



PROPOSED DEVELOPMENT:

**LAND TO THE SOUTH OF EIVION, MAES MEYRICK,
HEOLGERRIG, MERTHYR TYDFIL**

ECOLOGICAL ASSESSMENT

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Ecological Assessment

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Drawings

Drawing number	Title
603.001	Land at the top of Heolgerrig

NON-TECHNICAL SUMMARY

An ecological assessment was undertaken of land at Maes Meyrick in Heolgerrig, Merthyr Tydfil, South Wales in support of a planning application to erect a single domestic property.

The work involved a phase 1 habitat survey to categorise the habitats present, an assessment of the site's ability to provide suitable habitats for protected species and recommendations for further survey and actions if considered necessary.

The habitats on the site comprise of scattered trees, scrub and semi-improved grassland.

Japanese knotweed was observed on the site.

There were no waterbodies on or immediately adjacent to the site which could be suitable for use by breeding great crested newts (and other amphibians); however, there is suitable terrestrial habitat which is likely to be used by individuals of this species.

The site provides reptiles with suitable habitat for foraging, basking, sheltering and hibernation purposes.

It should be assumed that all areas of scrub will be utilised by nesting birds during the breeding season. There is no habitat suitable for ground nesting species.

It should be assumed that a range of invertebrates will utilise the site, in particular marsh fritillary and small pearl-bordered fritillary.

No evidence of any other protected species was observed within or immediately adjacent to the site.

A development licence from Natural Resources Wales in respect of great crested newt will be required prior to any site clearance or other development starting.

All mitigation outlined in the various sections of this report will need to be incorporated into the final design and an ecological mitigation strategy and management plan produced to ensure that no harm comes to the SSSI and SINCs, retained habitats and protected species that may be present on the site.

1 INTRODUCTION

1.1 OBJECTIVE

The objectives of this report are to:

- identify the habitats present on the site;
- identify the potential for protected species to be present on site;
- using the information gathered to determine whether there may be any impacts (both positive and negative) on protected species present;
- provide recommendations for further survey as necessary; and
- suggest outline mitigation and enhancement ideas and principles

1.2 METHODOLOGY

To achieve the objectives set out above, the following actions were taken:

- Field based assessments in respect of
 1. Habitats;
 2. Protected species, primarily:
 - i. Bats;
 - ii. Dormice;
 - iii. Otters;
 - iv. Watervole
 - v. Amphibians (particularly great crested newt);
 - vi. Badgers
 - vii. Invertebrates
 - viii. Reptiles; and
 - ix. Breeding birds

The impact assessment has been undertaken by ecological feature rather than by section i.e. each subject is discussed and assessed separately and summarised in conjunction with the others.

1.3 SITE DESCRIPTION

The red line development site boundary encloses an area of approximately 0.3ha and is located on an east facing slope on the western edge of Heolgerrig to the west of Merthyr Tydfil in south Wales (centred on NGR SO 02710560) (Figures 1 & 2).

The site is comprised of semi-improved grassland and scrub with small areas of tall ruderal vegetation.

The grassland is comprised of common and creeping bents (*Agrostis stolonifera* and *Agrostis capillaris* respectively) with red fescue (*Festuca rubra*), meadow foxtail (*Alopecurus pratensis*), Timothy (*Phleum pratense*), smooth and rough meadow-grass (*Poa pratense* & *P. trivialis*), crested dog's-tail (*Cynosaurus cristatus*), white clover (*Trifolium repens*), common sorrel (*Rumex acetosa*), chickweed (*Stellaria media*), autumn hawkbit (*Scorzoneroides autumnalis*), cats-ear (*Hypochaeris radicata*) and common daisy (*Bellis perennis*). Ranker areas contain common nettle (*Urtica dioica*), ragwort, (*Senecio jacobaea*), cock's-foot (*Dactylis glomerata*), curled dock (*Rumex crispus*), broad leaved dock (*Rumex obtusifolius*) and rosebay willowherb (*Chamerion angustifolium*). Devil'-bit scabious (*Succisa pratensis*) is found at intervals throughout the sward.

The scrub areas (Plates 3 & 4) are dominated by bramble (*Rubus fruticosus* agg.) with hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*) holly (*Ilex aquifolium*) and occasional blackthorn (*Prunus spinosa*). There are two mature ash standards (*Fraxinus excelsior*) and two smaller oaks (*Quercus robur*). Ground flora in this habitat is limited to ivy (*Hedera helix*), hart's-tongue fern (*Asplenium scolopendrium*), scaly male fern (*Dryopteris affinis*) and wood avens (*Geum urbanum*).

There is an ephemeral watercourse flowing west to east across the site taking surface water run-off from the road running along the site's western boundary.

The northern boundary is a fence line against the adjacent house and garden. The southern and eastern boundaries are overgrown hedges on stock net fence lines.

The site is bounded by a mosaic of rough grassland, marshy grassland and scrub to the east and south.

The site is currently grazed by one or two horses. No other management is applied.

There is no public access to the site other than for the owners' access.

Photos are at Appendix A.

Figure 1 – Detailed view of the site (site boxed red) (ownership blue)



(Image courtesy of Google Earth)

Figure 2 – Overview of the development site (development site arrowed red)



1.4 PROPOSED DEVELOPMENT

It is understood that the site is to be used for a single dwelling and associated infrastructure.

1.5 STUDY AREA

The field survey looked at the red line development area itself and up to 20m from the site boundaries wherever possible.

The biological records search covered a search radius of 2000m from the centre of the development site for protected sites (international, national and local), protected and priority species, other species of conservation concern and locally important species. A buffer of 2000m was applied to locally designated sites.

2 REGULATORY FRAMEWORK

2.1 INTERNATIONAL

Prior to the 31st January 2020, European Union legislation required that member states designate sites for the protection of habitats and species included in the annexes of both Council Directive 92/43/EC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive) and Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). This legislation was implemented in the UK by the Conservation of Habitats and Species Regulations 2017 (“the Habitat Regulations”). This results in sites being designated as Special Areas of Conservation (SACs) and Special Protection Areas respectively (SPAs). Since the UKs exit from the European Union on 31st January 2020, the law responsible for continuing to implement this legislation through the transition period is The Conservation of Habitats and Species (Amendment) (EU EXIT) Regulations 2019. All legislation within the Conservation of Habitats and Species Regulation 2017 still apply within the UK under the amendment to the 2017 regulations until otherwise notified.

2.2 NATIONAL (UK)

The Wildlife and Countryside Act 1981 (as amended) allows sites to be designated as Sites of Special Scientific Interest (SSSI) for one or all of the following categories:

- Flora;
- Fauna;
- Habitat; and
- Geological importance.

European designated sites are automatically designated as SSSIs prior to their designation.

Other relevant legislation includes:

- The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- Countryside and Rights of Way Act 2000;
- Environment (Wales) Act 2016
- Wild Mammals (Protection) Act 1996;
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997.

Section 40 of the Natural Environment and Rural Communities Act 2006 (as amended) requires all public bodies to have regard wherever possible to conserving biodiversity. Section 42 of the Act requires that a list of habitats and species of Principle Importance for the Conservation of Biological Diversity in Wales be produced; however, this has been replaced by Section 7 of the Environment (Wales) Act 2016 Priority Habitats and Species lists.

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

Biodiversity Action Plans (BAPs) are tools which are used to monitor, manage and enhance those habitats and species which are of significance to an area or organisation, The United Kingdom BAP lists a number of priority habitats and species which are of conservation concern.

2.3 NATIONAL (WALES)

Planning Policy Wales (Welsh Government, 2016) and Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning (Welsh Assembly Government, September 2009) set out the protection given to wildlife (sites, habitats and species) by the planning system operational in Wales.

2.4 LOCAL AND REGIONAL

The proposed development is wholly within the Merthyr Tydfil County Borough Council (CCBC) area of responsibility. Therefore, all policies adopted by that Planning Authority will apply, including policies which may not be specific to nature conservation or the natural environment but that may apply or be relevant and should be considered during the planning process.

There are a number of habitats and species which are of a high priority to MTCBC. These have been determined following examination of the UK BAP and the Environment (Wales) Act Section 7 list of Priority Species and Habitats and those habitats and species determined to be locally important by the Local Biodiversity Partnership.

2.5 PLANNING FRAMEWORK

The proposed development will be undertaken wholly under the auspices of the Town and Country Planning Act 1990 (as amended).

2.6 PREVIOUS SURVEYS

There are no known previous surveys of this site.

2.7 CONSTRAINTS

The survey was undertaken at a time of year when the full botanical interest may not have been apparent.

3 DESK STUDY

3.1 SUMMARY

There are no records of any priority or protected species, species of local conservation concern or other species of conservation concern from the site, however, there are records that are immediately adjacent to it.

There is one Site of Special Scientific Interest within 2000m of the proposed development site.

A single Local Nature Reserve was identified within 2000m of the site.

Twelve statutorily designated sites, e.g. Sites of Importance for Nature Conservation, were identified within the data search.

3.2 BACKGROUND

A desk study provides background information on historical and current biological data which can identify ecological constraints, mitigation, and biodiversity enhancement opportunities.

3.3 METHODOLOGY

The South East Wales Biodiversity Records Centre (SEWBReC) was consulted in order to provide biological information on the presence of species and sites on or adjacent to the site.

A 2000m search buffer was applied to priority and protected species, species of local conservation concern and other species of conservation concern, statutorily designated sites (for nature conservation purposes) and 2000m locally designated sites.

The Multi-Agency Geographical Information System (MAGIC) website (www.magic.gov.uk) and the Local Biodiversity Action Plan (LBAP) for MTCBC were also consulted.

3.4 CONSTRAINTS

There were no constraints to the data search

3.5 RESULTS

3.5.1 Statutorily protected sites

3.5.1.1 European designated sites

There are no European Designated Sites within 2000m of the development site.

3.5.1.2 United Kingdom designated sites

There is one Site of Special Scientific Interest (SSSI), Cwm Glo Y Glyndyrys, within the data search area, (details at **Table 2** below). The citation for this site is at **Appendix B**.

Table 2 - UK designated sites within 2km of Frontier Medical Group development site

Site	Designation	Grid reference	Area (ha)	Reason for designation
Cwm Glo Y Glyndyrys	SSSI	SO 040052	181.3ha	Marshy grassland, species rich neutral grassland, acid grassland and associated species

The site supports habitats and features included within the SSSI citation. This site will be considered further in this report.

3.5.2 Non-statutory designations

There are no Sites of Importance for Nature Conservation (SINCs) on the development site. However, the site is within 2000m of twelve SINCs, one of which is immediately adjacent to the site.

Table 3 - non-statutorily designated sites within 2km of the proposed development site:

Site	Designation	Grid reference	Distance from site	Reason for designation
Afon Taf	SINC	Unknown	1909m	The major river in the County Borough. Includes areas of bankside habitats, particularly towards the south where the river corridor is less industrialised than further north. Associated habitats are chiefly semi-natural woodland, including areas of ancient semi-natural woodland and linear wet woodlands. There are also numerous neutral grasslands, scrub patches and bracken stands, as well as small areas of marshy grassland and tall herb vegetation. Notable features of the river course include cobble banks which support localised plants. Otter occurs throughout the length of the river which is known to be of value to a wide variety of birds, fish, bats and reptiles
Coed Meirig Pastures	SINC	Unknown	1631m	Small group of horse-grazed fields supporting a mosaic of marshy grassland and semi-improved acid grassland. The marshy areas are mostly species-rich with bordering rush pastures. An area of fen meadow in the east of the site supports the regionally scarce plants. There are also small areas of species-rich neutral grassland and bramble scrub.

Site	Designation	Grid reference	Distance from site	Reason for designation
				Mature broadleaved trees are present along field boundaries and several small streams cross the site
Winchfawr West	SINC	Unknown	35m	Very extensive area of mostly upland habitats, comprising a complex mosaic of moorland and ffridd habitats on the eastern slopes of the Bryn y Gwyddel/Bryn y Badell/Mynydd Aberdar hill system. The wet and dry heathlands are of particular note; these are partly developed on old colliery spoil tips and are the most extensive heathlands in the County Borough. Other habitats of note include marshy grasslands and unimproved acid grasslands, acid flushes and grass-heaths. Outlying areas support semi-improved acid and neutral grasslands and scrub. Numerous ponds are present supporting a small population of Great Crested Newts, along with small streams and some sections of outcropping sandstone. Extremely diverse series of habitats supporting many species of interest.
Gellideg North Fields	SINC	Unknown	1530m	Series of fields containing species-rich rhos pastures, acid grasslands, marshy grasslands, neutral grasslands and areas of bracken, together with scattered mature trees and sections of dry acid oak woodland and wet alder woodland alongside a small stream. The grasslands support a wide range of regionally scarce insect species.
Winchfawr East and Clwydyfagwr	SINC	Unknown	869m	Semi-upland area of spoil mounds supporting a mosaic of dry heathland and acid grassland, along with marshy grassland and acid flushes in depressions and areas of neutral grassland. The eastern part of the site supports areas of species-rich marshy

Site	Designation	Grid reference	Distance from site	Reason for designation
				grassland and wet heath, along with a series of ponds along a small stream and areas of scrub
Cwm Glo	SINC	Unknown	8m	The SINC contains the Cwm-Glo a Glyndyrus SSSI which is of international significance for grassland fungi. Extensive areas of marshy grassland, species rich neutral grassland and acid grassland alongside woodland and heath supporting an impressive variety of protected, rare and uncommon species including marsh fritillary butterfly (<i>Euphydryas aurinia</i>), Great Crested Newt (<i>Triturus cristatus</i>), big blue pinkgill (<i>Entoloma bloxamii</i>) and olive earthtongue (<i>Microglossum olivaceum</i>)
Cwm Ffrwd	SINC	Unknown	1655m	Valley habitats along the Nant Ffrwd, a large stream draining from the uplands in a largely unmodified course, passing through narrow gorges in places. The woodlands have a rich ground flora supporting many ancient woodland indicator species. Regionally rare plant species frequent the steep woodlands, several nationally scarce bryophytes and lichens have also been recorded
Cwm Taf Fechan	SINC	Unknown	1716m	The SINC contains Cwm Taf Fechan SSSI. The limestone geology gives rise to limestone woodlands, species-rich calcareous grasslands, species-rich neutral grasslands and calcareous scrub. Many species of interest have been recorded from the woodlands which are the designated feature of the SSSI. The neutral and calcareous grasslands of the valley slopes and bottom are typically species-rich. Otter ranges along the Afon Taf Fechan, which also supports a range of native fish species including

Site	Designation	Grid reference	Distance from site	Reason for designation
				salmon. Nationally rare and scarce invertebrate and bryophyte species have been recorded from the SSSI
Cwm Taf Fawr	SINC	Unknown	1846m	Section of major river tributary of the Afon Taf. The river extends into Brecon Beacons National Park to the north. Includes adjacent woodlands, which are relatively undisturbed in the upper reaches and more urban in character further downstream. The upper reaches in particular are of high ecological value, comprising limestone gorge woodland with a rich ground flora. Numerous rare plant species occur here. Further south the riverside woodland is more acid in character, but nevertheless supports a relatively diverse ground. The site also includes some adjacent areas of species-rich calcareous, neutral and acid grasslands. The calcareous grasslands in particular support numerous species which are scarce in the County Borough. Otter ranges along the Afon Taf Fechan, which also supports a range of native fish species
Cwm Taf Fields and Cefn Coed Tip	SINC	Unknown	1531m	Linear series of fields between the Afon Taf Fawr and the A470, also containing areas of semi-natural woodland and a re-vegetated limestone slag tip from the former Cyfarthfa Ironworks as well as smaller areas of semi-improved acid grassland, scrub, bracken slopes and dry heathland. The fields are a mosaic of damp and dry neutral grasslands with species-rich areas. The woodlands are variable in character, including areas of wet willow woodland, acid oak woodland and some base-rich ash woodland near the calcareous tip. The thin

Site	Designation	Grid reference	Distance from site	Reason for designation
				soils on the tip plateau support a unique type of calcareous grassland.
Blaen-canaid	SINC	Unknown	906m	Series of species-rich semi-improved neutral grassland enclosures surrounded by a large conifer plantation. Also contains small areas of acid and marshy grassland and some scattered scrub and hedges.
Rhydycar West	SINC	Unknown	1069m	Very extensive mosaic of ffridd enclosures supporting complex of semi-upland and lowland habitats, partly contained within conifer plantation. Main components are ancient semi-natural woodland fragments, other semi-natural woodlands, wet heathland, dry heathland, marshy grassland and semi-improved neutral grasslands. Also there are some bracken slopes, scrub, small ponds, streams and sections of dismantled railway. There are areas of semi-improved acid grasslands to the south especially. The habitats intergrade to form a complex mosaic, and may therefore also include some small areas of improved or low diversity semi-improved grassland, but any such areas are a very minor component. Great crested newt occurs in small pools; noctule and pipstrelle bats have both been recorded. Nationally rare and scarce invertebrates are varied and common throughout the area.

There are a number of SINC sites within 2000m of the site; however, it is considered that all of the sites excluding two are of a great enough distance from the site, to not be impacted by the proposed development.

The two sites close to the development site, namely Cwm Glo and Winchfawr West will be discussed further in this report.

3.5.3 Species: SEWBreC data search

There are no species records for the proposed development site. However, there are numerous records from adjacent to it.

However, there are multiple records for protected species within 2000m of the site. A summary of the species found in the data search buffer and their legislative status is at **Appendix C**.

The records will be discussed through the relevant sections throughout this report.

3.6 PREVIOUS SURVEYS

None known.

4 DESIGNATED SITES

4.1 STATUTORY SITES – EVALUATION & IMPACT ASSESSMENT

Cwm Glo Y Glyndyrys is a Site of Special Scientific Interest (SSSI) The SSSI citation for this site is at **Appendix B**. The SSSI will be dealt with in one section.

4.1.1 Cwm Glo A Glyndyrys (CGAG) SSSI

4.1.1.1 CGAG SSSI – evaluation

Cwm Glo a Glyndyrys is of special interest for its extensive areas of marshy grassland, species-rich neutral grassland and acid grassland, and for the association of these habitats with others including woodland and heath. It is also of special interest for its outstandingly diverse assemblage of grassland fungi, including 32 species of waxcap *Hygrocybe* spp, making it one of the best sites in Britain.

The diversity of the habitats present results in this site being of a **high international and national** ecological importance.

4.1.1.2 CGAG - impact characterisation

The CGAG SSSI is completely outwith the development red line boundary. As a result, there will be no direct effect as a result of clearance. However, there may be effects on species spill over from the SSSI onto the development site.

4.1.1.3 CGAG - impact assessment without mitigation

It is considered that there will be an **uncertain minor short term adverse** impact on the SSSI or the features it is notified for as a result of site clearance.

There is an **unlikely minor short term adverse** impact at a **local level** as a result of indirect impacts such as noise, dust, vibration and species spill over.

4.1.1.4 CGAG - mitigation measures

Mitigation will be required during construction the phase of the development. It is recommended that consideration be given to including the following measures into the development:

- Preventing access to the SSSI from the development site by plant, machinery and personnel;
- Maintaining a tall vegetated strip along the development sites eastern boundary
- Implementing measures as outlined within the relevant species sections of this report to ensure that no harm or adverse impacts occur on species that can be found within the designated site
- Dust suppression measures will be considered within a Construction and Environment Management Plan (CEMP) and implemented as necessary

4.1.1.5 CGAG - impact assessment with mitigation

It is considered that there may be a **very unlikely minor short term adverse** impact at a **local level**.

4.1.1.6 CGAG – significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

4.2 NON-STATUTORY SITES – EVALUATION & IMPACT ASSESSMENT

4.2.1 Cwm Glo SINC

4.2.1.1 Cwm Glo SINC – evaluation

The SINC contains the Cwm-Glo a Glyndyrus SSSI which is of international significance for grassland fungi. Extensive areas of marshy grassland, species rich neutral grassland and acid grassland alongside woodland and heath supporting an impressive variety of protected, rare and uncommon species including marsh fritillary butterfly (*Euphydryas aurinia*), Great Crested Newt (*Triturus cristatus*), big blue pinkgill (*Entoloma bloxamii*) and olive earthtongue (*Microglossum olivaceum*).

Within the context of the development, the SINC is located immediately to the sites eastern and southern boundaries. None of the SINC is within the development site.

The SINC and its inherent diversity is of a **high local (county)** ecological importance.

4.2.1.2 Cwm Glo SINC - impact characterisation

The Cwm Glo SINC is completely outwith the development red line boundary. As a result, there will be no direct effect as a result of clearance. However, there may be effects on species spill over from the SSSI onto the development site.

There may also be indirect impacts as a result of dust, noise and vibration.

4.2.1.3 Cwm Glo SINC - impact assessment without mitigation

It is considered that there may be an **unlikely minor short term adverse** impact at a **local (site) level** on the cSINC as a result of the proposed development.

4.2.1.4 Cwm Glo SINC - mitigation measures

Mitigation is required. Measures will include (but not be limited to) the following:

- Fencing the development site boundary (with a finished fence rather than temporary to prevent additional work) to ensure that there is no accidental intrusion onto the SINC during site clearance and construction;
- All construction methodologies will include measures to minimise and negate dust, noise and vibration;
- There will be no lighting (direct or indirect) of the SINC during construction and operational phases of the development; and
- implementation of a habitat management plan to ensure future long term management benefits nature conservation.
- Maintaining a tall vegetated strip along the development sites eastern boundary
- Implementing measures as outlined within the relevant species sections of this report to ensure that no harm or adverse impacts occur on species that can be found within the designated site

4.2.1.5 Cwm Glo SINC - impact assessment with mitigation

It is considered that there may be a **very unlikely minor short term adverse** impact at a **local level**.

4.2.1.6 Cwm Glo SINC - significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

4.2.2 Winchfawr West SINC

4.2.2.1 Cwm Glo SINC – evaluation

Very extensive area of mostly upland habitats, comprising a complex mosaic of moorland and ffridd habitats on the eastern slopes of the Bryn y Gwyddel/Bryn y Badell/Mynydd Aberdar hill system. The wet and dry heathlands are of particular note; these are partly developed on old colliery spoil tips and are the most extensive heathlands in the County Borough. Other habitats of note include marshy grasslands and unimproved acid grasslands, acid flushes and grass-heaths. Outlying areas support semi-improved acid and neutral grasslands and scrub. Numerous ponds are present supporting a small population of Great Crested Newts, along with small streams and some sections of outcropping sandstone. Extremely diverse series of habitats supporting many species of interest.

Within the context of the development, the SINC is located across the road and to the west of the sites western boundary. None of the SINC is within the development site.

The SINC and its inherent diversity is of a **high local (county)** ecological importance.

4.2.2.2 Winchfawr West SINC - impact characterisation

The Cwm Glo SINC is completely outwith the development red line boundary. As a result, there will be no direct effect as a result of clearance. However, there may be effects on species spill over from the SSSI onto the development site.

4.2.2.3 Winchfawr west SINC - impact assessment without mitigation

It is considered that there may be an **unlikely minor short term adverse** impact at a **local (site) level** on the cSINC as a result of the proposed development.

4.2.2.4 Winchfawr west SINC - mitigation measures

Mitigation is required. Measures will include (but not be limited to) the following:

- Fencing the development site boundary (with a finished fence rather than temporary to prevent additional work) to ensure that there is no accidental intrusion onto the SINC during site clearance and construction;
- All construction methodologies will include measures to minimise and negate dust, noise and vibration;
- There will be no lighting (direct or indirect) of the SINC during construction and operational phases of the development; and

- Implementing measures as outlined within the relevant species sections of this report to ensure that no harm or adverse impacts occur on species that can be found within the designated site

4.2.2.5 Winchfawr West SINC - impact assessment with mitigation

It is considered that there may be a **very unlikely minor short term adverse** impact at a **local level**.

4.2.2.6 Winchfawr West SINC - significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

5 PHASE 1 HABITAT SURVEY

5.1 SUMMARY

A number of habitats were recorded across and adjacent to the survey area. These included:

- Scattered trees;
- Continuous and scattered scrub; and
- Semi-improved grassland.

The potential for a number of protected species was recorded, including habitats suitable for:

- Bats;
- Great crested newt;
- Badger;
- Breeding birds;
- Water voles;
- Reptiles; and
- Invertebrates.

The habitats are shown on **Figure 3** below.

5.2 BACKGROUND

The Phase 1 habitat survey was carried out to assess the existing habitats, identify any protected habitats or species that may be present, determine the impact of the proposed works on them, and identify any mitigation measures that may be necessary. This was done by undertaking both a desk study and field survey.

The survey was undertaken on the 12th September 2019.

Phase 1 habitat survey is a way of recording the basic habitat data to form a baseline level of knowledge of the ecology of a site and provide recommendations for future surveys if considered necessary.

5.3 METHODOLOGY

5.3.1 Desk study:

A biological data search was undertaken. Refer to section 3 above.

5.3.2 Field survey:

Experienced surveyors from BE Ecological Ltd carried out a habitat assessment and mapping exercise on 12th September 2019 using the Phase 1 habitat survey technique. Nomenclature follows Stace (1997)¹.

Features of note are assigned Target Notes (TN) and referenced accordingly and described at **Appendix D**.

A full species list is at **Appendix E**.

¹ Stace, C (1997). *New Flora of the British Isles* (2nd Ed.). Cambridge University Press

5.4 CONSTRAINTS

Due to the overgrown nature of the scrub. Assessments of this habitat type were extremely difficult. Species may have not been visible to surveyors.

5.5 RESULTS

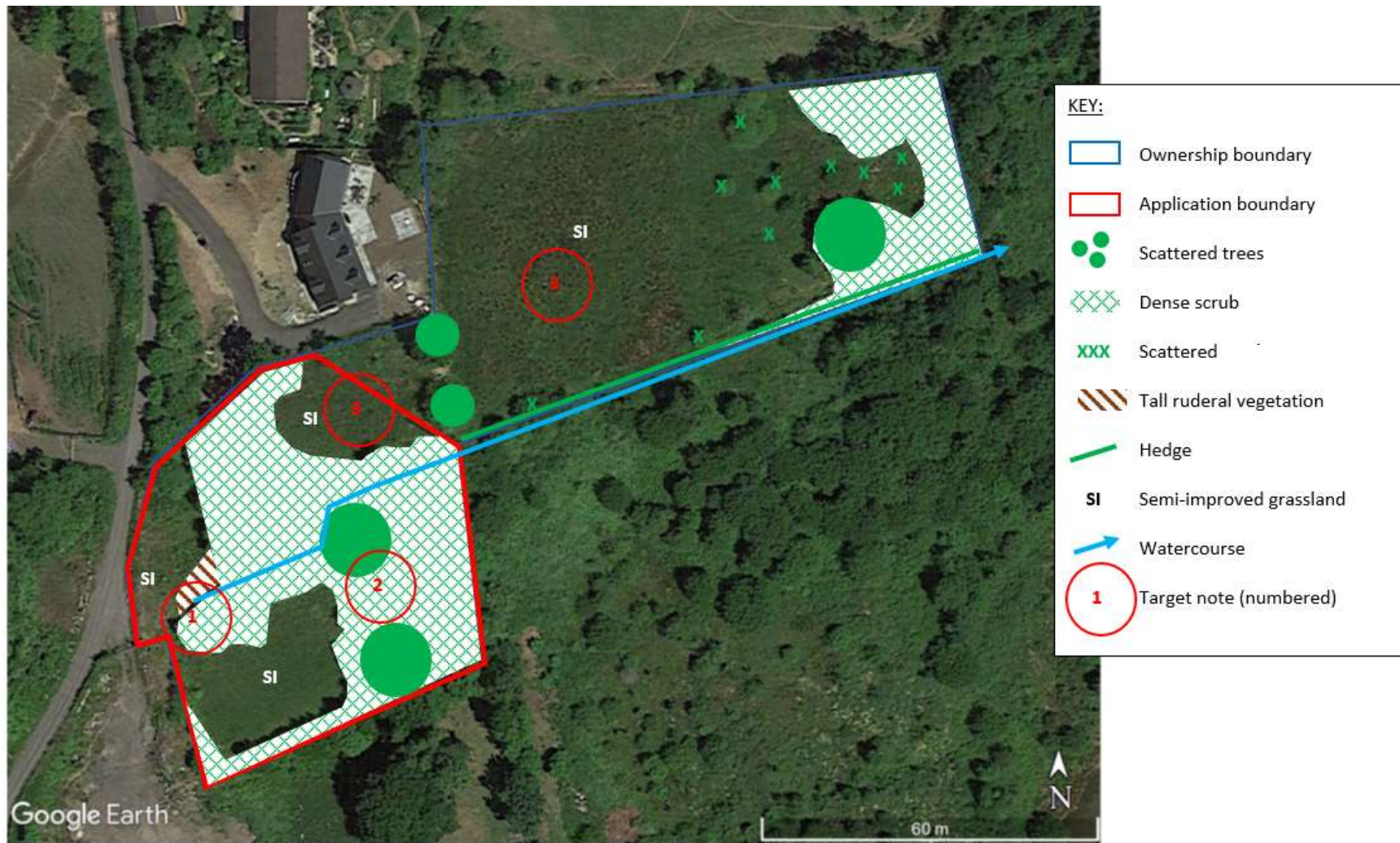
5.5.1 Habitats

The following habitats were found on the site and are mapped on **Figure 3** below:

- Scattered trees
- Continuous and scattered scrub
- Amenity / improved grassland
- Bare ground
- Buildings

Photos are located at **Appendix A**.

Figure 3 – habitat survey results



(Image courtesy of Google Earth)

5.5.1.1 Scattered trees

There are two mature trees, both ash (*Fraxinus excelsior*). Both trees reaching a maximum height of approximately 15-18m with a diameter at breast height of approximately 400mm. There are no other mature standards within the body of the development site. There are two oak (*Quercus robur*) trees on a former boundary feature just to the north east of the application site; both reach a height of approximately 10m with a stem diameter of approximately 350mm

This habitat is of interest for its potential to provide habitat for breeding birds and will be considered further in this report. None of the trees was considered to offer potential bat roosting features.

This habitat will be considered further in this report.

5.5.1.2 Continuous and scattered scrub

Scrub was recorded across the whole site, predominantly in areas which are on steeper ground and around the collapsed building and ungrazed as a result. The areas of scrub are not subject of any management and are generally dense and impenetrable.

The dominant species were bramble (*Rubus fruticosus* agg.), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), holly (*Ilex aquilinum*) and willow (*Salix* sp.).

This habitat is of interest due to the potential for nesting birds to be present and will therefore be considered further.

5.5.1.3 Semi-improved grassland

This habitat is dominated by creeping and common bents (*Agrostis stolonifera* & *A. capillaris*), Timothy (*Phleum pratense*), crested dog's-tail (*Cynosaurus cristatus*) and cock's-foot (*Dactylis glomerata*). Herbs include ribwort plantain (*Plantago lanceolata*), common sorrel (*Rumex acetosa*), black knapweed (*Centaurea nigra*), black medick (*Medicago lupulina*), dandelion (*Taraxacum officinale* agg.), common daisy, ragwort (*Senecio jacobaea*), perforate St John's-wort (*Hypericum perforatum*) and groundsel (*Senecio vulgaris*). Devil's-bit scabious (*Succisa pratensis*) was found across the grassland areas of the site, but predominantly in the grassland to the north east of the application site.

This habitat has been modified by grazing, the area being grazed by low numbers of horses. Other than grazing, there has been no other management. There are areas of bare ground within it as well as areas of taller, more ruderal vegetation; these latter habitats have developed as a result of grazing pressure.

This habitat has a moderate ecological interest as a result of the diversity of herbs and grasses found within it; however, the diversity of the sward is limited by the geology and grazing regime. Its potential to provide protected species such as reptiles and great crested newts with suitable foraging and sheltering habitat raises its value.

This habitat will be considered further in this report.

5.5.1.4 Watercourse

This is an ephemeral habitat running when water drains off the road running parallel to the site's western boundary.

This habitat will be considered further in this report.

5.5.1.5 *Non-native invasive plants*

Japanese knotweed was observed on the site on the line of the watercourse and in areas of dense scrub. No other non-native invasive species were observed on the site.

This classification will, therefore, be considered further in this report.

5.5.1.6 *Other habitats*

Buildings: there is a ruined structure on the site's eastern boundary. It is no more than a series of low walls without roofs and does not offer bats any roosting potential nor birds with nesting habitat.

5.5.2 **Protected species assessment**

5.5.2.1 *Bats*

There are multiple records of members of this group in the data search, but none from the development site.

There are no structures on the site which could be used by bats for roosting purposes.

There are a number of trees on the site; however, following a ground based inspection, none appear to offer bats with potential roosting features. It is anticipated that only the tree closest to the southern boundary of the application site will be felled.

It should be assumed that bats are likely to forage over the site.

This group will be considered further in this report.

5.5.2.2 *Amphibians & great crested newt*

There are multiple records of great crested newt and other amphibians in ponds within 200m of the development site.

There are no waterbodies on the development site which could be used by this group for breeding purposes.

There is an ephemeral watercourse taking surface water run off from the road; it flows west to east through the centre of the site. The terrestrial habitat on the site is likely to provide amphibians with suitable foraging, sheltering and hibernation habitat.

It is considered that amphibians, including great crested newt, are likely to be present on the site and are likely to pose an ecological constraint to the development.

This group will be considered further in this report.

5.5.2.3 *Dormouse*

The scrub habitat on the development site is suitable for this species with good connectivity to other areas of suitable habitat; however, there are no records of this species within the data search.

Therefore, this species will not be considered further in this report.

5.5.2.4 Otters

There are records of otters within 2km of the development site a number of records for this species in the data search, with the closest being from the River Taff 1752m from the centre of the proposed development site.

There are no watercourses on the development site which are suitable for use by this species.

This species will not be considered further in this report.

5.5.2.5 Water vole

This species is listed in the data search with the closest record being from 150m away; a second record is from 730m away. Both records are unconfirmed.

The habitat on the site is not considered to be suitable for this species, there being no permanent watercourses; the ephemeral watercourse is heavily shaded by dense scrub.

No evidence of this species was recorded from the site.

This species will not be considered further in this report.

5.5.2.6 Badgers

There are a number of records for this species within the data search with the closest being 730m to the east of the site.

No evidence of this species was recorded from the site despite there being suitable sett building and foraging habitat.

This species will not be considered further in this report.

5.5.2.7 Breeding birds

There are multiple records for members of this group within the data search but none from the site.

There is abundant suitable habitat for this group on the site in the areas of scrub and the mature trees which it should be assumed is used for nesting purposes during the breeding season.

The habitats on the site are not considered to be suitable for ground nesting birds given the small overlooked nature of the site, the small area of open ground, the high levels of disturbance on the site, the availability of avian predator perches and the presence of predators.

Scrub and tree nesting species will be considered further in this report.

5.5.2.8 Reptiles

There is one record of a slow worm from close to 2km away from the development site.

However, the site offers optimal habitat for this group for foraging, basking, sheltering and hibernation purposes and it should be assumed that all four commonly found species (slow worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*), grass snake (*Natrix natrix*) and adder (*Vipera berus*)) use the site. It is likely that the population densities of these species are at low levels on the site given the site's small area and the amount of disturbance from grazing animals on the site.

This group will be considered further in this report.

5.5.3 Other features

5.5.3.1 Non-native invasive species

Japanese knotweed was observed on the site in the scrub and ruderal vegetation towards the site's western boundary.

This species is a legally controlled waste material and will require treatment and disposal in accordance with a method statement provided by a suitably experienced and qualified consultant or contractor.

5.6 HABITATS - EVALUATION, IMPACT CHARACTERISATION AND ASSESSMENT

The following habitats were recorded on the application site:

- Scattered trees;
- Scrub;
- Semi-improved grassland.

5.6.1 Scattered trees

5.6.1.1 Scattered trees – evaluation

Two mature standard ash trees were observed on the site. Both trees reached approximately 18m in height with a stem diameter of approximately 400mm. Both trees are native, common and widespread in the area. No potential roosting features (PRFs) useable by bats were observed, the trees being smooth barked with no obvious damage.

The trees are therefore considered to be of **low local (site)** ecological importance.

5.6.1.1 Scattered trees - impact characterisation

It is anticipated that only the tree closest to the site's southern boundary will be removed (lost to the development); however, this is subject to confirmation.

5.6.1.2 Scattered trees - impact assessment without mitigation

It is considered that the loss of a single tree will result in a **negligible** ecological impact as long as the tree is removed outwith the bird breeding season (or has been checked for the presence of birds prior to the work being carried out).

5.6.1.3 Scattered trees - mitigation measures

Mitigation for the loss of trees in the short term is not possible; however, it is recommended that:

- Ensure root protection areas are established around all retained trees and scrub vegetation during the construction phase of the development;
- Semi-mature trees be planted on the site as part of a post development landscaping scheme; and
- New planting should, wherever possible, be of native species and of as local a provenance as possible.

5.6.1.4 Scattered trees - impact assessment with mitigation

It is considered that there will be a **no adverse** impact as a result of the loss of the single tree, but that there will be a **long term positive impact** at a **local (site) level** as a result of the implementation of a landscaping scheme.

5.6.1.5 Scattered trees – significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

5.6.2 Scrub

5.6.2.1 Scrub - evaluation

Scrub is a widespread habitat in the area and the species found are common and representative of the habitat and urban garden location. Denser areas can provide a valuable source of food and shelter to a wide range of invertebrates, birds, reptiles and mammals.

The scrub on the site has a varied canopy structure, reaching a maximum height of 8m. It is dominated by bramble and woody species including hawthorn, hazel and holly.

It is considered that the scrub habitats on the site are of a **low local (site)** importance.

5.6.2.2 Scrub - impact characterisation

It is anticipated that the areas of scrub within the red line development boundary will be lost to the development.

5.6.2.3 Scrub - impact assessment without mitigation

It is considered that, in the absence of mitigation, there would be a **certain medium short term** adverse impact at a **local (site) level** on this habitat as a result of the development.

5.6.2.4 Scrub - mitigation measures

Mitigation is required although the scrub on the site is a quick growing common "nuisance" habitat. Measures will include:

- Scrub should either be allowed to re-grow wherever possible; OR
- Where natural regeneration is not possible, scrub should be replanted as part of a post development landscaping scheme;
- Planting should use native species of as local a provenance as possible to replace those species lost OR utilise a range of species that will be able to provide a dense vegetated habitat to benefit nature conservation;
- Any planting should aim to provide a similar area to that lost; and
- Planting will complement the boundaries and adjacent habitat i.e. not be isolated.

5.6.2.5 Scrub - impact assessment with mitigation

It is considered that there will be a **certain minor short term** adverse impact at a **local (site) level** on this habitat as a result of the development.

5.6.2.6 Scrub – significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

5.6.3 Semi-improved grassland

5.6.3.1 Semi-improved grassland - evaluation

The grassland is of a type associated with neutral to acidic soils generally found in more upland areas. The habitat present is common and widespread in the area. The species found within it are also common and widespread in the area and representative of the habitat.

The habitat is currently managed by horse grazing, which results in some areas being grazed tightly and others developing a varied full height sward. The presence of devil's-bit scabious in the sward increases the habitat's value as it is the primary food plant of the marsh fritillary butterfly.

Given the levels of disturbance, the habitat is of interest primarily for its ability to provide habitat for other ecological receptors, particularly invertebrates, reptiles and small mammals.

It is considered that the grassland on the application site is of a **moderate local** importance.

5.6.3.2 Semi-improved grassland - impact characterisation

It is anticipated that within the application site boundary, this habitat will be lost, probably in its entirety, to the development during the site clearance.

5.6.3.3 Semi-improved grassland - impact assessment without mitigation

It is considered that the species present are widespread, common and representative of the habitat; the affected area is small. Therefore, it is considered that there will be a **certain permanent adverse** impact at a **local (site) level** on this habitat as a result of the development.

5.6.3.4 Semi-improved grassland - mitigation measures

Mitigation is required and will take the form of managing land within the land ownership boundary for the benefit of nature conservation, particularly marsh fritillary and other invertebrates. To ensure that the management is appropriate and consistent, a management plan will be prepared by a suitably experienced consultant and implemented by the landowner.

In addition:

- Areas to be cleared will be minimised through design; and
- Management should be implemented to ensure that the biodiversity value of retained areas is maximised.

5.6.3.5 Semi-improved grassland - impact assessment with mitigation

It is considered that there will be a **certain minor short term** adverse impact at a **local (site) level** on this habitat as a result of the development.

5.6.3.6 Semi-improved grassland – significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

6 PROTECTED SPECIES

6.1 BATS

6.1.1 Summary

The closest record for members for this group is 231m from the centre of the proposed development site. The record is of a pipistrelle bat in flight. Other species records include myotis, noctule and brown long-eared bat.

Above ground, there are no trees or buildings on the site that will support roosting bats. It is possible that there are basements beneath the ground level, however, this is yet to be confirmed.

It should be assumed that low numbers of bats are likely to forage occasionally over the site.

6.1.2 Ecology

British bats are small flying nocturnal mammals that feed exclusively upon insects. There are 17 species resident in Britain, ranging in size from the smallest, soprano pipistrelle (*Pipistrellus pygmaeus*) up to the largest noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*) and greater horseshoe bat (*Rhinolophus ferrumequinum*). Bats are active from April through to October and hibernate when insects are in short supply in the winter months. Bats emerge from hibernation in late March - early April and move into their transition / intermediary roosts. Female bats will move to maternity sites by the beginning of May and will give birth to a single baby between June and early July. The baby is reared solely by the mother and is weaned and independent by end of August. After breeding, bats move to transition / intermediary roosts and females will visit males at mating roosts. During the autumn, bats feed voraciously to gain weight for the hibernation ahead.

Although traditionally trees, caves and rock faces were used by roosting bats and are still used, many different structures are used nowadays by bats, which take advantage of readymade (man made) roosts. Structures used frequently include bridges, ice-houses, pill-boxes, disused railway tunnels, houses and barns etc. Bats have home ranges which vary from species to species; from just 3-4km from the roost for the smaller bats while the larger noctule may fly 20km or more. Threats to bats include habitat destruction and the severance of commuting routes, use of agricultural pesticides, intensification of farming methods and deliberate persecution by man. Bats have few natural predators; however, the domestic cat is probably the most efficient predator.

6.1.3 Legislation

6.1.3.1 Conservation of Habitats & Species Regulations 2019

The Conservation of Habitats and Species Regulations 2019 provides safeguards for Protected Species (those listed under Annex IV Habitats Directive). With regards to bats, this makes it an offence to:

- Deliberately (or recklessly in Scotland) capture, injure or kill a bat
- Deliberately (or recklessly in Scotland) disturb a bat in a way that would (significantly in Scotland) affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
- Damage or destroy a roost (this is an 'absolute' offence)
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat

It is possible to undertake damaging activities under the auspices of a European Protected Species Licence issued by Natural Resources Wales which provides a derogation from the Regulations, meaning that an otherwise illegal operation carried out under licence is lawful.

6.1.3.2 *Wildlife & Countryside Act 1981*

The Wildlife & Countryside Act 1981 (as amended) is the legislation for England and Wales for nature conservation, making it an offence to:

- Intentionally or recklessly disturb a bat in or at a roost;
- Intentionally or recklessly obstruct access to a roost;
- Intentionally destroy, damage or otherwise disturb a roost (whether bats are present or not); and
- Intentionally or recklessly kill, injure or take (capture) a bat.

6.1.3.3 *The Environment (Wales) Act, 2016*

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

6.1.4 **Bats – Results**

There are no trees on the site suitable for roosting bats. The trees are thin, young and smooth barked and do not provide suitable habitat for roosting bats

At the time of writing, it is not clear how many mature trees will be affected by the development. However, it appears to be only a single mature tree will be removed.

The tree is a thin, smooth ash tree that does not have any features suitable for roosting bats.

There foraging habitat available for bats. It should be assumed that bats will use the site for foraging purposes.

6.1.5 Bats – evaluation

Due to the above, it is considered unlikely that bats will be impacted by the proposed development. It is important that the sites boundaries remain unlit and that lighting implemented is lighting that will not have any impacts on foraging and commuting bats.

6.1.5.1 Roost locations

Not applicable.

6.1.5.2 Incidental records

None.

6.1.6 Bats - impact characterisation

It is anticipated that there are no bat roosts within the red line boundary and that there will therefore be **no adverse impacts** on them as a result of the development.

It is likely that bat foraging habitat over the development site will be modified by the development. However, bats will be able to continue to forage over the site on completion of the development.

6.1.7 Bats - assessment without mitigation

It is considered that there will be **no adverse** impacts on roosting bats as a result of the proposed development.

6.1.8 Bats - mitigation measures

Mitigation is not required unless it is found that bats use the basements that may or may not be present on the site. In this eventuality, the extent of mitigation will be determined by the classification of any roost found (e.g. maternity, day roost, night roost etc.), species and numbers of bats.

Protection and enhancement measures may include (but not be limited to):

- Inclusion of suitable vegetation planting and management within the development proposals;
- Inclusion of bat boxes on new buildings within the new development.

It is recommended that enhancement features to benefit bats are included in the design for the development site. Such measures could include (but not be limited to):

- Inclusion of bat boxes within new buildings;
- Provision of pole mounted bat boxes;
- Inclusion of night flowering plants in the landscaping scheme to increase bat prey availability; and
- Sympathetic landscape planting to provide bats with foraging habitat.

6.1.9 Bats - impact characterisation with mitigation

It is considered that there will be **no adverse** impacts on bats as a result of the development.

6.1.10 Bats - significance of the impact

Without mitigation

It is considered that the significance of the impact is **slight**.

With mitigation

It is considered that the significance of the impact is **neutral**.

6.2 BREEDING BIRDS

6.2.1 Summary

A full breeding bird survey was not undertaken as it should be assumed that all the areas of scrub and trees will be used by nesting birds.

The areas of grassland and bare ground are not considered to be suitable for ground nesting species for breeding purposes as they are small, overlooked and subject of regular disturbance (horses).

6.2.2 Ecology

Most British avian species are found breeding during the spring and summer months, between April and August, although some, such as pigeons, and doves will frequently breed at all times of year, as they are not dependent on small, soft-bodied invertebrates to provide food for their chicks. Some other species, such as barn owl (*Tyto alba*) have also been recorded breeding in the winter months, in years when winters have been mild, and small mammal prey plentiful, although such breeding attempts are unusual, with chicks frequently failing to fledge. The breeding season can be extended for most species if the weather is mild, and food plentiful.

Contrary to common belief, whilst some bird species, such as crows and rooks, nest high in trees, often more than 10m high, the majority of British breeding birds will nest within 2m of the ground (or on the ground) within dense scrub or within holes and other natural and manmade cavities in rocks and walls.

Most bird species take considerably less than 60 days from egg-laying to chick fledging, whilst others, such as barn owl, can take more than 90 days. Many, but not all British species will make multiple breeding attempts if environmental conditions and food availability allow.

6.2.3 Legislation

In Britain, all naturally occurring avian species are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). The legislation protects all birds, their nests and eggs, and it is an offence to:

- Intentionally kill, injure or take a wild bird;
- Intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built; and
- Intentionally take or destroy the egg of any wild bird.

In addition, birds listed on Schedule 1 of the Act, such as the Red Kite (*Milvus milvus*), are afforded further protection, and it is an offence to:

- Intentionally or recklessly disturb the bird whilst nest building or while at (or near) a nest with eggs or young; and
- Disturb the dependant young of such a bird.

6.2.4 Methodology

6.2.4.1 Habitat assessment

Signs looked for included:

- Availability of nesting habitat;

- Availability of foraging habitat;
- Territorial displays by birds;
- Courtship displays;
- Territory establishment and holding behaviour;
- Nests;
- Food carrying;

6.2.5 Constraints

There were no constraints to the assessment.

6.2.6 Results

6.2.6.1 Desk study

There were numerous records of birds from the development site. The closest record is of a bullfinch 213m from the site. Please see Appendix B for further information.

6.2.6.2 Habitat assessment

The site was comprised of a mosaic of habitats including scrub, grassland and bare ground.

All habitats on the site were suitable for foraging purposes, providing a variety of food sources. It should be assumed that scrub habitats are used for nesting purposes during the breeding season.

It is considered that the site does not provide suitable habitat for ground nesting species as the open areas are small, overlooked by numerous trees and buildings, all of which could be used by avian predators and subject of regular disturbance (horses).

6.2.7 Breeding birds – evaluation

Birds should be considered to be of **high national** importance as a result of the legislation protecting them.

Within the context of the site, there is limited suitable habitat for the smaller and more common species to utilise for nesting and foraging. It is therefore considered that birds are of a **medium local (site)** ecological importance.

6.2.8 Breeding birds - impact characterisation

It is anticipated that the main body of the site will be cleared in its entirety.. Any removal of scrub vegetation will result in the loss of bird breeding and foraging habitat.

6.2.9 Breeding birds - impact assessment without mitigation

In the absence of mitigation, the removal of vegetation during the breeding season would result in the likely disturbance and destruction of nests and the disturbance, killing and injuring of birds (both adults and juveniles). This would constitute a **certain moderate medium term adverse** impact at a **local (site)** level.

6.2.10 Breeding birds - mitigation measures

Mitigation will be required and should include (but not be limited to) the following measures:

- All vegetation and brash removal should be undertaken outwith the breeding season i.e. between mid-August / September and April inclusive;
- Any clearance close to the start and end of this period should only be undertaken following an assessment by a suitably experienced ecologist as the breeding season is not fixed and is subject to annual variation;
- Where clearance is required during the breeding season, all areas should be subject to an assessment no more than 48 hours in advance to check for the presence of breeding birds;
- Should evidence of breeding birds, in particularly nests, be recorded, no clearance may be undertaken within 15m of any nest site until such time as the nest is vacated naturally; and
- Any post-development landscaping plan should include the provision of scrub &/or tree habitats that can be utilised by breeding birds.

Consideration should be given to including measures to benefit birds within the development e.g. installation of bird boxes on new buildings.

6.2.11 Breeding birds - impact characterisation with mitigation

It is considered that there will be a **possible minor short term adverse** impact at a **local (site)** level on breeding birds as a result of the proposed development.

6.2.12 Breeding birds - significance of the impact

Without mitigation

It is considered that the significance of the impact is **slight**.

With mitigation

It is considered that the significance of the impact is **neutral**.

6.3 REPTILES

6.3.1 Summary

No reptile survey was undertaken on the site due to the time of year the visit was carried out; however, a habitat assessment indicated that the site provides optimal habitat for the most common reptile species. However, numbers on the site are likely to be reduced dramatically due to the isolated nature of the site.

A full trapping and translocation exercise is not considered necessary as long as clearance of the site is undertaken in strict adherence to a method statement designed to prevent harm to reptiles.

6.3.2 Ecology

Reptiles are ectothermic, meaning they have to rely on external heat sources to warm their blood sufficiently to allow foraging and other activity. During the winter they are in brumation (similar to hibernation), emerging in April (or when the temperatures are consistently warm enough). Males tend to emerge before females, to enable them to prepare for mating. Females emerge a few weeks later and mating takes place. Female reptiles in the UK generally breed every other year to allow them to build up sufficient energy reserves. Grass snakes are the UK's only egg-laying reptile, eggs are laid in summer in warm piles of decomposing vegetation (or similar) and left to develop and hatch on their own. Young reptiles are born/hatch in late summer/early autumn. Brumation (hibernation) starts again as temperatures fall in the autumn.

The four more commonly occurring species of reptile in the UK (adder (*Vipera berus*), grass snake (*Natrix natrix*) slow worm (*Anguis fragilis*) and common lizard (*Lacerta vivipara*) have different preferences for habitat and diet. Adders generally prey on small mammals in drier habitats, grass snakes primarily hunt amphibians in wetter areas and aquatic habitats, slow worms take small, slow-moving invertebrates and inhabit drier areas and common lizards prey on small, faster-moving invertebrates and tolerate both wet and dry habitats.

6.3.3 Legislation

The four common species listed above are protected by the Wildlife and Countryside Act 1981 (as amended) against killing, injury and sale.

Smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are not found in this area, having very specific geographical distribution within Britain, and so will not be referred to in this report despite the higher legislative protection afforded to them.

6.3.4 Methodology

6.3.4.1 Habitat assessment

The habitat assessment looked for features which would be attractive to reptiles such as:

- south facing banks;
- varied profile ground form;
- basking areas;
- vegetation cover;
- structurally diverse vegetation;
- potential hibernation sites; and

- evidence of suitable prey sources.

6.3.5 Results

6.3.5.1 Desk study

There are records of lizard, grass snake and slow worm within 1500m of the site.

It should be assumed that low numbers of slow worm (*Anguis fragilis*) and common lizard (*Lacerta vivipara*) and grass snake (*Natrix natrix*) use the site. It is likely that the population densities of these species are at low levels due to the small size of the site.

This group will be considered further in this report.

6.3.5.2 Habitat assessment

The grassland is suitable for foraging and basking reptiles.

The banks, remains of the building and the bases of trees are all suitable for hibernating reptiles.

6.3.6 Reptiles – evaluation

Reptiles are protected by UK legislation and therefore they are of **medium to high national** ecological importance.

It should be assumed that slow worm and common lizard are likely to utilise the site. Due to the size of the site, it is uncertain as to whether a full refugia survey would provide any information other than presence or absence. Therefore, an assumption of presence and undertaking works accordingly is an effective protection measure.

Overall the site appears to be generally of **moderate local (site)** value to reptiles.

6.3.7 Reptiles - impact characterisation

It is anticipated that the site will be largely cleared of vegetation, thereby removing the majority of the suitable habitat for this group. In the absence of mitigation, reptiles are likely to be killed or injured during the clearance for the site.

6.3.8 Reptiles - impact assessment without mitigation

It is considered that in the absence of mitigation there would be a **probable minor short term adverse** impact at a **local (site)** level.

6.3.9 Reptiles - mitigation measures

As long as reptile presence is assumed and site clearance is undertaken in accordance with an appropriate method statement, it is considered that a full trapping and translocation exercise is not required, and that habitat manipulation and denial is an appropriate method of ensuring that reptiles are not harmed during the site clearance.

Therefore, the following mitigation will be adopted:

- Clearance will be conducted in accordance with a Method Statement (**Appendix F**) to ensure that should reptiles be found in the course of site clearance or any other development activity, they will not be harmed and can be adequately cared for;
- Clearance will only be undertaken during the reptile active season (April-October, inclusive) unless the site is found to not be suitable for hibernating reptiles;
- Clearance outwith this period is possible, but depends on weather and temperatures being suitable to ensure that reptiles are likely to be active;
- There will be no clearance of hibernation habitat outwith the active season unless temperatures allow;
- Reptiles will be excluded from entering or re-entering the site during clearance/operational phase of works by ensuring that the site is kept as bare ground i.e. clear of any vegetation or other shelter; and
- Any post development landscaping will incorporate a reptile hibernaculum 4m x 2m (design at **Appendix G**) on the eastern boundary of the site to provide shelter for reptiles. The location of the hibernaculum will be confirmed in consultation with an ecologist on completion of the design.

6.3.10 Reptiles - impact characterisation with mitigation

It is considered that there will be an **unlikely minor short term adverse** impact at a **local (site)** level as a result of the proposed development.

6.3.11 Reptiles - significance of the impact

Without mitigation

It is considered that the significance of the impact is **slight**.

With mitigation

It is considered that the significance of the impact is **neutral**.

6.4 GREAT CRESTED NEWT

6.4.1 Summary

Great Crested Newt are known to use a number of ponds surrounding the development site. The development area is within 500m of the ponds. A Natural Resources Wales development licence in respect of this species may be required.

6.4.2 Legislation

Great crested newts, any place used for shelter or protection, or a breeding site or resting place are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Species and Habitats Regulations 2019 (as amended). The places of shelter are protected whether or not the animals are present.

Where a European protected species such as great crested newt is present, a development may only proceed, under a licence issued by the Welsh Government who is the appropriate authority responsible for issuing licences.

6.4.3 Great crested newt – evaluation, impact characterisation and assessment

6.4.3.1 Great crested newt – evaluation

Great crested newts are protected under European legislation and are therefore of high international ecological importance.

Some areas of the grassland on the site provide optimal terrestrial habitat for the species which is terrestrial for the majority of the life cycle.

6.4.3.2 Great crested newt – impact characterisation

There will be no direct adverse impacts on the ponds that the great crested newts use as a result of any activity the site. There is a possibility that the development may adversely impact on newts as the work site would be within 500m of a great crested newt pond. Therefore mitigation will be required.

6.4.3.3 Great crested newt – potential mitigation measures

Mitigation may include the following:

- creation of a new water body / wetland feature to benefit great crested newts.
 1. treat surface water runoff;
 2. providing additional breeding and shelter habitat for great crested newts;
 3. provide a barrier between the development and the SINC.
- retention of as much terrestrial habitat as possible by establishing a buffer within the development site boundary between the housing area and the SINC
- fence the development site with one way fencing (to allow newt out but not back into the development area, establish pit fall traps and implement a programme of habitat denial prior to building out; and
- managing the remainder of the site to benefit nature conservation.

6.5 INVERTEBRATES

6.5.1 Summary

No assessments or surveys have been undertaken in respect of invertebrates. There are records of small boarded fritillary and marsh fritillary on and adjacent to the site. Devils bit scabious is present on the site. As such, it is considered necessary that these species are assumed to be present on the development site.

6.5.2 Legislation

No invertebrates are in receipt of international legal protection with the exception of the large blue (*Phengaris arion*) butterfly, protected by the Conservation of Habitats and Species Regulations 2019 (as amended); a number of other species are fully and partially protected by the Wildlife and Countryside Act 1981 (as amended). A number of species are listed on Section 42 of Species of Principal Importance to Wales and may, with others, be included within local planning authorities Biodiversity Action Plans.

6.5.3 Invertebrates – evaluation, impact characterisation and assessment

6.5.3.1 Invertebrates – evaluation

All the habitats on the site have the potential to be used by invertebrates, some of them being less common than others. It should be assumed in the absence of any biological data that the site is of **high local** and **moderate regional** ecological importance, particularly as there is an assumption of seeing marsh fritillary and pearl bordered fritillary on the site.

6.5.3.2 Invertebrates - impact characterisation

Habitat may be lost during the construction process and individual animals may be killed or injured as a result of the works. It is unlikely that any operational impacts will adversely invertebrates.

6.5.3.3 Invertebrates - potential mitigation measures

No specific mitigation is available at the moment. However general principals may include:

- managing the undeveloped land
- Planting food species
- No clearance of the site when the larval stages of the butterflies are present (September-April)
- looking at the feasibility of enhancing the site including those areas within the ownership boundary for fritillary butterfly;

7 CONCLUSION AND RECOMMENDATIONS

Overall, the site is of a moderate ecological value at a local level due to the habitats present, and its proximity to the Cwm Glo a Glyndrys SSSI and Cwm Glo SINC.

It should be assumed that:

- Great crested newts;
- Reptiles;
- Breeding birds; and
- Marsh fritillary and small pearl-bordered fritillary

are present on the site and that mitigation will be required.

In the case of great crested newts, a development licence will be required from Natural Resources Wales with an accompanying method statement; this method statement will also be suitable for preventing harm to reptiles and other fauna.

It should be noted that further surveys may be required in respect of protected species. In the case of great crested newts, it is considered that there is sufficient population data already in the public domain to allow a licence application without further surveys.

Japanese knotweed is present and will require treatment prior to development commencing.

All site clearance will be undertaken under ecological supervision.

A pre-commencement assessment of the trees will be made prior to development starting to check for any changes to their structure which might result in bats utilising them for roosting and to ensure that nothing has been missed due to dense vegetation.

It is recommended that the mitigation measures, outlined in the various sections above are incorporated as far as is possible into the design process for this development. and construction methodologies.

It is recommended that consideration be given to the inclusion of enhancement features to benefit wildlife are included within the design of the housing units and post-development landscaping scheme on the site.

All mitigation outlined in the various sections of this report will need to be incorporated into the final design and an ecological mitigation strategy and management plan produced to ensure that no harm comes to the SSSI and SINC, retained habitats and protected species that may be present on the site.

8 REFERENCES

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APPENDIX A - PHOTOS

PHASE 1 HABITAT SURVEY PHOTOS

Plate 1 – Photograph of building remains



Plate 2 – photograph of site looking east



Plate 3- photograph of scrub habitat



Plate 4- photograph of site access with scrub



Plate 5-Photograph of site access facing south



Plate 6- photograph of ash tree to be removed



Plate 7- close up photograph of scrub



Plate 8- photograph of DBS



APPENDIX B - DESIGNATED SITES: MEMORIAL PARK MEADOWS

CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST: CITATION
MERTHYR TYDFIL CWM GLO A GLYNDYRYS

Date of Notification: 17 July 2008

National Grid Reference: SO 040052

OS Maps: 1:50,000 Sheet number: 160

1:10,000 Sheet number: SO 00 SW; SO 00 NW

Site Area: 181.3.ha

Description:

Cwm Glo a Glyndyrys is of special interest for its extensive areas of marshy grassland, species-rich neutral grassland and acid grassland, and for the association of these habitats with others including woodland and heath. It is also of special interest for its outstandingly diverse assemblage of grassland fungi, including 32 species of waxcap *Hygrocybe* spp, making it one of the best sites in Britain.

This large site is situated on the northeast and east facing slopes to the West of Merthyr Tydfil, at an altitude of between 200m and 370m, overlying Carboniferous mudstones and siltstones of the Middle Coal Measures. The site comprises a series of small enclosures surrounded by woodland, extensive areas of open land with scattered mature trees, scrub and woodland. A key part of the site is the series of remnant colliery spoil tips that are between one hundred and two hundred years old. These have been colonised by a variety of seminatural habitats, providing a unique opportunity to study the colonisation of abandoned coal and iron workings from one of the earliest periods of the industrial revolution in the world.

In the north east of the site there are a series of small enclosures, sheltered by mixed woodland. Drainage is mainly impeded across this area, which supports base-rich fenmeadow communities characterised by meadow thistle *Cirsium dissectum*, devil's bit scabious *Succisa pratensis* and a number of sedge species, including glaucous sedge *Carex flacca*, carnation sedge *C. panicea*, common sedge *C. nigra*, tawny sedge *C. hostiana*, common yellow sedge *C. viridula* ssp *oedocarpa* and flea sedge *C. pulicaris*. In places this fen-meadow community grades into drier species-rich neutral grassland. Typical species here include bird's-foot-trefoil *Lotus corniculatus*, black knapweed *Centaurea nigra* and a range of grasses including common bent *Agrostis capillaris* and sweet vernal-grass *Anthoxanthum odoratum*. A slight acid nature to the soil is suggested by the presence of heath-grass *Danthonia decumbens* and tormentil *Potentilla erecta*, whilst, in places flushing is indicated by quaking-grass *Briza media* and great burnet *Sanguisorba officinalis*.

Elsewhere on the site, the landscape is more open, with pastures separated by steep, wooded streams and the remnants of former field boundaries. The fen-meadow community is present here also, but has a conspicuous ericoid element with cross-leaved heath *Erica tetralix* and heather *Calluna vulgaris*. Other wet pasture communities also occur in this area, dominated by purple moor-grass *Molinia caerulea*, sweet vernal grass, sheep's fescue *Festuca ovina* and mat-grass *Nardus stricta*, with lousewort *Pedicularis sylvatica*, tormentil and heath woodrush *Luzula multiflora*. In the drier areas, and on the ancient spoil heaps, two types of grassland have developed. Species-rich neutral grassland occurs where the soils are not too acidic. Typical grass species here include common bent, crested dog's tail *Cynosurus cristatus* and red fescue *Festuca*

rubra. Bird's foot trefoil, black knapweed, autumn hawkbit *Leontodon autumnalis*, common cat's ear *Hypochaeris radicata*, eyebright *Euphrasia* sp., and, locally, wild thyme *Thymus praecox*, are all present, together with spring sedge *Carex caryophylla*, glaucous sedge and pill sedge *C. pilulifera*.

In places, this neutral grassland grades into vegetation more associated with dry, acid conditions. The main grass species are common bent and sheep's fescue, together with heath bedstraw *Galium saxatile*. A variety of other herbs can be found in different areas of acid grassland across Cwm Glo a Glyndyrys. These range from daisy *Bellis perennis* and common mouse-ear *Cerastium fontanum* where soils are only slightly acid, to heather and bilberry *Vaccinium myrtillus* where the grassland assumes a more 'heathy' character. Although acid grassland is generally a habitat of the uplands and upland fringe, in places at Cwm Glo a Glyndyrys it can have a marked 'lowland' character. These areas can be particularly species-rich, with plants such as bird's foot trefoil, betony *Stachys betonica* and devil's bit scabious.

The significant grassland fungal community has developed on the drier, more freely drained areas of the site, predominantly occurring in association with species rich neutral grassland and dry acid grassland habitats on site. The tips present throughout the site support much of the fungi interest. Species of note include three of the four grassland species listed on the UK Biodiversity Action Plan list – the big blue pinkgill *Entoloma bloxamii*, the olive earthtongue *Microglossum olivaceum* and the dark-purple earthtongue *Geoglossum atropurpureum*. Other species of note include smoky spindles *Clavaria fumosa* and the diverse assemblage of waxcap *Hygrocybe* spp. fungi. Some 32 species of waxcaps have been identified at Cwm Glo a Glyndyrys, including the pink waxcap *Hygrocybe calyptriformis* and such uncommon species in Wales as *H. ingrata* and the nitrous waxcap *H. nitrata*, making the area one of the best sites for these attractive fungi in western Europe.

Cwm Glo a Glyndyrys has a number of other habitats that add to the interest of the site. There are extensive areas of woodland, some of which is known to have been present at the site since at least 1800. This woodland is mostly oak *Quercus robur* and birch *Betula pendula* with occasional beech *Fagus sylvatica* and rowan *Sorbus aucuparia*, together with alder *Alnus glutinosa* and willows *Salix* spp in the wetter areas. The ground flora includes several ancient woodland indicator species, such as bluebell *Hyacinthoides non-scripta* and wood sorrel *Oxalis acetosella*. Patches of heath can be found across the site where soils are acid. Characteristic species include heather, bilberry and a rich carpet of *Cladonia* lichens where soils are dry, and cross-leaved heath and deer-grass *Scirpus cespitosus* in damper areas. Small areas of flushes and springs are dominated by *Sphagnum* mosses or sedges such as flea sedge and tawny sedge. Other habitats include small ponds and small areas of swamp. The grasslands and woodlands at Cwm Glo a Glyndyrys provide habitat for a range of scarce and local species. Several relatively uncommon plant species are present, including whorled caraway *Carum verticillatum*, petty whin *Genista anglica*, bladder sedge *C. vesicaria*, softleaved sedge *C. montana*, hairy lady's-mantle *Alchemilla filicaulis*, intermediate lady'smantle *A. xanthochlora*, narrow buckler-fern *Dryopteris carthusiana* and adder's tongue

Ophioglossum vulgatum. The marsh fritillary butterfly *Eurodryas aurinia* has been noted in the marshy grassland areas, where its food plant, devil's bit scabious occurs. A nationally scarce moth, the cloaked carpet *Euphyia biangulata*, has been recorded in the southern part of the site. A number of bird species are found at Cwm Glo a Glyndyrys and, including nightjar *Caprimulgus europaeus*, cuckoo *Cuculus canorus*, tree pipit *Anthus trivialis*, whinchat *Saxicola rubetra*, wood warbler *Phylloscopus sibilatrix* and redstart *Phoenicurus phoenicurus*. Great crested newts *Triturus cristatus* have been recorded in ponds on the site.
Remarks:

Cwm Glo a Glyndyrys SSSI lies within the Merthyr Tydfil Landscape of Outstanding Historic Interest, identified on the CCW/Cadw/ICOMOS Register of Landscapes of

Outstanding Historic Interest in Wales and noted for its evidence of industrial activity that dates back to about 1750. The Cyfartha Canal Level (GM467) Scheduled Ancient Monument is within the boundary of the site.

Cwm Glo SSSI was originally notified in 2003. Cwm Glo a Glyndyrys SSSI includes this original site together with a significant extension to the South East and West.

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APPENDIX C - SEWBRc DATA SEARCH SUMMARY

PRIORITY AND PROTECTED SPECIES STATUS LISTS

	common_nam	Species	Status
Acanthis cabaret	Lesser Redpoll	Birds	Priority Species
Acanthis flammea	Common (Mealy) Redpoll	Birds	Other Species
Accipiter gentilis	Goshawk	Birds	Priority Species
Accipiter nisus	Sparrowhawk	Birds	Other Species
			Species of Conservation Concern
Actitis hypoleucos	Common Sandpiper	Birds	Species of Conservation Concern
Aegithalos caudatus	Long-tailed Tit	Birds	Priority Species
Alauda arvensis	Skylark	Birds	Priority Species
Alcedo atthis	Kingfisher	Birds	Species of Conservation Concern
Anas platyrhynchos	Mallard	Birds	Species of Conservation Concern
Anthus pratensis	Meadow Pipit	Birds	Priority Species
Anthus trivialis	Tree Pipit	Birds	Species of Conservation Concern
Apus apus	Swift	Birds	Locally Important Species
Ardea cinerea	Grey Heron	Birds	Species of Conservation Concern
Asio flammeus	Short-eared Owl	Birds	Other Species
Branta canadensis	Canada Goose	Birds	Priority Species
Bucephala clangula	Goldeneye	Birds	Other Species
Buteo buteo	Buzzard	Birds	Priority Species
Caprimulgus europaeus	Nightjar	Birds	Other Species
Carduelis carduelis	Goldfinch	Birds	Other Species
Certhia familiaris	Treecreeper	Birds	Other Species
			Locally Important Species
Chloris chloris	Greenfinch	Birds	Priority Species
Chroicocephalus ridibundus	Black-headed Gull	Birds	Species of Conservation Concern
Cinclus cinclus	Dipper	Birds	Priority Species
Circus cyaneus	Hen Harrier	Birds	Locally Important Species
Corvus corax	Raven	Birds	Priority Species
Crex crex	Corncrake	Birds	Priority Species
Cuculus canorus	Cuckoo	Birds	Priority Species

Cyanistes caeruleus	Blue Tit	Birds	Other Species
Cygnus olor	Mute Swan	Birds	Species of Conservation Concern
Delichon urbicum	House Martin	Birds	Species of Conservation Concern
Dendrocopos major	Great Spotted Woodpecker	Birds	Other Species
Dendrocopos minor	Lesser Spotted Woodpecker	Birds	Priority Species
Emberiza schoeniclus	Reed Bunting	Birds	Priority Species
Falco columbarius	Merlin	Birds	Priority Species
Falco peregrinus	Peregrine	Birds	Priority Species
Falco subbuteo	Hobby	Birds	Priority Species
Falco tinnunculus	Kestrel	Birds	Priority Species
Ficedula hypoleuca	Pied Flycatcher	Birds	Priority Species
Gallinago gallinago	Snipe	Birds	Species of Conservation Concern
Hirundo rustica	Swallow	Birds	Species of Conservation Concern
Larus argentatus	Herring Gull	Birds	Priority Species
Larus canus	Common Gull	Birds	Species of Conservation Concern
Larus fuscus	Lesser Black-backed Gull	Birds	Species of Conservation Concern
Linaria cannabina	Linnet	Birds	Priority Species
Locustella naevia	Grasshopper Warbler	Birds	Priority Species
Loxia curvirostra	Common Crossbill	Birds	Priority Species
Mergus merganser	Goosander	Birds	Other Species
Milvus milvus	Red Kite	Birds	Priority Species
Motacilla alba subsp. yarrellii	Pied Wagtail	Birds	Other Species
Motacilla alba	Pied Wagtail	Birds	Other Species
Motacilla cinerea	Grey Wagtail	Birds	Other Species
Muscicapa striata	Spotted Flycatcher	Birds	Priority Species
Oenanthe oenanthe	Wheatear	Birds	Species of Conservation Concern
Parus major	Great Tit	Birds	Other Species
Passer domesticus	House Sparrow	Birds	Priority Species
Periparus ater	Coal Tit	Birds	Species of Conservation Concern
Phalacrocorax carbo	Cormorant	Birds	Species of Conservation Concern

Phoenicurus phoenicurus	Redstart	Birds	Species of Conservation Concern
Phylloscopus collybita	Chiffchaff	Birds	Other Species
Phylloscopus sibilatrix	Wood Warbler	Birds	Priority Species
Phylloscopus trochilus	Willow Warbler	Birds	Species of Conservation Concern
Picus viridis	Green Woodpecker	Birds	Species of Conservation Concern
Poecile montana	Willow Tit	Birds	Priority Species
Poecile palustris	Marsh Tit	Birds	Priority Species
Prunella modularis	Dunnock	Birds	Priority Species
Pyrrhula pyrrhula	Bullfinch	Birds	Priority Species
Regulus regulus	Goldcrest	Birds	Species of Conservation Concern
Riparia riparia	Sand Martin	Birds	Species of Conservation Concern
Saxicola rubetra	Whinchat	Birds	Locally Important Species
Saxicola rubicola	Stonechat	Birds	Other Species
Scolopax rusticola	Woodcock	Birds	Species of Conservation Concern
Sitta europaea	Nuthatch	Birds	Other Species
Spinus spinus	Siskin	Birds	Other Species
Strix aluco	Tawny Owl	Birds	Other Species
Sturnus vulgaris	Starling	Birds	Priority Species
Sylvia atricapilla	Blackcap	Birds	Other Species
Sylvia borin	Garden Warbler	Birds	Species of Conservation Concern
Sylvia communis	Whitethroat	Birds	Species of Conservation Concern
Tringa ochropus	Green Sandpiper	Birds	Priority Species
Turdus iliacus	Redwing	Birds	Priority Species
Turdus merula	Blackbird	Birds	Other Species
Turdus philomelos	Song Thrush	Birds	Priority Species
Turdus pilaris	Fieldfare	Birds	Priority Species
Turdus viscivorus	Mistle Thrush	Birds	Locally Important Species
Tyto alba	Barn Owl	Birds	Priority Species
Vanellus vanellus	Lapwing	Birds	Priority Species
Amphidium mougeotii	Mougeot's Yoke-moss	Bryophytes	Locally Important Species

Bartramia ithyphylla	Straight-leaved Apple-moss	Bryophytes	Locally Important Species
Bartramia pomiformis	Common Apple-moss	Bryophytes	Locally Important Species
Bryum argenteum	Silver-moss	Bryophytes	Other Species
Calliergonella lindbergii	Lindberg's Plait-moss	Bryophytes	Locally Important Species
Cephaloziella divaricata	Common Threadwort	Bryophytes	Locally Important Species
Climacium dendroides	Tree-moss	Bryophytes	Other Species
Ctenidium molluscum	Chalk Comb-moss	Bryophytes	Other Species
Dichodontium pellucidum	Transparent Fork-moss	Bryophytes	Locally Important Species
Dicranum flagellare	Whip Fork-moss	Bryophytes	Species of Conservation Concern
Dicranum majus	Greater Fork-moss	Bryophytes	Locally Important Species
Didymodon ferrugineus	Rusty Beard-moss	Bryophytes	Locally Important Species
Diphyscium foliosum	Nut-moss	Bryophytes	Locally Important Species
Ditrichum gracile	Slender Ditrichum	Bryophytes	Locally Important Species
Ephemerum sessile	Sessile Earth-moss	Bryophytes	Locally Important Species
Eucladium verticillatum	Whorled Tufa-moss	Bryophytes	Locally Important Species
Fissidens celticus	Welsh Pocket-moss	Bryophytes	Locally Important Species
Fissidens osmundoides	Purple-stalked Pocket-moss	Bryophytes	Other Species
Gymnostomum aeruginosum	Verdigris Tufa-moss	Bryophytes	Locally Important Species
Gymnostomum calcareum	Blunt-leaf Tufa-moss	Bryophytes	Locally Important Species
Homalothecium lutescens	Yellow Feather-moss	Bryophytes	Locally Important Species
Hookeria lucens	Shining Hookeria	Bryophytes	Other Species
Hygroamblystegium fluviatile	Brook-side Feather-moss	Bryophytes	Locally Important Species
Hygroamblystegium tenax	Fountain Feather-moss	Bryophytes	Locally Important Species
Hypnum cupressiforme var. lacunosum	Roof Plait-moss	Bryophytes	Locally Important Species
Isopterygiopsis pulchella	Neat Silk-moss	Bryophytes	Locally Important Species
Jungermannia atrovirens	Dark-green Flapwort	Bryophytes	Locally Important Species
Jungermannia pumila	Dwarf Flapwort	Bryophytes	Locally Important Species

Kindbergia praelonga	Common Feather-moss	Bryophytes	Locally Important Species
Lejeunea cavifolia	Micheli's Least Pouncewort	Bryophytes	Locally Important Species
Lophozia excisa	Capitate Notchwort	Bryophytes	Locally Important Species
Mnium marginatum	Bordered Thyme-moss	Bryophytes	Locally Important Species
Mnium stellare	Starry Thyme-moss	Bryophytes	Other Species
Neckera crispa	Crisped Neckera	Bryophytes	Locally Important Species
Nowellia curvifolia	Wood-rust	Bryophytes	Locally Important Species
Orthotrichum pulchellum	Elegant Bristle-moss	Bryophytes	Other Species
Orthotrichum stramineum	Straw Bristle-moss	Bryophytes	Locally Important Species
Orthotrichum tenellum	Slender Bristle-moss	Bryophytes	Locally Important Species
Palustriella commutata	Curled Hook-moss	Bryophytes	Locally Important Species
Palustriella falcata	Palustriella falcata	Bryophytes	Other Species
Pellia neesiana	Nees' Pellia	Bryophytes	Locally Important Species
Philonotis calcarea	Thick-nerved Apple-moss	Bryophytes	Locally Important Species
Pohlia drummondii	Drummond's Thread-moss	Bryophytes	Other Species
Pohlia wahlenbergii	Pale Glaucous Thread-moss	Bryophytes	Locally Important Species
Ptilidium ciliare	Ciliated Fringewort	Bryophytes	Other Species
Racomitrium aquaticum	Narrow-leaved Fringe-moss	Bryophytes	Locally Important Species
Racomitrium ericoides	Dense Fringe-moss	Bryophytes	Locally Important Species
Racomitrium fasciculare	Green Mountain Fringe-moss	Bryophytes	Other Species
Rhynchostegiella teneriffae	Teesdale Feather-moss	Bryophytes	Locally Important Species
Rhynchostegium murale	Wall Feather-moss	Bryophytes	Locally Important Species
Riccardia multifida	Delicate Germanderwort	Bryophytes	Locally Important Species
Riccardia palmata	Palmate Germanderwort	Bryophytes	Locally Important Species
Saccogyna viticulosa	Straggling Pouchwort	Bryophytes	Other Species
Sanionia uncinata	Sickle-leaved Hook-moss	Bryophytes	Locally Important Species
Scapania gracilis	Western Earwort	Bryophytes	Locally Important Species
Scapania nemorea	Grove Earwort	Bryophytes	Other Species

Scapania paludicola	Bog Earwort	Bryophytes	Locally Important Species
Schistidium rivulare	River Grimmia	Bryophytes	Other Species
Sciuro-hypnum populeum	Matted Feather-moss	Bryophytes	Other Species
Solenostoma paroicum	Shining Flapwort	Bryophytes	Locally Important Species
Sphagnum capillifolium subsp. rubellum	Red Bog-moss	Bryophytes	Locally Important Species
Sphagnum tenellum	Soft Bog-moss	Bryophytes	Locally Important Species
Straminergon stramineum	Straw Spear-moss	Bryophytes	Other Species
Thamnobryum alopecurum	Fox-tail Feather-moss	Bryophytes	Other Species
Tortella tortuosa	Frizzled Crisp-moss	Bryophytes	Locally Important Species
Weissia controversa	Green-tufted Stubble-moss	Bryophytes	Other Species
Zygodon conoideus	Lesser Yoke-moss	Bryophytes	Other Species
Barbatula barbatula	Stone Loach	Fish	Other Species
Cottus gobio	Bullhead	Fish	Other Species
Gasterosteus aculeatus	Three-spined Stickleback	Fish	Other Species
Phoxinus phoxinus	Minnow	Fish	Other Species
Salmo salar	Atlantic Salmon	Fish	Priority Species
Salmo trutta subsp. fario	Brown Trout	Fish	Locally Important Species
Salmo trutta	Brown/Sea Trout	Fish	Priority Species
Clavaria zollingeri	Violaceous Fairy Club	Fungi and Slime Moulds	Priority Species
Clavulinopsis laeticolor	Handsome Club	Fungi and Slime Moulds	Locally Important Species
Clavulinopsis umbrinella	Beige Coral	Fungi and Slime Moulds	Locally Important Species
Entoloma bloxamii	Big Blue Pinkgill	Fungi and Slime Moulds	Priority Species
Geoglossum atropurpureum	Dark-Purple Earthtongue	Fungi and Slime Moulds	Priority Species
Gliophorus irrigatus	Slimy Waxcap	Fungi and Slime Moulds	Locally Important Species
Gliophorus laetus	Heath Waxcap	Fungi and Slime Moulds	Locally Important Species
Gliophorus psittacinus	Parrot Wax-Cap	Fungi and Slime Moulds	Locally Important Species
Glutinoglossum glutinosum	Glutinous Earthtongue	Fungi and Slime Moulds	Locally Important Species
Hygrocybe acutoconica var. acutoconica	Persistent Waxcap	Fungi and Slime Moulds	Locally Important Species
Hygrocybe aurantiosplendens	Orange Waxcap	Fungi and Slime Moulds	Locally Important Species
Hygrocybe calyptriformis var. calyptriformis	Pink meadow cap	Fungi and Slime Moulds	Locally Important Species

Hygrocybe cantharellus	Goblet Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe ceracea	Butter Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe chlorophana	Golden Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe citrina	Hygrocybe citrina	Fungi and Slime Moulds	Other Species
Hygrocybe citrinovirens	Citrine Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe coccinea	Scarlet Hood	Fungi and Slime Moulds	Other Species
Hygrocybe colemanniana	Toasted Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe conica	Blackening Wax-Cap	Fungi and Slime Moulds	Other Species
Hygrocybe flavipes	Yellow Foot Waxcap	Fungi and Slime Moulds	Locally Important Species
Hygrocybe helobia	Garlic Waxcap	Fungi and Slime Moulds	Other Species Locally Important Species
Hygrocybe ingrata	Dingy Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe insipida	Spangle Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe intermedia	Fibrous Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe miniata	Vermilion Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe mucronella	Bitter Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe nitrata	Nitrous Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe phaeococcinea	Shadowed Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe pratensis var. pallida	Pale Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe pratensis var. pratensis	Meadow Wax-Cap	Fungi and Slime Moulds	Other Species
Hygrocybe punicea	Crimson Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe quieta	Oily Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe reidii	Honey Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe russocoriacea	Cedarwood Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe splendidissima	Splendid Waxcap	Fungi and Slime Moulds	Other Species
Hygrocybe virginea var. fuscescens	Hygrocybe virginea var. fuscescens	Fungi and Slime Moulds	Other Species

Hygrocybe virginea var. ochraceopallida	Hygrocybe virginea var. ochraceopallida	Fungi and Slime Moulds	Other Species
Hygrocybe virginea var. virginea	Snowy Wax-Cap	Fungi and Slime Moulds	Other Species
Microglossum olivaceum	Earth Tongue	Fungi and Slime Moulds	Priority Species
Neohygrocybe ovina	Blushing Waxcap	Fungi and Slime Moulds	Locally Important Species
Abraxas sylvata	Clouded Magpie	Invertebrates (insect)	Locally Important Species
Abrostola tripartita	Spectacle	Invertebrates (insect)	Locally Important Species
Abrostola triplasia	Dark Spectacle	Invertebrates (insect)	Locally Important Species
Acasis viretata	Yellow-barred Brindle	Invertebrates (insect)	Locally Important Species
Acleris caledoniana	Caledonian Button	Invertebrates (insect)	Locally Important Species
Acleris schalleriana	Viburnum Button	Invertebrates (insect)	Locally Important Species
Acronicta menyanthidis	Light Knot Grass	Invertebrates (insect)	Other Species
Acronicta psi	Grey Dagger	Invertebrates (insect)	Priority Species
Acronicta rumicis	Knot Grass	Invertebrates (insect)	Priority Species
Aeshna cyanea	Southern Hawker	Invertebrates (insect)	Locally Important Species
Aeshna grandis	Brown Hawker	Invertebrates (insect)	Locally Important Species
Aeshna juncea	Common Hawker	Invertebrates (insect)	Locally Important Species
Agriphila latistria	White-streak Grass-veneer	Invertebrates (insect)	Other Species
Agrochola litura	Brown-spot Pinion	Invertebrates (insect)	Priority Species
Agrochola lychnidis	Beaded Chestnut	Invertebrates (insect)	Priority Species
Amphipoea oculatea	Ear Moth	Invertebrates (insect)	Priority Species
Amphipyra tragopoginis	Mouse Moth	Invertebrates (insect)	Priority Species
Anarta myrtili	Beautiful Yellow Underwing	Invertebrates (insect)	Other Species
Anax imperator	Emperor Dragonfly	Invertebrates (insect)	Locally Important Species
Ancylis unguicella	Broken-barred Roller	Invertebrates (insect)	Locally Important Species
Apamea furva	Confused	Invertebrates (insect)	Other Species

Apamea remissa	Dusky Brocade	Invertebrates (insect)	Priority Species
Apamea unanimitis	Small Clouded Brindle	Invertebrates (insect)	Locally Important Species
Archiearis parthenias	Orange Underwing	Invertebrates (insect)	Other Species
Arctia caja	Garden Tiger	Invertebrates (insect)	Priority Species
Argynnis aglaja	Dark Green Fritillary	Invertebrates (insect)	Locally Important Species
Atolmis rubicollis	Red-necked Footman	Invertebrates (insect)	Locally Important Species
Autographa bractea	Gold Spangle	Invertebrates (insect)	Locally Important Species
Bembecia ichneumoniformis	Six-belted Clearwing	Invertebrates (insect)	Locally Important Species
Boloria euphrosyne	Pearl-bordered Fritillary	Invertebrates (insect)	Priority Species
Boloria selene	Small Pearl-bordered Fritillary	Invertebrates (insect)	Priority Species
Bombus lucorum	White-Tailed Bumblebee	Invertebrates (insect)	Locally Important Species
Bombus monticola	Bilberry (Blaeberry) Bumblebee	Invertebrates (insect)	Locally Important Species
Bombus pascuorum	Common Carder Bee	Invertebrates (insect)	Locally Important Species
Bombus pratorum	Early Bumblebee	Invertebrates (insect)	Locally Important Species
Bombus terrestris	Buff-Tailed Bumblebee	Invertebrates (insect)	Locally Important Species
Brachylomia viminalis	Minor Shoulder-knot	Invertebrates (insect)	Priority Species
Callimorpha dominula	Scarlet Tiger	Invertebrates (insect)	Locally Important Species
Callophrys rubi	Green Hairstreak	Invertebrates (insect)	Locally Important Species
Catoptria margaritella	Silver-stripe Grass-veneer	Invertebrates (insect)	Locally Important Species
Catoptria pinella	Pearl Grass-veneer	Invertebrates (insect)	Locally Important Species
Celastrina argiolus	Holly Blue	Invertebrates (insect)	Locally Important Species
Ceramica pisi	Broom Moth	Invertebrates (insect)	Priority Species
Cerionia tenellum	Small Red Damselfly	Invertebrates (insect)	Locally Important Species
Chiasmia clathrata	Latticed Heath	Invertebrates (insect)	Priority Species
Cirrhia icteritia	Sallow	Invertebrates (insect)	Priority Species

Clostera pigra	Small Chocolate-tip	Invertebrates (insect)	Locally Important Species
Cochylis nana	Birch Conch	Invertebrates (insect)	Locally Important Species
Coenagrion puella	Azure Damselfly	Invertebrates (insect)	Locally Important Species
Coenonympha pamphilus	Small Heath	Invertebrates (insect)	Priority Species
Cordulegaster boltonii	Golden-ringed Dragonfly	Invertebrates (insect)	Locally Important Species
Crambus pratella	Scarce Grass-veneer	Invertebrates (insect)	Species of Conservation Concern
Craniophora ligustri	Coronet	Invertebrates (insect)	Locally Important Species
Ctenicera pectinicornis	Ctenicera pectinicornis	Invertebrates (insect)	Species of Conservation Concern
Cupido minimus	Small Blue	Invertebrates (insect)	Priority Species
Deileptenia ribeata	Satin Beauty	Invertebrates (insect)	Locally Important Species
Diarsia rubi	Small Square-spot	Invertebrates (insect)	Priority Species
Dichrorampha montanana	Spike-marked Drill	Invertebrates (insect)	Locally Important Species
Ecliptopera silaceata	Small Phoenix	Invertebrates (insect)	Priority Species
Enallagma cyathigerum	Common Blue Damselfly	Invertebrates (insect)	Locally Important Species
Epiblema costipunctana	Ragwort Bell	Invertebrates (insect)	Locally Important Species
Epinotia sordidana	Brown Alder Bell	Invertebrates (insect)	Locally Important Species
Epirrhoe tristata	Small Argent & Sable	Invertebrates (insect)	Other Species
Eriocrania unimaculella	White-spot Purple	Invertebrates (insect)	Locally Important Species
Erynnis tages	Dingy Skipper	Invertebrates (insect)	Priority Species
Euchoeca nebulata	Dingy Shell	Invertebrates (insect)	Locally Important Species
Eudonia truncicolella	Ground-moss Grey	Invertebrates (insect)	Locally Important Species
Eugnorisma glareosa	Autumnal Rustic	Invertebrates (insect)	Priority Species
Euphydryas aurinia	Marsh Fritillary	Invertebrates (insect)	Priority Species
Euphyia biangulata	Cloaked Carpet	Invertebrates (insect)	Locally Important Species

Eupithecia absinthiata form goossensiata	Ling Pug	Invertebrates (insect)	Other Species
Eupithecia distinctaria subsp. constrictata	Thyme Pug	Invertebrates (insect)	Other Species
Euxoa nigricans	Garden Dart	Invertebrates (insect)	Priority Species
Falseuncaria ruficiliana	Red-fringed Conch	Invertebrates (insect)	Locally Important Species
Graphiphora augur	Double Dart	Invertebrates (insect)	Priority Species
Grapholita jungiella	Vetch Piercer	Invertebrates (insect)	Locally Important Species
Grapholita lunulana	Northern Crescent Piercer	Invertebrates (insect)	Locally Important Species
Gymnetron beccabungae	Gymnetron beccabungae	Invertebrates (insect)	Species of Conservation Concern
Gyrinus natator	Gyrinus natator	Invertebrates (insect)	Species of Conservation Concern
Hemaris tityus	Narrow-bordered Bee Hawk-moth	Invertebrates (insect)	Priority Species
Hepialus humuli	Ghost Moth	Invertebrates (insect)	Priority Species
Hipparchia semele	Grayling	Invertebrates (insect)	Priority Species
Hoplodrina blanda	Rustic	Invertebrates (insect)	Priority Species
Horisme vitalbata	Small Waved Umber	Invertebrates (insect)	Locally Important Species
Hydraecia micacea	Rosy Rustic	Invertebrates (insect)	Priority Species
Hydrelia sylvata	Waved Carpet	Invertebrates (insect)	Locally Important Species
Hydria undulata	Scallop Shell	Invertebrates (insect)	Locally Important Species
Hydriomena ruberata	Ruddy Highflyer	Invertebrates (insect)	Locally Important Species
Hypena crassalis	Beautiful Snout	Invertebrates (insect)	Locally Important Species
Hypenodes humidalis	Marsh Oblique-barred	Invertebrates (insect)	Locally Important Species
Hysterophora maculosana	Bluebell Conch	Invertebrates (insect)	Locally Important Species
Idaea straminata	Plain Wave	Invertebrates (insect)	Locally Important Species
Ischnura elegans	Blue-tailed Damselfly	Invertebrates (insect)	Locally Important Species
Ischnura pumilio	Scarce Blue-tailed Damselfly	Invertebrates (insect)	Locally Important Species

Lampropteryx otregiata	Devon Carpet	Invertebrates (insect)	Locally Important Species
Lasiommata megera	Wall	Invertebrates (insect)	Priority Species
Lestes sponsa	Emerald Damselfly	Invertebrates (insect)	Locally Important Species
Leucania comma	Shoulder-striped Wainscot	Invertebrates (insect)	Priority Species
Libellula depressa	Broad-bodied Chaser	Invertebrates (insect)	Locally Important Species
Libellula quadrimaculata	Four-spotted Chaser	Invertebrates (insect)	Locally Important Species
Lithophane ornitopus lactipennis	Grey Shoulder-knot	Invertebrates (insect)	Locally Important Species
Litoligia literosa	Rosy Minor	Invertebrates (insect)	Priority Species
Lymantria monacha	Black Arches	Invertebrates (insect)	Other Species
Macaria wauaria	V-Moth	Invertebrates (insect)	Priority Species
Melanchra persicariae	Dot Moth	Invertebrates (insect)	Priority Species
Mesoleuca albicillata	Beautiful Carpet	Invertebrates (insect)	Locally Important Species
Mniotype adusta	Dark Brocade	Invertebrates (insect)	Priority Species
Mythimna turca	Double Line	Invertebrates (insect)	Locally Important Species
Nebula salicata subsp. latentaria	Striped Twin-spot Carpet	Invertebrates (insect)	Locally Important Species
Notocelia tetragonana	Square-spot Bell	Invertebrates (insect)	Locally Important Species
Notocelia trimaculana	Triple-blotched Bell	Invertebrates (insect)	Locally Important Species
Odezia atrata	Chimney Sweeper	Invertebrates (insect)	Locally Important Species
Omaloplia ruricola	Omaloplia ruricola	Invertebrates (insect)	Species of Conservation Concern
Orgyia recens	Scarce Vapourer	Invertebrates (insect)	Locally Important Species
Orthosia gracilis	Powdered Quaker	Invertebrates (insect)	Priority Species
Pammene regiana	Regal Piercer	Invertebrates (insect)	Locally Important Species
Pammene splendidulana	Drab Oak Piercer	Invertebrates (insect)	Locally Important Species
Panemeria tenebrata	Small Yellow Underwing	Invertebrates (insect)	Other Species
Papestra biren	Glaucous Shears	Invertebrates (insect)	Other Species

Pelurga comitata	Dark Spinach	Invertebrates (insect)	Priority Species
Perizoma albulata albulata	Grass Rivulet	Invertebrates (insect)	Priority Species
Perizoma albulata	Grass Rivulet	Invertebrates (insect)	Priority Species
Platyptilia gonodactyla	Triangle Plume	Invertebrates (insect)	Locally Important Species
Pterapherapteryx sexalata	Small Seraphim	Invertebrates (insect)	Other Species
Pyrausta cingulata	Silver-barred Sable	Invertebrates (insect)	Locally Important Species
Pyrausta purpuralis	Common Purple & Gold	Invertebrates (insect)	Locally Important Species
Pyrochroa coccinea	Black-headed Cardinal Beetle	Invertebrates (insect)	Species of Conservation Concern
Pyrrhosoma nymphula	Large Red Damselfly	Invertebrates (insect)	Locally Important Species
Rhagium bifasciatum	Rhagium bifasciatum	Invertebrates (insect)	Locally Important Species
Schrankia costae strigalis	Pinion-streaked Snout	Invertebrates (insect)	Locally Important Species
Scopula ternata	Smoky Wave	Invertebrates (insect)	Locally Important Species
Scotopteryx chenopodiata	Shaded Broad-bar	Invertebrates (insect)	Priority Species
Spilosoma lubricipeda	White Ermine	Invertebrates (insect)	Priority Species
Spilosoma lutea	Buff Ermine	Invertebrates (insect)	Priority Species
Standfussiana lucerneana	Northern Rustic	Invertebrates (insect)	Locally Important Species
Stenoptilia pterodactyla	Brown Plume	Invertebrates (insect)	Locally Important Species
Stilbia anomala	Anomalous	Invertebrates (insect)	Priority Species
Stratiomys potamida	Banded General	Invertebrates (insect)	Species of Conservation Concern
Sympetrum danae	Black Darter	Invertebrates (insect)	Locally Important Species
Sympetrum striolatum	Common Darter	Invertebrates (insect)	Locally Important Species
Syngrapha interrogationis	Scarce Silver Y	Invertebrates (insect)	Locally Important Species
Tanyptera atrata	Tanyptera atrata	Invertebrates (insect)	Species of Conservation Concern
Tholera cespitis	Hedge Rustic	Invertebrates (insect)	Priority Species

Tholera decimalis	Feathered Gothic	Invertebrates (insect)	Priority Species
Triphosa dubitata	Tissue	Invertebrates (insect)	Other Species
Tyria jacobaeae	Cinnabar	Invertebrates (insect)	Priority Species
Venusia cambrica	Welsh Wave	Invertebrates (insect)	Locally Important Species
Xanthorhoe ferrugata	Dark-barred Twin-spot Carpet	Invertebrates (insect)	Priority Species
Xestia castanea	Neglected Rustic	Invertebrates (insect)	Priority Species
Xylena exsoleta	Sword-grass	Invertebrates (insect)	Priority Species
Xylena vetusta	Red Sword-grass	Invertebrates (insect)	Locally Important Species
Zeuzera pyrina	Leopard Moth	Invertebrates (insect)	Locally Important Species
Anisomeridium polypori	Anisomeridium polypori	Lichens	Locally Important Species
Brianaria bauschiana	Brianaria bauschiana	Lichens	Locally Important Species
Cladonia caespiticia	Cladonia caespiticia	Lichens	Locally Important Species
Cladonia cervicornis subsp. verticillata	Cladonia cervicornis subsp. verticillata	Lichens	Locally Important Species
Cladonia crispata var. cetrariiformis	Cladonia crispata var. cetrariiformis	Lichens	Locally Important Species
Cladonia diversa	Cladonia diversa	Lichens	Locally Important Species
Enterographa hutchinsiae	Enterographa hutchinsiae	Lichens	Locally Important Species
Lichenomphalia umbellifera	Heath Navel	Lichens	Locally Important Species
Micarea botryoides	Micarea botryoides	Lichens	Locally Important Species
Micarea doliiformis	Micarea doliiformis	Lichens	Locally Important Species
Mycobilimbia pilularis	Mycobilimbia pilularis	Lichens	Other Species
Parmotrema perlatum	Parmotrema perlatum	Lichens	Locally Important Species
Peltigera canina	Peltigera canina	Lichens	Locally Important Species
Peltigera horizontalis	Peltigera horizontalis	Lichens	Locally Important Species
Psilolechia lucida	Psilolechia lucida	Lichens	Priority Species
Punctelia jeckeri	Punctelia jeckeri	Lichens	Locally Important Species
Thelidium minutulum	Thelidium minutulum	Lichens	Priority Species
Usnea articulata	Usnea articulata	Lichens	Priority Species

Verrucaria aquatilis	Verrucaria aquatilis	Lichens	Locally Important Species
Verrucaria funckii	Verrucaria funckii	Lichens	Locally Important Species
Verrucaria	Verrucaria	Lichens	Locally Important Species
Arvicola amphibius	Water Vole	Mammals (terrestrial)	Priority Species
Chiroptera	Unknown Bat	Mammals (terrestrial)	Priority Species
Dama dama	Fallow Deer	Mammals (terrestrial)	Other Species
Erinaceus europaeus	Hedgehog	Mammals (terrestrial)	Priority Species
Lepus europaeus	Hare	Mammals (terrestrial)	Priority Species
Lutra lutra	Otter	Mammals (terrestrial)	Priority Species
Meles meles	Badger	Mammals (terrestrial)	Priority Species
Mustela erminea	Stoat	Mammals (terrestrial)	Priority Species
Mustela putorius	Polecat	Mammals (terrestrial)	Priority Species
Myotis daubentonii	Daubenton's Bat	Mammals (terrestrial)	Priority Species
Myotis nattereri	Natterer's Bat	Mammals (terrestrial)	Priority Species
Myotis	Myotis Bat Species	Mammals (terrestrial)	Priority Species
Nyctalus noctula	Noctule Bat	Mammals (terrestrial)	Priority Species
Pipistrellus pipistrellus agg.	Pipistrelle agg.	Mammals (terrestrial)	Priority Species
Pipistrellus pipistrellus	Common Pipistrelle	Mammals (terrestrial)	Priority Species
Pipistrellus pygmaeus	Soprano Pipistrelle	Mammals (terrestrial)	Priority Species
Pipistrellus	Pipistrellus Bat Species	Mammals (terrestrial)	Priority Species
Plecotus auritus	Brown Long-eared Bat	Mammals (terrestrial)	Priority Species
Rhinolophus hipposideros	Lesser Horseshoe Bat	Mammals (terrestrial)	Priority Species
Sciurus carolinensis	Grey Squirrel	Mammals (terrestrial)	Other Species
Sciurus vulgaris	Red Squirrel	Mammals (terrestrial)	Priority Species
Sorex araneus	Common Shrew	Mammals (terrestrial)	Other Species

Sorex minutus	Pygmy Shrew	Mammals (terrestrial)	Other Species
Anguis fragilis	Slow-worm	Reptiles and Amphibians	Priority Species
Bufo bufo	Common Toad	Reptiles and Amphibians	Priority Species
Lissotriton helveticus	Palmate Newt	Reptiles and Amphibians	Priority Species
Natrix helvetica	Grass Snake	Reptiles and Amphibians	Priority Species
Rana temporaria	Common Frog	Reptiles and Amphibians	Priority Species
Triturus cristatus	Great Crested Newt	Reptiles and Amphibians	Priority Species
Zootoca vivipara	Common Lizard	Reptiles and Amphibians	Priority Species
Acer campestre	Field Maple	Vascular Plants	Locally Important Species
Achillea ptarmica	Sneezewort	Vascular Plants	Locally Important Species
Agrimonia eupatoria	Agrimony	Vascular Plants	Locally Important Species
Agrostis vinealis	Brown Bent	Vascular Plants	Locally Important Species
Aira caryophyllea	Silver Hair-grass	Vascular Plants	Locally Important Species
Alchemilla filicaulis subsp. vestita	Lady's-Mantle	Vascular Plants	Locally Important Species
Alchemilla vulgaris agg.	Lady's-Mantle agg.	Vascular Plants	Locally Important Species
Alchemilla xanthochlora	Intermediate Lady's-mantle	Vascular Plants	Locally Important Species
Allium ursinum	Ramsons	Vascular Plants	Locally Important Species
Anagallis tenella	Bog Pimpernel	Vascular Plants	Locally Important Species
Anemone nemorosa	Wood Anemone	Vascular Plants	Locally Important Species
Anthyllis vulneraria	Kidney Vetch	Vascular Plants	Locally Important Species
Aphanes arvensis	Parsley-piert	Vascular Plants	Locally Important Species
Arabis hirsuta	Hairy Rock-cress	Vascular Plants	Locally Important Species
Arenaria serpyllifolia subsp. serpyllifolia	Thyme-leaved Sandwort	Vascular Plants	Locally Important Species
Arenaria serpyllifolia	Thyme-Leaved Sandwort	Vascular Plants	Locally Important Species
Artemisia absinthium	Wormwood	Vascular Plants	Locally Important Species

Barbarea vulgaris	Winter-cress	Vascular Plants	Locally Important Species
Botrychium lunaria	Moonwort	Vascular Plants	Locally Important Species
Briza media	Quaking-grass	Vascular Plants	Locally Important Species
Bromopsis erecta	Upright Brome	Vascular Plants	Locally Important Species
Bromopsis ramosa	Hairy-brome	Vascular Plants	Locally Important Species
Bromus racemosus	Smooth Brome	Vascular Plants	Locally Important Species
Callitriche hamulata	Intermediate Water-starwort	Vascular Plants	Locally Important Species
Carex canescens	White Sedge	Vascular Plants	Locally Important Species
Carex caryophyllea	Spring-sedge	Vascular Plants	Locally Important Species
Carex flacca	Glaucous Sedge	Vascular Plants	Locally Important Species
Carex hostiana	Tawny Sedge	Vascular Plants	Locally Important Species
Carex laevigata	Smooth-stalked Sedge	Vascular Plants	Locally Important Species of Conservation Concern
Carex montana	Soft-leaved Sedge	Vascular Plants	Locally Important Species
Carex pallescens	Pale Sedge	Vascular Plants	Locally Important Species
Carex panicea	Carnation Sedge	Vascular Plants	Locally Important Species
Carex paniculata	Greater Tussock-sedge	Vascular Plants	Locally Important Species
Carex pilulifera	Pill Sedge	Vascular Plants	Locally Important Species
Carex pulicaris	Flea Sedge	Vascular Plants	Locally Important Species
Carex riparia	Greater Pond-sedge	Vascular Plants	Locally Important Species
Carex spicata	Spiked Sedge	Vascular Plants	Locally Important Species
Carex sylvatica	Wood-sedge	Vascular Plants	Locally Important Species
Carex vesicaria	Bladder-sedge	Vascular Plants	Locally Important Species
Carex viridula subsp. brachyrrhyncha	Long-stalked Yellow-sedge	Vascular Plants	Locally Important Species
Carex viridula subsp. oedocarpa	Common Yellow-sedge	Vascular Plants	Other Species
Carum verticillatum	Whorled Caraway	Vascular Plants	Locally Important Species

Catapodium rigidum	Fern-grass	Vascular Plants	Locally Important Species
Centaurea scabiosa	Greater Knapweed	Vascular Plants	Locally Important Species
Centaurea	Knapweed	Vascular Plants	Locally Important Species
Ceterach officinarum	Rustyback	Vascular Plants	Species
Chaenorhinum minus	Small Toadflax	Vascular Plants	Other Species
Circaea lutetiana x alpina = C. x intermedia	Upland Enchanter's-nightshade	Vascular Plants	Locally Important Species
Cirsium acaule	Dwarf Thistle	Vascular Plants	Species
Cirsium dissectum	Meadow Thistle	Vascular Plants	Other Species
Clinopodium vulgare	Wild Basil	Vascular Plants	Locally Important Species
Conopodium majus	Pignut	Vascular Plants	Locally Important Species
Cornus sanguinea	Dogwood	Vascular Plants	Species
Cotoneaster bullatus	Hollyberry Cotoneaster	Vascular Plants	Other Species
Cotoneaster horizontalis	Wall Cotoneaster	Vascular Plants	Other Species
Crocosmia pottsii x aurea = C. x crocosmiiflora	Montbretia	Vascular Plants	Other Species
Cruciata laevipes	Crosswort	Vascular Plants	Other Species
Cystopteris fragilis	Brittle Bladder-fern	Vascular Plants	Locally Important Species
Dactylorhiza fuchsii x praetermissa = D. x grandis	Marsh-Orchid	Vascular Plants	Other Species
Dactylorhiza fuchsii	Common Spotted-orchid	Vascular Plants	Other Species
Dactylorhiza maculata	Heath Spotted-orchid	Vascular Plants	Locally Important Species
Dactylorhiza praetermissa	Southern Marsh-orchid	Vascular Plants	Other Species
Danthonia decumbens	Heath-grass	Vascular Plants	Locally Important Species
Dryopteris carthusiana	Narrow Buckler-fern	Vascular Plants	Other Species
Echium vulgare	Viper's-bugloss	Vascular Plants	Locally Important Species
Elodea canadensis	Canadian Waterweed	Vascular Plants	Species
Elodea nuttallii	Nuttall's Waterweed	Vascular Plants	Other Species
Elymus caninus	Bearded Couch	Vascular Plants	Other Species
Empetrum nigrum	Crowberry agg.	Vascular Plants	Locally Important Species
Epilobium brunnescens	New Zealand Willowherb	Vascular Plants	Species
Epipactis helleborine	Broad-leaved Helleborine	Vascular Plants	Other Species
Equisetum sylvaticum	Wood Horsetail	Vascular Plants	Other Species
Equisetum telmateia	Great Horsetail	Vascular Plants	Locally Important Species

<i>Erica tetralix</i>	Cross-leaved Heath	Vascular Plants	Locally Important Species
<i>Erigeron acris</i>	Blue Fleabane	Vascular Plants	Locally Important Species
<i>Eriophorum angustifolium</i>	Common Cottongrass	Vascular Plants	Locally Important Species
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	Vascular Plants	Locally Important Species
<i>Euphrasia nemorosa</i>	Eyebright	Vascular Plants	Locally Important Species
<i>Euphrasia officinalis</i> agg.	Eyebright agg.	Vascular Plants	Locally Important Species
<i>Euphrasia officinalis</i> subsp. <i>anglica</i>	Small-flowered Sticky Eyebright	Vascular Plants	Priority Species
<i>Euphrasia officinalis</i> subsp. <i>pratensis</i>	Eyebright	Vascular Plants	Priority Species
<i>Fallopia japonica</i>	Japanese Knotweed	Vascular Plants	Other Species
<i>Filago minima</i>	Small Cudweed	Vascular Plants	Locally Important Species
<i>Fritillaria meleagris</i>	Fritillary	Vascular Plants	Species of Conservation Concern
<i>Galium odoratum</i>	Woodruff	Vascular Plants	Locally Important Species
<i>Galium sternerii</i>	Limestone Bedstraw	Vascular Plants	Locally Important Species
<i>Galium uliginosum</i>	Fen Bedstraw	Vascular Plants	Locally Important Species
<i>Galium verum</i>	Lady's Bedstraw	Vascular Plants	Species
<i>Genista anglica</i>	Petty Whin	Vascular Plants	Other Species
<i>Geum rivale</i> x <i>urbanum</i> = <i>G. x intermedium</i>	Hybrid Avens	Vascular Plants	Locally Important Species
<i>Geum rivale</i>	Water Avens	Vascular Plants	Locally Important Species
<i>Gymnocarpium dryopteris</i>	Oak Fern	Vascular Plants	Species of Conservation Concern
<i>Gymnocarpium robertianum</i>	Limestone Fern	Vascular Plants	Locally Important Species
<i>Helianthemum nummularium</i>	Common Rock-rose	Vascular Plants	Locally Important Species
<i>Hieracium umbellatum</i> subsp. <i>umbellatum</i>	Hawkweed	Vascular Plants	Species
<i>Huperzia selago</i>	Fir Clubmoss	Vascular Plants	Other Species
<i>Hyacinthoides hispanica</i>	Spanish Bluebell	Vascular Plants	Other Species
<i>Hyacinthoides non-scripta</i>	Bluebell	Vascular Plants	Priority Species
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort	Vascular Plants	Locally Important Species
<i>Hypericum pulchrum</i>	Slender St John's-wort	Vascular Plants	Locally Important Species

Impatiens glandulifera	Himalayan Balsam	Vascular Plants	Other Species
Inula conyzae	Ploughman's-spikenard	Vascular Plants	Other Species Locally Important Species
Jasione montana	Sheep's-bit	Vascular Plants	
Juncus inflexus x effusus = J. x diffusus	Rush	Vascular Plants	Other Species Locally Important Species
Juncus inflexus	Hard Rush	Vascular Plants	Other Species Locally Important Species
Knautia arvensis	Field Scabious	Vascular Plants	Other Species
Lamiasstrum galeobdolon subsp. argentatum	Variegated Yellow Archangel	Vascular Plants	Other Species Locally Important Species
Lamiasstrum galeobdolon subsp. montanum	Yellow Archangel	Vascular Plants	Other Species Locally Important Species
Lathraea squamaria	Toothwort	Vascular Plants	Other Species
Lathyrus linifolius	Bitter-vetch	Vascular Plants	Other Species Locally Important Species
Lathyrus nissolia	Grass Vetchling	Vascular Plants	Other Species Locally Important Species
Lathyrus sylvestris	Narrow-leaved Everlasting-pea	Vascular Plants	Other Species Locally Important Species
Leontodon hispidus	Rough Hawkbit	Vascular Plants	Other Species Locally Important Species
Leontodon saxatilis	Lesser Hawkbit	Vascular Plants	Other Species Locally Important Species
Lepidium heterophyllum	Smith's Pepperwort	Vascular Plants	Other Species Locally Important Species
Linaria repens	Pale Toadflax	Vascular Plants	Other Species Locally Important Species
Linum catharticum	Fairy Flax	Vascular Plants	Other Species Locally Important Species
Luzula multiflora	Heath Wood-rush	Vascular Plants	Other Species Locally Important Species
Luzula sylvatica	Great Wood-rush	Vascular Plants	Other Species
Lycopodium clavatum	Stag's-horn Clubmoss	Vascular Plants	Priority Species Locally Important Species
Lysimachia nemorum	Yellow Pimpernel	Vascular Plants	Other Species
Lysimachia nummularia	Creeping-Jenny	Vascular Plants	Other Species Locally Important Species
Lythrum portula	Water-purslane	Vascular Plants	Other Species Species of Conservation Concern
Meconopsis cambrica	Welsh Poppy	Vascular Plants	Other Species Locally Important Species
Melampyrum pratense	Common Cow-wheat	Vascular Plants	Other Species
Melica nutans	Mountain Melick	Vascular Plants	Other Species Locally Important Species
Melica uniflora	Wood Melick	Vascular Plants	Other Species
Mentha aquatica	Water Mint	Vascular Plants	Other Species

Mentha arvensis	Corn Mint	Vascular Plants	Locally Important Species
Mimulus guttatus	Monkeyflower	Vascular Plants	Other Species
Moehringia trinervia	Three-nerved Sandwort	Vascular Plants	Locally Important Species
Mycelis muralis	Wall Lettuce	Vascular Plants	Locally Important Species
Myosotis discolor	Changing Forget-me-not	Vascular Plants	Locally Important Species
Myosotis laxa	Tufted Forget-me-not	Vascular Plants	Locally Important Species
Myriophyllum alterniflorum	Alternate Water-milfoil	Vascular Plants	Locally Important Species
Narthecium ossifragum	Bog Asphodel	Vascular Plants	Locally Important Species
Nuphar lutea	Yellow Water-lily	Vascular Plants	Locally Important Species
Odontites vernus	Red Bartsia	Vascular Plants	Locally Important Species
Ononis repens	Common Restharrow	Vascular Plants	Other Species
Orchidaceae	Orchid	Vascular Plants	Locally Important Species
Oreopteris limbosperma	Lemon-scented Fern	Vascular Plants	Locally Important Species
Osmunda regalis	Royal Fern	Vascular Plants	Locally Important Species
Oxalis acetosella	Wood-sorrel	Vascular Plants	Locally Important Species
Pedicularis sylvatica	Lousewort	Vascular Plants	Other Species
Persicaria bistorta	Common Bistort	Vascular Plants	Locally Important Species
Petasites hybridus	Butterbur	Vascular Plants	Locally Important Species
Pimpinella saxifraga	Burnet-saxifrage	Vascular Plants	Locally Important Species
Pinguicula vulgaris	Common Butterwort	Vascular Plants	Priority Species
Platanthera bifolia	Lesser Butterfly-orchid	Vascular Plants	Locally Important Species
Platanthera chlorantha	Greater Butterfly-orchid	Vascular Plants	Locally Important Species
Polygala serpyllifolia	Heath Milkwort	Vascular Plants	Locally Important Species
Polygala vulgaris	Common Milkwort	Vascular Plants	Locally Important Species
Polypodium interjectum	Intermediate Polypody	Vascular Plants	Locally Important Species
Polystichum aculeatum	Hard Shield-fern	Vascular Plants	Locally Important Species
Polystichum setiferum	Soft Shield-fern	Vascular Plants	Locally Important Species

Populus tremula	Aspen	Vascular Plants	Locally Important Species
Potamogeton berchtoldii	Small Pondweed	Vascular Plants	Locally Important Species
Potamogeton polygonifolius	Bog Pondweed	Vascular Plants	Locally Important Species
Poterium sanguisorba subsp. sanguisorba	Salad Burnet	Vascular Plants	Locally Important Species
Primula veris	Cowslip	Vascular Plants	Other Species
Prunus laurocerasus	Cherry Laurel	Vascular Plants	Other Species
Prunus padus	Bird Cherry	Vascular Plants	Locally Important Species
Pulicaria dysenterica	Common Fleabane	Vascular Plants	Locally Important Species
Ranunculus omiophyllus	Round-leaved Crowfoot	Vascular Plants	Locally Important Species
Reseda luteola	Weld	Vascular Plants	Species
Rhinanthus minor	Yellow-rattle	Vascular Plants	Other Species
Rosa caesia subsp. caesia	Hairy Dog-rose	Vascular Plants	Locally Important Species
Rosa canina x obtusifolia = R. x dumetorum	Rose	Vascular Plants	Locally Important Species
Rosa rubiginosa	Sweet-briar	Vascular Plants	Locally Important Species
Salix cinerea subsp. cinerea	Grey Willow	Vascular Plants	Locally Important Species
Salix repens	Creeping Willow	Vascular Plants	Locally Important Species
Sambucus ebulus	Dwarf Elder	Vascular Plants	Species
Sanguisorba officinalis	Great Burnet	Vascular Plants	Locally Important Species
Sanicula europaea	Sanicle	Vascular Plants	Locally Important Species
Scrophularia auriculata	Water Figwort	Vascular Plants	Locally Important Species
Scutellaria minor	Lesser Skullcap	Vascular Plants	Species
Sedum album	White Stonecrop	Vascular Plants	Other Species
Sedum forsterianum	Rock Stonecrop	Vascular Plants	Species of Conservation Concern
Serratula tinctoria	Saw-wort	Vascular Plants	Other Species
Sherardia arvensis	Field Madder	Vascular Plants	Locally Important Species
Silene flos-cuculi	Ragged-Robin	Vascular Plants	Locally Important Species
Silene vulgaris	Bladder Campion	Vascular Plants	Locally Important Species

Solidago virgaurea	Goldenrod	Vascular Plants	Locally Important Species
Stachys officinalis	Betony	Vascular Plants	Locally Important Species
Stachys palustris	Marsh Woundwort	Vascular Plants	Locally Important Species
Succisa pratensis	Devil's-bit Scabious	Vascular Plants	Locally Important Species
Thalictrum minus	Lesser Meadow-rue	Vascular Plants	Locally Important Species
Tilia cordata	Small-leaved Lime	Vascular Plants	Locally Important Species
Tragopogon pratensis	Goat's-beard	Vascular Plants	Locally Important Species
Trichophorum caespitosum	Deergrass	Vascular Plants	Locally Important Species
Trifolium campestre	Hop Trefoil	Vascular Plants	Locally Important Species
Trifolium medium	Zigzag Clover	Vascular Plants	Locally Important Species
Trifolium striatum	Knotted Clover	Vascular Plants	Locally Important Species
Triglochin palustre	Marsh Arrowgrass	Vascular Plants	Locally Important Species
Tripleurospermum inodorum	Scentless Mayweed	Vascular Plants	Locally Important Species
Trisetum flavescens	Yellow Oat-grass	Vascular Plants	Locally Important Species
Typha angustifolia	Lesser Bulrush	Vascular Plants	Locally Important Species
Ulex gallii	Western Gorse	Vascular Plants	Locally Important Species
Umbilicus rupestris	Navelwort	Vascular Plants	Locally Important Species
Vaccinium myrtillus	Bilberry	Vascular Plants	Locally Important Species
Valeriana dioica	Marsh Valerian	Vascular Plants	Locally Important Species
Veronica agrestis	Green Field-speedwell	Vascular Plants	Locally Important Species
Veronica catenata	Pink Water-Speedwell	Vascular Plants	Locally Important Species
Veronica montana	Wood Speedwell	Vascular Plants	Locally Important Species
Veronica officinalis	Heath Speedwell	Vascular Plants	Locally Important Species
Veronica scutellata	Marsh Speedwell	Vascular Plants	Locally Important Species
Viburnum opulus	Guelder-rose	Vascular Plants	Locally Important Species
Vicia tetrasperma	Smooth Tare	Vascular Plants	Other Species

Viola canina	Heath Dog-violet	Vascular Plants	Locally Important Species
Viola odorata	Sweet Violet	Vascular Plants	Locally Important Species
Viola palustris	Marsh Violet	Vascular Plants	Locally Important Species
Vulpia myuros	Rat's-tail Fescue	Vascular Plants	Other Species
Wahlenbergia hederacea	Ivy-leaved Bellflower	Vascular Plants	Other Species

APPENDIX D - TARGET NOTES

Target note number	Description
TN 1	Japanese knotweed
TN 2	Building
TN3	Devils bit scabious

APPENDIX E - SPECIES LIST

APPENDIX F - SITE CLEARANCE METHOD STATEMENT (REPTILES)

1. Following a reptile habitat assessment, it was considered that the site has the potential to support a population of slow worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*) and possibly grass snake (*Natrix natrix*). The presence of reptiles should therefore be assumed, hence the need for a Method Statement to ensure that works are carried out in such a way as to avoid harm to reptiles.
2. Vegetation will be cleared from directly affected areas only e.g. areas to be built on, used for storage, be part of the construction site or forming part of any landscaping scheme.
3. Once cleared, the vegetation will be maintained as close to bare ground as possible either by ongoing repeated cutting using brush cutters with knife blades to ensure that there is no potential for reptiles to utilise the site after the initial clearance. This is the preferred method as it reduces the potential for killing and injuring of reptiles and other animals when using tractor towed flails and mowers. Reptile fencing will not be required as long as the bare ground / short vegetation habitat is maintained.
4. All arisings will be raked off and spread (creating habitat piles) on unaffected land or removed from site for disposal. The orientation of the cutting will be designed to push reptiles into unaffected areas once the areas for clearance have been identified without having to undertake a full translocation exercise.

Figure 5: Orientation of cutting



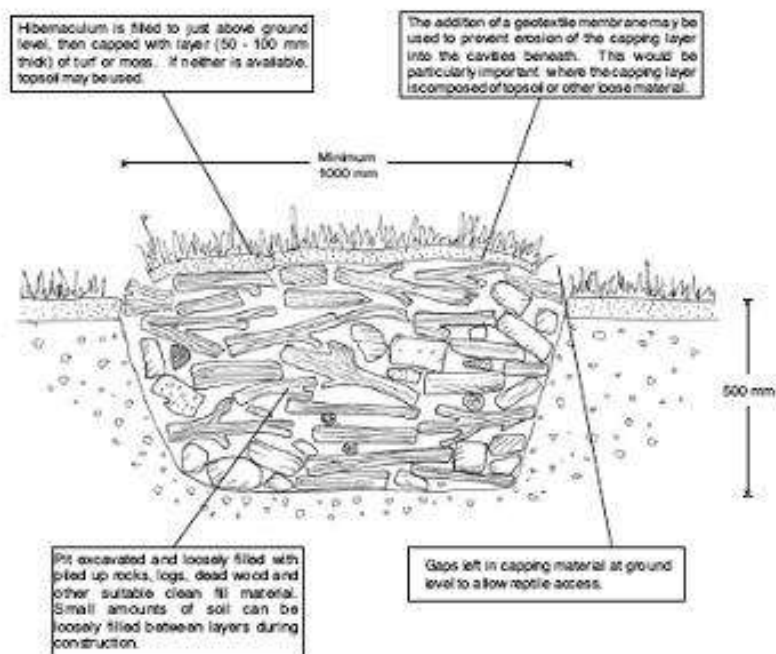
5. Scrub will be cleared to ground level using a chainsaw with the stem material saved to be used for the creation of a hibernaculum on unaffected land. Stumps and roots will only be removed by machine (under ecological supervision) once the clearance is complete.

6. Vegetation will be cut in three phases. The first phase will reduce the vegetation height to 75mm; the second will reduce it to ≈ 30 mm; the third phase will reduce the height to as close to ground level as possible. There will be a time delay of 48 hours between the first and second cuts.
7. After clearance, should the vegetation be allowed to regrow above 150mm high, it will be cut and raked as short as possible, ≤ 30 mm wherever possible.
8. Clearance may only take place during temperatures where reptiles are active.
9. Potential hibernacula will only be cleared while day time temperatures are consistently over 12°C for a period of at least seven days prior as otherwise reptiles may be killed or injured as a result of inconsistent (low) temperatures (during the day and night) and/or low prey availability. Potential hibernacula will only be dismantled by hand unless the supervising ecologist gives the approval for machine dismantling.
10. If reptiles are observed within the clearance area during the works, a decision on how to deal with them will be made on site in light of the conditions on site at the time and the state of the animals themselves. There are three options for dealing with them:
 - It may be possible to leave the animals alone to find their own way into cover, depending on where they are seen, what they are doing and their apparent activity levels; or
 - Capture, remove from site and take into temporary captivity until such time as they can be released adjacent to the cleared area (a vivarium will be prepared in case it is required); or
 - Should conditions allow, capture and translocate the animals to a safe area immediately adjacent to the site.
 - If anymore than 10 reptiles are found, all works will cease and the Local Planning Authority Ecologist engaged with
11. Habitat (e.g. hibernation sites for other species especially amphibians) can be identified and avoided by following this method statement.
12. All vegetation and site clearance will be supervised by a suitably experienced ecologist.

APPENDIX G - REPTILE HIBERNACULUM DESIGN

Hibernaculum on free-draining ground

Where ground conditions allow, the hibernaculum should be incorporated into a shallow pit. This design is more likely to remain frost-free, and will be less obtrusive and thus unlikely to be subject to interference.



Hibernaculum on impermeable ground

Where ground conditions are impermeable, then an 'above-ground' or mounded design should be utilised in order to prevent the hibernaculum from flooding. This design should also be used if it is not possible to excavate a pit for any other reason.

