Land at Bondfield Crescent, Wombwell, Barnsley

Ecological Impact Assessment (EcIA) including Extended Phase 1 Habitat Survey

Gleeson Developments Limited

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1.0 INTRODUCTION

1.1 Terms of Reference

SLR Consulting Ltd was commissioned by Gleeson Developments Ltd., to undertake an Ecological Impact Assessment (EcIA) of land at Bondfield Crescent, Wombwell, Sheffield, South Yorkshire, S73 0EB (approximate OS grid reference SE 396 029), in order to inform a planning application for residential development.

1.2 Site Description

The site is located within central Wombwell, three kilometres to the south-east of Barnsley. It has an urban setting, being surrounded by residential properties and a school (King's Oak Primary Learning Centre).

The site itself is understood to have formerly contained a school building, which was demolished prior to 2008, the footprint of which is evident by areas of compacted ground. Small areas of hardstanding are located at the south-eastern and north-eastern corners of the site, and an access road to the school runs through it.

Elsewhere the site consists of a mixture of open grassland and extensive scrub, along with a small number of trees, most of which are small and semi-mature. The grassland areas vary from tall coarse to fine-leaved rank swards along with some sparsely vegetated areas (on the formerly developed/ disturbed land) supporting typical early successional plant communities.

The land is not managed but had undergone recent disturbance from tracked excavators, creating some bare patches of ground.

The site is divided unequally into two by an un-named access road that runs from Bondfield Close (which forms the north boundary of the site) to the gates of Kings Oak Primary Learning Centre, the boundary fence of this school forming the southern site boundary.

There are no buildings, structures, waterbodies or streams within the site.

2.0 METHODOLOGY

2.1 Desk study

The Sheffield Biological Records Centre was commissioned to undertake a search of statutory and non-statutory designated sites for nature conservation and protected/ notable species for the site, and land within a one kilometre radius of its centre.

2.2 Field Survey

2.2.1 Extended Phase 1 Habitat Survey

An Extended Phase 1 Habitat Survey and mapping exercise was carried out by a suitably qualified Ecologist with SLR Consulting on 16th November 2016, using standard Phase 1 Habitat survey methodology (JNCC, 2010). The survey aimed to identify any potential ecological constraints to the proposed development. Habitats and features with potential to support protected and/ or conservation priority fauna, together with any field signs of such species were searched for. This included the following:

- A search for badger (*Meles meles*) setts and field signs within the site and 30m radius (where accessible);
- An assessment of trees to ascertain their potential for roosting bats, based on criteria within the third edition of the Bat Conservation Trust's Good Practice Guidelines (Collins, 2016);
- An assessment of the site's potential to support breeding birds;
- An assessment of the site's potential to support great crested newt (*Triturus cristatus*); and
- An assessment of the potential of the site to support reptiles.

Searches were also made for invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act 1981, which includes Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and Himalayan balsam (*Impatiens glandulifera*).

Habitats were mapped and features of interest were recorded using Target Notes (see Drawing 1 and Appendix A).

2.2.2 Assessment of Trees for Potential Bat Roosting Features

In compliance with best practice guidelines (Collins, 2016), a preliminary roost assessment of the trees within the site was undertaken. The aim of the survey was to determine the potential presence of bats and the need, or otherwise, for further survey (for example dusk/ dawn bat detector surveys or climb-and-inspect surveys) and/ or mitigation.

This comprised a detailed inspection of the exterior of the trees from ground level, and in one instance (involving Tree T13) from low ladders, to search for potential bat access points and features that bats could use for roosting (Potential Roosting Features or PRFs), such as:

- Woodpecker holes;

- Rot holes;
- Hazard beams;
- Other vertical or horizontal cracks and splits in stems or branches;
- Partially detached platy bark;
- Knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- Man-made holes or cavities created by branches tearing out from parent stems;
- Cankers in which cavities have developed;
- Other hollows or cavities, including butt-rots;
- Double-leaders forming compression forks with included bark and potential cavities;
- Gaps between overlapping stems or branches;
- Partially detached ivy with stem diameters in excess of 50mm; and
- Bat, bird or dormouse boxes.

Trees were inspected systematically and consistently around all parts of the tree. Binoculars were used to scan for potential features from the ground. A flexi-torch was used to inspect a cavity found on Tree T13, using low ladders.

The following table, adapted from current best practice guidelines (Collins, 2016) was used as a guide to categorise the potential suitability of the trees for roosting bats:

Table 2-1:
Guidelines for Assessing the Potential Suitability of Trees for Bats

Suitability	Description Roosting habitats
Negligible	Negligible habitat features likely to be used by roosting bats.
Low	A tree of sufficient size and age to contain Potential Roost Features (PRFs) but with none seen from the ground or feature seen with only very limited roosting potential.
Moderate	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type).
High	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.3 Limitations

2.3.1 Desk Study

Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that protected and/ or notable species not identified during the data search do in fact occur within the vicinity of the site.

2.3.2 Field Survey

Although the site was fully accessible the field survey was undertaken at a sub-optimal time of year and it is likely that not all components of the vegetation communities present on the

site have been documented. However, given the character and location of the site it is considered that these seasonal absentees would involve widespread and fairly common species, so this is not considered to be a constraint to interpreting the overall value of the habitats present.

2.4 Quality Assurance and Environmental Management

The surveyor is an Associate Member of the Chartered Institute of Ecology and Environmental Management (CIEEM), and follows the code of professional conduct set out by CIEEM the when undertaking ecological work.

3.0 SURVEY RESULTS

3.1 Desk study

The desk study data provided by the Sheffield Biological Records Centre is summarised below.

3.1.1 Statutory Designated Sites

There were no statutory designated sites located within the 1km search area.

3.1.2 Non-Statutory Designated Sites

The site itself does not contain any non-statutory sites, however, parts of two Local Wildlife Sites (LWSs) occur within one kilometre of the site boundary, as summarised in the table below (citations are provided in Appendix B):

Table 3.1:
Non-Statutory Designated (LWS) Sites within 1 km of the Site

Name of site	Central OS Grid reference	Distance from the Site	Description
Park Hill Nature Reserve	SE 406 031	0.9km to the east	Former brickworks on eastern edge of Wombwell. Contains willow scrub woodland, scrub and plantation along with a pond, swamp/ reedbed, marsh, neutral and poor semi-improved grassland and tall ruderals
Wombwell Wood	SE 387 020	0.97km to the south-west	A large block of woodland around 100ha in size, mainly oak-birch wavy-hair grass acidic woodland but with replanting in some areas to form plantation, mainly of beech. Also contains a few fishing ponds

3.1.3 Species

A total of 184 species records were provided. This included 55 bird records for blackbird (*Turdus merula*) and goldfinch (*Carduelis carduelis*). This, therefore, leaves a total of 129 protected or notable species records, the most relevant of which are summarised below.

Birds

A total of 100 records for 18 species of Birds of Conservation Concern (BoCC)[1] were provided.

[1] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stround DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 108, pp 708 -746.

These comprised the following: house sparrow (*Passer domesticus*); linnet (*Carduelis cannabina*); starling (*Sturnuns vulgaris*); song thrush (*Turdus philomelos*); mistle thrush (*Turdus viscivorous*); bullfinch (*Pyrrhula pyrrhula*); dunnock (*Prunella modularis*); green woodpecker (*Picus viridis*); willow warbler (*Phylloscopus trochilus*); yellow wagtail (*Motacilla flava*); grey wagtail (*Motacilla cinerea*); willow tit (*Parus montanus*); shoveler (*Anas clypeata*) and mute swan (*Cygnus olor*). The records date from between 1989 and 2016 but the majority are recent records (2009 to 2016). The records are located across a wide area but many are for the former Wombwell Foundry Site (SE39190229), located on the south-west fringe of Wombwell, approximately 600 metres to the south-west of the site itself.

Amphibians

A total of two records of great crested newt (*Triturus cristatus*) were provided. These date from 1991 and both relate to a pond location near to Wombwell Golf Course, 0.8km south of the site.

Reptiles

One very recent record of grass snake (*Natrix natrix*), dating from 31st May 2016, was provided for the former Wombell Foundary Site, *circa* 600 metres to the south-west of the site.

Bats

A total of 22 records for at least four species of bat were returned, dating between 1988 and 2013. There were two records of noctule (*Nyctalus noctula*), two of common pipistrelle (*Pipistrellus pipistrellus*) and two records of soprano pipistrelle (*Pipistrellus pygmaeus*) from Park Hill Nature Reserve (referred to as Park Hill Brick Pits LWS) dating from 2013. Ten Daubenton's bat (*Myotis daubentonii*) records were also provided from Park Hill Nature Reserve ('Park Hill Brickworks') between the years 1992-2001. An additional four common pipistrelle records were provided for locations in residential areas of Wombwell.

None of the bat records relate to the site itself.

Water vole

Two records of water vole (*Arvicola amphibius*) were provided, both dating from 2007 and relating to Park Hill Nature Reserve.

Other taxa

Of the remaining taxa, one relates to cornflower (*Centaurea cyanus*) on land off Lundhill Lane, Wombwell, and the other for a cinnabar moth (*Tyria jacobaeae*) record from the former Wombwell Foundry Site.

3.2 Field Survey

3.2.1 Overview

The results of the Extended Phase 1 Habitat Survey are illustrated in Drawing 1, with Target Notes provided in Appendix A.

Grasslands

Poor semi-improved grassland occurs primarily in patches across the site, often intermixed with scattered scrub.

These comprise a variety of swards originating from previous landscaping and subsequent disturbance arising from building demolition.

Much of the central part of the site, where scrub has not yet encroached, contains rather sparsely vegetated ground with grassland being intermixed with small annuals and other pioneer species and locally frequent bryophyte cover in some areas. This comprises a mosaic of sparse grassland, bare ground, scattered scrub and ephemeral/ short perennial vegetation (Plate 1 and Target Note 1 in Drawing 1). Among the early successional stage plants present are common centaury (*Centaurea erythraea*), kidney vetch (*Anthyllis vulneraria*), yarrow (*Achillea millefolium*) and hare's-foot clover (*Trifolium arvense*).

More established areas of grassland (Plate 2) support red fescue (*Festuca rubra*), perennial rye-grass (*Lolium perenne*), cock's-foot (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*) and among the main herbs present are dandelion (*Taraxacum officinale* agg.), creeping buttercup (*Ranunculus repens*) and ribwort plantain (*Plantago lanceolata*). Occasionally there are small areas where the sward is more diverse, with germander speedwell (*Veronica chamaedrys*), red clover (*Trifolium pratense*) common cat's-ear (*Hypochaeris radicata*), common ragwort (*Senecio jacobaeae*), marjoram (*Origanum vulgare*) and selfheal (*Prunella vulgaris*) being locally frequent.

Some of these grassland areas have been subject to some recent disturbance from heavy tracked plant. One of the these grassland areas adjacent to the access road is also used as an informal turning point and parking facility during school run times (Target Note 5).

Trees and Scrub

Until relatively recently the site was open but scrub has colonised in the past decade or so, and is now dense in places.

A large part of the scrub community comprises sapling and young Italian alder (*Alnus cordata*) along with some locally frequent to abundant birch (*Betula* sp.). Other scrub species present include butterfly bush (*Buddleja davidii*), dog rose (*Rosa canina*), elder (*Sambucus nigra*), cherry (*Prunus* sp.), broom (*Cytisus scoparia*), gorse (*Ulex europaeus*), hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus* agg.) and willow (*Salix* sp.)

Cotoneaster (*Cotoneaster* sp.) was also present in a small number of locations but these are not thought to comprise any of the four invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

***Plate 1**: View (to north-west) of one of the areas of sparsely vegetated grassland supporting an early successional community of plants on partially compacted ground (Target Note 1).*

***Plate 2**: View (to north-east) of one of the main areas of poor semi-improved grassland*

Most trees present within the site are semi-mature or early mature specimens (mapped as T1-T15 on Drawing 1 with some shown in Plate 3) among which are sycamore (*Acer pseudoplatanus*), field maple (*Acer campestris*), Norway maple (*Acer platanoides*), beech (*Fagus sylvatica*) and a single young specimen of hornbeam (*Carpinus betulus*).

Plate 3*: This is a view (to north) of the main area of semi-mature/ mature trees located in the eastern part of the site, comprising of six Norway maples and a single beech tree.*

A dead mature specimen also occurs, which is possibly a Norway maple (T14 on Drawing 1). Most of these trees are located in the eastern part of the site and appear to relate to landscaping around the building that has been demolished in recent years.

A number of 'dens', made by children were found within the south-western part of the site (Target Note 4).

Tall Ruderal

Small patches of tall ruderal vegetation occur along the northern margins of the site. This tended to be dominated by common nettle (*Urtica dioica*) and creeping thistle (*Cirsium arvense*) along with some locally frequent great willowherb (*Epilobium hirsutum*) and rosebay willowherb (*Chamerion angustifolium*).

3.2.2 Protected Species

Bats

None of the trees within the site were assessed as having above negligible potential for roosting by bats; even the dead broad-leaved tree, considered most likely to be a Norway maple (T14) did not appear to support any PRFs.

A mature hawthorn in the south east of the site (T13 in Drawing 1) contained a cavity circa 2 metres up, on the western side, but upon close inspection with a flexi-torch, this cavity was found to be shallow, and of no obvious potential for roosting bats (Plate 4).

The site is likely to support modest levels of bat foraging activity, mostly involving common pipistrelle, particularly in the east, around the trees, and where areas of more mature scrub are present. However, given its urban setting, the site is unlikely to support significant numbers of bats, or species of high conservation value.

Plate 4*: Shallow cavity on west-facing side of mature hawthorn tree (T13) of no potential to roosting bats.*

Birds

The following birds were noted on the site during the survey, carried out in November 2016:

- Blackbird (*Turdus merula*);
- Blue tit (*Cyanistes caeruleus*);
- Carrion crow (*Corvus corone corone*);
- Chaffinch (*Fringilla coelebs*);
- House sparrow (*Passer domesticus*);
- Jackdaw (*Corvus monedula*);
- Long-tailed tit (*Aegithalos caudatus*);

- Magpie (*Pica pica*); and
- Robin (*Erithacus rubecula*).

Only one of these species, namely house sparrow, is a red list species of BoCC[2]. Several were noted within the fringes of the site and are likely to breed locally within residential buildings in the area.

The scrub and trees within the site provide suitable nesting habitat for a range of urban and urban-fringe passerines including some of those featuring in the above site list, but the site is not likely to support a breeding bird assemblage of ecological significance.

Reptiles

Whilst some areas of long grassland within the site superficially appear to provide suitable habitat for reptiles, the isolated nature of the site (surrounded by built development), fact that the site is likely to have been subject to historical disturbance, combined with the sparseness of reptile records in the desk study data, suggest that the site is unlikely to support reptiles.

Great Crested Newt

No water bodies occur within the site, and none were evident within a 500m radius of the site. There is a record of this species *circa* 800 metres from the site boundary, but given that great crested newts tend not to disperse further than 500m from breeding ponds to terrestrial habitat (Foster, 2001), and given that there are barriers to dispersal between this off-site pond and the site itself, it is considered highly unlikely that great crested newt would occur on site.

Badger

No evidence of badger was found within the site or the immediate vicinity, and the site has very little potential to support this species.

Invasive species

No evidence of invasive Schedule 9 Wildlife and Countryside Act plant species were recorded on, or immediately adjacent to, the site.

[2] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stround DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 108, pp 708 -746.

4.0 RELEVANT LEGISLATION & POLICY[3]

4.1 Legislation

4.1.1 Habitat Regulations

The Conservation of Habitats and Species Regulations 2010 transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb[4] wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

4.1.2 Wildlife & Countryside Act

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CroW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

4.1.3 National Parks & Access to the Countryside Act

National Nature Reserves (NNR's) and Local Nature Reserves (LNR's) are designated under the National Parks and Access to the Countryside Act 1949.

4.1.4 Natural Environment & Rural Communities Act

The NERC 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

[3] Please note that this legal information is a summary and intended for general guidance only. The original legal documents should be consulted for definitive information. Web addresses providing access to the full text of these documents are given in the References & Bibliography section.

[4] Disturbance, as defined by the Conservation of Habitats and Species Regulations 2010, includes in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

4.2 Policy

4.2.1 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) states that the planning system should contribute to and enhance the natural and local environment by:

- Recognising the wider benefits of ecosystem services; and
- Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Other key principles of the NPPF relating to biodiversity are:

- The conservation of International and National statutorily designated sites;
- Protection of ancient woodland and veteran trees;
- The creation, protection, enhancement and management of networks of biodiversity and green infrastructure;
- The preservation, restoration and recreation of priority habitats and ecological networks; and
- The recovery of priority species populations.

4.2.2 Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with all listed species/ habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels.

4.2.3 Local Plans

County, District and Local Councils have Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions.

5.0 DISCUSSION & RECOMMENDATIONS

5.1 Statutory and Non-statutory designated Sites

No statutory or non-statutory designated sites for nature conservation fall within the site. Only parts of two non-statutory Local Wildlife Sites (LWSs) lie within one kilometre of the site. The nearest of these is Park Hill Nature Reserve lying *circa* 0.9km to the east of the site. The LWSs will not be affected by the proposed residential development, and are not considered further.

5.2 Habitats

The site contains a mixture of open habitats (mostly grassland) and areas of dense to scattered scrub, along with some trees (in the east).

The grassland is mainly poor semi-improved in character, with low species diversity. There are several smaller areas where the sward includes species more characteristic of better quality semi-improved neutral grassland, but these are not extensive, and the grassland is not of high intrinsic nature conservation value, overall.

The plant communities which have established on the open previously disturbed ground comprise species of local interest but are essentially of low ecological value. Furthermore, the extent of this habitat (refer to Target Note 1 and the 'ephemeral/ short perennial habitat' mapped in Drawing 1) is *circa* 0.12 ha, below the threshold of 0.25 ha which is used to define Open Mosaic Habitat on Previously Developed Land as a 'priority habitat'[5]. It does, therefore, not constitute an area of priority habitat, and is not of high intrinsic ecological value.

The scrub and trees provide foraging opportunities for bats and nesting birds, but are of limited intrinsic ecological value.

The majority of these habitats are to be lost during site enabling works, and there is no obvious scope to incorporate them into the scheme, as no Public Open Space is proposed within the development.

It is possible that a small number of existing trees and some of the scrub might be retained around the site boundary, and if so trees and other vegetation to be retained should be protected using Heras fencing, or similar.

All grassland is due to be lost to accommodate proposed housing.

5.3 Bats

All of the trees within the site were assessed as having negligible potential to support roosting bats.

[5] JNCC (2010). UK Biodiversity Action Plan Priority Habitat Descriptions: Open Mosaic Habitats on Previously Developed Land (Updated July 2010) http://jncc.defra.gov.uk/page-5706 (refer to criterion 1 in the definition table).

There would most likely be a reduction in the number of bats foraging within the site post-development, as the majority, if not all, of the trees and scrub shall be lost. However, this is not likely to be significant in anything other than a Site context. In the longer-term, trees and shrubs are likely to be planted within the majority of the gardens, and once these gardens, and the planting within them, mature bats are considered likely to use them for foraging, to some extent.

5.4 Breeding Birds

Trees and scrub on site are likely to support a range of breeding birds. Any vegetation removal should ideally therefore take place outside of the main bird breeding season, which for most species extends between March and August inclusive. If this is unfeasible, then a check for nesting birds will be undertaken by a suitably qualified ecologist immediately prior to any vegetation removal. Should nesting birds be encountered, an exclusion zone around any active nests would be established, to prevent damage to the nests and/ or injury to the young birds until they have fledged.

There would be a reduction in the overall value of the site for breeding birds post-development. However, trees and shrubs are likely to be planted within a number of the gardens, and once these gardens, and the planting within them, mature a limited range of urban and sub-urban bird species are likely to return. Some of the new residents may also erect bird nest boxes on their properties, or in their gardens, and/ or put out bird feeders, and this may also benefit certain species, .albeit the majority of these are likely be common and widespread urban/ sub-urban species.

The overall reduction in the value of the site will not significant in anything other than a Site context.

5.5 Reptiles

It is considered unlikely that the site would support reptiles given its location within a largely urban setting, surrounded by development on all sides. Therefore, no specific sensitive working methods, or Reasonable Avoidance Measures (RAMs) are proposed for this group, and no impact is predicted.

5.6 Great Crested Newt

No potential breeding habitat occurs on site, or is evident within 500m of the site, and great crested newt are therefore very unlikely to occur. Great crested newt will therefore not be affected by the proposed development, and no specific recommendations have been made for this species.

5.7 Badger

No field evidence of badger was found within the site and the immediate surroundings (where accessible). No further survey or mitigation measures are, therefore, recommended for this species, and no impact is predicted.

6.0 CLOSURE

This report has been prepared by SLR Consulting Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of Gleeson Developments Ltd.; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

7.0 REFERENCES & BIBLIOGRAPHY

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Stace, C. (1997) *New Flora of the British Isles* (2nd edition). Cambridge University Press, Cambridge.

Web addresses for access to full UK legislation and policy text:

Conservation of Habitats and Species Regulations 2010:

http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

Birds Directive:

eur-lex.europa.eu/LexUriServ/site/en/consleg/1979/L/01979L0409-20070101-en

Wildlife and Countryside Act 1981:

www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

Countryside and Rights of Way Act 2000:

www.legislation.hmso.gov.uk/acts/acts2000/20000037

Natural Environment and Rural Communities Act 2006:

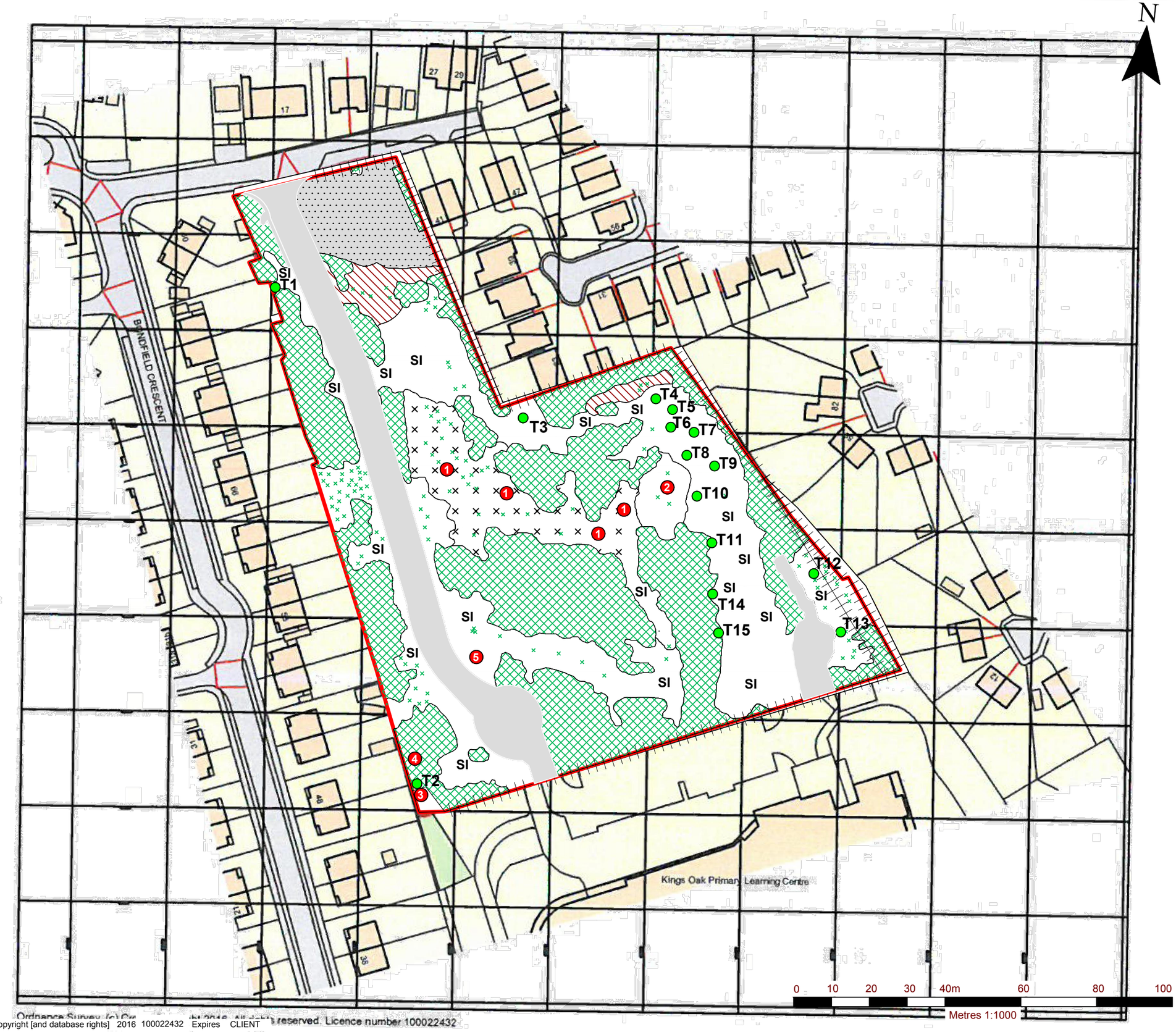
http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1

Protection of Badgers Act 1992:

http://www.opsi.gov.uk/ACTS/acts1992/ukpga_19920051_en_1

DRAWING 1

RESULTS OF EXTENDED PHASE 1 HABITAT SURVEY



LEGEND

- SITE BOUNDARY
- DENSE SCRUB
- SCATTERED SCRUB
- EPHEMERAL/ SHORT PERENNIAL
- TALL RUDERALS
- SI — POOR SEMI-IMPROVED GRASSLAND
- BARE GROUND
- HARDSTANDING
- T4 — TREES & TREE REF NO.
- 1 — TARGET NOTE LOCATION
- FENCE

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LAND AT BONDFIELD CRESCENT, WOMBWELL

EXTENDED PHASE 1

HABITAT SURVEY 16/11/16

424.03044.00057

Scale	Date
1:1000 @ A3	JANUARY 2017

BASEMAP-WOMBWELL.dwg

APPENDIX A

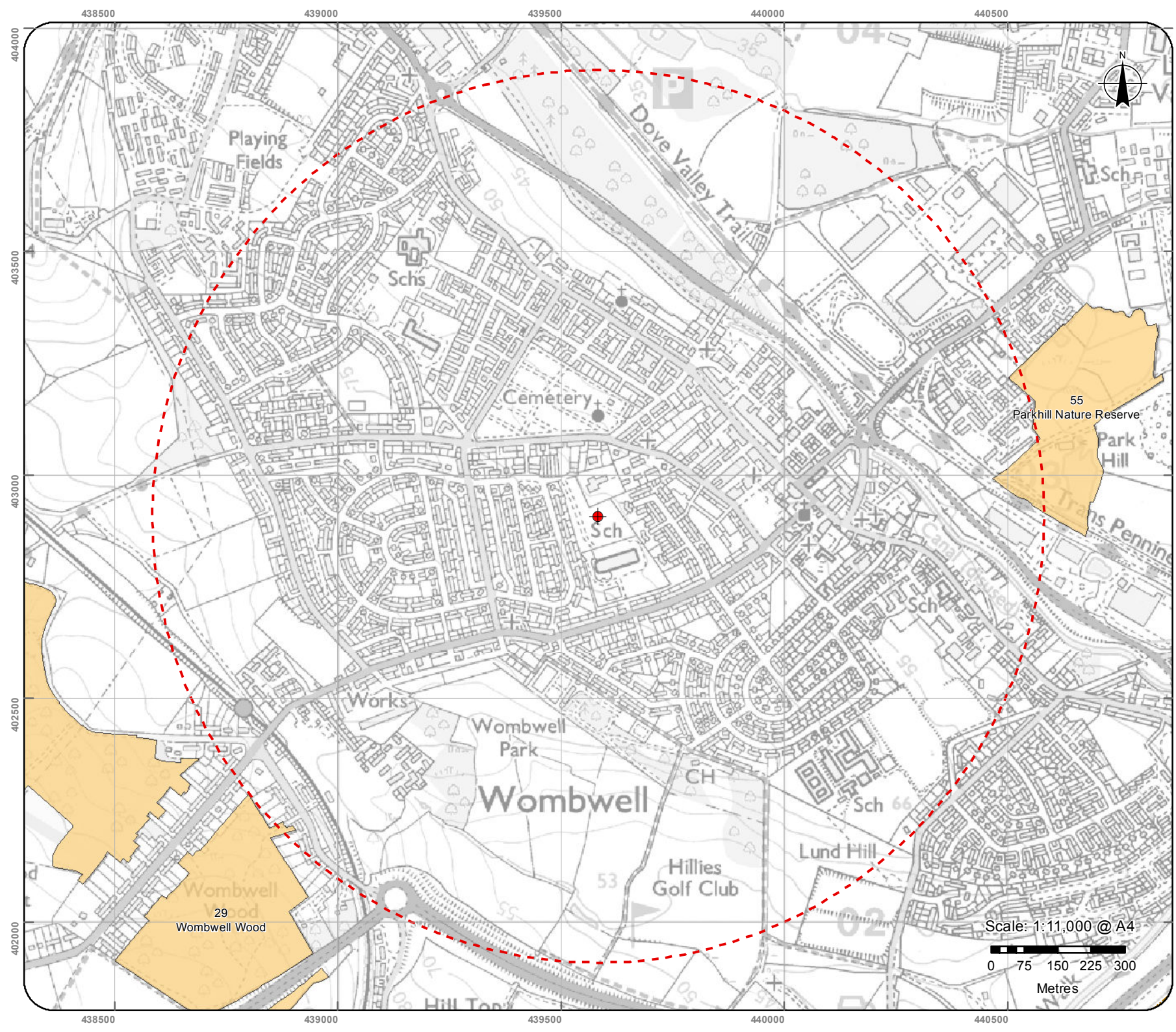
TARGET NOTES ASSOCIATED WITH DRAWING 1

Number	Plate	Description
1		Areas of sparsely vegetated ground supporting an early pioneer community of plants growing on disturbed/ compacted ground.
2		One of the most extensive of recent disturbance caused by tracked heavy plant.
3		A small heavily shaded area fenced off from the site which is used for informal play by children attending Kings Oak Primary Learning Centre.
4		Dens used by children/ youths.

Number	Plate	Description
5		This is a part of the site this is used as an informal turning point and for parking-up, usually at the time of the school run when parents come to drop off and collect children attending the Learning Centre.

APPENDIX B

DESK STUDY DATA OBTAINED FROM SHEFFIELD BIOLOGICAL RECORDS CENTRE (NON-STATUTORY PROTECTED AREAS)

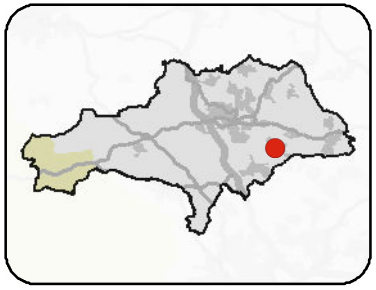


SHEFFIELD BIOLOGICAL RECORDS CENTRE

Statutory and Non Statutory Local Wildlife Sites Within the Search Area

Bondfield Crescent, Wombwell

- Location
- 1km Radius
- Local Wildlife Sites
- Barnsley District Boundary



Map Created - 10 Nov 2016

Sheffield City Council

NATURAL ENGLAND

BARNSLEY Metropolitan Borough Council

PLANNING DESIGN ENVIRONMENT

29. Wombwell Wood

LWS Assessment and Phase 1 Survey

Prepared by
TEP

for

Barnsley Metropolitan Borough Council

January 2011
(Edited December 2011)

Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

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Site Name:	Wombwell Wood
Site Area:	106.59
Survey Date:	August 2010
Nearest Settlement:	Wombwell, Hoyland, Worsbrough
Grid Reference at Centre:	SE37789, 02641
Surveyor(s)	PG, VG

Site Description:

This is a large block of woodland and plantation which extends along a north-west to southeast axis across a largely agricultural landscape. The wood and surrounding fields are almost entirely enclosed by the settlements of Worsbrough, Wombwell and Hoyland.

Comprising more than 100ha of woodland this is one of the largest woodland areas in the Barnsley area and is contiguous to other blocks and strips of woodland in the north. It is associated, along its north boundary, with a disused railway line and, to the north of this, the valley of the River Dove.

Considering the density of human settlement in this area, this is a well-wooded part of Barnsley. The majority of the woodland designated within the Local Wildlife Site is, or has been, woodland of long-standing. Around 20% of the area has been replanted, mainly with beech (*Fagus sylvatica*), but the great majority of the semi-natural woodland here is included on the national register of ancient and semi-natural woodland sites. Most of the woodland vegetation matches the national NVC type W16a - the oak sub-community of oak-birch- wavy hair-grass woodland, typical of acidic conditions in coal measures landscapes. Much of the woodland is typical of this type, with a canopy of oak (*Quercus robur*), silver birch (*Betula pendula*) and downy birch (*B. pubescens*) over a species-poor ground layer dominated by wavy hair-grass (*Deschampsia flexuosa*), Yorkshire fog (*Holcus lanatus*) and bracken (*Pteridium aquilinum*).

Some areas in the northern fringes of TN15 area retain tiny vestiges of former heather (*Calluna vulgaris*) heath, but these are now rare. Also in the northern area are various gaps in the canopy where neutral grassland and tall herb communities survive (TN17, TN18, TN19, T20). Due to lack of management intervention, however, these are rapidly closing over under natural succession of the vegetation to woodland. The central part of the semi-natural woodland area (TN5) has the added diversity of the fishing ponds with areas of open water and some swampy vegetation (TN7).

The second most extensive vegetation type on this site is well-established broadleaved plantation, generally dominated by tall and mature beech (*Fagus sylvatica*). This species forms a dense canopy casting very heavy shade, so that large areas have next to no ground vegetation but are dominated by beech leaf litter.

Important Species:

Bluebell (*Hyacinthoides non-scripta*), remote sedge (*Carex remota*), dog's mercury (*Mercurialis perennis*) and greater stitchwort (*Stellaria holostea*) are all present on the site and are ancient woodland indicator species for South Yorkshire.

UKBAP herptile species found on site are adder *(Vipera berus)* and common lizard *(Zootoca vivipara).*

UKBAP breeding bird species include song thrush *(Turdus philomelos),* dunnock *(Prunella modularis),* willow tit *(Poecile Montana)* and bullfinch *(Pyrhulla pyrhulla).*

Target Note:	TN1
Habitat:	Continuous bracken
Species List:	

A narrow strip dominated by dense continuous bracken which runs through broadleaved woodland beneath electricity lines. Parts of the bracken ride are being colonised by woody regeneration from adjoining woodlands (TN14, TN15 and TN16).

No species list recorded

Target Note:	TN2
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Betula pendula	Silver Birch	A
Quercus robur	English Oak	A
Crataegus monogyna	Hawthorn	F
Pteridium aquilinum	Bracken	F
Corylus avellana	Hazel	O
Prunus padus	Bird Cherry	O

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN3
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Quercus robur	English Oak	D
Betula pendula	Silver Birch	A
Holcus mollis	Creeping Soft-grass	F
Pteridium aquilinum	Bracken	F
Rubus fruticosus agg.	Bramble	F
Castanea sativa	Sweet Chestnut	O
Deschampsia flexuosa	Wavy Hair-grass	O
Fagus sylvatica	Beech	O
Agrostis capillaris	Common Bent	R
Dryopteris dilatata	Broad Buckler-fern	R
Hedera helix	Ivy	R
Hyacinthoides non-scripta	**Bluebell**	**R**
Ilex aquifolium	Holly	R
Juncus effusus	Soft Rush	R
Sorbus aucuparia	Rowan	R
Urtica dioica	Nettle	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN4
Habitat:	Semi-natural broadleaved woodland (understory and groundflora species)

Species List:

Scientific Name	Common Name	Frequency

Acer pseudoplatanus	Sycamore	R
Arctium minus	Lesser Burdock	R
Arrhenatherum elatius	False Oat-grass	R
Blechnum spicant	Hard Fern	R
Brachypodium sylvaticum	False Brome	R
Carex remota	**Remote Sedge**	**R**
Corylus avellana	Hazel	R
Digitalis purpurea	Foxglove	R
Glechoma hederacea	Ground-ivy	R
Mercurialis perennis	**Dog's Mercury**	**R**
Prunus avium	Wild Cherry	R
Rubus idaeus	Raspberry	R
Sambucus nigra	Elder	R
Stellaria holostea	**Greater Stitchwort**	**R**
Teucrium scorodonium	Woodsage	R
Vaccinium myrtillus	Bilberry	R
Viola riviniana	Wood-dog-violet	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN5
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Rubus fruticosus agg.	Bramble	D
Pteridium aquilinum	Bracken	A
Holcus mollis	Creeping Soft-grass	F
Alliaria petiolata	Garlic Mustard	O
Chamerion angustifolium	Rosebay Willowherb	O
Dactylis glomerata	Cock's-foot	O
Epilobium montanum	Broad-leaved Willowherb	O
Galium aparine	Cleavers	O
Geranium robertianum	Herb-Robert	O
Geum urbanum	Wood Avens	O
Juncus effusus	Soft Rush	O
Lolium perenne	Ryegrass	O
Ranunculus repens	Creeping Buttercup	O
Rumex obtusifolius	Broad-leaved Dock	O
Urtica dioica	Nettle	O
Arctium minus	Lesser Burdock	R
Blechnum spicant	Hard Fern	R
Deschampsia flexuosa	Wavy Hair-grass	R
Elytrigia repens	Common Couch	R
Festuca gigantea	Giant Fescue	R
Plantago major	Greater Plantain	R
Stachys sylvatica	Hedge Woundwort	R
Symphytum x uplandicum	Russian Comfrey	R
Taraxacum officinale agg.	Dandelion	R
Teucrium scorodonium	Woodsage	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN6
Habitat:	Tall ruderal herb

Species List:

Scientific Name	Common Name	Frequency
Reseda luteola	Weld	D
Fallopia japonica	**Japanese Knotweed**	**F**
Sisymbrium officinale	Hedge Mustard	F
Agrostis stolonifera	Creeping Bent	O
Alliaria petiolata	Garlic Mustard	O
Cirsium arvense	Creeping Thistle	O
Silene latifolia	White Campion	O
Symphytum x uplandicum	Russian Comfrey	O
Tripleurospermum inodorum	Scentless Mayweed	O
Artemisia vulgaris	Mugwort	R

Papaver rhoeas	Common Poppy	R
Rumex obtusifolius	Broad-leaved Dock	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN7
Habitat:	Swamp

Species List:

Scientific Name	Common Name	Frequency
Glyceria maxima	Reed Sweet-grass	D
Epilobium hirsutum	Great Willowherb	O
Rumex crispus	Curled Dock	O
Senecio aquaticus	Marsh Ragwort	O
Juncus effusus	Soft Rush	R
Salix cinerea	Grey Willow	R
Typha latifolia	Greater Reedmace	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN8
Habitat:	Broadleaved plantation

Species List:

Scientific Name	Common Name	Frequency
Fagus sylvatica	Beech	D
Agrostis capillaris	Common Bent	O
Holcus lanatus	Yorkshire-fog	O
Arrhenatherum elatius	False Oat-grass	R
Chamerion angustifolium	Rosebay Willowherb	R
Dactylis glomerata	Cock's-foot	R
Deschampsia flexuosa	Wavy Hair-grass	R
Epilobium hirsutum	Great Willowherb	R
Epilobium sp.	Willowherb species	R
Juncus effusus	Soft Rush	R
Rubus fruticosus agg.	Bramble	R
Rumex obtusifolius	Broad-leaved Dock	R
Taraxacum sp.	Dandelion species	R
Urtica dioica	Nettle	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN9
Habitat:	Tall ruderal herb

Species List:

Scientific Name	Common Name	Frequency
Urtica dioica	Nettle	D
Holcus lanatus	Yorkshire-fog	F
Agrostis capillaris	Common Bent	O
Agrostis stolonifera	Creeping Bent	O
Arrhenatherum elatius	False Oat-grass	O
Cirsium arvense	Creeping Thistle	O
Dactylis glomerata	Cock's-foot	O
Epilobium hirsutum	Great Willowherb	O

Poa trivialis	Rough Meadow-grass	O
Rumex obtusifolius	Broad-leaved Dock	O
Sambucus nigra	Elder	O
Anthriscus sylvestris	Cow Parsley	R
Juncus conglomeratus	Compact Rush	R
Juncus effusus	Soft Rush	R
Lolium perenne	Ryegrass	R
Plantago lanceolata	Ribwort Plantain	R
Plantago major	Greater Plantain	R
Poa annua	Annual Meadow-grass	R
Polygonum aviculare	Knotgrass	R
Ranunculus repens	Creeping Buttercup	R
Salix caprea	Goat Willow	R
Trifolium repens	White Clover	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN10
Habitat:	Broadleaved plantation

Species List:

Scientific Name	Common Name	Frequency
Fagus sylvatica	Beech	A
Holcus mollis	Creeping Soft-grass	F
Pinus sylvestris	Scots Pine	F
Quercus robur	English Oak	F
Rubus fruticosus agg.	Bramble	F
Acer pseudoplatanus	Sycamore	O
Agrostis capillaris	Common Bent	O
Crataegus monogyna	Hawthorn	O
Dryopteris dilatata	Broad Buckler-fern	O
Holcus lanatus	Yorkshire-fog	O
Hyacinthoides non-scripta	**Bluebell**	**O**
Pinus nigra	Black Pine	O
Pteridium aquilinum	Bracken	O
Sambucus nigra	Elder	O
Arrhenatherum elatius	False Oat-grass	R
Castanea sativa	Sweet Chestnut	R
Dactylis glomerata	Cock's-foot	R
Deschampsia flexuosa	Wavy Hair-grass	R
Galeopsis tetrahit	Common Hemp-nettle	R
Hedera helix	Ivy	R
Ligustrum ovalifolium	Garden Privet	R
Salix caprea	Goat Willow	R
Stellaria media	Chickweed	R
Urtica dioica	Nettle	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN11
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Acer pseudoplatanus	Sycamore	A
Holcus mollis	Creeping Soft-grass	A
Quercus robur	English Oak	A
Betula pendula	Silver Birch	F
Holcus lanatus	Yorkshire-fog	F
Agrostis capillaris	Common Bent	O
Chamerion angustifolium	Rosebay Willowherb	O
Crataegus monogyna	Hawthorn	O
Pteridium aquilinum	Bracken	O
Rubus fruticosus agg.	Bramble	O
Castanea sativa	Sweet Chestnut	R
Crocosmia x crocosmiiflora	Montbretia	R

Dactylis glomerata	Cock's-foot		R
Dryopteris dilatata	Broad Buckler-fern		R
Festuca rubra	Red Fescue		R
Fraxinus excelsior	Ash		R
Hedera helix	Ivy		R
Hieracium sp.	Hawkweed species		R
Hyacinthoides x massartiana	Hybrid Bluebell		R
Ilex aquifolium	Holly		R
Lamiastrum galeobdolon argentatum		**Variegated Archangel**	**R**
Mercurialis perennis	**Dog's Mercury**		**R**
Rhododendron ponticum	**Rhododendron**		**R**
Rubus idaeus	Raspberry		R
Rumex obtusifolius	Broad-leaved Dock		R
Senecio jacobaea	Ragwort		R
Ulmus glabra	Wych Elm		R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN12
Habitat:	Broadleaved plantation

Species List:

Scientific Name	Common Name	Frequency
Fagus sylvatica	Beech	D
Castanea sativa	Sweet Chestnut	O
Deschampsia flexuosa	Wavy Hair-grass	O
Rhododendron ponticum	**Rhododendron**	**O**
Sambucus nigra	Elder	O
Agrostis capillaris	Common Bent	R
Alliaria petiolata	Garlic Mustard	R
Betula pendula	Silver Birch	R
Crataegus monogyna	Hawthorn	R
Elymus caninus	Bearded Couch	R
Hyacinthoides non-scripta	**Bluebell**	**R**
Plantago major	Greater Plantain	R
Pteridium aquilinum	Bracken	R
Ranunculus repens	Creeping Buttercup	R
Rubus fruticosus agg.	Bramble	R
Senecio jacobaea	Ragwort	R
Taraxacum sp.	Dandelion species	R
Urtica dioica	Nettle	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN13
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Betula pendula	Silver Birch	D
Quercus robur	English Oak	D
Pteridium aquilinum	Bracken	A
Brachythecium rutabulum	Moss species	F
Deschampsia flexuosa	Wavy Hair-grass	F
Rubus fruticosus agg.	Bramble	F
Betula pubescens	Downy Birch	O
Fagus sylvatica	Beech	O
Polytrichum sp.	Moss species	O
Agrostis capillaris	Common Bent	R
Castanea sativa	Sweet Chestnut	R
Chamerion angustifolium	Rosebay Willowherb	R
Deschampsia cespitosa	Tufted Hair-grass	R
Hedera helix	Ivy	R
Juncus conglomeratus	Compact Rush	R

Juncus effusus	Soft Rush	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN14
Habitat:	Semi-natural broadleaved woodland, plantation

Species List:

Scientific Name	Common Name	Frequency
Alnus incana	Grey Alder	A
Fraxinus excelsior	Ash	A
Acer pseudoplatanus	Sycamore	F
Betula pendula	Silver Birch	F
Brachythecium rutabulum	Moss species	F
Eurhynchium praelongum	Moss species	F
Quercus robur	English Oak	F
Rubus fruticosus agg.	Bramble	F
Alnus cordata	Italian Alder	O
Alnus glutinosa	Alder	O
Betula pubescens	Downy Birch	O
Crataegus monogyna	Hawthorn	O
Holcus lanatus	Yorkshire-fog	O
Urtica dioica	Nettle	O
Acer platanoides	Norway Maple	R
Cirsium arvense	Creeping Thistle	R
Deschampsia cespitosa	Tufted Hair-grass	R
Digitalis purpurea	Foxglove	R
Epilobium montanum	Broad-leaved Willowherb	R
Epilobium sp.	Willowherb species	R
Picea abies	Norway Spruce	R
Potentilla reptans	Creeping Cinquefoil	R
Prunella vulgaris	Selfheal	R
Ranunculus repens	Creeping Buttercup	R
Rumex obtusifolius	Broad-leaved Dock	R
Senecio erucifolius	Hoary Ragwort	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN15
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Quercus robur	English Oak	D
Betula pendula	Silver Birch	A
Pteridium aquilinum	Bracken	A
Deschampsia flexuosa	Wavy Hair-grass	F
Dryopteris dilatata	Broad Buckler-fern	O
Eurhynchium praelongum	Moss species	O
Holcus mollis	Creeping Soft-grass	O
Mnium hornum	Moss species	O
Rubus fruticosus agg.	Bramble	O
Calluna vulgaris	Heather	R
Chamerion angustifolium	Rosebay Willowherb	R
Crataegus monogyna	Hawthorn	R

Fagus sylvatica	Beech	R
Geranium robertianum	Herb-Robert	R
Geum urbanum	Wood Avens	R
Lonicera periclymenum	Honeysuckle	R
Plagiothecium undulatum	Moss species	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN16
Habitat:	Semi-natural broadleaved woodland, on lane edge

Species List:

Scientific Name	Common Name	Frequency
Quercus robur	English Oak	A
Acer pseudoplatanus	Sycamore	F
Chamerion angustifolium	Rosebay Willowherb	F
Fraxinus excelsior	Ash	F
Rubus fruticosus agg.	Bramble	F
Agrostis capillaris	Common Bent	O
Alliaria petiolata	Garlic Mustard	O
Arrhenatherum elatius	False Oat-grass	O
Crataegus monogyna	Hawthorn	O
Dactylis glomerata	Cock's-foot	O
Festuca rubra	Red Fescue	O
Galium aparine	Cleavers	O
Geranium robertianum	Herb-Robert	O
Hedera helix	Ivy	O
Holcus lanatus	Yorkshire-fog	O
Pteridium aquilinum	Bracken	O
Sambucus nigra	Elder	O
Taraxacum sp.	Dandelion species	O
Urtica dioica	Nettle	O
Arctium minus	Lesser Burdock	R
Artemisia vulgaris	Mugwort	R
Cirsium arvense	Creeping Thistle	R
Cirsium vulgare	Spear Thistle	R
Elymus caninus	Bearded Couch	R
Epilobium sp.	Willowherb species	R
Fallopia japonica	**Japanese Knotweed**	**R**
Galeopsis tetrahit	Common Hemp-nettle	R
Lamium album	White Dead-nettle	R
Lapsana communis	Nipplewort	R
Poa compressa	Flattened Meadowgrass	R
Polygonum aviculare	Knotgrass	R
Rumex obtusifolius	Broad-leaved Dock	R
Senecio jacobaea	Ragwort	R
Silene dioica	Red Campion	R
Sisymbrium officinale	Hedge Mustard	R
Solanum dulcamara	Bittersweet	R
Sonchus asper	Prickly Sow-thistle	R
Stellaria media	Chickweed	R
Teucrium scorodonium	Woodsage	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN17
Habitat:	Modified neutral grassland, scattered scrub

Species List:

Scientific Name	Common Name	Frequency

Potentilla anserina	Silverweed	A
Holcus lanatus	Yorkshire-fog	F
Rubus fruticosus agg.	Bramble	F
Agrostis stolonifera	Creeping Bent	O
Alnus glutinosa	Alder	O
Arrhenatherum elatius	False Oat-grass	O
Betula pendula	Silver Birch	O
Brachythecium rutabulum	Moss species	O
Centaurium erythraea	Common Centaury	O
Cirsium arvense	Creeping Thistle	O
Crataegus monogyna	Hawthorn	O
Epilobium hirsutum	Great Willowherb	O
Festuca rubra	Red Fescue	O
Fraxinus excelsior	Ash	O
Juncus inflexus	Hard Rush	O
Lathyrus pratensis	Meadow Vetchling	O
Odontites verna	Red Bartsia	O
Plantago lanceolata	Ribwort Plantain	O
Prunella vulgaris	Selfheal	O
Ranunculus repens	Creeping Buttercup	O
Acer pseudoplatanus	Sycamore	R
Alnus cordata	Italian Alder	R
Carex otrubae	False Fox-sedge	R
Cerastium fontanum	Common Mouse-ear	R
Dipsacus fullonum	Teasel	R
Epilobium parviflorum	Hoary Willowherb	R
Quercus robur	English Oak	R
Senecio jacobaea	Ragwort	R
Trifolium dubium	Lesser Trefoil	R
Trifolium repens	White Clover	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN18
Habitat:	Tall ruderal herb, scattered scrub

Species List:

Scientific Name	Common Name	Frequency
Urtica dioica	Nettle	A
Betula pendula	Silver Birch	F
Rubus fruticosus agg.	Bramble	F
Salix cinerea	Grey Willow	F
Acer pseudoplatanus	Sycamore	O
Brachythecium rutabulum	Moss species	O
Chamerion angustifolium	Rosebay Willowherb	O
Dryopteris filix-mas	Male-fern	O
Epilobium sp.	Willowherb species	O
Eurhynchium praelongum	Moss species	O
Fraxinus excelsior	Ash	O
Pteridium aquilinum	Bracken	O
Quercus robur	English Oak	O
Ribes uva-crispa	Gooseberry	O
Salix caprea	Goat Willow	O
Sambucus nigra	Elder	O
Crataegus monogyna	Hawthorn	R
Dryopteris dilatata	Broad Buckler-fern	R
Ligustrum ovalifolium	Garden Privet	R
Malus domestica	Apple	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN19
Habitat:	Semi natural broadleaved woodland, modified neutral grassland

Species List:		
Scientific Name	**Common Name**	**Frequency**
Epilobium hirsutum	Great Willowherb	F
Fraxinus excelsior	Ash	F
Alnus cordata	Italian Alder	O
Alnus glutinosa	Alder	O
Alnus incana	Grey Alder	O
Arrhenatherum elatius	False Oat-grass	O
Centaurea nigra	Knapweed	O
Cirsium arvense	Creeping Thistle	O
Dipsacus fullonum	Teasel	O
Holcus lanatus	Yorkshire-fog	O
Lotus corniculatus	Bird's-foot Trefoil	O
Odontites verna	Red Bartsia	O
Plantago lanceolata	Ribwort Plantain	O
Potentilla reptans	Creeping Cinquefoil	O
Pseudoscleropodium purum	Moss species	O
Ranunculus repens	Creeping Buttercup	O
Rubus fruticosus agg.	Bramble	O
Salix cinerea	Grey Willow	O
Trifolium repens	White Clover	O
Achillea millefolium	Yarrow	R
Agrostis stolonifera	Creeping Bent	R
Calystegia silvatica	Large Bindweed	R
Carex otrubae	False Fox-sedge	R
Crataegus monogyna	Hawthorn	R
Cytisus scoparius	Broom	R
Epilobium sp.	Willowherb species	R
Ligustrum ovalifolium	Garden Privet	R
Medicago lupulina	Black Medick	R
Rosa rubiginosa	Sweet Briar	R
Rumex obtusifolius	Broad-leaved Dock	R
Senecio erucifolius	Hoary Ragwort	R
Vicia sativa	Common Vetch	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN20
Habitat:	Tall ruderal herb, scattered scrub

Species List:		
Scientific Name	**Common Name**	**Frequency**
Cirsium arvense	Creeping Thistle	A
Epilobium hirsutum	Great Willowherb	A
Alnus glutinosa	Alder	F
Arrhenatherum elatius	False Oat-grass	F
Rubus fruticosus agg.	Bramble	F
Alnus cordata	Italian Alder	O
Epilobium parviflorum	Hoary Willowherb	O
Epilobium sp.	Willowherb species	O
Festuca rubra	Red Fescue	O
Fraxinus excelsior	Ash	O
Galium aparine	Cleavers	O
Plantago lanceolata	Ribwort Plantain	O
Prunus spinosa	Blackthorn	O
Ranunculus repens	Creeping Buttercup	O
Rosa rubiginosa	Sweet Briar	O
Senecio jacobaea	Ragwort	O
Tussilago farfara	Colt's-foot	O
Urtica dioica	Nettle	O

Alnus incana	Grey Alder	R
Artemisia vulgaris	Mugwort	R
Carex otrubae	False Fox-sedge	R
Crataegus monogyna	Hawthorn	R
Cytisus scoparius	Broom	R
Dipsacus fullonum	Teasel	R
Heracleum sphondylium	Hogweed	R
Leucanthemum vulgare	Oxeye daisy	R
Lotus corniculatus	Bird's-foot Trefoil	R
Medicago lupulina	Black Medick	R
Odontites verna	Red Bartsia	R
Rosa canina agg.	Dog Rose	R
Rumex obtusifolius	Broad-leaved Dock	R
Trifolium repens	White Clover	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Management Issues:

The character of the extensive plantations of mature beech indicates quite intense historic management. However, neither the plantations nor the semi-natural woodlands appear to have undergone significant management input for many decades, either for reasons of improving the forestry crop or enhancing ecological diversity. The main area exhibiting current management is the ride created below the power-lines that cross the site, where trees have been cleared for safety reasons (TN1).

Considering that these woodlands occupy land that is classified as ancient woodland, the groundflora is generally impoverished. There is a small suite of characteristic woodland groundflora species which does survive (four ancient woodland indicator species were identified, predominantly to the south of the site at TN3 and TN4, although bluebells were also noted further north). The areas with highest potential for improvement of ecological diversity are the beech plantations.

Diversity:

A total of 140 species of vascular plants was recorded from this large area during the course of the 2010 fieldwork. Whilst the majority of them are grasses, herbs and trees that are locally native, a large proportion of trees are not native to this part of Yorkshire, for example: beech, sycamore (*Acer pseudoplatanus*), sweet chestnut (*Castanea sativa*) and grey alder (*Alnus incana*).

Whilst a large total of species has been recorded, this site covers very large area and much of it is rather lacking in diversity compared with most other ancient woodland sites. As well as lacking in species-diversity, the various woodlands and plantation areas lack structural diversity from stand to stand, generally being quite uniform in age and also height over most of the site. This is partly because of the fairly uniform topography and the underlying acidic bedrock throughout.

Naturalness:

The oak-birch woodlands form the vegetation community that would naturally be expected over the local ground conditions.

Large plantations of beech create the major unnatural elements within this area, which otherwise appears to have been left to grow and develop naturally with minimum management intervention.

Rare or Exceptional Features:

The large extent of semi-natural woodland on this site appears to be its major feature of interest. At the northern end, there is evidence of past quarrying with some rocky hollows and other exposures of the local grit-stone.

Fragility:

The fishing ponds (TN5) form the only standing water within the site. There is no system of watercourses through this area that could carry contaminants from outside the site. The woodland and plantation cover is robust and the former is actively spreading into the very few spaces on site that remain available for such spread.

Typicalness:

This large site is covered in woodland vegetation that is typical of the coalfield geology and landscape of much of the Barnsley area.

Recorded History & Cultural Associations:

Records of previous management of this ancient woodland site may well exist and should ideally be used to inform future management of the woodlands. There appear to be no ancient buildings, or other artefacts relating to the woodland, extant on site.

Connectivity within the Landscape:

The land immediately around the site remains in agricultural use and a network of hedgerows provides good linkage. The well-wooded disused railway along the northern boundary also provide links directly from the site into the wider countryside. The River Dove flows west/east to the north of the disused railway, further strengthening this connectivity, although no watercourses actually impinge on the site or its boundaries. On the western side there has been some open-cast coal mining and restoration has included large areas of plantation what will eventually merge with the existing woodland cover. Another railway line travels north-south offsite to the east of the site.

Value for appreciation of Nature and Learning:

The woodlands are easily accessed via a minor road that meanders along the northeast site boundary. There is also access on the west side, leading into a recently constructed car park. There is a railway station just beyond the east extremity of the site, so there is good access to the site by train also.

Local public footpath connections are very sparse, with only two coming in from the west and none from the east. However, there is a good network of informal paths throughout the woodland and the range of access possibilities makes this a good site to bring groups for appreciation of wildlife and natural processes.

There is no interpretation on site but it is most suitable for outdoor learning use and very accessible from schools within the three surrounding residential areas.

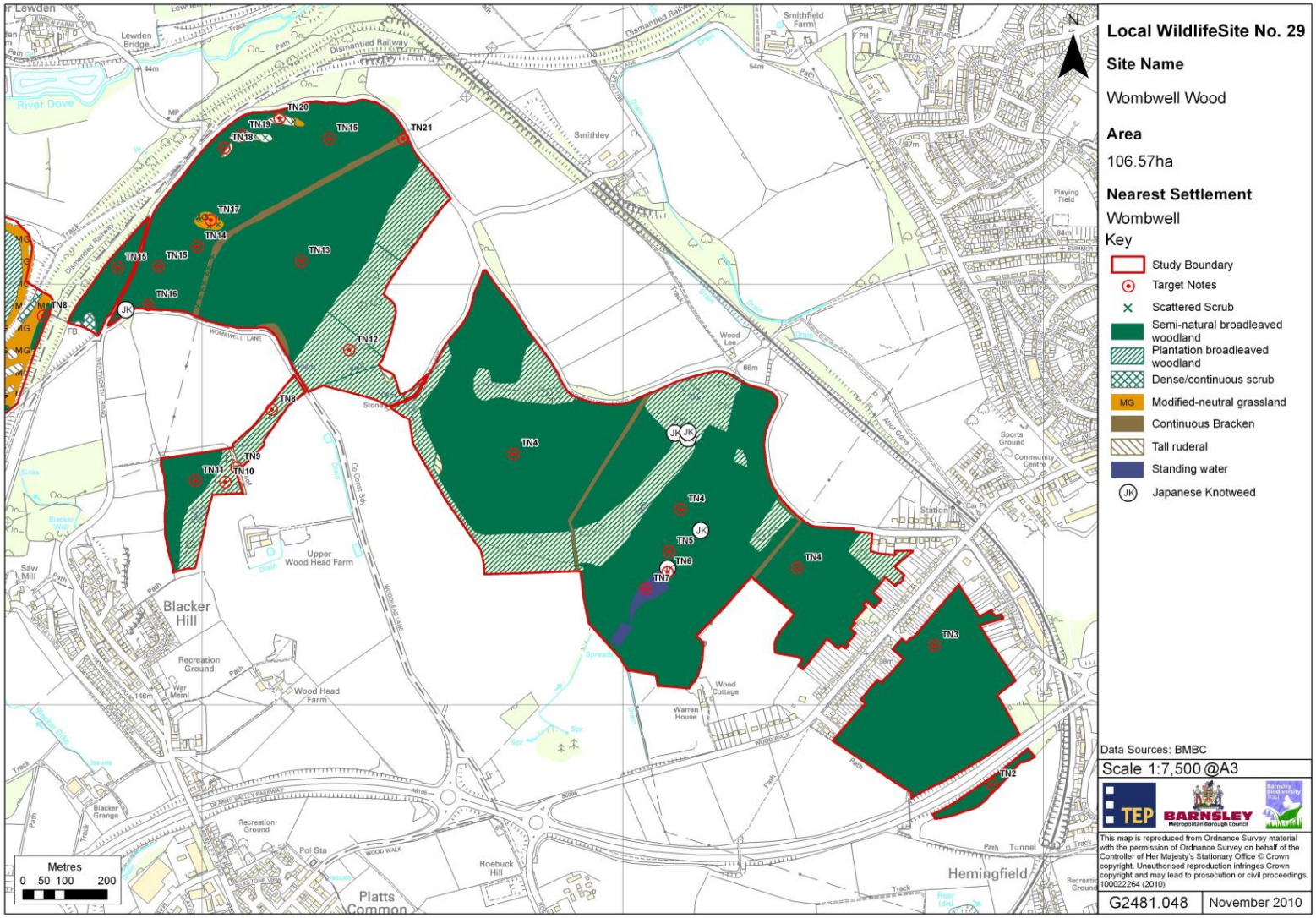
Recommendations:

The greater proportion of Wombwell Wood is recognised as ancient woodland on the Natural England Ancient Woodland Inventory, although only four of South Yorkshire's ancient woodland indicator species were seen during the survey. This maybe due to the season, however the woodland structure does little to promote the spread or colonisation by ground-flora.

An increase in management is needed to enhance the biodiversity value of the site.

This aside the site's size, community function and location mean that Wombwell Woods should be retained with the Local Wildlife Sites register and effort made to increase its wildlife value.

Action:
Retain as a Local Wildlife Site
Work with landowners/managers to manage the woodlands to increase biodiversity and woodland structural diversity.


Local WildlifeSite No. 29
Site Name
Wombwell Wood
Area
106.57ha
Nearest Settlement
Wombwell
Key
Study Boundary
Target Notes
Scattered Scrub
Semi-natural broadleaved woodland
Plantation broadleaved woodland
Dense/continuous scrub
MG Modified-neutral grassland
Continuous Bracken
Tall ruderal
Standing water
JK Japanese Knotweed
N
Metres
0 50 100 200
Data Sources: BMBC
Scale 1:7,500 @A3
TEP
BARNSLEY Metropolitan Borough Council
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G2481.048
November 2010
Blacker Hill
Platts Common
Hemingfield
Wombwell Lane
Dismantled Railway
River Dove

PLANNING DESIGN ENVIRONMENT

55. Parkhill Nature Reserve

LWS Assessment and Phase 1 Survey

Prepared by
TEP

for

Barnsley Metropolitan Borough Council

January 2011
(Edited December 2011)

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Site Name:	Parkhill Nature Reserve
Site Area:	9.8ha
Survey Date:	September 2010
Nearest Settlement:	Wombwell
Grid Reference at Centre:	SE40658, 03153
Surveyor(s)	PG

Site Description:

This is a former brickworks on the eastern edge of the residential area of Wombwell. Parts of the kiln still remain to the north of a flooded clay pit (TN4), towards the south of the site (TN6). Since closure of the brickworks there has been little management intervention. This has allowed the grass/herb and wetland habitats initially developing over the site to gradually become colonised by dense natural regeneration of scrub/woodland habitat. Much of the western side of the site (TN1, TN5, TN7, TN20 and TN21) is now dominated by tall and dense willow-dominated scrub/woodland, often with abundant hawthorn (*Crataegus monogyna*). There is also some mixed broadleaved plantation between TN1 and TN19 areas.

Some areas of unmanaged neutral grasslands still survive within the expanding woodlands (TN6, TN8, TN19), but scrub development is evident, particularly in TN19 area. Surviving parts of these neutral swards indicate that they may once have been diverse and rich in herb species. Broad areas of open, but still unmanaged, grassland are found in the northeast of the site (TN11, TN12, TN15) where scrub development is still scant. However, these northeast swards tend to be dense, very grassy and fairly uniform.

The northern boundary is marked by Bulling Dike. This watercourse has no noteworthy wetland vegetation but dense neutral grassland overhanging the southern banks. In the southern half of the site there is a large waterbody and fringing swamp habitat (TN4), presumably developed from a former clay pit. Areas of swampy vegetation survive in this area (TN16, TN18), located to the north of the former kilns (TN6), with much reed present.

A well-vegetated ditch system impinges into the broad grassland swathe across the north and northeast part of the site (TN9, TN14). There is also a well-established pond with fringing reedbed (TN10) and a newer-looking pond, or scrape (TN13), with a rich collection of wetland plants. Around pond TN13 there is a population of the invasive alien plant, New Zealand pygmyweed (*Crassula helmsii*). Near the centre of the site there is an extensive area of tall ruderal herb development (TN17), dominated by nettle (*Urtica dioica*) and rosebay willowherb (*Chamerion angustifolium*).

Important Species:

This site contains New Zealand pygmyweed, Japanese knotweed (*Fallopia japonica*) - both are invasive alien plant species.

UKBAP Priority species water vole *(Arvicola terrestris)* and grass snake *(Natrix natrix)* has been recorded on this site within the last five years.

UKBAP breeding bird species recorded are reed bunting *(Emberiza schoeniclus),* grasshopper warbler *(Locustella naevia),* willow tit *(Poecile montanus),* dunnock *(Prunella modularis)* and song thrush *(Turdus philomelos).*

Target Note:	TN1
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Crataegus monogyna	Hawthorn	A
Urtica dioica	Nettle	A
Alnus glutinosa	Alder	F
Betula pendula	Silver Birch	F
Dactylis glomerata	Cock's-foot	F
Rubus fruticosus agg.	Bramble	F
Acer campestre	Field Maple	O
Acer pseudoplatanus	Sycamore	O
Agrostis capillaris	Common Bent	O
Anthriscus sylvestris	Cow Parsley	O
Artemisia vulgaris	Mugwort	O
Brachythecium rutabulum	Moss species	O
Calystegia silvatica	Large Bindweed	O
Chamerion angustifolium	Rosebay Willowherb	O
Corylus avellana	Hazel	O
Epilobium sp.	Willowherb species	O
Festuca rubra	Red Fescue	O
Fraxinus excelsior	Ash	O
Heracleum sphondylium	Hogweed	O
Medicago lupulina	Black Medick	O
Potentilla reptans	Creeping Cinquefoil	O
Prunus spinosa	Blackthorn	O
Ranunculus repens	Creeping Buttercup	O
Rubus idaeus	Raspberry	O
Salix caprea	Goat Willow	O
Salix cinerea	Grey Willow	O
Sambucus nigra	Elder	O
Symphytum x uplandicum	Russian Comfrey	O
Taraxacum officinale agg.	Dandelion	O
Trifolium repens	White Clover	O
Vicia sepium	**Bush Vetch**	**O**
Achillea millefolium	Yarrow	R
Anthyllis vulneraria	Kidney Vetch	R
Arctium minus	Lesser Burdock	R
Armoracia rusticana	Horse-radish	R
Brachypodium sylvaticum	False Brome	R
Carex hirta	Hairy Sedge	R
Cerastium fontanum	Common Mouse-ear	R
Crepis capillaris	Smooth Hawk's-beard	R
Daucus carota	Wild Carrot	R
Deschampsia cespitosa	Tufted Hair-grass	R
Dryopteris filix-mas	Male-fern	R
Fallopia japonica	**Japanese Knotweed**	**R**
Hieracium sp.	Hawkweed species	R
Lapsana communis	Nipplewort	R
Lathyrus latifolius	Broad-leaved Everlasting-pea	R
Lathyrus pratensis	Meadow Vetchling	R
Leucanthemum vulgare	Oxeye daisy	R
Linaria vulgaris	Common Toadflax	R
Odontites verna	Red Bartsia	R
Prunus avium	Wild Cherry	R
Quercus robur	English Oak	R
Senecio jacobaea	Ragwort	R
Tragopogon pratensis	Goat's-beard	R
Trifolium pratense	Red Clover	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN2
Habitat:	Standing water (small shaded pond)

Species List:

Scientific Name	Common Name	Frequency
Urtica dioica	Nettle	F
Rubus fruticosus agg.	Bramble	O
Sparganium erectum	Branched Bur-reed	O
Tussilago farfara	Colt's-foot	O
Carex remota	**Remote Sedge**	**R**
Dryopteris filix-mas	Male-fern	R
Juncus effusus	Soft Rush	R
Juncus inflexus	Hard Rush	R
Scrophularia nodosa	Common Figwort	R
Solanum dulcamara	Bittersweet	R
Typha latifolia	Greater Reedmace	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN3
Habitat:	Standing water & swamp along partially shaded ditch-line

Species List:

Scientific Name	Common Name	Frequency
Epilobium hirsutum	Great Willowherb	A
Typha latifolia	Greater Reedmace	F
Urtica dioica	Nettle	F
Chamerion angustifolium	Rosebay Willowherb	O
Juncus effusus	Soft Rush	O
Ranunculus repens	Creeping Buttercup	O
Rubus fruticosus agg.	Bramble	O
Callitriche sp.	Water Starwort species	R
Deschampsia cespitosa	Tufted Hair-grass	R
Fallopia japonica	**Japanese Knotweed**	**R**
Lycopus europaeus	Gypsywort	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN4
Habitat:	Standing water with fringing swamp, flooded clay pit

Species List:

Scientific Name	Common Name	Frequency
Epilobium hirsutum	Great Willowherb	A
Typha latifolia	Greater Reedmace	F
Urtica dioica	Nettle	F

Calystegia silvatica	Large Bindweed	O
Cirsium arvense	Creeping Thistle	O
Deschampsia cespitosa	Tufted Hair-grass	O
Equisetum arvense	Field Horsetail	O
Juncus effusus	Soft Rush	O
Lemna minor	Common Duckweed	O
Rubus fruticosus agg.	Bramble	O
Salix cinerea	Grey Willow	O
Salix fragilis	Crack Willow	O
Solidago canadensis	Canadian Goldenrod	O
Tussilago farfara	Colt's-foot	O
Crataegus monogyna	Hawthorn	R
Juncus inflexus	Hard Rush	R
Lemna trisulca	Ivy-leaved Duckweed	R
Lycopus europaeus	Gypsywort	R
Nuphar lutea	Yellow Water-lily	R
Nymphaea alba	White Water-lily	R
Ranunculus sceleratus	Celery-leaved Buttercup	R
Sparganium erectum	Branched Bur-reed	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN5
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Arrhenatherum elatius	False Oat-grass	F
Betula pendula	Silver Birch	F
Deschampsia cespitosa	Tufted Hair-grass	F
Epilobium hirsutum	Great Willowherb	F
Juncus conglomeratus	Compact Rush	F
Juncus effusus	Soft Rush	F
Rubus fruticosus agg.	Bramble	F
Salix caprea	Goat Willow	F
Cirsium arvense	Creeping Thistle	O
Heracleum sphondylium	Hogweed	O
Juncus inflexus	Hard Rush	O
Phalaris arundinacea	Reed Canary-grass	O
Populus nigra	Black Poplar agg.	O
Salix cinerea	Grey Willow	O
Senecio erucifolius	Hoary Ragwort	O
Tussilago farfara	Colt's-foot	O
Typha latifolia	Greater Reedmace	O
Urtica dioica	Nettle	O
Chamerion angustifolium	Rosebay Willowherb	R
Crataegus monogyna	Hawthorn	R
Lathyrus pratensis	Meadow Vetchling	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN6
Habitat:	Modified neutral grassland

Species List:

Scientific Name	Common Name	Frequency
Festuca rubra	Red Fescue	A
Arrhenatherum elatius	False Oat-grass	F
Betula pendula	Silver Birch	F
Dactylis glomerata	Cock's-foot	F
Holcus lanatus	Yorkshire-fog	F
Trifolium repens	White Clover	F
Tussilago farfara	Colt's-foot	F

Artemisia vulgaris	Mugwort	O
Cerastium fontanum	Common Mouse-ear	O
Chamerion angustifolium	Rosebay Willowherb	O
Cirsium arvense	Creeping Thistle	O
Crataegus monogyna	Hawthorn	O
Deschampsia cespitosa	Tufted Hair-grass	O
Epilobium hirsutum	Great Willowherb	O
Leontodon autumnalis	Autumn Hawkbit	O
Lolium perenne	Ryegrass	O
Lotus corniculatus	Bird's-foot Trefoil	O
Medicago lupulina	Black Medick	O
Plantago lanceolata	Ribwort Plantain	O
Pteridium aquilinum	Bracken	O
Rubus fruticosus agg.	Bramble	O
Senecio jacobaea	Ragwort	O
Symphytum x uplandicum	Russian Comfrey	O
Trifolium pratense	Red Clover	O
Urtica dioica	Nettle	O
Vicia hirsuta	Hairy Tare	O
Achillea millefolium	Yarrow	R
Corylus avellana	Hazel	R
Dryopteris filix-mas	Male-fern	R
Festuca arundinacea	Tall Fescue	R
Fraxinus excelsior	Ash	R
Sonchus oleraceus	Smooth Sow-thistle	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN7
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Crataegus monogyna	Hawthorn	A
Rubus fruticosus agg.	Bramble	A
Salix caprea	Goat Willow	A
Urtica dioica	Nettle	A
Brachythecium rutabulum	Moss species	F
Salix fragilis	Crack Willow	F
Acer pseudoplatanus	Sycamore	O
Betula pendula	Silver Birch	O
Calystegia silvatica	Large Bindweed	O
Chamerion angustifolium	Rosebay Willowherb	O
Cirsium arvense	Creeping Thistle	O
Dactylis glomerata	Cock's-foot	O
Deschampsia cespitosa	Tufted Hair-grass	O
Dryopteris dilatata	Broad Buckler-fern	O
Elytrigia repens	Common Couch	O
Epilobium hirsutum	Great Willowherb	O
Epilobium sp.	Willowherb species	O
Equisetum arvense	Field Horsetail	O
Fraxinus excelsior	Ash	O
Heracleum sphondylium	Hogweed	O
Poa annua	Annual Meadow-grass	O
Quercus robur	English Oak	O
Rosa canina agg.	Dog Rose	O
Rubus idaeus	Raspberry	O
Rumex obtusifolius	Broad-leaved Dock	O
Salix cinerea	Grey Willow	O
Sambucus nigra	Elder	O
Solanum dulcamara	Bittersweet	O
Stachys sylvatica	Hedge Woundwort	O
Agrostis stolonifera	Creeping Bent	R
Alliaria petiolata	Garlic Mustard	R
Artemisia vulgaris	Mugwort	R

Corylus avellana	Hazel	R
Dipsacus fullonum	Teasel	R
Dryopteris filix-mas	Male-fern	R
Geranium robertianum	Herb-Robert	R
Ligustrum ovalifolium	Garden Privet	R
Plantago lanceolata	Ribwort Plantain	R
Polystichum aculeatum	Hard Shield-fern	R
Taraxacum officinale agg.	Dandelion	R
Vicia cracca	Tufted Vetch	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN8
Habitat:	Modified neutral grassland

Species List:

Scientific Name	Common Name	Frequency
Arrhenatherum elatius	False Oat-grass	D
Deschampsia cespitosa	Tufted Hair-grass	F
Rubus fruticosus agg.	Bramble	F
Betula pendula	Silver Birch	O
Carex hirta	Hairy Sedge	O
Chamerion angustifolium	Rosebay Willowherb	O
Cirsium arvense	Creeping Thistle	O
Equisetum arvense	Field Horsetail	O
Festuca rubra	Red Fescue	O
Holcus lanatus	Yorkshire-fog	O
Plantago lanceolata	Ribwort Plantain	O
Ranunculus repens	Creeping Buttercup	O
Salix cinerea	Grey Willow	O
Urtica dioica	Nettle	O
Conium maculatum	Hemlock	R
Galium aparine	Cleavers	R
Heracleum sphondylium	Hogweed	R
Hieracium sp.	Hawkweed species	R
Lathyrus pratensis	Meadow Vetchling	R
Linaria vulgaris	Common Toadflax	R
Rumex acetosa	Common Sorrel	R
Sanguisorba officinalis	Great Burnet	R
Stellaria graminea	Lesser Stitchwort	R
Typha latifolia	Greater Reedmace	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN9
Habitat:	Ditch with swamp

Species List:

Scientific Name	**Common Name**	**Frequency**
Apium nodiflorum	Fool's Watercress	A
Glyceria fluitans	Floating Sweet-grass	A
Arrhenatherum elatius	False Oat-grass	F
Salix cinerea	Grey Willow	F
Epilobium hirsutum	Great Willowherb	O
Juncus effusus	Soft Rush	O
Lemna minor	Common Duckweed	O
Phalaris arundinacea	Reed Canary-grass	O
Rubus fruticosus agg.	Bramble	O
Typha latifolia	Greater Reedmace	O
Urtica dioica	Nettle	O
Callitriche sp.	Water Starwort species	R

Galega officinalis	Goat's-rue	R
Lythrum salicaria	Purple Loosestrife	R
Scrophularia auriculata	Water Betony	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN11
Habitat:	Modified neutral grassland

Species List:

This unmanaged neutral grassland is generally species-poor and very similar to the TN12 sward to the east.

No species list compiled for this area

Target Note:	TN12
Habitat:	Modified neutral grassland

Species List:

Scientific Name	Common Name	Frequency
Arrhenatherum elatius	False Oat-grass	D
Agrostis capillaris	Common Bent	O
Cerastium fontanum	Common Mouse-ear	O
Cirsium arvense	Creeping Thistle	O
Dactylis glomerata	Cock's-foot	O
Deschampsia cespitosa	Tufted Hair-grass	O
Equisetum arvense	Field Horsetail	O
Festuca rubra	Red Fescue	O
Hypochaeris radicata	Common Cat's-ear	O
Lotus corniculatus	Bird's-foot Trefoil	O
Rubus fruticosus agg.	Bramble	O
Trifolium pratense	Red Clover	O
Trifolium repens	White Clover	O
Achillea millefolium	Yarrow	R
Anthoxanthum odoratum	Sweet Vernal-grass	R
Betula pendula	Silver Birch	R
Centaurea nigra	Knapweed	R
Cichorium intybus	Chicory	R
Cirsium palustre	Marsh Thistle	R
Cynosurus cristatus	Crested Dog's-tail	R
Hieracium sp.	Hawkweed species	R
Lactuca serriola	Prickly Lettuce	R
Leontodon autumnalis	Autumn Hawkbit	R
Odontites verna	Red Bartsia	R
Plantago lanceolata	Ribwort Plantain	R
Sanguisorba officinalis	Great Burnet	R
Senecio jacobaea	Ragwort	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN13
Habitat:	Swamp, standing water, marshy grassland

Species List:

Scientific Name	Common Name	Frequency
Phragmites australis	Reed	D
Crassula helmsii	**New Zealand Pygmyweed**	**F**
Alnus glutinosa	Alder	O
Betula pendula	Silver Birch	O
Carex flacca	Glaucous Sedge	O
Eleocharis palustris	Common Spike-rush	O
Holcus lanatus	Yorkshire-fog	O
Lythrum salicaria	Purple Loosestrife	O
Mentha aquatica	Water Mint	O
Ranunculus repens	Creeping Buttercup	O
Salix cinerea	Common Sallow	O
Achillea ptarmica	Sneezewort	R
Alisma plantago-aquatilis	Water-plantain	R
Centaurium erythraea	Common Centaury	R
Iris pseudacorus	Yellow Flag Iris	R
Juncus articulatus	Jointed Rush	R
Juncus conglomeratus	Compact Rush	R
Juncus effusus	Soft Rush	R
Lychnis flos-cuculi	Ragged Robin	R
Pulicaria dysenterica	Fleabane	R
Ranunculus flammula	Lesser Spearwort	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN14
Habitat:	Swamp along broad ditch with standing water

Species List:

Scientific Name	Common Name	Frequency
Lemna minor	Common Duckweed	A
Typha latifolia	Greater Reedmace	A
Apium nodiflorum	Fool's Watercress	F
Sparganium erectum	Branched Bur-reed	F
Alisma plantago-aquatilis	Water-plantain	O
Epilobium hirsutum	Great Willowherb	O
Juncus conglomeratus	Compact Rush	O
Carex otrubae	False Fox-sedge	R
Cirsium palustre	Marsh Thistle	R
Lycopus europaeus	Gypsywort	R
Lythrum salicaria	Purple Loosestrife	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN15
Habitat:	Modified neutral grassland

Species List:

Scientific Name	Common Name	Frequency
Arrhenatherum elatius	False Oat-grass	D
Agrostis capillaris	Common Bent	F
Achillea millefolium	Yarrow	O
Cirsium arvense	Creeping Thistle	O
Dactylis glomerata	Cock's-foot	O
Deschampsia cespitosa	Tufted Hair-grass	O
Equisetum arvense	Field Horsetail	O
Heracleum sphondylium	Hogweed	O
Lolium perenne	Ryegrass	O
Rubus fruticosus agg.	Bramble	O

Rumex acetosa	Common Sorrel	O
Trifolium pratense	Red Clover	O
Trifolium repens	White Clover	O
Carex hirta	Hairy Sedge	R
Chamerion angustifolium	Rosebay Willowherb	R
Cirsium palustre	Marsh Thistle	R
Crataegus monogyna	Hawthorn	R
Festuca rubra	Red Fescue	R
Galeopsis tetrahit	Common Hemp-nettle	R
Hieracium sp.	Hawkweed species	R
Holcus lanatus	Yorkshire-fog	R
Juncus effusus	Soft Rush	R
Lathyrus pratensis	Meadow Vetchling	R
Leontodon autumnalis	Autumn Hawkbit	R
Odontites verna	Red Bartsia	R
Sambucus nigra	Elder	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN16
Habitat:	Swamp, reedmace-dominated

Species List:

Scientific Name	Common Name	Frequency
Typha latifolia	Greater Reedmace	D
Deschampsia cespitosa	Tufted Hair-grass	O
Juncus conglomeratus	Compact Rush	O
Juncus effusus	Soft Rush	O
Salix cinerea	Common Sallow	O
Urtica dioica	Nettle	O
Arrhenatherum elatius	False Oat-grass	R
Cirsium palustre	Marsh Thistle	R
Epilobium hirsutum	Great Willowherb	R
Galium palustre	Marsh Bedstraw	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN17
Habitat:	Tall ruderal herb

Species List:

Scientific Name	Common Name	Frequency
Urtica dioica	Nettle	D
Chamerion angustifolium	Rosebay Willowherb	D
Rubus fruticosus agg.	Bramble	F
Rubus idaeus	Raspberry	O
Fallopia japonica	**Japanese Knotweed**	**R**

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN18
Habitat:	Swamp and tall ruderal mix

Species List:

Phragmites australis	Reed	D
Chamerion angustifolium	Rosebay Willowherb	A

Target Note:	TN19
Habitat:	Modified neutral grassland with scrub

Species List:

Scientific Name	Common Name	Frequency
Arrhenatherum elatius	False Oat-grass	F
Calystegia silvatica	Large Bindweed	F
Chamerion angustifolium	Rosebay Willowherb	F
Crataegus monogyna	Hawthorn	F
Dactylis glomerata	Cock's-foot	F
Festuca rubra	Red Fescue	F
Rubus fruticosus agg.	Bramble	F
Solidago canadensis	Canadian Goldenrod	F
Urtica dioica	Nettle	F
Anthriscus sylvestris	Cow Parsley	O
Armoracia rusticana	Horse-radish	O
Artemisia vulgaris	Mugwort	O
Carex hirta	Hairy Sedge	O
Cirsium arvense	Creeping Thistle	O
Dipsacus fullonum	Teasel	O
Fraxinus excelsior	Ash	O
Hieracium sp.	Hawkweed species	O
Hypericum perforatum	Perforate St John's-wort	O
Linaria vulgaris	Common Toadflax	O
Lotus corniculatus	Bird's-foot Trefoil	O
Potentilla reptans	Creeping Cinquefoil	O
Symphytum x uplandicum	Russian Comfrey	O
Trifolium repens	White Clover	O
Tussilago farfara	Colt's-foot	O
Vicia sepium	Bush Vetch	O
Arctium minus	Lesser Burdock	R
Conium maculatum	Hemlock	R
Crepis capillaris	Smooth Hawk's-beard	R
Lysimachia punctata	Dotted Loosetrife	R
Rosa canina agg.	Dog Rose	R
Sambucus nigra	Elder	R
Stachys palustris	Marsh Woundwort	R
Tragopogon pratensis	Goat's-beard	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN20
Habitat:	Semi-natural broadleaved woodland

Species List:

This is an area of natural regeneration dominated by goat willow (Salix caprea) and grey willow (Salix cinerea).

No species list compiled for this area

Target Note:	TN21
Habitat:	Semi-natural broadleaved woodland

Species List:

Scientific Name	Common Name	Frequency
Crataegus monogyna	Hawthorn	A
Urtica dioica	Nettle	A
Rubus fruticosus agg.	Bramble	F
Stachys sylvatica	Hedge Woundwort	F
Dactylis glomerata	Cock's-foot	O
Epilobium sp.	Willowherb species	O
Festuca rubra	Red Fescue	O
Fraxinus excelsior	Ash	O
Geranium robertianum	Herb-Robert	O
Heracleum sphondylium	Hogweed	O
Plantago major	Greater Plantain	O
Potentilla reptans	Creeping Cinquefoil	O
Salix caprea	Goat Willow	O
Tussilago farfara	Colt's-foot	O
Acer campestre	Field Maple	R
Acer pseudoplatanus	Sycamore	R
Arctium minus	Lesser Burdock	R
Centaurea nigra	Knapweed	R
Corylus avellana	Hazel	R
Ligustrum vulgare	Wild Privet	R
Quercus robur	English Oak	R
Rubus idaeus	Raspberry	R
Vicia sepium	**Bush Vetch**	**R**

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Management Issues:

As this site has been declared a LNR, and its diversity is based on initial non-intervention by humans, it now seems appropriate that some management should be carried out to maintain diversity. What seem to have once been quite rich grasslands in the western part of the site have greatly diminished due to spread of scrub/woodland. Most of the areas outside the established canopy already have much scrub colonisation. Spread of scrub and woodland can similarly affect swamp and wetland areas, if allowed to proceed unmanaged.

The north-western neutral grasslands appear to be relatively lacking in diversity and still remain much more open. There are some small stands of Japanese knotweed (*Fallopia japonica*) in the southern fringes of TN1 and New Zealand pygmyweed in TN13, as these are both invasive species some control is advised.

Local naturalists are concerned about illicit fishing in the main waterbody (TN4).

Diversity:

This is quite a rich site, being diverse both in terms of structure and numbers of species present. During the fieldwork in mid-September 2010, 150 species of plants were recorded, the majority of them native to this part of Yorkshire. Habitats range from quite large water bodies to naturally developing woodlands, reedbeds, reedmace swamps and neutral grasslands. A range of smaller features such as ponds, ditches and other watercourses are also represented. The variation in species present and the relative heights and densities of the various vegetation communities lends itself to providing suitable niches for a wide range of animal life, both vertebrate and invertebrate.

Naturalness:

This site has undergone intense modification by human activity, with establishment of the brick kilns and storage yards, as well as excavation of extensive clay pits. However, since abandonment of brick-making, the re-establishment of vegetation has largely been by processes of natural succession and a large number of locally native plant species has found niches here. If allowed to continue unmanaged this site would become a mix of dry and damp native woodland types with some open water and native swamp habitats.

Rare or Exceptional Features:

The large flooded clay pit is a valuable diverse habitat, especially so close to houses and schools. The developing woodlands may well increase in ecological value (and extent) over time.

Fragility:

Generally this site has quite robust vegetation communities, but there is always the potential for tipping of rubbish along the boundaries shared with the back gardens of houses, causing some peripheral deleterious effects.

The wetland areas could also suffer loss of diversity and diminution of naturalness due to spread of New Zealand pygmyweed from its current stronghold on TN13 area.

With its suite of open water-bodies, ditch-lines and wet swamps there is potential for water pollution incidents to cause problems for the ecological value of this site.

Typicalness:

Barnsley has a large suite of post-industrial sites and much of the woodland, grassland and swamp elements developed here are fairly typical for the area. The habitats that have developed here are much as would be expected for such a site in this location - its proximity to residential areas adds value by making it an easily accessible wild space.

Recorded History & Cultural Associations:

Before development of the present suite of vegetation communities, the main activity carried out here was brick-making. There is great scope for researching the full history of this activity on this site. Ideally the tall brick chimney and remaining kiln bank would remain to help interpret this aspect of the site.

Connectivity within the Landscape:

There is residential development all along the western edge of the site, with pedestrian links into the site. There is a large reclaimed tip, with similar grassland to that found on site, located immediately along the eastern side, varied by plantings of native shrubs and trees. A council depot and a large sewage works also abut the reclaimed tip to the east. Playing fields lie to the north of the site. There are the wooded banks of a disused railway in the south, with some industrial development beyond that.
The Trans-Pennine Trail forms the southern boundary to the site and is an important link.

Value for appreciation of Nature and Learning:

The pedestrian access from the houses in the west links into a good path system around the inner edges of the site. Paths are linked through the middle of the site and pass the remains of the brick works buildings. The site can be accessed from both a footpath route and a public bridleway along the railway line to the south.

The Broomhill Nature Reserve is accessible about 1.5km to the east and just 1km further east beyond that lies the large RSPB reserve at Old Moor, a LWS. There could be access to the site for school groups via Park Hill Road, in the south-western corner.

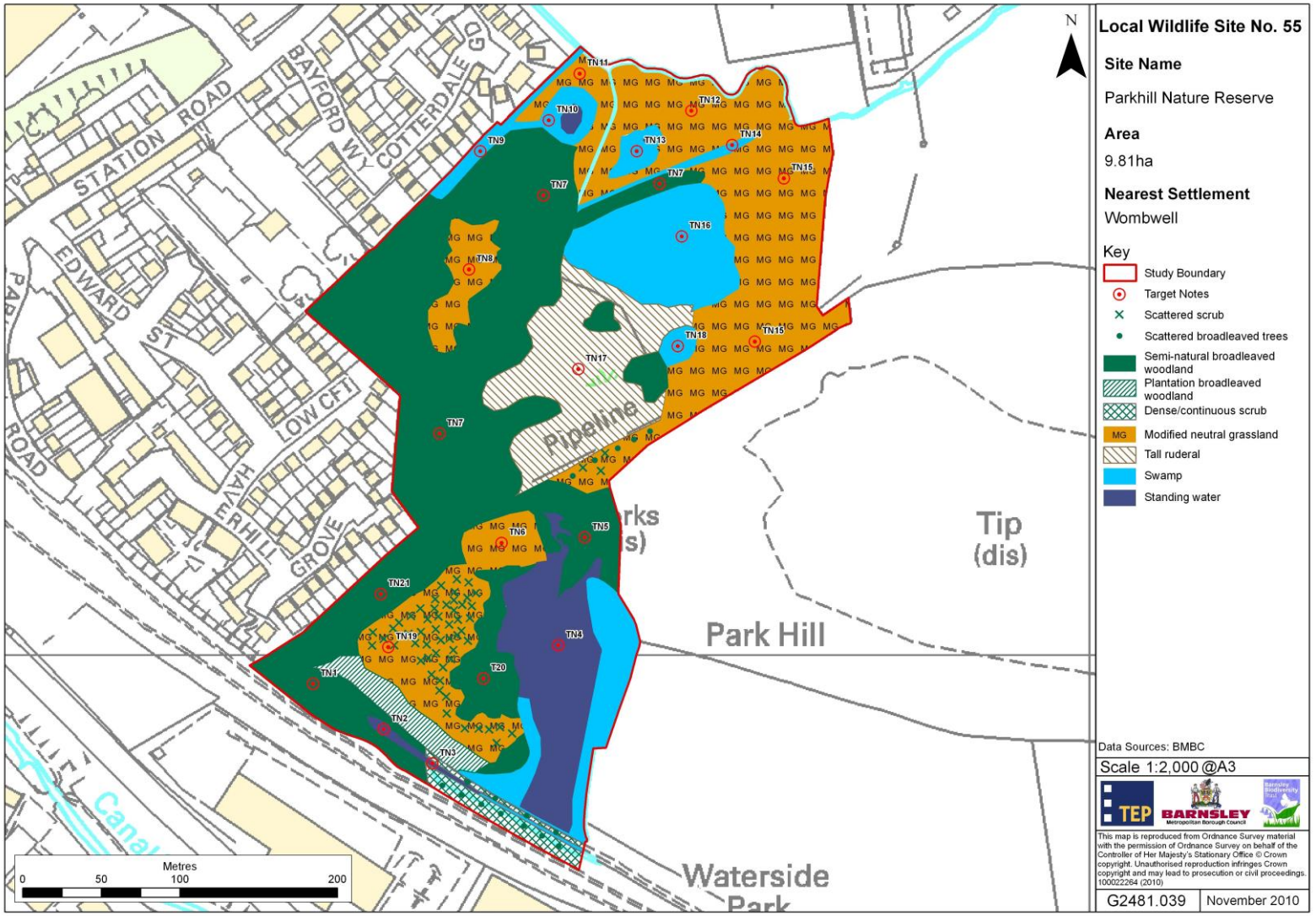
There are schools within 1km to both the south and north of this site. The internal paths are in good order and give access to all habitat types, including a waterside stretch by the old brick works. There is currently no interpretive material on site. The site's accessibility, diversity and proximity to population centres give it potential value for ecological education.

Recommendations:

The site is botanically diverse. It is located in proximity to the local community and the Trans-Pennine Trail and it is part of a wider network of wetland sites and Water voles have been recorded here. These factors combined confirm that this site qualifies as a Local Wildlife Site.

The adjacent land to the east should also be considered for surveying and potential for adoption as a LWS, as this site has some wildlife value and would connect Parkhill Nature Reserve with the Broomhill Flash and Wombwell Ings LWS.

Action:
Adopt as a Local Wildlife Site
Survey adjacent land and consider for LWS adoption
Recommend that a management plan is drawn up and applied
Conduct a further survey to establish the distribution of water vole


Local Wildlife Site No. 55
Site Name
Parkhill Nature Reserve
Area
9.81ha
Nearest Settlement
Wombwell
Key
Study Boundary
Target Notes
Scattered scrub
Scattered broadleaved trees
Semi-natural broadleaved woodland
Plantation broadleaved woodland
Dense/continuous scrub
Modified neutral grassland
Tall ruderal
Swamp
Standing water
N
STATION ROAD
BAYFORD WY
COTTERDALE GD
EDWARD ST
LOW CFT
HAYERHILL GROVE
ROAD
Pipeline
Tip (dis)
Park Hill
Waterside Park
Canal
Metres
0 50 100 200
Data Sources: BMBC
Scale 1:2,000 @A3
TEP
BARNSLEY Metropolitan Borough Council
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