

# Gate Burton Energy Park Environmental Statement

Volume 3, Appendix 8-D: Terrestrial Invertebrates  
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Prepared for:

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## Table of Contents

1.	Introduction.....	1
1.1	Background.....	1
1.2	Description of The Scheme .....	1
1.3	Site Description.....	2
1.4	Report Objectives .....	2
2.	Legislation and Policy .....	4
3.	Methods.....	6
3.1	Desk Study .....	6
3.2	Field Survey.....	6
3.3	Assessment criteria.....	7
3.4	Survey limitations and assumptions.....	9
4.	Results .....	10
4.1	Desk Study .....	10
4.2	Field Survey.....	10
5.	Evaluation.....	12
5.2	Priority species (research only) lepidoptera .....	12
5.3	Nationally Rare and Nationally Scarce Species .....	12
5.4	Summary .....	13
6.	Conclusions .....	14
	References.....	15
	Annexes .....	16
	Annex A Photographs .....	17
	Annex B – Terrestrial Invertebrate Species recorded in May 2022 .....	19

# 1. Introduction

## 1.1 Background

1.1.1 Gate Burton Energy Park Limited (hereafter referred to as ‘the Applicant’) commissioned a scoping assessment for terrestrial invertebrates for the Gate Burton Energy Park (hereafter referred to as the ‘Scheme’), in order to:

- assess the potential value of the habitats present on Site to support terrestrial invertebrate species and assemblages of conservation value; and
- use this to inform on the design of the Scheme.

1.1.2 The Scheme comprises the installation of solar photovoltaic (PV) generating panels and on-site energy storage facilities across a proposed site in Lincolnshire (hereafter referred to as the ‘Solar and Energy Storage Park’) and grid connection infrastructure (hereafter referred to as the ‘Grid Connection Corridor’), which extends into Nottinghamshire. The entire Scheme, including both the Solar and Energy Storage Park and Grid Connection Corridor is referred to as the ‘Site’. Further information on the Scheme is provided in **ES Volume 1, Chapter 2: The Scheme [EN010131/APP/3.1]**.

1.1.3 The Site is located approximately 4 kilometres (km) south of Gainsborough with the Solar and Energy Storage Park, and the Grid Connection Corridor presented in **ES Volume 2: Figure 1-1 and Figure 1-2 [EN010131/APP/3.2]**.

1.1.4 **ES Volume 2: Figure 1-2 [EN010131/APP/3.2]** presents the expected maximum extent of land included within the Development Consent Order (DCO) application, which includes all land being considered for the purposes of the Scheme. It should also be noted, **ES Volume 2: Figure 1-2 [EN010131/APP/3.2]** represents the maximum extent of the Site boundary based on all the options for Scheme elements that have been the subject of consultation.

1.1.5 The Scheme is defined as a Nationally Significant Infrastructure Project (NSIP) under Sections 14(1)(a) and 15(2) of the Planning Act 2008 (Ref 1) as an onshore generating station in England, exceeding 50MW.

## 1.2 Description of The Scheme

1.2.1 The principal infrastructure will be as follows:

- Solar PV modules;
- PV module mounting structures;
- Inverters;
- Transformers;
- An on-site Substation;
- On-site cabling;

- An energy storage system;
  - On-site electrical compounds comprising of substations and control buildings;
  - A circa 7.5km electrical connection route to connect with the National Grid at Cottam Substation;
  - An off-site electrical compound comprising of a substation and control building;
  - A spare parts storage building or enclosure;
  - Fencing and security measures;
  - Access tracks; and
  - Landscaping and biodiversity enhancement.
- 1.2.2 During the construction phase, one or more temporary construction compound(s) will be required as well as temporary roadways to facilitate access to all land within the Solar and Energy Storage Park.
- 1.2.3 In areas around the PV arrays and on other land within the Solar and Energy Storage Park, opportunities for landscaping, biodiversity enhancements and habitat management have been included.
- 1.2.4 The Ordnance Survey (OS) central grid reference for the Solar and Energy Storage Park is SK 84904 83646.
- 1.2.5 Further information on the Scheme is provided in **ES Volume 1, Chapter 2: The Scheme [EN010131/APP/3.1]**.

## 1.3 Site Description

- 1.3.1 The Scheme is located to the east of Gate Burton, Lincolnshire. The location of the Scheme is presented in **ES Volume 2: Figure 1-1 and Figure 1-2 [EN010131/APP/3.2]**. The Site covers an area of approximately 824 hectares (ha).
- 1.3.2 The Solar and Energy Storage Park (as defined in Section 1.2) covers an approximate area of 652ha and is dominated by arable fields with game crop strips and a few *Miscanthus* fields in the east of the Solar and Energy Storage Park. There are numerous mature trees and hedges within the Site, with woodlands and small wooded copses. The Solar and Energy Storage Park is surrounded by mainly arable and improved grassland livestock fields.
- 1.3.3 The Grid Connection Corridor (as defined in Section 1.2) covers an area of approximately 172ha and is dominated by arable fields. There are hedgerows and watercourses within the Grid Connection Corridor and the River Trent is crossed by the Grid Connection Corridor.

## 1.4 Report Objectives

- 1.4.1 This report includes the following information:
- Relevant legislation and policy;

- Methods for desk and field-based assessments undertaken in 2021 and 2022 respectively;
- Results of the assessment, including any limitations; and
- Conclusions.

1.4.2 This report is a technical appendix to accompany **Chapter 8: Ecology and Nature Conservation of this ES [EN010131/APP/3.1]**.

## 2. Legislation and Policy

- 2.1.1 The national significance of any species that were recorded during field surveys is assessed in this report with reference to the designations and conservation status listed in section 2.

### Wildlife and Countryside Act 1981 (as amended) Schedule 5

- 2.1.2 Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended) (Ref 2) lists animals and species that are protected under Section 9. Section 9 prohibits the intentional killing, injuring or taking of the species listed in Schedule 5 and also prohibits their possession and the trade in the wild animals listed. The species listed are also further protected from disturbance by prohibiting actions that affect places they use for shelter.
- 2.1.3 A total of 40 invertebrate species are afforded protection in the UK under Schedule 5 Section 9.1 of the Wildlife & Countryside Act 1981, (as amended) (Ref 2) which makes it an offence to kill, injure or take any of the species listed. A further four species are afforded protection under Section 9.4 which provides for protection of their habitat and a further 27 species are listed under Section 9.5 which prevents them from being sold or transported.

### Conservation of Habitats and Species Regulations 2017 (as amended)

- 2.1.4 The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 3) transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) (Ref 4), into national law.
- 2.1.5 Three invertebrate species are protected within the UK under these regulations: Fisher's Estuarine Moth *Gortyna borellii lunata*, Large Blue Butterfly *Phengaris arion* and Lesser Whirlpool Ramshorn Snail *Anisus vorticulus*. For these species, it is illegal to capture, kill, disturb or injure them; damage or destroy their breeding or resting places or obstruct access to their resting or sheltering places (either deliberately or accidentally).

### Species of Principal Importance (SPIs)

- 2.1.6 The Natural Environment and Rural Communities (NERC) list of Species of Principal Importance (Ref 5) is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act (2006); under Section 40 every public authority (e.g. a local authority or local planning authority) must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.
- 2.1.7 In addition, with regard to those species on the list of Species of Principal Importance listed under Section 41 (S41), the Secretary of State must:

*“(a) take such steps as appear to the Secretary of State to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section, or*

*(b) promote the taking by others of such steps.”*

2.1.8 The UK Biodiversity Action Plan (UKBAP) was launched in 1994 and established a framework and criteria for identifying species of conservation concern. From this list, action plans for priority species of conservation concern were published and have subsequently been succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref 6). The UK Post 2010 Development Framework is relevant in the context of Section 40 of the NERC Act 2006, meaning that Priority Species are material considerations in planning. These species are identified as those of conservation concern due to their rarity or a declining population trend.

2.1.9 In the region of 400 invertebrate species are listed as Priority Species under Section 41 (S41) of the NERC Act, 2006 (Ref 5) and the presence of any of these on a development site is therefore of material consideration in the determination of planning decisions.

### **Lincolnshire Biodiversity Action Plan**

2.1.10 The Solar and Energy Storage Park is within Lincolnshire. The Lincolnshire Biodiversity Action Plan (3rd edition) (Ref 7) provides the local nature conservation strategy for identifying threats to species within Lincolnshire and sets out the action plans necessary to conserve them. These action plans provide context to inform identification of threatened or uncommon species within the district and, or county. The plans also identify priorities for conservation and enhancement but confers no particular legislative or policy protection to the species identified, however in some cases this is provided through related legislation and local planning policy.

2.1.11 There are no action plans for invertebrate species on the Lincolnshire Biodiversity Action Plan (Ref 7). However, the Nottinghamshire Biodiversity Action Plan (Ref 8) has species action plans for four species of terrestrial invertebrate: Dingy Skipper *Erynnis tages*, Green Hairstreak *Callophrys rubi*, Grizzled Skipper *Pyrgus malvae*, Hazel Pot beetle *Cryptocephalus coryli*.



## 3. Methods

### 3.1 Desk Study

3.1.1 A desk study was undertaken as part of the Preliminary Ecological Appraisal (PEA) in October 2021 (see **ES Volume 3: Appendix 8-B [EN010131/APP/3.3]**). This desk study obtained records of terrestrial invertebrates within the preceding ten years and within a 2km radius of the Site from Greater Lincolnshire Nature Partnership (GLNP) and Nottinghamshire Biological and Geological Records Centre (NBGRC).

### 3.2 Field Survey

3.2.1 The survey area was the Solar and Energy Storage Park only and excluded the Grid Connection Corridor, acknowledging that the habitat with potential to support notable terrestrial invertebrate species (or assemblages) and to be permanently impacted upon (*i.e.* lost) by the Scheme, is within the Solar and Energy Storage Park.

3.2.2 A walk-over scoping survey of the Solar and Energy Storage Park to evaluate the potential of habitats to support terrestrial invertebrates was carried out by invertebrate ecologist Andy Musgrove on 23rd to 24th May 2022. The scoping survey considered the habitats present within the Solar and Energy Storage Park and the potential impacts of the Scheme and identified habitats within the Solar and Energy Storage Park with the potential to support notable invertebrate species and assemblages.

3.2.3 Therefore, the scoping survey focussed on grassland habitats, arable margins and other habitats such as ditches and hedgerows within the Site. Boundary features, such as isolated trees, hedgerows, copses and plantation blocks will be retained and not impacted by the Scheme and therefore, did not form part of the scoping survey.

3.2.4 A route was devised which allowed a sufficiently close approach to all parts of the Solar and Energy Storage Park, in order to be able to assess the likely relative importance of each area for invertebrate diversity. Whilst this involved walking over the majority of the Solar and Energy Storage Park, it did not necessitate walking over all habitats, as some areas could be assessed from a great distance (including with binoculars). This particularly applied to large areas of arable crops and the more common boundary features.

3.2.5 During the scoping survey, any visually obvious and readily identified invertebrate species were noted at the time, but no active specimen capture (*e.g.* with a net) was undertaken.

3.2.6 All features and species of interest were recorded using a geo-referenced dictaphone application.

- 3.2.7 Following the scoping survey, the areas considered most suitable to support notable terrestrial invertebrates, or assemblages of terrestrial invertebrates were subject to targeted sampling on a single occasion (between 25th and 26th May 2022) to appraise the broad level of terrestrial invertebrate interest within such areas.
- 3.2.8 Each of the 16 areas sampled (see Table 2 in Section 4 and Figure 8D-1) were actively searched for a 30-minute period, through a combination of:
- Suction-sampling, which detects a range of ground-dwelling invertebrates;
  - Sweep-netting, which detects invertebrates on taller grasses and herbs; and
  - Beating, which detects invertebrates in shrubs and trees.
- 3.2.9 Similar effort was given to each of these approaches, although this varied slightly depending on the nature of each area.
- 3.2.10 Area 13 (a pond) was surveyed for a 30-minute period by sifting the water with a pond-net and examining the findings in a plastic tray. Additionally, the pond margins (area 12) were also subjected to splashing areas of waterside mud to flush out hidden invertebrates.
- 3.2.11 The majority of specimens collected were transferred directly to alcohol, although a few were tubed separately where this would aid subsequent identification.

## 3.3 Assessment criteria

### Nationally rare and nationally scarce species

- 3.3.1 Invertebrate surveys conducted between the late 1980s and 2010 relied in their interpretation of species recorded, on published Red Data Books and Lists of Scarce and Threatened Species which created British-specific rarity statuses for individual taxa, based on restricted distribution rather than population threat or risk. At the time, the term 'Nationally Scarce', originally coined for plants, was applied to invertebrate species that were known to occur in 16 to 100 10km squares (hectads).
- 3.3.2 Early assessments of invertebrate taxa used the term 'Nationally Notable' for these Nationally Scarce species and, for some taxa, this category was further split into 'Notable A' (Na) for species occurring in 16 to 30 hectads of the National Grid and 'Notable B' (Nb) for those occurring in 31 to 100 hectads. A further category used was 'Red Data Book' which equates to 'Nationally Rare'. This category was used for species that occurred in 15 or fewer hectads in Britain. It was further subdivided depending on the perceived or actual degree of rarity, e.g. 'RDB2' as Vulnerable, 'RDB1' as Endangered, 'RDBI' as 'Red Data Book Indeterminate' and 'RDBK' as 'Red Data Book Insufficiently Known'.

- 3.3.3 Since 2010, IUCN Reviews have been produced for many invertebrate groups and these are continuing to be written. In the recent IUCN Reviews, the restricted distribution categories have now been standardised to ‘Nationally Rare’ (NR) and ‘Nationally Scarce’ (NS) without further subdivision. The Great Britain (GB) system of assessing rarity based solely on distribution is used alongside IUCN criteria which, although they also use measures of geographical extent, are primarily concerned with assessing National and International Threat in terms of decline of species populations.
- 3.3.4 In this report, for the taxa found at the Site, the newly adopted GB Rarity categories 'NS' (Nationally Scarce) and 'NR' (Nationally Rare) has been used, where these appear in IUCN Reviews. Otherwise, where no such IUCN reviews yet exist for the species recorded, they are referred to, in this Appendix only, to the older categorisations of Nationally Scarce 'Notable Nb', 'Notable Na' and 'Notable' and for Red Data Book species, 'RDB' categories. The situation is currently complex, but it will eventually become simpler as further invertebrate groups are assessed for IUCN Reviews and the terminology becomes standardised.
- 3.3.5 There is no standard method for assessing the significance of a site’s invertebrate habitat, therefore guidelines set out by Colin Plant Associates (UK Consultant Entomologists (Ref 9)) consider whether a site is important at a county or regional scale (see Table 1).

**Table 1 Guidelines for evaluating the value of a site at County and Regional level**

Geographical Scale	Description	
<b>Regional</b>	Site with populations of invertebrates or invertebrate habitats considered scarce or rare or threatened in a region of England ( <i>i.e.</i> East Midlands)	Habitat that is scarce or threatened in the region or which has, or is reasonably expected to have, the presence of an assemblage of invertebrates including at least ten Nationally Notable species or at least ten species listed as Regionally Notable for the English Nature region in question in the Recorder database or elsewhere or a combination of these categories amounting to ten species in total.
<b>County</b>	Site with populations of invertebrates or invertebrate habitats considered scarce or rare or threatened in the county in question	Habitat that is scarce or threatened in the county and/or which contains or is reasonably expected to contain an assemblage of invertebrates that includes viable populations of at least five Nationally Notable species or viable populations of at least five species regarded as Regionally Scarce by the county records centres and/or field club.

## 3.4 Survey limitations and assumptions

- 3.4.1 The level of assessment and survey effort was determined based on the findings of the scoping survey and with reference to the Scheme design. Whilst it is acknowledged that the approach, reported in this document, will have only detected a subset of the total range of invertebrate interest, the scoping assessment and targeted sampling, undertaken in May 2022, is adequate for determining the invertebrate interest around the Site, in consideration of the Scheme's retention and avoidance of existing boundary features (especially older trees).
- 3.4.2 No surveys were undertaken for terrestrial invertebrates within the Grid Connection Corridor as the temporary nature of the construction of the cable corridor will not significantly impact upon any terrestrial invertebrates in these areas.

## 4. Results

### 4.1 Desk Study

4.1.1 The data search, through GLNP, returned records of 35 invertebrate species, including two species of beetle; one butterfly species (Small Heath butterfly *Coenonympha pamphilus*); and 32 moth species.

4.1.2 The data search through NBGRC did not return any records of terrestrial invertebrates.

### 4.2 Field Survey

#### Scoping Survey

4.2.1 The scoping survey identified 16 areas within the Solar and Energy Storage Park that, due to the habitat, were considered of potentially more value to terrestrial invertebrates and at the time of survey were, or had the potential to be, within the developable areas of the Scheme.

4.2.2 A summary of these 16 areas is presented in Table 2 and their locations presented in Figure 8-D1.

**Table 2 Summary description of areas of more value to terrestrial invertebrates**

Site Code	Brief habitat description
Area 1	Scrub around former location of High Pasture Farm, differing from surrounding cropped fields and margins.
Area 2	Scrub around location of ruined Siding Farm, differing from surrounding cropped fields and margins.
Area 3	Field margin north of Long Nursery, slightly damper and more shaded in nature than most other margins around the site
Area 4	Field margin and hedgerow associated with row of mature oaks
Area 5	Field margin east of Park Plantation, with notable incursion of Bracken
Area 6	Grass and flower margin with associated scrub alongside railway
Area 7	Field margins on distinctly sandy substrate
Area 8	Field margins on distinctly sandy substrate
Area 9	Field margins on distinctly sandy substrate
Area 10	Grass and flower margin alongside woodland edge, of superficially similar nature to the grassland field to the south
Area 11	Damp <i>Juncus</i> -filled depression in grassy field
Area 12	Margins of the pond, including muddy banks, fringing vegetation and <i>Salix</i> bushes
Area 13	The body of the pond itself

Site Code	Brief habitat description
Area 14	North-west corner of the grassy field, of superficially similar nature to many of the field margins around the site
Area 15	Larger of the well-established grassland fields south of Knaith
Area 16	Smaller of the well-established grassland fields south of Knaith

## Field Survey

- 4.2.3 The field survey, undertaken on 25<sup>th</sup> and 26<sup>th</sup> May 2022, identified 286 terrestrial invertebrate species within the 16 areas sampled (see Table 2). This total included: 45 species of *Arachnidae* (spiders and their allies), 101 *Coleoptera* (beetles), one *Diplopoda* (Millipede), 23 *Diptera* (Flies), 31 *Hemiptera* (true bugs), 40 *Hymenoptera* (bees, wasps, sawflies and ants), two *Isopoda* (Woodlice), 32 *Lepidoptera* (butterflies and moths), two *Mollusca* (slugs and snails), one *Odonata* (dragonflies), three *Orthoptera* (Grasshoppers and Crickets) and five ‘other insects’.
- 4.2.4 No species that are afforded full protection under UK or International legislation were recorded during the sampling. However, one NERC Act 2006 Section 41 butterfly (Small Heath) was recorded within the Solar and Energy Storage Park, along the railway corridor just north of Survey Area 6. The NERC Act legislation requires that the presence of these ‘high priority’ species needs to be taken into consideration by a public body (the planning authority) when performing any of its functions (determining the impact of planning applications) with a view to conserving biodiversity.

## 5. Evaluation

- 5.1.1 The scoping survey for terrestrial invertebrates identified 16 areas that, due to the habitat, were considered potentially of greater value to terrestrial invertebrates, than the remainder of the Site. These areas were subject to targeted sampling between the 25<sup>th</sup> and 26<sup>th</sup> May 2022 to appraise their invertebrate interest.
- 5.1.2 Since the surveys, the Scheme has evolved and Survey Areas 8, 9, 15 and 16 are no longer within the Scheme. Whilst the species list for these areas is included within the results (see Annex B), the evaluation no longer considers species recorded in these areas within the context of the Scheme.
- 5.1.3 A total of 286 invertebrate species were recorded during the survey.
- 5.1.4 No species that are afforded full protection under UK or International legislation were recorded during the survey. However, a small (<5) number of notable species were recorded and these are discussed further.

### 5.2 Priority species (research only) lepidoptera

- 5.2.1 A number of Lepidoptera species are of National BAP Priority (Research Only) status and as such they fall under the NERC Act 2006, Section 41 (Ref 5). Species “*of principal importance for the purpose of conserving biodiversity*” are covered under section 41, which requires that these species need to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.
- 5.2.2 There is often a misconception among Ecological Consultants that these BAP (Research Only) *Lepidoptera* species are highly significant. However, for the most part, they are not treated Nationally through formal individual Species Action Plans and are not intended to play a role in site protection. There is valid concern however, that these *Lepidoptera* have declined in the UK in the last 25 to 35 years, despite still being common and widespread, so they are flagged as Priority BAP species to encourage awareness of their presence at sites and to promote recording and monitoring.
- 5.2.3 One species recorded within the Solar and Energy Storage Park falls into this category: the Small Heath butterfly. This species was recorded along the railway corridor within the Solar and Energy Storage Park. The habitat there will be retained and suitably buffered from the developable areas of the Scheme.

### 5.3 Nationally Rare and Nationally Scarce Species

- 5.3.1 Two species with Nationally Scarce (including ‘Notable A’, ‘Notable B’, ‘Notable’, ‘NS’) status were recorded during the survey. One species with Nationally Rare status (including category Red Data Book status) was recorded.

5.3.2 The main categories in the IUCN Reviews which deal with Threat status are, in order of increasing threat status; ‘Least Concern’, ‘Near Threatened’, ‘Vulnerable’, ‘Endangered’, ‘Critically Endangered’ and ‘Extinct’. Analysis for each species is based on the area that it occupies and/or population statistics with an emphasis on trends of decline and the magnitude of such trends. One taxa with ‘Vulnerable’ IUCN status (the Small Heath butterfly) was recorded during the survey.

## 5.4 Summary

5.4.1 Invertebrate species of conservation interest (see Sections 2 and 3.3) and recorded within the Solar and Energy Storage Park are presented in Table 3.

**Table 3 Invertebrate species of conservation interest**

Species	British Rarity Status	Priority Species	IUCN Threat Status	Location
<i>Syntomus truncatellus</i> (a ground beetle)	Nationally Scarce	No	-	Survey Area 4
<i>Agelastica alni</i> (Alder Leaf Beetle)	Nationally Rare (But needs reassessment)	No	-	Survey Area 12
<i>Hypera meles</i> (a weevil)	Notable B (But needs reassessment)	-	-	Survey Area 11
Small Heath	-	Yes	Vulnerable	Railway corridor within the Solar and Energy Storage Park

5.4.2 Based on the habitats present on Site and the results of the sampling of targeted areas, using Colin Plant Associates (UK Consultant Entomologists) guidelines, the Site does not fulfil the criteria for qualification as being of between County and Regional Value for its invertebrate fauna.

5.4.3 Survey Areas 11 and 12, supporting a single Nationally Scarce and a single Nationally Rare species, respectively, are outside of the developable areas of the Scheme.

5.4.4 The Small Heath butterfly is a species of grassland habitats and margins and was recorded within the Solar and Energy Storage Park in such habitats. The majority of the Scheme will avoid and retain habitats of value to this species.



## 6. Conclusions

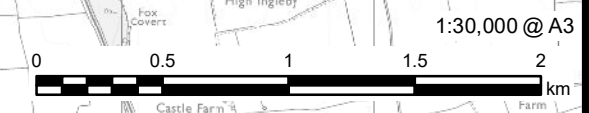
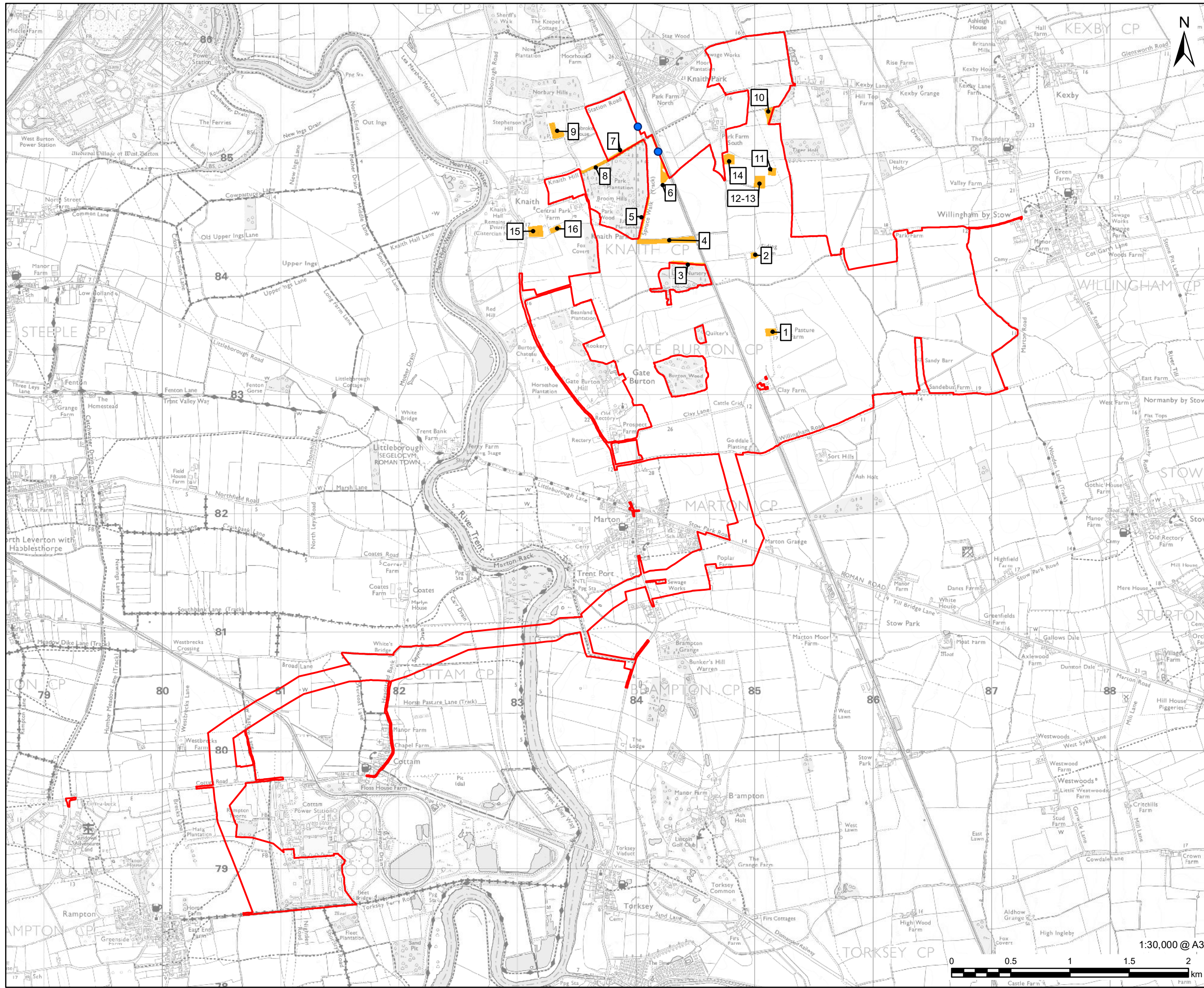
- 6.1.1 The scoping survey, undertaken in May 2022, identified 16 areas of potentially 'higher value' habitat to terrestrial invertebrates. As the Scheme evolved, four of these areas are now outside of the Site. Furthermore, six areas are outside of the developable areas of the Scheme.
- 6.1.2 Of the six areas within the Site that are within the developable areas of the Scheme (Survey Areas 3, 4, 5, 6, 7 and 10 in Figure 8D-1) and that were subject to targeted sampling in May 2022, the only notable species recorded was in Survey Area 4 (see Table 3). These areas (3, 4, 5, 6, 7 and 10) are field margins that will largely be retained. However, minor incursions into these, such as to facilitate construction activities, may occur, although such incursions will be of a temporary nature.
- 6.1.3 Habitats likely to support Small Heath butterflies (including along the railway corridor where this species was recorded), such as grassland margins and hedgerows, will be retained and avoided.
- 6.1.4 Based on the habitats recorded and the small number of terrestrial invertebrates of conservation interest that were recorded (although acknowledging that this was derived from a single spring visit only) the value of the Site to terrestrial invertebrates, is of Local value only.
- 6.1.5 The Scheme has embedded within the design the avoidance of woodland habitats, scrub, hedgerows, watercourses and arable margins – all habitats that are more likely to support notable terrestrial invertebrate species. Therefore, there are no impacts predicted on terrestrial invertebrates and this is evaluated further in **ES Volume 1, Chapter 8: Ecology and Nature Conservation [EN010131/APP/3.1]**.
- 6.1.6 The conversion of intensively managed arable farmland to grassland and the retention and avoidance of the majority of other habitats (as above) is likely to have a beneficial impact on terrestrial invertebrates.

## References

- Ref 1. HMSO (2008) The Planning Act 2008. Available at:  
[https://www.legislation.gov.uk/ukpga/2008/29/pdfs/ukpga\\_20080029\\_en.pdf](https://www.legislation.gov.uk/ukpga/2008/29/pdfs/ukpga_20080029_en.pdf)
- Ref 2. HMSO. (1981). Wildlife & Countryside Act 1981 (as amended).  
<https://www.legislation.gov.uk/ukpga/1981/69>.
- Ref 3. HMSO. (2018). Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London. <http://www.legislation.gov.uk/uksi/2017/1012/contents/made>
- Ref 4. EC (1992). Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. EC, Brussels
- Ref 5. HMSO (2006). The Natural Environment and Rural Communities Act. HMSO, London.
- Ref 6. UK Post-2010 Biodiversity Framework. Joint Nature Conservation Committee and Department for Environment, Food and Rural Affairs (2012).  
[http://jncc.defra.gov.uk/pdf/UK\\_Post2010\\_Bio-Fwork.pdf](http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf)
- Ref 7. Lincolnshire Biodiversity Action Plan. (2012-2020) 3rd edition.  
<http://www.southkesteven.gov.uk/CHttpHandler.ashx?id=7371&p=0>
- Ref 8. Nottinghamshire Biodiversity Action Group (2008) Local Biodiversity Action Plan.
- Ref 9. Colin Plant Associates (2006). EclA Guideline Comments. Unpublished Report to the Institute of Ecology and Environmental Management
- Ref 10. Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland; Terrestrial, Freshwater and Coastal. Second Edition. Chartered Institute of Ecology and Environmental Management, Winchester.

# Figures

## Figure 8D-1: Locations of Habitat Most Suitable for Terrestrial Invertebrates



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# Annexes

## Annex A Photographs



Caterpillars of *Abraxas grossulariata* (Magpie Moth) beaten from Blackthorn in section 1



The hoverfly *Eristalis intricarius* in section 14



Caterpillar of the moth *Amphipyra pyramidea* (Copper Underwing) in section 6



Galls of the mite *Aceria erineae* on Walnut near Burton Wood



*Eurydema oleracea* (Cabbage Shieldbug) near Burton Wood



The sawfly *Macrophya punctumalbum* on an Ash sapling, section 14

# Annex B – Terrestrial Invertebrate Species recorded in May 2022

Species (Scientific name and English name)

Survey Area (see Table X)

Outside of Survey Area

Conservation status

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Arachnida (Spiders and allies)</b>																
<i>Araniella cucurbitina</i>		Y														
<i>Araniella opisthographa</i>	Y	Y	Y	Y		Y									Y	
<i>Larinioides cornutus</i>												Y				
<i>Mangora acalypha</i>			Y													
<i>Clubiona reclusa</i>					Y											
<i>Phrurolithus festivus</i>				Y												
<i>Dictyna uncinata</i>				Y	Y				Y							Y
<i>Aceria erineae</i>																Y
<i>Micaria micans</i>				Y		Y	Y									
<i>Agyneta saxatilis</i>								Y	Y						Y	
<i>Bathyphantes parvulus</i>															Y	
<i>Ceratinella brevipes</i>									Y							
<i>Erigone dentipalpis</i>			Y													
<i>Gnathonarium dentatum</i>												Y				
<i>Linyphia hortensis</i>				Y												
<i>Microlinyphia pusilla</i>								Y						Y		
<i>Pocadicnemis juncea</i>	Y								Y							
<i>Tenuiphantes tenuis</i>		Y	Y	Y	Y	Y	Y		Y		Y					Y
<i>Walckenaeria atrotibialis</i>		Y												Y		
<i>Alopecosa pulverulenta</i>															Y	

Species (Scientific name and English name)

Survey Area (see Table X)

Outside of Survey Area

Conservation status

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>Pardosa amentata</i>												Y				
<i>Pardosa palustris</i>	Y			Y	Y											
<i>Pardosa prativaga</i>	Y		Y	Y											Y	
<i>Pardosa pullata</i>			Y			Y			Y		Y					
<i>Pirata piraticus</i>												Y				
<i>Piratula latitans</i>			Y									Y				
<i>Lophopilio palpinalis</i>		Y	Y				Y									
<i>Rilaena triangularis</i>	Y															
<i>Philodromus albidus</i>									Y							
<i>Philodromus aureolus</i>		Y		Y	Y	Y									Y	Y
<i>Philodromus cespitum</i>						Y									Y	Y
<i>Tibellus oblongus</i>												Y				Y
<i>Pisaura mirabilis</i> (Nursery Web Spider)															Y	
<i>Euophrys frontalis</i>				Y												
<i>Metellina mengei</i>			Y		Y											
<i>Pachygnatha degeeri</i>				Y				Y						Y		
<i>Tetragnatha extensa</i>												Y				
<i>Tetragnatha montana</i>			Y													
<i>Tetragnatha pinicola</i>			Y													
<i>Anelosimus vittatus</i>	Y		Y		Y				Y	Y						
<i>Neottiura bimaculata</i>		Y	Y	Y											Y	Y
<i>Paidiscura pallens</i>		Y							Y							
<i>Phylloneta sisypchia</i>		Y													Y	



Species (Scientific name and English name)

Survey Area (see Table X)

Outside of Survey Area

Conservation status

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>Theridion varians</i>	Y															Y
<i>Zora spinimana</i>		Y														
<b>Coleoptera (Beetles)</b>																
<i>Apion frumentarium</i>										Y						
<i>Ceratapion onopordi</i>							Y	Y	Y							
<i>Eutrichapion ervi</i>			Y													
<i>Ischnopterapion loti</i>								Y								
<i>Ischnopterapion virens</i>											Y					
<i>Perapion curtirostre</i>															Y	
<i>Perapion marchicum</i>							Y									
<i>Protapion fulvipes</i>	Y									Y	Y					
<i>Protapion nigrirtarse</i>			Y							Y			Y			
<i>Cantharis cryptica</i>												Y				
<i>Cantharis decipiens</i>				Y	Y					Y						
<i>Cantharis flavilabris</i>			Y								Y					Y
<i>Cantharis lateralis</i>																Y
<i>Cantharis nigricans</i>					Y											
<i>Cantharis rufa</i>			Y		Y			Y								
<i>Cantharis rustica</i>					Y					Y			Y	Y	Y	
<i>Rhagonycha lignosa</i>					Y											
<i>Acupalpus dubius</i>											Y					
<i>Acupalpus parvulus</i>															Y	
<i>Amara aenea</i> (Common Sun Beetle)											Y					

Species (Scientific name and English name)	Survey Area (see Table X)																Outside of Survey Area	Conservation status									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16											
<i>Anchomenus dorsalis</i>			Y	Y																							
<i>Badister bullatus</i>															Y												
<i>Bembidion assimile</i>																Y											
<i>Bembidion genei</i>																Y											
<i>Bembidion guttula</i>																Y											
<i>Bembidion lampros</i>			Y	Y												Y											
<i>Bembidion lunulatum</i>			Y																								
<i>Bembidion obtusum</i>	Y																										
<i>Calathus cinctus</i>									Y																		
<i>Demetrias atricapillus</i> (Hairy-templed Thatcher)								Y																			
<i>Elaphrus riparius</i> (Green-socks Peacock)																Y											
<i>Harpalus rufipes</i> (Strawberry Seed Beetle)				Y																							
<i>Notiophilus aquaticus</i> (Black-legged Springtail-stalker)								Y																			
<i>Notiophilus palustris</i> (Rough-necked Springtail-stalker)	Y	Y																									
<i>Oxypselaphus obscurus</i>			Y																								
<i>Poecilus cupreus</i> (Copper Greenclock)				Y																							
<i>Poecilus versicolor</i> (Rainbow Greenclock)								Y														Y					
<i>Syntomus foveatus</i>							Y																				
<i>Syntomus truncatellus</i>				Y																							Nationally Scarce
<i>Trechus obtusus</i>									Y													Y					
<i>Cerambycidae</i>																											

Species (Scientific name and English name)

Survey Area (see Table X)

Outside of Survey Area

Conservation status

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<i>Clytus arietis</i> (Wasp Beetle)			Y														
<i>Grammoptera ruficornis</i> (Common Grammoptera)			Y													Y	
<i>Agelastica alni</i> (Alder Leaf Beetle)												Y			Y		Nationally Rare (but needs reassessment)
<i>Bruchidius varius</i>								Y									
<i>Bruchus rufimanus</i> (Bean Seed Beetle)	Y					Y		Y									
<i>Crepidodera aurata</i> (Willow Flea Beetle)		Y	Y														
<i>Crepidodera fulvicornis</i>												Y					
<i>Phyllotreta nemorum</i> (Large Striped Flea Beetle)							Y										
<i>Anisosticta novemdecimpunctata</i> (Water Ladybird)												Y					
<i>Coccinella septempunctata</i> (7-spot Ladybird)																	Y
<i>Harmonia axyridis</i> (Harlequin Ladybird)		Y					Y										
<i>Propylea quattuordecimpunctata</i> (14-spot Ladybird)					Y					Y					Y	Y	
<i>Rhizobius litura</i> (Pointed-keeled Rhizobius)	Y	Y				Y	Y		Y							Y	
<i>Tytthaspis sedecimpunctata</i> (16-spot Ladybird)				Y				Y	Y		Y			Y	Y		
<i>Anoplus plantaris</i>								Y									
<i>Ceutorhynchus chalybaeus</i>	Y																
<i>Ceutorhynchus picitarsis</i>																Y	
<i>Ceutorhynchus typhae</i>										Y							
<i>Curculio glandium</i> (Acorn Weevil)		Y					Y										

Species (Scientific name and English name)	Survey Area (see Table X)																Outside of Survey Area	Conservation status					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16							
<i>Exomias pellucidus</i> (Hairy Spider Weevil)				Y																			
<i>Glocianus distinctus</i>														Y									
<i>Glocianus punctiger</i>																					Y	[Notable B but needs reassessment]	
<i>Hypera meles</i>																					Y	[Notable B but needs reassessment]	
<i>Magdalis ruficornis</i>																						Y	
<i>Mecinus pascuorum</i>	Y	Y		Y		Y																	
<i>Microplontus campestris</i>										Y													[Notable B but needs reassessment]
<i>Nedus quadrimaculatus</i> (Small Nettle Weevil)						Y				Y													Y
<i>Parethelcus pollinarius</i>			Y							Y													
<i>Philopeton plagiatum</i> (Marram Weevil)										Y													Y
<i>Phyllobius argentatus</i> (Silver-Green Leaf Weevil)																							Y
<i>Phyllobius glaucus</i>																							Y
<i>Phyllobius pomaceus</i> (Green Nettle Weevil)						Y	Y	Y															
<i>Phyllobius pyri</i> (Common Leaf Weevil)				Y	Y			Y	Y	Y													Y
<i>Phyllobius roboretanus</i> (Small Green Nettle Weevil)	Y	Y		Y																			Y
<i>Phyllobius virideaeris</i>				Y				Y	Y														Y
<i>Polydrusus cervinus</i>				Y																			Y
<i>Polydrusus pterygomalis</i>																							Y
<i>Rhinocyllus conicus</i>																							Y
<i>Rhinoncus pericarpus</i>																							Y
<i>Sitona lineatus</i> (Pea-leaf Weevil)	Y	Y	Y	Y		Y		Y		Y													

Species (Scientific name and English name)

Survey Area (see Table X)

Outside of Survey Area

Conservation status

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<i>Tychius picirostris</i>		Y								Y				Y			
<i>Hygrotus inaequalis</i>													Y				
<i>Agriotes obscurus</i>				Y													
<i>Agriotes pallidulus</i>					Y			Y									
<i>Athous haemorrhoidalis</i>		Y			Y										Y	Y	Y
<i>Dalopius marginatus</i>					Y												
<i>Limonius poneli</i>					Y												
<i>Prosternon tessellatum</i> (Chequered Click Beetle)															Y		
<i>Thryogenes nereis</i>												Y					
<i>Margarinotus purpurascens</i>				Y													
<i>Malachius bipustulatus</i> (Malachite Beetle)	Y		Y	Y		Y	Y	Y	Y	Y				Y	Y		
<i>Oedemera nobilis</i> (Swollen-thighed Beetle)														Y	Y		Y
<i>Pyrochroa serraticornis</i> (Red-headed Cardinal Beetle)																	Y
<i>Tatianaerhynchites aequatus</i> (Apple Fruit Rhynchites)				Y													
<i>Phyllopertha horticola</i> (Garden Chafer)															Y	Y	Y
<i>Anaspis maculata</i>		Y		Y					Y	Y					Y		
<i>Drusilla canaliculata</i>														Y			
<i>Quedius cruentus</i>		Y															
<i>Tenebrionidae</i>																	
<i>Isomira murina</i>							Y										
<b>Diplopoda (Millipedes)</b>																	

Species (Scientific name and English name)

Survey Area (see Table X)

Outside of Survey Area

Conservation status

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>Ommatoiulus sabulosus</i> (Striped Millipede)						Y										
<b>Diptera (Flies)</b>																
<i>Dioctria atricapilla</i> (Violet Black-legged Robberfly)							Y								Y	Y
<i>Dioctria rufipes</i> (Common Red-legged Robberfly)														Y		Y
<i>Leptogaster cylindrica</i> (Striped Slender Robberfly)									Y							
<i>Neoitamus cyanurus</i> (Common Awl Robberfly)																Y
<i>Dilophus femoratus</i>	Y						Y		Y	Y	Y				Y	Y
<i>Empis tessellata</i>						Y										Y
<i>Helius longirostris</i>												Y				
<i>Lonchoptera lutea</i>	Y	Y														
<i>Rhagio scolopaceus</i> (Downlooker Snipefly)				Y												Y
<i>Scathophaga stercoraria</i> (Yellow Dung Fly)	Y															
<i>Coremacera marginata</i>						Y										
<i>Beris chalybata</i> (Murky-legged Black Legionnaire)				Y												
<i>Cheilosia variabilis</i>															Y	
<i>Episyrphus balteatus</i> (Marmalade Hoverfly)				Y												
<i>Eristalis intricaria</i>														Y		
<i>Myathropa florea</i>															Y	
<i>Pipizella viduata</i>														Y		Y

**Species (Scientific name and English name)**

**Survey Area (see Table X)**

**Outside of Survey Area**

**Conservation status**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<i>Platycheirus angustatus</i>												Y					
<i>Platycheirus manicatus</i>														Y			
<i>Syrirta pipiens</i>		Y															
<i>Volucella bombylans</i>					Y	Y											
<i>Thereva nobilitata</i> (Common Stiletto)							Y	Y									
<i>Nephrotoma flavescens</i> (Tiger Crane-fly)	Y																
<b>Hemiptera (Bugs)</b>																	
<i>Cercopis vulnerata</i> (Red-and-black Frog-hopper)															Y	Y	Y
<i>Errastunus ocellaris</i>		Y				Y								Y			
<i>Eupelix cuspidata</i>							Y								Y		
<i>Tachycixius pilosus</i>			Y														
<i>Coreus marginatus</i> (Dock Bug)						Y											
<i>Sigara lateralis</i>													Y				
<i>Cymus melanocephalus</i>			Y								Y	Y					
<i>Drymus sylvaticus</i>	Y			Y													
<i>Kleidocerys resedae</i> (Birch Catkin Bug)					Y		Y										
<i>Megalonotus chiragra</i>				Y													
<i>Peritrechus geniculatus</i>										Y					Y		
<i>Scolopostethus affinis</i>							Y										
<i>Taphropeltus contractus</i>				Y													
<i>Capsus ater</i>		Y	Y		Y	Y		Y	Y		Y			Y	Y	Y	
<i>Cyllecoris histrionius</i>					Y					Y							

Species (Scientific name and English name)

Survey Area (see Table X)

Outside of Survey Area

Conservation status

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<i>Liocoris tripustulatus</i>						Y											
<i>Miris striatus</i>										Y							
<i>Pithanus maerkelii</i>	Y	Y	Y			Y		Y				Y					
<i>Rhabdomiris striatellus</i>				Y													
<i>Stenodema laevigata</i>	Y					Y	Y		Y						Y	Y	Y
<i>Nabis rugosus</i> (Common Damselbug)															Y		
<i>Aelia acuminata</i> (Bishop's Mitre)						Y	Y		Y						Y		Y
<i>Dolycoris baccarum</i> (Hairy Shieldbug)	Y																
<i>Eurydema oleracea</i> (Cabbage Bug)																	Y
<i>Palomena prasina</i> (Green Shieldbug)					Y												
<i>Piesma maculatum</i>											Y						
<i>Plea minutissima</i>													Y				
<i>Psylla alni</i>															Y		
<i>Corizus hyoscyami</i> (Cinnamon Bug)								Y									
<i>Rhopalus subrufus</i>				Y													
<i>Dictyonota fuliginosa</i>	Y																
<b>Hymenoptera (Aculeata) (Bees, hunting wasps, ants)</b>																	
<i>Andrena haemorrhoa</i> (Orange-tailed Mining Bee)									Y								
<i>Andrena nigroaenea</i> (Buffish Mining Bee)																	Y
<i>Andrena wilkella</i> (Wilke's Mining Bee)				Y													
<i>Apis mellifera</i> (Honey Bee)																	Y
<i>Bombus lapidarius</i> (Red-tailed Bumblebee)																	Y



Species (Scientific name and English name)

Survey Area (see Table X)

Outside of Survey Area

Conservation status

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<i>Bombus pascuorum</i> (Common Carder Bee)															Y		Y
<i>Bombus terrestris</i> (Buff-tailed Bumblebee)								Y									Y
<i>Nomada flava</i> (Flavous Nomad Bee)																	Y
<i>Nomada flavoguttata</i> (Little Nomad Bee)					Y												
<i>Nomada ruficornis</i> (Fork-jawed Nomad Bee)							Y										
<i>Formica fusca</i> (Dusky Ant)	Y					Y											
<i>Lasius niger</i> (Small Black Ant)	Y			Y								Y			Y	Y	
<i>Lasius platythorax</i>				Y													
<i>Myrmica rubra</i>	Y								Y								Y
<i>Myrmica ruginodis</i>	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	
<i>Sphecodes ephippius</i> (Bare-saddled Blood Bee)																	Y
<i>Vespa crabro</i> (Hornet)																	Y
<i>Vespula vulgaris</i> (Common Wasp)							Y										
<b>Hymenoptera (Parasitica) (Parasitic wasps)</b>																	
<i>Biorhiza pallida</i> (Oak Apple Gall)				Y													
<i>Collyria coxator</i>						Y			Y					Y			
<b>Hymenoptera (Symphyta) (Sawflies)</b>																	
<i>Arge cyanocrocea</i> (Bramble Arge)	Y																Y
<i>Arge nigripes</i> (Black Rose Arge)																	Y
<i>Arge pagana</i> (Dark-shouldered Rose Arge)																	Y

**Species (Scientific name and English name)**

**Survey Area (see Table X)**

**Outside of Survey Area**

**Conservation status**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<i>Cephus pygmeus</i> (Wheat Stem Borer)		Y	Y	Y		Y	Y	Y		Y				Y		Y	Y
<i>Cephus spinipes</i> (Timothy Stem Borer)	Y					Y								Y			
<i>Aglaostigma aucupariae</i>																	Y
<i>Athalia bicolor</i>								Y									
<i>Dolerus gonager</i>							Y										
<i>Dolerus niger</i>							Y										
<i>Dolerus nigratus</i>																Y	
<i>Dolerus picipes</i>									Y						Y		
<i>Dolerus triplicatus</i>												Y					
<i>Euura annulata</i>	Y																
<i>Euura myosotidis</i>			Y														
<i>Macrophya punctumalbum</i>			Y											Y			
<i>Nematus lucidus</i>																	Y
<i>Strongylogaster xanthocera</i>					Y												
<i>Tenthredo brevicornis</i>														Y			
<i>Tenthredo mesomela</i>			Y			Y											Y
<b>Isopoda (Woodlice)</b>																	
<i>Armadillidium vulgare</i> (Common Pill Woodlouse)	Y	Y		Y											Y		
<i>Philoscia muscorum</i> (Common Striped Woodlouse)	Y	Y	Y	Y	Y				Y	Y		Y			Y	Y	
<b>Lepidoptera: butterflies</b>																	
<i>Ochlodes sylvanus</i> (Large Skipper)															Y		
<i>Arícia agestis</i> (Brown Argus)						Y											
<i>Lycaena phlaeas</i> (Small Copper)																	Y

Species (Scientific name and English name)	Survey Area (see Table X)																Outside of Survey Area	Conservation status
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
<i>Polyommatus icarus</i> (Common Blue)															Y	Y		
<i>Aglais io</i> (Peacock)								Y										
<i>Coenonympha pamphilus</i> (Small Heath)																	Y	IUCN Vulnerable; Section 41 Priority Species
<i>Pararge aegeria</i> (Speckled Wood)																	Y	
<i>Vanessa atalanta</i> (Red Admiral)																	Y	
<i>Vanessa cardui</i> (Painted Lady)																	Y	
<i>Anthocharis cardamines</i> (Orange-tip)			Y	Y														
<i>Pieris napi</i> (Green-veined White)															Y	Y		
<i>Pieris rapae</i> (Small White)																	Y	
<b>Lepidoptera: moths</b>																		
<i>Nemophora degeerella</i> (Yellow-barred Long-horn)															Y			
<i>Crambus lathoniellus</i> (Hook-streak Grass-veneer)								Y										
<i>Eudonia lacustrata</i> (Little Grey)															Y			
<i>Euproctis similis</i> (Yellow-tail)					Y													
<i>Tyria jacobaeae</i> (Cinnabar)																	Y	
<i>Abraxas grossulariata</i> (Magpie Moth)	Y																	
<i>Chiasmia clathrata</i> (Latticed Heath)															Y	Y		
<i>Epirrhoe alternata</i> (Common Carpet)			Y															
<i>Petrophora chlorosata</i> (Brown Silver-line)					Y												Y	
<i>Glyphipterix simplicella</i> (Cocksfoot Moth)					Y	Y				Y	Y						Y	
<i>Acrocercops brongniardella</i> (Brown Oak Slender)			Y															

Species (Scientific name and English name)	Survey Area (see Table X)																Outside of Survey Area	Conservation status		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
<i>Micropterix aruncella</i> (White-barred Gold)								Y												
<i>Micropterix calthella</i> (Plain Gold)			Y		Y				Y						Y				Y	
<i>Agrotis segetum</i> (Turnip Moth)		Y																		
<i>Amphipyra pyramidea</i> (Copper Underwing)						Y														
<i>Autographa gamma</i> (Silver Y)						Y													Y	
<i>Nola cucullatella</i> (Short-cloaked Moth)										Y										
<i>Pammene aurana</i> (Orange-spot Piercer)					Y	Y													Y	
<i>Pammene regiana</i> (Regal Piercer)									Y											
<i>Zelotherses paleana</i> (Timothy Tortrix)															Y					
<b>Mollusca (Snails and slugs)</b>																				
<i>Monacha cantiana</i> (Kentish Snail)										Y										
<i>Trochulus hispidus</i> (Hairy Snail)			Y																	
<b>Odonata (Dragonflies)</b>																				
<i>Coenagrion puella</i> (Azure Damselfly)																			Y	
<b>Orthoptera (Grasshoppers and crickets)</b>																				
<i>Leptophyes punctatissima</i> (Speckled Bush-cricket)		Y	Y	Y						Y										
<i>Tetrix subulata</i> (Slender Ground-hopper)												Y								
<i>Roeseliana roeselii</i> (Roesel's Bush Cricket)		Y	Y	Y		Y	Y	Y	Y					Y	Y	Y				
<b>Other insects</b>																				
<i>Cloeon dipterum</i>													Y							

**Species (Scientific name and English name)**

**Survey Area (see Table X)**

**Outside of Survey Area**

**Conservation status**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<i>Forficula auricularia</i> (Common Earwig)			Y						Y							Y	
<i>Nemoura cinerea</i> (Small Dull Brown)							Y	Y									
<i>Mesopsocus immunis</i>			Y														
<i>Panorpa germanica</i>			Y							Y							
<b>Grand Total</b>	<b>36</b>	<b>34</b>	<b>49</b>	<b>47</b>	<b>33</b>	<b>36</b>	<b>31</b>	<b>30</b>	<b>37</b>	<b>26</b>	<b>16</b>	<b>26</b>	<b>4</b>	<b>25</b>	<b>54</b>	<b>34</b>	<b>48</b>