

Preliminary Ecological Assessment



Project: Land adjacent to The Paddocks, Bedlinog CF46 6UF

Instructed by: Mr M Keogh

Reported by: Ecological Services Ltd
10 Mount Pleasant, Llanelly Hill, Abergavenny, Monmouth NP7 0NT
Reported by

Author	Date	Version
Ash Harris	1 st November 2022	V1.0

T: 07305143857

E: ash@ecologicalservices.wales

W: www.ecologicalservices.wales

Contents

1. Introduction
2. Desk Top Study
3. Phase 1 Survey
4. Recommendations and Mitigation

Appendix

Species Recorded

Site Photographs

Habitat Map

Aerial View of Site

Invertebrate Assessment

1. Introduction

The applicant is seeking outline planning permission to develop a parcel of land adjacent to The Paddocks, Bedlinog. Proposals include the construction of an energy efficient detached residential dwelling. Exact details of the plans are currently unavailable. The site contains a mixture of grassland and bare stony ground with two mature oak trees.

This report will assess the potential of the land within the site boundary to support habitats and species and the implications that any future development proposals could have on them.

1.1 Site Description

The proposed development site lies in a rural location approximately 750m to the south of the village of Bedlinog in the Taff Bargoed Valley. The site is rectangular in shape, mainly flat, measures approximately 0.13ha and is centred at NGR SO 09296 00437. The height and level of the site has been increased using soil and stones (pers comm by landowner), as such near the south and east boundary, the ground slopes steeply down to the boundary. Adjacent to the east of the site is a selection of barns, stables, garages and a chalet type building all known as The Paddocks. A track borders the southern boundary which leads westwards up to a farm and south, down towards the B4255. The north and west boundaries lie adjacent to gently sloping grassland.

The surrounding habitat slopes downwards from west to east to the valley floor, habitats comprise grassland, areas of woodland and tree lines. There are three watercourses in the vicinity of the site. The main one, Taff Bargoed lies approximately 340m away to the east of the site at its nearest point. The Nant-y-Fedw is located approximately 195m away to the south of the site and an unnamed watercourse, approximately 105m away to the north of the site, both are tributaries of Taff Bargoed.

1.2 Survey Constraints

The site visit was undertaken in mid-October which is outside the optimum time to undertake phase 1 habitat surveys, while it was late in the season it was still possible to identify broad habitat types. All areas of the site were accessible.

1.3 Surveyor Experience

Vicky Hannaford completed the phase 1 survey of the site. Vicky is an ecologist with at least eight years' experience. She has worked in larger consultancies previously completing a wide range of flora and fauna surveys, completed professional training courses and attended

informal botanical meetings to gain valuable knowledge. This experience allows Vicky to assess and identify common habitats as per the JNCC Phase 1 Survey Guidelines. Vicky is also a licenced dormouse and great crested newt worker and holds licences from Natural Resources Wales for both species.

2. Desktop Study

A data search was undertaken via Aderyn (LERC Reference: 0223-571) for the proposed development site and surrounding area. A 2km buffer zone was searched and records returned within 500m of site are noted below:

- Several records of birds, including: - song thrush, skylark, linnet, cuckoo and curlew. Also included are Schedule 1 species – peregrine and red kite
- Bluebell approximately 168m away
- Common pipistrelle, soprano pipistrelle foraging, approximately 213m away
- Small heath (butterfly), approximately 213m away
- Brown/sea trout approximately 392m away

Records of note returned for the rest of the buffer zone are detailed below:

- Slow worm
- Hedgehog
- Numerous records of birds, including: - starling, house sparrow, spotted flycatcher, pied flycatcher, reed bunting, curlew, kestrel, black-headed gull. Schedule 1 species include barn owl, redwing, fieldfare, hen harrier.
- Bat roosts, common pipistrelle maternity roost, unidentified bat
- Badger
- Common frog
- Palmate newt
- Moths – broom, shaded broad-bar, buff ermine, ghost moth, shoulder stripped-wainscot, small square spot.
- Butterflies – wall, dingy skipper, pearl-bordered fritillary, small pearl-bordered fritillary,
- Otter
- Bats commuting/foraging – common and soprano pipistrelle, noctule, myotis species, serotine.
- Common toad

2.1 Protected Sites

A data search for species records was undertaken for the proposed development site and surrounding area. The search also considered statutory and non-statutory protected sites.

Statutory Protected Sites

There are no statutory protected sites within 2km of the proposed development site.

Non-Statutory Protected Sites

There are 7 Sites of Importance for Nature Conservation (SINC) within 2km of the proposed development site. The development site sits within the Cwm Fedw SINC which extends to cover a much larger area in the local landscape. The SINC is designated for a variety of habitat types including acid grassland on the upper slopes, neutral and marshy grassland on the lower slopes, woodland, bracken slopes, heathland, bog and flushes, watercourses and mosaics of habitats.

Details of the other SINC's and their approximate distance from the site are listed below: -

- Lower Cwm Bargod (337m)
- Cwm Bargod (352m)
- Cwmfelin Slopes (417m)
- Gelligaer Common (590m)
- Afon Bargod Taf (633m)
- Mynydd y Capel Common (928m)

There are several areas of Ancient Semi Natural Woodland within 2km of the site. These woodlands have been identified as Priority Areas by Natural Resources Wales (NRW) as they comprise mostly broadleaved native trees and shrubs believed to have been in existence for over 400 years. The nearest Ancient Semi Natural Woodland lies approximately 75m away to the south of the site.

NRW have also highlighted another Priority Area within 2km of the site - Ancient woodland site of unknown category – approximately 630m away to the north east

2.2 Potential Impacts to Protected Sites

The site lies within Cefn Fedw SINC, whilst exact details of the proposals are currently unknown, the proposed development will result in the loss of a small parcel of habitat within the SINC. Merthyr Tydfil Local Development Plan (LDP) has policies in place to protect local non-statutory sites: -

LDP Policy EnW3: Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves and Priority Habitats and Species

Paragraphs: -

6.6.28 Development which is likely to have an adverse impact on SINC's, RIGS, LNRs or Priority Habitats and Species will be required to demonstrate that every effort has been made to avoid and mitigate any adverse impacts and that the need for the development outweighs the nature conservation or geological value. Where on site mitigation is not possible or sufficient to prevent any adverse impacts, off-site compensation will be required. Off-site compensation will be secured through planning conditions or Section 106 agreements as appropriate.

6.6.29 As stated above biodiversity and/or geodiversity enhancement and the promotion of ecosystem resilience will be sought through the consideration of development proposals. Development proposals should therefore demonstrate how biodiversity and/or geodiversity interests will be maintained and where possible enhanced. Levels of mitigation and compensation should be appropriate and proportionate with the level of adverse impact and the scale of development.

LDP Policy AS6: Local nature conservation designations

Using published scientific criteria, Sites of Importance for Nature Conservation have been designated as shown on the LDP Proposals Map. Applications for development affecting these sites and /or the Cwm Taf Fechan Local Nature Reserve, will not be permitted unless full account has been taken of the relevant features so as to prevent damage to their conservation value. Where appropriate, planning conditions or a planning agreement will be employed to safeguard and /or enhance features, or to provide appropriate mitigation and /or compensatory measures.

Suitable mitigation and compensation measures will be required for any loss of SINC habitat.

3. Phase 1 Survey

3.1 Habitats

A walkover survey of the site was completed on 18th October 2022. All areas of the site were accessible. A species list can be found in Appendix 1, photographs of the site can be found in Appendix 2 and a map of the habitats found within the site is provided in Appendix 3.

Notable Plant Species

There are two records of bluebell (*Hyacinthoides non-scripta*), within 2km of the site, the nearest approximately 168m away within Cwm Fedw SINC. Bluebell is a Schedule 8 species under the amended Wildlife & Countryside Act 1981 and is protected from picking, uprooting or destruction and selling. Bluebell is not present within the site.

The height and level of the development site has been increased in the past using stones and topsoil. Vegetation has since established across the site, as detailed below. The site is dominated by **semi-improved grassland** with vegetation cover most dense in the south of the site. Grass species present across the site include Yorkshire fog, the most dominant species, with crested dog's tail, annual meadow-grass, perennial rye grass and a species of fescue. Other flora present, particularly in the south of the site, include broad leaved dock, creeping buttercup, spear thistle, a species of willowherb, ribwort plantain, clover and common cat's ear.

The northern half of the site appears wetter, with less dense vegetation and areas of **short perennial vegetation**. Stony substrate is visible within the vegetation in this area. Species recorded comprise occasional soft rush, **sneezewort**, trailing tormentil, **lesser spearwort**, marsh thistle and **greater bird's foot trefoil**. The species highlighted are associated with marshy grassland, likely remnants of previous habitat type. The area has been mapped as short perennial vegetation due to the stony substrate present and short vegetation heights.

There are two **scattered trees**, both mature oaks, located near the southern boundary of the site.

Site boundaries to the north, south and west comprise **post and wire fencing** while to the east the boundary comprises concrete panels. Adjacent to the western boundary there is a **ditch**, which at the time of the survey contained water to a depth of a couple of centimetres at most.

3.2 Great Crested Newts

Great crested newts (*Triturus cristatus*) are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Deliberate taking or destroying of eggs,
- Damage or destruction of a breeding site or resting place.

Great crested newts (GCN) are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a great crested newt. Great crested newt and common toad are listed in section 7 of the Environment (Wales) Act 2016 which makes them key species to sustain and improve biodiversity.

There are no records of Great Crested Newt (GCN) within 2km of the site.

No ponds are present within the proposed development site; nearest waterbody lies approximately 1630m away to the south of the site. The site is considered to have low potential to support GCN within their terrestrial phase, it is considered the grassland habitat would not provide enough cover or suitable hibernation opportunities. Due to the lack of nearby records and unsuitability of habitat it is considered GCN are not present within the site. **No further recommendations will be made for this species.**

3.3 Dormouse

The dormouse (*Muscardinus avellanarius*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Dormouse is listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a native

dormouse. Dormouse is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

There are no records for dormouse within 2km of the site.

Habitats within the site are considered unsuitable for dormouse as the site is dominated by grassland. Grassland provides no shelter from predation and limited foraging habitat for Dormouse. Due to the lack of records and generally unsuitable habitat It is considered unlikely dormouse is present within the site. **No further recommendations will be made for this species.**

3.4 Bats

All British bats are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Schedule 5 of The Wildlife and Countryside Act (1981) also protects all species of British bat and their roosting locations. British bats are protected from intentional or reckless disturbance and or obstruction of their roosting places. Barbastelle, Bechstein, noctule, brown long eared, common pipistrelle, soprano pipistrelle, greater horseshoe and lesser horseshoe bats are also listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

Trees

Trees within the site boundary were subject to ground level assessment for the likely potential presence for bats during the phase 1 survey. Any trees felt to have potential for roosting bats would be subject to a further detailed survey following current BCT Guidelines (2016).

The two mature oaks trees within the proposed development site boundary appear in good condition. Some limb removal has taken place in the past. No gaps, splits or cracks were observed within either tree during the site visit. Whilst it is appreciated that the trees were still in leaf at the time of the survey visit it was possible to see all around each tree and into the canopy.

Buildings

There are no buildings within the site boundary.

Consideration must be given to bats during proposed development works and post development within the site. The site is considered suitable for foraging use by a very small number of common bat species based on the size of the development site and open nature of the habitats. **Recommendations with regard to bats and lighting are included in Section 4 of this report.**

3.5 Otters

The common otter (*Lutra lutra*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Otter is listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale an otter. Otter is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

There are two records for otter within 2km of the site, the nearest approximately 1085m away to the north of the site, dated 2000. The record is of a live sighting and given as a four figure grid reference so could be anywhere within the 1km square.

Otters tend to prefer secluded locations for their holts to help prevent them being disturbed by other animals. It is accepted that otters can travel long distances from river corridors to find acceptable holt sites. The nearest watercourse, an un-named tributary of the Taff Bargoed lies approximately 105m away to the north of the site. The site is open and exposed with no suitable habitat, e.g. dense scrub/exposed tree roots, for use by otter as a holt/resting place. As such it is considered unlikely otter are present within the site. **No further recommendations will be made for this species.**

3.6 Badger

Badgers are protected under the Protection of Badgers Act 1992. In summary they are protected from:

- Taking, killing or injuring;
- Cruelty;

- Interfering with a badger sett;
- The selling and possession of badgers;
- Marking or ringing.

Badgers are also listed on schedule 6 of the Wildlife and Countryside Act 1981 as amended.

Badgers tend to have a variety of setts with different uses and functions within the territory for the family unit. In general, there is usually a main sett which the family will use the most. There are then annex, subsidiary and or outlier setts which depending on family structures and environmental pressures may be used at different times of the year. As female badgers tend to have their cubs over winter the disturbance and damage of badger setts is prohibited between December and June inclusive. NRW are the licensing body for any actions which may contravene the above legislation.

There are 2 records for the presence of badger within 2km of the proposed development site, the nearest approximately 708m away to the north of the site, dated 2009, there are no details given with the record. Badgers favour a dry sloping site for digging their setts preferably within woodland or even under a large hedgerow bank. Badgers are creatures of habit and tend to follow regular pathways between their setts and foraging grounds,

The site is mainly flat and deemed unsuitable for use by badgers for sett digging, particularly in the northern half of the site where the ground is wetter. There was no evidence of the presence of badger, latrine or digging, or evidence of regular pathways, found within the proposed development site. The site is located in a rural environment, with the immediate and wider landscape sloping with areas of woodland. The presence of badger within the vicinity and occasional use of the site for commuting and foraging cannot be ruled out. **No further surveys or recommendations are made for badger.**

3.7 Birds

All breeding birds are protected under schedule 1 of the Wildlife and Countryside Act (1981) as amended. Under this Act it is an offence to:

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.

Enhanced protection is afforded to species listed on Schedule 1 of the Act; this additional protection makes it an offence to:

- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Nesting opportunities occur in the mature oaks with foraging opportunities likely across the site. It is anticipated the trees will be retained as part of any development works. A child's swing attached to the larger of the oak trees would suggest it is unlikely ground nesting birds would take advantage of the site as they would be subject to disturbance.

Should future plans include the removal of the trees precautionary measures for nesting birds will need to be put in place before any vegetation clearance takes place and are included in the recommendation section of the report. In addition, **nesting opportunities will be need to be incorporated into the any proposed plans for the site.**

3.8 Reptiles and Amphibians

Reptile such as the slow worm, common lizard, adder and grass snake are protected under the Wildlife and Countryside Act 1981(as amended). They are protected from killing, injuring and sale. They are also listed in section 7 of the Environment (Wales) Act 2016.

The four widespread species of amphibian i.e. the smooth and palmate newts, common frog and common toad, are protected under the Wildlife and Countryside Act 1981(as amended) by Section 9(5) of the Wildlife and Countryside Act 1981. This section prohibits sale of these species. Our common native amphibians are only protected from sale.

There are 3 records for reptiles, all for slow worm, with all records associated with Cwmfelin Slopes, the nearest 525m away dated 2020. Common frog, palmate newt and common toad have all been recorded approximately 718m, 939m and 1085m away respectively.

Reptiles prefer a mosaic of habitats with diverse vegetation structure creating open areas and nearby cover to provide protection from predators and the elements. The site offers low potential to support reptile species, the longer grass offers some cover and basking opportunities occur on the bare stony ground. Movement across the site to and from adjacent habitat is likely as the boundaries are mainly post and wire fencing allowing unhindered access.

Given the small overall size of the development site, adjacent suitable habitat for reptile use to the north and west and the likely landscaping to be provided within the site as part of any development proposal, It is recommended that the presence of a low number of common reptile species is assumed within the site boundary. Reptile surveys are not recommended in this instance as the site is considered to have potential for use by a small number of reptiles during the summer months only. Given the small overall size of the site current quality of

the habitat only a small number of reptiles are likely to be present within the site as well making detection via refugia surveys difficult due to low population densities.

It is recommended that a series of species deterrence measures will be adequate in respect of reptiles and common amphibians such as toad or frog as part of any future development works. **The provision of enhancement measures suitable for reptiles within any future development designs will also be required.** Further details can be found in Section 4 of this report.

3.9 Other Mammals

There are 7 records of hedgehog within 2km of the site, the nearest approximately 545m away to the north of the site dated 2019 and is of a live sighting. The presence of hedgehog within the site cannot be ruled out at least on occasion. Hedgehog is listed in Section 7 of the Environment (Wales) Act 2016, as such, consideration must be given to this species in any plans proposed for the site.

3.10 Invertebrates

There 31 records of invertebrates within 2km of the site, the nearest and most recent are from 799m away of small heath butterfly and date from between 1994 and 2007.

The site was assessed for invertebrates using the Invertebrate Habitat Potential Assessment (IHPA) as found in CIEEM inpractice Issue 112, June 2021. The IHPA protocol has been produced to allow ecologists without entomological expertise to identify key habitats and features likely to support important invertebrate assemblages. Full details of habitat elements, grades and assessment can be found in Appendix 5.

Based on the Invertebrate Habitat Potential Assessment (IHPA) the site, in its current state, is considered to have potential to support common and widespread generalist species of invertebrate.

Recommendations will be made for any soft landscaping and future management measures within the proposed development to include native species particularly to attract species of invertebrate.

4. Recommendations and Mitigation

The exact details of the plans are not currently available. However it is understood a single residential dwelling is proposed for the development site. The site currently consists of two mature oak trees, semi improved grassland and short perennial vegetation.

The proposed development site sits within Cwm Fedw SINC. Adequate compensation must be put in place to compensate for the loss of habitat within the SINC. Regardless of the current quality of the habitat within the proposed development site compensation for habitat loss designated as a SINC is required. The development proposals will need to demonstrate that reasonable steps have been taken to retain and enhance the quality of remaining habitat within the site boundary. For example, hedgerow planting instead of hard boundary features would be welcome. The creation of a pond within the site boundary would also be a welcome enhancement for local wildlife.

If appropriate on site compensation and biodiversity enhancements cannot be delivered as part of the scheme, off site compensation will be required. Off site compensation could take the form of habitat management to create wetter rush pasture or ponds. Compensation could also take the form of improving the habitat management measures of a currently poor quality habitat within the local area as well, e.g. lowering grazing or mowing intensity of grassland to allow a more diverse sward to establish.

Consideration to the need for further botanical surveys of the site during the summer months has been given. An NVC survey of the development site would provide detail on the habitat quality of the land designated as a SINC. This detail could be helpful in designing adequate mitigation and compensation measures for habitat loss. However, given the disturbance the site has been subject to in recent years it is thought an NVC or further surveys in the summer months would not provide useful additional information.

It is anticipated that the majority of habitats within the site will be lost or temporarily disturbed. Recommendations for the site aim to ensure the proposed development does not have a negative impact on biodiversity. **Once design details have been finalised further ecological input is likely to be required.** Our broad recommendations are made below: -

- The site lies within Cwm Fedw SINC. Measures must be taken to reduce habitat loss within the site boundary. If appropriate compensation for habitat loss cannot be achieved within the site boundary, off site compensation will be required.
- The site is considered suitable for a small number of common reptile species . A reptile mitigation strategy, which is agreed with the LPA ecologist, will be required to support the proposed development. Measures suitable for reptiles should be

included within the design to allow movement across the site post development. A reptile mitigation strategy should include, but not be limited to:

- Habitat clearance measures such as sensitive timings of works and a two stage vegetation cut and destructive searching of roots if required.
- Habitat clearance will aim to push any reptiles which may be present into the north and west of the site where access to the wider landscape can be achieved.
- Timings of works to avoid reptile hibernation period, November to March inclusive.
- The two mature oak trees are to be retained where possible as they provide shelter and nesting opportunities for birds and small mammals.
- A root protection zone (RPZ) must be implemented around any retained trees within the site and any trees which lie adjacent to the boundaries of the proposed development site, British Standard BS 5837, *Trees in relation to design, demolition and construction - Recommendations* will be followed. Measures will include clear marking of the RPZ to guarantee no machinery is used or digging carried out in that area. This will ensure that there is no detrimental impact to the trees and the flora or fauna it supports.
- The mature trees have potential for use by nesting birds. Any vegetation removal must be completed outside of the bird nesting season of March to August inclusive. If this is not achievable an ecologist must inspect any scrub or ground vegetation with the potential for birds to be present for active birds' nests prior to removal works beginning. If an active nest is identified a buffer zone of 5m around the nest must be observed until the chicks have fledged. Only then can the vegetation be removed. Greater buffer zones around nests may be required depending on the species and habitat the nest is within.
- Careful consideration must be given to the use of lighting within the developed site, as this can adversely affect activity by a variety of fauna, particularly foraging bats, nesting birds and invertebrates. Light spillage into the wider landscape must be avoided and brightness kept to the lowest permissible level in the areas adjacent to such habitats.
- All lighting must meet recommendations in the BCT Guidance Note 08/18 Bats and artificial lighting in the UK document <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>
- All machinery and construction materials will be kept within a securely fenced and locked construction compound overnight. This will reduce the potential for mammals to shelter in any materials or machinery that could harm them.

- All excavations within the site will be securely covered over if left unattended. Any excavations that have a depth in excess of 0.5m and that are left open overnight will have a means of escape left for any mammals (e.g. badger, hedgehog) that may fall into them. A wooden board or equivalent will be left from the bottom to the top of the hole at an angle no steeper than 45°. This will allow any mammal to escape and avoid increased stress from being trapped.

The Environment Act (Wales) 2016 places a duty on competent authorities such as Merthyr Tydfil County Borough Council to conserve and enhance biodiversity. The below bullet points are some simple measures that could be achieved to enhance the biodiversity of the site:

- The provision of bird boxes of varying design to be incorporated into the newly constructed dwelling or within suitable trees across adjacent land in the ownership of the client. Boxes should be located as high as possible, i.e., as close to the eaves as possible.
- The provision of bat boxes, integrated into the newly constructed dwelling or within suitable trees across adjacent land in the ownership of the client. Boxes should be located as high as possible i.e., as close to the eaves as possible.
- The use of native species within any proposed soft landscaping works on the site.
- All fencing within the site will be hedgehog friendly in design. A friendly design is considered to allow passage of small animals across the site. It should provide either a continuous gap of at least 13cm between the bottom of the fence and ground, alternatively 13cm by 13cm gaps can be cut every 3m along fencing.

Appendix 1 – Plant Species Recorded

Species	Common Name
Trees & Scrub	
<i>Quercus</i> sp.	oak
Herbaceous Plants	
<i>Achillea ptarmica</i>	sneezewort
<i>Bellis perennis</i>	daisy
<i>Cirsium palustre</i>	marsh thistle
<i>Cirsium vulgare</i>	spear thistle
<i>Cynosurus cristatus</i>	crested dog's-tail
<i>Epilobium</i> sp	willowherb species
<i>Festuca</i> sp	fescue
<i>Holcus lanatus</i>	Yorkshire fog
<i>Hypochaeris radicata</i>	common cat's-ear
<i>Juncus effusus</i>	soft rush
<i>Lolium perenne</i>	perennial rye-grass
<i>Lotus pedunculatus</i>	greater bird's-foot-trefoil
<i>Plantago lanceolata</i>	ribwort plantain
<i>Potentilla anglica</i>	trailing tormentil
<i>Prunella vulgaris</i>	self heal
<i>Ranunculus flammula</i>	lesser spearwort
<i>Ranunculus repens</i>	creeping buttercup
<i>Rumex obtusifolius</i>	broad-leaved dock
<i>Trifolium</i> sp	clover

Appendix 2 – Site Photographs



Site looking north



Site looking south with mature oak trees



Site looking east



Site looking west



Bare, stony ground



Steep slope down to eastern boundary



Slope down towards east boundary



Slope down towards south boundary

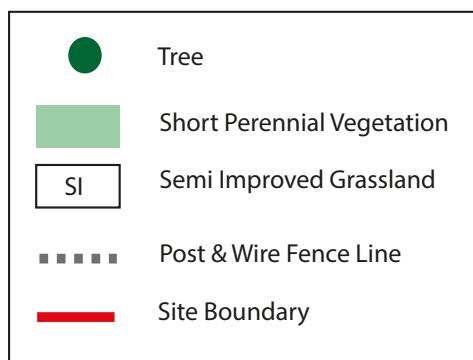
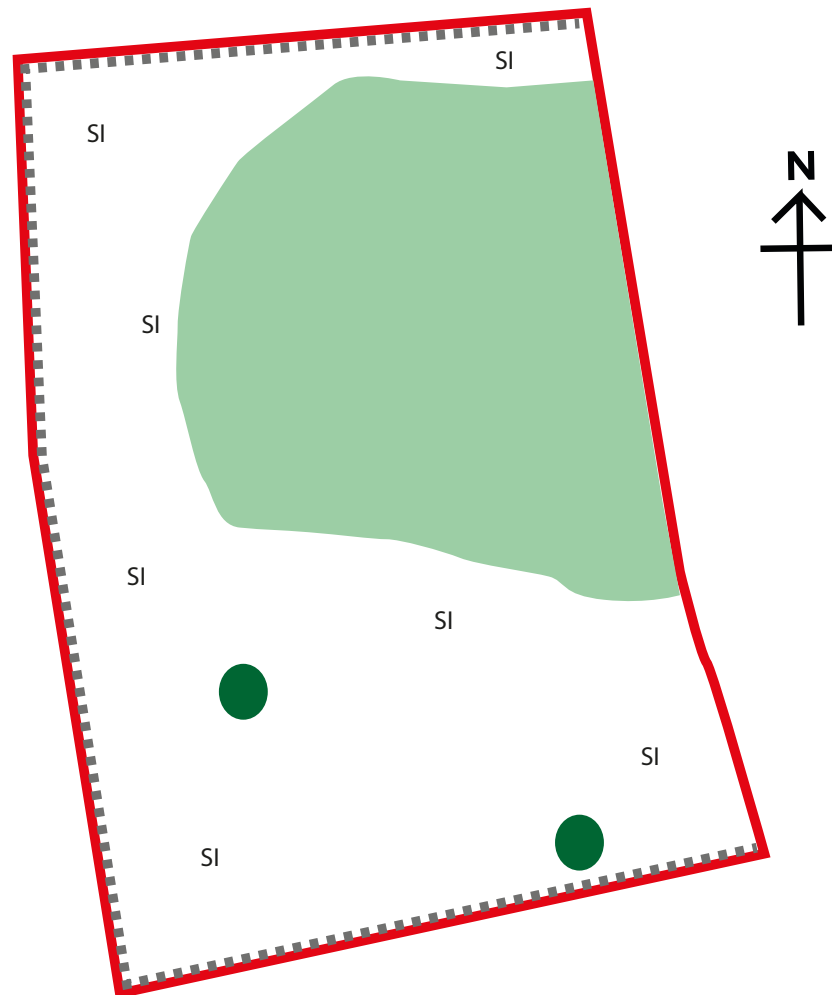


Extent of stony ground with sparse vegetation



Ditch adjacent to western boundary

October 2022



Appendix 4 - Aerial View of Site Location



Appendix 5 – Invertebrate Habitat Potential Assessment

Table 1. Summary of the 11 habitat elements assessed by IHP survey.

Habitat element	No.	Comments
Decaying Wood	HE1	In all its forms; from decaying wood on/in large trees to woodland floor debris
Rotational Management	HE2	Planned or serendipitous; and whether for nature conservation or other purposes
Nectar Resources	HE3	As a proxy for nectar- and pollen resources, as assessment of pollen resources is impracticable on a walk-through survey
Wet Substrates	HE4	Including marginal, marshy, muddy and seasonally inundated habitats, as well as flushes
Open Water Habitats	HE5	The open water element of rivers, lakes, ponds, streams, ditches, etc.
Structural Patchwork	HE6	Habitat mosaics, including, but by no means restricted to open mosaic habitats on previously developed land
Still Air (S)	HE7	Suntraps and still-air microclimates in open situations; the term 'still air' is used in preference to 'wind breaks' as many rigid wind breaks are likely to produce turbulent air in their lee
Still Air (H)	HE8	Humid still-air microclimates in sheltered and shaded situations
Connectivity	HE9	Landscape-scale connectivity between the site and external habitats
Ecoclines	HE10	A graded transition between two or more broad habitats
Bare Earth	HE11	Unshaded bare or sparsely vegetated well-drained substrate, regardless of soil type

Table 2. Grading system applied to habitat elements.

Grade	Description
Negligible/Absent (E)	Habitat element is absent or of insignificant (barely perceptible) quantity.
Minor (D)	Habitat element is present but is insufficient quality to qualify as Moderate or above. For example, it may be of extremely limited extent, or very sparsely dispersed. Likely to support common and widespread, generalist species.
Moderate (C)	A clear example of the habitat element is present, but which does not qualify as Major. Likely to be of sufficient quality to support a characteristic invertebrate fauna.
Major (B)	Good quality examples of each habitat element which do not meet the criteria for Exceptional. Likely to be a predominant factor in supporting characteristic and specialised invertebrate assemblages. Considerations might include the extent, maturity and historic and current connectivity of the element.
Exceptional (A)	Very high-quality examples of the habitat element, including but not restricted to those of potential regional significance. This may be for reasons of intrinsic quality, rarity, vulnerability or the perceived importance of its position in the wider landscape.

Assessment 18.10.2022

Habitat Element	Grade
Decaying Wood – HE1	E – Negligible/Absent
Rotational Management – H2	E – Negligible/Absent
Nectar Resources – H3	D - Minor
Wet Substrates – H4	D – Minor
Other Water Habitats – H5	E – Negligible/Absent
Structural Patchwork – H6	E – Negligible/Absent
Still Air (S) – H7	D - Minor
Still Air (H) – H8	D – Minor
Connectivity – H9	C – Moderate
Ecoclimes – H10	E – Negligible/Absent
Bare Earth – H11	D - Minor