



Interim Invertebrate Survey Report

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Transmission

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Interim Invertebrate Survey Report

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Prepared by:

Signature
Dave Goddard

Printed Name

Reviewed by:

Signature
Hannah Mitchell

Printed Name

Approved by:

Signature
Helen Evriviades

Printed Name

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Executive Summary

Stantec UK Ltd was commissioned by National Grid Electricity Transmission (NGET) to undertake invertebrate surveys of land owned by NGET (hereafter 'the Site') and BOC Ltd. (hereafter 'the BOC land') at Margam, Port Talbot, Wales, proposed for a sub-station extension and associated cable route. This survey work was undertaken in 2025 to determine ecological constraints and opportunities for the proposed development associated with the presence of protected or notable invertebrates.

This interim report describes and assesses the terrestrial and aquatic invertebrate features of ecological value present on the site following a scoping survey undertaken in May 2025. The field surveys are supported by a desk study including a review of local records within 2km of the Site and survey reports undertaken for the Site in 2009, and in 2022 for Tata Steel land, located to the west of the BOC Ltd land, west of the railway line.

The desk study returned numerous records of International Union for Conservation of Nature (IUCN) Red List invertebrate species and SPI species within 2 km of the Site. The surveys undertaken in 2009 on the Site identified the presence of 402 species of invertebrate, many of these were common and widespread species, with a large proportion being associated with the wetland habitats present at the Site. Two Priority Species were found: the brown banded carder-bee *Bombus humilis* and the shrill carder-bee *Bombus sylvarum*. An invertebrate assessment conducted at the Tata Steel site in 2022 recorded a total of 414 species, of which 28 species are recorded to have national status including scarce butterfly and bee species. Species with the greatest conservation concern recorded were the wall butterfly *Lasiommata megera* and the shrill carder bee. The assessment concluded that the area surveyed was of regional importance for invertebrate assemblages.

The surveys undertaken on the Site and the BOC land in May 2025, recorded 140 species in total; of which the following nine species are protected and/or notable:

- A solitary wasp *Argogorytes fargeii* Notable A
- Small heath *Coenonympha pamphilus* IUCN GB Post 2001 NT, Env (Wales) Act S7
- A whirligig beetle *Gyrinus suffriani* IUCN GB Post 2001 VU
- Wall butterfly IUCN GB Post 2001 NT, Env (Wales) Act S7
- Bleeding heart spider *Nigma puella* IUCN GB Post 2001 LC, NS
- A rove beetle *Paederus fuscipes* Notable B
- A weevil *Polydrusus formosus* Notable A
- Scarce cardinal beetle *Schizotus pectinicornis* IUCN GB Post 2001 LC, NR
- Cinnabar moth *Tyria jacobaeae* Env (Wales) Act S7

The preliminary assessment is that the Site and the BOC land combined is of at least county importance for invertebrates, based on Plant's assessment criteria.

The provisional assessment using PANTHEON found that none of the specific assemblage types currently meet the SSSI criteria, however a further three invertebrate surveys are recommended to fully understand the sites importance for invertebrates. At that point, this assessment will be updated accordingly.

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Overall, taking into account of the desk study findings, along with the first invertebrate survey of the Site and the BOC land, it is assumed that an evaluation of **Regional** importance may be achieved for the survey area once all surveys are complete.

1 Introduction

1.1 Overview

- 1.1.1 Stantec UK Limited (Stantec) was commissioned by National Grid Electricity Transmission (NGET) to undertake invertebrate surveys of the area of land owned by NGET at Margam, Neath Port Talbot; hereafter referred to as 'the Site' and the land to the south of the Site, owned by BOC Ltd, hereafter referred to as 'the BOC land'.

1.2 Project Context

Site Location and Description

- 1.2.1 The Site is located in Margam Port Talbot, at approximate central grid reference NGR SS780850, and comprises an existing substation to the east of the Tata Steel Works and Network Rail railway line; the Site also lies to the south of the Tata Steel Sports and Social Club (golf course), to the west of woodland and to the north of the BOC Ltd. works area and fields owned by BOC Ltd. Beyond the immediate Site surroundings, the M4 corridor lies to the east, Swansea Bay lies to the west, Eglwys Nunydd Reservoir to the south and Margam town to the north.
- 1.2.2 The BOC land considered in this report lies immediately to the south of the Site, between the Site and the road to the north of the Eglwys Nunydd Reservoir, Heolcae'r Bont. The location of the Site and the BOC land is shown in **Figure 1**.
- 1.2.3 The Site was subject to habitat surveys completed in 2024 which identified that the Site comprises a mosaic of reedbed, scrub, grassland and small areas of open water associated with a number of ditches within the Site.

Description of Works

- 1.2.4 The Site and the BOC land are proposed for an extension to the existing substation and associated cabling works, with the substation extension proposed to the east of the existing substation within the Site and cabling works passing through the Site and the BOC land. The proposed substation extension and associated works within the Site will be progressed under a planning application. The cabling and associated temporary works to link the proposed new substation extension at Margam to the Port Talbot Steelworks will be progressing under NGET's permitted development rights.

Historic Project Understanding and Ecological Context

- 1.2.5 The Site was subject to a previous successful planning application for a new substation within NGET land which received planning consent in 2009. However, the development was not progressed by NGET. A suite of ecological surveys was completed to inform this previous planning application. The results of the survey work were presented within the Margam 275kV Substation Environmental Report (National Grid 2009).

1.3 Purpose of Report

- 1.3.1 The purpose of this reptile report is to:
- (i) identify historic records of protected and notable species within 2km of the Site boundary;

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- (ii) identify the presence and distribution of protected and notable species using suitable habitats within the Site and the BOC land;
- (iii) evaluate the value of the Site and the BOC land for invertebrates.

2 Legislation

- 2.1.1 This section outlines legislation relevant to invertebrates in Wales.
- 2.1.2 The Wildlife and Countryside Act 1981 (as amended) makes it an offence to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. In total the list includes 24 invertebrate species.
- 2.1.3 European Protected Species (EPS), which include invertebrates such as large blue butterflies, are protected under both the Wildlife and Countryside Act 1981 (as amended) and under the Conservation of Habitats and Species Regulations 2017 (as amended). Taken together, these make it an offence to:
- Deliberately capture, injure or kill a EPS;
 - Deliberately disturb any EPS, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.
 - To be in possession or control of any live or dead EPS or any part of, or anything derived from a EPS;
 - Damage or destroy a breeding site or resting place of a EPS;
 - Intentionally or recklessly obstruct access to any place that a EPS uses for shelter or protection;
 - Intentionally or recklessly disturb a EPS while it is occupying a structure or place that it uses for shelter or protection.
- 2.1.4 Section 7 of the Environment (Wales) Act 2016 lists 188 species of invertebrates, which requires these species to be considered in planning and development processes to ensure that their habitats are not adversely affected.

3 Methods

3.1 Overview

- 3.1.1 The section below sets out the methods used to inform the assessment of the Site and the BOC land in relation to invertebrates. This includes a desk study, detailed surveys, evaluation approach and survey limitations.

3.2 Desk Study

- 3.2.1 The following reports were consulted for ecological information about the Site, surrounding areas, and records of reptiles.
- Conops Entomology Ltd. (2022) Tata Steel, Port Talbot An Invertebrate Assessment
 - National Grid (2009) Margam 275kV Substation Environmental Report - Technical Appendix 2 - Invertebrate Survey Report.
- 3.2.2 In addition, a search of reptile records within 2km of the Site was requested from South East Wales Biodiversity Records Centre (SEWBRc).

3.3 Survey Area

- 3.3.1 The survey area encompassed all suitable habitats accessible within the Site and the BOC land boundaries (**Figure 1**).

3.4 Survey Methods

- 3.4.1 Wherever appropriate a wide range of best practice guidance on survey methods was used (referenced in Section 3.4.4). However, professional judgement and expertise of surveyors is always important when determining the site conditions and when undertaking detailed assessments. As such, this may require adopting a bespoke approach, which may differ from the published guidance - where this is considered necessary, detailed justification has been provided, as appropriate.
- 3.4.2 A terrestrial and aquatic invertebrate scoping survey was undertaken by David Goddard and Meg Skinner on the 21st and 22nd May 2025.
- 3.4.3 The survey conditions are shown in **Table 3-1**.

Table 3-1. Survey Dates and Weather Conditions

Date	Start Time	End Time	Temperature °C	Cloud Cover (Oktas)	Wind Speed (Beaufort)	Wind Direction	Rain
21/05/25	11:30	16:40	15-20	5/8 – 4/8	2-3	NNW	Nil
22/05/25	09:06	15:05	15-21	1/8 – 0/8	2	N	Nil


- 3.4.4 The methodology during all site visits involved a walkover survey of the site sampling the invertebrates using several different techniques as per Eyre, 1996; Hill et al., 2006 & Sutherland, 2006 highlighted below. The invertebrate survey methods followed standard guidance for terrestrial species (JNCC 2008; English Nature 2005)

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- Sweep netting: this involves netting invertebrates in low vegetation using a stout-handled net which was moved vigorously through the vegetation to dislodge resting invertebrates. This method can be considered to be quantitative, when carried out using a standardised amount of effort. This method was undertaken within the grassland areas of the site for 10 sweeps on each occasion.
- Aerial Netting: netting and capturing for identification any flying invertebrate species. This technique was undertaken in suitable habitats throughout the site. Aerial netting was undertaken throughout the Study area where flying invertebrates were found.
- Beating tray: beating trees and bushes with a stick using a sharp tap to dislodge the invertebrates which then fall onto the beating tray held beneath. This technique was effective in sampling arboreal invertebrate species. This technique was undertaken in suitable habitats throughout the site - along the scrub edges for example.
- Grubbing: looking for invertebrates in suitable habitats or microhabitats for example, under stones, logs, under bark, in crevices within walls and rocks, leaf litter, around the base of plants, dead and decaying fungi, dung and carrion. All suitable debris within the Study area was investigated for any invertebrates hiding underneath.
- Direct searching: looking for invertebrates in the suitable habitats or microhabitats for species known or considered likely to occur within the site.
- Aquatic sampling: sampling the aquatic invertebrates using a 'D' shaped pond net within a water body, taking care to sample from the different habitat types within the water body to gain as complete a range of invertebrates as possible.

3.4.5 Aquatic invertebrate samples were taken at three locations, see **Table 3-2**.

Table 3-2: Aquatic Invertebrate Survey Locations and Photographs

Sample Point No.	OS Grid Ref.	Photograph of Sample Point
1	SS7866386607	

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Sample Point No.	OS Grid Ref.	Photograph of Sample Point
2	SS7864786621	
3	SS7860086622	

3.5 Invertebrate Identification

- 3.5.1 The invertebrate identification work was completed by David Goddard, Meg Skinner and Michael Davis, using microscopes and appropriate identification books and reference papers for the species being identified.

3.6 Evaluation of Site Importance

- 3.6.1 Criteria as set out in Plant (undated) has been used to assess the significance of the site for invertebrates. Plant gives the county importance criteria as “Habitat that is scarce or threatened in the county and/or which contains or is reasonably expected to contain an assemblage of invertebrates that includes viable populations of at least five Nationally Notable species or viable populations of at least five species regarded as Regionally Scarce by the county records centres and/or field club”. Based on the data collected from the first survey visit completed, the site (red and green areas) has been provisionally assessed as being of at least County importance for invertebrates, because of the total number of protected and/or notable species recorded during the survey.
- 3.6.2 Pantheon (database version 3.7.6), the Natural England online tool (Webb *et al.* 2018), was used to assess the sites invertebrate interest (albeit it is usually used in relation to the

assessments of SSSIs). The recorded species list was entered and from this, the species and their associated habitats was generated for 121 of the 130 species analysed.

3.7 Limitations

- 3.7.1 Whilst every effort was made in the field survey to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment. Also, natural and semi-natural habitats are subject to change, species may colonise the site after surveys have taken place and results included in this report may become less reliable over time.
- 3.7.2 Survey data is generally only considered valid if it is from the current or previous active season. In some cases, surveys up to 3 years old may be considered acceptable by consultees if the habitats have not significantly changed in the intervening period.
- 3.7.3 The unseasonably dry spring may have significantly reduced the number of many invertebrate species during 2025, the terrestrial invertebrates due to plants not flowering for very long and the aquatic due to ditches and ponds drying out. Thus, the results of this scoping survey should be considered in light of this and that the true diversity and number of species present is likely to have been under-recorded this year.

3.8 Surveyor Qualifications and Experience

- 3.8.1 Senior Invertebrate Ecologist David Goddard BSc (Hons) MCIEEM, Mem.RES has over 16 years' consultancy experience of undertaking bird and invertebrate surveys and also holds Natural England survey licences for great crested newt, white-clawed crayfish, barn owl and dormouse. David undertook the site surveys assisted by Meg; David has authored this report.
- 3.8.2 Invertebrate Ecologist Meg Skinner BSc (Hons) MSc ACIEEM, Mem.RES has over 6 years' consultancy experience of undertaking invertebrate surveys and also holds a Natural England survey license for great crested newts. Meg has also contributed over 2300 invertebrate records of over 800 species to national databases and runs the Harvestman Recording Scheme as part of the British Arachnological Society.
- 3.8.3 Ecologist Michael Davis has an MSc in entomology and has worked in ecological consultancy for two years carrying out invertebrate surveys on a variety of projects. These include invertebrate assemblage assessments for nationally significant infrastructure projects and other planned developments. He has also been involved in numerous species-specific invertebrate assessments (e.g. a grizzled skipper butterfly population and habitat assessment for Natural Resources Wales), SSSI site condition monitoring for Natural England and site invertebrate baseline assessments for rewilding projects.

3.9 Report Qualification

- 3.9.1 The survey described here was undertaken in accordance with the best practice methodologies current at the time of commissioning. Site circumstances, scientific knowledge or methodological requirements can change during the course of a project, and these external factors may impact on the scope of subsequent work requirements.
- 3.9.2 All survey work and reporting were undertaken by experienced and qualified ecologists, in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management (CIEEM).
- 3.9.3 All ecological surveys have an expected validity period owing to the tendency of the natural environment to change over time. This validity period varies from receptor to receptor and is

also dependent on the degree of change in a site's management and overall landscape ecology. Where the potential for change is considered to be relevant to the site, this is highlighted in the appropriate section.

- 3.9.4 This report does not purport to provide detailed, specialist legal advice. Where legislation is referenced, the reader should consult the original legal text, and/or the advice of a qualified environmental lawyer.

4 Results

4.1 Overview

- 4.1.1 Results of the desk study and field survey are detailed below. The desk study details relevant records returned from the SEWBRc data search and summarises results from the past survey reports within the Site and the local area.

4.2 Desk Study

Records Centre

- 4.2.1 No national or international designated sites designated for invertebrate species were recorded within 2km of the Site.
- 4.2.2 The data search from SEWBRc returned numerous records of endangered International Union for Conservation of Nature (IUCN) Red List invertebrate species and SPI species within 2km of the Site boundary:

Previous Survey Reports

- 4.2.3 The surveys reported in the 2009 planning application for the Site identified the presence of 402 species of invertebrate, many of these were common and widespread species, with a large proportion being associated with the wetland habitats present at the Site. Two Priority Species were found: the brown banded carder-bee *Bombus humilis* and the shrill carder-bee *Bombus sylvarum*.
- 4.2.4 An invertebrate assessment conducted at the Tata Steel site in 2022 recorded a total of 414 species, of which 28 species are recorded to have national status including scarce butterfly and bee species. Species with the greatest conservation concern recorded were the wall brown butterfly *Lasiommata megera* and the shrill carder bee. The assessment concluded that the area surveyed was of regional importance for invertebrate assemblages.

4.3 Field Survey

- 4.3.1 During the survey 140 invertebrate species were recorded within the site. The locations of the protected and/or notable species are shown on **Figure 2**. A full list of the species recorded within the Site and the BOC land along with their status is provided in **Appendix A**.
- 4.3.2 Of those 140 species recorded, they include species with the following levels of importance:
- x3 are Environment (Wales) Act (2016) Section 7 (Env (Wales) Act S7) listed species
 - x2 are Nationally Notable A
 - x1 is Nationally Notable B
 - x1 is Nationally Rare
 - x1 is Nationally Scarce
 - x2 are International Union for Conservation of Nature (IUCN) GB Red List Post 2001 Near Threatened

- x1 is IUCN GB Red List Post 2001 Vulnerable
- x61 are IUCN GB Red List Post 2001 Least Concern

Protected/Notable Invertebrate Species Recorded

- 4.3.3 The following protected and/or notable species were on site and a summary of their key behaviours and habitat preferences is provided for each.

A solitary wasp *Argogorytes fargeii* Notable A

- 4.3.4 Occurs in a variety of open habitats on light soils, including heaths, quarries and gravel pits, river corridors featuring clay or sandy river banks, fixed coastal dunes and soft rock cliffs. Within these it requires features such as vertical earth banks or sparsely vegetated dry ground for nesting, in combination with areas of tall grass or herbs for hunting. Univoltine, flying from late May to early August. This wasp preys on frog-hopper nymphs *Homoptera: Cercopidae*, especially *Philaenus spumarius* and *Aphrophora alni*. Nests occur in vertical cliffs or sparsely vegetated slopes of sand, clay or gravel, often in the company of eumenid wasps (*Odynerus* species). Specific nesting locations noted in Britain include river banks, the bases of coastal cliffs and the sides of quarries. Nests can occur in small aggregations. The main nest tunnel runs for 10-20 cm, giving rise to 6-9 cells. These are typically stocked with 18-25 prey items. Flowers visited are umbellifers such as wild parsnip *Pastinaca sativa* and hogweed *Heracleum sphondylium*, also spurges *Euphorbia* spp. On the Continent, Kullenberg states that males are important pollinators of the fly orchid *Ophrys insectifera* (Falk, 2001).

Small heath *Coenonympha pamphilus* IUCN GB Post 2001 NT, Env (Wales) Act S7

- 4.3.5 The small heath occurs on grassland where there are fine grasses, especially in dry, well-drained situations where the sward is short and sparse. Typical habitats include; heathland, downland and coastal dunes, but it is also found on road verges, moorland and in woodland rides. The caterpillar feeds on fine grasses, especially fescues *Festuca* spp., meadow-grasses *Poa* spp., and bents *Agrostis* spp. (Butterfly Conservation, undated a)

A whirligig beetle *Gyrinus suffriani* IUCN GB Post 2001 VU

- 4.3.6 Adults usually occur in small numbers and seem to prefer well-vegetated marginal areas of still and slow-moving water, sometimes open areas of flooded reed bed margins or fen ditches, and are notably fast moving on the surface although they probably spend much of their time submerged. The predaceous larvae develop among aquatic vegetation but leave the water to pupate in a cell constructed of plant debris (Foster and Friday 2011).

Wall *Lasiommata megera* IUCN GB Post 2001 NT, Env (Wales) Act S7

- 4.3.7 This species is now found primarily in coastal areas, especially unimproved grassland, wasteland, cliff edges and hedgerows. The caterpillar feed on various grasses, including tor-grass *Brachypodium pinnatum*, false brome *Brachypodium sylvaticum*, cock's-foot *Dactylis glomerata*, bents *Agrostis* spp., wavy hair-grass *Deschampsia flexuosa* and Yorkshire-fog *Holcus lanatus* (Butterfly Conservation, undated b).

Bleeding heart spider *Nigma puella* IUCN GB Post 2001 LC, NS

- 4.3.8 The bleeding heart spider occurs on low broad-leaved bushes and shrubs in hedgerows and gardens, but also sometimes in scrub and open woodland. It spins a small web on the surface of leaves. The excessive trimming and loss of hedgerows is likely to threaten this species. Where the species occurs on hedgerows between arable fields the spider and its potential

prey are presumably threatened by spray drift from pesticides (British Archnological Society, updated).

A rove beetle *Paederus fuscipes* Notable B

- 4.3.9 This species occurs around plant roots in wetlands and permanently wet situations, including saltmarshes and mires, and adults are usually common where they occur. They have been found among sedges in peat bogs in Somerset and among sphagnum in South Hampshire (Duff, 2024).

A weevil *Polydrusus formosus* Notable A

- 4.3.10 Hosts includes a wide range of broadleaf trees e.g. *Quercus*, *Corylus*, *Crataegus*, *Populus* and *Prunus* etc. but they are mostly found on *Betula*, the typical habitats are wooded areas but they may occur wherever suitable hosts are established. Adults occur from April or May until July or a little later, they browse on leaf and flower buds, young leaves and open blossom. Oviposition occurs in the spring after a period of maturation feeding; eggs are laid singly or in small batches in the soil and larvae develop through the spring and summer feeding upon roots, they are fully developed by late summer or autumn and remain in the soil to overwinter, pupation occurs in a subterranean cell in the spring (Duff, 2016).

Scarce cardinal beetle *Schizotus pectinicornis* IUCN GB Post 2001 LC, NR

- 4.3.11 The typical habitat is deciduous woodland where the adults may be seen on low herbaceous vegetation or fallen timber, especially birch *Betula*. They are active in bright sun and disperse by flight although they rarely occur far from their breeding sites. Larvae develop beneath bark feeding on organic detritus and dead insects etc (Duff, 2020).

The cinnabar *Tyria jacobaeae* Env (Wales) Act S7

- 4.3.12 The cinnabar moth it is generally nocturnal, but is quite often disturbed during the day from long grass, low herbage. The caterpillar feeds gregariously on ragwort *Senecio jacobaea* and other related plants (UK Moths, undated).

5 Evaluation and Conclusion

- 5.1.1 Based on the data collected from the first survey visit completed and assessing against the criteria set out in Plant (undated), the Site and the BOC land has been provisionally assessed as being of at least County importance for invertebrates, because of the total number of protected and/or notable species recorded during the survey.
- 5.1.2 Analysis of the recorded species within Natural England's online tool Pantheon (Webb *et al.* 2018) gave the following assemblages as shown in **Table 5-1**. These habitat types were all unfavourable for their SSSI status.

Table 5-1: Species and Their Assemblages

Broad biotype	Habitat	Specific Assemblage type	No. of Species	Condition
Open habitats	N/A	Rich flower resource	12	Unfavourable (12 species, 15 required)
Tree associated	Decaying wood	Bark & sapwood decay	6	Unfavourable (6 species, 19 required)
Open habitats	Short sward & bare ground	Open short sward	6	Unfavourable (6 species, 13 required)
Open habitats	N/A	Scrub edge	3	Unfavourable (3 species, 11 required)
Wetland	Acid & sedge peats	Reed-fen & pools	3	Unfavourable (3 species, 11 required)

- 5.1.3 The provisional analysis within the Pantheon tool found that none of the specific assemblage types currently meet the SSSI criteria. However, this should be considered in the context of the whole sites invertebrate assemblage and reviewed in light of any future additional survey results.
- 5.1.4 The British Dragonfly Society priority sites state that for Vice County 41 Glamorganshire there should be 13 species with confirmed to meet the diversity threshold to be regarded as a locally important site for dragonflies (BDS, 2022). Ten species were recorded during this first survey, which is a significant proportion of the 13 species. It is considered that site has the potential to contain further species and thus it could meet the threshold of 13 species required for a priority site in Glamorganshire.
- 5.1.5 Overall, taking into account of the desk study findings, along with the first invertebrate survey of the Site and the BOC land, it is assumed that an evaluation of **Regional** importance may be achieved for the survey area once all surveys are complete.

6 References

British Archnological Society (updated) Spider and Harvestman Recording Scheme website Summary for *Nigma puella* (Araneae) [Online] Available at:

<https://srs.britishspiders.org.uk/portal.php/p/Summary/s/Nigma+puella>

British Dragonfly Society (BDS)(2022) Priority Site Assessment Instructions Guidance on assessing the value of a site for Dragonflies [Online] Available at: [https://british-](https://british-dragonflies.org.uk/wp-content/uploads/2019/04/Priority-Site-Assessment-Instructions-2.pdf)

[dragonflies.org.uk/wp-content/uploads/2019/04/Priority-Site-Assessment-Instructions-2.pdf](https://british-dragonflies.org.uk/wp-content/uploads/2019/04/Priority-Site-Assessment-Instructions-2.pdf)

Butterfly Conservation (undated a) Small Heath *Coenonympha pamphilus* [Online] Available at: <https://butterfly-conservation.org/butterflies/small-heath>

Butterfly Conservation (undated b) Wall *Lasiommata megera* [Online] Available at: <https://butterfly-conservation.org/butterflies/wall>

Conops Entomology Ltd. (2022) Tata Steel, Port Talbot an Invertebrate Assessment

Duff, A.G. (2016). Beetles of Britain and Ireland. volume 4: Cerambycidae to Curculionidae. West Runton: AG Duff publishing

Duff, A.G. (2020) Beetles of Britain and Ireland volume 3: Geotrupidae to Scaptiidae. West Runton, Norfolk.

Duff, A.G. (2024) Beetles of Britain and Ireland volume 2: Staphylinidae. West Runton, Norfolk.

English Nature (2005). Organising Surveys to Determine Site Quality for Invertebrates: A Framework Guide for Ecologists. English Nature, Peterborough.

Eyre, M.D. (1996) Environmental monitoring, surveillance and conservation using invertebrates. EMS publications, Newcastle upon Tyne.

Falk, S J (2001) *Argogorytes fargeii* (Shuckard, 1837) Bees Wasps & Ants Recording Society [Online] Available at: [Argogorytes fargeii | BWARS](#)

Foster, G.N. & Friday, L.E. (2011). Keys to the adults of the water beetles of Britain and Ireland (Part 1). Field Studies Council: Shrewsbury

Hill, D., Fasham, M., Tucker, G., Shewry, M. and Shaw, P. (2006) Handbook of biodiversity methods survey, evaluation and monitoring. Cambridge university press, Cambridge.

Joint Nature Conservation Committee (2008). Common Standards Monitoring Guidance for Invertebrates, Version March 2008. JNCC, Peterborough.

National Grid (2009) Margam 275kV Substation Environmental Report - Technical Appendix 2 - Invertebrate Survey Report.

Plant, C. (undated) Criteria used to define significance of invertebrate habitat. Colin Plant Associates, consultant entomologists.

Sutherland W J (ed.) 2006. Ecological Census Techniques 2nd edition. A Handbook. CUP

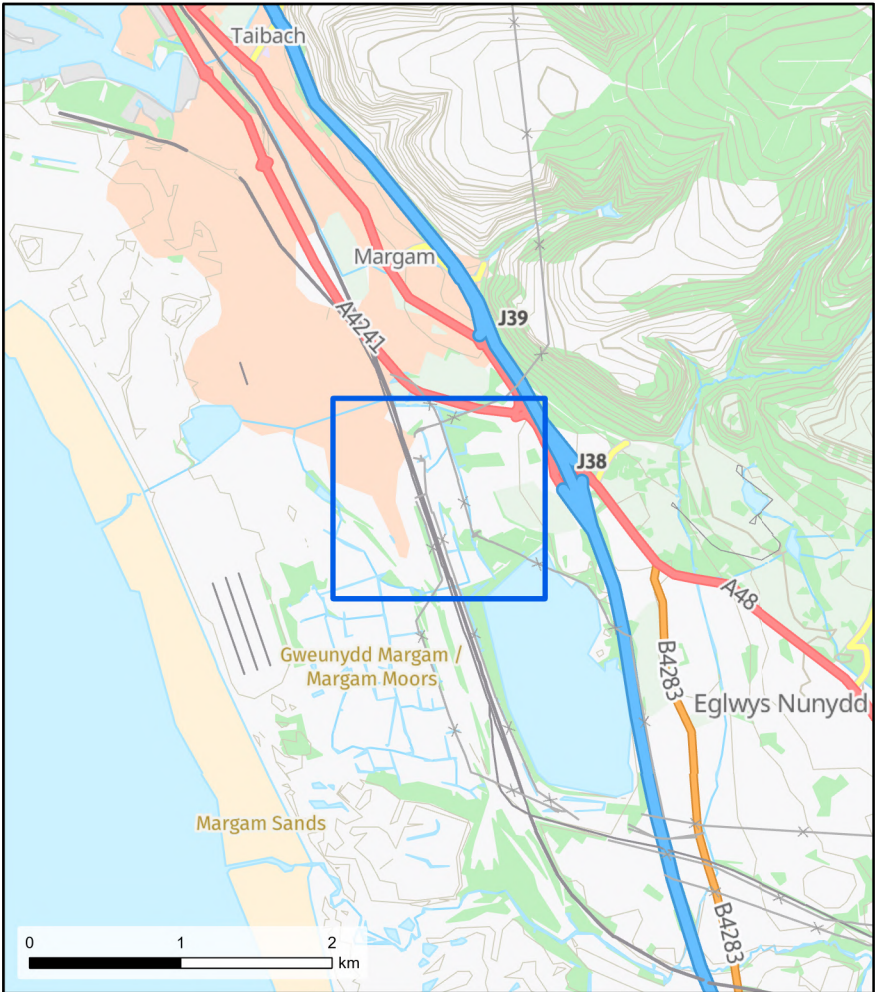
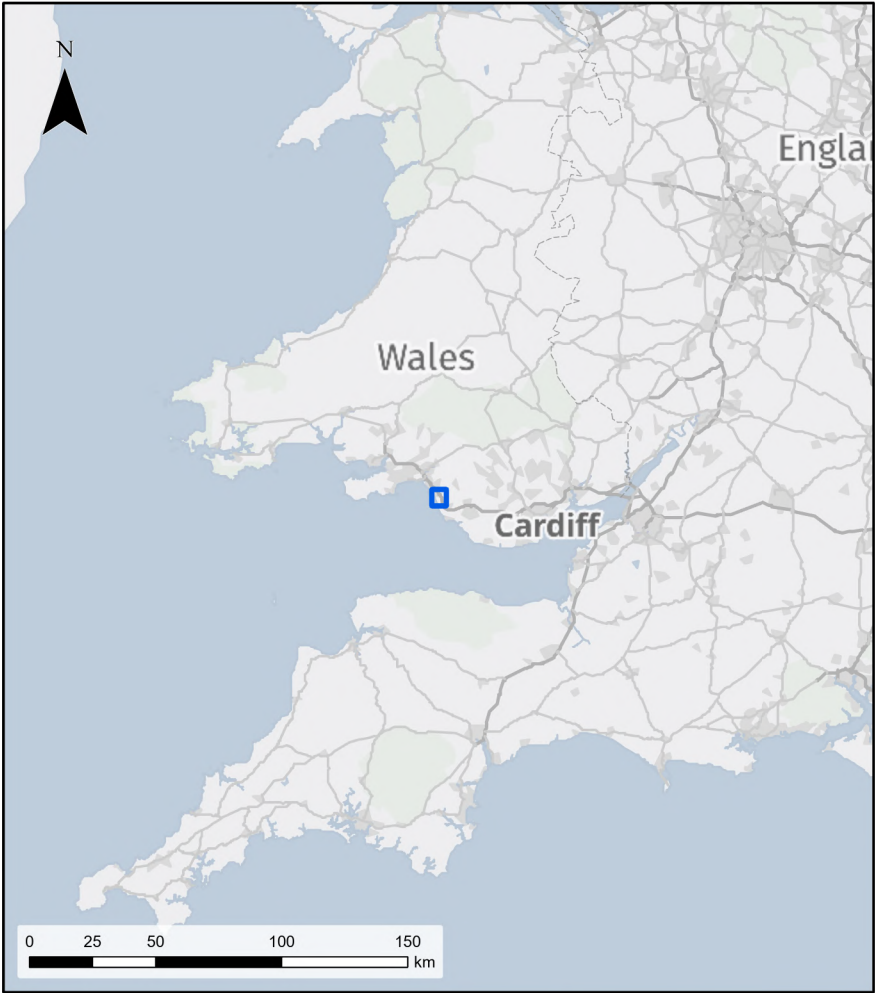
UKMoths (undated) The Cinnabar *Tyria jacobaeae* [Online] Available at:

<https://www.ukmoths.org.uk/species/tyria-jacobaeae>

Webb, J., Heaver, D., Lott, D., Dean, H.J., van Breda, J., Curson, J., Harvey, M.C., Gurney, M., Roy, D.B., van Breda, A., Drake, M., Alexander, K.N.A. and Foster, G. (2018) Pantheon - database version 3.7.6 [Online] Available at: <https://pantheon.brc.ac.uk/>

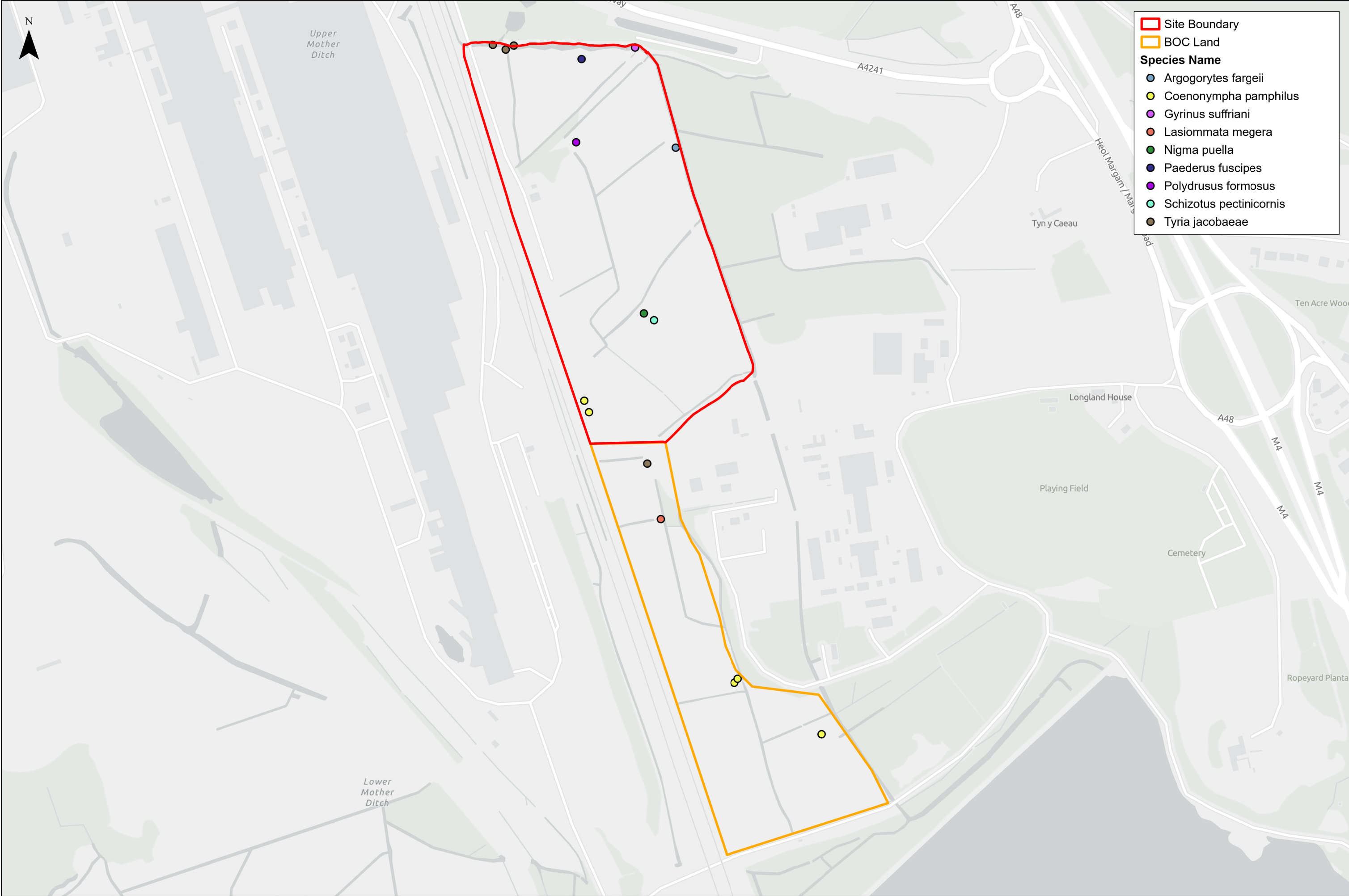
7 Figures

Figure 1 Site Location Plan



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Figure 2: Protected and Notable Invertebrate Species Locations May 2025



Site Boundary

BOC Land

Species Name

- Argogorytes fargeii
- Coenonympha pamphilus
- Gyrinus suffriani
- Lasiommata megera
- Nigma puella
- Paederus fuscipes
- Polydrusus formosus
- Schizotus pectinicornis
- Tyria jacobaeae

Appendix A Invertebrate Species Recorded & Status

KEY:

EnvW S7	Env (Wales) Act S7 listed species
IUCN GB Post 2001 NT	IUCN GB Red List Post-2001 Near Threatened
IUCN GB Post 2001 VU	IUCN GB Red List post 2001 Vulnerable
IUCN GB Post 2001 LC	IUCN GB Red List Post-2001 Least Concern
Notable A	Nationally Scarce A – species occurring in 16-30 hectads in Great Britain
Notable B	Nationally Scarce B – species occurring in 31-100 hectads in Great Britain
NR	Nationally rare
NS	Nationally scarce

Scientific Name	Common Name	Status	Aquatic (A)/ Terrestrial (T)
<i>Agelena labyrinthica</i>	Labyrinth spider	IUCN GB Post 2001 LC	T
<i>Aglais io</i>	Peacock	IUCN GB Post 2001 LC	T
<i>Aglais urticae</i>	Small tortoiseshell	IUCN GB Post 2001 LC	T
<i>Agrypnus murinus</i>	A click beetle	-	T
<i>Altica sp.</i>	A leaf beetle	-	T
<i>Amblyteles armatorius</i>	An ichneumon wasp	-	T
<i>Anax imperator</i>	Emperor dragonfly	IUCN GB Post 2001 LC	T
<i>Anchomenus dorsalis</i>	A beetle	IUCN GB Post 2001 LC	T
<i>Andrena nigroaenea</i>	Buffish mining bee	-	T
<i>Aneurus avenius</i>	A flatbug	-	T
<i>Anthocomus rufus</i>	Red malachite beetle	IUCN GB Post 2001 LC	T
<i>Aphthona nonstriata</i>	Iris flea beetle	IUCN GB Post 2001 LC	T
<i>Apis mellifera</i>	Honeybee	-	T
<i>Araniella cucurbitina</i>	Cucumber spider	IUCN GB Post 2001 LC	T
<i>Argogorytes fargeii</i>	A solitary wasp	Notable A	T
<i>Asellus aquaticus</i>	Water hog louse	IUCN GB Post 2001 LC	A
<i>Bembidion articulatum</i>	A beetle	IUCN GB Post 2001 LC	T
<i>Bithynia tentaculata</i>	Common bithynia	IUCN GB Post 2001 LC	T
<i>Bombus hortorum</i>	Garden bumblebee	-	T
<i>Bombus lapidarius</i>	Red tailed bumblebee	-	T
<i>Bombus lucorum s.s.</i>	White tailed bumblebee	-	T
<i>Bombus pascuorum</i>	Common carder bumblebee	-	T
<i>Bombus pratorum</i>	Early bumblebee	-	T
<i>Brachytron pratense</i>	Hairy dragonfly	IUCN GB Post 2001 LC	T



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Scientific Name	Common Name	Status	Aquatic (A)/ Terrestrial (T)
<i>Calameuta filiformis</i>	Dark-legged stem-sawfly	-	T
<i>Calopteryx splendens</i>	Banded demoiselle	IUCN GB Post 2001 LC	T
<i>Cantharis pallida</i>	A soldier beetle	IUCN GB Post 2001 LC	T
<i>Carpophilus marginellus</i>	A beetle	-	T
<i>Cassida vibex</i>	A tortoise beetle	IUCN GB Post 2001 LC	T
<i>Cepaea nemoralis</i>	Brown-lipped banded snail	IUCN GB Post 2001 LC	T
<i>Cephus spinipes</i>	Angled stem-sawfly	-	T
<i>Cheilosia bergenstammi</i>	A hoverfly	-	T
<i>Chrysoperla carnea</i>	Common green lacewing	-	T
<i>Chrysotoxum</i> sp (not caught)	A hoverfly	-	T
<i>Clogmia albipunctata</i>	A drain fly	-	T
<i>Closterotomus norwegicus</i>	Potato capsid bug	-	T
<i>Clytus arietis</i>	Wasp beetle	IUCN GB Post 2001 LC	T
<i>Coccinella septempunctata</i>	7 spot ladybird	-	T
<i>Coelositona cambricus</i>	A weevil	-	T
<i>Coenagrion puella</i>	Azure damselfly	IUCN GB Post 2001 LC	T
<i>Coenonympha pamphilus</i>	Small heath	IUCN GB Post 2001 NT, Env (Wales) Act S7	T
<i>Collembola</i> sp.	A springtail	-	T
<i>Cornu aspersum</i>	Garden snail	IUCN GB Post 2001 LC	T
<i>Cryptocephalus aureolus</i>	Green pot beetle	IUCN GB Post 2001 LC	T
<i>Dolycoris baccarum</i>	Hairy shieldbug	IUCN GB Post 2001 LC	T
<i>Ectemnius continuus</i>	A sand wasp	-	T
<i>Enallagma cyathigerum</i>	Common blue damselfly	IUCN GB Post 2001 LC	T
<i>Episyrphus balteatus</i>	Marmalade hoverfly	-	T
<i>Eristalinus sepulchralis</i>	A hoverfly	-	T
<i>Eristalis abusiva</i>	A hoverfly	-	T
<i>Eristalis arbustorum</i>	Plain-faced Dronefly	-	T
<i>Eristalis tenax</i>	A hoverfly	-	T
<i>Euclidia mi</i>	Mother shipton	-	T
<i>Eupteryx aurata</i>	Potato leafhopper	-	T
<i>Galerucella californiensis</i>	A leaf beetle	IUCN GB Post 2001 LC	T
<i>Galerucella lineola</i>	Brown willow beetle	IUCN GB Post 2001 LC	T
<i>Gammarus pulex</i>	A freshwater shrimp	-	A
<i>Gnathonarium dentatum</i>	A money spider	IUCN GB Post 2001 LC	T
<i>Gyrinus suffriani</i>	A whirligig beetle	IUCN GB Post 2001 VU	A
<i>Haematopota pluvialis</i>	Notch-horned cleg fly	IUCN GB Post 2001 LC	T



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Scientific Name	Common Name	Status	Aquatic (A)/ Terrestrial (T)
<i>Halictus rubicundus</i>	Orange-legged furrow bee	-	T
<i>Harmonia axyridis</i>	Harlequin ladybird	-	T
<i>Helophilus pendulus</i>	A hoverfly	-	T
<i>Hydrachnidae sp.</i>	A water mite	-	A
<i>Hylaeus hyalinatus</i>	Hairy yellow-face bee	-	T
<i>Ichneumon sarcitorius</i>	An ichneumon wasp	-	T
<i>Ischnodemus sabuleti</i>	European chinchbug	-	T
<i>Ischnura elegans</i>	Blue tailed damselfly	IUCN GB Post 2001 LC	T
<i>Julus scandinavicus</i>	A millipede	IUCN GB Post 2001 LC	T
<i>Kateretes rufilabris</i>	A beetle	-	T
<i>Kleidocerys resedae</i>	Birch catkin bug	-	T
<i>Lasiocampa quercus</i>	Oak eggar caterpillar	-	T
<i>Lasioglossum leucozonium</i>	White-zoned furrow bee	-	T
<i>Lasioglossum villosulum</i>	Shaggy furrow bee	-	T
<i>Lasiommata megera</i>	Wall	IUCN GB Post 2001 NT, Env (Wales) Act S7	T
<i>Lasius niger s.l.</i>	Black garden ant	-	T
<i>Leptogaster cylindrica</i>	Striped slender robberfly	IUCN GB Post 2001 LC	T
<i>Libellula depressa</i>	Broad-bodied chaser	IUCN GB Post 2001 LC	T
<i>Libellula quadrimaculata</i>	Four-spotted chaser	IUCN GB Post 2001 LC	T
<i>Limnephilus lunatus</i>	A caddisfly	IUCN GB Post 2001 LC	T
<i>Macrophya ribis</i>	Drab elder strider	-	T
<i>Malachius bipustulatus</i>	Common malachite beetle	IUCN GB Post 2001 LC	T
<i>Mangora acalypha</i>	Cricket bat spider	IUCN GB Post 2001 LC	T
<i>Mecinus pascuorum</i>	A weevil	-	T
<i>Metellina menzei</i>	A long-jawed orbweb spider	IUCN GB Post 2001 LC	T
<i>Misumena vatia</i>	White crab spider	IUCN GB Post 2001 LC	T
<i>Myrmica rubra</i>	An ant	-	T
<i>Neoascia podagrica</i>	A hoverfly	-	T
<i>Neoascia tenur</i>	A hoverfly	-	T
<i>Nigma puella</i>	Bleeding heart spider	IUCN GB Post 2001 LC, NS	T
<i>Nomada flava</i>	Flavous nomad bee	-	T
<i>Notaris acridulus</i>	A weevil	-	T
<i>Notonectidae sp.</i>	A water boatman	-	A
<i>Oedemera nobilis</i>	Thick thighed beetle	IUCN GB Post 2001 LC	T
<i>Orthetrum cancellatum</i>	Black tailed skimmer	IUCN GB Post 2001 LC	T
<i>Orthocephalus coriaceus</i>	A plant bug	-	T



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Scientific Name	Common Name	Status	Aquatic (A)/ Terrestrial (T)
<i>Orthonevra geniculata</i>	A hoverfly	-	T
<i>Oulema melanopus</i>	A leaf beetle	-	T
<i>Oxychilus alliarius</i>	Garlic snail	IUCN GB Post 2001 LC	T
<i>Paederus fuscipes</i>	A rove beetle	Notable B	T
<i>Paederus riparius</i>	A rove beetle	-	T
<i>Palomena prasina</i>	Common green shieldbug	IUCN GB Post 2001 LC	T
<i>Panorpa communis</i>	Scorpion fly	-	T
<i>Pararge aegeria</i>	Speckled wood	IUCN GB Post 2001 LC	T
<i>Pardosa prativaga</i>	A wolf spider	IUCN GB Post 2001 LC	T
<i>Parhelophilus versicolor</i>	A hoverfly	-	T
<i>Philodromus cespitum</i>	A running crab spider	IUCN GB Post 2001 LC	T
<i>Phosphuga atrata</i>	Black snail beetle	IUCN GB Post 2001 LC	T
<i>Pieris brassicae</i>	Large white	IUCN GB Post 2001 LC	T
<i>Pieris rapae</i>	Small white	IUCN GB Post 2001 LC	T
<i>Pirata piraticus</i>	An otter spider	IUCN GB Post 2001 LC	T
<i>Plateumaris sericea</i>	A reed beetle	IUCN GB Post 2001 LC	T
<i>Platycheirus fulviventris</i>	Orange-legged boxer	-	T
<i>Polydrusus formosus</i>	A weevil	Notable A	T
<i>Polydrusus pterygomalis</i>	A weevil	-	T
<i>Polyommatus icarus</i>	Common blue	IUCN GB Post 2001 LC	T
<i>Porcellio scaber</i>	Common rough woodlouse	IUCN GB Post 2001 LC	T
<i>Propylea quattuordecimpunctata</i>	14 spot ladybird	-	T
<i>Protapion trifolii</i>	A weevil	-	T
<i>Pyrrhosoma nymphula</i>	Large red damselfly	IUCN GB Post 2001 LC	T
<i>Rhagio scolopaceus</i>	Downlooker snipefly	IUCN GB Post 2001 LC	T
<i>Rhyzobius chrysomeloides</i>	A beetle	-	T
<i>Rivellia syngenesiae</i>	Small signal fly	-	T
<i>Schizotus pectinicornis</i>	Scarce cardinal beetle	IUCN GB Post 2001 LC, NR	T
<i>Selandria serva</i>	Common sedge-sawfly	-	T
<i>Sigara stagnalis</i>	A water boatman	IUCN GB Post 2001 LC	A
<i>Silis ruficollis</i>	A soldier beetle	IUCN GB Post 2001 LC	T
<i>Sphaerophoria scripta</i>	Common twist-tail	-	T
<i>Stenodema calcarata</i>	A plant bug	-	T
<i>Succinea putris</i>	Amber snail	IUCN GB Post 2001 LC	T
<i>Syrirta pipiens</i>	Compost hoverfly	-	T
<i>Syrphus vitripennis</i>	Glass-winged syrphus	-	T



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Scientific Name	Common Name	Status	Aquatic (A)/ Terrestrial (T)
<i>Tenthredo arcuata</i>	Clover sawfly	-	T
<i>Tetragnatha extensa</i>	Common long-jawed orbweb spider	IUCN GB Post 2001 LC	T
<i>Tetragnatha montana</i>	A long-jawed orbweb spider	IUCN GB Post 2001 LC	T
<i>Tetrix undulata</i>	Common groundhopper	IUCN GB Post 2001 LC	T
<i>Tropidia scita</i>	Tooth-thighed hoverfly	-	T
<i>Tyria jacobaeae</i>	The cinnabar	Env (Wales) Act S7	T
<i>Urophora quadrifasciata</i>	Picture-wing fly	-	T
<i>Vanessa atalanta</i>	Red admiral	IUCN GB Post 2001 LC	T

