

Extended Phase 1 Habitat Survey

Carr Green Lane, Mapplewell, Barnsley

For

Gladedale Homes



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1.0 Introduction

This report gives the results of an Extended Phase 1 Habitat Survey of Mapplewell, Barnsley, South Yorkshire, carried out by Peter Hague MIEEM and Assistant, of Marishal Thompson Group on behalf of Gladedale Homes.

The Extended Phase 1 Habitat Survey was undertaken to; identify the presence or likely presence of any notable or protected species or habitats on or adjacent to the site; to inform what further surveys might be required to confirm their presence or absence; to highlight any ecological issues that may prove to be a constraint to any development of the site; and to map the habitats and provide comment on the likely ecological value of the site. The survey was undertaken on 10th March 2008.

The site is a mosaic of diverse habitats showing signs of succession to scrub and woodland with wet areas and signs of past industrial use with derelict concrete bases and small walls, particularly at the Northern end of the site. The site is tiered and slopes towards the South, it is sandwiched between housing estates to the East and West and factory units, breakers yard and a football field to the North. Large farmers' fields are seen towards the South.

2.0 Background to the Site

The centre of the survey site is located at Ordnance Survey British National Grid SE 330096, positioned between Spark Lane to the West and Carr Green Lane to the East in the village of Mapplewell. The site is the former North Gawber Colliery; one of several coal mines in the area that closed in the 1980s. The local area is a combination of farmland and development. The site is heavily used by dog walkers and the site is criss-crossed by tracks, evidence of motorcycle use and off road vehicles can be seen with some of the tracks deeply rutted in places.

3.0 Methodology

3.1 Desk Searches

A desk search was undertaken by a Marishal Thompson Environmental Scientist using Natural England's Multi-Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk website to identify statutory and non-statutory sites within a 2.5km radius of the application site. Records extrapolated from various sources such as rECOrd along with requested information from local record centres, Yorkshire Wildlife Trust and other ecological groups to determine any protected species in the area.

3.2 Extended Phase 1 Habitat Survey

A Phase 1 Habitat and Protected Species survey of the site was undertaken. This comprised of a walkover survey of the site identifying different habitats and classifying them according to the habitats given in the Joint Nature Conservancy Council 'Handbook for Phase I Habitat Survey' (NCC 1990, JNCC 1993), using a modified version of the methodology (as described below) given within this book. The Phase 1 habitat map is given in Appendix 1.

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Assessment of the site in terms of its suitability for notable or protected species was undertaken. The site was searched for signs of badgers such as runs, latrines and feeding signs and the site was assessed in terms of its suitability for other notable or protected species such as Great Crested Newts. In addition observations were made to identify any primary UK Biodiversity Action Plan (BAP) species or habitats of local, regional and national importance.

Given the complexity of the site the survey area was subdivided into 12 compartments (A-L) for the benefit of the reader as follows:

- Compartment A – Semi Improved acid Grassland, North of the site
- Compartment B – Disturbed ground, North of the site
- Compartment C – Semi Improved acid Grassland with associated Scrub, North of the site
- Compartment D – Spoil, large Central Northern section
- Compartment E – Broadleaved Semi -natural woodland, Central
- Compartment F – Scrub, Western end of the site
- Compartment G – Marshy ditch running the full length of the site from NW to SE
- Compartment H – Spoil, incorporating scrub and spoil heaps, Central
- Compartment I – Dense Scrub and small stream, to the Southeast
- Compartment J – Heath, to the South of the site
- Compartment K – Broadleaved plantation, Southern perimeter of the site
- Compartment L – Scattered scrub with marshy grassland, South of the site

Target notes describe points of interest within the compartments and can be found in Appendix 1. The compartments sites are shown in the Phase 1 Habitat Maps, see Appendix 2 and a full species list can be found in Appendix 3.

4.0 Results

4.1 Desk Searches

The following statutory and non-statutory Sites of Importance for Nature Conservation (SINCs) within a 2.5km radius of the site were identified using Natural England's Multi-Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk. The list below gives details of data sets searched and sites present:

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• RSPB Reserves	None within 2.5km of the site
• Local Nature Reserves	Notton Wood, approximately 2km NE
• Ramsar Site	None within 2.5km of the site
• Special Protection Areas (England)	None within 2.5km of the site
• Special Areas of Conservation (England)	None within 2.5km of the site
• Sites of Special Scientific Interest (England)	None within 2.5km of the site
• Important Bird Areas (England)	None within 2.5km of the site
• Areas of Outstanding National Beauty (England)	None within 2.5km of the site
• Environmentally Sensitive Areas (England)	None within 2.5km of the site
• National Nature Reserves	None within 2.5km of the site
• National Parks- proposed (England)	None within 2.5km of the site
• National Parks- (England)	None within 2.5km of the site

4.2 Phase 1 Habitat Survey

Several compartments had micro-habitats within them. These are addressed within each compartment when merited.

Compartment A- Semi-improved acid Grassland

Predominantly a patch of scrubby grassland at the top north-eastern corner of the site, see photo 1. The compartment was characterised by occasional small willow *Salix sp* and hawthorn *Crataegus monogyna* strewn with rubble from derelict buildings, photo 2, this rubble could provide refugia for reptiles and amphibians and is discussed further in the target notes in Appendix 1. Walking West along the compartment more scrub is seen, mostly gorse *Ulex europaeus*, broom *Sarothamnus scoparius* with occasional currant *sp Ribes* and dog rose *Rosa canina* and a single species of cotoneaster. Ruderals are also prominent in this area with species such as dock *Rumex obtusifolius*; spear thistle *Cirsium vulgare* and mugwort *Artemisia vulgaris*. Bryophytes are occasional throughout, often colonising the rubble and walls. Other common herbs seen included stands of bramble *Rubus fruticosus*, frequent cocksfoot *Dactylis glomerata*, bent grasses *Agrostis spp*, knapweed *Centaurea nigra* and yarrow *Achillea millefolium*. The ground flora on the hard standing areas was very limited and consisted of common grass species and mosses.

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Photo 1: Rank grasses and Willow of compartment 1

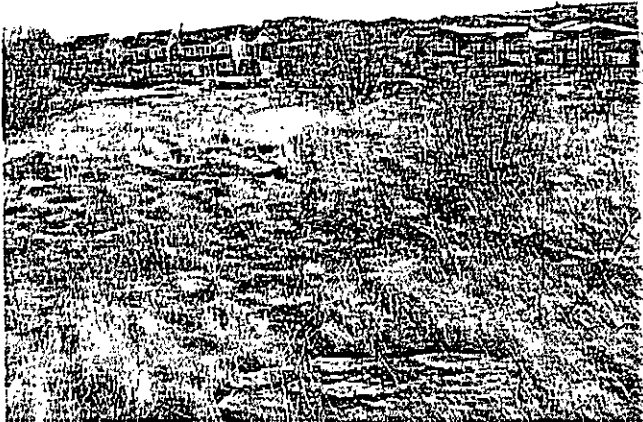
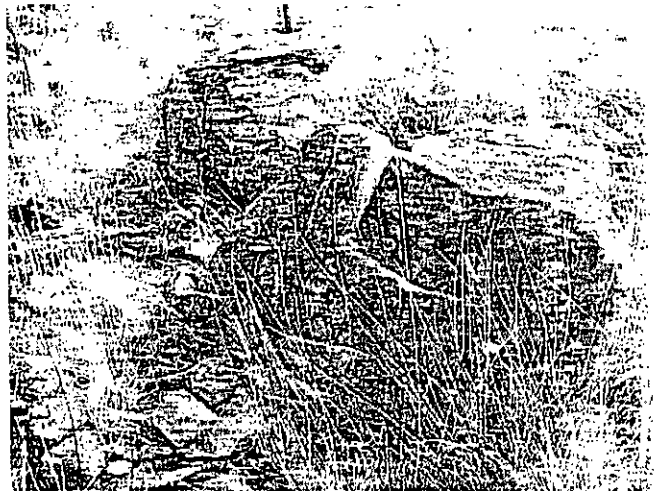


Photo 2: Rubble can be seen around compartment 1



Compartment B – Disturbed ground

A disturbed area consisting of hard standing and remains of small derelict buildings on fairly level ground, see photos 3 and 4. Colonisation of ground flora here is limited in places and even grasses were struggling getting established, photo 3. Rank grasses and ruderals are established beside some of the buildings and several concrete bases are seen within the compartment. The minimal growth of grasses can encourage more unusual flora to flourish due to lack of competition, however, at the time of the survey none could be observed. Coltsfoot *Tussilago farfara* was in flower around the site and smaller sward grasses of red fescue: *Festuca rubra* can be seen. Occasional small trees of birch *Betula sp* and willow are around the compartment and common species such as yarrow and dog rose are established in the more fertile areas.

Photo 3: Looking towards the East of the site

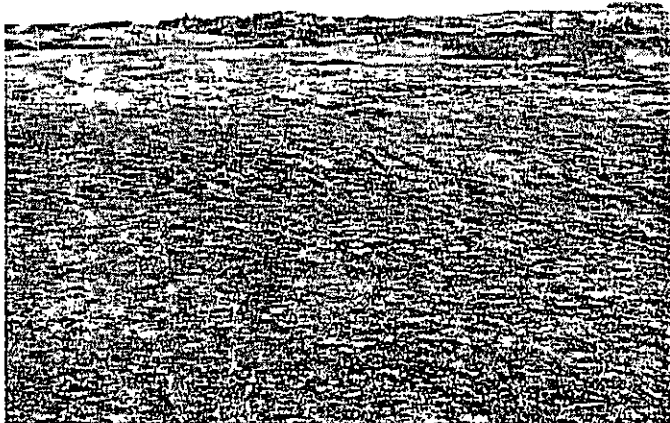
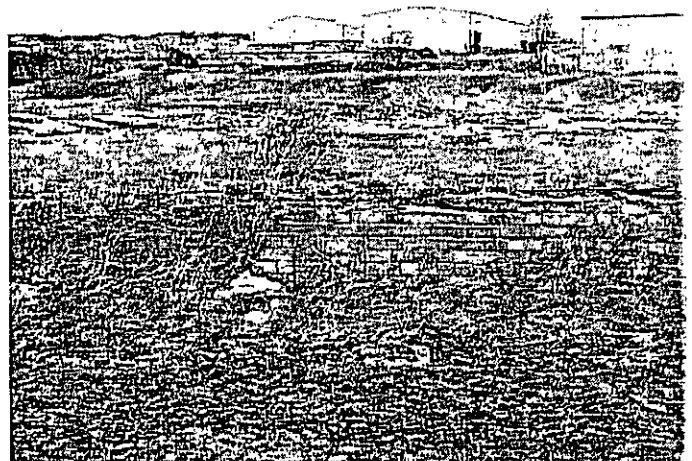


Photo 4: Remains of buildings looking North



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Compartment C – Semi-improved Grassland

A larger compartment, essentially to the north of the site and abutting the factory units and football field, see photo 5. The area is mostly on a gently sloping bank, approximately 10m high. The acid grassland was rank in places and never species rich, it was similar in composition as that of compartment A. Stands of broom can be seen towards the boundary fence that also has occasional birch associated with it, photo 5. Saplings of birch, willow and one of oak *Quercus sp* are getting established on the grassy bank below the football field, see photo 6. Old rabbit burrows were evident within a small clump of birch trees towards the boundary fence.

Photo 5: Scrub to the North of the compartment



Photo 6: Species poor grassland adjacent to the football field



Compartment D – Spoil

The soil conditions here comprise of loose coal and shale deposits, photo 7. Botanical growth is minimal, however, succession by grasses is evident, see photo 8. Bryophytes are also colonising parts of the compartment and concrete bases have accumulated soil and occasional tree saplings can be found here. Scrub/tree encroachment from the South will eventually dominate the compartment. There are several damp areas within the compartment, these are not established sufficiently to warrant a different habitat coding, mosses are found near these areas. The compartment is banked towards compartments B and C, approximately 4m high, more floristic diversity can be found here with small stands of bracken *Pteridium aquilinum* have established, other ruderals of teasel *Dipsacus fullonum*, bramble and knapweed are all growing well with the occasional young oak sapling. The central section of the bank has exposed coal and short sward growth that could be good for flora later in the season. Scattered birch and willow succession is encountered and rubble and concrete bases are seen towards the east of the compartment, the floristic composition significantly decreases here and wet, muddy areas of exposed coal are found.

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Photo 7: typical ground conditions of compartment D

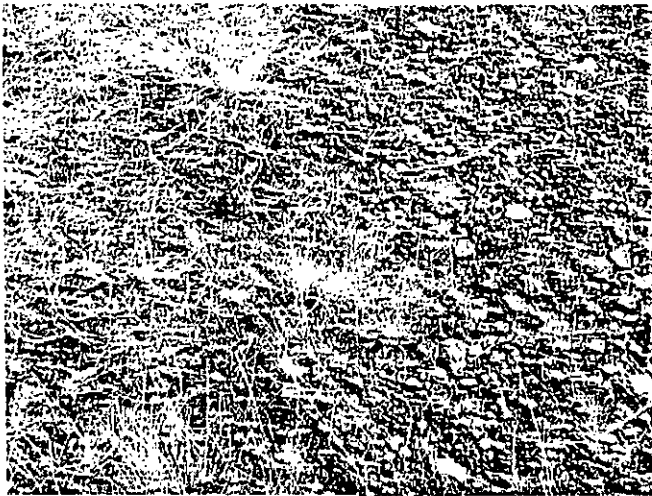
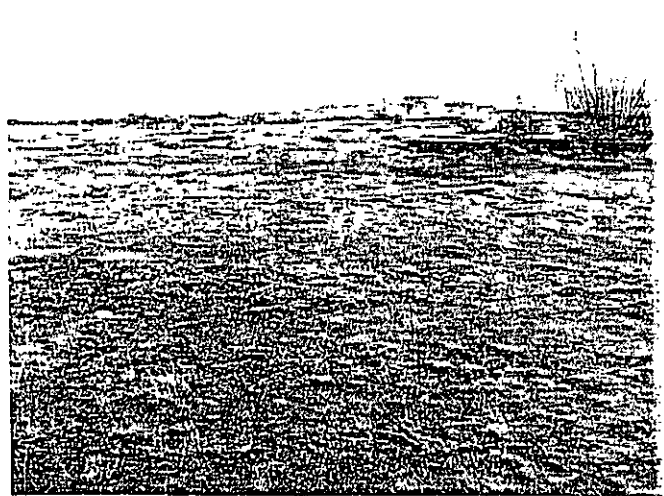


Photo 8: Limited ground flora and concrete bases



Compartment E – Broadleaved semi-natural woodland

Birch dominated woodland that extends across the whole site, tapering down towards the West. Both species of birch of varying ages are evident within the compartment with many saplings evident throughout the woodland. Bramble, willow, tufted hair grass *Deschampsia cespitosa* and bent grasses constitutes the ground flora. Brash is seen amongst the trees but no tree maintenance was evident within the wooded area. The compartment is interspersed with tracks, often muddy and dominated by mosses and lichens see photo 9. The woodland reverts, essentially to young trees and saplings towards the West and young pedunculate oak *Quercus robur* intermingles within the compartment, especially beside the tracks. The ground rises towards compartment D at the Western end where the trees thin out and common grasses dominate.

Photo 9: Young birch saplings towards the West of the site



Photo 10: Looking at the site from compartment D



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Compartment F – Scattered scrub

This compartment is predominantly scattered scrub, mainly willow with occasional birch, with wet areas and ruderals. Dense stands of brambles exist, particularly adjacent to the houses on the Western boundary. A modest sized pond, approximately 40m by 10m with varying depths but mainly 1m deep and displaying eutrophic conditions, can be seen at the Southern extremity of the site. The pond is fed by small feeder streams running through the compartment to the North. Reedmace *Typha latifolia* is the dominant wetland species within the pond, photo 13 and 14. The pond is fringed by semi-mature birch and willow and unsightly rubbish can be seen in open water to the East.

The compartment also has small marshy grassland areas within it, dominated by *Juncus* and the feeder streams to the ponds had small stands of Reedmace, photo 11. The streams themselves were only 0.2m wide and the flow within them limited. No standing water was found beside the wet areas. The occasional mound of rubble was seen in the compartment, see photo 12.

Photo 11: Wet areas within the compartment with Reedmace

Photo 12: Occasional rubble mounds were seen



Photo 13: The pond at the South end of the site

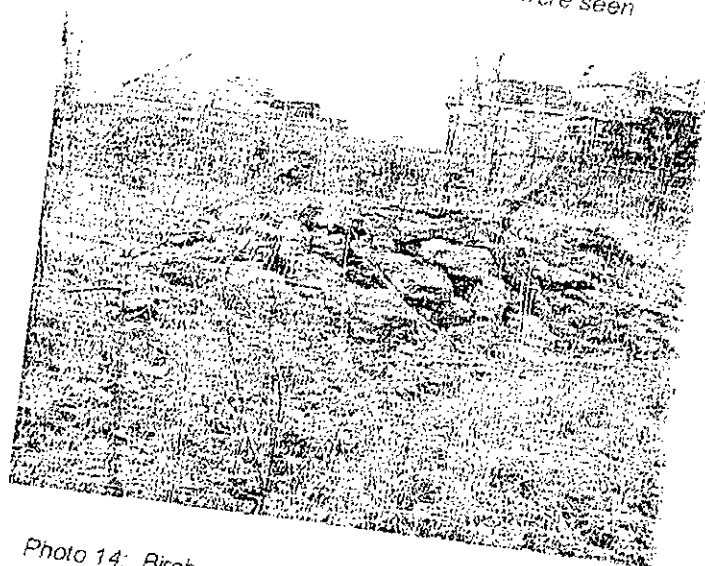
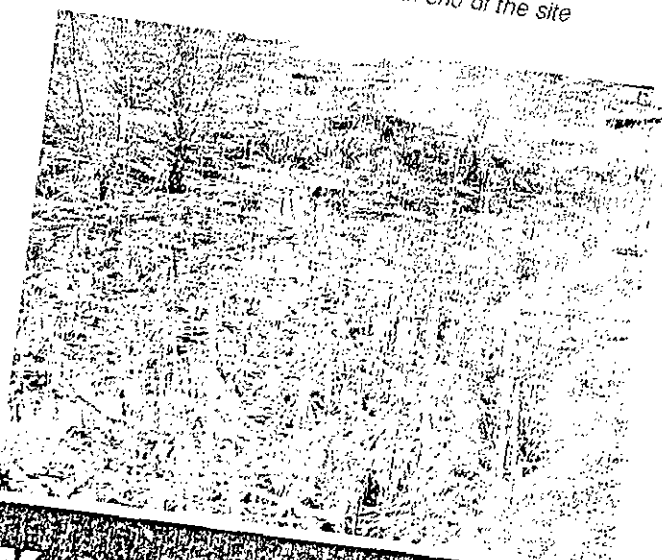


Photo 14: Birch and willow fringe the pond



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Compartment G – Marshy grassland

A drain (3m to 8m wide) runs the full length of the compartment from the Northwest to the Southeast. The water flow at the time of the survey was minimal with the water entering the ditch from a large concrete pipe at the western boundary but standing water was a constant feature along the ditch. The ditch has a steep bank to the north, running approximately three quarters of its length; this terminates just beyond the pond. The narrow ditch has been colonised by wetland plants, dominated by reedmace and rush whilst the banks have vigorous growths of ruderals and a modest selection of flora associated with it, namely bramble, birch, coltsfoot and various grasses. Reedmace becomes the dominant species towards the east with frequent willow with the understorey consisting of woody species such as teasel and mugwort. The pond, photo 15, is fringed by reedmace with little open water; the water looked clear and less eutrophic than that of the pond in compartment F. The ditch then crosses a track where it becomes dominated by a dense stand of common reed *Phragmites australis*, coarse grasses and ruderals, see photo 16, before disappearing under the houses to the east of the site.

Photo 15: The reedmace dominated pond

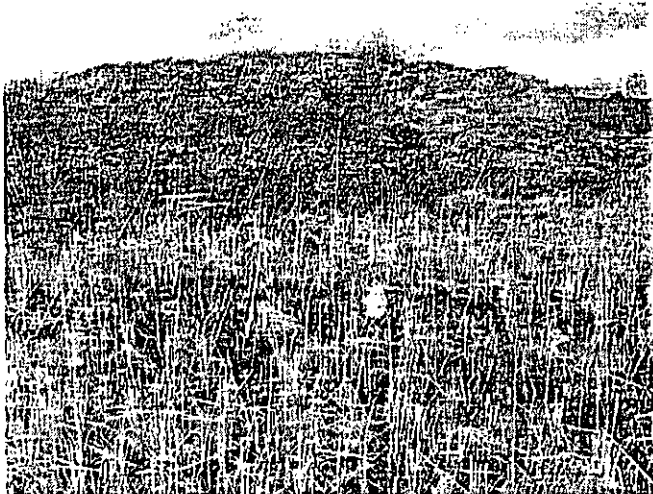
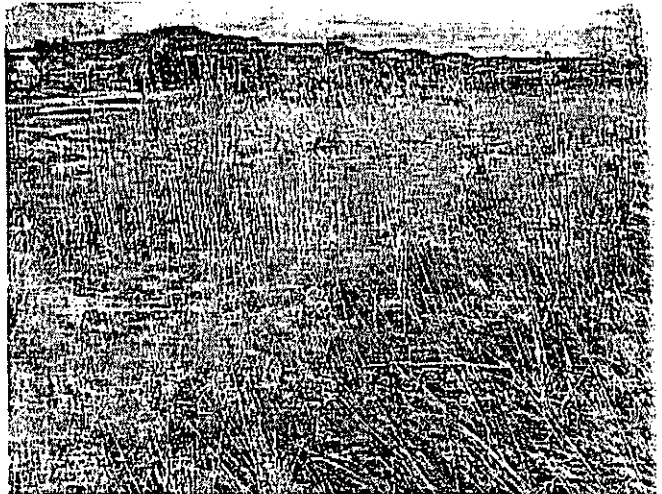


Photo 16: common reed at the east end of the site



Compartment H – Spoil

The compartment is characterised by large bare areas of spoil with mounds covered in dense bramble and rank grasses of cocksfoot and areas of scrub. The spoil areas, photo 17, have little floral composition with colonisation limited. Water has made runnels over the site and coal deposits are seen throughout. The compartment is also rutted by off-road vehicles and tracks are frequent, photo 18. Mosses are growing on some of the flatter areas along with short grasses mostly fescues and rush can be seen in some of the wetter areas. A single specimen of rhododendron sp was found near one of the mounds above the ditch. Birch is encroaching from the north with several small trees well established.

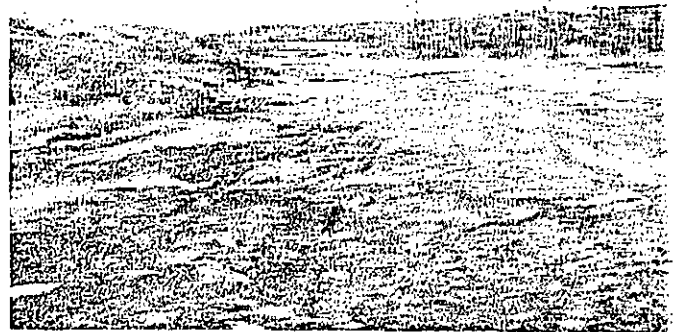
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Photo 17: Spoil terrain within the compartment



Photo 18: One of the mounds on site



Compartment I – Scrub

Dense scrub on steep sided banks with a stream at the bottom of it, running from West to East. Hawthorn is the dominant species here with occasional birch, photos 19 and 20. The banks show a mixture of rank grasses, mostly cocksfoot but also fescues and bracken can be seen in places along with male fern *Dryopteris filix-mas*, ruderals and occasional mosses. The stream was overgrown with the bottom substrate composed of thick sediment, often over 0.5m deep. The stream varied from 0.5 to 1m wide. Rubbish was found in many sections of the stream. The flow was modest and it is likely that more flora will grow on the banks in the summer months.

Photo 19: The steep bank leading down to the stream



Photo 20: Showing the dense scrub of compartment I



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Compartment J – Heath

This compartment had a wide range of habitats. Heath surrounded by scrub with several bryophytes rich sections within it. Heather *Calluna vulgaris* is the dominant species but never in large quantities. Interspersed within the habitat was an abundance of lichens and mosses, with the occasional depression filled with water. Grass species amongst the heather included fescues and tufted hair grass.

Photo 21: The heath of compartment J

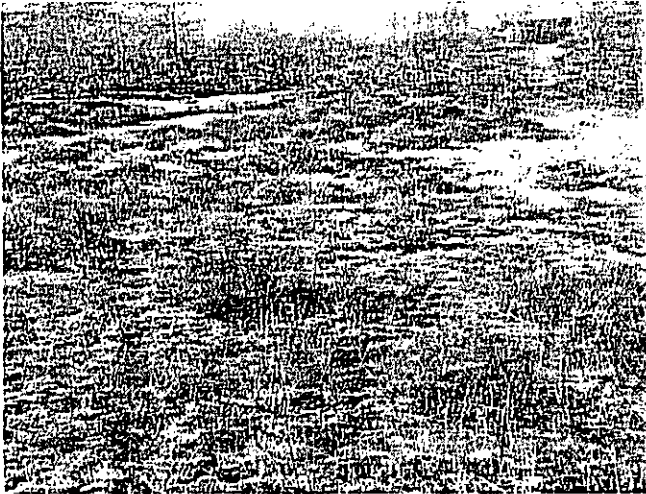
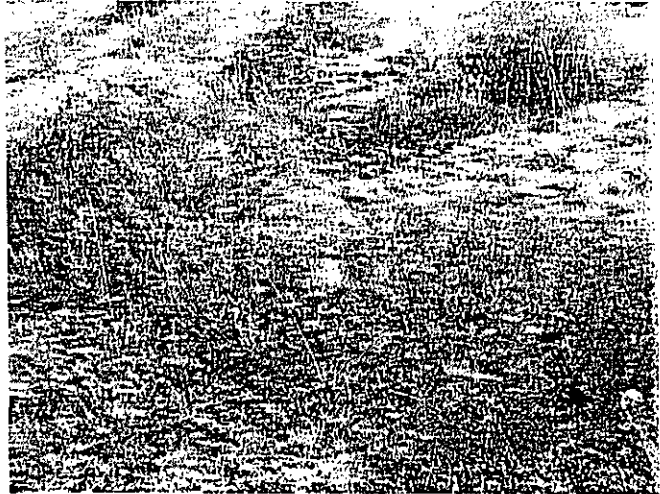


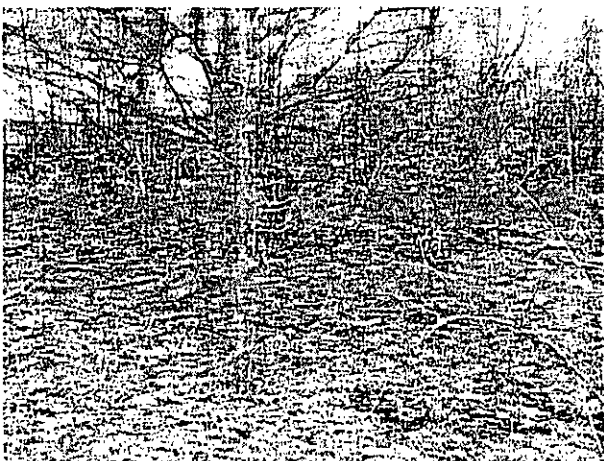
Photo 22: Mosses and lichens are well represented



Compartment K – Broadleaved plantation Woodland

This compartment marks the southern boundary of the site and consists of a mixture of planted native tree species. Some of the trees still had stakes and anti-weed growing polythene, photo 23. The trees were of similar age of approximately 10 to 15 years with second storey growth not yet established. A wide diversity of trees and shrubs included oaks, hawthorn, birch, alder *Alnus glutinosa*, cherry *Prunus* sp and elder *Sambucus nigra*.

Photo 23: Woodland plantation of compartment K



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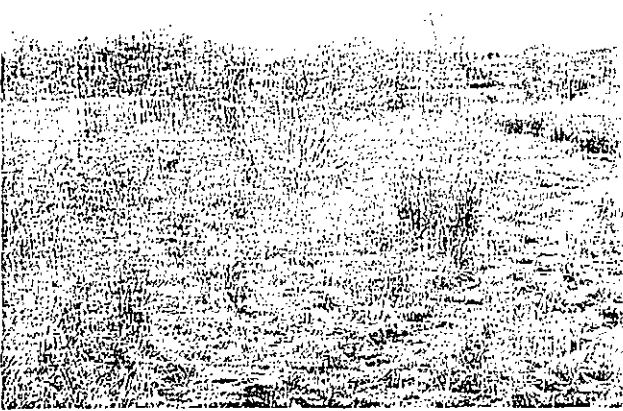
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Compartment L – Scrub

Mostly mixed scrub of birch and willow, the compartment also has bare areas and a stand of marshy grassland dominated by rush, see photo 24. A track also runs along the site and frog spawn was seen in one of the wetter areas, photo 25. Broom is also prevalent in small clumps across the area and mosses are seen in the damp, rutted tracks.

Photo 24: Marshy grassland within compartment L

Photo 25: Frog spawn in wet area



4.3 Amphibians

All amphibians are protected under the Wildlife and Countryside Act 1981 (as amended), with some species also protected under the European Habitats and Species Directive (92/43/EC), and enacted in the UK through the Conservation (Natural Habitats &c.) Regulations 1994. All amphibians are protected from keeping, transporting, selling or exchanging. This means that in practice reasonable measures must be taken to avoid their incidental mortality.

The great crested newt *Triturus cristatus* is protected under Schedule 2 of the Habitats Regulations and Schedule 5 Sections 9(1) and 9(4) of the Wildlife and Countryside Act 1981 (as amended). As such it is illegal to deliberately or recklessly kill, injure, capture or disturb these species or to obstruct access to, damage or destroy areas where they live or breed. The legislation applies to all stages of the life cycle including eggs, larvae and juveniles. Great crested newts (GCNs) spend the majority of their lives on land, venturing up to 500m (but more usually 250m) from their breeding ponds and as such any ground works within 500m of a breeding pond could have an adverse effect on great crested newts.

The streams and drain were surveyed for frogs and toads. Frog spawn was found in the wet area in compartment L. No other amphibian signs were found. There are ample sites for herpetiles to shelter around the whole site and the two ponds are likely to hold them.

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4.4 Badgers

Badgers *Meles meles* and their setts are protected under the 1992 Protection of Badgers Act. Under this Act it is an offence to wilfully kill, injure, take, possess or cruelly ill-treat badgers, or to attempt to do so. It is also an offence to intentionally or recklessly damage, destroy, or obstruct access to any part of a sett, or to disturb an occupied sett, either by intent or negligence. When interpreting the Act, Natural England defines a sett as any structure within an area used by badgers that shows signs of having been occupied by badgers within the last 12 months. In addition if a badger social group is likely to be adversely affected by a planned development then the planning authority can refuse planning permission under guidelines given in PPS9.

Most of the compartments had good foraging opportunities for badger although, surprisingly, their presence was not found in any of the compartments, possibly because of high human activity in and around the site. Runs crossing different compartments were found to be rabbit, confirmed by droppings. Hairs, latrines or feeding signs, such as snuffle holes, could neither be found on site.

4.5 Bats

All bats and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended) and the European Habitats and Species Directive (92/43/EC), enacted in the UK through the Conservation (Natural Habitats &c.) Regulations (1994).

It is an offence, either deliberately or recklessly, to destroy damage or obstruct access to any bat roost, or to disturb a bat using such a place. 'Disturbing' a bat can include simply entering its roost and as such the appropriate licence should be held prior to doing so. It should be noted that a roost is protected whether or not bats are present and any activity or works affecting a roost, even when bats are absent, is likely to be subject to the relevant licence from Natural England.

No signs of bats were found on site, no mature trees exist and derelict buildings consisted of low, single walls with no cavities that were unsuitable for the species. Linear features of the site such as the woodland edges and the streams offer potential commuting corridors and the ponds foraging areas.

4.6 Birds

All wild birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Subsection 1(1) makes it an offence to kill, injure, or take any wild bird; take, damage or destroy the nest of any such bird whilst it is in use or being built, or take or destroying an egg of any such wild bird. The law covers all species of wild birds including common, pest or opportunistic species.

The scrub, dense ruderals (particularly towards the houses in compartment F) and wetland habitats provide excellent nesting sites for birds, including ground nesting species such as skylark. Birds observed or heard on the site were as

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follows (listed by RSPB Conservation Status categories, with Red being threatened, Amber having medium conservation concern and Green having no identified threat).

Red Status: Song thrush: *Turdus philomelos* and reed bunting: *Emberiza schoeniclus*

Amber Status: Green woodpecker: *Picus viridis*, dunnoek: *Prunella modularis* and kestrel: *Falco tinnunculus*.

Green Status: Great tit: *Parus major*, blue tit: *Parus caeruleus*, long-tailed tit: *Aegithalos caudatus* wren: *Troglodytes troglodytes*, robin: *Erithacus rubecula* and blackbird: *Turdus merula*.

4.7 Invertebrates

The site did have a wide range of habitats suitable for invertebrates. however, the cold, breezy conditions on the day of the survey made sightings of these unlikely. No records of noteworthy species of invertebrate could be found. There are no further recommendations for invertebrates.

4.8 Reptiles

All six native species of reptiles are protected under the 1981 Wildlife and Countryside Act (as amended). from deliberate or reckless killing or injury. As such, all reasonable steps must be taken to avoid their incidental mortality when carrying out works.

Reptiles require habitat with good structural diversity, which provides basking areas, adequate feeding opportunities and hibernation sites. Although areas of the site appear suitable for reptiles, the best of these being the heath in compartment J for common lizard *Lacerta vivipara* and the wetland, ponds and scrub areas in compartments F and G for grass snake *Natrix natrix*, a thorough refugia search (rubble, blocks, plastic sheets etc.) at the site revealed negative findings. The reason for this is likely to be the age of the habitats associated with the majority of the areas at the site, in essence, species of reptile have not the opportunity to colonise the areas and human disturbance on the site would also discourage the species. Reptile records are usually not well documented and none could be found for the site.

4.9 Water vole

Water vole *Arvicola terrestris* are now fully protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended. They are also protected from damage to, and destruction of any structure or place a water vole uses for shelter or protection, and from disturbance whilst occupying such a place. They are also priority species in the UK BAP and a species of principal importance under Section 74 of The Countryside and Rights of Way (CROW) Act 2000. Where the presence of water vole is confirmed the law requires reasonable measures to be taken to avoid damaging, destroying or obstructing burrows, or disturbing any water vole present.

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The drain of compartment G is unlikely to harbour water voles, the flow is minimal and the habitat unsuitable. no signs of the species, either feeding signs or burrows were found.

Water vole are relatively poor swimmers the stream in compartment I had adequate sluggish flow to support the animals, however, it was heavily shaded by dense scrub which in turn limited the availability of food plants and murky water conditions would probably deter the species, again. no signs could be found.

The small pond located within compartment G appeared suitable for use by water vole with an abundant supply of food and cover.

The pond in compartment F had the cover and suitable substrate but human disturbance is likely to disclude the animals, neither locations had signs of water vole. No records for this species on the site could be found.

4.10 White-clawed crayfish

White-clawed crayfish *Austropotamobius pallipes* is protected under the Wildlife and Countryside Act (1981), making it illegal to: intentionally kill, injure or take from the wild; sell, offer for sale, possess or transport for the purpose of sale and live or dead animal or part thereof. The species is listed on Annex II of the European Habitats Directive (92/43/EEC). The White-clawed Crayfish also has a Species Action Plan and is a Priority Species under the UK Biodiversity Action Plan. The EC Water Framework Directive's requirement for maintenance of good ecological status of aquatic ecosystems is also important for the management of White-clawed Crayfish habitats.

None of the water courses on the site appeared suitable to support this declining species with no large cobbles or stones on the stream bed or muddy banks for the animals to seek refuge. No burrows could be found and the site is unlikely to hold the species, no records could be found.

5.0 Recommendations

The site offers a diverse range of habitat types, although botanical species recording was limited because of seasonal limitations. Each species is listed and recommendations for them commented upon as follows;

5.1 Badgers

It is against the law to undertake works with heavy machinery within 30 metres of an active sett without a licence. If an active badger sett is found then a Natural England Development licence may be required prior to works.

No badgers or signs of them could be found on site, however, badgers are transient and could easily dig a sett where previously there was no sign of them. The habitat on site is also suitable for badgers. It is therefore recommended that a dedicated badger survey is undertaken across the site, targeting areas of dense scrub and woodland before any proposed development is undertaken.

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5.2 Bats

Bat roosts are unlikely on site but bats could be using linear features as commuting routes and ponds as feeding areas. However, for this site, unless requested specifically by Natural England, it is recommended that no further bat surveys are required.

5.3 Birds

Suitable nesting habitat exists on site, especially dense ruderals, reeds and scrub/woodland habitat. When the suitable nesting habitat (including ground nesting habitat) is to be cleared, this should be undertaken outside the bird nesting season, March-September inclusive. If this is not the case all areas will need to be surveyed for bird's nests by a suitably qualified ecologist prior to any vegetation clearance. Should a nest be found, works in the area will need to stop until any young have fledged the nest. Significant delays to a project can be incurred if bird nesting habitat is not carefully removed at an appropriate time of year. As a precautionary measure a working method statement of vegetation clearance should be adhered to with regard to ground nesting species (for example skylarks).

5.4 Botany

The botanical survey was conducted out of season and a full species list was limited and many herbs will have been missed. It is recommended that a further botanical survey be conducted in the summer months to further investigate assess the botanical value of the site.

5.5 Great crested newt

Although no records could be obtained of great crested newts in the local area many compartments had habitat that could be used by the species. It is therefore recommended that a presence/absence survey for great crested newt is undertaken in order to determine their status at the site. The survey requires four visits to the ponds between mid-March and mid-June, with at least two of these visits made during mid-April to mid-May. If great crested newt are found to be present a further two visits are required to estimate the population size, which will determine the level of any mitigation required at the site. Other areas of open standing water although offering negligible potential as breeding habitat for great crested newt would be surveyed as a precautionary measure.

5.6 Invasive non-native plant species

Under the Wildlife and Countryside Act (as amended), 1981, it is illegal to cause the spread of Japanese knotweed and giant hogweed species and where soil containing it is disturbed, it is necessary to treat it as 'special waste' under Section 34 of the Environment Protection Act 1990.

No invasive non-native plant species were recorded on sight with the exception of a single rhododendron plant growing beside the bank between compartment G and H.

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5.7 Reptiles

It is recommended that a reptile survey is undertaken across the site, particularly the heath in compartment J, the ponds, wetland areas and other compartments which contained rubble. This substrate could act as hibernation sites for a range of reptile species. Reptile surveys can be undertaken from March through to October, with optimum months being March, April and September when basking activity peaks. Basking activity is markedly reduced during the summer months (June-August) making surveys less robust and on colder days (such as the time of the survey).

5.8 Water vole

Water vole surveys can be undertaken throughout the year, but water voles exhibit decreased activity over the winter months with the key survey period occurring between March and April when territories are marked with latrines, and vegetation levels are relatively low, which makes surveys during this period more robust. It is highly unlikely that water voles exist on site and no further surveys are deemed necessary.

5.9 White-clawed crayfish

White-clawed crayfish surveys are best undertaken from mid-July to mid-September, however, it is highly unlikely they exist on site and no further surveys are deemed necessary.

6.0 Summary

The Extended Phase 1 Habitat Survey of Mapplewell, Barnsley has highlighted that there are a number of areas of ecological importance across the site. Recommendations have been made for further survey for the following species:

- Badger
- Birds
- Great crested newt
- Reptiles
- Botanical

7.0 Limitations of the survey

This report records wildlife found during the survey and anecdotal evidence of sightings. It does not record any plants or animals that may appear at other times of the year and were therefore not evident at the time of visit; the botanical survey was conducted out of the main growing season.

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The behaviour of animals can be unpredictable and may not conform to standard patterns recorded in current scientific literature. Species such as bats are highly mobile and can occupy a site which has previously held no potential for them and factors such as increasing habitat pressure can cause animals to occupy areas that were previously unoccupied. This report therefore cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats or that they will not occur in locations or habitats that appear unsuitable.

The survey was conducted on a cold day in early March and, as such, the likelihood of observing reptiles, herpetiles and invertebrates were greatly reduced and possibly under-recorded. The frog spawn in compartment L showed signs of frost damage. A great crested newt survey would need to be commissioned before any development was allowed on site.

Records for the site were hard to obtain with no local record office having any details of the site and records from other conservation organisations were rather sketchy, these will be added at a later date once submitted by appropriate organisations.

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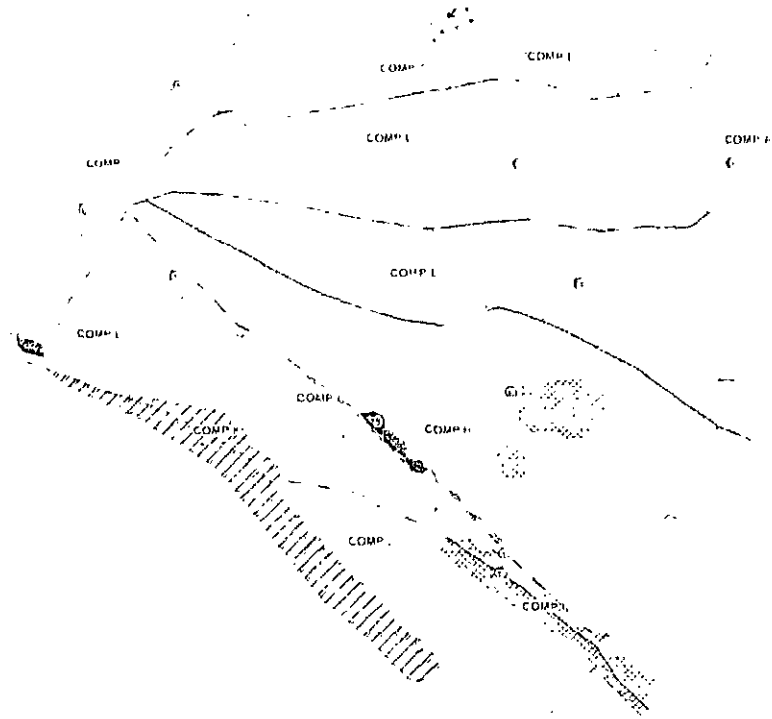
Appendix I. Target Notes

1. Good area for mice and voles, rubble potential hibernacula, ground nesting birds.
2. Scrub area good for nesting birds with old nests discovered, rubble potential hibernacula.
3. possibility of herbs, rubble potential hibernacula
4. Opportunity for nesting birds.
5. High possibility of nesting birds, particularly in the dense bramble.
6. Marshy grassland, possibility of frogs and toads.
7. Pond has a possibility of newts, frogs etc. reed bunting heard in this area.
8. Marshy grassland, possibility of herpetiles, roe deer track found here.
9. Pond ideal for herpetiles and nesting birds.
10. Reeds ideal for nesting birds.
11. Dense ruderals on the mounds ideal for nesting birds. Green woodpecker heard here.
12. Nesting birds in dense scrub.

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Appendix II. Phase 1 Survey Map



Extended Phase 1 Habitat Survey

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Appendix III. Plant Species List

Latin Name	Common Name
<i>Acer pseudoplatanus</i>	Sycamore
<i>Achillea millefolium</i>	Yarrow
<i>Alnus glutinosa</i>	Alder
<i>Anthriscus sylvestris</i>	Cow parsley
<i>Artemisia vulgaris</i>	Mugwort
<i>Betula pendula</i>	Silver birch
<i>Betula pubescens</i>	Downy birch
<i>Centaurea nigra</i>	Common knapweed
<i>Chamerion angustifolium</i>	Rosebay willow herb
<i>Cerastium fontanum</i>	Common mouse ear
<i>Cirsium averse</i>	Creeping thistle
<i>Cirsium vulgare</i>	Spear thistle
<i>Crataegus monogyna</i>	Hawthorn
<i>Cotoneaster</i> sp.	Cotoneaster
<i>Corylus avellana</i>	hazel
<i>Cynosurus cristatus</i>	Crested dogstail
<i>Cytisus scoparius</i>	Broom
<i>Dactylis glomerata</i>	Cock's-foot
<i>Dipsacus fullonum</i>	Teasel
<i>Fagus sylvatica</i>	Beech
<i>Festuca rubra</i>	Red fescue
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Fraxinus excelsior</i>	Ash
<i>Galium aparine</i>	Cleavers
<i>Juncus effusus</i>	Soft rush
<i>Juncus inflexus</i>	Hard rush
<i>Plantago lanceolata</i>	Ribwort plantain
<i>Phragmites australis</i>	Common reed
<i>Poa annua</i>	Annual meadowgrass
<i>Prunella vulgaris</i>	Self-heal
<i>Pteridium aquilinum</i>	Bracken
<i>Quercus petraea</i>	Sessile oak
<i>Ranunculus repens</i>	Creeping buttercup
<i>Rubus fruticosus</i> agg.	Bramble
<i>Rumex acetosa</i>	Common sorrel
<i>Rumex crispus</i>	Curled dock
<i>Rumex obtusifolius</i>	Broad-leaved dock
<i>Salix</i> sp.	Willow
<i>Senecio jacobaea</i>	Ragwort
<i>Tussilago farfara</i>	Colt's-foot
<i>Typha latifolia</i>	Reedmace
<i>Sambucus nigra</i>	Elder
<i>Ulex europaeus</i>	Gorse
<i>Urtica dioica</i>	Common nettle