Woolley Colliery Road, Barnsley

Invertebrate Survey

Report Ref. ER-8088-05A

10/10/2025

Report reference	**ER-8088-05A Invertebrate Survey**
Author	Andy Godfrey Entomological Consultant
Tech Review	Christopher Shaw BSc (Hons), CEcol, MCIEEM Associate Director
QA	David Lovett MBiolSci (Hons) ACIEEM Ecologist
Project Manager	Christopher Shaw BSc (Hons), CEcol, MCIEEM Associate Director
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Report duration	In accordance with CIEEM (2019), unless otherwise stated the findings of this report remain valid for a period of 18 months. After this period advice should be sought on the scope of any updating work required.

Unit A, 1 Station Road, Guiseley, Leeds, LS20 8BX
Phone: 01943 884451
01943 879129
www.brooks-ecological.co.uk
Registered in England Number 5351418

Contents

Summary

A total of 222 invertebrate taxa were recorded across May and June 2025. These include one Data Deficient, one pData Deficient, one Nationally Scarce, two pNationally Scarce, one Notable, one Nb, one [Nb] and two Section 41 Priority species one of which is Research only. These are listed and discussed in the report.

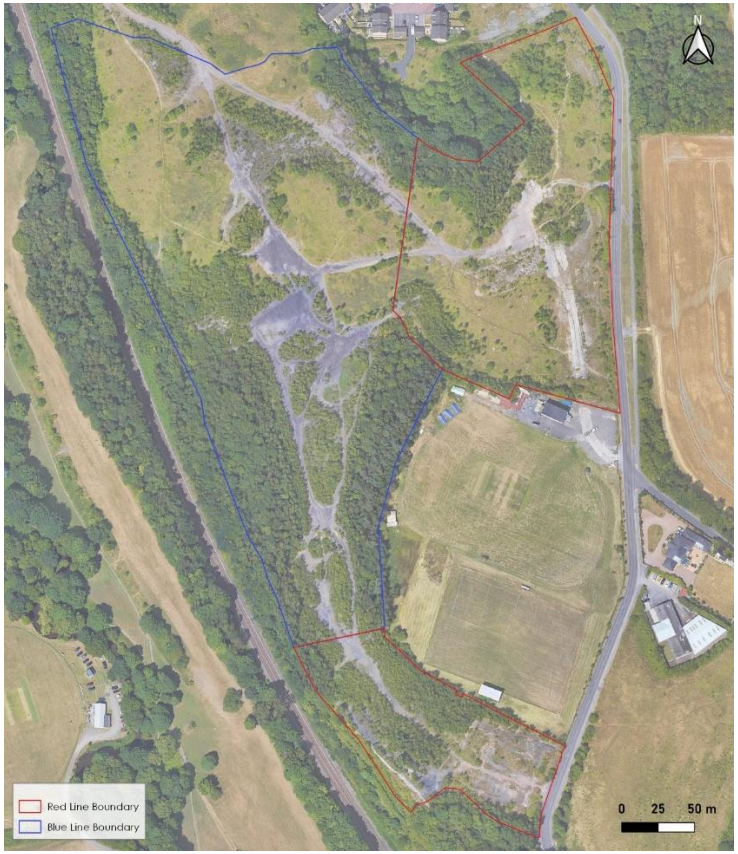
The full species list generated for the site was inputted into Pantheon for assemblage analysis. The highest scoring Specific Assemblage Type (SAT) was F002 (rich flower resource) with 10 characteristic species, representing 4% of the total species pool. One species with a Conservation status was recorded (the white-faced bee *Hylaeus signatus*). This SAT achieved Unfavourable status with 15 coded species required to achieve favourable status. With additional fieldwork or using earlier records, the site could achieve favourable status. All the remaining SATs were deemed to be in unfavourable status. It would be worthwhile combining the recent invertebrate records and inputting these collectively into Pantheon. This might result in one or more SATs achieving favourable status.

The species of interest suggest that both the proposed development (red-line) area and the mitigation (blue-line) area are attractive for a wide variety of invertebrates and support a number of uncommon species including the pData Deficient *Botanophila biciliaris* for which there are only four UK records on the NBN Atlas.

Introduction

1. Brooks Ecology requested an invertebrate survey of two areas on Woolley Colliery, Barnsley, South Yorkshire. A smaller area was located immediately to the west of Woolley Colliery Road between the playing fields and the new residential development with a larger area immediately east of the existing railway line, with playing fields to the southeast and the new residential development to the north. Both areas comprised a mosaic of habitats including open mosaic habitat, unimproved grassland, sporadic and dense woody scrub, mixed woodland and damp areas with ponds. This report provides details of survey work undertaken in May and June 2025.

Figure 1 Survey boundary



Methods

Sampling

2. Sampling methods included the following:
   - Sweep netting of low-growing vegetation and scrub. This is a standard method for aculeate Hymenoptera, Diptera, phytophagous Coleoptera, Hemiptera and several other groups.
   - Direct searching on bare ground, flower-heads, etc and including the field recording of butterflies and other conspicuous invertebrates.

Weather Conditions

3. The weather on the survey days are detailed in Table 1.

Table 1: Weather conditions on the survey dates

Survey date	Weather conditions
6th May 2025	5% cloud cover, gentle cool breeze, sunny. Ponds almost dried-out.
27th June 2025	Red-line area: Hot and sunny, maximum wind speed 1.3km/h, average wind speed 1km/h, 27.2°C, 20% cloud cover.

Identification

4. Target groups for terrestrial invertebrates have been identified which are considered by the surveyor to be good habitat indicators. These include Orthoptera (grasshoppers and allies), Odonata (damselflies and dragonflies), shield bugs and grass bugs, selected Coleoptera (beetles), butterflies, day-flying moths, selected Diptera and selected aculeate Hymenoptera (ants, bees and wasps). These have generally been identified to species.

5. As is usually the case with invertebrate surveys, it has not been possible to identify all the material collected. It is relatively easy to collect a large amount of material and because many invertebrates are difficult to identify, it can take many hours to identify the material. Normally, non-target families are left which was the case here. Approximately 60% of the material sampled has been identified and the remaining material will be retained indefinitely.

6. Vouchers of rare and uncommon species have been retained. All material was collected by and identified by Andy Godfrey.

Pantheon Analysis

7. The species list for the site was downloaded onto the Pantheon website https://www.brc.ac.uk/pantheon/ for analysis. Pantheon is the latest computer software for analysing invertebrate data to be developed by Natural England. Users import lists of invertebrates (called "samples") into Pantheon, which then matches the species to the preferred name in the UK Species Inventory analysing the sample, attaching associated habitats and resources, assemblage types (adapted from the Invertebrate Species-habitat Information System (ISIS), conservation status, habitat fidelity scores, and other information against them. The analysis then displays many of this data as numerical scores. This information can be used to determine site quality by revealing whether the species list is indicative of good quality habitat, inform on species ecology and assist in management decisions by revealing the key ecological resources. Pantheon will also help to establish a shared terminology for describing invertebrate interest, which will greatly augment invertebrate nature conservation.

8. Not all the macro-invertebrate taxa are included in the database. To date over 13,000 species have been typed, this being about a quarter of the total macro-invertebrate fauna (estimated at 37,000). It remains limited to those taxa and families where there is enough ecological information to give a fair level of coding accuracy. These include species such as beetles, flies, true bugs, moths, bees and many more. A list of groups covered can be found on the Taxon groups' page (under the Data menu). Pantheon focuses on species primarily found in England.

Rarity Assessment

9. A main aim of the survey was to establish if there are any invertebrate species of high nature conservation interest present on the site. These include UK and local Biodiversity Action Plan species, IUCN, Red Data Book and Nationally Scarce species.

10. A list of UK BAP invertebrates may be viewed on the UK BAP website at www.ukbap.org.uk. A number of species were added to the UK BAP list following a review in 2006/2007 and these species were added for research only. These are generally widespread but rapidly declining moth and butterfly species which were identified as declining by Butterfly Conservation. These species can still be frequent and widespread. In general, the same species are listed with little change in the Countryside and Rights of Way Act (2000) and in the National Environment and Rural Communities (NERC) Act 2006.

11. Rarity statuses such as Red Data Book, Nationally Scarce (previously Notable) and Local have been developed and heavily used by Natural England, the Joint Nature Conservation Committee and associated organisations and are defined in Appendix 2. Since 1995, International Union for Conservation of Nature and Natural Resources (IUCN) categories has been adopted by the Joint Nature Conservation Committee as the new standard for Red Lists in Britain. JNCC aims to work towards assessing the status of all native species against standard criteria based on the internationally accepted guidelines developed by the IUCN (see IUCN, 2001, 2003). Only a few taxonomic groups have been given IUCN codes, but these include the water beetles (Foster 2010) and Diptera belonging to the Empidoidea (Falk and Crossley 2005).

Previous Records

12. Previous records were reviewed by the surveyor in 2023 (Godfrey, 2023). The surveyor also undertook an invertebrate survey between May and September 2023.

Limiting Factors

13. Weather on the survey days was good to excellent. June 2023 was the hottest on record whilst July 2023 was wetter than average (and this continued into August). Despite the weather extremes, it was felt that the weather was, on the whole, good for invertebrates.

14. Surveys in August and September 2023 would extend the species list and add to the recorded uncommon species and should be considered in order to obtain as comprehensive species list as possible.

Results

Species Richness and Rarity

15. A total of 222 invertebrate taxa were recorded on two visits one on 6th May 2025, the second on 27th June 2025. These include one Data Deficient, one pData Deficient, one Nationally Scarce, two pNationally Scarce, one Notable, one Nb, one [Nb] and two Section 41 Priority species one of which is Research only. These are listed in Appendix 1 and are listed and summarised below.

Section 41 Priority Species

Dingy skipper *Erynnis tages* (Lepidoptera, Hesperidae)

Section 41 Priority Species – Research Only

Small phoenix *Ecliptopera silaceata* (Lepidoptera, Geometridae)

Data Deficient

Alder leaf beetle *Agelastica alni* (Coleoptera, Chrysomelidae)

pData Deficient

Botanophila biciliaris (Diptera, Anthomyiidae)

Nationally Scarce

Microphor anomalus (Diptera, Microphoridae)

pNationally Scarce

Blaesoxipha plumicornis (Diptera, Sarcophagidae)

Botanophila lobata (Diptera, Anthomyiidae)

Notable

Mintho rufiventris (Diptera, Tachinidae)

Nb

Deraeocoris ruber (Hemiptera, Miridae)

Hylaeus signatus (Hymenoptera, Colletidae)

16. The dingy skipper is more local and represents the most significant lepidopteran recorded on the survey. It was recorded in low numbers in both the red-line and blue-line areas on 6th May 2025. Photographs 1-3 show the insect and where it occurred in the red-line area.

17. The small phoenix is widespread and common in Britain and is most frequent in woodland rides and clearings but can be found wherever willowherbs including rosebay (*Chamerion angustifolium*) and the related enchanter's nightshade (*Circaea lutetiana*) on which the caterpillars feed, occur.

18. The alder leaf beetle is also frequent and widespread on open mosaic habitats throughout the UK. This species was recorded in the 1860s and 1870s and appeared to go extinct nationally until the early noughties when it was recorded from Manchester (Cox 2007). The likely reason for its re-appearance is climate change/global warming.

19. The anthomyiid *Botanophila biciliaris* is poorly known as are many Anthomyiidae. Falk & Pont (2017) knew only four widely separated localities in the UK: Mitcham, Surrey (June 1964), Tay Reed Beds, Perthshire (July 1994), Mull (June 1997) and Loch Awe, Argyll (June 1983). The habitat is not clear, but it has been found in reedbeds, on a saltmarsh and in a damp flowery meadow. This family are poorly recorded by entomologists which may partly explain the paucity of records.

20. *Microphor anomalus* is a small fly related to dance flies (Empididae) and the genus was formerly included within this family. This species was given Notable status by Falk (1991) but downgraded by Falk & Crossley (2005). The early stages are not known but according to one early account, the larva were found beneath leaves in a beech (*Fagus sylvatica*) plantation. The adults have been recorded from a variety of habitats including deciduous forests and meadows.

21. The sarcophagid *Blaesoxipha plumicornis* is not well known but there are 221 records in the National Biodiversity Network (NBN) Atlas, and these are concentrated in southern, central and eastern England as far north as North Yorkshire. It has been bred from a range of grasshoppers on the Continent.

22. The anthomyiid *Botanophila lobata* is also poorly known. It has been recorded from ancient broad-leaved woodland, calcareous grassland and from coastal dunes. The early stages are unknown, but the larvae may feed on endophytic choke fungus *Epichloe typhina* which grow on grasses (Falk & Pont 2017). Few records are known, and the records are relatively recent. There are 32 records in the NBN Atlas mostly from southern and central England, but there is also a cluster of records in the Scottish Highlands which are clearly disjunct and could represent a separate species.

23. The distinctive parasite fly *Mintho rufiventris* is Nationally Scarce and has been recorded from grassland and woodland whilst the surveyor has also recorded it

occasionally from open mosaic habitats. In the UK it has been recorded as parasitic on a micromoth but since the adult fly is quite large (bluebottle sized) this might seem unlikely.

24. The mirid bug *Deraeocoris ruber* is abundant and widespread throughout England but starts to peter out in North Yorkshire and is absent from upland areas of Wales and northern England. The larvae and adults feed on small insects, especially aphids, on bushes and plants.

25. The yellow-faced bee *Hylaeus signatus* is widespread but sporadically distributed in England north to Yorkshire. It can be locally common in some areas (i.e. West Midlands, East Anglian Brecks and southern chalk downlands). It is typically associated with calcareous habitats such as chalk grassland, chalk and limestone quarries, chalk heath, calcareous brownfield sites and disturbed coastal sites.

26. The site is known to support a colony of small blue (*Cupido minimus*) which is a Priority Section 41 species, but this was not recorded on the survey. It is thought to have been introduced to Woolley Colliery.

27. Taken together, the species of interest suggest that both the red-line and blue-line areas are favourable for a wide range of invertebrates including a number of uncommon species. .

Regional Significance

28. No species of Yorkshire significance recorded by Selman et al (1999) were recorded.

Pantheon Results

29. The full species list generated for the site was inputted into Pantheon. Pantheon recognised a sample size of 222 species of which 191 were analysed giving a return of 86%. Pantheon rejects some species for specific reasons, particularly those not identified to species and those not coded into the software. Any misspellings of scientific names or duplicates are dealt with before the data is analysed so these should not be present.

30. The results for the target SATs are summarised in Table 2 and are discussed below. The highest scoring Specific Assemblage Type (SAT) was F002 (rich flower resource) with 10 characteristic species, representing 4% of the total species pool. One species with a Conservation status was recorded (the white-faced bee *Hylaeus signatus*). This SAT achieved Unfavourable status with 15 coded species required to achieve favourable status. With additional fieldwork or using earlier records, the site could achieve favourable status.

31. The second highest scoring SAT was F001 (scrub edge) with 5 species corresponding to 2% of the national species pool for this habitat. The SAT achieved unfavourable status because 5 coded species were recorded and 15 were required.

32. The third highest scoring SAT was F003 (scrub-heath & moorland) with 3 species, comprising <1% of the national species pool for this habitat. The SAT did not achieve favourable status because only 3 out of the required 19 species were recorded.

33. The fourth highest scoring SAT was A212 (bark and sapwood decay) with 2 species forming <1% of the species pool. The SAT did not achieve favourable status but only just with 2 out of the 19 required species being recorded.

34. The fifth and final scoring SAT was F111 (bare sand & chalk) with one species recorded and 19 required for favourable status, hence the SAT was deemed to be in unfavourable status.

35. As mentioned above, it would be worthwhile combining the recent invertebrate records and inputting these collectively into Pantheon. This might result in one or more SATs achieving favourable status.

Table 2 Pantheon Assemblage Results for the Invertebrate Records Recorded May-June 2025

Code	SAT	No. Spp	% rep	Cons. Status	Site condition
F002	Rich flower resource	10	4	*Hylaeus signatus*	Unfavourable (10 species recorded, 15 required)
F001	Scrub edge	5	2	-	Unfavourable (5 species recorded, 11 required)
F003	Scrub-heath & moorland	3	<1	-	Unfavourable (3 species recorded, 9 required)
A212	Bark & sapwood decay	2	<1	-	Unfavourable (2 species recorded, 19 required)
F111	Bare sand & chalk	1	<1	-	Unfavourable (1 species recorded, 19 required)

Site Assessment

36. Overall, the site appeared botanically and flower-rich and could be favourable to flower-visiting and herbivorous insects.

37. The open mosaic habitat (including bare and semi-bare ground and ephemeral vegetation and the unimproved grassland appeared to support a good invertebrate assemblage including characteristic species of pioneer habitats including the dingy skipper, the alder leaf beetle and the parasite fly *Mintho rufiventris*.

38. The dense and sporadic woody scrub is young and therefore likely to be of more limited invertebrate value. The clearings and scrub edges may provide more favourable conditions for insects that like to feed on the blossoms of woody shrubs and trees or are phytophagous on these.

39. Taken together, the species of interest suggest that both the proposed development (red-line) area and the mitigation (blue-line) area are attractive for a wide variety of invertebrates and support a number of uncommon species. It is suggested that the site is worthy of Local Wildlife Status.

Conclusions

40. A total of 222 invertebrate taxa were recorded on two visits one on 6th May 2025, the second on 27th June 2025. These include one Data Deficient, one pData Deficient, one Nationally Scarce, two pNationally Scarce, one Notable, one Nb, one [Nb] and two Section 41 Priority species one of which is Research only. These are listed in the Appendix, and the ecology, distribution and status of the uncommon species are summarised in the report.

41. The full species list generated for the site was inputted into Pantheon for assemblage analysis. The highest scoring Specific Assemblage Type (SAT) was F002 (rich flower resource) with 10 characteristic species, representing 4% of the total species pool. One species with a Conservation status was recorded (the white-faced bee Hylaeus signatus). This SAT achieved Unfavourable status with 15 coded species required to achieve favourable status. With additional fieldwork or using earlier records, the site could achieve favourable status. All the remaining SATs were deemed to be in unfavourable status. I.t would be worthwhile combining the recent invertebrate records and inputting these collectively into Pantheon. This might result in one or more SATs achieving favourable status.

42. Taken together, the species of interest suggest that both the proposed development (red-line) area and the mitigation (blue-line) area are attractive for a wide variety of invertebrates and support a number of uncommon species including the pData Deficient Botanophila biciliaris for which there are only four UK records on the NBN Atlas. Taken, together with the previous site records including those recorded by the surveyor (Godfrey 2023), it is suggested that it is a site of high invertebrate quality and is worthy of Local Wildlife Status.

43. However, the Site is currently left vacant and without development providing a mechanism for the enhancement and long term and management of the blue line land, the site will ultimately succeed to continuous blocks of scrub and dense birch woodland. Invertebrate interest will therefore naturally decrease over time without long term management being secured.

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Appendix 1: Invertebrates Recorded from Land at Woolley Colliery Road, Barnsley

UK BAP and Nationally Scarce/Notable species have been emboldened in the table below.

Survey date	6th May 2025		27th June 2025	
Area surveyed	**Red line**	**Blue line**	**Red line**	**Blue line**
ARACHNIDA (SPIDERS AND ALLIES)				
Agalenatea redii	1	1		
Araneus quadratus			2	
Araniella opisthographa			1	1
Dictyna arundinacea	7	2		1
Enoplognatha ovata			1	
Erigone atra			1	
Evarcha falcata				1
Larinioides cornutus	1	1	1	
Meta mengei	1			
Philodromus cespitum			1	
Tetragnatha extensa			1	
Xysticus cristatus		1	1	1
Ixodes ricinus	1		2	
Eriophyes axillare			5+	
Aceria cephaloneus		1+		
ORTHOPTERA (GRASSHOPPERS)				
Chorthippus brunneus			1	
HEMIPTERA (TRUE BUGS, HOPPERS, ETC)				
Eupelix cuspidata				1
Neophilaenus campestris			4	
Philaenus spumarius			1	1
Aelia acuminata				1
Anthocoris confusus		1		
Anthocoris nemorum			1	
Closterotomus norwegicus				2
Cyllecoris histrionius			1	
Deraeocoris flavilinea			1	
Deraeocoris olivaceus			1	
Deraeocoris ruber				**1**
Dolycoris baccarum	1			1
Elasmostethus interstinctus	1	1		
Harpocera thoracica	1			
Kleidocerys resedae			1	1
Megaloceraea recticornis			5	1
Myrmus miriformis				1
Notostira elongata				1
Palomena prasina		1		
Pentatoma rufipes			1	1
Phylus melanocephalus			1	

Survey date	6th May 2025		27th June 2025	
Area surveyed	**Red line**	**Blue line**	**Red line**	**Blue line**
Rhopalus subrufus				1
Stenotus binotatus			2	2
Stenodema calcaratum				1
Stenodema laevigatum		1		
LEPIDOPTERA (BUTTERFLIES AND MOTHS)				
Anthocharis cardamines	1	1		
Pieris brassicae				1
Pieris napi			1	
Pieris napi/rapae	1			
Aphantopus hyperantus			1	1+
Maniola jurtina				5+
Melanargia galathea			1	5+
Erynnis tages	**2**	**1**		
Thymelicus lineola			1	1+
Thymelicus sylvestris			1	1+
Ecliptopera silaceata	**1**			
Endothenia gentianaeana		1		
Pyrausta aurata	1			
Zygaena lonicerae				1
COLEOPTERA (BEETLES)				
Adalia bipunctata			1	
Adalia decempunctata			1	1
Calvia quattuordecimguttata				1
Coccinella septempunctata			1	1
Harmonia axyridis			1	1
Propylea quattuordecimpunctata		1	1	2
Rhyzobius litura				1
Oedemera lurida		1	3	2
Rhagonycha fulva			1	
Lagria hirta				1
Agelastica alni	**1**	**1**	**1+**	
DIPTERA (TRUE FLIES)				
Nephrotoma appendiculata	4			
Tipula oleracea	1			
Tipula vernalis	1	1		
Dicranomyia affinis		1		
Schwenckfeldina carbonaria	8	2		
Rabdophaga cinerearum			1+	
Bibio ferruginatus	1			
Dilophus febrilis	2	1		
Simulium argyreatum		1		
Simulium equinum		1		
Bombylius major	1			
Beris morrisii		1		

Survey date	6th May 2025		27th June 2025	
Area surveyed	**Red line**	**Blue line**	**Red line**	**Blue line**
Chloromyia formosa			1	
Chorisops tibialis			2	
Microchrysa flavicornis	1			
Pachygaster atra				4
Pachygaster leachii			1	
Leptogaster cylindrica			1	1
Platypalpus agilis	2			
Platypalpus calceata				4
Platypalpus pallidiventris			2	1
Bicellaria vana	8			
Hybos culiciformis				1
Oedalea holmgreni		2		
Empis aestiva			1	
Empis caudatula	1	3		
Empis livida	1			
Empis nigripes	11	4		
Empis nuntia	2	1		
Empis praevia	1			
Empis scutellata	1			
Empis tessellata		1		
Rhamphomyia albohirta	2	1		
Rhamphomyia crassirostris		1		
Rhamphomyia sulcata	1			
Hilara maura	1	1		
Microphor anomalus	**1**			
Chrysotus gramineus				1
Dolichopus trivialis			1	
Opetia nigra	1	4		
Cheilosia albitarsis		1		
Cheilosia lasiopa		1		
Chrysotoxum festivum			1	1
Episyrphus balteatus			1	
Eupeodes corollae			1	1
Leucozona lucorum		1		
Melanostoma mellinum			1	1
Melanostoma scalare		2		
Paragus haemorrhous	1		1	
Platycheirus albimanus		1		1
Platycheirus angustatus		1		
Platycheirus clypeatus		3	7	12
Sphaerophoria rueppellii		1		
Syrphus ribesii		1	1	2
Syrphus vitripennis			1	
Cerajocera tussilaginis				1

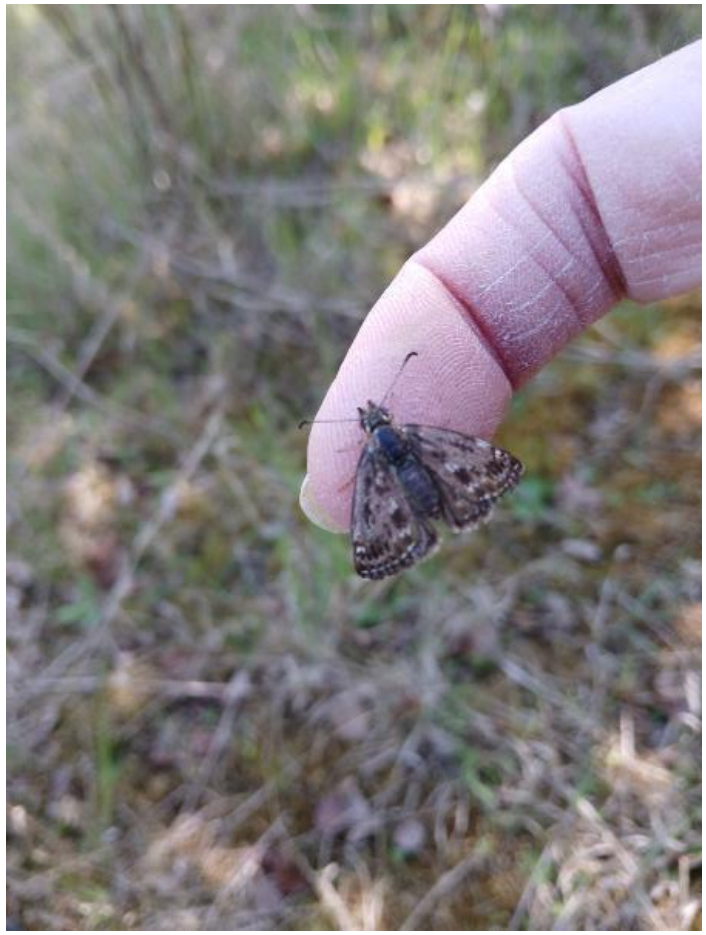
Survey date	6th May 2025		27th June 2025	
Area surveyed	**Red line**	**Blue line**	**Red line**	**Blue line**
Chaetostomella cylindrica	1			
Tephritis cometa		1		
Tephritis leontodontis				1
Tephritis neesii	2	1	1	1
Tephritis formosa	1			
Tephritis vespertina			1	
Urophora jaceana (females)				3
Urophora jaceana gp (males)			2	6
Urophora quadrifasciata			12	5
Herina longistylata			5	
Setisquamalonchaea fumosa			1	
Homoneura patelliformis			**1**	
Lauxania cylindricornis		1		
Minettia rivosa			2	
Sapromyza quadripunctata			10	8
Pherbellia cinerella	1		1	
Opomyza germinationis			1	
Sepsis cynipsea				1
Sepsis orthocnemis			1	
Anthomyza elbergi		1		
Cetema elongata				2
Cetema elongata/similis			1	
Cetema neglecta			2	
Chlorops brevimana				2
Chlorops pumilionis	2	3		
Cryptonevra flavitarsis				3
Dicraeus vagans			4	9
Lasiosina intermedia				1
Meromyza femorata			3	2
Meromyza triangulina			1	3
Oscinella frit	1		12	17
Thaumatomyia glabra			1	
Thaumatomyia notata		2	3	3
Tricimba cincta			1	
Asteia concinna			1	1
Chamaemyia aridella			24	8
Clusiodes facialis	1	1		
Phyllomyza securicornis	5			
Discomyza incurva	1			
Psilopa nitidula			4	2
Nanna fasciata	1			
Scathophaga stercoraria				1
Lucilia ampullacea				1
Lucilia caesar			1	

Survey date	6th May 2025		27th June 2025	
Area surveyed	**Red line**	**Blue line**	**Red line**	**Blue line**
Melanomya nana	6	2	1	
Blaesoxipha plumicornis				**1**
Brachicoma devia			1	
Nyctia halterata	1			
Sarcophaga dissimilis				1
Pollenia angustigena				1
Rhinophora lepida			1	
Tricogena rubricosa				4
Anthomyia pluvialis	1			
Botanophila lobata	**1**			
Botanophila biciliaris		**1**		
Botanophila striolata	1		1	1
Delia florilega	1	2	2	1
Delia platura	3	1	1	4
Hydrophoria silvicola		1		
Hylemya vagans		1		
Paregle audacula	2			
Pegoplata infirma			1	2
Fannia aequilineata				2
Fannia armata	1	2		
Fannia sociella		4		
Azelia cilipes		1		
Coenosia infantula	2			
Coenosia tigrina		1		
Morellia simplex		1		
Myospila meditabunda				1
Phaonia pallida				1
Phaonia subventa		1		
Schoenomyza litorella			1	
Actia crassicornis	2			
Eriothrix rufomaculata				4
Medina luctuosa		2		
Meigenia mutabilis				1
Mintho rufiventris			**1**	
Phasia pusilla	1			1
Phasia barbifrons		2		
Ocytata pallipes	1			
Siphona urbana	2			
Solieria pacifica	1		2	1
Solieria vacua	1			
Tachina fera		1		
HYMENOPTERA (BEES, WASPS, ANTS AND RELATED INSECTS)				
Biorhiza pallida		2+		
Diplolepis rosae		1		

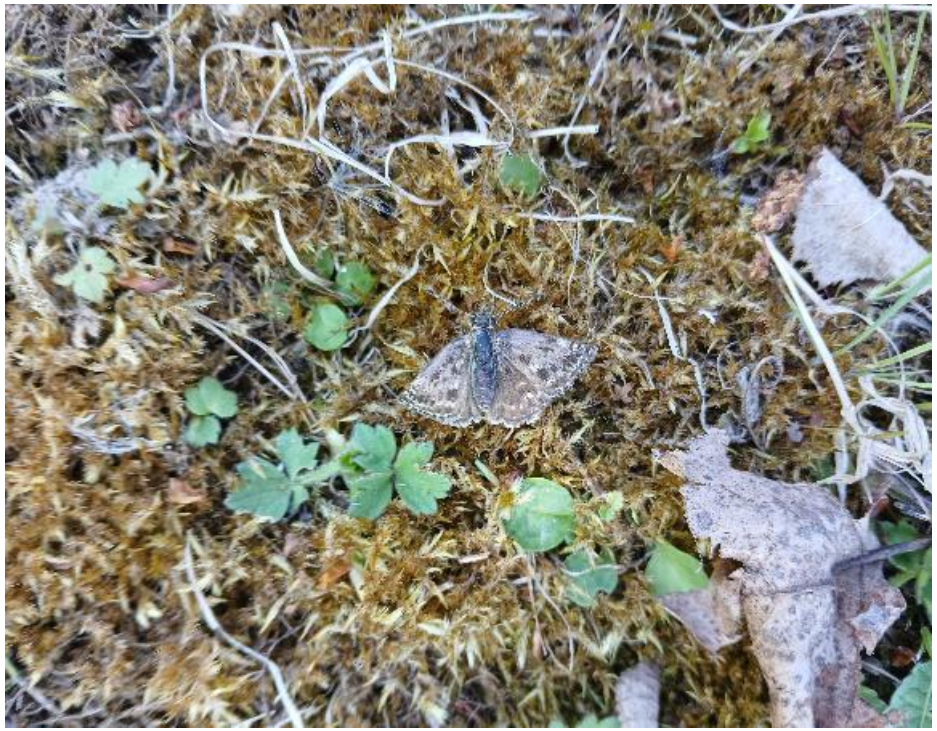
Survey date	6th May 2025		27th June 2025	
Area surveyed	**Red line**	**Blue line**	**Red line**	**Blue line**
Formica fusca	1	2	4	1
Lasius niger	2+	1+	2+	2
Myrmica scabrinodis	1			
Vespula vulgaris				2
Astata boops				1
Crossocerus wesmaeli			1	
Andrena bicolor			1	
Andrena haemorrhoa		1		
Apis mellifera		1		
Bombus lapidarius			1	
Bombus pascuorum		1	1	
Colletes daviesanus			1	
Hylaeus signatus			**1**	
Lasioglossum morio			1	
Megachile ligniseca			1	
Osmia leaiana			1	
Goat willow gall			1	
Willow galls				2+

Appendix 2: Photographs

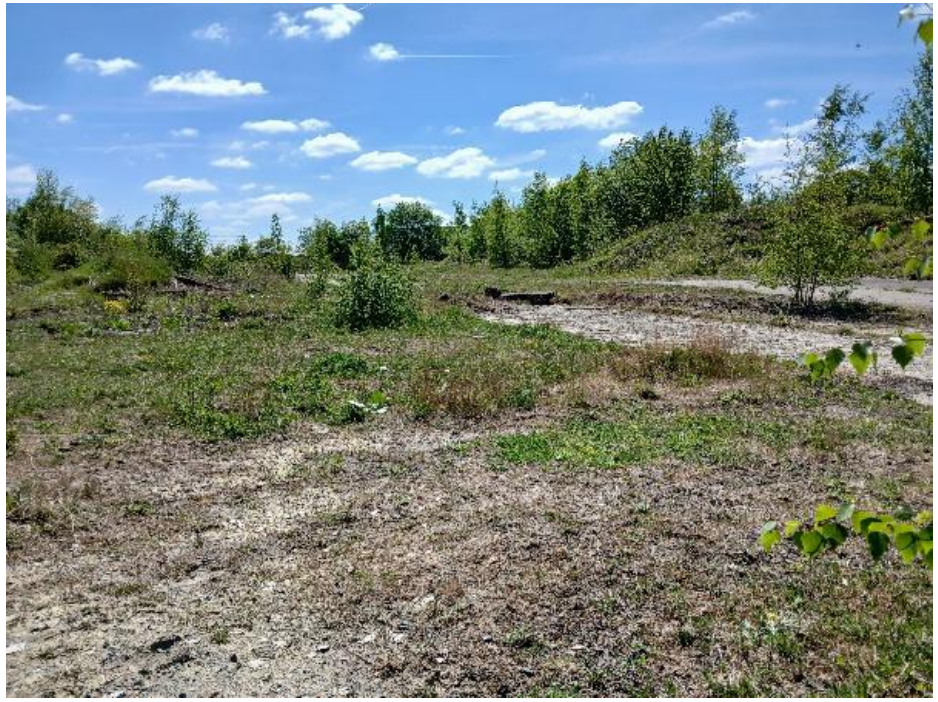
Photograph 1: Dingy Skipper in the Red-Line Area on 6th May 2025



Photograph 2: Dingy Skipper on the ground in the Red-Line Area on 6th May 2025



Photograph 3: Area used by dingy skippers Red-Line Area on 6th May 2025



Appendix 3: Invertebrate Status Categories

For the purposes of evaluating invertebrate faunas and priorities for conservation action, invertebrates are attributed various rarity status categories, the meanings of which are given below. Criteria for the selection of species into Red Data Book categories one to five follow Shirt (1987), with minor modifications derived from Hyman & Parsons (1992) and Hyman & Parsons (1993). Categories RDBI (Indeterminate) and RDBK (Insufficiently Known) are based on the criteria used by Wells, Pyle and Collins (1983). Criteria for the selection of Nationally Scarce species follow Eversham (1983) and Ball (1986).

Red Data Book Category 1. RDB1 - ENDANGERED

Definition. Taxa in danger of extinction in Great Britain and whose survival is unlikely if the causal factors continue operating.

Included are taxa whose numbers have been reduced to a critical level or whose habitats have been so dramatically reduced that they are deemed to be in immediate danger of extinction. Also included are some taxa that are possibly extinct.

Criteria. Species, which are known or believed, to occur as only a single population within one 10km square of the National Grid.

Species, which only occur in habitats known to be especially vulnerable.

Species, which have shown a rapid and continuous decline over the last twenty years and are now estimated to exist in five or fewer 10km squares.

Species which are possibly extinct but have been recorded this century but which if rediscovered would need protection.

Red Data Book Category 2. RDB2 - VULNERABLE

Definition. Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating.

Included are taxa of which most or all of the populations are decreasing because of over-exploitation, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously depleted and whose ultimate security is not yet assured; and taxa with populations that are still abundant but are under threat from serious adverse factors throughout their range.

Criteria. Species declining throughout their range.

Species in vulnerable habitats.

Red Data Book Category 3. RDB3 - RARE

Definition. Taxa with small populations in Great Britain that are not at present Endangered or Vulnerable but are at risk.

These taxa are usually localized within restricted geographical areas or habitats or are thinly scattered over a more extensive range.

Criteria. Species, which are estimated to exist in only 15 or fewer 10km, squares. This criterion may be relaxed where populations are likely to exist in over 15 10km squares but occupy small areas of especially vulnerable habitat.

Red Data Book Category 4. RDB4 - OUT OF DANGER

Definition. Taxa formerly meeting the criteria of one of the aforementioned categories, but which are now considered relatively secure because effective conservation measures have been taken or the previous threat to their survival in Great Britain has been removed.

Red Data Book Category 5. RDB5 - ENDEMIC

Definition. Taxa, which are not known to occur naturally outside Great Britain. Taxa within this category may also be in any of the other RDB categories or not threatened at all.

There are few truly endemic species in Great Britain. Most that have been identified are in fairly obscure groups, which are relatively poorly known, and the species may well eventually be discovered elsewhere in Europe.

Red Data Book Appendix. RDBApp. - EXTINCT

Definition. Taxa which formerly had breeding populations in Great Britain, but which are now believed to have died out. (Taxa not recorded since 1900)

Red Data Book Category I. RDB I - INDETERMINATE

Definition. Taxa considered being Endangered, Vulnerable or Rare, but where there is not enough information to say which of the three categories (RDB1 to 3) is appropriate.

Red Data Book Category K. RDBK - INSUFFICIENTLY KNOWN

Definition. Taxa that are suspected, but not definitely known, to belong to any of the aforementioned categories, because of lack of information.

Criteria. Taxa recently discovered or recognized in Great Britain, which may prove to be more widespread in the future (although some recent discoveries may be placed in other categories if the group to which they belong is thought not to be under- recorded).

Taxa with very few or perhaps only a single known locality but which belong to poorly recorded or taxonomically difficult or unstable groups.

Species with very few or perhaps only a single known locality, inhabiting inaccessible or infrequently sampled but widespread habitats, such as some northern moorland species, species associated with some agricultural situations and species which are adult only during the winter.

Species with very few or perhaps only a single known locality and of questionable native status, but not clearly falling into the category of recent colonist, vagrant or introduction.

Provisional Red Data Book. pRDB

Definition. The prefix 'p' before any Red Data Book category implies that the grading is provisional. In the majority of cases this means that the species' status has been reconsidered and changed in a Species Group Review produced subsequent to the publication of the relevant Red Data Book.

(continued) The statuses so given are described as provisional, pending the publication of a future edition of that Red Data Book. These statuses are, however, based upon a greater amount of evidence than was available for the original Red Data Book and therefore are more likely to be a true representation of the species' actual status.

The prefix 'p' is also used for RDB status categories in groups where a Red Data Book has not yet been produced but is in preparation or is used for species in groups covered by the original Red Data Book, where it is considered that there is evidence that the original grading was incorrect or that there has been a genuine change in status of the taxon.

Nationally Scarce (Notable) Species

The term 'Nationally Scarce' was adopted and replaced the term 'Notable' during the compilation of the Guidelines for the Selection of Biological SSSIs. The two terms are thus interchangeable but 'Nationally Scarce'is preferable.

Ball (1986) discusses the allocation of species to Nationally Scarce categories:

''The Invertebrate Site Register project includes the preparation of National Species Reviews which seek to identify and document uncommon species. The criteria used have been based directly on those evolved by botanists and two levels of 'National Notability' have been used. These are Notable A, for species known to occur in 30 or less 10km squares of the National Grid and Notable B for those known from 100 or less squares.

Although this system can be used directly with well-recorded groups like Dragonflies, Butterflies and Grasshoppers; when dealing with many other groups of insects, the level of recording is not sufficient to apply the criteria rigorously. A combination of three alternative approaches has been employed:

1. *The approximate number of squares in which a species may occur can be estimated by looking at the number it has been recorded from as a proportion of the total in which the whole group (e.g., its family) has been recorded.*

2. *Coarser measurements such as the number of vice-counties in which a species has occurred can be used (7 or less for Notable A, 20 or less for Notable B).*

3. *Experts can be asked to use their field experience to judge the status of species in their particular specialist group against others with a better-established status. By consulting as many people as possible and getting a consensus of their views, geographical and personal biases can be minimized.*

In some groups in which widespread interest and recording is a rather recent phenomenon, no attempt has yet been made to separate Notable A and Notable B species, and all Nationally Notable species are simply graded 'Notable'.''

Nationally Scarce (Notable). N - NOTABLE

Definition. Species, which are estimated to occur in 16 to 100 10km, squares in Great Britain. The subdividing of this category into Nationally Scarce A and Nationally Scarce B has not been attempted for some species because of either the degree of recording that has been carried out in the group to which the species belongs, or because there is some other reason why it is not sensible to be so exact.

Nationally Scarce (Notable) Category A. Na - NOTABLE A

Definition. Taxa which do not fall within RDB categories, but which are uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well recorded groups, within 7 or fewer vice-counties.

Nationally Scarce (Notable) Category B. Nb - NOTABLE B

Definition. Taxa which do not fall within RDB categories, but which are uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid or, for less well recorded groups, between 8 and 20 vice-counties.

Regionally Scarce (Notable). Nr - NOTABLE

Definition. Species which are considered to occur in 5 or less 10km squares in an area equivalent in size to a region of the old Nature Conservancy Council or larger, approximately one eighth the total area of England.

Such statuses were worked out during the compilation of the Invertebrate Site Registers. They cover various groups in Scotland, in northern England as a whole, in northeast and northwest England, in vice-county Yorkshire and in the east Midlands and East Anglia. They were worked out by local entomologists.

LOCAL

Definition. The term is not rigidly defined, but loosely means species confined to a particular habitat type (usually associated with better quality examples of that habitat), a particular geographic area, or species that are too widespread to warrant Nationally Scarce (Notable) status but are nevertheless infrequently encountered.

COMMON

Definition. Common or very widespread species frequently recorded.

SYNANTHROPIC SPECIES

Definition. Species dependent upon man, his buildings, livestock or crops.

UNKNOWN

Definition. Species where no status has been attributed. There may be confusion over the species' taxonomy, it may belong to a poorly recorded group or may occur in an infrequently sampled habitat. As a species is entered into the Invertebrate Site Register or RECORDER, the status automatically defaults to 'Unknown'. Certain common or local species may therefore occasionally appear in this category if there has been no necessity to use the species record.