

Intermodal Logistics Park North Ltd

INTERMODAL LOGISTICS PARK NORTH (ILPN)

Intermodal Logistics Park North (ILPN) Strategic Rail Freight Interchange (SRFI)

Project reference TR510001

Preliminary Environmental Information Report (PEIR)

Appendix 11.8: Invertebrate Report

October 2025

Planning Act 2008

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

This document forms a part of a Preliminary Environmental Information Report (PEIR) for the Intermodal Logistics Park North (ILPN) project.

A PEIR presents environmental information to assist consultees to form an informed view of the likely significant environmental effects of a proposed development and provide feedback.

This PEIR has been prepared by the project promoter, Intermodal Logistics Park North Ltd. The Proposed Development is described in Chapter 3 of the PEIR and is the subject of a public consultation.

Details of how to respond to the public consultation are provided at the end of Chapter 1 of the PEIR and on the project website:

<https://www.tritaxbigbox.co.uk/our-spaces/intermodal-logistics-park-north/>

This feedback will be taken into account by Intermodal Logistics Park North Ltd in the preparation of its application for a Development Consent Order for the project.

Richard Wilson Ecology Limited



Terrestrial Invertebrate Survey, Land to north of
Newton Park Farm, Wargrave, nr. Warrington

*[part of the Intermodal Logistics Park North
application site]*

Final Report

Prepared for FPCR Environment & Design Limited

October 2025

Notice

This document and its contents have been prepared for FPCR Environment and Design Limited and is intended solely for information and use in relation to the proposed Development Consent Order relating to the Intermodal Logistics Park North project, located to the east of Newton-le-Willows.

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Executive Summary

- FPCR Environmental Design Limited commissioned Richard Wilson Ecology Limited in early April 2025 to undertake terrestrial invertebrate surveys to inform the ecological baseline for the proposed Intermodal Logistic Park North strategic rail freight terminal and associated infrastructure ('the ILPN Proposed Development').
- The ILPN is located east of Newton-le-Willows, a market town located between Liverpool and Manchester and north of Warrington. The footprint of the study area covers just over 206 hectares and straddles three administrative boundaries (Greater Manchester, Merseyside and a small area of Cheshire), but for biological recording purposes, entirely within the vice-county 59 (South Lancashire).
- The ILPN has a core plot to the east of M6 motorway represented by arable fields and species-poor hedgerows. This sector shares a boundary with Highfield Moss Site of Special Scientific Interest (SSSI), which in March 2025 was formally included within the Risley, Holcroft and Chat Moss National Nature Reserve (NNR). To the east of the M6 is a smaller footprint represented by unmanaged informal greenspace north of Newton Park Farm, comprising a mosaic of tall grassland, scattered scrub and deciduous woodland. This sector lies adjacent to the former Parkside Colliery which was closed and all surface infrastructure demolished in the early 1990s. The former Colliery supports a brownfield-type open habitat vegetation community.
- For the purposes of the invertebrate survey, an initial scoping exercise excluded most of the arable land to the east of the M6 motorway except for a buffer zone adjacent to the SSSI and a small area of landscaping associated with the recently constructed link road. The western sector of the SSSI was included for survey, as was the greenspace north of Newton Park Farm (grassland, scrub and woodland).
- Weather conditions between February and August 2025 (except for June) were drier than the long-term average, with the region experiencing a substantial lack of rainfall (e.g. spring 2025 received less than 50 % of the average). The consequence of this drought was observed in soil conditions becoming dry to very dry. Within the SSSI, smaller bog pools in the western sector were damp in early April and had dried out entirely by May of that year. By summer, vegetation was exhibiting drought stress across the ILPN. Surveys outside the SSSI therefore focussed on habitats that retained humidity for longer (e.g. taller grasslands, scrub and woodland) and the SSSI's mire and bog habitats. It is considered likely that the seasonal conditions compromised survey results for certain groups such as flying insects (e.g. bees, flies), especially those faunas whose immature stages are dependent on wet ground.
- The ecological desk study identified two recent historic invertebrate surveys associated with the former Colliery which were completed to inform the now constructed link road, and a funded survey of spiders associated with the bog habitats within the SSSI. These surveys have been used to provide contextual information on the invertebrate faunas within the ecological landscape associated with the ILPN. Other than these works, there is limited invertebrate data within or adjacent to the ILPN's footprint. Nevertheless, this data has been interpreted to provide additional contextual information.
- Four visits took place between early April and late June 2025. A total of 303 species were identified within the ILPN's footprint of which two species have a nature conservation status ('Key Species'), representing just 0.7 % of the assemblage, though none are Priority Species. Within the SSSI, 81 species were recorded, of which four are Key Species; again, none being Priority Species.
- Comparing the fauna recorded within the ILPN and recent historic surveys in the former Colliery, when considering Species Quality Indices, the assemblages are broadly similar, though the Colliery site has a raised value. Both the Colliery and ILPN fauna have a lower Species Quality Index compared to the SSSI.

- It is understood from FPCR that ground investigation work has considered potential effects on the SSSI's hydrology. Based on draft text, to be finalised in autumn 2025, the specialists consider that the SSSI's hydrology is independent of the surrounding agricultural land, with no meaningful input/ output. It has been inferred from their draft narrative that the construction of the rail port's cutting will have no effect on the SSSI's hydrology and this report places reliance on their findings.
- The invertebrate assemblages within the ILPN have been evaluated to be of **no more than District nature conservation value** and the fauna can be considered to represent an impoverished example of that which is present within the Colliery site. In more general terms, it is a fauna that could be anticipated in any moderately sized greenspace that has an element of grassland and scrub, with some canopy woodland within a peri-urban/ agricultural environment to be found within the National Character Area.
- Arable land to the north of the Manchester to Liverpool railway line and adjacent to the smaller section of the SSSI is included within the draft DCO Order Limits for the purposes of creating a mosaic of flower-rich grasslands, enhanced species-richness of field boundaries (hedgerows) and the provision of a number of waterbodies and wetlands. This is an enhancement for invertebrate faunas for habitats that will be lost, and may act as an important buffer to the SSSI.

1 Introduction

1.1 Background

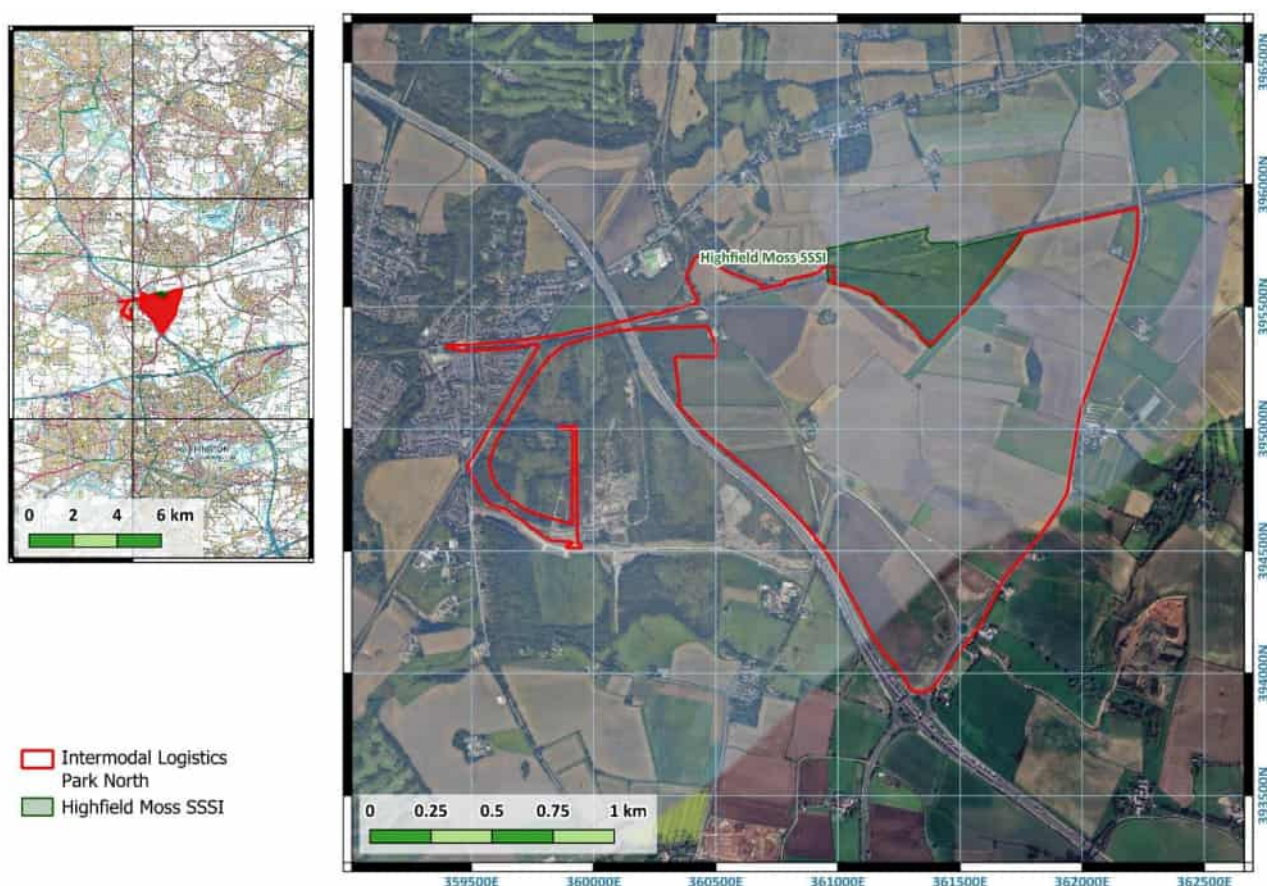
Richard Wilson Ecology Limited was commissioned by FPCR Environment and Design Limited ('FPCR') in early April 2025 to undertake terrestrial invertebrate surveys within the Order Limits ('footprint') of the proposed Intermodal Logistics Park North application site ('the ILPN') which is located to the immediate east of Warrgrave, a suburb of Newton-le-Willows, a town located between the Liverpool and Manchester conurbation in north-west England.

A description of the ILPN Proposed Development is provided in the ILPN Preliminary Environmental Information Report (PEIR) Chapter 2: Site description and Chapter 3: Project Description. However, in summary, it will include for up to fifteen commercial units totalling 592,457 m², car and lorry parking, ancillary buildings and infrastructure, a new strategic rail freight terminal, new access road to Newton Park Farm and a new track/ siding (Western Rail Chord). The survey was designed to inform the Ecological Impact Assessment (EclA) and any required mitigation (including biodiversity net gain) for the Development Consent Order application.

1.2 Study Site

The ILPN Proposed Development is located immediately east of Newton-le-Willows, a town situated more or less equidistant between Manchester and Liverpool and c. 6.5 km north of Warrington (site centre NGR: SJ 612 950; 206.2 hectares), straddling the administrative boundaries of Manchester to the east, Merseyside to the west and a small area of Cheshire in the south; but entirely within vice-county 59: South Lancashire. The study area is shown in Figure 1 in the

Figure 1: Extent and location (inset) of the proposed ILPN Main Site and Western Rail Chord, near Newton-le-Willows.



context of the wider agricultural landscape and the adjacent Highfield Moss ¹ (SSSI). The majority of the study area lies east of the M6 motorway and south of the Manchester to Liverpool mainline and comprises agricultural (arable) land divided by hedgerows (this area comprises the DCO Main Site). A comparatively smaller footprint lies west of the motorway and occupies undeveloped informal greenspace situated between to the north of Newton Park Farm, east of Wargrave (residential development), a suburb of Newton-le-Willows, and north and west of the former Parkside Colliery (this area comprises the DCO Western Rail Chord).

1.2.1 ILPN's Invertebrate Survey Areas

An initial appraisal of the study area was completed using a combination of aerial photography, a site visit in early April 2025 and conversations with FPCR ecologists. This initially scoped out the majority of the ILPN Main Site footprint east of the M6 as these were large arable fields either divided by species-poor hedgerows with minimal field margins or narrow grass verges. The exception to this was a narrow buffer on the SSSI's western boundary and a potential small area of roadside planting associated with the recently constructed new road (Parkside Road East). The SSSI's southern boundary with the ILPN Main Site is a private grass airfield which was understood to be operational.

The informal greenspace to the north of Newton Park Farm (within the Western Rail Chord), including the deciduous woodland either side of the track connecting the Farm with Newton-le-Willows was taken forward for further survey.

Whilst the SSSI sits outside the Proposed Development footprint, it was agreed with FPCR to include the SSSI's western sector within the survey to obtain some baseline invertebrate survey data. The rationale for this is because the proposed rail port will involve the excavation of a cutting, estimated to be approximately 1 km in length and 160 m wide (plan view) running parallel with the SSSI's western boundary and within c. 75 m. At the time of survey this engineering work was felt to have the potential to affect the SSSI's hydrology by for example, disrupting water flowing into, or changing flows out of, the bog system for which the site has been designated, this has since been discounted through geological ground investigation. Whilst invertebrates are not a designated feature for the SSSI², the citation states that the locally scarce ³Black Darter (*Sympetrum danae*) is known from the site, an implied recognition of the site's importance for wetland/ aquatic invertebrate faunas and therefore their potential vulnerability to changes in water table. Given its recent (March 2025) upgrading to a National Nature Reserve (NNR), that recognises the significant contribution this land parcel gives to the remaining lowland mire vegetation communities within the wider Manchester Mosses, and the proximity of the proposed development, a better understanding of the baseline invertebrate assemblage was considered a prudent approach, particularly for those faunas associated with its designated wetland habitats.

The invertebrate survey areas are illustrated in Figure 2 and summarised in Table 1.

Table 1: Description of habitats within each sub-compartment.

Invertebrate study area	Grid Reference (centroid)	Land Parcel and Habitat Description
Land to north of Newton Park Farm	SJ 5975 9510	An area of informal greenspace occupying c. 10 hectares of land on assumed abandoned agricultural land associated with Newton Park Farm. The habitats comprise tall grassland with bramble (<i>Rubus fruticosus</i> agg.) scrub (some of it dense), scattered Common Hawthorn (<i>Crataegus monogyna</i>), Elder (<i>Sambucus nigra</i>), Willow (<i>Salix</i> spp.), Silver Birch (<i>Betula pendula</i>) and immature Pedunculate Oak (<i>Quercus robur</i>) on broadly level ground. The grasslands are mature and unmanaged, with Common Hogweed (<i>Heracleum sphondylium</i>), stands of Rosebay Willowherb (<i>Chamerion angustifolium</i>) and other

¹ On the 4th March 2025, Highfield Moss SSSI was formally designated as part of the Risley, Holcroft and Chat Moss National Nature Reserve (NNR) (see <https://assets.publishing.service.gov.uk/media/67d419cb4047b1c7801b5bc4/risley-holcroft-chat-moss-nnr-declaration-maps.pdf> for details).

² See

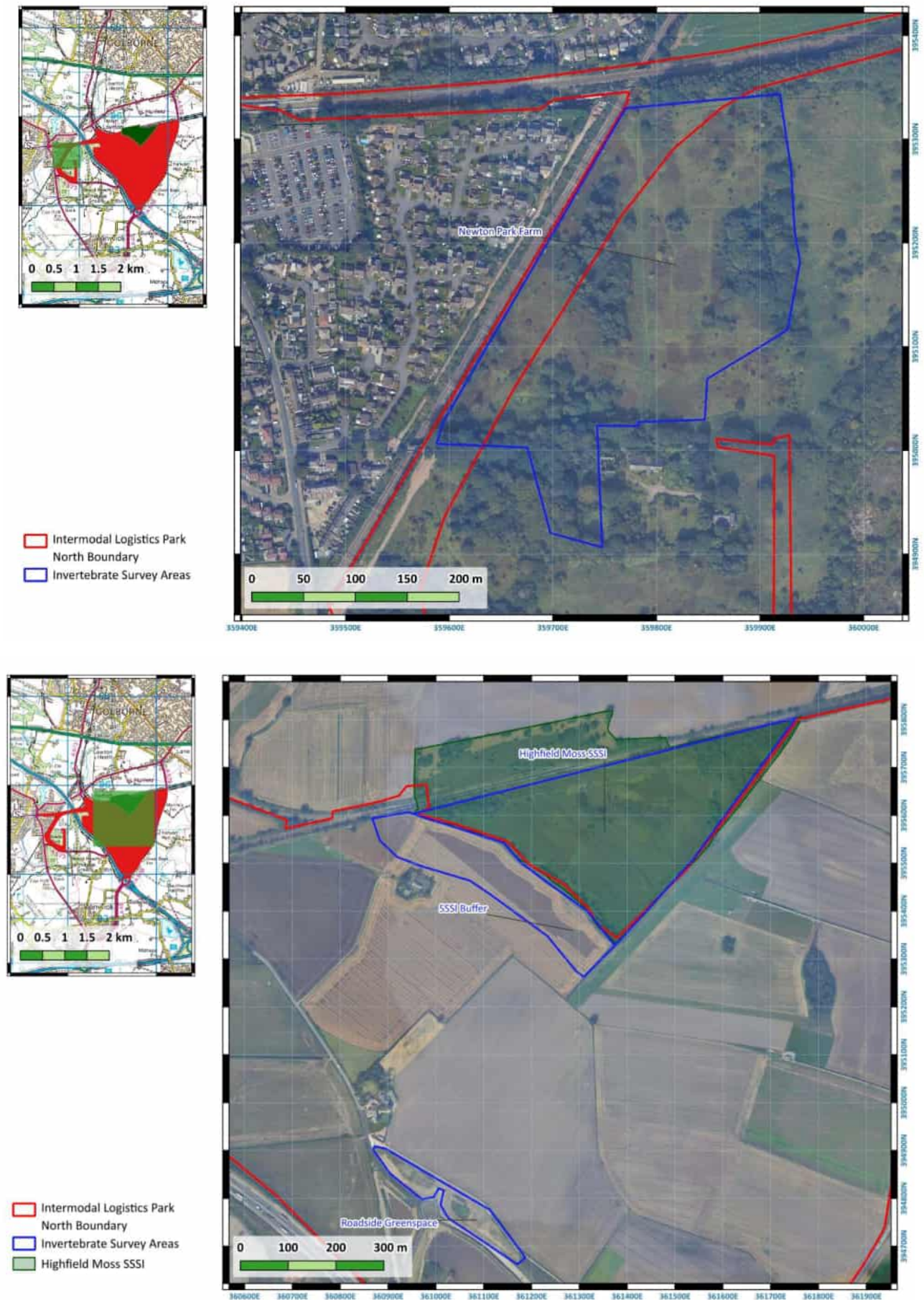
<https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002768&SiteName=highfield+moss&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=> for information on the SSSI.

³ Referred to as *Sympetrum scotica* on the citation.

Invertebrate study area	Grid Reference (centroid)	Land Parcel and Habitat Description
		characteristic flora of urban grasslands such as Red Clover (<i>Trifolium pratense</i>) and White Clover (<i>Trifolium repens</i>). The greenspace is regularly used by dog walkers and other members of the public for informal recreation. Photograph 1: Western edge of greenspace (looking south) (May 2025).  The deciduous woodland either side of the Farm's track is predominantly Sycamore (<i>Acer pseudoplatanus</i>) with an underscrub of Common Hawthorn and other frequently encountered species (e.g. Elder). The ground layer is dominated by Ivy (<i>Hedera helix</i>) and in spring Bluebell, probably a mix of native (<i>Hyacinthoides non-scripta</i>) and the hybrid with Spanish (<i>Hyacinthoides x massartiana</i>). Photograph 2: Deciduous woodland (April 2025) leading to Newton Park Farm. 

Invertebrate study area	Grid Reference (centroid)	Land Parcel and Habitat Description
		A single old Beech (<i>Fagus sylvaticus</i>) tree is present on this track with split bough and open cavities.
Highfield Moss SSSI	SJ 614 956	The SSSI, bisected by the Manchester – Liverpool railway line at its northern fifth, was designated in 1986 for its valley mire vegetation communities on peat including <i>Sphagnum</i> lawns, bog pools and wet heath, mire and marshy grassland. It is known to support regionally important flora, including the north-west's only population of Marsh Gentian (<i>Gentiana pneumonanthe</i>) and important dragonfly populations. At the time of designation, it was considered to be the best remaining raised mire system in the Greater Manchester/ Merseyside region. In 2025, the western sector of the SSSI was defined by a ditch (dry throughout the year), and marked by a line of early mature Pedunculate Oak and Bracken (<i>Pteridium aquilinum</i>). Internally, the heathland was being encroached by invading Silver Birch and a dense sward of Purple Moor-grass (<i>Molinia caerulea</i>). The presence of small bog pools were defined by fringes of Hard Rush (<i>Juncus inflexus</i>), though these were dry, even in early April (see narrative on weather constraints in Section 1.3.1). Photograph 3: Highfield Moss SSSI (looking east) (April 2025). 
Agricultural buffer	SJ 6113 9546	To the immediate west of the SSSI is a large arable field, which in 2025 was planted with a Broad Bean (<i>Vicia faba</i>) crop right up the shared boundary with the SSSI.
Roadside verge	SJ 6103 9478	A c. 1 hectare of roadside verge associated with the recently constructed new road layout on Parkside Road. Tree planting, with saplings still entirely enclosed within plastic tree tubes with an emerging vegetation community that had the appearance of an abandoned arable field margin with coarse grasses, relict crops and annuals.

Figure 2: Location of invertebrate survey areas within the ILPN Proposed Development's footprint.



1.2.2 Surrounding Landscape Context

The Proposed Development sits within the Lancashire Coal Measures Character Area (NCA), described as ‘...a complex mosaic of farmland, scattered urban centres, industry, active mineral sites and derelict or reclaimed workings situated on a varied topography of gentle hills and valleys.’⁴.

The footprint of the DCO Main Site reflects the transition from urban centres through to relict valley mire, with the former Parkside Colliery (Western Rail Chord) sandwiched in a wedge of land between Newton Park Farm and the M6 motorway. Based on historic digital mapping⁵, and aerial photography (Google Earth), the land to the north of Newton Park Farm has remained undeveloped. Aerial photography from summer 2005 shows a single large field with a few scattered bushes, with the scrub not becoming a substantial component of the community until the mid-2010s.

The former Parkside Colliery closed in 1993 and remains undeveloped though two invertebrate surveys have been completed on this site in the last decade, providing some context to the 2025 survey results presented in this report.

Other than Highfield Moss SSSI, there are no other statutory protected sites within a 2 km buffer of the ILPN Proposed Development’s boundary.

1.3 Survey Limitations

1.3.1 Weather Limitations⁶

The winter of 2024/ 2025 was marginally wetter than the average in the region, experiencing between 110 % and 130 % of the long-term average (1961 – 1990 average), despite the national picture being drier overall. However, as is becoming the norm, minimum temperatures were c. 0.5° C above average, reflecting ongoing climate warming.

Spring 2025 was the opposite to that experienced in 2024 (which was exceptionally wet with between 130 % and 150 % of the long-term average), in that nationally, slightly under half the average (1991 – 2000) rainfall was recorded, a situation broadly experienced in the region. Spring temperatures were around 1.5° C above average. Summer was the warmest on record nationally, the region experiencing between 1.5° C and 2.0° C above average temperatures and again, between 70 % and 50 % of average rainfall. Overall, spring and summer 2025 experienced prolonged dry spells, including several heatwaves, punctured by a few periods of unsettled weather, noticeably in later summer.

1.3.2 Access Limitations

The only limitations were to the land south of Newton Park Farm track, which was seemingly behind a standard Network Rail security fence; though local dog walkers had gained access. Judging from aerial photos, habitats in this southern extension were broadly similar to those elsewhere, i.e. a continuation of woodland, which opened out to mosaics of grassland and scrub.

The operational grass airfield to the south of the SSSI was not surveyed owing to uncertainties relating to aircraft movements and whether this was permitted for the purposes of survey. Habitats were managed short grassland (the airstrip) and a slightly longer sward providing a buffer between the SSSI and the airstrip.

Access to the other areas was straightforward throughout 2025, and no additional limitations were encountered.

1.3.3 Implications

The weather experienced during 2025 continues to follow a trend in recent years of above average temperatures coinciding with extremes in rainfall; either excessive or droughted. In 2024, the summer was generally wetter than average, whereas in 2025, spring and summer was noticeably drier. Nationally, including northern England (e.g. Yorkshire), hosepipe bans were in force by early summer. Spring 2025 was noteworthy as in each month,

⁴ See <https://nationalcharacterareas.co.uk/lancashire-coal-measures/summary/>; last accessed on 11th September 2025.

⁵ See <https://maps.nls.uk/geo/find/#zoom=16.0&lat=53.45156&lon=-2.60755&layers=102&b=1&z=0&point=53.45332,-2.60338&i=101103641>; last accessed on 11th September 2025.

⁶ Weather trends and data from Met Office websites <https://www.metoffice.gov.uk/research/climate/maps-and-data/summaries/index> and <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-actual-and-anomaly-maps>; last accessed on the 11th September 2025.

there were between 6 and 10 fewer days which experienced ≥ 2 mm of rain, a suggested indication of dry weather. Whilst June had slightly more days of ≥ 2 mm rainfall, July and August continued the theme of fewer wet days than the average. Including February 2025, a period of seven months, excluding June, experienced between 6 and 10 fewer days with ≥ 2 mm, suggesting a substantial rainfall deficit in the region and likely explaining images in the media of low water levels in reservoirs and droughted conditions.

The implications of the weather experienced in 2025 shouldn't be viewed in isolation, but as part of a pattern of deviations away from long term averages and periods of intense, more extreme weather events (e.g. stochastic events such as storms) and this combination is very likely having a measurable effect on certain insect groups in specific years. This has been observed here and elsewhere in Britain; and not just by this surveyor.

Flying insects, in particular obvious pollinator groups such as hoverflies (Diptera, Syrphidae) and fauna, particularly immature stages associated with wetland features (e.g. damp mud in draw down zones of waterbodies) were seemingly scarce. However, there were some beneficiaries such as butterflies (Lepidoptera), particularly the 'white' butterflies (Pieridae) which were noticeable more frequent.

Specifically with this study area, the smaller bog pools at Highfield Moss SSSI were already dry (or nearly so) in April 2025 as were the wet heathland habitats. By early summer, habitats with patchy vegetation such as within the SSSI and the buffer arable compartment were dusty and not productive. Ground conditions were dry from the commencement of surveys in April such that attempting to insert pitfall traps in the already dry and desiccating soils and vegetation within the roadside verge and arable buffer to the SSSI was considered disproportionate to the data likely to be gained. Surveys were therefore focussed on vegetation communities such as the woodland and taller sward and scrub communities where humidity levels were predicted to be maintained for longer. This has likely skewed survey data such that the hoped for better understanding within the SSSI has likely been compromised. For the SSSI, reliance has been placed on the data that has been collected, in combination with some historical invertebrate surveys associated with this protected site, and professional judgement. A narrative relating to the SSSI is provided in Section 4.3.2.

The 2025 survey season appears to represent a continuation of ongoing shifting weather patterns which is increasingly resulting in actual or perceived changes in the ease of recording of certain groups. It is anticipated that species-richness for these faunas may have been negatively affected within the habitats surveyed, perhaps amplified within the open habitat biotopes as the vegetation becomes stressed more easily during periods of prolonged dry weather, or exposed to intense rainfall, with limited features where adults can shelter.

1.4 Previous Invertebrate Surveys

To the best of the author's knowledge, no previous invertebrate surveys have been completed within the footprint of the ILPN DCO Main Site. However, invertebrate surveys have been completed within the footprint of the former Colliery, and the SSSI and these are referred to in this report.

2 Legislation

2.1 Legislation

Sixteen species of invertebrate present in the United Kingdom are protected through international law. These were originally included in Appendices to the European Union's Habitats Directive and transposed into domestic legislation by the Conservation of Habitats and Species Regulations 2017 (as amended). Since January 2021, following the UK's departure and the end of the transition period, retained EU-derived legislation has been carried over via Sections 2 and 3 of the European Union (Withdrawal Agreement) Act 2018 (as amended). This Act ensures the retention of the 2017 Regulations on and after departure day (1st January 2021). Further, for the purposes of biodiversity, the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 have been made to address failures of retained EU law to operate effectively and other deficiencies, by amending the 2017 Regulations to ensure their validity.

Approximately 50 species of invertebrate are included in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Section 40 of the Natural Environment and Rural Communities Act 2006 has recently been amended by Section 102 of the Environment Act 2021. The amended Section 40 now places a duty on local authorities to conserve **and enhance** biodiversity when undertaking their public duty and in doing so, they *"...must from time to time consider what action the authority can properly take, consistently with the proper exercise of its functions, to further the general biodiversity objective."* (Section 40 (subsection A1) of the 2006 Act). In achieving this, the Government has published a list of Priority Species for nature conservation in England, which includes invertebrates.

A full list of all species covered by legislation and policy is available via the Buglife ⁷website.

Section 98 of the Environment Act 2021 enables Schedule 14 which sets out the objectives and implementation of Biodiversity Net Gain. It does this through amending the Town and Country Planning Act 1990 by inserting a new Section 90A which formalises that Biodiversity Net Gain has effect as part of planning permission through a new Schedule to the 1990 Act (Schedule 7A). Schedule 7A sets out the legal framework for Biodiversity Net Gain.

A mandatory requirement for most development projects to achieve Biodiversity Net Gain has taken effect since February 2024, and for Nationally Significant Infrastructure Projects, this is expected by ⁸November 2025.

2.2 Policy

Paragraphs 180 to 188 inclusive of the National Planning Policy Framework (NPPF) conveys national policy on conserving and enhancing the natural environment including protecting habitats and biodiversity in the planning system (Ministry of Housing, Communities and Local Government, 2023). Guidance underpinning the NPPF is available ⁹on-line and provides a detailed narrative on considerations to protect and enhance biodiversity as part of the planning process. Relevant paragraphs are 009 to 035.

The National Pollinator Strategy is particularly relevant for invertebrate nature conservation and emphasises:

"The National Planning Policy Framework (2012) [subsequently updated] requires planning authorities to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations. It prescribes that local plans should have a clear strategy for enhancing the natural, built

⁷ See https://cdn.buglife.org.uk/2019/07/Policy-and-legislation-summary-final-2014_0.pdf; last accessed on the 11th September 2025.

⁸ See <https://naturalengland.blog.gov.uk/2024/01/29/biodiversity-net-gain-where-to-start/>; last accessed on 11th September 2025.

⁹ See <https://www.gov.uk/guidance/natural-environment#biodiversity-geodiversity-and-ecosystems>; last accessed on the 11th September 2025.

and historic environment and supporting wider biodiversity networks, including planning at a landscape scale across local authority boundaries and supporting Nature Improvement Areas.” (Defra, 2014; Section 5).

3 Methodology

3.1 Desk Study

Invertebrate records within a 1 km buffer of the ILPN's Main Site and Western Rail Chord footprint and held in the public domain by the National Biodiversity Network (excluding CC-BY-NC licenced data which are not permitted for commercial use) were downloaded as a .csv file and uploaded into the QGIS platform for analysis.

FPCR provided relevant biological data from the three Local Record Centres covering the site: Greater Manchester Record Centre, Merseyside Biobank and Record (covering Cheshire). The data has been amalgamated into a single spreadsheet for analysis. Further searches on the internet for invertebrate survey data identified historical invertebrate surveys in 2015 and 2017 by Conops Entomology within the former Colliery; and another study on the SSSI's spider fauna published by the Tanyptera Trust. Reference to the author's own library and literature resources has been undertaken as needed.

3.2 Field Survey

The purpose of the 2025 survey work was to undertake an appraisal of the study area's nature conservation value for terrestrial invertebrates, but was not intended to provide an exhaustive list of invertebrate taxa present. In achieving these aims, the surveys followed the methodologies described in Drake *et al.* (2007). Surveys thus employed a variety of techniques, including sweeping of vegetation and aerial netting for flying invertebrates using a light-weight butterfly net as well as a more heavy-duty sweep-net. This was complemented by vacuum sampling (using a commercially available modified garden blow-vac) and direct observation.

Specimens that could be reliably identified in the field such as butterflies were noted directly, but most specimens collected were retained for subsequent microscopic identification. Surveys paid particular attention to those groups most useful for site assessment, namely Arachnida (spiders, harvestmen and pseudoscorpions), Coleoptera (beetles), Diptera (flies), Hemiptera (bugs), Hymenoptera (bees, wasps, sawflies and ants), Lepidoptera (butterflies and moths), and Orthoptera (grasshoppers and crickets), though representatives of other groups such as millipedes, centipedes and woodlice were noted also.

3.3 Evaluation Methodologies

There is currently no standard frame of reference to evaluate the nature conservation value of invertebrate assemblages for the purposes of EcIA, though increasingly, in addition to placing reliance on professional judgement of the surveyor and associates, the use of Pantheon (Webb *et al.*, 2018) is being applied.

3.3.1 Proportion of Key Species

An initial indication of a study area's nature conservation value is the proportion of species with a nature conservation status (NCS) recorded. NCS species are those that are assigned a formal status based on three systems applied to British invertebrates since the late 1980s. Details are provided in Appendix A but in summary, all NCS species are assigned a formal status which initially included Red Data Book (Shirt, 1987; Bratton, 1991), and Nationally Notable species (by various species status reviews administered by the Joint Nature Conservation Committee). Since 2001, consideration of a species threat to survival such as through habitat loss, based on the International Union for the Conservation of Nature's (IUCN) criteria (IUCN, 2012) has been adopted and this is gradually replacing the old Red Data Book categories. Running parallel with the IUCN criteria are two British rarity categories, which are based on the hectad system, which again are being defined by ¹⁰updating species status reviews.

¹⁰ Updated species status reviews are published on the JNCC website: <http://jncc.defra.gov.uk/page-3352>.

Telfer (2023) provided a means of evaluating a study area's potential nature conservation value by considering the proportion of NCS species present within a study area, on the basis that the higher the percentage of NCS species, the more important the study area is. He refers to NCS species as 'Key Species' and splits this into two groups: Rare Key Species, which are those taxa assigned Red Data, IUCN Threatened and Data Deficient, and Nationally Rare status; and Scarce Key Species, which are those assigned IUCN Near Threatened, and Nationally Scarce/ Notable status. As a rule of thumb, if close to 10 % of the species recorded are Key Species; and more than 1 % are Rare Key Species, it is suggestive that the study area is potentially of national significance for its invertebrate fauna. A modification of Telfer (2023) is required, to include taxa that are Priority Species within the meaning of the 2006 Act referred to in Section 2.1 of this report. For some species such as the butterfly Dingy Skipper (*Erynnis tages*), they have no British rarity or IUCN threatened status, but are Priority Species. Note that Priority Species listed in the 2006 Act solely for the purpose of drawing attention to research requirements (i.e. many widespread moth species) are not considered Key Species.

3.3.2 Invertebrate Assemblages

In considering species assemblages, the taxa recorded within the study area have been entered into Pantheon, a database tool developed by Natural England and the Centre for Ecology & Hydrology to analyse invertebrate sample data (Webb *et al.*, 2018). Pantheon has incorporated the Invertebrate Species-habitat Information System (ISIS) developed by Derek Lott and referenced in Drake *et al.*, (2007) but takes the analysis further by attaching associated habitats and resources, habitat fidelity scores and other ecological information against each species. This is currently based on approximately 13,000 invertebrate species out of an estimated 37,000 species known from the UK. The taxa primarily used for this analysis are Coleoptera, Diptera, Hemiptera, Lepidoptera, aculeate Hymenoptera and Araneae; hence the focus on these groups for survey. As for the original ISIS, some caution must be applied as strictly speaking, survey effort would normally require standardisation such as timed sweeps.

For the purposes of EcIA, the methods have allowed what ¹¹Webb *et al.* (2018) describe as a semi-ISIS approach, stated to include some standardised methods such as timed vacuum sampling, static trapping such as pitfall or Malaise trapping; but extending to include more freeform sampling such as focussed searches for pollinators in a non-standardised way. Nevertheless, Pantheon can at least inform which invertebrate assemblages recorded are of particular importance within a site, such as those associated with wood decay, floristically rich habitats or both. A positive aspect of this approach is that attention is given to assemblages rather than solely relying on the national status of individual species, though the latter can also be indicative, especially as a proportion of the total species recorded.

Pantheon interrogates the composition of the terrestrial invertebrate assemblage in terms of biotopes, habitats, and the distribution of stenotopic species i.e. those terrestrial invertebrates with very specific and restricted habitat requirements and have an intrinsic nature conservation value; referred to as ¹²Specific Assemblage Types (SAT) (Webb *et al.*, 2018). In doing so, the limitations of Pantheon as a tool have been recognised based on the semi-ISIS compliant approach and confidence in the reported condition is therefore medium. To mitigate this confidence level, professional judgement has been applied where necessary to assist robust valuation.

Pantheon can only identify whether a site is in favourable or unfavourable condition expected for SSSIs, and condition is not strictly analogous with value. However, if favourable condition is concluded then this can, taking into account other factors, provide evidence that objectives for sites of national value (SSSIs) are being met and this seems a reasonable proxy in this instance for national value. However, use of unfavourable condition to argue against national value is more problematic and requires a degree of caution and application of professional judgement to determine the appropriate geographic scale of nature conservation value. In addition, as the survey did not strictly comply with methods described in Drake *et al.* (2007), such as timed sweeps, a degree of caution and professional judgement is

¹¹ See <http://www.brc.ac.uk/pantheon/lexicon/reported-condition>; last accessed on the 16th January 2019

¹² SATs are characterised by species restricted to certain features within habitats (= stenotopic species) such as types of decaying wood (e.g. sapwood, or heartwood), fluctuating marsh or rich flower resource. Some SATs such as rich flower resource are cross-cutting, i.e. can be present in more than one habitat.

likewise necessary to accommodate for any bias (detracting or enhancing) within the analysis that might introduce subjectivity into the evaluation.

One of the outputs that Pantheon calculates is an assemblage's Species Quality Index (SQI). A quality index is based on a scoring system where 'rarer' taxa are scored more highly than ubiquitous species. Pantheon has also considered 'threat levels', based on IUCN criteria, when assigning scores. The principle is that each taxon is assigned a score, which is then summed to produce a Species Quality Score (SQS) for the assemblage. This is then divided by the number of species in the assemblage to produce the SQI. For ease of reading, some authors multiple the sum by 100 to give a whole number, whereas others multiply by 10. Pantheon recommends that a minimum of fifteen taxa are required to trust the SQI, though this is considered a relatively low threshold by the author. This latter point is relevant if considering individual SATs where the number of taxa recorded could be close to this threshold, but less relevant for assemblages recorded at the site or compartment level.

In an attempt to inject some objectivity into the use of Pantheon SATs to inform evaluation of nature conservation value and to counteract some of the caveats given above, the threshold limits for each of the SATs has been noted with the intention of providing a reasonable judgement. This can be made in terms of the Proportion to Threshold (PtT) achieved for each SAT identified. The threshold referred to is the number of species within a SAT expected to be present if a site is considered to be in favourable condition (FC). Thus, if a SAT records or exceeds the expected threshold, the PtT will be 100 % or greater and this is taken as the basis for considering assigning national value. In the absence of other guidance, where the PtT is < 100 %, professional judgement is used to assist with the rationale for assessing a nature conservation value of the invertebrate assemblage in a sub-national context (i.e. regional, county, district, local). The further away from the threshold, the lower the nature conservation value the SAT. Other factors considered when determining the value include species-richness, proportion of Key Species in the assemblage, proportion of county rarities or significant records (where known), and site context within the landscape (i.e. availability and connectivity to similar semi-natural habitat, whether statutorily protected or not). Thus, whilst Pantheon remains a useful guide when assessing the nature conservation value for each of the land parcels for terrestrial invertebrates, professional judgement incorporating other evidence is necessary to come to a defensible evaluation.

3.3.3 Designated Site Guidelines

3.3.3.1 Statutory Sites

The Joint Nature Conservation Committee (JNCC) has updated and ¹³published its guidance on invertebrates for the selection of biological SSSIs (Curson *et al.*, 2019). In summary, these guidelines state that any species which are Critically Endangered, Endangered or Vulnerable (IUCN); or Nationally Rare (British rarity status) should be represented in SSSIs; and Near Threatened and Nationally Scarce taxa should also be considered if certain caveats apply. The presence of any such designated species at a site is not in itself sufficient for that site to be formally designated, but it would reach a threshold *for it to be considered*. Therefore, the presence of Critically Endangered, Endangered, Vulnerable (¹⁴IUCN), or Nationally Rare species in a site can be considered as a proxy for considering national importance. The presence of Near Threatened or Nationally Scarce species in the absence of any of the previous four categories would need to consider additional factors such as their status in the vice-county/ region. A Near Threatened or Nationally Scarce species that is new, or rare in the vice-county would potentially merit consideration; whereas if it is frequent, it will likely fall short of the threshold for consideration.

3.3.3.2 Non-Statutory Sites

The ILPN falls within the jurisdiction of North Merseyside Local Sites Partnership though it should be noted for the purposes of completeness that its boundary with the SSSI is coincident with Greater Manchester Ecology Unit. For the purposes of this report, reference to non-statutory site guidelines are those for North Merseyside (Merseyside

¹³ Guidance is available via their website: <https://jncc.gov.uk/our-work/guidelines-for-selection-of-sssis/>; last accessed on the 11th September 2025.

¹⁴ International Union for the Conservation of Nature. See <https://www.iucnredlist.org/assessment/process> for more information.

Environmental Advisory Service, 2008) which are available to the public on-line¹⁵. The guidelines provide criteria for butterflies and moths (Lepidoptera) and dragonflies and damselflies (Odonata), but no other invertebrate groups; or even a generic grouping of all other invertebrates.

The criteria are:

Odonata

- Any site which regularly supports breeding populations of six or more species of dragonfly or damselfly; or
- Any site which regularly supports a breeding population of a rare or scarce North Merseyside breeding species:
 - Red-eyed Damselfly (*Erythromma najas*);
 - Common Hawker (*Aeshna juncea*);
 - Black Darter (*Sympetrum danae*);
 - Ruddy Darter (*Sympetrum sanguineum*);
 - Red-veined Darter (*Sympetrum fonscolombi*); and
 - Banded Demoiselle (*Calopteryx splendens*).

Butterflies

- Any site which regularly supports a breeding population of a species which is rare (restricted to one tetrad) or scarce (restricted to 2 - 6 tetrads) in North Merseyside. This applies to:
 - Purple Hairstreak (*Favonius quercus*);
 - White-letter Hairstreak (*Satyrrium w-album*);
 - Dark-green Fritillary (*Speyeria aglaja*); and
 - Grayling (*Hipparchia semele*).

¹⁵ Available <https://northmerseysidensp.org.uk/download-category/ls/>; last accessed on the 11th September 2025.

- Any site which regularly supports breeding populations of at least nine species other than migrant species or those dependent upon agricultural crops as depicted from the screen-grab below.

Purple hairstreak	<i>Quercusia quercus</i>
White-letter hairstreak	<i>Satyrus w-album</i>
Small Skipper	<i>Thymelicus sylvestris</i>
Large Skipper	<i>Ochlodes venata</i>
Green-veined White	<i>Pieris napi</i>
Orange tip	<i>Anthocharis cardamines</i>
Small copper	<i>Lycaena phlaeas</i>
Common blue	<i>Polyommatus icarus</i>
Holly blue	<i>Celastrina argiolus</i>
Red admiral	<i>Vanessa atalanta</i>
Small tortoiseshell	<i>Aglais urticae</i>
Peacock	<i>Inachis io</i>
Comma	<i>Polygonia c-album</i>
Speckled wood	<i>Pararge aegeria</i>
Wall	<i>Lasiommata megera</i>
Gatekeeper	<i>Pyronia tithonius</i>
Meadow brown	<i>Maniola jurtina</i>
Small heath	<i>Coenonympha pamphilus</i>
Dark green fritillary	<i>Argynnis aglaja</i>
Grayling	<i>Hipparchia semele</i>

3.4 Personnel

The invertebrate survey field visits were undertaken by Richard Wilson CEnv MCIEEM Mem.RES MSc. Richard is an experienced ecologist and field entomologist, and a ¹⁶recognised arachnid (spiders, harvestmen and pseudoscorpion) specialist though he is familiar with a wider range of taxonomic groups. In addition to the arachnids, Richard identified some Diptera families including hoverflies (Syrphidae) and a loose grouping of other fly families referred to as the larger Brachycera which include robberflies (Asilidae), soldierflies (Stratiomyidae) and horseflies (Tabanidae); aculeate Hymenoptera ('stinging' bees, wasps and ants), in addition to groups readily identifiable in the field such as the Lepidoptera (butterflies and moths) and Odonata (dragonflies and damselflies). Assisting Richard with morphological identification were Steven Falk FRES, who is a recognised specialist in pollinators and identified other Diptera families such as the houseflies (Muscidae) and Symphyta (sawflies); and Steve Lane who identified most of the Coleoptera and Hemiptera.

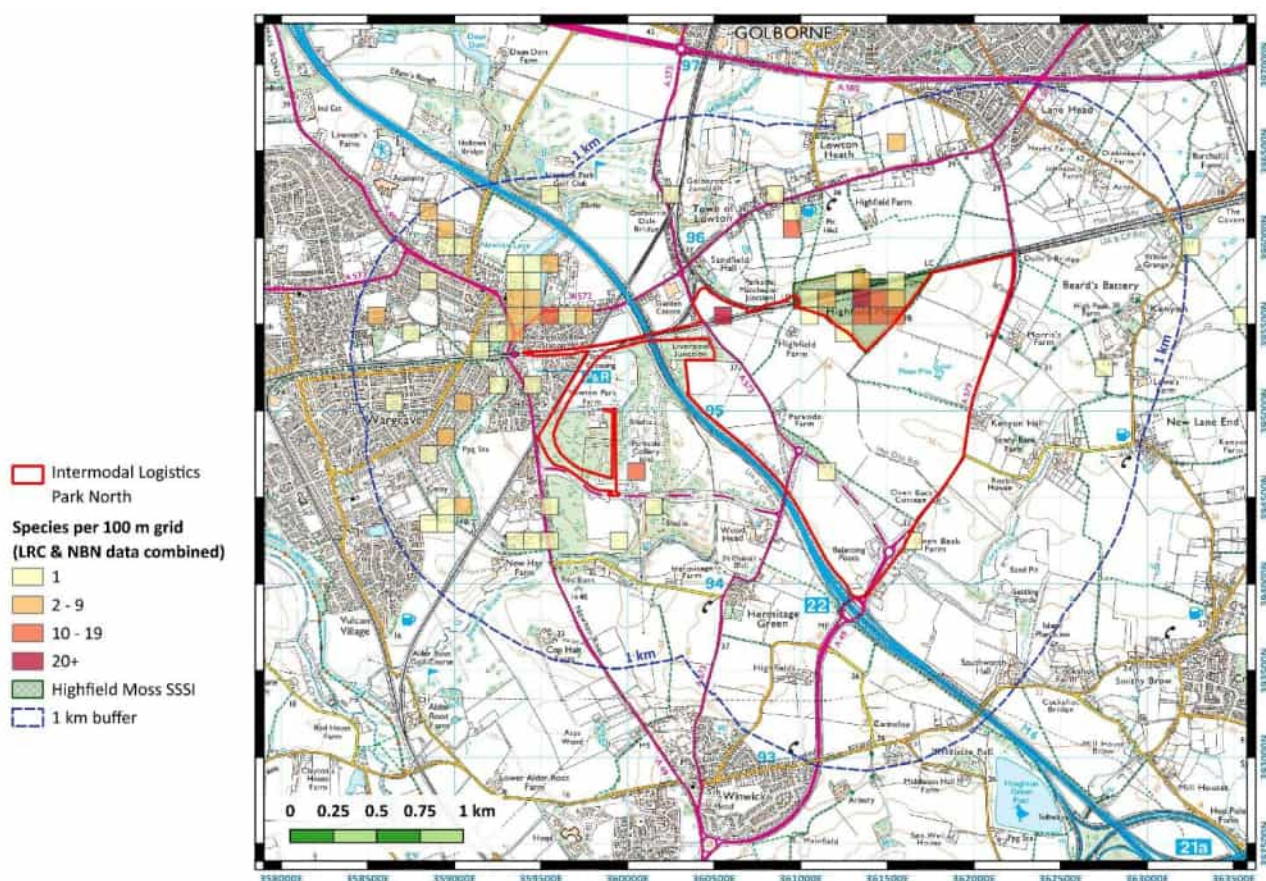
¹⁶ Richard is the YNU's spider recorder, the Yorkshire, County Durham and Northumberland recorder for the national spider recording Project; and sits on the conservation committee of the British Arachnological Society.

4 Results and Interpretation

4.1 Desk Study

The combined local record centre (LRC) datasets and that extracted from the NBN database provided 800 records of 162 species of invertebrate recorded within a kilometre of the ILPN Main Site and Western Rail Chord, though only one, Roesel's Bush Cricket (*Roeseliana roeselii*) was from within the ILPN DCO Main Site itself (see Figure 3). The LRC data only included species with a nature conservation status (i.e. British rarity, IUCN threatened taxa and/ or Priority Species (Species of Principal Importance)), whereas the NBN data was unfiltered for rarity.

Figure 3: Distribution of historical invertebrate data and species-richness (LRC & NBN databases).



Records and species-richness are clustered around two locations, Highfield Moss SSSI (109 species) and Newton Lake (16 species). The remaining data is mostly associated with the residential area of Wargrave, with very scattered records in the rural hinterland surrounding the ILPN DCO Main Site and Western Rail Chord.

Within the one kilometre buffer, sixteen species have been recorded with a conservation status, though six of these are moths that are included in a list of 70 species identified as meriting funding for ecological research (Research Only) and are not considered any further. A further four taxa are no longer considered to merit a conservation status and would very probably be downgraded in their next species status review. The remaining six species have all been recorded within the SSSI, though one, the endangered Wall (*Lasiommata megera*) [butterfly] has been noted outside the protected site, though the most recent record is from August 1999.

Searching St Helen's Borough Council's planning portal¹⁷ identified two relevant planning applications within the former Colliery which included terrestrial invertebrate surveys:

- P/2018/0048/OUP: Outline application (all matters reserved) for construction of employment space, associated infrastructure and servicing; and
- P/2018/0249/FUL: Formation of a new link road between the A49 (Winwick Road) and M6 Junction 22 plus associated works.

In both instances, invertebrate surveys were completed by an experienced entomologist, Andy Jukes (Conops Entomology Limited). The survey supporting the outline application for employment space consisted of six visits between May and August 2015, which recorded 209 species, one having a nature conservation status: a scavenger water beetle *Helochaeres lividus* (Coleoptera, Hydrophilidae) (Arup, 2015). The survey which was commissioned for the link road application was completed over four dates between June and August 2017. In this study, 175 species were recorded by all methods and again, a single species with a conservation status was recorded (Conops Entomology, 2017), this time the fly *Acanthiophilus helianthi* (Diptera, Tephritidae), whose larvae develop in the flower-heads of Common Knapweed (*Centaurea nigra*) and potentially other members of the thistle family.

Highfield Moss SSSI was one of several Cheshire and Lancashire lowland peat bog sites surveyed for spiders by Richard Burkmar and Richard Gallon (Burkmar, 2018) as part of a Tanyptera Trust funded project. According to the report, Highfield Moss has been sampled in 2007, 2008 and in 2018, and as a result, 118 species of spider have been recorded there, of which three are Nationally Rare/ Scarce, and have an IUCN threat status, 21 are indicator species of bogs and a further 28 are tolerant of bogs.

In summary, outside the SSSI and the former Colliery, there is limited invertebrate data, though this is predominantly a fauna comprising widespread and common taxa.

4.2 Field Survey

4.2.1 Survey conditions

Four survey visits (Table 2) were completed between early April and late June 2025 during weather conditions suitable for invertebrate survey.

Table 2: Weather conditions for survey visits in 2025.

Date	Weather
10 th April 2025	Cloud: 0/8; Temperature: 12 °C to 16 °C; Wind Speed: Calm
30 th April 2025	Cloud: 0/8; Temperature: 19 °C; Wind Speed: Calm.
2 nd June 2025	Cloud: 3/8; Temperature: 16 °C to 21 °C; Wind Speed: Light air. S
27 th June 2025	Cloud: 8/8; Temperature: 22 °C; Wind Speed: Calm. Humid.

4.2.2 Summary of Survey Results

A total of 303 invertebrate species were identified within the ILPN's proposed footprint (Main Site and Western Rail Chord) during 2025; and 81 species identified within the SSSI (51 taxa being unique to the protected site). The full species list is provided as Table 7 (Appendix B) and definitions of nature conservation statuses are provided in Appendix A.

4.2.3 Key Species

Amongst the species identified within the ILPN Main Site and Western Rail Chord, a total of two (0.7 %) could be described as Key Species, as described in Section 3.3.1; none being Rare Key Species. Four Key Species were recorded

¹⁷ <https://publicaccess.sthelens.gov.uk/online-applications/>; last accessed on the 12th September 2025.

from the SSSI (4.9 %), of which one (1.2 %) could be described as Rare Key Species. No Priority Species under the NERC Act 2006 were recorded at either location.

Details for the Key Species, including their ecology, distribution and occurrence during the surveys, are conveyed in Table 3 with ecological information provided by Steve Lane and other sources as quoted.

Table 3: Key Species recorded within the ILPN and SSSI.

Species	Conservation status	Location	Ecology, distribution and occurrence during surveys
<i>Nigma puella</i> (Araneae, Dictynidae)	Nationally Scarce	Newton Park Farm	This distinctive comb-footed spider with its scarlet-red heart-shaped mark on an otherwise pale-coloured abdomen is typically recorded from shrubs, trees and Ivy (<i>Hedera helix</i>) where the species' leaf structure allows it to construct a small web on their surface. Historically, it has been restricted to south-east England but it, along with another distinctive member of the genus (<i>N. walckenaeri</i>), has started to spread north. There have been recent reports from Cheshire ¹⁸ and the national spider recorder has highlighted two records, one from Warrington (July 2021) and a second from central Manchester (June 2025). The species is likely to be spreading north quite rapidly and in the author's opinion, it is likely that in a future assessment, the status will be downgraded to 'frequent'.
<i>Glocianus punctiger</i> (Coleoptera, Curculionidae)	[Nationally Scarce (Nb)]	Newton Park Farm	This is small weevil is widespread across England and Wales, often found in grasslands and disturbed areas where it is associated with plants in the Plantain family.
<i>Hypselistes jacksoni</i> (Araneae, Linyphiidae)	Nationally Scarce	SSSI	A species of money-spider associated with wet places, including fenland, mire and bogs. It is widely distributed in western Britain, the Surrey and Hampshire heaths, being largely absent from central England and the home counties. Its conservation status could be reevaluated and downgraded in any future review owing to its frequency.

¹⁸ See <https://www.northwestinvertebrates.org.uk/nigma-puella-new-to-cheshire/>; last accessed on the 15th September 2025.

Species	Conservation status	Location	Ecology, distribution and occurrence during surveys
<i>Agelastica alni</i> (Coleoptera, Chrysomelidae)	Data Deficient; Nationally Rare	SSSI	This conspicuous purple species inhabits open sunny locations in wetlands, especially alder carr, river banks and wet woodland flushes. It is phytophagous on young Alder (<i>Alnus glutinosa</i>) and Grey Alder (<i>A. incana</i>), sometimes Hazel (<i>Corylus avellana</i>), Goat Willow (<i>Salix caprea</i>) and Silver Birch (<i>Betula pendula</i>). It was previously considered extinct but was rediscovered in the Manchester area in 2004, with a series of records since then from Lancashire and Cheshire indicating a population had re-established in north-west England (Hubble, 2014). More recently, it has rapidly expanded its range, being found in Wales in 2013 and recently colonising Hampshire (New Forest region) and southwards from Lancashire and Cheshire into Staffordshire and east into Lincolnshire etc. It no longer deserves any conservation status.
<i>Chaetocnema confusa</i> (Coleoptera, Chrysomelidae)	Nationally Scarce	SSSI	This is a small beetle with a leaden reflection. It is associated with boggy heathland where it feeds on sedges (<i>Carex</i> spp.). Adults feed openly on the vegetation whereas the larvae have been found in peat and probably feed at the roots of the food-plant. Adults overwinter. The beetle is locally but widely distributed throughout England and Wales and is particularly scarce north of the Midlands.
<i>Mantura chrysanthemi</i> (Coleoptera, Chrysomelidae)	Nationally Scarce	SSSI	This small heavily-bronzed flea beetle feeds on Sheep's Sorrel (<i>Rumex acetosella</i>) and is most frequently found in coastal short turf grassland, breck grassland and heathland, particularly in areas grazed by rabbits. Its distribution extends patchily through England and Wales, northwards into Scotland. The species has a single generation each year, with the adults overwintering.

4.3 Baseline Invertebrate Assemblage Analysis

The following section describes the invertebrate assemblages recorded within the study area. The species list has been analysed using Pantheon to identify the habitat associations and dependencies of the terrestrial invertebrate assemblage associated within the ILPN's footprint (Main Site and Western Rail Chord). The analysis considers stenotopic species i.e. those terrestrial invertebrates with very specific and ¹⁹restricted habitat requirements. They are considered to have an intrinsic nature conservation value as stenotopic species are generally only recorded on sites that are of nature conservation value. Following this, the analysis considers the Species Quality Index for the ILPN's footprint and compares it with survey data by Conops Entomology (2017) from the adjacent former Colliery and the SSSI.

Of the 303 species recorded within the ILPN Main Site and Western Rail Chord, 274 were ²⁰analysed by Pantheon, with an overall Species Quality Index (SQI) for the ILPN of 102. Looking in more detail, the Pantheon analysis identified 18 stenotopic taxa dependent on the habitats within the ILPN's footprint, representing 5.9 % of the invertebrate fauna

¹⁹ Referred to as Specific Assemblage Types (SAT) in Pantheon (Webb *et al.* 2018).

²⁰ Pantheon analyses species, attaching associated habitats and resources, assemblage types (adapted from the Invertebrate Species-habitat Information System), conservation status, habitat fidelity scores and other information against them.

recorded (see Table 8; Appendix B for list of species). Of these stenotopic species, almost two-thirds are associated with the mosaic of scrub and tall swards with the limited pollinator resource observed and described in Table 1.

4.3.1 Comparisons with other surveys

The immediate landscape within which the Proposed Development is located has been subject to two previous and relevant invertebrate surveys on the adjacent former Colliery site (Arup, 2015; Conops Entomology, 2017), and the additional surveys at Highfield Moss SSSI (refer back to Section 1.4 for details).

Comparing the results from the ILPN study area with the Colliery and SSSI using various metrics based on the invertebrate species recorded (Table 4) it is possible to provide an objective assessment of the current study's invertebrate fauna.

Table 4: Species quality metrics comparing the ILPN with the former Colliery and SSSI.

Site	ILPN Footprint	SSSI	Colliery
Species-richness	303	81	175
Key Species	2	4	5
% Key Species	0.7 %	4.9 %	2.9 %
Priority Species	0	0	0
Stenotopic Taxa	18	6	18
% Stenotopic Taxa	5.9 %	7.4 %	10.3 %
Scoring Taxa	266	77	170
SQI	102	121	109

The ILPN study area (Main Site and Western Rail Chord) is broadly similar to the former Colliery when considering the Species Quality Indices but has substantially fewer stenotopic and Key Species as a proportion of the fauna recorded. Compared with the SSSI, the ILPN study area is incomparable, with the SSSI exceeding all metrics by some margin. The impression given is that the quality and value of the ILPN study area's invertebrate fauna when compared to the former Colliery and SSSI is impoverished and a not unreasonable interpretation is that the assemblage is **not** of an equivalent value.

4.3.2 Highfield Moss SSSI

Surveys within the western sector of the SSSI were undertaken to obtain a baseline for the purposes of better understanding the invertebrate assemblages' quality and association with the designated vegetation communities. Whilst invertebrates are not a feature of the SSSI, the resources upon which they are dependent are represented by the assemblages present, and the presence and diversity of stenotopic species.

The western sector's vegetation suggests there is an element of drying out as birch scrub is invading into the wetland vegetation, and the seemingly dominant presence of Purple-moor Grass may be indicative of high(er) nitrogen inputs (Tomassen *et al.*, 2003), potentially arising from air pollution. Unfortunately, owing to the lack of rainfall between late winter (February 2025) and throughout the spring and summer, the ground conditions were unnaturally dry, even in April, so it is considered that the results were compromised in that faunas associated or dependent on damp to saturated ground were under-represented.

Nevertheless, by combining desk study data with the 2025 results, a conservative total of 212 invertebrate species are known to be recorded from the SSSI taken from all sources (NBN data, data extracted from Burkmar (2018) and this study). Analysing this data in Pantheon has provided some indications (and no more) on the type of invertebrate assemblages present, including stenotopic faunas represented by the SATs (Table 5). Caution needs to be applied to the results owing to intrinsic biases in the data owing to how the records were obtained. The analysis suggesting that the SATs are not in favourable condition are likely to be unreliable in absolute terms, but it demonstrates that there are stenotopic faunas associated with bog and mire systems as represented by the W312, W221, W311, and heathland (F003) SATs. The messaging here is that whilst there is low confidence in the condition assessment element of the analysis, it has confirmed that the SSSI supports an invertebrate assemblage with a strong association with the mire and bog vegetation communities. In the wider narrative of the recent NNR designation, these will be of conservation value within the NCA. The SSSI's hydrological integrity from an invertebrate ecology perspective is therefore an important consideration.

Table 5: Indicative invertebrate assemblage assessment for Highfield Moss (all data).

Broad biotope	Habitat	SAT	No. of species	Favourable Condition Threshold	PtT
Open habitats	Cross-cutting	F002: Rich flower resource	11	15	73%
Wetland	Acid & sedge peats	W312: Sphagnum bog	3	8	38%
Open habitats	Cross-cutting	F003: Scrub-heath & moorland	3	9	33%
Open habitats	Cross-cutting	F001: Scrub edge	3	11	27%
Wetland	Marshland	W221: Undisturbed fluctuating marsh	1	4	25%
Open habitats	Short sward & bare ground	F112: Open short sward	3	13	23%
Wetland	Acid & sedge peats	W311: Open water in acid mire	1	5	20%
Wetland	Running water	W114: Stream & river margin	1	6	17%
Open habitats	Short sward & bare ground	F111: Bare sand & chalk	1	19	5%

In considering the SSSI's hydrological integrity from the perspective of the invertebrate faunas, it is understood from e-mail correspondence with FPCR (16th September 2025) that ground investigation work has considered the potential effects of the rail port's cutting excavation. Based on draft text, to be finalised in autumn 2025, the specialists consider that the SSSI's hydrology is independent of the surrounding agricultural land, with no meaningful input/ output. It has been inferred from their draft narrative that the SSSI's hydrology is rainfall fed (ombrotrophic) and that the construction of the rail port's cutting will have no measurable effect on the SSSI's hydrology. This report has placed reliance on the ground investigation findings and on this basis, it is not considered that the invertebrate fauna's nature conservation value within the SSSI will be compromised as a result of changes to the hydrological regime. Refer to ILPN PEIR Chapter 15 (Geology Soils and Contaminated Land) for details of ground investigation and hydrogeology.

5 Nature Conservation Evaluation

As stated in Section 3.3, there is no standard frame of reference to evaluate a study area's invertebrate assemblages' nature conservation value. Instead, reliance is placed on various sources, including proportion of Key Species recorded, and analysis using Pantheon (Webb *et al.*, 2018). Added to this is recent guidance which considers how individual Key Species can best be represented in protected sites (SSSIs) (Curson *et al.*, 2019). Whilst the presence of individual Key Species in themselves, is not a sole indication of national value, it is considered a useful guide as to where a particular site may sit in a geographical hierarchy.

In considering a land parcel's potential for SSSI status, Curson *et al.* (2019) suggests that sites can be valued based on:

- individual species that are considered to be threatened species (IUCN and British rarity, see this report's Appendix A for details), species of country conservation priority (i.e. Priority Species), species with restricted or disjunct ranges, and edge of range species; and
- assemblages of specialised habitats and habitat-based assemblages such as Open Mosaic Habitat faunas, and habitat heterogeneity/ mosaics.

In addition to the above, it remains relevant to assess the invertebrate assemblage recorded against non-statutory site guidelines. The guidelines applied for the Proposed Development places reliance on North Merseyside's guidelines as set out in Section 3.3.3.2.

The basis for the following evaluation takes into consideration the criteria referred to above and more general points such as SQIs, the relative value of how terrestrial invertebrate assemblages relate to both the importance and uniqueness of the habitats present, and the characteristics of the assemblage itself. The assessment first considers the presence of individual species recorded, followed by the assemblages recorded (i.e. not just the rarer taxa).

5.1 Individual Species

Out of a total list of 303 species, just two Key Species (none being Rare Key Species) were recorded, representing 0.7 % and 0 % of the assemblage respectively. The proportions are substantially below the proposed threshold for national importance (10 % and 1 %).

Applying Curson *et al.* (2019), there are no taxa recorded in 2025 which are of conservation priority in England, i.e. IUCN Threatened and/ or Priority Species so fall short of the threshold for SSSI status as a proxy for national significance.

5.2 Habitat Assemblages

The relative value of the terrestrial invertebrate assemblages relates to both the importance and uniqueness of the habitats present, and the characteristics of the assemblage itself.

5.2.1 Stenotopic Species

The relative value of the notable habitats present for terrestrial invertebrate species can be interrogated in more detail regarding the stenotopic species recorded by the survey. As explained in Section 3.3, stenotopic species are dependent on quite specific and restricted habitat conditions that are rarely encountered in the wider landscape. Therefore, stenotopic species are considered to have an intrinsic nature conservation value and generally only occur in association with sites of relatively high nature conservation importance.

Pantheon has been used to investigate this further by interrogating the composition of the terrestrial invertebrate assemblage in terms of biotopes, habitats, and the distribution of stenotopic species recorded. In doing so, the limitations of Pantheon as a tool have been considered, and professional judgement has been applied where necessary to assist robust valuation.

The stenotopic species are listed in Table 8 (Appendix B) and summarised in Table 6. Following review of the number of stenotopic species recorded and the thresholds published in Drake *et al.* (2007), as conveyed in Table 6, no SAT has met or come reasonably close (e.g. within the upper quartile) to the threshold considered to represent Favourable Condition. The cross-cutting rich flower resource (F002) approaches the upper quartile, but these habitats can be present in a number of different situations; as such, these are considered to have a poor discriminatory value in nature conservation terms, even exceeding the threshold is not sufficient on its own to conclude national significance (Webb *et al.*, 2018).

Table 6: Invertebrate assemblage assessment for the ILPN.

Broad Biotope	Habitat	SAT	No. of Species	Favourable Condition Threshold	Proportion to Threshold
Open habitats	Cross-cutting	F002: Rich flower resource	11	15	73%
Open habitats	Cross-cutting	F001: Scrub edge	3	11	27%
Tree-associated	Decaying wood	A212: Bark & sapwood decay	5	19	26%
Tree-associated	Decaying wood	A211: Heartwood decay	1	6	17%
Wetland	running water	W126: Seepage	1	6	17%
Open habitats	Cross-cutting	F003: Scrub-heath & moorland	1	9	11%

As mentioned in Section 1.3.3, the weather limitations experienced during 2025 may have suppressed invertebrate activity, but even so, the distance from meeting or coming close to the thresholds for Favourable Condition are such that is not considered likely that in more favourable faunas, the outcome would be measurably different.

5.2.2 Landscape context

The Proposed Development is located within a predominantly agricultural environment though on the edge of an urban area and adjacent to a former Colliery that supports brownfield habitat. The habitats within the ILPN Western Rail Chord are most similar to the adjacent Colliery, supporting mosaics of scrub and tall grasslands with a floristic element characteristic of undisturbed but nutrient enriched soils. This habitat is likely to be widespread within the NCA given its position between the Merseyside and Manchester conurbations.

5.3 Taxonomic Assemblages

5.3.1 SSSI guidelines

Recent guidance considers how Key Species can best be represented in protected sites (SSSIs) (Curson *et al.*, 2019). Whilst the presence of Key Species in themselves is not a sole indication of national value, it is considered a useful guide as to where a particular site may sit in a geographical hierarchy. Curson *et al.* (2019) suggests that sites can be valued based on:

- Individual species that are considered to be threatened species (IUCN and British rarity, see this report's Appendix A for details)
 - This condition is **not** met due to the lack of any species meeting this criterion.
- Species of country conservation priority (i.e. Priority Species),

- This condition is **not** met due to the lack of any species meeting this criterion.
- Edge of range species
 - This condition is met by the presence of *Nigma puella* which was recorded during fieldwork and has only recently been recorded at this latitude. However, this is a species that is likely to be spreading north rapidly so this is not a stable distribution and is very likely to change. On this basis, little weight is given to its confirmed presence in 2025 as it is expected to continue its northwards extension in England.
- Assemblages of specialised habitats and habitat-based assemblages such as Open Mosaic Habitat faunas, habitat heterogeneity/ mosaics and brackish transitional marsh.
 - No.

5.3.2 Local Wildlife Site guidelines

In addition to the guidelines for statutory site designation (refer back to Section 5.1), there are published guidelines for non-statutory site designation (Local Wildlife Sites) of which North Merseyside is being used. The guidelines intend to provide a coherent means by which the study area can be assessed.

Strictly applying the criteria as set out by the SINC panel, the study area would fail to meet LWS guidelines for breeding Odonata due to the lack of waterbodies and for butterflies due to a lack of noteworthy species.

There are no general invertebrate thresholds but in the experience of the surveyor, where these do exist in other guidelines, the fauna recorded within the ILPN study area would fall substantially short.

5.4 Conclusion

A total of 303 species of invertebrates were recorded within the study area in 2025 with an impoverished fauna lacking Key Species and those with a conservation priority.

Data analysis has identified that the assemblage falls short of any threshold which would indicate an invertebrate fauna of value approaching county value or higher. Within the context of the Proposed Development footprint, the habitats are broadly consistent with the dominant land-use in the NCA, and the fauna recorded falls below similar studies on an adjacent greenspace (the brownfield site of the former Colliery). In summary, the ILPN study area supports a fauna that is likely to be present across similar mosaics of scrub and tall grassland in greenspace that is likely to be replicated on undisturbed agricultural land, suburban or edge of settlement greenspace, providing a resource that contributes to invertebrate nature conservation within this context.

Taking into consideration all of the above, it is justifiable to conclude that the ILPN study area supports an invertebrate assemblage of **no more than district nature conservation value**.

5.5 Mitigation/ Enhancement

Arable land to the north of the Manchester to Liverpool railway line and adjacent to the smaller section of the SSSI is included within the draft DCO Order Limits for the purposes of creating a mosaic of flower-rich grasslands, enhanced species-richness of field boundaries (hedgerows) and the provision of a number of waterbodies and wetlands (the Northern Mitigation Area). This is an enhancement for invertebrate faunas for habitats that will be lost and may act as an important buffer to the SSSI.

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**A. Appendix A: Nature Conservation Status Categories
(Definitions)**

Introduction

The up to date status of species of conservation concern have been taken from Pantheon, the web-based analytical package maintained by the national biological records centre and developed by Webb *et al.* (2018) but reference to the various published Species Status Reviews; and the ²¹Joint Nature Conservation Committee database of species designations has been undertaken where the author is aware there might be a discrepancy. However, no guarantee is given that this has been entirely comprehensive and reliance has largely been placed on Pantheon's accuracy.

Great Britain Rarity Status

Nationally Rare (NR) species are those that have been recently reassessed and are roughly equivalent to the old Red Data Book categories. These are defined as occurring in 15 or fewer hectads (10 km Ordnance Survey grid squares) and where there is reasonable confidence that intensive recording effort won't increase the number of hectads above 15.

Nationally Scarce (NS) species are those that are not NR and which have not been recorded in more than 100 hectads, and where there is reasonable confidence that intensive recording effort won't increase the number of hectads above 100.

Where taxa have yet to be reassessed under the Species Status Reviews, they formally retain their status based on historical reviews, which may date back to the late 1980s or early 1990s. These status' should be treated with caution as it is likely a significant proportion are no longer accurate, either due to a better understanding of their ecology, or have subsequently spread due to climate change or other amenable factors (e.g. they are more frequent and no longer deserve a nature conservation status); or they have declined; and may merit upgrading to a threat category.

Nationally Notable - species recorded, or likely to be restricted to 16 - 100 hectads in Britain. Historically, for some better recorded invertebrate taxa, they were further divided between Notable-A (Na) for species thought to occur in 30 or fewer hectads, and Notable-B (Nb) for those thought to occur between 31-100 hectads. These are referred to as Nationally Scarce (Na), or Nationally Scarce (Nb). Within Pantheon, some status' have been placed in square brackets, e.g. [Nationally Scarce (Nb)]. This denotes that in the professional judgement of the specialists (Webb *et al.*, 2018), this status is unreliable, but they have not been formally assessed against up to date criteria. The species are included in the relevant table in this report for the avoidance of doubt.

Red Data Book (RDB) species –species occurring in fewer than 16 10-km squares of the National Grid, divided as:

RDB 1: Endangered - for species known from a single population or in continuous recent decline and now known from five or fewer 10-km squares;

RDB 2: Vulnerable - likely to become endangered (RDB 1) if causal factors continue;

RDB 3: Rare: - species at risk but not qualifying as vulnerable; and

RDB K: Insufficiently Known - species likely to qualify at least as rare.

UK Biodiversity Action Planning

Species of Principal Importance as listed in Section 41 of the National Environment and Rural Communities Act 2006. These are abbreviated as Priority Species. Approximately 70 species of moth have been included in a list which proposes

²¹ Joint Nature Conservation Committee, <http://jncc.defra.gov.uk/page-3408>

‘for Research only’; a frequently encountered example is the Cinnabar (*Tyria jacobaeae*). These are widespread species which are believed to have experienced a decline and have been included to enable funding to be allocated for research.

UK Legal Protection

Approximately 50 species of invertebrate species in Britain receive legal protection through Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). About half receive limited protection; for example it is illegal to sell, or advertise for sale, most butterfly species. The remaining 28 species are more strictly protected, for example it is an offence to take or kill specimens without an appropriate licence. These species are generally extremely rare, restricted to a few, or a single site and none are likely to occur anywhere in the region.

IUCN Threat Categories

In recent years, invertebrate taxa in Great Britain have been assessed against the International Union for the Conservation of Nature’s (IUCN) threat criteria that considers factors influencing a species survival. These include population decline or geographic contraction through habitat loss. These assessments are ongoing as part of the Species Status Reviews, overseen by the Joint Nature Conservation Committee and mostly published by Natural England. The criteria are defined by the IUCN, which places an assessed taxon in one of seven categories from Extinct down to Least Concern, based on one of the five main criteria. The following categories are defined as Threatened (Red List):

Critically Endangered (CR): A taxon is Critically Endangered when the best available evidence indicates that it is considered to be facing an extremely high risk of extinction in the wild.

Endangered (EN): A taxon is Endangered when the best available evidence indicates that it is considered to be facing a very high risk of extinction in the wild.

Vulnerable (VU): A taxon is Vulnerable when the best available evidence indicates that it is considered to be facing a high risk of extinction in the wild.

A further category, Near Threatened (NT), is applied to a taxon, which following assessment, came close to, but failed to qualify as a Threatened species. However, it is considered that if the factors influencing its assessment continue, it is likely to move into one of the threat categories; and thus it acts as a watching brief.

B. Appendix B: Species Lists

Table 7: Species recorded from the Proposed ILPN and Highfield Moss SSSI in 2025.

Class	Order	Family	Species	Vernacular	National Status	SQS	Newton Park Farm	Highfield Moss SSSI
Arachnida	Araneae	Theridiidae	<i>Anelosimus vittatus</i>			1	•	
Arachnida	Araneae	Theridiidae	<i>Phylloneta sisyphia</i>			1	•	
Arachnida	Araneae	Theridiidae	<i>Neottiura bimaculata</i>			1		•
Arachnida	Araneae	Theridiidae	<i>Paidiscura pallens</i>			1	•	
Arachnida	Araneae	Theridiidae	<i>Enoplognatha ovata sens. str.</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Ceratinella brevipes</i>			1	•	•
Arachnida	Araneae	Linyphiidae	<i>Ceratinella brevis</i>			1		•
Arachnida	Araneae	Linyphiidae	<i>Ceratinella scabrosa</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Walckenaeria acuminata</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Walckenaeria antica</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Walckenaeria atrotibialis</i>			1		•
Arachnida	Araneae	Linyphiidae	<i>Walckenaeria unicornis</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Dismodicus bifrons</i>			1	•	•
Arachnida	Araneae	Linyphiidae	<i>Baryphyma trifrons</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Pocadicnemis pumila sens. str.</i>			1	•	•
Arachnida	Araneae	Linyphiidae	<i>Pocadicnemis juncea</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Hypselistes jacksoni</i>		Nationally Scarce	4		•
Arachnida	Araneae	Linyphiidae	<i>Oedothorax gibbosus</i>			1	•	•
Arachnida	Araneae	Linyphiidae	<i>Silometopus elegans</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Cnephalocotes obscurus</i>			1	•	•
Arachnida	Araneae	Linyphiidae	<i>Erigonella hiemalis</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Diplocephalus latifrons</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Diplocephalus picinus</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Erigone dentipalpis</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Agyneta ramosa</i>			1		•
Arachnida	Araneae	Linyphiidae	<i>Microneta viaria</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Bathyphantes gracilis</i>			1		•
Arachnida	Araneae	Linyphiidae	<i>Kaestneria pullata</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Tenuiphantes tenuis</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Tenuiphantes mengei</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Linyphia hortensis</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Nerienne peltata</i>			1	•	
Arachnida	Araneae	Linyphiidae	<i>Microlinyphia pusilla</i>			1	•	•

Class	Order	Family	Species	Vernacular	National Status	SQS	Newton Park Farm	Highfield Moss SSSI
Arachnida	Araneae	Tetragnathidae	<i>Tetragnatha extensa</i>			1		•
Arachnida	Araneae	Tetragnathidae	<i>Pachygnatha degeeri</i>			1	•	
Arachnida	Araneae	Tetragnathidae	<i>Metellina menpei</i>			1	•	
Arachnida	Araneae	Araneidae	<i>Araneus diadematus</i>	Garden Spider		1	•	
Arachnida	Araneae	Araneidae	<i>Agalenatea redii</i>			1	•	
Arachnida	Araneae	Araneidae	<i>Araniella cucurbitina sens. str.</i>			1	•	
Arachnida	Araneae	Araneidae	<i>Hypsosinga pygmaea</i>			1		•
Arachnida	Araneae	Lycosidae	<i>Pardosa pullata</i>			1	•	•
Arachnida	Araneae	Lycosidae	<i>Pardosa amentata</i>			1		•
Arachnida	Araneae	Lycosidae	<i>Pirata piraticus</i>			1		•
Arachnida	Araneae	Lycosidae	<i>Piratula uliginosa</i>			1		•
Arachnida	Araneae	Lycosidae	<i>Piratula latitans</i>			1		•
Arachnida	Araneae	Dictynidae	<i>Dictyna arundinacea</i>			1	•	•
Arachnida	Araneae	Dictynidae	<i>Dictyna uncinata</i>			1	•	
Arachnida	Araneae	Dictynidae	<i>Nigma puella</i>		Nationally Scarce	4	•	
Arachnida	Araneae	Clubionidae	<i>Clubiona reclusa</i>			1	•	
Arachnida	Araneae	Clubionidae	<i>Clubiona stagnatilis</i>			1	•	
Arachnida	Araneae	Clubionidae	<i>Clubiona phragmitis</i>			1	•	
Arachnida	Araneae	Clubionidae	<i>Clubiona compta</i>			1	•	
Arachnida	Araneae	Gnaphosidae	<i>Micaria micans</i>				•	
Arachnida	Araneae	Philodromidae	<i>Philodromus aureolus</i>			1	•	
Arachnida	Araneae	Philodromidae	<i>Philodromus cespitum</i>			1	•	
Arachnida	Araneae	Philodromidae	<i>Philodromus albidus</i>			1	•	
Arachnida	Araneae	Philodromidae	<i>Tibellus oblongus</i>			1	•	•
Arachnida	Araneae	Thomisidae	<i>Xysticus cristatus</i>			1	•	
Arachnida	Araneae	Salticidae	<i>Heliophanus flavipes</i>			1		•
Arachnida	Araneae	Salticidae	<i>Euophrys frontalis</i>			1	•	
Arachnida	Opiliones	Phalangidae	<i>Rilaena triangularis</i>			1	•	
Insecta	Coleoptera	Carabidae	<i>Notiophilus palustris</i>			1		•
Insecta	Coleoptera	Carabidae	<i>Cicindela campestris</i>	Green Tiger Beetle		1		•
Insecta	Coleoptera	Carabidae	<i>Dyschirius globosus</i>			1		•
Insecta	Coleoptera	Carabidae	<i>Bembidion guttula</i>			1		•
Insecta	Coleoptera	Carabidae	<i>Bembidion lampros</i>			1		•
Insecta	Coleoptera	Carabidae	<i>Bembidion properans</i>			1		•
Insecta	Coleoptera	Carabidae	<i>Amara plebeja</i>			1		•

Class	Order	Family	Species	Vernacular	National Status	SQS	Newton Park Farm	Highfield Moss SSSI
Insecta	Coleoptera	Carabidae	<i>Agonum fuliginosum</i>			1	•	
Insecta	Coleoptera	Carabidae	<i>Demetrias atricapillus</i>			1	•	
Insecta	Coleoptera	Carabidae	<i>Paradromius linearis</i>			1	•	•
Insecta	Coleoptera	Carabidae	<i>Philorhizus melanocephalus</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Brachygluta fossulata</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Pselaphus heisei</i>			1		•
Insecta	Coleoptera	Staphylinidae	<i>Sepedophilus marshami</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Sepedophilus nigripennis</i>			1	•	•
Insecta	Coleoptera	Staphylinidae	<i>Tachyporus atriceps</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Tachyporus chrysomelinus</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Tachyporus dispar</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Tachyporus hypnorum</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Tachyporus obtusus</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Mocyta fungi</i>			1	•	•
Insecta	Coleoptera	Staphylinidae	<i>Anotylus tetracarinatus</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Stenus brunnipes</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Stenus clavicornis</i>			1	•	
Insecta	Coleoptera	Staphylinidae	<i>Stenus flavipes</i>			1		•
Insecta	Coleoptera	Staphylinidae	<i>Stenus fulvicornis</i>			1	•	•
Insecta	Coleoptera	Staphylinidae	<i>Stenus impressus</i>			1	•	•
Insecta	Coleoptera	Staphylinidae	<i>Stenus lustrator</i>			1		•
Insecta	Coleoptera	Staphylinidae	<i>Stenus ossium</i>			1		•
Insecta	Coleoptera	Staphylinidae	<i>Stenus similis</i>			1	•	•
Insecta	Coleoptera	Staphylinidae	<i>Ochthephilum fracticorne</i>			1		•
Insecta	Coleoptera	Scirtidae	<i>Contacyphon hilaris</i>			1		•
Insecta	Coleoptera	Scirtidae	<i>Contacyphon padi</i>			1		•
Insecta	Coleoptera	Elateridae	<i>Agriotes obscurus</i>			1	•	
Insecta	Coleoptera	Elateridae	<i>Agriotes pallidulus</i>			1	•	
Insecta	Coleoptera	Elateridae	<i>Adrastus pallens</i>			1	•	
Insecta	Coleoptera	Elateridae	<i>Hemicrepidius hirtus</i>			1	•	
Insecta	Coleoptera	Cantharidae	<i>Cantharis cryptica</i>			1	•	
Insecta	Coleoptera	Cantharidae	<i>Cantharis flavilabris</i>			1	•	
Insecta	Coleoptera	Cantharidae	<i>Cantharis nigricans</i>			1	•	
Insecta	Coleoptera	Cantharidae	<i>Cantharis pallida</i>			1	•	
Insecta	Coleoptera	Cantharidae	<i>Rhagonycha fulva</i>			1	•	

Class	Order	Family	Species	Vernacular	National Status	SQS	Newton Park Farm	Highfield Moss SSSI
Insecta	Coleoptera	Cantharidae	<i>Rhagonycha nigriventris</i>			1	•	
Insecta	Coleoptera	Byturidae	<i>Byturus tomentosus</i>	Raspberry Beetle		1	•	
Insecta	Coleoptera	Phalacridae	<i>Stilbus testaceus</i>				•	
Insecta	Coleoptera	Kateretidae	<i>Brachypterus glaber</i>			1	•	
Insecta	Coleoptera	Kateretidae	<i>Brachypterus urticae</i>	Nettle Pollen Beetle		1	•	
Insecta	Coleoptera	Nitidulidae	<i>Epuraea aestiva</i>			1	•	
Insecta	Coleoptera	Nitidulidae	<i>Meligethes aeneus</i>	Common Pollen Beetle			•	
Insecta	Coleoptera	Nitidulidae	<i>Meligethes nigrescens</i>				•	
Insecta	Coleoptera	Coccinellidae	<i>Rhyzobius litura</i>			1	•	
Insecta	Coleoptera	Coccinellidae	<i>Nephus redtenbacheri</i>					•
Insecta	Coleoptera	Coccinellidae	<i>Adalia decempunctata</i>	10-spot Ladybird		1	•	
Insecta	Coleoptera	Coccinellidae	<i>Calvia quattuordecimguttata</i>	Cream-spot Ladybird		1	•	
Insecta	Coleoptera	Coccinellidae	<i>Coccinella septempunctata</i>	7-spot Ladybird		1	•	
Insecta	Coleoptera	Coccinellidae	<i>Halyzia sedecimguttata</i>	Orange Ladybird		1	•	
Insecta	Coleoptera	Coccinellidae	<i>Harmonia axyridis</i>	Harlequin Ladybird			•	
Insecta	Coleoptera	Coccinellidae	<i>Propylea quattuordecimpunctata</i>	14-spot Ladybird		1	•	
Insecta	Coleoptera	Latridiidae	<i>Enicmus transversus</i>				•	
Insecta	Coleoptera	Latridiidae	<i>Cortinicara gibbosa</i>				•	
Insecta	Coleoptera	Tenebrionidae	<i>Lagria hirta</i>			1	•	
Insecta	Coleoptera	Oedemeridae	<i>Oedemera lurida</i>			1	•	
Insecta	Coleoptera	Oedemeridae	<i>Oedemera nobilis</i>	Swollen-thighed Beetle		1	•	
Insecta	Coleoptera	Scraphiidae	<i>Anaspis frontalis</i>			1	•	
Insecta	Coleoptera	Scraphiidae	<i>Anaspis regimbarti</i>			1	•	
Insecta	Coleoptera	Cerambycidae	<i>Grammoptera ruficornis</i>			1	•	
Insecta	Coleoptera	Chrysomelidae	<i>Bruchus loti</i>			1	•	
Insecta	Coleoptera	Chrysomelidae	<i>Phaedon tumidulus</i>	Celery Leaf Beetle		1	•	
Insecta	Coleoptera	Chrysomelidae	<i>Phratora laticollis</i>			1		•
Insecta	Coleoptera	Chrysomelidae	<i>Agelastica alni</i>		DD; NR	8		•
Insecta	Coleoptera	Chrysomelidae	<i>Lochmaea crataegi</i>	Hawthorn Leaf Beetle		1	•	
Insecta	Coleoptera	Chrysomelidae	<i>Luperus longicornis</i>			1		•
Insecta	Coleoptera	Chrysomelidae	<i>Altica lythri</i>			1	•	
Insecta	Coleoptera	Chrysomelidae	<i>Chaetocnema confusa</i>		Nationally Scarce	4		•
Insecta	Coleoptera	Chrysomelidae	<i>Chaetocnema picipes</i>			1	•	
Insecta	Coleoptera	Chrysomelidae	<i>Crepidodera aurata</i>			1	•	
Insecta	Coleoptera	Chrysomelidae	<i>Crepidodera fulvicornis</i>			1	•	

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Insecta	Coleoptera	Chrysomelidae	<i>Longitarsus luridus</i>			1	●	
Insecta	Coleoptera	Chrysomelidae	<i>Longitarsus suturellus</i>			1	●	
Insecta	Coleoptera	Chrysomelidae	<i>Mantura chrysanthemi</i>		Nationally Scarce	4		●
Insecta	Coleoptera	Chrysomelidae	<i>Neocrepidodera transversa</i>			1		●
Insecta	Coleoptera	Chrysomelidae	<i>Psylliodes picina</i>			1	●	
Insecta	Coleoptera	Chrysomelidae	<i>Sphaeroderma testaceum</i>			1	●	
Insecta	Coleoptera	Rhynchitidae	<i>Tatianaerhynchites aequatus</i>	Apple Fruit Rhynchites		1	●	
Insecta	Coleoptera	Apionidae	<i>Perapion curtirostre</i>			1	●	
Insecta	Coleoptera	Apionidae	<i>Perapion violaceum</i>			1	●	
Insecta	Coleoptera	Apionidae	<i>Protapion fulvipes</i>	White Clover Seed Weevil		1	●	●
Insecta	Coleoptera	Apionidae	<i>Protapion trifolii</i>			1	●	
Insecta	Coleoptera	Curculionidae	<i>Curculio venosus</i>			1	●	
Insecta	Coleoptera	Curculionidae	<i>Mecinus pascuorum</i>			1	●	
Insecta	Coleoptera	Curculionidae	<i>Ceutorhynchus cochleariae</i>			1	●	
Insecta	Coleoptera	Curculionidae	<i>Ceutorhynchus obstrictus</i>			1	●	
Insecta	Coleoptera	Curculionidae	<i>Glocianus punctiger</i>		[Nationally Scarce (Nb)]	4	●	
Insecta	Coleoptera	Curculionidae	<i>Micrelus ericae</i>	Small Heather Weevil		1		●
Insecta	Coleoptera	Curculionidae	<i>Nedys quadrimaculatus</i>	Small Nettle Weevil		1	●	
Insecta	Coleoptera	Curculionidae	<i>Parethelcus pollinarius</i>			1	●	
Insecta	Coleoptera	Curculionidae	<i>Exomias pellucidus</i>			1	●	
Insecta	Coleoptera	Curculionidae	<i>Otiorhynchus singularis</i>	Raspberry Weevil		1	●	
Insecta	Coleoptera	Curculionidae	<i>Phyllobius roboretanus</i>	Small Green Nettle Weevil		1	●	
Insecta	Dermaptera	Forficulidae	<i>Forficula auricularia</i>	Common Earwig		1	●	
Insecta	Diptera	Tipulidae	<i>Tipula vernalis</i>			1		●
Insecta	Diptera	Tipulidae	<i>Tipula submarmorata</i>			1	●	
Insecta	Diptera	Pediciidae	<i>Ula mollissima</i>			1	●	
Insecta	Diptera	Limoniidae	<i>Dicranomyia chorea</i>			1	●	
Insecta	Diptera	Limoniidae	<i>Limonia nubeculosa</i>			1	●	
Insecta	Diptera	Bibionidae	<i>Bibio johannis</i>			1	●	
Insecta	Diptera	Bibionidae	<i>Bibio marci</i>			1	●	●
Insecta	Diptera	Anisopodidae	<i>Sylvicola fenestralis</i>				●	
Insecta	Diptera	Tabanidae	<i>Haematopota pluvialis</i>			1	●	
Insecta	Diptera	Stratiomyidae	<i>Beris chalybata</i>			1		●
Insecta	Diptera	Stratiomyidae	<i>Chloromyia formosa</i>			1	●	
Insecta	Diptera	Bombyliidae	<i>Bombylius major</i>			1	●	

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Insecta	Diptera	Asilidae	<i>Leptogaster cylindrica</i>			1	●	
Insecta	Diptera	Hybotidae	<i>Hybos femoratus</i>			1	●	
Insecta	Diptera	Hybotidae	<i>Bicellaria vana</i>			1	●	
Insecta	Diptera	Empididae	<i>Empis albinervis</i>			1	●	
Insecta	Diptera	Empididae	<i>Empis chioptera</i>			1		●
Insecta	Diptera	Empididae	<i>Empis nigripes</i>			1	●	●
Insecta	Diptera	Empididae	<i>Empis nuntia</i>			1		●
Insecta	Diptera	Empididae	<i>Empis livida</i>			1	●	
Insecta	Diptera	Empididae	<i>Empis grisea</i>			1	●	
Insecta	Diptera	Empididae	<i>Empis trigramma</i>			1	●	●
Insecta	Diptera	Empididae	<i>Hilara maura</i>			1		●
Insecta	Diptera	Empididae	<i>Rhamphomyia crassirostris</i>			1	●	●
Insecta	Diptera	Empididae	<i>Rhamphomyia sulcata</i>			1	●	●
Insecta	Diptera	Dolichopodidae	<i>Gymnopternus cupreus</i>			1		●
Insecta	Diptera	Dolichopodidae	<i>Sciapus platypterus</i>			1	●	
Insecta	Diptera	Syrphidae	<i>Melanostoma mellinum</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Melanostoma scalare</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Platycheirus albimanus</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Platycheirus occultus</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Platycheirus tarsalis</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Chrysotoxum festivum</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Epistrophe grossulariae</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Episyrphus balteatus</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Leucozona lucorum</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Sphaerophoria interrupta</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Sphaerophoria scripta</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Syrphus ribesii</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Syrphus torvus</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Cheilosia fraterna</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Cheilosia illustrata</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Cheilosia pagana</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Cheilosia scutellata</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Cheilosia vernalis</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Chrysogaster solstitialis</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Eristalis pertinax</i>	a hoverfly		1	●	●

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Insecta	Diptera	Syrphidae	<i>Eristalis tenax</i>	a hoverfly		1	●	
Insecta	Diptera	Syrphidae	<i>Myathropa florea</i>	a hoverfly		1	●	
Insecta	Diptera	Pipunculidae	<i>Verrallia aucta</i>			1	●	
Insecta	Diptera	Tephritidae	<i>Urophora cardui</i>			1	●	
Insecta	Diptera	Tephritidae	<i>Xyphosia miliaria</i>			1	●	
Insecta	Diptera	Lauxaniidae	<i>Lauxania cylindricornis</i>			1	●	
Insecta	Diptera	Lauxaniidae	<i>Meiosimyza illota</i>			1	●	
Insecta	Diptera	Lauxaniidae	<i>Minettia fasciata</i>			1	●	
Insecta	Diptera	Lauxaniidae	<i>Sapromyza quadripunctata</i>				●	
Insecta	Diptera	Dryomyzidae	<i>Dryomyza anilis</i>			1	●	
Insecta	Diptera	Sepsidae	<i>Sepsis cynipsea</i>			1	●	
Insecta	Diptera	Sepsidae	<i>Sepsis fulgens</i>			1	●	
Insecta	Diptera	Sepsidae	<i>Sepsis punctum</i>			1	●	
Insecta	Diptera	Opomyzidae	<i>Geomyza tripunctata</i>			1	●	
Insecta	Diptera	Chloropidae	<i>Chlorops calceatus</i>			1		●
Insecta	Diptera	Chloropidae	<i>Dicraeus vagans</i>			1	●	
Insecta	Diptera	Chloropidae	<i>Elachiptera tuberculifera</i>			1		●
Insecta	Diptera	Heleomyzidae	<i>Heteromyza oculata</i>			1	●	
Insecta	Diptera	Heleomyzidae	<i>Suillia affinis</i>			1	●	
Insecta	Diptera	Heleomyzidae	<i>Suillia variegata</i>			1	●	
Insecta	Diptera	Drosophilidae	<i>Scaptomyza pallida</i>				●	
Insecta	Diptera	Ephydriidae	<i>Gymnoclasiopa plumosa</i>			1	●	
Insecta	Diptera	Scathophagidae	<i>Scathophaga furcata</i>			1	●	
Insecta	Diptera	Scathophagidae	<i>Scathophaga stercoraria</i>			1	●	●
Insecta	Diptera	Anthomyiidae	<i>Anthomyia liturata</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Anthomyia pluvialis</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Botanophila fugax</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Botanophila jacobaeae</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Delia florilega</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Delia platura</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Hydrophoria lancifer</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Hydrophoria linogrisea</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Hydrophoria ruralis</i>				●	●
Insecta	Diptera	Anthomyiidae	<i>Paregle audacula</i>				●	
Insecta	Diptera	Anthomyiidae	<i>Phorbia nuceicornis</i>					●

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Insecta	Diptera	Anthomyiidae	<i>Pegoplata infirma</i>				•	
Insecta	Diptera	Fanniidae	<i>Fannia armata</i>			1	•	
Insecta	Diptera	Fanniidae	<i>Fannia coracina</i>			1	•	
Insecta	Diptera	Fanniidae	<i>Fannia fuscula</i>			1	•	
Insecta	Diptera	Fanniidae	<i>Fannia lustrator</i>			1	•	
Insecta	Diptera	Fanniidae	<i>Fannia mollissima</i>			1	•	
Insecta	Diptera	Fanniidae	<i>Fannia serena</i>			1	•	•
Insecta	Diptera	Fanniidae	<i>Fannia similis</i>			1	•	
Insecta	Diptera	Muscidae	<i>Coenosia mollicula</i>			1	•	
Insecta	Diptera	Muscidae	<i>Limnophora maculosa</i>			1	•	
Insecta	Diptera	Muscidae	<i>Hydrotaea meteorica</i>				•	
Insecta	Diptera	Muscidae	<i>Muscina levida</i>				•	
Insecta	Diptera	Muscidae	<i>Graphomya maculata</i>			1	•	
Insecta	Diptera	Muscidae	<i>Hebecnema fumosa</i>			1	•	
Insecta	Diptera	Muscidae	<i>Hebecnema vespertina</i>			1	•	
Insecta	Diptera	Muscidae	<i>Helina setiventris</i>				•	
Insecta	Diptera	Muscidae	<i>Phaonia errans</i>				•	•
Insecta	Diptera	Muscidae	<i>Phaonia palpata</i>				•	
Insecta	Diptera	Muscidae	<i>Phaonia rufiventris</i>				•	
Insecta	Diptera	Muscidae	<i>Phaonia subventa</i>				•	
Insecta	Diptera	Calliphoridae	<i>Calliphora vicina</i>			1	•	
Insecta	Diptera	Calliphoridae	<i>Lucilia ampullacea</i>			1	•	
Insecta	Diptera	Calliphoridae	<i>Lucilia caesar</i>			1	•	
Insecta	Diptera	Calliphoridae	<i>Lucilia illustris</i>			1	•	
Insecta	Diptera	Calliphoridae	<i>Lucilia sericata</i>			1	•	
Insecta	Diptera	Calliphoridae	<i>Lucilia silvarum</i>			1	•	
Insecta	Diptera	Polleniidae	<i>Pollenia angustigena</i>			1	•	
Insecta	Diptera	Polleniidae	<i>Pollenia pediculata</i>				•	
Insecta	Diptera	Polleniidae	<i>Pollenia rudis</i>			1	•	•
Insecta	Diptera	Sarcophagidae	<i>Brachicoma devia</i>			1	•	
Insecta	Diptera	Sarcophagidae	<i>Sarcophaga vagans</i>			1	•	
Insecta	Diptera	Sarcophagidae	<i>Sarcophaga nigriventris</i>			1	•	
Insecta	Diptera	Sarcophagidae	<i>Sarcophaga subvicina</i>			1	•	
Insecta	Diptera	Tachinidae	<i>Eriothrix rufomaculata</i>				•	
Insecta	Diptera	Tachinidae	<i>Phasia barbifrons</i>				•	

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Insecta	Diptera	Tachinidae	<i>Linnaemya picta</i>				●	
Insecta	Hemiptera, Auchenorrhyncha	Cercopidae	<i>Cercopis vulnerata</i>	Red-and-black Froghopper		1	●	
Insecta	Hemiptera, Auchenorrhyncha	Aphrophoridae	<i>Neophilaenus lineatus</i>	a froghopper		1	●	●
Insecta	Hemiptera, Auchenorrhyncha	Aphrophoridae	<i>Philaenus spumarius</i>	a froghopper		1	●	
Insecta	Hemiptera, Auchenorrhyncha	Cicadellidae	<i>Athysanus argentarius</i>	a leafhopper		1	●	
Insecta	Hemiptera, Auchenorrhyncha	Cicadellidae	<i>Macustus griseus</i>	a leafhopper		1		●
Insecta	Hemiptera, Auchenorrhyncha	Cicadellidae	<i>Sonronius dahlbomi</i>	a leafhopper		1	●	
Insecta	Hemiptera, Auchenorrhyncha	Cicadellidae	<i>Megophthalmus scanicus</i>	a leafhopper		1	●	
Insecta	Hemiptera, Auchenorrhyncha	Cicadellidae	<i>Zyginidia scutellaris</i>	a leafhopper		1	●	
Insecta	Hemiptera, Auchenorrhyncha	Cixiidae	<i>Cixius nervosus</i>	a lacehopper		1	●	
Insecta	Hemiptera, Auchenorrhyncha	Cixiidae	<i>Tachycixius pilosus</i>	a lacehopper		1	●	
Insecta	Hemiptera, Auchenorrhyncha	Delphacidae	<i>Javesella discolor</i>	a planthopper		1	●	
Insecta	Hemiptera, Heteroptera	Pentatomidae	<i>Pentatoma rufipes</i>	Red-legged Shieldbug		1	●	
Insecta	Hemiptera, Heteroptera	Lygaeidae	<i>Cymus glandicolor</i>			1		●
Insecta	Hemiptera, Heteroptera	Lygaeidae	<i>Cymus melanocephalus</i>			1		●
Insecta	Hemiptera, Heteroptera	Lygaeidae	<i>Drymus ryei</i>			1	●	
Insecta	Hemiptera, Heteroptera	Lygaeidae	<i>Drymus sylvaticus</i>			1	●	
Insecta	Hemiptera, Heteroptera	Lygaeidae	<i>Ischnodemus sabuleti</i>			1	●	
Insecta	Hemiptera, Heteroptera	Lygaeidae	<i>Kleidocerys resedae</i>			1	●	
Insecta	Hemiptera, Heteroptera	Lygaeidae	<i>Stygnocoris sabulosus</i>			1	●	
Insecta	Hemiptera, Heteroptera	Tingidae	<i>Tingis ampliata</i>			1	●	
Insecta	Hemiptera, Heteroptera	Anthocoridae	<i>Anthocoris confusus</i>			1	●	
Insecta	Hemiptera, Heteroptera	Anthocoridae	<i>Anthocoris nemoralis</i>			1	●	
Insecta	Hemiptera, Heteroptera	Anthocoridae	<i>Anthocoris nemorum</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Capsus ater</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Closterotomus norwegicus</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Deraeocoris ruber</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Grypocoris stysi</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Leptopterna dolabrata</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Liocoris tripustulatus</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Lygocoris pabulinus</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Megaloceroea recticornis</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Orthonotus rufifrons</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Pithanus maerkelii</i>			1		●
Insecta	Hemiptera, Heteroptera	Miridae	<i>Plagiognathus arbustorum</i>			1	●	

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Insecta	Hemiptera, Heteroptera	Miridae	<i>Plagiognathus chrysanthemi</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Polymerus nigrita</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Psallus mollis</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Psallus varians</i>			1	●	
Insecta	Hemiptera, Heteroptera	Miridae	<i>Stenotus binotatus</i>			1	●	
Insecta	Hymenoptera	Cephidae	<i>Calameuta pallipes</i>	a sawfly			●	
Insecta	Hymenoptera	Argidae	<i>Arge ustulata</i>	a sawfly			●	
Insecta	Hymenoptera	Tenthredinidae	<i>Athalia rosae</i>	a sawfly			●	
Insecta	Hymenoptera	Tenthredinidae	<i>Selandria serva</i>	a sawfly			●	
Insecta	Hymenoptera	Andrenidae	<i>Andrena fulva</i>	Tawny Mining Bee		1	●	
Insecta	Hymenoptera	Andrenidae	<i>Andrena subopaca</i>	Impunctate Mini-miner		1	●	
Insecta	Hymenoptera	Andrenidae	<i>Andrena dorsata</i>	Short-fringed Mining Bee		1	●	
Insecta	Hymenoptera	Apidae	<i>Bombus terrestris</i>	Buff-tailed Bumblebee		1	●	
Insecta	Hymenoptera	Apidae	<i>Bombus lapidarius</i>	Red-tailed Bumblebee		1	●	
Insecta	Hymenoptera	Apidae	<i>Nomada flava</i>	Flavous Nomad Bee		1	●	
Insecta	Hymenoptera	Apidae	<i>Nomada leucophthalma</i>	Early Nomad Bee		1	●	
Insecta	Hymenoptera	Apidae	<i>Nomada ruficornis</i>	Fork-jawed Nomad Bee		1	●	
Insecta	Hymenoptera	Colletidae	<i>Hylaeus communis</i>	Common Yellow-face Bee		1	●	
Insecta	Hymenoptera	Halictidae	<i>Sphecodes ephippius</i>	Bare-saddled Blood Bee		1	●	
Insecta	Hymenoptera	Megachilidae	<i>Megachile ligniseca</i>	Wood-carving Leafcutter Bee		1	●	
Insecta	Hymenoptera	Megachilidae	<i>Megachile willughbiella</i>	Willughby's Leafcutter Bee		1	●	
Insecta	Hymenoptera	Formicidae	<i>Formica lemani</i>	an ant		1		●
Insecta	Hymenoptera	Formicidae	<i>Lasius niger sens. str.</i>	an ant		1		●
Insecta	Hymenoptera	Formicidae	<i>Myrmica ruginodis</i>	an ant		1	●	●
Insecta	Hymenoptera	Formicidae	<i>Myrmica scabrinodis</i>	an ant		1	●	
Insecta	Lepidoptera	Choreutidae	<i>Anthophila fabriciana</i>	a moth		1	●	
Insecta	Lepidoptera	Tortricidae	<i>Pammene aurana</i>	a moth			●	
Insecta	Lepidoptera	Pieridae	<i>Anthocharis cardamines</i>	Orange-tip		1	●	
Insecta	Lepidoptera	Pieridae	<i>Pieris brassicae</i>	Large White		1	●	●
Insecta	Lepidoptera	Pieridae	<i>Pieris rapae</i>	Small White		1	●	
Insecta	Lepidoptera	Pieridae	<i>Pieris napi</i>	Green-veined White		1	●	
Insecta	Lepidoptera	Nymphalidae	<i>Pararge aegeria</i>	Speckled Wood		1	●	
Insecta	Lepidoptera	Nymphalidae	<i>Maniola jurtina</i>	Meadow Brown		1	●	
Insecta	Lepidoptera	Nymphalidae	<i>Vanessa atalanta</i>	Red Admiral		1	●	
Insecta	Lepidoptera	Nymphalidae	<i>Aglais io</i>	Peacock		1	●	

Class	Order	Family	Species	Vernacular	National Status	SQS	Newton Park Farm	Highfield Moss SSSI
Insecta	Lepidoptera	Erebidae	<i>Tyria jacobaeae</i>	Cinnabar	Priority Species - Research Only	1	●	
Insecta	Neuroptera	Chrysopa	<i>Chrysopa perla</i>			1	●	
Insecta	Orthoptera	Acrididae	<i>Omocestus viridulus</i>	Common Green Grasshopper		1	●	
Insecta	Orthoptera	Acrididae	<i>Chorthippus brunneus</i>	Common Field Grasshopper		1		●
Malacostraca	Isopoda	Philosciidae	<i>Philoscia muscorum</i>	Common Striped Woodlouse		1	●	
Malacostraca	Isopoda	Oniscidae	<i>Oniscus asellus</i>	Common Shiny Woodlouse		1	●	

354	Species recorded	7		303	81
315	Scoring Taxa			266	77
337	SQS			272	93
107.0	SQI			102.3	120.8

Table 8: Stenotopic species recorded within the Proposed ILPN in 2025.

Order	Family	Species
Araneae	Araneidae	<i>Agalenatea redii</i>
Coleoptera	Cerambycidae	<i>Grammoptera ruficornis</i>
Coleoptera	Scraptiidae	<i>Anaspis frontalis</i>
Coleoptera	Scraptiidae	<i>Anaspis regimbarti</i>
Diptera	Limoniidae	<i>Dicranomyia chorea</i>
Diptera	Syrphidae	<i>Myathropa florea</i>
Hymenoptera	Andrenidae	<i>Andrena dorsata</i>
Hymenoptera	Andrenidae	<i>Andrena fulva</i>
Hymenoptera	Andrenidae	<i>Andrena subopaca</i>
Hymenoptera	Apidae	<i>Bombus lapidarius</i>
Hymenoptera	Apidae	<i>Bombus terrestris</i>
Hymenoptera	Apidae	<i>Nomada flava</i>
Hymenoptera	Apidae	<i>Nomada leucophthalma</i>
Hymenoptera	Apidae	<i>Nomada ruficornis</i>
Hymenoptera	Colletidae	<i>Hylaeus communis</i>
Hymenoptera	Megachilidae	<i>Megachile ligniseca</i>
Hymenoptera	Megachilidae	<i>Megachile willughbiella</i>
Lepidoptera	Nymphalidae	<i>Pararge aegeria</i>

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