PROPOSED DEVELOPMENT:

LAND OFF WINCHFAWR ROAD, TO THE NORTH OF PERTH DDU, HEOLGERRIG

PRELIMINARY ECOLOGICAL ASSESSMENT

2023

ISSUE 1VA

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Ecological Assessment

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NON-TECHNICAL SUMMARY

An ecological assessment was undertaken of land at Winchfawr in order to erect a residential dwelling.

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 and adjacent to the site comprise of semi- improved grassland with elements of tall ruderal.

There are no trees present on the site capable of supporting roosting bats. It is probable that bats will forage over the site and use the site boundaries as commuting routes.

There is no suitable habitat for dormice present on the site, and there are no records within 2km, food sources are not abundant at the site. If at any point dormice or evidence of dormice are found, all works will cease and a licence from Natural Resources Wales must be applied for prior to works recommencing.

There were no waterbodies on or immediately adjacent to the site which could be suitable for use by breeding great crested newts (or other amphibians). There are records within the data search, however, these records are isolated by roads and infrastructure.

No evidence of badger activity was recorded within or immediately adjacent to the site boundary. It is possible that badgers will use the site for foraging, however, no evidence of badger was found throughout. It is unlikely that badgers will use the site for sett building to the high levels of disturbance present at the site.

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

The site provides reptiles with potential habitat for some foraging, basking, sheltering and hibernation purposes.. It is likely that reptiles will be present, however, due to a number of factors justified within this report, the number of reptiles present if any are likely to be low.

There is Japanese knotweed present on the site. A method statement for its removal will be required f

All site clearance works should be undertaken in accordance with a method statement and ecological supervision to ensure that species are not harmed at any stage of the project.

Mitigation will be required and is outlined within the various habitat and species sections contained herein.

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. Amphibians (particularly great crested newt);
        v. Badgers
        vi. Reptiles; and
        vii. 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 is located on land of Winchfawr Road to the north of Perth Ddu, Heolgerrig, Merthyr Tydfil.

The majority of the site appears to comprise of semi- improved grassland with elements of tall ruderal. The area appears to be previous developed/disturbed land that has been colonised by the plants present over time.

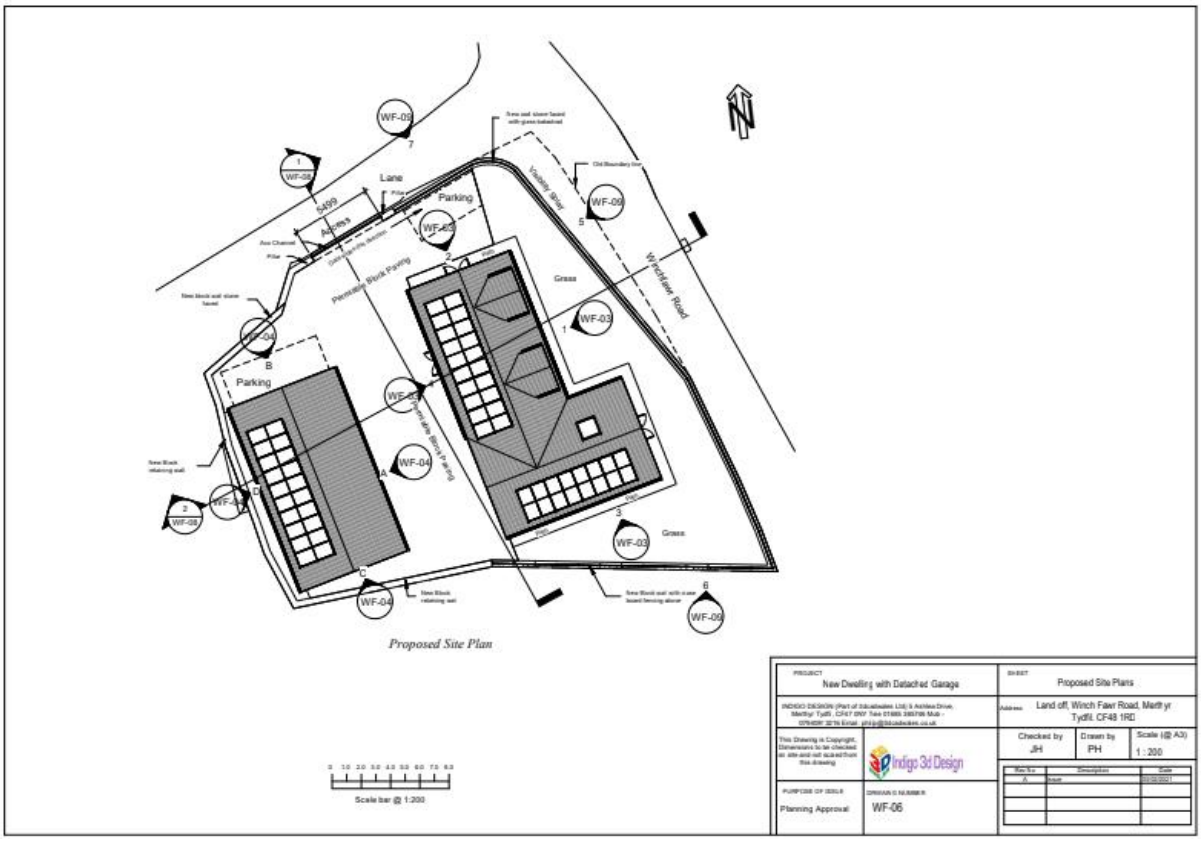
There is a hedgerow to the south of the site that appears to be owned by the neighbouring property. The site has heras fencing on all other elevations.

The wider landscape appears to comprise of patches of broad-leaved woodland/scrub throughout the wider landscape that lead to fields.

Figure 1 – Approximate location of site (arrowed red) (Google Maps 2023)

1.4 PROPOSED DEVELOPMENT

It is proposed to erect a three bedroom dwelling and associated garage on the site.



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 1000m 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 1000m was applied to locally designated sites. A 1000m search was chosen for this site due to the sites small nature and the limited habitats scheduled for removal.

2 REGULATORY FRAMEWORK

2.1 INTERNATIONAL

European Union legislation requires 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 is implemented in the UK by the Conservation of Habitats and Species Regulations 2017 (as amended) ("the Habitat Regulations"). This results in sites being designated as Special Areas of Conservation (SACs) and Special Protection Areas respectively (SPAs).

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 (MTCBC) 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 outside of the main season and as such, the full botanical diversity 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 or immediately adjacent to it. The closest records are from 286m away and refer to a grayling.

One SSSI's was identified within the data search.

Seven non 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 (0223-878)

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 1000m 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 United Kingdom Designated Sites within 2000m of the development site.

Table 3 - non-statutorily designated sites within 1km of the proposed development site:

Site	Designation	Distance from site
CwmGlo Y Glyndyrys	SSSI	787m

There are no features present on the development site that the SSSI is designated for. The site is isolated by roads and other infrastructure. As a result it is unlikely that this site will be affected and will therefore not be considered further in this report.

3.5.2 Non-statutory designations

The following SINCs are found within 2000m of the site

Winchfawr West (100m)

Winchfawr East & Clwydyfagwr (119m)

Cwm Ffrwd (978m)

Gellideg North Fields (918m)

Coed Meirig Pastures (878m)

Cwm Glo (717m)

Gethin Forest (986m)

There are roads and other infrastructure that separate the site from the SINCs. It is extremely unliklely that these SINCs will be affected by the proposed development and they will therefore not be mentioned further in this report. It is possible that mobile species may use the site that use the SINC, however, these will be dealt with in the relevant species sections.

3.5.3 Species: SEWBReC data search

There are no species records for the proposed development site or its immediate vicinity.

The closest records are of grayling, house sparrow and song thrush.

3.6 PREVIOUS SURVEYS

None known.

4 PHASE 1 HABITAT SURVEY

4.1 SUMMARY

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

- Semi-improved grassland with elements of tall ruderal
- Buildings
- Stone wall

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

- Bats;
- Badgers;
- Breeding birds;
- Reptiles;
- Invertebrates;

The habitats are shown on **the phase 1 map located in the appendix.**

4.2 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 7th February 2023.

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.

4.3 METHODOLOGY

4.3.1 Desk study:

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

4.3.2 Field survey:

Experienced surveyors from BE Ecological Ltd carried out a habitat assessment and mapping exercise in October 2021 using the Phase 1 habitat survey technique. Nomenclature follows Stace (1997)[1]. The survey was carried out by Beth Evans.

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

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

A full species list is at **Appendix B**

4.4 CONSTRAINTS

There were no constraints.

4.5 RESULTS

4.5.1 Habitats

The following habitats were found on the site and are mapped at Appendix C.

- Semi-improved grassland with elements of tall ruderal
- Buildings
- Stone wall

Photos are located at **Appendix A**

4.5.1.1 Semi-improved grassland

This habitat is found across the main body of the site. The grassland is species poor and unmanaged. It is likely that the site has been cleared in previous years. There are elements of tall ruderal and wetter areas within it. There are some concrete areas throughout it. It is anticipated that the majority of this habitat will be lost to the development.

4.5.1.2 Buildings

There is a single dilapidated garage present on the site and two containers used for storage. The containers are entirely sealed and do not offer bats and birds with any roosting/nesting opportunities.

A PRA was undertaken of the garage. the garage is a block and brick built structure beneath a corrugated metal sheet roof. There are no obvious crevices present within the brick and block work suitable for roosting bats. Whilst there is access in to the garage via ill fitting windows and doors and at eaves level, the eaves are completely open with the wall plates clearly visible. There are no fascias on the building, the metal sheets are just sat on the wall plates. The building is currently used to store a number of items. The roof of the garage is unlined. No bats or evidence of bats was found in this location. No evidence of nesting birds was found throughout the building.

Please see Appendix A for photographs of the garage.

4.5.1.3 Stone wall

This habitat is found on the western boundary of the site, whilst it is not of ecological value in itself, it does provide reptiles with potential habitat.

4.5.2 Protected species assessment

4.5.2.1 Bats

The closest record for members for this group is from approximately 509m from the centre of the proposed development site and refers to a myotis bat.

There are no mature trees present on the development site to be removed.

It is likely that bats will use the site for foraging.

This group will be considered further in this report.

4.5.2.2 Amphibians & great crested newt

There are no waterbodies on the development site which could be used by this group for breeding purposes. The terrestrial habitat on the site could provide amphibians with suitable foraging and sheltering habitat. The are records of great crested newt from approximately 318m away, however, the records are isolated from the site by roads, housing and associated infrastructure. In addition to the above, the habitat appears to be disturbed.

It is considered that amphibians are unlikely to pose an ecological constraint to the development and that only common species (frog and toad with the possibility of smooth and / or palmate newts) are likely to be present on the site. Therefore, it is considered that this group can be safely dealt with via a reasonable avoidance method statement to prevent harm to individuals during site clearance. A method statement will be required.

4.5.2.3 Dormouse

There are no records of dormice within the data search, there is no suitable habitat present on site, it is considered unlikely that dormice will pose a constraint on the development.

4.5.2.4 Badgers

There are no records of badger within the data search.

There is suitable habitat for foraging but due to the location, openness and nature of the site, the land is unlikely to be suitable for sett excavation.. There was no sign of badger throughout the survey.

This species will not be mentioned further in this report.

4.5.2.5 Breeding birds

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

Birds heard and seen on and adjacent to the site include wood pigeon and house sparrow.

There is suitable habitat in the hedgerow to the south, however, this appears to not be within the confines of the site and will be retained in its entirety. There is no other suitable vegetation for nesting birds.

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

4.5.2.6 Reptiles

There are records of grass snake and common lizard within 1km of the development site. The closest record is of a grass snake, 1048m from the site.

The site offers some habitat for this species for foraging, basking, sheltering and hibernation purposes and it should be assumed that slow worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*) use the site. It is likely that the population densities of these species are at perhaps lower levels given the amount of disturbance at the site and due to the sites relatively isolated nature. There is suitable habitat within the stone wall.

This group will be considered further in this report.

4.5.2.7 Invertebrates

It is likely that common and widespread invertebrates will utilise the site.. It is possible that some Section 7 species will use the site. There are records of section 7 species within the data search.

4.5.3 Other features

There is Japanese knotweed present on the site. A method statement from an appropriately qualified contractor will be required for its removal.

5 PROTECTED SPECIES

5.1 BATS

5.1.1 Summary

There is no obvious roosting potential present on the site. It is considered unlikely that bats use the building on the site (please see building paragraph above). To safeguard the unlikely chance that bats will use the building, the garage will be removed in line with a method statement and ecological supervision. There are records of pipistrelle, noctule, brown long-eared, myotis sp. and lesser horseshoe bats within 1km of the site.

It is likely that a small number of bats species will forage over the site and boundaries. However, given the presence of adjacent habitats, it is considered much more likely that bats will make use of these due to the lack of mature vegetation and trees on the site. Albeit it is still possible that foraging bats will make use of the site. .

5.1.2 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.

5.1.3 Legislation

5.1.3.1 Conservation of Habitats & Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations (2017) provides safeguards for European 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.

5.1.3.2 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.

5.1.3.3 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.

5.1.3.4 Desk study

Please refer to **section 4.5.2.1** above.

5.1.4 Bats - impact characterisation

It is likely that bat foraging habitat over the development site will be modified by the development.

5.1.5 Bats - impact assessment without mitigation

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

There may be impacts on foraging bats as a result of reduction in habitat and increased site lighting. All boundaries will remain completely unlit in order to avoid any impacts on bats that may forage over the site.

5.1.6 Bats - mitigation measures

Mitigation will be required

Protection and mitigation measures will include:

- Retention of the flight lines along all boundaries as unlit dark corridors;
- New planting will be required to enhance the area for bats
- Any site lighting will conform to that recommended for bats

The following will need to be included within the development:

- Provision of pole mounted bat boxes or boxes on houses;
- Sympathetic landscape planting t provide bats with foraging habitat.

5.1.7 Bats - impact characterisation with mitigation

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

5.1.8 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**

5.2 REPTILES

5.2.1 Summary

No reptile survey was undertaken at the site due to the time of year that the survey was undertaken. It is possible that small numbers of slow worm and common lizard use 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 any reptiles. A methodology for this will be required.

5.2.2 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.

5.2.3 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.

5.2.4 Methodology

5.2.4.1 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.

5.2.5 Results

5.2.5.1 Desk study

There are records of slow worm, grass snake and common lizard within 2000m of the site, the closest record refers to a slow worm approximately 800m from the site.

5.2.5.2 Habitat assessment

The site is considered to be generally sub-optimal for reptiles as described in the summary section above.

5.2.6 Reptiles – evaluation

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

No reptiles were found throughout the course of the survey.

5.2.7 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. It is still possible that in the absence of mitigation, reptiles are likely to be killed or injured during the clearance for the site.

5.2.8 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.

5.2.9 Reptiles - mitigation measures

As long as reptile presence is assumed and site clearance us 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 (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 it is determined that some areas of the site are not suitable for hibernation, unless the ground is too wet for hibernation or temperatures are consistently above 12 for seven consecutive days;
- 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
- Either further surveys will need to be undertaken to rule out the presence of reptiles in the appropriate season or a viable Ecological Mitigation Strategy (MS) will need to be produced for reptiles.

5.2.10 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.

5.2.11 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**.

5.3 INVERTEBRATES

5.3.1 Summary

There are numerous records of invertebrate species within the records data search, due to the disturbance and habitats present on the site, it is considered that there will be a small number of common and widespread invertebrates present.

There are foodplants available for a range of species particularly within the site.

5.3.2 Ecology

Invertebrates are animals without spines or an internal skeleton, relying on their bodies to give them structure. There are over 40000 species of invertebrate in the United Kingdom, distributed across all terrestrial, aquatic and marine ecosystems. Their lifestyles are superficially at least similar; however, each genus has distinguishing characteristics, with each species within each genus having subtle differences resulting in each species occupying its own ecological niche.

Adults lay eggs which then hatch into larvae. The larvae then develop into adults. The processes involved in these three life stages are different from genus to genus and species to species and can be incredibly intricate, with sometimes very specific requirements, any interruption to which can cause any of the life stages can fail.

Adult animals generally have very specific food requirements, favouring single plant species or food source. Larvae and adults can be either plant eating or carnivorous dependent on species. The food source is a good indicator of how widespread a species may be: the more specific a food source, the more prone to range restrictions it may be.

Animals will generally be active during the spring, summer and autumn months and overwinter as eggs or larvae; some adults do go into hibernation over winter.

5.3.3 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 2017 (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 (LBAPs).

5.3.4 Methodology

5.3.4.1 Habitat assessment

The proposed development site was subject of a walkover to assess its potential to provide suitable habitat for invertebrates. The features looked for included:

- Presence of a mosaic of multiple habitats;
- Presence of structural diversity in the habitats present;
- Presence of bare ground;
- Presence of common and likely food plants;
- Site aspect; and
- Previous and current land use.

5.3.5 Constraints

There were no constraints to the walkover.

5.3.6 Results

5.3.6.1 Habitat assessment

There is a record of grayling less than 300m from the site.

There is a varied mosaic of habitats on the site. There is abundant invertebrate habitat within the surrounding areas.

Three are some food plants present on site for numerous invertebrates including section 7 species.

5.3.7 Invertebrates – evaluation

There are food plants on site suitable for a range of invertebrate species. Species present are likely to be common and widespread only due to the sites habitats.

5.3.8 Invertebrates - impact characterisation

It is considered that there will be a loss of grassland that may support common and widespread species and possibly some species mentioned on section 7 of the environment wales act. There is no devils bit scabious present on the site, so the site is unlikely to be capable of supporting marsh fritillary.

5.3.9 Invertebrates - impact assessment without mitigation

It is considered that there will be a ***possible minor short term*** adverse impact.

5.3.10 Invertebrates - mitigation measures

It is suggested the following measures are implemented as far as possible.

- Clearance is to be preferentially undertaken during the autumn and winter months
- Topsoil will be stripped, screened and stored ready for reuse in the landscaping areas
- Storage bunds will be no more than 1.8 high and firmed down well

5.3.11 Invertebrates - compensation measures

- The creation of new vegetated habitats
- The garden will be topsoiled with stored soil.
- Appropriate conservation management will be implemented.

5.3.12 Invertebrates - impact characterisation with mitigation

It is considered that there will be a ***short term minor adverse impact***.

5.3.13 Invertebrates - significance of the impact

Without mitigation

It is considered that the significance will be ***slight.***

With mitigation

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

6 CONCLUSION AND RECOMMENDATIONS

Overall the site is of a moderate ecological value at a local level due to the habitats present, and the species that may reside on the site.

Either further surveys will need to be undertaken to rule out the presence of reptiles in the appropriate season or a viable Ecological Mitigation Strategy (MS) will need to be produced for reptiles.

A method statement will be required for the dismantling of garage.

13cm x13cm gaps will be created at the bases of fences at the site boundaries to allow passage of hedgehogs across the site. Cautious working will be undertaken when clearing the site to prevent killing or injury to this species.

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.

A wildflower meadow will be planted within the garden of the properties to benefit invertebrates. The wildflower areas will be seeded with Emorsgate EM3 https://wildseed.co.uk/mixtures/view/4/special-general-purpose-meadow-mixture

Any proposed lawned areas will be seeded with EL1 – Flowering Lawn Mixture, this contains slow growing grasses with a selection of wild flowers that respond well to regular short mowing (https://wildseed.co.uk/mixtures/view/56).

Native planting will need to be included as part of the final design.

I hibernaculum for reptiles will be included within the final design.

The following sparrow terrace or similar will be integrated into the new properties https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box

The following bat block https://www.nhbs.com/bat-block?bkfno=246596&ca_id=1495&adlocale=uk&gclid=CjwKCAiAnO2MBhApEiwA8q0HYTrIItmUdfXSmZQgvmupqeYj1cFwdN5KLrnJOB2F_rfrsElNTpQV1BoCx1EQAvD_BwE or similar will be integrated in to the new properties

There will be no lighting of retained habitats , dark corridors will need to be implemented throughout the development to allow light intolerant species to continue using the site should they wish Any new lighting (internal or external will conform to the following guidelines: https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/ . There will also be dark routes for access to the integrated bat boxes. A plan showing the areas to be kept dark will be included.

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APPENDIX A - PHOTOS

PHASE 1 HABITAT SURVEY PHOTOS

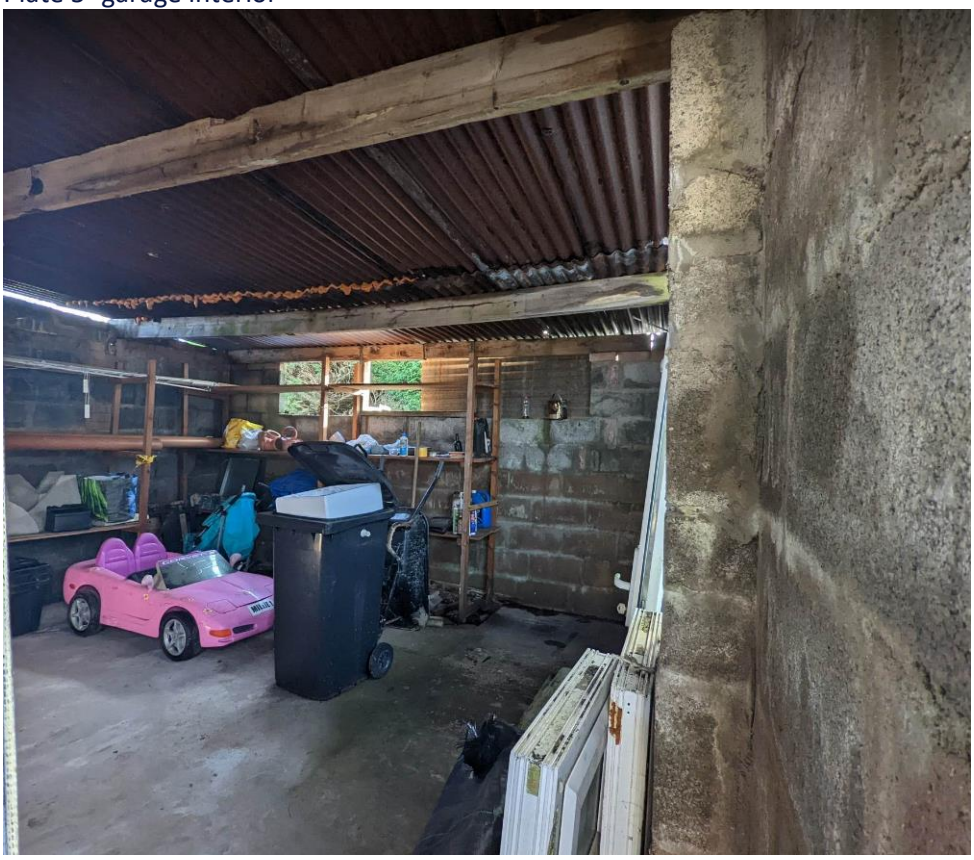
Plate 1- view of site looking west

Plate 2- stone wall along western boundary

Plate 3- view looking east

Plate 4- north elevation of garage

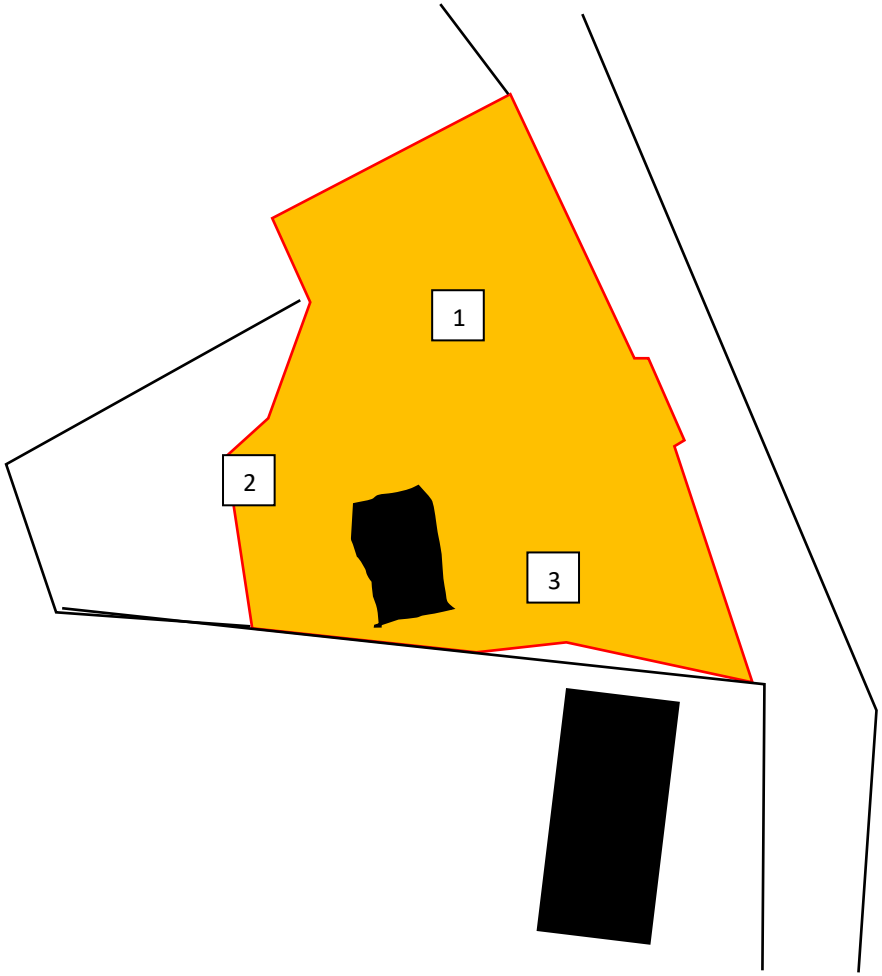
Plate 5- garage interior



APPENDIX B– SPECIES LIST

Springy turf moss, hedgebindweed, rosebay willowherb, great willowherb, red fescue, common nettle, rough and smooth meadow grass,cocksfoot, perennial ryegrass, ivy, ribwort plantain, thistle, meadow buttercup, common sorrel, broadleaved dock, curled dock, marsh thistle, greater plantain, perennial ryegrass,creeping thistle, soft rush, Bramble, rosebay willow herb, creeping bent, timothy, cocksfoot, ribwort plantain,
curled dock, common bent, , creeping cinquefoil, nettle, hard rush and soft rush, Japanese knotweed.

APPENDIX C – PHASE 1 MAP



KEY

1= Target notes (appendix d)

Building

Semi-improved grassland (with tall ruderal

Red line boundary

Hedgerow

APPENDIX D– Target Notes

1) Concrete
2) Stone wall
3) Storage containers