clawed Crayfish (please see **Appendix 6**).
- 2.2.4 **Limitations:** The survey was conducted during the sub-optimal time for botanical surveys. Therefore, many of the plant species encountered were either not in flower/leaf or were dead. Plant species that may be present in the summer months are often not visible in the winter. If a more accurate and comprehensive floral record is required, the optimum time to conduct botanical surveys would be between the months of April and September. This limitation made floral identification difficult, meaning this report will not represent a comprehensive indication of the site's biodiversity. However, this constraint will not affect the overall conclusion of the report, as habitat types can still be classified and the potential for protected species can still be accurately assessed.

3 Results

3.1 Desktop Study Results

3.1.1 Local Data Centre Records: West Yorkshire Ecology has been commissioned to provide the records held for protected and notable species within a 2km radius of the survey site. The results have been summarised below. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area. Please see Appendix 3 for full desktop study results.

Legally Protected Species

3.1.2

3.1.3

3.1.4 Bats: Leisler's bat (*Nyctalus leisleri*), Noctule (*Nyctalus noctula*), Common pipistrelle (*Pipistrellus pipistrellus*) and brown long-eared bat (*Plecotus auritus*) have all been recorded within 2km of the proposed development site. Common pipistrelle have been recorded frequently in the village of Highburton to the south of the site. Leisler's bat have been recorded only 100m to the south of the proposed development site. Brown long-eared bats have been recorded 1070m southeast of the proposed development site at Manor Mill Cottage.

3.1.5 Nesting Birds: A number of protected bird species have been recorded near the proposed development site. This includes kingfisher (*Alcedo atthis*) which have been recorded within 100m of the proposed development site, along Woodsome Beck. Brambling (*Fringilla montifringilla*), Redwing (*Turdus iliacus*) and Fieldfare (*Turdus pilaris*), have also been recorded all within 2km of the proposed development site.

3.1.6 Otters: Otter (*Lutra lutra*), have been recorded within 600m of the proposed development site, along Woodsome Beck, as recently as 2015.

3.1.7 Water Voles: A water vole (*Arvicola amphibius*) nest/burrows have been recorded along both Beldon Brook at the south boundary of the proposed development site. A spraint has been recorded along Woodsome Beck, 795m southeast of the proposed development site.

3.1.8 White clawed crayfish: White-clawed crayfish have been recorded in Woodsome Beck, 50m W of the proposed development site. However, signal crayfish (*Pacifastacus leniusculus*), an invasive species, has also been recorded within Woodsome Beck.

Nature Conservation Sites

3.1.9 Nature designations are split into two types; those that confer some form of statutory protection, and other designations. These designated sites are summarised in the table below:

Table 1: Statutory and non-statutory designated sites within 2km of the site.

Site Name	Designation	Level	Proximity	Description
Statutory Designated Sites				
Lepton Great Wood	Site of Special Interest (SSI)	National	88m E	W8 mixed deciduous woodland. W10a mesotrophic Oak-Birch woodland, W10e mesotrophic Oak-Birch woodland <i>Acer pseudoplatanus-Oxalis acetosella</i> sub-community. W16a lowland woodland <i>Quercus robur</i> sub-community.
Non-statutory Designated Sites				
Almondbury Common	Local Wildlife Site (LWS)	Local	911m W	Wd1 ancient and semi-natural woodland.
Arkenley Lane	Local Wildlife Site (LWS)	Local	1519m E	Gr3 species rich acid and neutral grassland. Gr5 moderately species rich grassland.
Carr Wood	Local Wildlife Site (LWS)	Local	713m WSW	Wd3 species rich acid woodland. Wd5 native bluebell cover.
Dogley	Site of Wildlife Significance (SWS)	Local	457m SSW	No information available.
Gawthorpe Wood	Local Wildlife Site (LWS), Site of Wildlife Significance (SWS)	Local	1775m NNE	Wd5 native bluebell cover.
Lepon Great Wood	Local Wildlife Site (LWS)	Local	88m E	W8 mixed deciduous woodland. W10a mesotrophic Oak-Birch woodland, W10e mesotrophic Oak-Birch woodland <i>Acer pseudoplatanus-Oxalis acetosella</i> sub-community. W16a lowland woodland <i>Quercus robur</i> sub-community.
Thunderbridge	Local Wildlife Site (LWS)	Local	1524m S	Species rich grassland which is difficult to classify into any particular NVC code.
Woodsome Lees	Site of Wildlife Significance (SWS)	Local	1105m SW	No information available.
Woodview Meadows	Local Wildlife Site (LWS), Site of Wildlife Significance (SWS)	Local	1644m SW	Gr3 species rich acid and neutral grassland. Gr4 species rich acid grassland. Mh2 diverse range of habitats.

3.1.10 It must be noted that all of the above designated sites fall within the Kirklees Wildlife Habitat Network. The woodland which runs along the southern boundary of the

proposed development site and the disused railway which separates the western and eastern fields fall within this network.

3.2 Site Assessment Results

3.2.1 The site was surveyed on 06/02/2017 by David Bodenham *BSc Ind (Hons), MSc*. Survey conditions are summarised in **Table 2**.

Table 2: Survey times and weather conditions.

Survey date	Lead surveyor	Temp	Humidity	Wind speed/Direction		Cloud Cover	Precipitation
06/02/2017	David Bodenham	14.5°C	53%	BF0	N/A	20%	Fog at start of survey

3.2.2 The site comprises of two distinct sections separated by a disused railway line; an arable field to the west and a mixture of grassland and deciduous woodland to the east. The railway line itself is wooded.

Habitats Present

3.2.3 The following habitat types are present at **The Land East of Penistone, Road Fenay Bridge** (in alphabetical order):

- Arable
- Broadleaf plantation woodland
- Broadleaf semi-natural woodland
- Dense scrub
- Defunct species-rich hedgerow
- Improved neutral grassland
- Running water
- Semi-improved neutral grassland
- Scattered trees
- Standing water

Arable: The western field is an arable field with a gradual slope from railway line on the eastern boundary of the field, down to Penistone Road to the west.

Broadleaf plantation woodland: This is found along the northeastern perimeter of the eastern field. A mix of trees planted 5-20 years ago consist of Silver Birch (*Betula*

pendula), Sessile Oak (*Quercus petraea*) and Alder (*Alnus glutinosa*). Understory plants mimic those found in the semi-improved grassland to the south of this woodland, albeit less diverse because of more frequent shading.

Broadleaf semi-natural woodland: This is found along the eastern and southern perimeter of the eastern field. The woodland canopy is dominated by Alder (*Alnus glutinosa*) with the occasional Sessile Oak (*Quercus petraea*), and Silver Birch (*Betula pendula*), Sycamore (*Acer pseudoplatanus*), Ash (*Fraxinus excelsior*) and Grey Willow (*Salix cinerea* subsp. *oleifolia*). Understory vegetation includes Hawthorn (*Crataegus monogyna*), Blackthorn (*Sambucus nigra*), Dog Rose (*Rosa canina*) and the occasional Hazel (*Corylus avellana*). Ground flora is dominated by Bramble (*Rubus fruticosus* agg.), Ramsons (*Allium ursinum*), Dog's Mercury (*Mercurialis perennis*) Common Nettle (*Urtica dioica*) and Wood Avens (*Geum urbanum*) and also includes Creeping Buttercup (*Ranunculus repens*), Herb-Robert (*Geranium robertianum*), Garlic Mustard (*Alliaria petiolata*), Bracken (*Pteridium aquilinum*) and Hogweed (*Heracleum sphondylium*). Woodland grass and sedge species include False Oat-grass (*Arrhenatherum elatius*), Remote Sedge (*Carex remota*) and Rough Bluegrass (*Poa trivialis*). Some of this woodland may have formally been a hedgerow, which has subsequently grown out along the eastern perimeter of the eastern field. The woodland becomes wetter the further west along the boundary with the Brook, becoming dominated by Alder (*Alnus glutinosa*) and Goat Willow (*Salix caprea*). The woodland also contains a number of mature specimens, including a large oak 300+ years old (see Target Note 8).

Dense Scrub: A few patches are found along the transitional area between the main eastern field and the woodland. This is dominated by Bramble (*Rubus fruticosus* agg.). A number of patches of scrub are found throughout the eastern field. The most notable is an area of Willow (*Salix* sp.) at the centre and patches of Hawthorn (*Crataegus monogyna*) and Blackthorn (*Sambucus nigra*) throughout the southern part of the eastern field.

Defunct species-rich hedgerow: Along the northern boundary of the eastern field and the northern and eastern boundary of the west field are hedgerows. These are sometimes punctuated with trees. These hedgerows have been neglected to the point of almost forming woodland. They are dominated by Hawthorn (*Crataegus monogyna*) and Alder (*Alnus glutinosa*).

Improved neutral grassland: Found at the north of the site in a fenced off section. Similar to the semi-improved grassland below, but more intensively managed and less diverse. Yorkshire Fog (*Holcus lanatus*) dominated this area.

Running water: Along the southern boundary of the eastern field is Baldon Brook, a mesotrophic stream with a rocky substrate.

Semi-improved improved neutral grassland: The middle of the eastern field is covered

in grassland. The field is dominated by Yorkshire Fog (*Holcus lanatus*). Other grass species include Meadow Foxtail (*Alopecurus pratensis*), Cocksfoot (*Dactylis glomerata*), Rough Bluegrass (*Poa trivialis*), Sweet Vernal Grass (*Anthoxanthum odoratum*) and Perennial Ryegrass (*Lolium perenne*). Herbaceous plants include Creeping thistle (*Cirsium arvense*), Black Knapweed (*Centaurea nigra*) and Meadow Buttercup (*Ranunculus acris*), Creeping Buttercup (*Ranunculus repens*), Ribwort Plantain (*Plantago lanceolata*), Common Vetch (*Vicia sativa*), Red Clover (*Trifolium pretense*) and Compact Rush (*Juncus conglomeratus*).

Scattered trees: One mature Sessile Oak (*Quercus petraea*) is found in the western field. Found throughout the eastern field species include Silver Birch (*Betula pendula*) and Hawthorn (*Crataegus monogyna*).

Standing water: A pond is located at the southeast corner of the eastern field. This is mesotrophic and poorly vegetated for the most part, with muddy banks. The woodland that surrounds the pond shades the bank. Some floating vegetation could be observed in it's dead form including *Potamogeton natans*. Willow Carr consisting of Grey Willow (*Salix cinerea*) is found at the pond's eastern end. The pond flows into Baldon Brook at its western end.

Table 3: Habitat importance according to statutory lists, Biodiversity Action Plans and the 'Species and Habitats Review'.

Habitat Type	UK BAP Priority Habitat	Local BAP	NERC Act Section 41	Is Habitat a Notable Consideration
Broadleaf semi-natural woodland	Yes	Yes	Yes	Yes
Defunct species-poor hedgerow	Yes	Yes	Yes	Yes
Standing Water	Yes	Yes	Yes	Yes

Target Notes

3.2.4

3.2.5

3.2.6

3.2.7

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3.2.10 Target Note 7: Mesotrophic stream (Appendix 2, Photo 17).

3.2.11 Target Note 8: Large Oak tree with a number of visible cavities (Appendix 2, Photo 18).

Fauna Species Encountered

3.2.12

Invasive Plant Species

3.2.13 No invasive plant species were found at this site whilst conducting the site investigation.

4 Evaluation

4.1 Nature Conservation Designations

- 4.1.1 There is one statutorily designated conservation site, Lepton Great Wood Site of Special Importance (SSI), only 88m to the east of the proposed development site. This is connected to the site by a small riparian corridor that follows the path of Beldon Brook, which runs along the southern boundary of the eastern field. Lepton Great Wood is comprised of a number of woodland habitats, including ancient woodland, making it ecologically significant for a vast array of fauna and flora.
- 4.1.2 There are eight non-statutorily designated sites within 2km of the site. All of these sites are either Local Wildlife Sites (LWS) or Kirklees Council designated Sites of Wildlife Significance (SWS). All are connected to the site indirectly by the Kirklees Wildlife Habitat Network.
- 4.1.3 The Kirklees Wildlife Habitat Network runs directly through the southern portion of the eastern field, following the semi-natural broadleaf woodland, Beldon Brook and the pond. This woodland, the pond and the brook have recently been evaluated against Local Wildlife Site criteria by West Yorkshire Ecology. Although none of the National Vegetation Cover communities assessed met the criteria for a Local Wildlife Site, the woodland, pond and brook narrowly missed the criteria, demonstrating the high ecological value of this part of the site. The network also flows alongside the disused railway which connects the two fields on site.

4.2 On-site Habitat

- 4.2.1 As mentioned above, the site divides into two distinct areas; the western arable field and the eastern field, which is made up of a variety of habitats. These are connected by a strip of woodland that follows a disused railway line.
- 4.2.2 The eastern field is the most ecologically valuable. As demonstrated above by the assessment from West Yorkshire Ecology, the edge of this field is particularly important, containing a mixture of habitats that are significant on a local and national scale. This includes a reasonably diverse semi-natural mixed deciduous woodland with a number of over-mature trees, a mesotrophic pond and Beldon Brook at the south of the field. Along the eastern perimeter of the eastern field is a mature hedgerow, which has since grown out and integrated with the existing woodland. Along the north of the field is plantation woodland and the majority of the field is composed of semi-improved neutral grassland with a reasonable plant diversity, interspersed with a mosaic of dense and scattered scrub.
- 4.2.3 The western field offers little in the way of valuable habitat. The majority of the field is arable cropland bordered by a fence. There is a mature hedgerow along the northern boundary, as well as a mature oak tree at the southeast corner of the field that are of

some ecological value.

- 4.2.4 Connecting these two fields is a disused railway, which has since been colonized by semi-natural, broadleaf woodland. As mentioned above, this forms part of the Kirklees Wildlife Habitat Network, and is a vital wildlife corridor, aiding dispersal and providing habitat.

4.3 Potential for Protected Species

- 4.3.1 Amphibians: The site has a mosaic of habitat that offer a number of opportunities for amphibian species, including great crested newts (*Triturus cristatus*). At the southeast corner of the eastern field is a pond. This has a number of emergent plant species, as well as a patch of Willow Carr at the eastern end. This pond, potentially, offers suitable breeding and aquatic habitat for amphibians, including great crested newts. The immediate surrounding terrestrial habitat is of good quality, consisting of mixed deciduous woodland. There is a thick leaf fall and an abundance of logs and other material littering the woodland floor, which could act as refuge for species such as great crested newts during their terrestrial life stage. Within 500m north of the pond is a mix of scrub and rough grassland which also offer suitable terrestrial habitat for great crested newts. Approximately 230m to the west of the pond, just off-site next to the viaduct, is a second pool which is likely to dry in spring and is littered by fly-tipping. This is less suitable for great crested newts. However, it may have some potential. The potential of the western field is limited, as it is dominated by arable crops.

4.3.2

- 4.3.3 Barn Owls: The eastern field offers good foraging habitat for barn owls. There is a high rodent population as noted on the day of the survey (field vole observed). This was further confirmed by the presence of a kestrel (*Falco tinnunculus*) which was hunting over the eastern field. The field is lined by a watercourse, as well as woodland to the south. Grass strips are also found along the field edge. The western field offers no suitable habitat.

- 4.3.4 Bats: Overall the site offers a number of features which could be utilised by bats. The eastern field is lined with woodland and hedgerow, all of which could be utilised as linear features for commuting bats. This woodland and hedgerow are also potential foraging habitat for a number of bat species. Within the woodland, there is a strip of riparian habitat which follows Beldon Brook, as well as a pond, all of which could be valuable foraging habitat for bats. Several over-mature trees with visible cavities are found in the woodland at the south of the eastern field. The western field is lined with mature hedgerow to the north boundary. Many of these trees are covered in heavy ivy, making it difficult to observe any cavities if there are any. There is also a large oak tree in the southeast of the western field with potential for bat roosts. There are records of bats within 2km of the site, including a record of Leisler's bat (*Nyctalus leisleri*) which have been recorded only 100m to the south of the proposed development site. This is a species that commonly roosts in trees and is associated with woodland.
- 4.3.5 Nesting Birds: The woodland and hedgerow around the boundary of the eastern field has potential for nesting birds. A sparrowhawk (*Accipiter nisus*) was observed perching on a tree at the south of the eastern field and a kestrel (*Falco tinnunculus*) which was hunting over the eastern field. Several species of common woodland birds were also observed in the woodland and hedgerows.
- 4.3.6 Otters: Otters (*Lutra lutra*), have been recorded within 600m of the proposed development site, along Woodsome Beck, as recently as 2015. Beldon Brook flows into Woodsome Beck, and although the beck is small, it is likely that otter will use this habitat.
- 4.3.7 Water Voles: A water vole (*Arvicola amphibius*) nest/burrow has been recorded along Beldon Brook at the south boundary of the proposed development site. Although habitat is not optimal, it is possible water vole use the brook.
- 4.3.8 White Clawed Crayfish: Both Beldon Brook and the pond offer suitable habitat for white-clawed crayfish (*Austropotamobius pallipes*). Substrate is coarse, consisting of large stones which may offer refuge to this species. White clawed crayfish have been recorded in Woodsome Beck, into which Beldon Brook flows. It is therefore likely that white clawed crayfish are present in the brook. Signal crayfish (*Pacifastacus leniusculus*), an alien invasive species, is also present in this watercourse. This is a carrier of crayfish plague, an infectious disease which it is resistant to, but to which white-clawed crayfish are not. This reduces the chances of a healthy population of white clawed crayfish being present in Beldon Brook.

*The absence of any signs of or features considered valuable for supporting protected species, can **not** be considered evidence that these species are absent from a site, or that these species will not occupy the site in the future. It must therefore always be recommended that work be conducted with care and vigilance. Should any protected species be encountered during work (please see **Appendix 6**), work should stop immediately and JCA or Natural England contacted.*

5 Ecological Constraints and Recommendations

- 5.1 After conducting a thorough site investigation and a detailed Desktop Study, we consider **The Land East of Penistone Road, Fenay Bridge** to contain habitats of high ecological and low ecological value (please see **Section 3.2**).
- 5.2 The site is situated within influencing distance of **Designated Site**; Lepton Great Wood, Site of Special Importance, which is only 88m to the east of the proposed development site, connected by a thin strip of riparian habitat along Beldon Brook. Sections of the proposed development site, namely the woodland, pond and brook that run along the southern boundary of the eastern field, as well the disused railway line which separates the western and eastern fields, lie within the Kirklees Wildlife Habitat Network.
- 5.3 The western field is of low ecological value. However, a large tree and hedgerow need further ecological investigation with regard to a number of protected species.
- 5.4 The eastern field is much more ecologically diverse and valuable, offering habitat for a number of protected species. The pond and surrounding habitat could support great crested newts. The eastern field has potential for supporting foraging barn owls. The woodland, hedgerows and riparian habitat, as well as connectivity through the wildlife network, could likely be supporting roosting, foraging and commuting bats. The brook has a high potential to support otter, water vole and white-clawed crayfish.
- 5.5
- 5.6 Under the proposed development plans, there are a number of opportunities to offset, enhance and gain habitat for the potential protected species and known protected species as highlighted below, as much of the surrounding land is owned by the landowners of this development. Connectivity is a key issue on site, and any development will have to put this as a high priority.
- 5.7 Below is a table of mitigation measures and potential mitigation measures that will/may be required on site:

Table 4: Potential mitigation measures required on site.

Environmental impact	Mitigation measure
Disturbance to great crested newts	<p>If great crested newts are present within the pond, provisions will need to be put in place to reduce disturbance. Before construction works take place, temporary amphibian fencing will need to be erected around the entire site boundary, and drift fencing within the site.</p>
	<p>Bucket traps will be used to capture newts and other amphibians at a suitable density based on the great crested newt population density. Measures such as habitat enhancement, and compensation for terrestrial habitat lost because of the development will need to be made.</p>
	<p>Measures such as dropped kerbs and offset gullies will need to be introduced into the development to reduce newt mortality once the site is complete, and exclusion fencing has been removed. All these works will need to be approved and licenced by Natural England before they can commence.</p>
Disturbance to bats	<p>As a result of the current or reduced scale housing scheme, few trees will be removed. Any trees with roosting features and confirmed roosting bats will have to be replaced by equivalent artificial bat roosts. Works will need to be approved and licenced by Natural England before they can commence.</p>
	<p>Lighting will be designed to face away from the woodland edge and to minimise spill of light into the woodland. Low wattage, low UV component or lights which are timed to include periods of darkness will be selected to avoid disturbing foraging bats along the edge of the site, in particular the eastern field.</p>

<p>Disturbance to nesting birds</p>	<p>Any loss of trees suitable for nesting birds will be compensated with the erection of artificial bird boxes in suitable positions throughout the site.</p>
<p>Disturbance to Water Vole</p>	<p>Again, construction works will occur a considerable distance from the brook. As a precaution, and in conjunction with the badger mitigation, a buffer zone around the site will be created.</p> <p>Enhancement of habitat around the brook may be required to aid the local water vole population and ensure connectivity remains along the brook.</p>
<p>Disturbance to white-clawed crayfish</p>	<p>Measures should be put in place, such as protective fencing, to ensure no pollution from construction works enter the water course.</p> <p>Enhancement of the brook may be required to aid the local white clawed crayfish population.</p>
<p>General habitat considerations</p>	<p>The inclusion of a planting scheme and biodiversity enhancement, suitable for local wildlife and Biodiversity Action Plans, in and around the development site post-construction.</p> <p>The creation and application of a 5-year management plan of the site, its habitat and species.</p>

5.8 Based on the findings outlined in this report the following recommendations are made to collect relevant data require to inform the described mitigation plans:

- Great crested newts: The pond on site is the only pond which lies within 500m of the proposed development site. This pond is suitable for GCN and therefore **absence/presence surveys need to be carried out. This consists of four surveys between mid-March to mid-June, weather depending, using a variety of techniques including bottle traps, torch surveys, egg searches and hand netting. If newts are**

discovered, then two further surveys will be carried out to determine the population class size.

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- **Bats: A thorough assessment of trees and habitat on site will need to be carried out to assess the potential for roosting, foraging and commuting bats. This survey can be carried out throughout the year.** If it is discovered that trees on the proposed development site have scope for roosting bats, then emergence/re-entry surveys will need to be carried out on suspect trees, to prove the absence/presence of roosting bats. Emergence/re-entry surveys take place from May-September. If the proposed development will have an effect on any foraging or commuting habitat, then activity surveys will take place between April-October.
- **Nesting Birds:** Pending the results of the bat potential survey on trees, if trees are to be removed during the nesting bird season (March-September), then a **nesting bird survey will need to be carried out 24 hours prior to the tree's removal.** If birds are discovered nesting in the tree to be removed, then the tree can only be removed outside the nesting bird season (October – February).
- **Otters and water vole:** Because of records within the watershed and habitat suitability, **initial otter and water vole surveys** need to be carried out along Beldon Brook. Either side of Beldon Brook will be investigated, looking for any evidence of otter or water vole, including footprints, droppings, spraints, feeding remains, slides, lying-up areas, burrows and holts. Otter and water vole surveys are best carried out between April and May, when the riverbank is less vegetated.
- **White clawed crayfish:** Because of records within the watershed, and habitat suitability, **initial white clawed crayfish surveys need to be carried out along Beldon Brook.** These are carried out between mid-July to mid-September. As the water clarity is good, and flow in the brook isn't too fast, it is recommended torch-light surveys are used to locate crayfish and identify species.
- **Spring Flora Survey:** As the site was initially assessed in winter, not all plants present on site will have been recorded. **It is recommended an additional habitat survey, between May-July should be carried out to map all habitats and plant species accurately on site.**

- See **Appendix 7** for a calendar showing the survey season for these additional surveys.

JCA Ltd. can provide these and other ecological surveys if required, please do not hesitate to contact us for further information.

6 References

Guidelines for surveys and report writing:

British Standards Institute (BSI), (2013) *BS 42020:2013, Biodiversity - Code of practice for planning and development*. London.

Chartered Institute of Ecology and Environmental Management (CIEEM), (2015) *Guidelines for Ecological Report Writing*. Winchester.

Joint Nature Conservation Committee (JNCC), (2010) *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

Websites:

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Environmental management: Wildlife and habitat conservation - GOV.UK (2016) *Gov.uk*. Available at:

<https://www.gov.uk/topic/environmental-management/wildlife-habitat-conservation> (Accessed: 21 September 2016).

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Surveys and mitigation plans: protected species - Detailed guidance (2015) *Gov.uk*. Available at:

<https://www.gov.uk/guidance/surveys-and-mitigation-plans-protected-species> (Accessed: 21 September 2016).

Within this detailed guidance on surveys and mitigation information is available on the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

Wildlife licences: when you need to apply - Detailed guidance (2014) *Gov.uk*. Available at:

<https://www.gov.uk/guidance/wildlife-licences> (Accessed: 21 September 2016).

Within this detailed guidance on licensing information is available on licences for the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

As well as:

- Non-native Bumblebee species
- Deer
- Freshwater fish
- Invertebrates
- Mink, coypu, muskrat and grey squirrel
- Plants

Species specific information:

Badgers:

Natural England, (2007) *Badgers and Development: A Guide to Best Practice and Licensing*.

Bats:

Bat Conservation Trust, (2007) *Bats, Development & Planning in England*. London.

Mitchell-Jones, A. and McLeish, A. (ed.). (2004) *Bat Workers' Manual*. 3rd ed. JNCC.

Dormice:

Bright, P., Morris, P. and Mitchell-Jones, A. (1996) *The dormouse conservation handbook*. Peterborough: English Nature.

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Otters:

Natural England, (2007) *Species Information Note SIN006, Otter: European protected species*.

Reptiles and Amphibians:

Baker, J., Beebee, T., Buckley, J., Gent, T. and Orchard, D. (2011) *Amphibian Habitat Management Handbook*. 1st ed. Bournemouth: Amphibian and Reptile Conservation.

Edgar, P., Foster, J. and Baker, J. (2010) *Reptile Habitat Management Handbook*. 1st ed. Bournemouth: Amphibian and Reptile Conservation.

English Nature, (2004). *Reptiles: guidelines for developers*. Peterborough.

Gent, T. and Gibson, S. (ed.) (2003) *Herpetofauna Workers Manual*. Bournemouth: JNCC.

Water voles:

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White-clawed crayfish:

Peay, S. (2002) *Guidance on Habitat for White-clawed Crayfish and its Restoration*. Kendal: English Nature

Relevant Legislation:

Wildlife and Countryside Act 1981, (c. 69) (as amended). Available at: <http://www.legislation.gov.uk/ukpga/1981/69> (Accessed: 21 September 2016)

Countryside and Rights of Way Act 2000 (c.37). Available at: <http://www.legislation.gov.uk/ukpga/2000/37/contents> (Accessed: 21 September 2016)

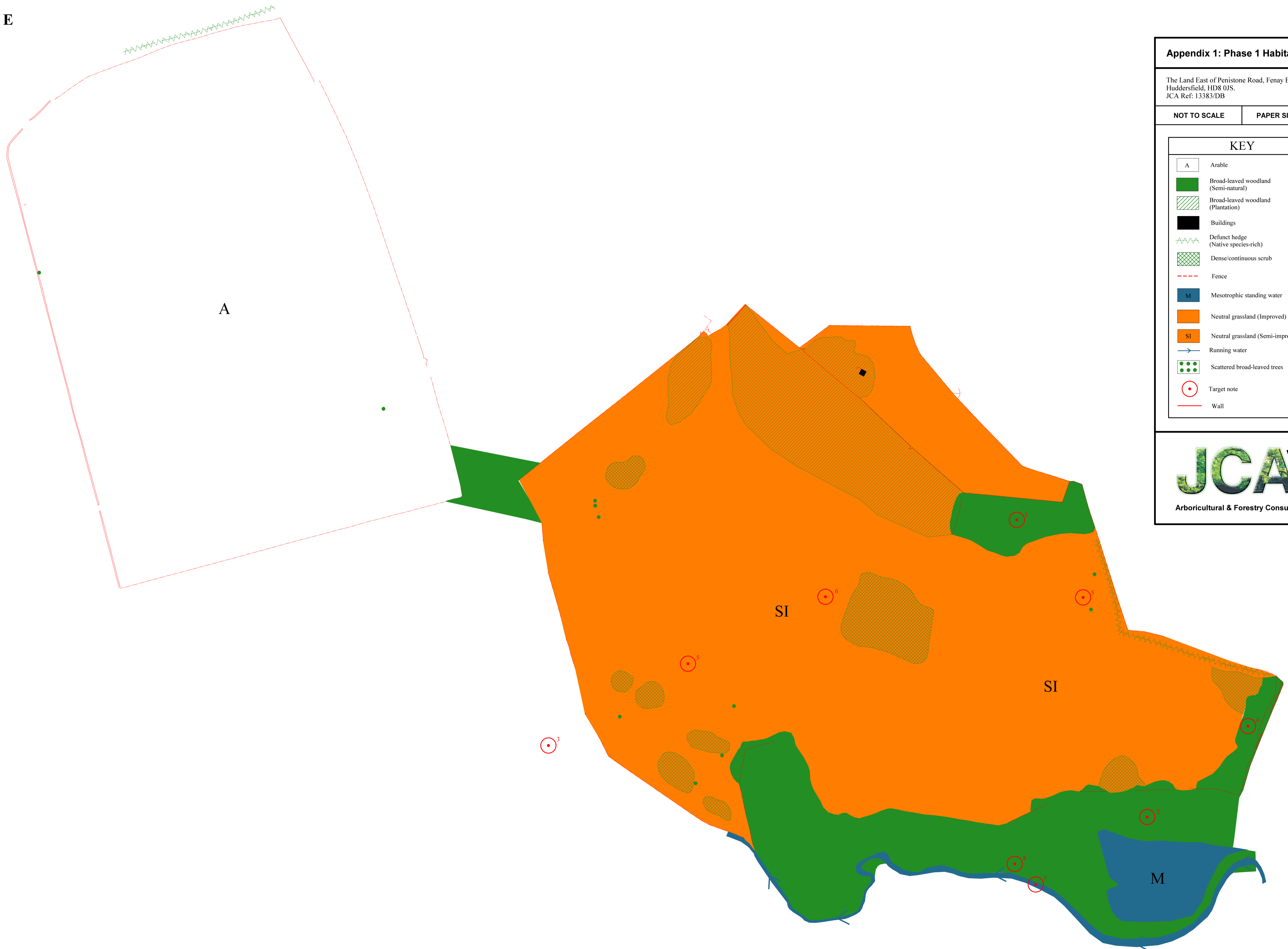
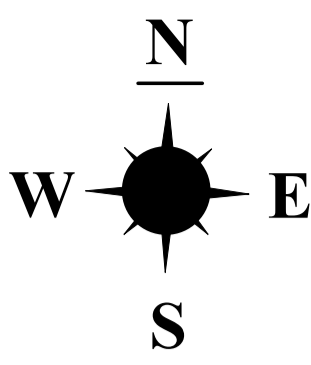
The Conservation of Habitats and Species Regulations 2010 (No. 490). Available at: <http://www.legislation.gov.uk/uksi/2010/490/contents/made> (Accessed: 21 September 2016)

Conservation of natural habitats and of wild fauna and flora Council Directive (92/43/EEC) (The Habitats Directive) (as amended) Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043> (Accessed: 21 September 2016)

Protection of Badgers Act 1992 (c. 51). Available at: <http://www.legislation.gov.uk/ukpga/1992/51/contents> (Accessed: 21 September 2016)

The Hedgerow Regulations 1997 (No. 1160). Available at: <http://www.legislation.gov.uk/uksi/1997/1160/contents/made> (Accessed: 21 September 2016)

Appendices



Appendix 1: Phase 1 Habitat Map

The Land East of Penistone Road, Fenay Bridge,
Huddersfield, HD8 0JS.
JCA Ref: 13383/DB

NOT TO SCALE PAPER SIZE : A1

KEY	
A	Arable
	Broad-leaved woodland (Semi-natural)
	Broad-leaved woodland (Plantation)
	Buildings
	Defunct hedge (Native species-rich)
	Dense/continuous scrub
	Fence
M	Mesotrophic standing water
	Neutral grassland (Improved)
SI	Neutral grassland (Semi-improved)
	Running water
	Scattered broad-leaved trees
	Target note
	Wall



Appendix 2: Photographic Evidence

Appendix 3: Data Search

Table 4: West Yorkshire Ecology's records of protected and notable species within a 2km radius of the site.

Taxon Group	Common Name	Scientific Name	Number of Records	Latest Record
Bird	Kingfisher	<i>Alcedo atthis</i>	5	2005
	Brambling	<i>Fringilla montifringilla</i>	2	1988
	Redwing	<i>Turdus iliacus</i>	2	1988
	Fieldfare	<i>Turdus pilaris</i>	2	1988
Crustacean	Freshwater Crayfish	<i>Austropotamobius pallipes</i>	1	1997
	Signal Crayfish	<i>Pacifastacus leniusculus</i>	16	2008
Flowering Plant	Canadian Waterweed	<i>Elodea canadensis</i>	1	2013
	Bluebell	<i>Hyacinthoides non-scripta</i>	15	2015
	Indian Balsam	<i>Impatiens glandulifera</i>	1	2015
	Yellow Archangel	<i>Lamiastrum galeobdolon subsp. argentatum</i>	1	2015
Terrestrial Mammal	Rhododendron	<i>Rhododendron ponticum</i>	1	2015
	Water Vole	<i>Arvicola terrestris</i>	2	2015
	Otter	<i>Lutra lutra</i>	2	2015
	American Mink	<i>Mustela vison</i>	6	2001
	Unidentified Bat	<i>Myotis</i>	1	2014
	Leisler's Bat	<i>Nyctalus leisleri</i>	2	2015
	Noctule	<i>Nyctalus noctula</i>	1	2013
	Pipistrelle	<i>Pipistrellus pipistrellus</i>	17	2015
	Pipistrelle Bat species	<i>Pipistrellus sp.</i>	1	2007
	Brown Long-Eared Bat	<i>Plecotus auritus</i>	4	2013
	Grey Squirrel	<i>Sciurus carolinensis</i>	3	2015
	Vesper Bat species	<i>Vespertilionidae</i>	11	2012

Appendix 4: Site Map

Figure 1: Google Maps image of **The Land East of Penistone Road, Fenay Bridge**, showing the survey site in relation to the surrounding landscape and habitats.



Appendix 5: Floral Species List

Table 5: Complete list of floral species encountered during survey.

Latin Name	Common Name
<i>Acer pseudoplatanus</i>	Sycamore
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Allium ursinum</i>	Ramsons
<i>Alnus glutinosa</i>	Alder
<i>Alopecurus pratensis</i>	Meadow Foxtail
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Arrhenatherum elatius</i>	False Oat-grass
<i>Betula pendula</i>	Silver Birch
<i>Carex remota</i>	Remote Sedge
<i>Centaurea nigra</i>	Common Knapweed
<i>Cerastium fontanum</i>	Common Mouse-ear
<i>Chamerion angustifolium</i>	Rosebay Willowherb
<i>Cirsium arvense</i>	Creeping Thistle
<i>Cirsium palustre</i>	Marsh Thistle
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn
<i>Dactylis glomerata</i>	Cock's-foot
<i>Dryopteris filix-mas</i>	Male-fern
<i>Epilobium montanum</i>	Broad-leaved Willowherb
<i>Fraxinus excelsior</i>	Ash
<i>Galium aparine</i>	Cleavers
<i>Geranium robertianum</i>	Herb-Robert
<i>Geum urbanum</i>	Wood Avens
<i>Hedera helix</i>	Ivy
<i>Heracleum sphondylium</i>	Hogweed
<i>Holcus lanatus</i>	Yorkshire Fog
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Juncus conglomeratus</i>	Compact Rush
<i>Lolium perenne</i>	Perennial Ryegrass
<i>Mercurialis perennis</i>	Dog's Mercury
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Poa trivialis</i>	Rough Bluegrass
<i>Potamogeton natans</i>	
<i>Prunus spinosa</i>	Blackthorn
<i>Pteridium aquilinum</i>	Bracken

<i>Quercus petraea</i>	Sessile Oak
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Ranunculus repens</i>	Creeping Buttercup
<i>Rosa canina</i>	Dog Rose
<i>Rubus fruticosus</i> agg.	Bramble
<i>Rumex acetosa</i>	Common Sorrel
<i>Salix caprea</i>	Goat Willow
<i>Salix cinerea</i> subsp. <i>oleifolia</i>	Grey Willow
<i>Sambucus nigra</i>	Blackthorn
<i>Taraxacum officinale</i> agg.	Dandelion
<i>Trifolium pretense</i>	Red Clover
<i>Urtica dioica</i>	Common Nettle
<i>Vicia sativa</i>	Common Vetch

Appendix 6: Protected Species Information

The following species are protected under EU law, such as the Conservation (Natural Habitats, &c.) Regulations (2010):

- All UK bat species
- Dormouse
- Great Crested Newt and Natterjack Toad
- Large Blue Butterfly
- Otter
- Pine Marten
- Polecat
- Scottish Wild Cat
- Smooth Snake and Sand Lizard
- Various aquatic and plant species

These species are afforded the highest protection in the UK. Under this protection it is an offence to; deliberately capture, injure or kill any wild animal of a European protected species; deliberately disturb wild animal of any such species; deliberately take or destroy the eggs of such an animal, or damage or destroy a breeding site or resting place of such an animal.

In addition to this it is an offence to be in possession of, or to control, transport, sell or exchange, or to offer for sale or exchange, a European Protected species.

The following species are protected under UK law, such as the Wildlife and Countryside Act 1981:

- Badger
- Nesting birds
- Red Squirrel
- Reptiles (Adder, Common lizard, Grass snake, Slow worm)
- Water Vole
- White Clawed Crayfish
- Various bird species i.e. Barn Owl
- Various plant species

Therefore under this protection it is an offence to; kill, injure or take any of the above species.

Nesting birds are only protected during the breeding season whilst on their nest. In addition to the adults being protected, the eggs, young and nest itself whilst in use are protected.

The Wildlife and Countryside Act 1981 also contains measures to prevent the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales (e.g. Japanese Knotweed and Himalayan Balsam).

Badgers are protected under The Protection of Badgers Act 1992. Under this legislation it is an offence to; take, injure, kill, or cruelly ill-treat a badger; interfere with a badger sett; sell or possess a live badger; or mark or ring a badger.

The following habitat types are protected under UK Law:

- Habitats that are used by protected species
- Habitats that fall within designated sites
- Hedgerows
- Individual trees/woods can be protected under Tree Preservation Orders

Appendix 7: Survey Calendar

Figure 2: Survey calendar for protected species and habitat surveys.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Extended Phase 1 Habitat	Sub-optimal	Sub-optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Sub-optimal	Sub-optimal	Sub-optimal
Botanical	Sub-optimal	Sub-optimal	Sub-optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Sub-optimal	Sub-optimal	Sub-optimal
Bat Scoping	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal
Bat Activity	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Bat Hibernation	Optimal	Optimal	Optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Great Crested Newt (Habitat Assessment)	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal
Great Crested Newt (Presence/Absence)	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Reptiles	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Badger	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Water Vole	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Otter	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Birds (winter)	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Birds (nesting)	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
White Clawed Crayfish	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal
Dormouse	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal	Sub-optimal

Optimal Survey Time
Sub-optimal Survey Time
Survey Not Possible

Appendix 8: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Coordinator

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Coordinator and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid *ND (Arboriculture and Forestry).* Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey. Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Phil Humeniuk *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Emily Wilde *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham *ND (Forestry).* Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Charles Cocking. Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. In between his roles at JCA, Charles will be studying at Askham Bryan College, York, undertaking a two year course in order to obtain a Foundation Degree in Arboriculture (FdSc Arboriculture).

Consulting Staff: Ecology

David Bodenham *BSc Ind (Hons) Zoology, MSc Biodiversity and Conservation.* An advocate of evidence based conservation, he studied Zoology (Ind) at University and moved onto an MSc in Biodiversity and Conservation where he gained the myriad of skills needed as an ecologist. With over 7 years of experience, David specialises in bat and amphibian ecology.

Josie Collier *BSc (Hons) Ecology, GradCIEEM.* Josie joined JCA's expanding ecology department and brings with her a degree in Ecology and Environmental Biology from the University of Leeds. Josie has gained experience from working with a local authority and is a Graduate member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

Administrative Staff

Sue Guest Administrative Team Leader.
Simeon Haigh *BSc (Hons).* IT Officer.
Lorraine Spink Administrative Assistant.

Yasmin Shahzad Administrative Assistant.
Catherine Cocking Accounts Manager.

We confirm that the opinions expressed are our true and bona fide opinions.

Signed

David Bodenham *BSc Ind (Hons), MSc*

20/03/2017

Proofread by

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.....
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- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

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