MWDA: Gillmoss Materials Recovery Facility

Ecological Assessment

10 December 2008

Produced for
Merseyside Waste Disposal Authority

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Abbreviations

AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
CRoW Act	Countryside Rights of Way Act
MEAS	Merseyside Environmental Advisory Service
MWDA	Merseyside Waste Disposal Authority
NERC	Natural Environment and Rural Communities Act
PPS	Planning Policy Statement
SNCV	Site of Nature Conservation Value
SSSI	Site of Special Scientific Interest
TN	Target Note
UDP	Unitary Development Plan
WCA	Wildlife and Countryside Act

1 Introduction

1.1 Introduction to Report

Mouchel have been commissioned by MWDA to undertake an Ecological Assessment of the proposed Gillmoss Materials Recovery Facility in Liverpool. This assessment describes and evaluates the current nature conservation value of the site and the immediate surrounding area, both in terms of habitats and species. It assesses the potential effects of the proposed development on identified receptors and describes mitigation measures as appropriate.

1.2 Legislation and Policy Context

The ecological assessment has been undertaken with reference to the legislation, planning policy and guidance listed below. More detailed explanation is included in Appendix A.

- The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora);
- The Birds Directive (Council Directive 79/409/EEC on the Conservation of Wild Birds);
- The Conservation (Natural Habitats, &c.) Regulations 1994 (The Habitats Regulations) (as amended);
- The Countryside and Rights of Way Act (2000) (CRoW Act);
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- The Protection of Badgers Act 1992;
- Planning Policy Statement 9: Biodiversity and Geological Conservation;
- Natural Environment and Rural Communities Act (NERC) 2006;
- Planning Policy Statement 9: Biodiversity and Geological Conservation; and
- Liverpool Unitary Development Plan (UDP) (adopted November 2002).

1.2.1 Invasive Weeds

The WCA makes it an offence to plant or otherwise cause to grow in the wild, Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum*.

1.2.2 Protected Species

Under European and UK legislation, a number of species and their habitats, including great crested newt *Triturus cristatus*, bats, and badger *Meles meles* are strictly protected from damage, disturbance and destruction of habitat etc. Certain species such as some reptiles and birds receive partial protection under UK legislation e.g. protection from killing/injuring only or protection at certain times of the year only.

1.2.3 Planning Policy

National Planning Policy on the protection of biodiversity and geological conservation is presented in Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9)[1]. National Planning Policy requires projects to achieve biodiversity benefits, not simply to avoid negative impacts.

Planning policy at the local level is presented in the Liverpool UDP[2]. Sites of Nature Conservation Value (SNCV) receive protection through the Liverpool UDP.

2 Assessment Methodology

The assessment has been based on the Guidelines for Ecological Impact Assessment in the United Kingdom[3]. The assessment has involved the following key stages:

- Identification of the likely zone of influence of the project;
- Identification and evaluation of ecological resources and features likely to be affected (baseline environment);
- Identification of the biophysical changes likely to affect valued ecological resources and features and an assessment of whether these biophysical changes are likely to give rise to a significant ecological impact;
- Refinement of the project to incorporate ecological mitigation and enhancement measures to avoid, reduce or compensate for any significant adverse impacts; and
- Assessment of the ecological impacts of the project, including any mitigation and enhancement measures and definition of the significance of any residual impacts.

2.1 Survey Area

All of the ecological surveys covered the area shown on the Phase 1 Habitat Map (Figure 7.2). The footprint of the proposed development covers only a small part of this area, i.e. the south-western field.

2.2 Identification of the Likely Zone of Influence

Based on the areas and resources that could be affected by the biophysical changes caused by the development proposals, the likely zones of influence were identified as follows:

- the immediate zone of influence of the development is defined as the site plus the surrounding area within ~50 m; and
- the wider zone of influence of the scheme extends to all areas/receptors that could be affected by the proposed development. The extent of the wider zone of influence will vary for different impacts and receptors.

2.3 Baseline Data Collection

Establishment of the baseline environment has involved a combination of desk based review, consultation and field surveys.

2.3.1 Desk-Based Study

Information has been gathered by way of data requests with statutory authorities and local interest groups and desk-based review of publicly available information. The following organisations were contacted with respect to the identification of ecological data for the site plus the surrounding area within 1 km:

- Environment Agency;

- Merseyside and West Lancashire Bat Group;
- Merseyside Environmental Advisory Service (MEAS);
- Lancashire Badger Group;
- Lancashire Wildlife Trust;
- National Museums Liverpool; and
- Natural England (Cheshire team).

2.3.2 Habitats

A Phase 1 Habitat Survey was carried out on 2nd June 2006 and covered the entire site following the standard Phase 1 Habitat Survey methodology[4]. In conjunction with the Phase 1 Habitat Survey, the potential for the site to support any legally protected faunal species and/or faunal species of nature conservation importance, e.g. UK and Local Biodiversity Action Plan (BAP) priority species was assessed based on the habitats present and the location.

An updated extended Phase 1 Habitat Survey was undertaken on 8th June 2007. During this visit, the distribution of Japanese knotweed within the survey area was also mapped.

2.3.3 Invertebrates

The survey area was subject to specialist survey for invertebrates on 22nd May 2007. This paid particular attention to the areas likely to be of greatest value for invertebrates e.g. marshy grassland, bare ground, scrub, open water and wet woodland.

2.3.4 Amphibians

During the initial survey in June 2006, an area of standing water was identified in the south-western part of the site. However when the waterbody was inspected in March 2007, the water depth was less than 20 cm. This area remained shallow / dry during each subsequent visit in spring / summer 2007 and this feature was assessed as not providing suitable habitat for great crested newts due to the shallow water depth. Specialist surveys were therefore not conducted.

2.3.5 Reptiles

A survey for reptiles, using artificial refugia, was undertaken in accordance with standard methodology[5]. A total of nine checks were made to the refugia on the dates shown in Table 2.1.

Table 2.1 – Reptile Survey Conditions

Date	Survey Conditions
26/04/2007 (10:00 – 11:30am)	Sunny; 17°C; dry; calm
03/05/2007 (08:00 – 09:30am)	Sunny; 18°C; dry; gentle breeze
09/05/2007 (07:30 – 09:00am)	Overcast; 16°C; dry; calm

Date	Survey Conditions
12/05/2007 (08:00 – 09:30am)	Overcast; sunny spells; 15°C; dry; gentle breeze
08/06/2007 (07:30 – 09:00am)	Sunny; 16°C; brief showers; gentle breeze
29/06/2007 (07:00 – 08:30am)	Sunny; scattered cloud; 16°C; dry; calm
31/07/2007 (08:00 – 09:30am)	Sunny; 21°C; high cloud; dry; gentle breeze
03/09/2007 (09:00 – 10:30am)	Sunny; 18°C; high cloud; dry; calm
11/09/2007 (10:00 – 11:30am)	Sunny, 21°C; high cloud; dry; gentle breeze

2.3.6 *Birds*

A full breeding bird survey was undertaken in accordance with the standard methodology[6], involving five visits on the dates shown in Table 2.2.

Table 2.2 – Breeding Bird Survey Conditions

Date	Survey Conditions
26/04/2007 (08:00 – 11:30am)	Sunny; 17°C; dry; calm
09/05/2007 (06:30 – 09:00am)	Overcast; 16°C; dry; calm
16/05/2007 (06:30 – 09:00am)	Overcast; 13°C; light showers; gentle breeze
14/06/2007 (06:30 – 09:00am)	Overcast; 11°C; heavy showers; gentle breeze
29/06/2007 (06:00 – 08:30am)	Sunny; scattered cloud; 16°C; dry; calm

2.3.7 *Bats*

During the June 2006 survey, all buildings and trees within the survey area were subject to an initial assessment in terms of their potential to support bat roosts. The buildings and trees in the northern part of the survey area were assessed as having some potential to support bats roosts; two nocturnal bat surveys were therefore undertaken on 16th August and 11th September 2007. Each visit involved dusk emergence surveys of the potential roost sites followed by transect surveys of the survey area to record any bats that may use the site for foraging / commuting purposes, in accordance with standard methodology[7].

2.3.8 *Other Fauna*

The survey area was assessed in terms of its potential to support other protected / notable species based on the habitats present and their geographic location. The survey area was also searched for signs of badgers in accordance with Harris *et al.* (1989)[8].

3 Ecological Baseline

3.1 Protected Sites

There are no statutorily designated sites within 1 km of the survey area. The proposals map of the UDP shows one SNCV within 1 km of the site. This SNCV, which is not named on the proposals map, is located ~20 m west of the survey area at its nearest point, i.e. immediately west of Stonebridge Lane. The SNCV is principally a grassland site. Urban grasslands are local (North Merseyside) Biodiversity Action Plan (BAP) habitat.

3.2 Botanical Surveys

The various habitats identified during the field survey are shown in the Phase 1 Habitat Map (Figure 7.2) and are described below; target notes are described in Appendix B; and a plant species list is included in Appendix C.

3.2.1 Semi-Natural Broad-Leaved Woodland

An area of woodland in the northern part of the survey area has been retained as a shelterbelt[i] from the adjacent housing. Given the size of some of the trees, the woodland appears to be around 100 years old, although it is not shown on the Ordnance Survey map of AD1850[9]. The woodland structure is fairly well developed with canopy trees including a mixture of well established sycamore *Acer pseudoplatanus*, silver birch *Betula pendula*, pedunculate oak *Quercus robur* and Swedish whitebeam *Sorbus intermedia,* with occasional mature crack willow *Salix fragilis*.

The semi-natural broad-leaved woodland at the site matches the criteria for the Merseyside BAP priority habitat 'lowland mixed broad-leaved woodland'. However, the habitat at the site is a sub-optimal example of the Local BAP habitat due to its relatively small size and low species diversity. This habitat is therefore assessed as being of value within the immediate zone of influence only.

3.2.2 Broad-Leaved Plantation Woodland

Broad-leaved plantation woodland shelter-belts are present within the survey area. Typical species present include white poplar *Populus alba*, pedunculate oak, silver birch, rowan *Sorbus aucuparia*, Norway maple *Acer platanoides*, sycamore, Swedish whitebeam and Leyland cypress *Cupressocyparis leylandii*.

3.2.3 Marshy Grassland

There are four areas of marshy grassland within the survey area. Approximately 200 flowering spikes of northern marsh/common spotted orchid hybrid *Dactylorhiza fuchsii x D. purpurella* are present in the north-western field with scattered specimens in the south-eastern and south-western fields also. Additional species

[i] Shelterbelts are narrow strips of woodland; sometimes only two or three trees deep. They are typically planted as a windbreak or to provide visual screening.

present include compact rush *Juncus conglomeratus*, soft rush *Juncus effusus*, greater willowherb *Epilobium hirsutum* and tufted hair-grass *Deschampsia cespitosa*.

The marshy grassland areas within the survey area are of some note due primarily to the presence of numerous orchid spikes in some areas (primarily the north-western field). The marshy grassland within the survey area matches the criteria for the Merseyside BAP priority habitat 'urban grasslands'. The richest area of marshy grassland located in the north-western part of the survey area is assessed as being of value at the local level. By contrast, the marshy grassland elsewhere within the survey area is less species-rich and is assessed as being of value within the immediate zone of influence only.

3.2.4 Tall Ruderal

Numerous small patches of Japanese knotweed are present in the central and eastern parts of the site. The bank surrounding the Waste Transfer Station in the eastern part of the site is dominated by species such as common nettle *Urtica dioica*, broad-leaved willowherb *Epilobium montanum*, hoary willowherb *Epilobium parviflorum*, false oat-grass *Arrhenatherum elatius*, common ragwort *Senecio jacobaea* and hedge bindweed *Calystegia sepium*. Given the relatively low species diversity and abundance of this habitat in the wider area, the survey area is assessed as being of value within the immediate zone of influence only.

3.2.5 Scrub

Dense scrub characterised by species such as hawthorn *Crataegus monogyna*, pedunculate oak, silver birch, Italian alder *Alnus cordata* and horse chestnut *Aesculus hippocastanum* is present in the western part of the survey area. Scattered scrub is also present in the grassland areas including silver birch, grey willow *Salix cinerea* and goat willow *Salix caprea*.

Given the species present and the relatively small extent of scrub, the survey area is assessed as being of value within the immediate zone of influence only.

3.2.6 Species-Poor Semi-Improved Grassland

The majority of the survey area is dominated by fairly species-poor neutral grassland. Scrub appears to be encroaching into this area through natural succession. Typical species within the sward include red fescue *Festuca rubra*, cock's-foot *Dactylis glomerata*, ribwort plantain *Plantago lanceolata*, common vetch *Vicia sativa*, tufted vetch *Vicia cracca*, bird's-foot trefoil *Lotus corniculatus*, colt's foot *Tussilago farfara* and hairy tare *Vicia hirsute* with occasional bee orchid *Ophrys apifera*. Given its relatively low species diversity, the grassland within the survey area is assessed as being of value within the immediate zone of influence only

3.2.7 Buildings, Bare Ground and Amenity Grassland

There are four existing buildings within the survey area. The reception building is a single-story brick-built structure with a gabled tiled roof apparently dating from the 1970s. The largest building on the site is the Waste Transfer Station (a metal framed warehouse) which is used for bulking and transferring waste. On the eastern

perimeter of the site is a small electricity board building and to the north of the reception building is the control hut for the weighbridge.

The amenity grassland contains species such as perennial rye-grass *Lolium perenne*, annual meadow-grass *Poa annua*, smooth meadow-grass *Poa pratensis*, germander speedwell *Veronica chamedrys*, lesser trefoil *Trifolium dubium*, daisy *Bellis perennis*, common cat's-ear *Hypochaeris radicata* and bee orchid. Given the abundance of similar habitat in the wider area, the amenity grassland within the survey area is assessed as being of value within the immediate zone of influence only.

3.3 Japanese Knotweed Mapping

As part of the extended Phase 1 habitat survey, the stands of Japanese knotweed were mapped so as to inform the knotweed eradication plans (see Figure 7.2).

3.4 Invertebrate Surveys

The mosaic of semi-improved grassland, marshy grassland, pockets of woodland with occasional lying deadwood and scrub provides potentially good habitat for invertebrates.

A survey of the northern field produced very few invertebrates, with few ground beetles found amongst the mosses and grassland habitats. The birds-foot trefoil and red clover ground flora yielded a greater number of species, but this field was considered to hold the least entomological interest of the three fields.

The south-western field yielded similar results to that of the north field. In addition, this field contains temporary pools and ditches after prolonged rain, and these habitats were also surveyed. However the only aquatic invertebrate recorded on site was found in an enamel bath, discarded on the site.

The south-eastern field produced the greatest diversity of invertebrates.

A full list of the species present can be found in Appendix D.

None of the invertebrates found in the survey were scarce, and although the survey was only carried out on one day, it was considered unlikely that further effort would result in any significant records. Very few of the species are restricted in distribution; the fact that so many are categorised as 'common, widespread' in Appendix D, confirms this. Consequently, the survey area appears to be of low entomological interest and is considered to be of value only within the immediate zone of influence.

3.5 Reptiles

No reptiles were recorded during the surveys; indicating the likely absence of reptiles from the survey area.

3.6 Breeding Birds Survey

The Lancashire Wildlife Trust provided breeding records of the following Red List species from the tetrad in which the site lies (i.e. tetrad SJ39Y): corn bunting *Milaria calandra*; grey partridge *Perdix perdix*; skylark *Alauda arvensis*; song thrush *Turdus philomelos*; reed bunting *Emberiza schoeniclus* and linnet *Carduelis cannabina* with non-breeding records of two further Red List species; spotted fly-catcher *Muscicapa striata* and turtle dove *Streptoelia turtur*.

The Lancashire Wildlife Trust provided records of breeding barn owl *Tyto alba*, little ringed-plover *Charadrius dubius* and peregrine *Falco peregrinus* from tetrad SJ39Y. All three of these species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Based on the habitats present, no Schedule 1 species are considered likely to occur at the site, except on an occasional transitory basis.

The breeding bird surveys conducted at the site in 2007 revealed a rather poor assemblage of birds breeding within the survey area. No rare, scarce or specially protected birds were recorded breeding within the survey area. Two Red List species of conservation concern[10] were recorded (song thrush and starling *Sturnus vulgaris*) and four Amber List species were recorded (dunnock *Prunella modularis*; lesser black-backed gull *Larus fuscus*; mistle thrush *Turdus viscivorus*; and swallow *Hirundo rustica*) although only one of these species (dunnock – one pair) nested within the survey area.

The North Merseyside BAP lists urban birds as a group of species of concern. This grouping includes two species recorded from the site: starling and swift *Apus apus*; neither species breeds at the site.

Given the relatively low abundance and diversity of species recorded, the survey area is assessed as being of value for breeding birds within the immediate zone of influence only. Similarly, outside the breeding season, the site is considered likely to be of value for birds within the immediate zone of influence of the development only.

3.7 Bat Surveys

None of the trees within the survey area are considered likely to support bat roosts. The buildings have low potential to support bat roosts; although none of these will be affected by the proposed development.

The nocturnal bat surveys did not identify any bat roosts within or near to the site. Levels of bat activity recorded were low (no bats were recorded during first visit; just two pipistrelle bats *Pipistrelle sp*. were recorded during the second visit), indicating that the site is of negligible value for bats.

Pipistrelle bats are also identified as a UK BAP priority species and all bats present in Merseyside are covered under the Merseyside BAP for bats. In terms of bat foraging and commuting, the habitats on the site are considered to be of value within the immediate zone of influence only.

3.8 Other Fauna

The Lancashire Wildlife Trust and the Environment Agency provided several records of water voles from within 1 km of the site, including from Sugar Brook ~150 m to the south of the site and from Knowsley Brook ~850 m north-east of the site. Given the lack of suitable habitat, this species is not considered likely to occur within the survey area.

The Lancashire Wildlife Trust provided records of red squirrel from the wider area but not from within 1 km of the site. No evidence of any other protected species was found and no habitats considered likely to support such species were identified. Despite a specific search, no signs of badgers were found.

4 Potential Environmental Effects without Mitigation

Potential effects are only considered in detail for those features which are of sufficient value and potentially vulnerable to significant impacts arising from the proposed development.

4.1 Impacts on Protected Sites

Given the location and nature of the proposals, no direct or indirect impacts on the SNCV immediately west of the site are predicted.

4.2 Flora

Given the relatively low value of the habitats affected, the potential effects on habitats are assessed as not significant.

If Japanese knotweed was to be left untreated, this species could spread within and outside the site, potentially leading to the degradation of other habitat types.

4.3 Fauna

If undertaken during the bird nesting season (March to August inclusive), clearance of trees and shrubs could potentially result in damage or destruction of active bird nests.

Given the absence of other protected/notable species, no effects are considered to be significant.

5 Mitigation

5.1 Japanese Knotweed

A programme of Japanese knotweed eradication has taken place prior to commencement of construction. A guarantee of eradication has been issued for the development site dated 22nd September 2008.

5.2 Protection of Breeding Birds

In order to ensure legal compliance, clearance of potential bird nesting habitat, i.e. trees and shrubs, should be undertaken outside the main bird nesting season of March - August if possible. If this is not possible, works affecting potential bird nesting habitat should be checked by a suitably experienced ornithologist. If bird nests are found, work should be postponed until the young birds have fledged.

5.3 Compensation Measures

Given the relatively low value of the habitats affected, the potential effects on habitats are assessed as not significant. However, it is recommended that the grassland to be created at the margins of the development site is sown with a wildflower mix comprising native species of local provenance if possible. Similarly, tree planting at the site should comprise native species of local provenance.

In order to assist with the local BAP targets for urban birds, it is recommended that nesting boxes for house sparrows, starlings and/or swifts should be installed at the site if possible.

6 Conclusions and Recommendations

The habitats and fauna found on this site are considered to be of low value.

Given the implementation of the mitigation and compensation measures outlined in this report, it is anticipated that there will be an overall neutral impact on nature conservation.

7 Figures

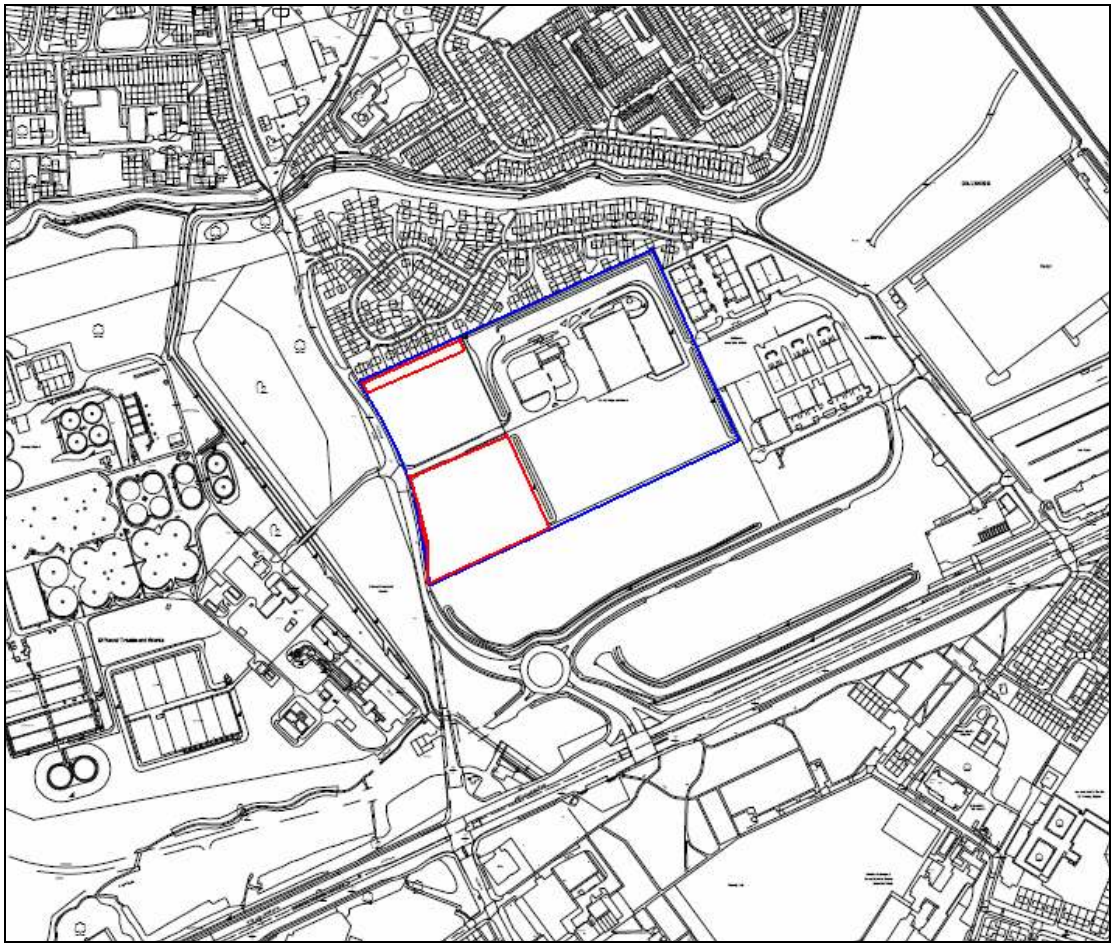

Figure 7.1 – Location of the Site[ii]

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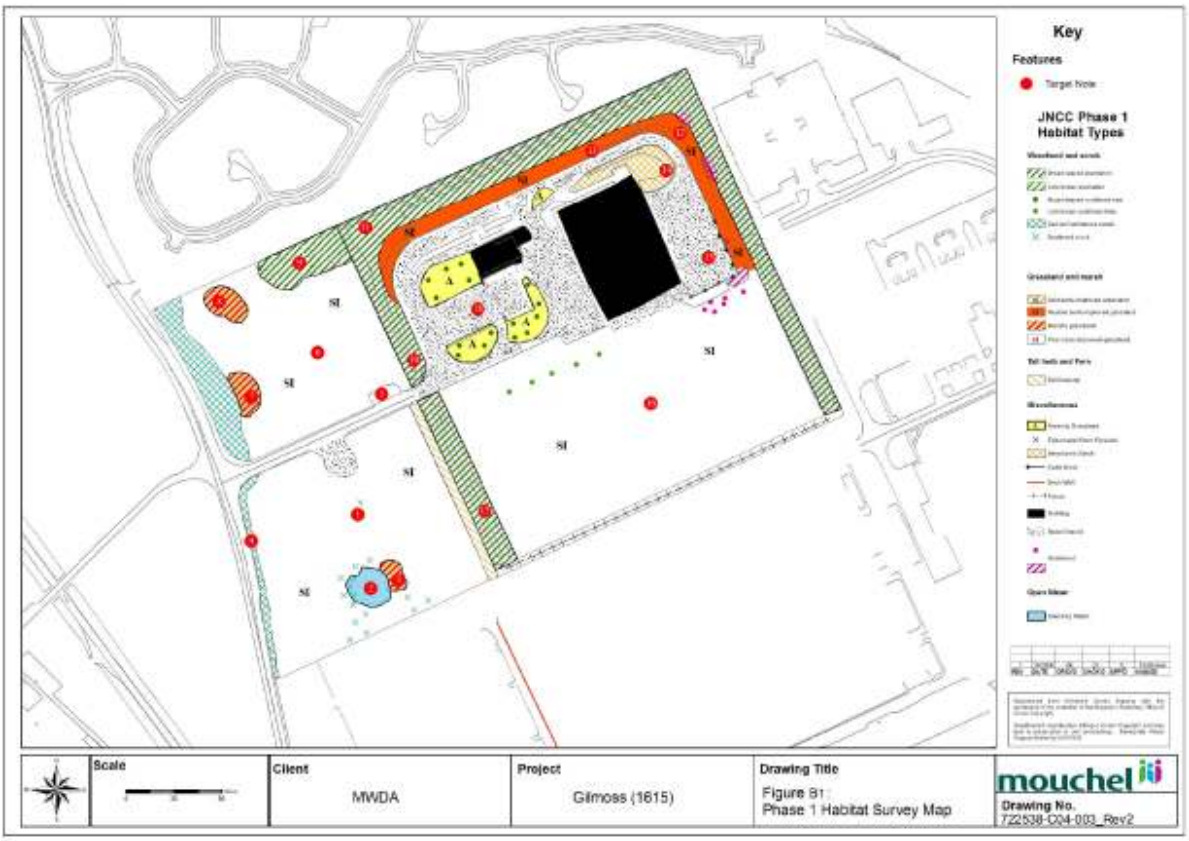

Figure 7.2 – Phase 1 Map

8 Appendix A – Legislation

8.1 Habitats Directive

The Habitats Directive (more formally known as Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora) is a European Union Directive adopted in 1992 as an EU response to the Berne Convention. It is one of the EU's two directives in relation to wildlife and nature conservation, the other being the Birds Directive.

It aims to protect some 220 habitats and approximately 1000 species listed in the directive's Annexes (Annex I covers habitats, Annexes II, IV & V species). These are species and habitats which are considered to be of European interest, following criteria given in the Directive.

The Directive led to the establishment of a network of Special Areas of Conservation, which together with the existing Special Protection Areas form a network of protected sites across the European Union called Natura 2000.

8.2 Birds Directive

The Birds Directive is the European Union Directive on the conservation of wild birds (79/409/EEC). It was adopted in 1979 by nine Member States, and was the first EU Directive on nature conservation. Since its adoption it has been a vital legal instrument for the conservation of all birds that occur naturally across the EU, acting in the broadest public interest to conserve Europe’s natural heritage for present and future generations. Together with the definitions and objectives of the Habitats Directive (92/43/EEC), adopted in 1992, it offers useful legal conceptual models and a set of standards and norms in common use. The Birds Directive applies to all 25 EU countries since May 2004.

8.3 Conservation Regulations

The Conservation (Natural Habitats, &c.) Regulations 1994 transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. The Regulations came into force on 30 October 1994, and have been subsequently amended in 1997 and (in England only) 2000. Containing five Parts and four Schedules, the Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

Under the Regulations, competent authorities i.e. any Minister, government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the EC Habitats Directive.

8.4 Countryside and Rights of Way Act

Countryside and Rights of Way Act 2000 (CRoW Act 2000), which applies to England and Wales only, received Royal Assent on 30 November 2000, with the

provisions it contains being brought into force in incremental steps over subsequent years. Containing five Parts and 16 Schedules, the Act provides for public access on foot to certain types of land, amends the law relating to public rights of way, increases protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB). The Act is compliant with the provisions of the European Convention on Human Rights, requiring consultation where the rights of the individual may be affected by these measures.

8.5 Protection of Badgers Act

The Protection of Badgers Act (1992) consolidates a number of previous protective acts for badgers. Under the act it is an offence:

- To kill, injure or take a badger, or to attempt to do so;
- To use badger tongs in the course of killing or taking, or attempting to kill or take, any badger;
- To kill or take a badger with a firearm which does not fall within the specifications laid down in the Act;
- To dig for a badger;
- To cruelly ill-treat a badger;
- To possess or control a live badger;
- To sell or offer for for sale a live badger;
- To mark, or attach any ring, tag or marking device to a badger;
- To possess or control any dead badger, any part of one, or anything derived from one; and
- To interfere with a badger sett by: (a) damaging a sett or any part of one; (b) destroying a sett; (c) obstructing access to or any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.

There are exceptions to most of the offences under the Protection of Badgers Act. For example, the following actions are allowed:

- Taking or attempting to take a trapped, sick or injured badger in order to tend to it, and keeping it for as long as it needs tending;
- Mercy killing of a seriously sick or injured badger;
- Unavoidably killing or injuring a badger as an incidental result of a lawful action (e.g accidentally running over a badger);
- Possessing a dead badger or any part of one where it can be shown that the badger had not been killed illegally (e.g. a skull taken from a road casualty or found on a spoil heap at a sett); and

- Carrying out any action authorised by a licence issued under the Act by the appropriate statutory agency.

8.6 Natural Environment and Rural Communities Act

The Natural Environment and Rural Communities (NERC) Act is designed to help achieve a rich and diverse natural environment and thriving rural communities through modernised and simplified arrangements for delivering Government policy. The Act implements key elements of the Government's Rural Strategy published in July 2004, and establishes flexible new structures with a strong customer focus.

8.7 Planning Policy Statement 9

Planning Policy Statement 9 (PPS 9): Biodiversity and Geological Conservation sets out planning policy on protection of biodiversity and geological conservation through the planning system. These policies complement, but do not replace or override, other national planning policies and should be read in conjunction with other relevant statements of national planning policy.

8.8 Liverpool Unitary Development Plan (UDP)

The Liverpool UDP is a statutory document that plays a major role in shaping the future of the city. It shows what every piece of land in the city can be used for. The plan was adopted on 13th November 2002. Under the new planning system, the UDP is a 'saved plan', which means it is a Development Plan Document (DPD) within the current Local Development Framework.

9 Appendix B – Target Notes

TN1: This field is mostly typical of species poor recently naturalised disturbed ground, with a mainly homogenous species composition. Typical species include abundant red fescue with locally frequent cock's foot, ribwort plantain, common and tufted vetch, bird's foot trefoil, colt's foot and hairy tare amongst other species.

TN2: The water itself is mostly around 20 cm deep at the time of the survey (June) and is dominated by common spike rush *Eleocharis palustris* locally frequent hard rush and very locally frequent compact rush. The standing water may be a seasonal feature though the presence of common spike rush shows that the area is at least permanently damp. The water is completely surrounded by goat willow with occasional silver birch that is regenerating throughout the area. This regeneration is likely to succeed the semi-aquatic vegetation in the future making it less favourable to any amphibian species that might be present or colonise in the future.

TN3: Area of damper ground with locally frequent northern marsh orchid and hard rush.

TN4: This is present throughout the borders of the site and consists mainly of bramble and scattered hawthorn with occasional various saplings.

TN5: Earth bank with species poor pioneering herbs and grasses.

TN6: Similar species composition to TN1.

TN7: Marshy ground with locally frequent hard rush, compact rush, field horsetail and occasional northern marsh orchid.

TN8: Area of locally abundant northern marsh orchid *Dactylorhiza purpurella* with a number of hybrid species consisting of around 200 spikes.

TN9: The woodland structure is fairly well developed with canopy trees including a mixture of mainly well established and regenerating Swedish whitebeam *Sorbus intermedia*, sycamore, silver birch and oak with occasional crack willow. The shrub layer is fairly well developed with mainly frequent elder, dogwood and hawthorn intermixed with locally naturalised and abundant garden privet. Bramble is also frequent and the ground flora is fairly poor. Ground flora species include some indicators of established woodland including locally frequent creeping soft grass, herb Robert and very occasional climbing corydalis. Raspberry and blackcurrant could also be a natural element of this woodland, though with the close proximity to a housing estate these could just as easily be a garden escapee.

TN10: Area of planted hazel, alder and silver birch with a poor ground flora consisting mainly of ground elder, rosebay willowherb common nettle and cleavers.

TN11: This woodland area is similar to TN1 in that it comprises a mixture of semi-natural broadleaved woodland and plantation; however the species composition is fairly different. Species include frequent alder, ash, oak, rowan, silver birch and Norway maple with planted white poplar.

English elm is found in one area and is noticeably partially diseased with the top third of the trees appearing to be dead. The trees are successfully suckering though with much healthy regeneration coming through.

Ground flora is fairly poor though with dense bramble, frequent cow parsley; ground elder, common nettle and occasional hogweed. However there was a single dame's violet reflecting the woodland has semi-natural origins.

TN12: Includes a fairly florally diverse earth bank. Species include sweet vernal grass, bird's foot trefoil, hop trefoil, spearmint, common vetch and ribwort plantain

TN13: The shrub layer consists of a mix of frequent elder and wych elm with silver birch and English elm.

TN14: Area of sprayed Japanese knotweed

TN15: Japanese knotweed is present in at least 3 large patches surrounding the industrial yard surrounded by smaller regenerating areas. No herbicide has been applied here.

TN16: Similar composition to TN1& TN6. This is only located to the north of the site and has been retained and enhanced as a shelter belt from the adjacent housing estate. However, there are introduced shrubs and planted trees intermixed with the semi-natural standards.

TN17: Area of planted white poplar, oak, alder and silver birch with a single horse chestnut, and a shrub layer consisting of elder and hawthorn.

TN18: The area surrounding the car park consists of amenity mown grassland with Leylandii as well as planted Norway maple.

10 Appendix C – Plant Species List

Table 10.1 – Plant Species List[iii]

Scientific name	Common name
Acer platanoides	Norway maple
Acer pseudoplatanus	Sycamore
Aesculus hippocatanum	Horse chestnut
Alnus cordata	Italian alder
Arrhenantherum elatius	False oatgrass
Bellis perennis	Daisy
Betula pendula	Silver birch
Calystegia sepium	Hedge bindweed
Crataegus monogyna	Hawthorn
Dactylis glomerata	Cock's foot
Dactylorhiza fuchsii x D. purpurella	Northern marsh x common spotted orchid
Deschampsia cepitosa	Tufted hair grass
Epilobium hirsutum	Greater willowherb
Epilobium montanum	Broadleaved willowherb
Epilobium parviflorum	Hoary willowherb
Hypocharis radiata	Common cat's ear
Juncus conglomeratus	Compact rush
Juncus effusus	Soft rush
Lolium perenne	Perennial ryegrass
Lotus corniculatus	Birds foot trefoil
Ophrys apifera	Bee orchid
Plantago lanceolata	Ribwort plantain
Poa annua	Annual meadowgrass
Poa pratensis	Smooth meadowgrass
Populus alba	White poplar
Quercus robur	Pendunculate oak
Salix caprea	Goats willow
Salix cinera	Grey willow
Salix fragilis	Crack willow
Senecio jacobaea	Common ragwort

[iii] Nomenclature follows Stace (1997)

Scientific name	Common name
Sorbus aucuparia	Rowan
Sorbus intermedia	Swedish whitebeam
Trifolium dubium	Lesser trefoil
Tussiilago farfara	Colts foot
Urtica dioica	Common nettle
Veronica chamedrys	Germander speedwell
Vicia cracca	Tufted vetch
Vicia hirsuta	Hairy tare
Viccia sativa	Common vetch
X Cupressocyparis leylandii.	Leyland cypress

11 Appendix D – Invertebrate Fauna of the Gillmoss Site

11.1 Introduction

This survey was carried out at the Gillmoss site in Liverpool by Don Stenhouse on behalf of Mouchel on 22nd May 2007. The aim of the survey was to assess the quality of the site as a habitat for terrestrial invertebrates, particularly Coleoptera.

11.2 Methodology

The following sampling methods were used.

- Sweeping - of the grass land, using a standard sweeping technique;
- Ground searching - mainly in grass and moss; and
- Beating - of trees and shrubs.

All of the above methods were used until nothing new was being found. All grassland, scrub, and some individual plants, were swept. The perimeter of each field was surveyed first, followed by the grassland.

The Gillmoss site consists of three fields and for the purpose of this report they have been designated as the North Field, South West field, and South East field. The Grid reference that will be used when entering these records onto the Lancashire database is SJ397965.

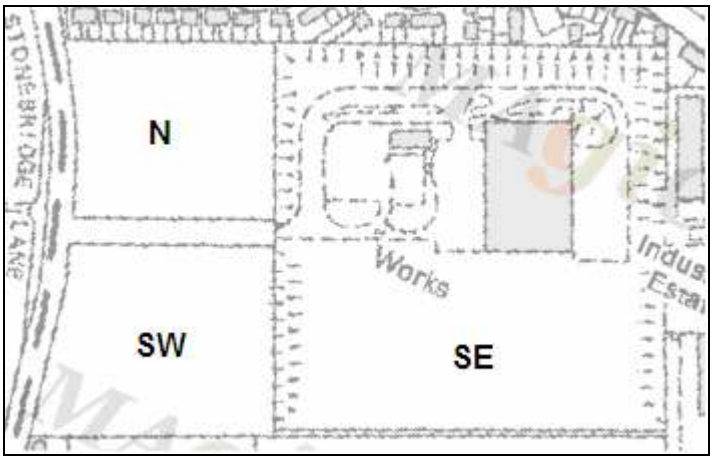

Figure 11.1 – Field Designations

11.3 Results

11.3.1 Species List

Although the nomenclature used is current and taken from recent checklists, the list is arranged alphabetically, not taxonomically. For most of the organisms listed, there is no vernacular name. Where there is such a name, it has been added. Orders are

highlighted in light green and families in grey. Insects are listed first, followed by other invertebrates.

An asterix next to certain moths indicates a new 10 km record for Lancashire.

Table 11.1 – Invertebrate Survey Results

Taxon	Field			Comments/UK Distribution
	N	SW	SE	
Coleoptera (Beetles)				
Apionidae (weevils)				
Perapion hydrolapathi (Marsham)		X		widespread, on *Rumex* spp
Perapion marchicum Herbst			X	on Rumex acetosella agg, widespread but local
Perapion violaceum (Kirby)		X		common, on *Rumex* spp
Protapion assimile (Kirby)	X	X	X	common,on *Trifolium* spp
Protapion nigritarse (Kirby)	X			common,on *Trifolium* spp
Protapion trifolii (L)	X			common,on *Trifolium* spp
Bruchidae (seed beetles)				
Bruchus loti Paykull	X	X	X	common, on *Lotus*
Cantharidae (soldier beetles)				
Cantharis cryptica Ashe			X	very common, widespread
Cantharis pellucida F			X	very common, widespread
Rhagonycha limbata Thomson, C.G.		X	X	very common, widespread
Carabidae (ground beetles)				
Amara lunicollis Schiödte	X			under moss on rocks and in grass litter. Widely distributed, but local
Bembidion properans (S)	X			common, widespread
Bembidion quadrimaculatum (L)	X			common on open ground, widespread
Harpalus latus (L)	X			on dry sandy or gravelly soil. Local
Paranchus (Agonum) *albipes* (F)			X	very common, hygrophilous, widespread
Pterostichus strenuus (Panzer)	X			usually in damp situations, widespread
Pterostichus niger Schaller	X			common & widespread

Taxon	Field			Comments/UK Distribution
	N	SW	SE	
Chrysomelidae (leaf beetles)				
Altica sp			X	common on waterside vegetation, one of a number of 'difficult' species
Cassida rubiginosa Müller, O.F. 'Tortoise beetle'			X	common and widespread on *Cirsium* spp
Crepidodera aurea (Fourcroy)	X			common and widespread, on *Salix* etc
Coccinellidae (ladybirds)				
Coccinella septempunctata (L) 'Seven Spot ladybird'	X	X	X	one of the commonest ladybirds, widespread
Propylea quattuordecimpunctata (L) 'Fourteen Spot ladybird'	X	X		very common, widespread
Rhyzobius litura (F)	X			very common, widespread
Curculionidae (weevils)				
Gymnetron pascuorum (Gyllenhal)	X	X	X	very common & widespread
Phyllobius roboretanus Gredler			X	polyphagous, very common & widespread
Polydrusus cervinus (L)		X		polyphagous, very common & widespread
Polydrusus formosus (Mayer)	X	X	X	polyphagous, introduced as new to the North West by the writer – photo on title page
Sitona suturalis S	X	X		common, widespread, on *Vicia* spp
Dytiscidae (diving beetles)				
Ilybius ater (De Geer)		X		usually in temporary pools, but can turn up almost anywhere
Elateridae (click beetles)				
Athous haemorrhoidalis (F)	X	X	X	very common in grassland
Kibunea minuta (L)			X	widespread but local in grassy places
Nitidulidae (sap beetles)				
Meligethes carinulatus Förster			X	common and widespread, on Birds Foot Trefoil

Taxon	Field			Comments/UK Distribution
	N	SW	SE	
Oedemeridae				
Oedemera lurida (Marsham)	X	X	X	can be abundant, widespread
Staphylinidae (rove beetles)				
Tachyporus chrysomelinus (L) s.str	X			common and widespread
Diptera (Flies)				
Sarcophagidae (flesh flies)				
Sarcophaga carnaria (L)	X	X	X	common, widespread, can be abundant
Syrphidae (hoverflies)				
Melanostomo scalare (F)	X			common, widespread
Merodon equestris (F) f.narcissi F 'Narcissus Bulb fly'	X			common, widespread, in several colour forms
Tipulidae (Craneflies)				
Tipula variicornis Schummel		x		common, widespread
Nephrotoma appendiculata (Pierre)		x		common, widespread
Hemiptera (Bugs)				
Acanthosomatidae (shield-bugs)				
Acanthosoma haemorrhoidale (L) 'Hawthorn Shieldbug'			X	common and widespread on Hawthorn
Cercopidae (froghoppers)				
Cercopis vulnerata Illiger	X	X		common, widespread but local, distinctively red and black
Coreidae (squashbugs)				
Coriomeris denticulatus (Scopoli)			X	common, but southerly, on Leguminosae
Pentatomidae (shield-bugs)				
Dolycoris baccarum (L) 'Sloe Bug'	X	X		polyphagous despite name, common and widespread
Piezodorus lituratus (F) 'Gorse Shieldbug'			X	common and widespread on Gorse and other Leguminosae

Taxon	Field			Comments/UK Distribution
	N	SW	SE	
Hymenoptera (Bees, Wasps, Ants)				
Apidae (bees)				
Bombus lapidarius L 'Red Tailed Bumble Bee'	X	X	X	very common, widespread
Bombus pascuorum (Scopoli) 'Common Carder bee'	X	X	X	very common and widespread
Formicidae (ants)				
Myrmica scabrinodis Nylander	X	X		very common and widespread
Lasius niger (L)		X		probably the commonest British species
Lepidoptera (Butterflies & Moths)				
Arctiidae (Tiger moths)				
Tyria jacobaeae (L) 'Cinnabar moth'		X	X	widespread on *Senecio*, probably not as common as formerly
Choreutidae (micro-moths)				
Anthophila fabriciana (L) 'Nettle tap'	X			abundant, and widespread
Coleophoridae (micro-moths)				
Coleophora serratella (L)	X	X		recorded from every vice county, on Birch
Coleophora spinella (Schrank) * 'Apple and Plum case bearer'	X	X		widespread, on *Malus* spp, and Hawthorn
Coleophora lusciniaepennella(Treitschke)	larval case			widespread, wherever *Salix* grows
Coleophora argentula (S) *			larval case	widespread, on Yarrow
Elachistaidae (micro-moths)				
Elachista argentella (Clerck) *	X	X	X	common, widespread, on grasses
Glyphipterigidae (micro-moths)				
Glyphipterix simpliciella (S) 'Cocksfoot moth'	X	X		common, widespread, on *Dactylis glomerata*
Gracillariidae (micro-moths)				
Aspilapteryx tringipennella(Zeller) *	X	X		distribution uncertain
Lycaenidae (Blues)				
Polyommatus icarus (Rottenburg) 'Common Blue'		X	X	very common and widespread

Taxon	Field			Comments/UK Distribution
	N	SW	SE	
Lyonetiidae (micro-moths)				
Lyonetia clerkella (L) 'Apple Leaf miner'	leaf mine			common and widespread
Micropterigidae (micro-moths)				
Micropterix aruncella(Scopoli) *	X	X	X	widespread, unusual in having fully functioning jaws, feeds on pollen
Nepticulidae (micro-moths)				
Stigmella aurella (F)	X	X		mines Bramble leaves, probably the commonest, most widespread moth in Britain
Noctuidae				
Callistege mi (Clerck) 'Mother Shipton'			X	reasonably common, widespread on waste ground
Pieridae (whites)				
Pieris rapae (L) 'Small White'	X		X	generally common, widespread, on Crucifers
Pyralidae (micro-moths)				
Crambus lathoniellus (Zincken) *		X	X	common, widespread, on grasses
Myelois circumvoluta (Fourceroy) 'Thistle Ermine'	X			common, widespread, distinctively white and black, on Thistle
Tortricidae (micro-moths)				
Epiphyas postvittana (Walker) 'Light Brown Apple moth'	X			polyphagous despite name, introduced from Australia, widespread
Grapholita lunulana ([Denis & Schiffermüller]) *	X	X	X	distribution uncertain
Yponomeutidae (micro-moths)				
Argyresthia trifasciata Staudinger *	X			discovered new to Britain in 1982, few Lancashire records, on Leylandii etc
Argyresthia pygmaeella ([Denis & Schiffermüller]) *	X			common and widespread on *Salix* spp
Zygaenidae (Burnet moths)				
Zygaena lonicerae(Scheven) 'Narrow-bordered Five-spot Burnet'	larvae	larvae	larvae	widespread on *Trifolium* spp

Taxon	Field			Comments/UK Distribution
	N	SW	SE	
Odonata (Dragonflies and Damselflies)				
Coenagrionidae (Damselflies)				
Ischnura elegans (van der Linden) 'Blue tailed damselfly'	X			very common, widespread in England and Wales, often well away from water
Arachnida (Spiders etc)				
Salticidae (jumping spiders)				
Heliophanus flavipes C.L.Koch		X		widespread, in a variety of situations
Salticus scenicus Clerck 'Zebra spider'			X	common, widespread, often on walls
Isopoda (Woodlice)				
Porcellionidae				
Porcellio scaber 'Common Rough Woodlouse'	X			one of the commonest woodlice, widespread

11.4 Discussion

From a botanical point of view, all three fields appear to be very similar. On the ground, there is a thick layer of moss, with a herb layer of plants such as Birds Foot Trefoil *Lotus corniculatus L*, Red Clover *Trifolium pratense L* and various *Rumex* species. There are few tree species, and *Salix* dominates.

It was expected that the site would be of limited interest for invertebrates, because of the restricted plant diversity.

In the North field, particular attention was paid to a raised area, on which Nettle *Urtica dioca* and Elder *Sambucus nigra*, were growing, but very few invertebrates were found. Searching of moss revealed one ground beetle species, but little else. The scrub produced a large number of beetles of a few species. The Birds Foot Trefoil and Red Clover yielded probably the majority of the beetles seen.

In the South West field, the results were very similar. Although there was a temporary pool, and this was netted, the only aquatic insect recorded came from an old enamel bath.

The South East field produced insects not seen in the others, probably because it is botanically slightly more diverse.

11.5 Conclusion

None of the invertebrates found in this survey are scarce, and although the survey was only carried out on one day, it is unlikely that further effort would result in any

significant records. The presence of several under recorded micro-moths is a reflection of previous recording effort, as these insects are in the main, difficult to identify. Very few of the species are restricted in distribution, and the categorisation as 'common, widespread', for most indicates this. Consequently, this site appears to be of low entomological interest.

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