



Preliminary Ecological Assessment

Proposed New Build Dwelling
1 Ffordd Dinas
Cwmavon
Neath Port Talbot
SA12 9BS

DKEcology
20 Glanymor Road,
Loughor,
Swansea,
SA4 6SA

Tel: 01792 410407

Email: dkearsleyevans@gmail.com

In association with

Glaswellt Ecology
Cân yr Adar,
Tir y Gafel,
Glandwr,
Whitland
Pembrokeshire,
SA34 0YD

Tel: 01994 419110

Email: leanderjw@gmail.com

Subject	Date	Author
1 st Draft report for review	25th March 2021	Leander Wolstenholme
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Executive Summary

- DKEcology were commissioned to undertake a Preliminary Ecological Assessment at 1 Ffordd Dinas, Cwmafon, Neath Port Talbot (Grid ref: SS 77753 92223) to determine the ecological constraints and opportunities associated with a proposed new build dwelling within a large suburban garden.
- There are no statutory designated sites within 2km of the proposed development. There are three Sites of Importance for Nature Conservation (SINC) within 1 km. These are Cwmafon Green Corridor, Hawthorn Close and Neath Port Talbot Watercourses. The proposed development will have a negligible impact upon these sites.
- Two non-native invasive plant species listed under schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were noted growing on the site: two small patches of monbretia and one plant of Himalayan cotoneaster. It is recommended that these are eradicated from the site if the areas where they are growing are to be disturbed by the development. Himalayan honeysuckle, whilst not listed under schedule 9, is also recognised as an invasive species and it is recommended that this is also eradicated from the site prior to the onset of works.
- Any tree, shrub or hedgerow clearance needs to take place outside of the bird nesting season (March- August inclusive). If clearance has to be undertaken during the bird breeding season, a suitably qualified ecologist must conduct a nest check prior to clearance.
- To allow the movement of hedgehogs in and out of the site any new boundary treatments should not be flush to the floor. If this is not possible a series of suitably sized gaps (13cm x 13m) should be strategically placed intermittently along any new boundary treatment.
- It is recommended that a precautionary approach needs to be taken with respect to reptiles and amphibians if any brash piles, walls or piles of stone are to be dismantled as part of the works.
- There is a birch tree at the south-eastern corner of the garden. No obvious bat roosting features were noted in this tree although it is covered with a dense growth of ivy. Any works to this tree should be undertaken with extreme caution and a soft felling approach is recommended.
- To provide biodiversity enhancement, it is recommended that a house sparrow terrace nest box is incorporated into the design of the new build and that boundary areas are planted with locally-sourced, native, berry and seed bearing woody species to provide foraging opportunities for local wildlife.
- It is recommended that appropriate measures are taken to prevent harm to wildlife and the surrounding landscape during the construction phase.

1.0 INTRODUCTION

- 1.1 DKEcology undertook a preliminary ecological assessment at 1 Ffordd Dinas, Cwmafon, Neath Port Talbot SA12 9BS.
- 1.2 **Timing-** preliminary ecological assessment: 19/03/2021
Surveyor – Leander Wolstenholme
- 1.3 **Reasons for survey** – to establish the ecology of the site and to identify the habitats and species associated with, and near, the site. This information will be used to highlight the ecological constraints and opportunities for development on site. A Preliminary Ecological Assessment identifies further detailed surveys that will be required to bring the information on the site up to the level required to obtain planning permission. This additional survey work may be required to finally fulfil the developer's obligations in respect of the ecological sensitivities on the land and may require application for licences associated with protected species e.g. bats and badgers.

Site Location and Brief

- 1.4 The site is located within the large village of Cwmafon, approximately 3km north east of the town of Port Talbot and 6km south east of the town of Neath. The town of Maesteg lies some 8km to the west. The site itself is a domestic garden adjacent to an existing dwelling. (Grid ref: SS 77753 92223) (see Figures 1 & 2 below)
- 1.5 The site is situated within a suburban setting, along a street composed of houses with gardens front and back. Beyond this suburban housing extends in all directions. The hill, Foel Fynyddau, stands above the northern edge of the village and the landscape there is composed mostly of hedgerow-lined pasture. The River Afan runs in a north east to south west direction along the southern boundary of the village some 400m to the south of the proposed development site.



Figure 1: Site Location: 

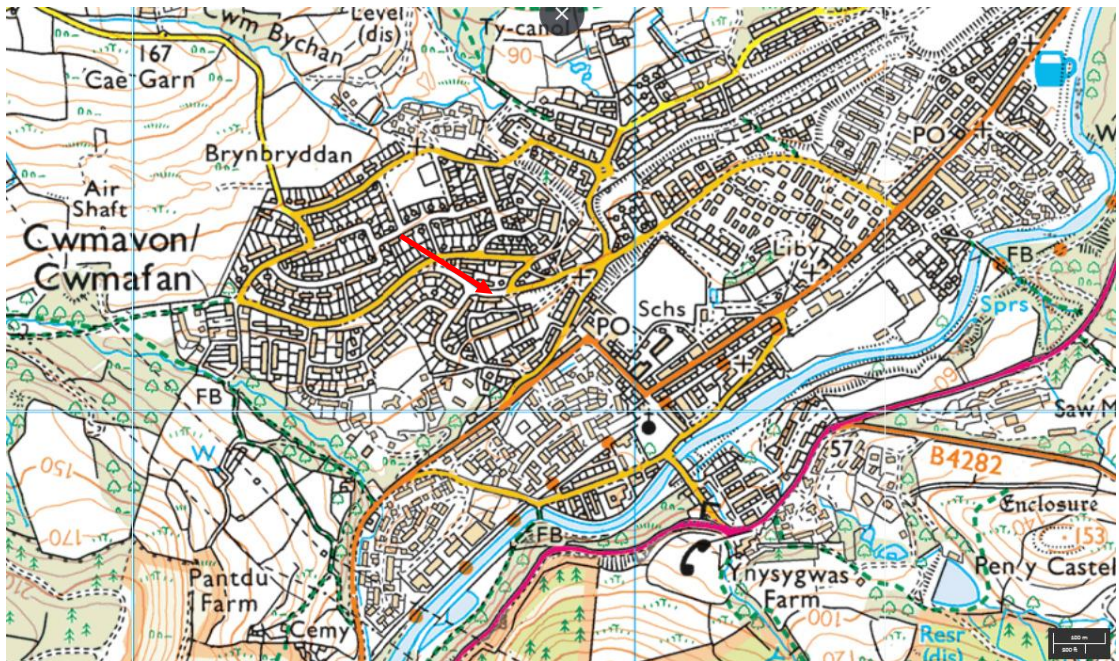


Figure 2: Site Location (red arrow)

1.6 The survey area can be seen in Figure 3.



Figure 3: Survey Area (within the red line)

- 1.7 The survey area is approximately 0.04ha.

Background to the activity/development

- 1.8 The proposed development is to build a new dwelling in the garden area of an adjacent, existing dwelling.
- 1.9 As such DKEcology were commissioned to undertake a Preliminary Ecological Assessment of the site to identify any apparent or potential ecological constraints to, or opportunities arising from development on the site and provide recommendations, as appropriate, to enable compliance with planning policy and wildlife legislation.

Survey Objectives

- 1.10 The objectives are:
- Identify designated nature conservation sites on or within proximity to the Project Site.
 - Identify known records of protected or notable species within proximity to the Project Site.
 - Identify and categorise the main habitats and features of ecological interest present within the Project Site.
 - Appraise the potential for protected or notable species of fauna and flora.
 - Provide advice on potential ecological constraints and opportunities on or within proximity to the Project Site.
 - Identify the requirement for further habitat and species surveys.
 - Make recommendations for requirements to avoid and mitigate ecological impacts as well as opportunities for biodiversity enhancements.
 - Provide a map showing the Phase 1 habitats on the Project Site and features of ecological interest.
- 1.11 The purpose of the report is to demonstrate which habitats and species are present on site and whether further detailed survey work is necessary in order to understand the full ecological impact on the protected species and the Project Site.

2.0 PLANNING POLICY AND LEGISLATION

- 2.1 The following local and national planning policy relating to nature conservation and biodiversity are considered of relevance to the current proposal.
- 2.2 Certain species of animals and plants found in the wild in the UK are legally protected from being harmed or disturbed. These species, including all bat species, are listed in the Wildlife and Countryside Act 1981 (as amended) or are named as European Protected Species (EPS) in the Conservation of Habitats and Species Regulations 2017.
- 2.3 There is also legislation that legally protects certain animals - for example, the Protection of Badgers Act (1992) protects badgers and their setts, and the Deer Act (1991) places restrictions on actions that can be taken against deer species.

Planning Policy Wales and Technical Advice Note 5

- 2.4 This document sets out the land use planning policies of the Welsh Assembly Government, with Chapter 5 dealing with Conserving and Improving Natural Heritage and the Coast. The advice contained within Planning Policy Wales (PPW) is supplemented for some subjects by Technical Advice Notes (TANs).
- 2.5 TAN 5 (Welsh Assembly Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.
- 2.6 Under Section 2.4 within the TAN 5, ‘when deciding planning applications that may affect nature conservation local planning authorities should’:
- Pay attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long-term perspective;
 - Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
 - Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
 - Ensure that appropriate weight is attached to designated sites of international, national and local importance;
 - Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
 - Ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation;
 - Ensure that the range and population of protected species is sustained;
 - Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered;

Wildlife & Countryside Act 1981

- 2.7 The Wildlife & Countryside Act 1981 (as amended) is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part I within the Act deals with the protection of wildlife.

- 2.8 The provisions relating to animals in the Act only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity.
- 2.9 There are 'defences' provided by the legislation. These are cases where acts that would otherwise be prohibited by the legislation are permitted. Notably these allow things to happen that are reasonable, unpredictable and unavoidable, such as running over a badger on the road.
- 2.10 Section 13 identifies measures for the protection of wild plants. It prohibits the unauthorised intentional uprooting of any wild plant species and forbids any picking, uprooting or destruction of plants listed on Schedule 8. It also prohibits the sale, etc, or possession for the purpose of sale of any plants on or parts or derivatives of Schedule 8 plants. It provides certain defences, e.g. provision to cover incidental actions that are an unavoidable result of an otherwise lawful activity.
- 2.11 Licensing: certain prohibited actions under the Wildlife and Countryside Act may be undertaken under licence by the proper authority. For example, scientific study that requires capturing protected animals can be allowed by obtaining a licence. Trade in the more widespread species is also permitted if licensed.

Conservation of Habitats and Species Regulations 2017

- 2.12 The Conservation of Habitats and Species Regulations 2017 (which are the principal means by which the EC Habitats Directive is transposed in England and Wales)) update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994.
- 2.13 These regulations provide for the designation and protection of domestic and European Sites (e.g. Site of Special Scientific Interest [SSSI] and Special Area of Conservation [SAC]) the protection of European Protected Species (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) and the adaptation of planning controls for the protection of such sites and species.
- 2.14 Under the regulations, public bodies (including the Local Planning Authority) have a duty in exercising their functions to have regard to the EC Habitats Directive.
- 2.15 Licensing: certain prohibited actions under the Regulations may be undertaken under licence by the proper authority. For example, where a European Protected Species (EPS) has been identified and the development risks intentionally, recklessly or deliberately affecting an EPS, then a 'development licence' may be required.

3.0 METHODOLOGY

3.1 A Preliminary Ecological Assessment involves a basic assessment of the ecological features present, or potentially present, within a site and its surrounding area. The survey normally comprises of a desk top study and a walkover survey.

3.2 All survey work was undertaken in accordance with current and appropriate guidelines for ecological surveys by an experienced ecologist with particular reference to the advice in CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

Desktop study

3.3 A data search was undertaken for records of protected species, species of conservation concern, locally important species, within 1km of the site using the data held at the South East Wales Biodiversity Record Centre (SEWBRc).

3.4 DEFRA's MAGIC website (DEFRA, 2018) was used to locate designated wildlife sites within 2km of the plot. Any designated sites were noted along with the reasons for the designation.

3.5 Aerial/satellite photographs were also consulted to identify habitats on and adjacent to the plot.

Walkover survey

3.6 The walkover survey was carried out on the 19th March 2021 by Leander Wolstenholme of Glaswellt Ecology, an experienced ecologist. The survey involved walking over all areas of the plot and adjacent land up to 20m, where possible, beyond the site boundary.

3.7 The survey involved:-

- Noting and mapping the habitat types present (Phase 1 habitat survey).
- An assessment of the possible presence of protected or priority species, and (where relevant) an assessment of the likely importance of habitat features present for such species.
- Noting and mapping of any stands of non-native invasive plant species.
- Recording of any incidental sightings of priority or protected species, or field signs of such species.

3.8 The species groups considered included:-

- Plants
- Fungi
- Terrestrial and aquatic invertebrates
- Fish (where relevant, based on an assessment of any watercourses and water bodies present);
- Amphibians (including both breeding and terrestrial habitat)
- Reptiles

- Breeding, wintering and migratory birds
- Bats (including potential roost sites, and foraging and commuting habitats/features)
- Other protected or priority mammal species, as relevant.

3.9 The weather was dry and still at the time of survey.

Survey limitations

- 3.10 A daytime Preliminary Ecological Assessment is primarily used to assess the habitats/species present or that may potentially be present on site. The site is also assessed in association with its location within the context of both its immediate environs and the wider landscape. This assessment is based subjectively on the surveyor's knowledge and experience. Although every effort is made to record the species and habitats currently using the site or that have the potential to use the site. Depending on the time of year that the survey is carried out some species may be missed as they have not yet emerged or are not currently using the site.
- 3.11 All areas of the plot were able to be inspected and viewed adequately by the surveyor. It was not possible to survey some of the area 20m surrounding the survey area (the red line boundary shown in Figure 3.) as permission had not been granted to do so in the adjacent gardens. However, most of the 20m perimeter was searched for signs of badger activity.
- 3.12 The walkover survey was carried out in mid March. This is a sub-optimal time of year for this type of survey. However, the survey was undertaken by a skilled botanist with many years of experience who was able to identify the key species, even at that time of year.

4.0 RESULTS

Desktop Study Aerial Photographs



Figure 4: Aerial photograph showing surrounding habitats. Site: 

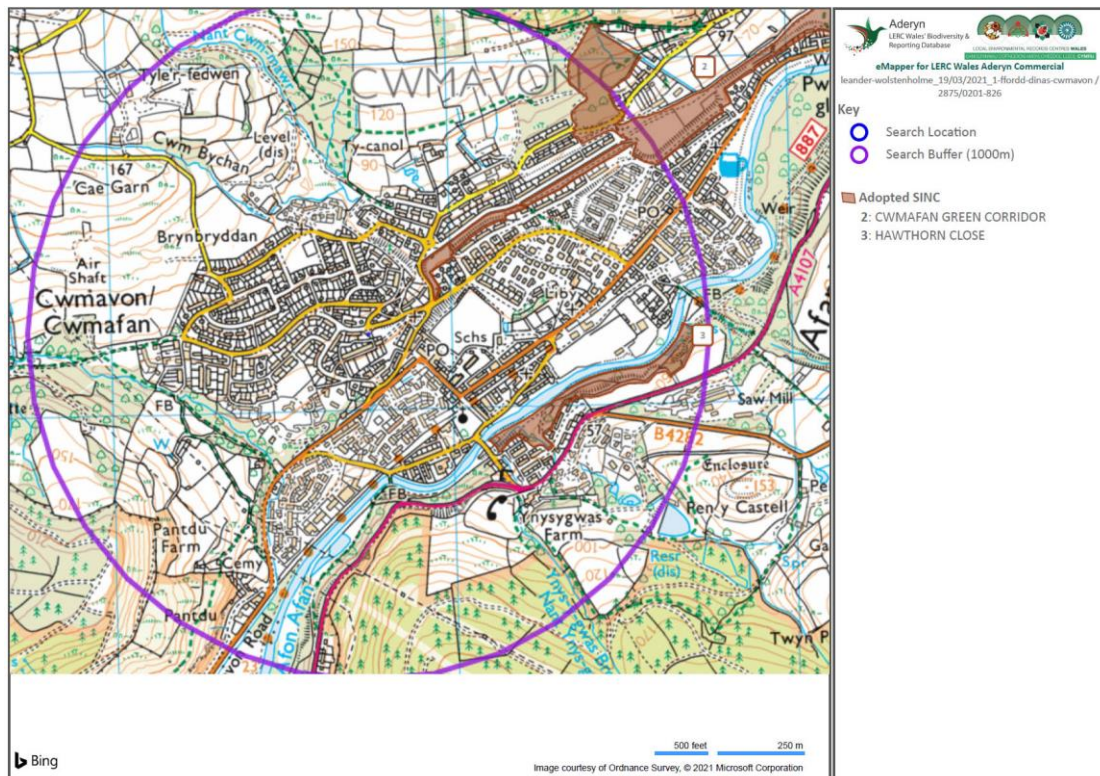
Area



Figure 5: Close Up Aerial of the Site (within red rectangle)

Designated Sites within 1KM

Designated Site Name	Distance from Project Site	Reason for Designation
Cwmafan Green Corridor SINC	217m East	Mosaic habitats: Scrub communities, Lowland Meadows Boundary and linear features – disused railway Lowland Meadow (not part of mosaic habitat) Important species: House sparrow, Grass vetchling, Fragrant agrimony
Hawthorn Close SINC	467m SE	Rivers Native Woodlands Important species: Otter, Dipper, Daubenton's, Noctule. Oak, Hazel, Holly. Habitat suitable for nesting birds
Neath Port Talbot Watercourses SINC	400m S	Rivers and associated species

**Figure 6: Designated Sites in the Vicinity of the Proposed Development**

Species records

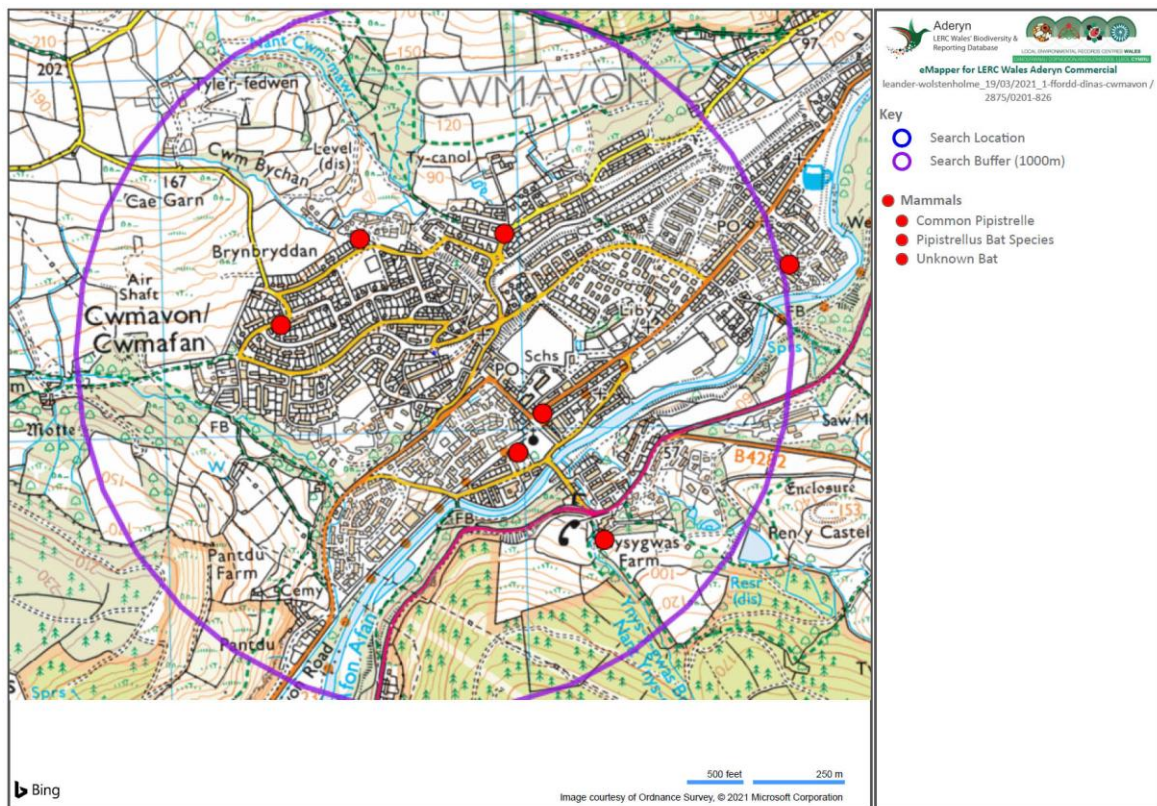


Figure 7: Bat records within 1km of the project site

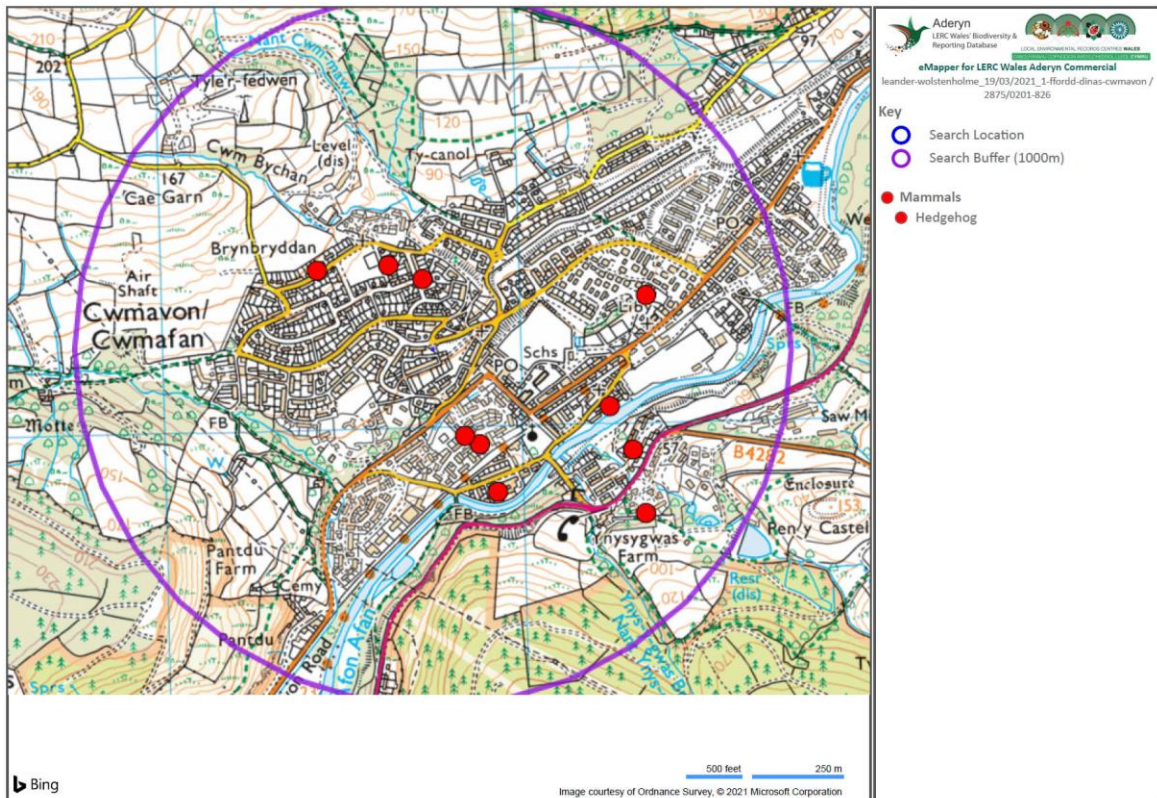


Figure 8: Hedgehog records within 1km of the project site
Reptiles and Amphibians

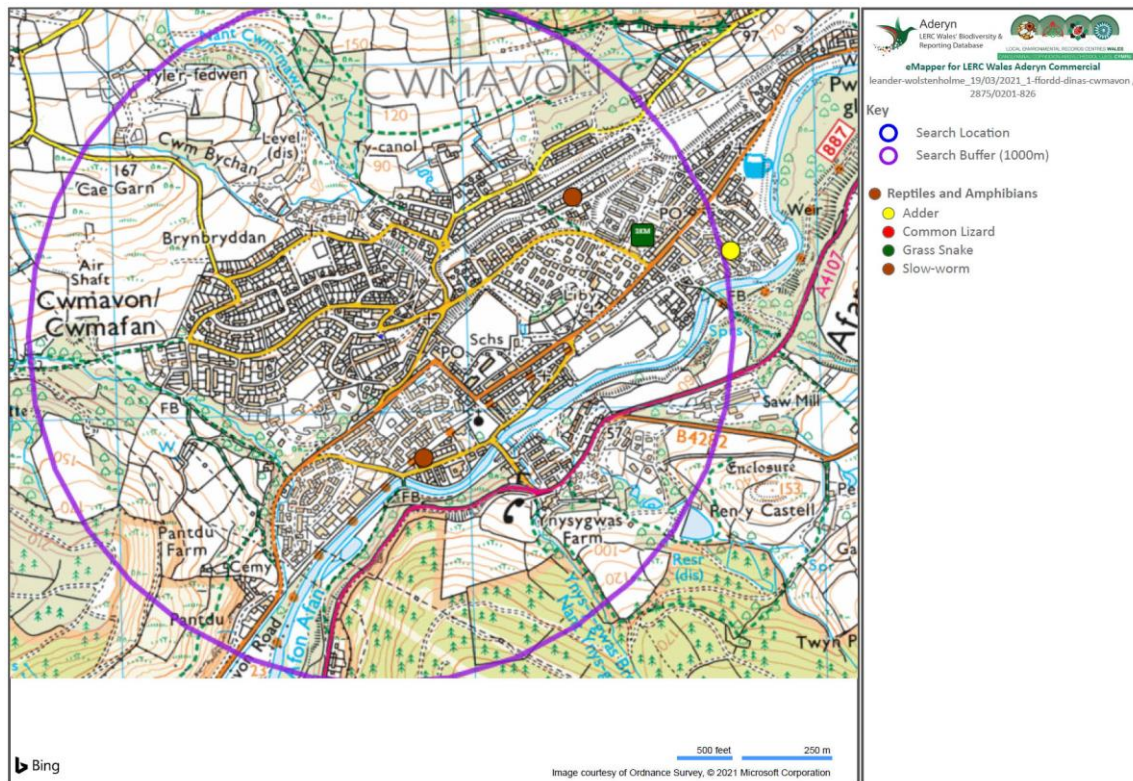


Figure 9: Reptile and Amphibian records within 1km of the project site

Badgers and Otters

- 4.1 There are no badger records within 1km of the project site.
- 4.2 There are a number of otter records associated with the Afon Afan, some 400m to the south. These date from circa 2001/2002 but otters can still be assumed to be present on this river.

Birds

- 4.3 The following records of category 1 (i.e. European and/or UK legally protected species, species listed in section 7 of the Environment (Wales) act or UK BAP priority species) bird species were recorded from within 500m of the site:

Dunnoek
Red Kite

Other Species

- 4.4 In terms of other category 1 species recorded within 500m there are records a number of butterfly and moth species namely:
August Thorn
Cinnabar
Small Heath

Dot Moth
Blood-vein
Dusky Thorn
Neglected Rustic
Rustic

4.5 Other Category 1 species include bluebells and eels (from the Afon Afan).

Habitats

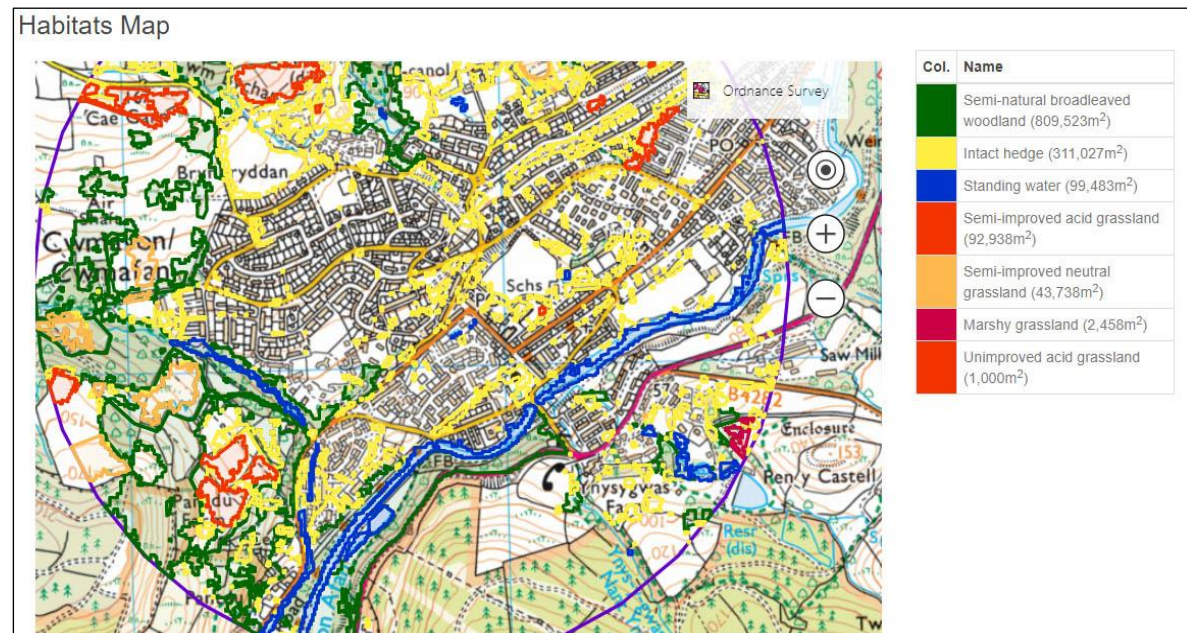


Figure 10: Phase 1 Habitat Map of the Local Area (source: local records centre (SEWBReC))

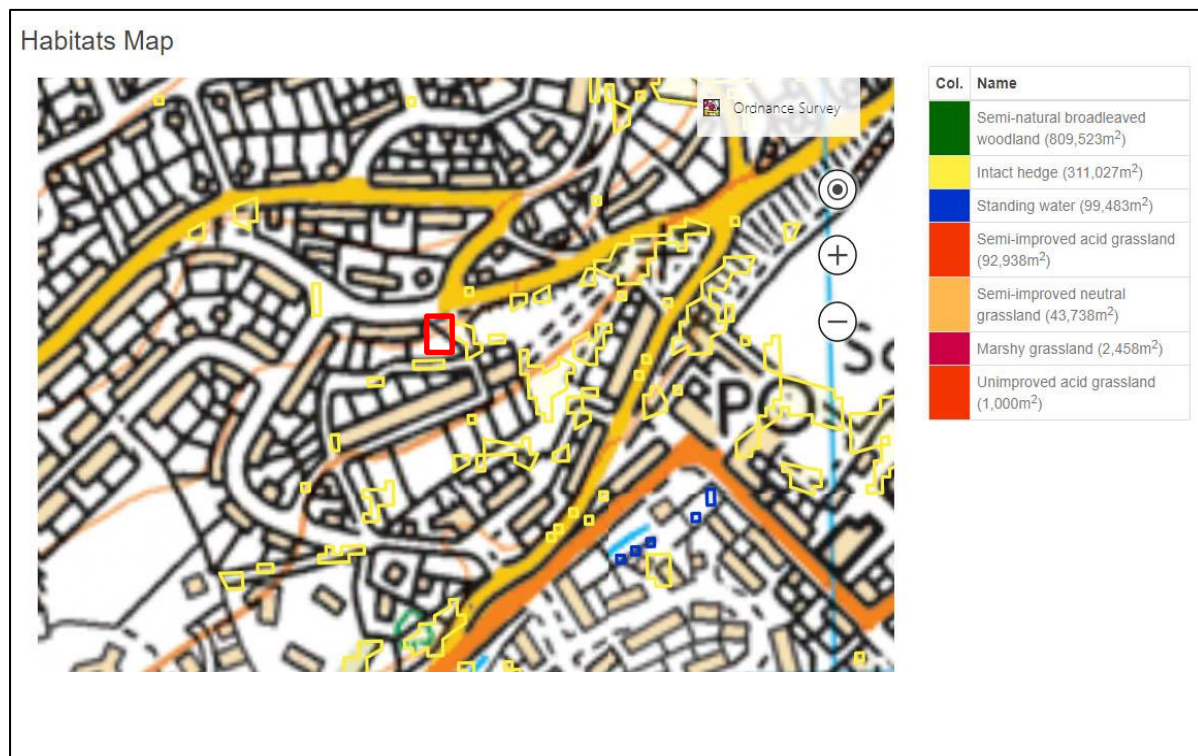


Figure 11: Close up of records of phase 1 habitats on the project site (red line shows approximate site boundary). Red rectangle shows approximate location of site.

4.6 The SEWBRc data showed that one priority phase 1 habitat has been mapped adjacent to the project site namely intact hedgerow. .

Ancient Woodland

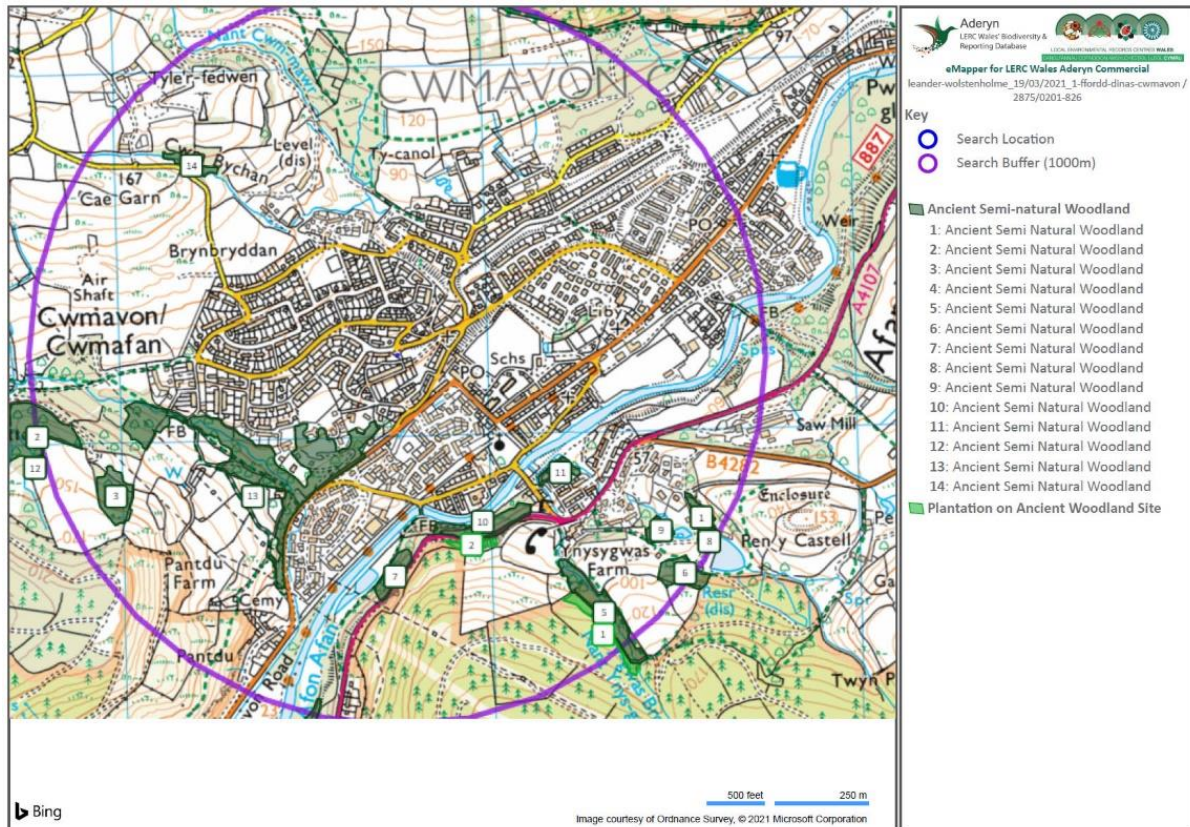


Figure 12: Ancient woodland sites (the closest section is 200m SW of the site)

Ponds and watercourses

4.7 The closest watercourses are the Afon Afan some 400m to the south, streams associated with Cwm Bychan. 400m to the north and streams associated with ancient woodland 450m to the west.

Walkover survey

- 4.8 The Habitat Survey map is given in Figure 26 and detailed plant species lists for each habitat are given in Appendix A. The Project Site is defined by the red line boundary given in Figure 3. The habitat survey has been conducted within this red line boundary.



Figure 13: Amenity Grassland - the lawn (Looking East)

Amenity Grassland (Phase 1 Habitat Code: J1.2)

- 4.9 Amenity grassland makes up the bulk of the site in the form of a regularly mown lawn. Perennial ryegrass (*Lolium perenne*) is the dominant species and it is likely that this area was sown as a hard wearing lawn with ryegrass taking up a high percentage of the seed mix. Other grass species present include common bent (*Agrostis capillaris*), timothy (*Phleum pratense*) and smooth-stalked meadow-grass (*Poa pratensis*).
- 4.10 A range of other species are also present including daisy (*Bellis perennis*), dandelion (*Taraxacum officinale*) and white clover (*Trifolium repens*). A full species list is given in Appendix A.

South Facing Bank at Northern End of Garden: Ephemeral/Short Perennial & Scattered Scrub (Phase 1 Habitat Codes: J1.3 & A2.2)

- 4.11 There is a very steep, south-facing bank at the northern end of the garden. Much of this bank shows vegetation of disturbed ground and has been mapped as ephemeral/short perennial vegetation. In places, this steep bank is covered by a scattering of bramble (*Rubus fruticosus*) scrub which is, in places, very thick. These areas have been mapped as scattered scrub.
- 4.12 A diverse array of species grown here including Yorkshire fog (*Holcus lanatus*), creeping bent (*Agrostis stolonifera*), red fescue (*Festuca rubra*), honeysuckle (*Lonicera periclymenum*), winter-cress (*Barbarea vulgaris*), scarlet pimpernel (*Anagallis arvensis*) and the garden species of spurge, *Euphorbia robbiae*.

- 4.13 A single plant of the invasive non-native Himalayan cotoneaster (*Cotoneaster horizontalis*) was noted growing here.



Figure 14: Steep South Facing Bank at Northern End of Garden (with New Zealand Broad-leaf Hedge to the Rear).

Garden Shrubs, Ornamental Hedgerow and Bare Ground (Phase 1 Habitat Codes: J1.4 & J4)

- 4.14 The garden is characterised by a number of raised beds and paved hardstanding. Shrubs growing in the raised beds include *Hebe*, Juniper, *Osmanthus*, cherry laurel (*Prunus laurocerasus*) and garden privet (*Ligustrum ovalifolium*).
- 4.15 Several species grow in the paving cracks of the paved hardstanding including pendulous sedge (*Carex pendula*), petty spurge (*Euphorbia peplus*), hairy bittercress (*Cardamine hirsuta*) and procumbent pearlwort (*Sagina procumbens*). Two ferns grow in cracks in stone walls; wall rue (*Asplenium ruta-muraria*) and maidenhair spleenwort (*Asplenium trichomanes*).
- 4.16 A patch of the non-native invasive species monbretia (*Crocosmia x crocosmiiflora*) was noted growing in a raised bed adjacent to the steps.
- 4.17 The hedgerow growing along the northern boundary, adjacent to Ffordd Dinas is composed of New Zealand Broadleaf (*Griselinia littoralis*).



Figure 15: Raised beds and ornamental shrubs (on left side of photograph) with the lawn showing and steep south facing bank plus New Zealand Broadleaf hedge beyond.



Figure 16: Raised Beds and ornamental shrubs

Single Shrubs and Tree (Phase 1 Habitat Code: A3.1)

- 4.18 There are a small number of single shrubs growing along the eastern boundary of the site. These include Aucuba (*Aucuba japonica*), Photinia, Oleaster (*Elaeagnus pungens*) and *Viburnum tinus*.
- 4.19 There is one large tree at the south eastern corner of the site. This is a birch (*Betula sp.*). At the time of survey there was a thick growth of ivy around the trunk. No holes, cracks or

fissures suitable for use by bats as a roost were noted but any such features were possibly covered by the growth of ivy.

- 4.20 It is unclear whether this tree falls within the ownership of the current property or is on land belonging to the adjacent electricity sub-station.
- 4.21 None of the other woody species on site showed any bat roost potential.



Figure 17: Birch tree growing adjacent to electricity sub-station.

Ephemeral/short perennial Vegetation (Phase 1 Habitat Code: J1.3)

- 4.22 At the southern end of the garden there is a brash pile adjacent to a bonfire area. The land here slopes very steeply down towards the lane that runs along the southern boundary of the property. This has been mapped as ephemeral/short perennial vegetation due to the quantity of bare ground showing and the scattered nature of the plant species occupying that bare ground. However, there is also a scattering of scrub across this habitat, particularly on the steep south facing slopes.
- 4.23 Species growing here include bramble, great mullein (*Verbascum thapsus*), self heal (*Prunella vulgaris*) and, in places the ground is covered with ivy (*Hedera helix*).
- 4.24 A small patch of the invasive non-native species monbretia, is located to the south of a sleeper wall close to the electricity sub-station and the birch tree.



Figure 18: Brash pile and bonfire area

Invasive Non-native Species

- 4.25 Two invasive non-native species were noted growing on the site. These are monbretia (*Crocosmia x crocosmiiflora*) and Himalayan cotoneaster (*Cotoneaster horizontalis*). The locations of these two species are shown in the phase 1 habitat map, Figure 19.



Figure 19: Monbretia



Figure 20: Monbretia



Figure 21: Himalayan cotoneaster

Birds Noted During Walkover Survey:

4.26 The following birds were noted using the area; house sparrow, robin and jackdaw.

Surrounding Habitats



Figure 22: Greenspace immediately to the east of the project site – dominated by Japanese knotweed



Figure 23: The land immediately to the east of the project site (the project site garden fence can be seen on the right)



Figure 24: Landscape immediately to the east of the project site – dominated by Japanese knotweed



Figure 25: Landscape to the south of the project site (on the right hand side)

Figure 26: Phase 1 Habitat Map



5.0 INTERPRETATION AND ASSESSMENT

Designated sites

- 5.1 There are no statutory designated sites within 2km of the proposed development. There are three Sites of Importance for Nature Conservation (SINC) within 1km of the project site. These are Cwmafan Green Corridor SINC, Hawthorn Close SINC and NPT Watercourses SINC.
- 5.2 Because of the nature of the development, and the distance from these sites, it is considered that the proposals will not have a significant impact on the SINC and there will be no SINC habitat loss as a result of the development.

Habitats:

Grassland

- 5.3 One of the main impacts of the proposed development will be the loss of a section of tightly mown amenity grassland. The amenity grassland is of low ecological value and its loss due to the change of use of land to housing will have a negligible impact on the biodiversity of the local area.
- 5.4 The development will also result in the loss of the south facing bank at the northern end of the garden. This area shows relatively high species diversity, although none of the species present are listed under section 7 of the Environment (Wales) Act 2016 or LBAP species or appear on any other list of species of conservation concern. The loss of this habitat will have a minor negative impact on the biodiversity of the local area.

Hedgerow

- 5.5 Hedgerows are listed as priority habitats under section 7 of the Environment (Wales) Act 2016. Section 7 lists the living organisms and types of habitat in Wales that are considered to be of key significance to sustain and improve biodiversity in relation to Wales. The Act states that all reasonable steps should be taken to maintain and enhance the living organisms and types of habitat included in any list published under this section and encourage others to take such steps. As such the loss of any hedgerows or sections of hedgerows resulting from the proposed development will need to be compensated for.
- 5.6 A priority hedgerow is broadly defined as any boundary line of trees or shrubs consisting predominantly of at least one woody native species, being over 20m long and less than 5m wide, and where any gaps between the trees or shrubs are under 20m wide. The roadside hedgerow is composed of the non-native species, New Zealand Broadleaf and is less 20m long. Therefore it does not qualify as a priority hedgerow and its loss will have a negligible impact on the biodiversity of the local area.

Species:

Bats

- 5.7 None of the trees or shrubs on site showed any bat potential roost features. However, although the birch tree at the south east corner of the garden, adjacent to the electricity

substation, showed no obvious bat roosting opportunities, it was covered in ivy at the time of survey and this possibly obscured any roost features.

- 5.8 It is unclear whether or not this tree is within the current land ownership or within the ownership of the adjacent electricity sub-station. As a result, it is unclear whether this tree is to be pruned, lopped or felled as a result of the development.
- 5.9 However, if this tree is to be removed, it is recommended that soft felling techniques are used. Soft felling techniques involve removing the top branches of a tree first and working down the tree removing it in sections. Any sections of the tree identified as having bat roost potential are lowered carefully using ropes to ground level. Each section is then laid on the ground with holes and cracks facing upward for as long as possible (at least 24 hours under suitable weather conditions is preferable); this gives any bats a chance to vacate the tree. Cutting through cavities should be avoided.
- 5.14 This work should take place in September/October. This is the time of year when maternity roosts are over and hibernation roosts have not yet been established.
- 5.15 If there is evidence of bats using the holes as roosts then the tree cannot be felled before a European Protected Species Mitigation (EPSM) licence has been procured from Natural Resources Wales following the drafting of a suitable mitigation strategy.
- 5.16 Artificial lighting is known to cause disturbance to bats and can discourage them from using a previously utilized site. With this in mind, it is recommended that any additional lighting forming part of the development be kept to a minimum and that any external lighting is directed away from hedgerows and trees, particularly along the eastern margin of the site, adjacent to the greenspace. Furthermore, down lighting should be the preferred choice of any external lights to minimise glare or additional light pollution.
- 5.17 More information in relation to bats and lighting is noted in the Bat Conservation Trust's 'Guidance Note 8: Bats and Artificial Lighting' in conjunction with The Institute of Lighting Professionals, available to download at <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>.

Badger (*Meles meles*)

- 5.18 The local records search returned no badger records within 1km of the site.
- 5.19 No evidence (snuffle holes, mammal tracks, footprints, latrines, setts and badger hair) of badgers was found during the survey and the site offers very limited suitable habitat for use by badger for foraging and commuting.
- 5.20 It seems unlikely that badgers are using the site and the impact of the development on badgers is considered to be negligible.

Otter (*Lutra lutra*)

- 5.21 There are local records of otter from the Afon Afan some 400m to the south of the project site. Because of the distance of the site from this river, and the nature of the development, the impact of the development on otters is considered to be negligible.

Reptiles and Amphibians

- 5.22 No reptiles or amphibians, or their signs, were noted during the survey. The data search returned four reptile records within 1km of the site; two slow worm, one common lizard and a 1km square record for grass snake. Slow worm and common lizard were recorded from under planks in a garden 670m to the east in 2014 and there are further slow worm records from a reptile survey undertaken along the cycle track some 360m to the south in 2007.
- 5.23 The connectivity between these sites and the current site is relatively poor. However, the desk top records show that there is reptile activity in the local area.
- 5.24 There are features within the garden, such as brash piles and piles of stones and planks that could be used as refugia by reptiles. Therefore, if any of these features are to be dismantled a precautionary approach to their dismantling is recommended. As such, to avoid impacts on hibernating reptiles and amphibians any such works should be undertaken between March and September. Piles of brash/planks and stones should be removed by hand, checking the stones for the presence of reptiles and amphibians as work proceeds. Any walls that need to be dismantled should also be dismantled by hand and checking periodically for the presence of reptiles and amphibians as work proceeds.

Hedgehog

- 5.25 Desk-top records show that hedgehogs have been recorded in the local area with the closest record being 200m to the north. Hedgehogs are protected under Schedule 6 of the Wildlife and Countryside Act (WCA) 1981, which prohibits killing and trapping by certain methods and are listed as a priority species under the Environment (Wales) Act 2016. The species is therefore considered one of the Wales' target species to avoid further population decline. In order to retain habitat connectivity for Species of Principal importance, such as hedgehogs, any new boundary treatments shall not be flush to the ground, or suitably sized gaps 13 x 13 cm shall be left at strategic points. For more information see <https://www.hedgehogstreet.org/hedgehog-friendly-fencing/>

Birds

- 5.26 The tree, shrubs and brambles on the site provide nesting and opportunities for birds.
- 5.27 All wild British birds (while nesting, building nests and sitting on eggs), their nests and eggs (with certain limited exceptions) are protected by law under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Included in this protection are all nests (at whatever stage of construction or use) and all dependent young until such time as the nest is abandoned and the young have fledged and become independent.
- 5.28 Any tree, shrubs and bramble works/clearance should, wherever possible, be undertaken from September to February outside the bird breeding season (March to August inclusive). However, if clearance works are unavoidably undertaken within the bird breeding season a check for nesting birds must be undertaken by a suitably qualified ecologist in the 24 hour period prior to clearance works. If any active nests are found these will be protected, along

with an appropriate buffer zone, until nesting is complete and the young have fledged.

Enhancements

- 5.29 The biodiversity and resilience of ecosystems duty Section 6 under Part 1 of the Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty (the S6 duty) for public authorities in the exercise of functions in relation to Wales and sets out that a public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.
- 5.30 Planning Policy Wales (PPW) 10 sets out that “planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity”. As such the planning authority will look for biodiversity enhancements in a planning application.
- 5.31 The site could be further enhanced in terms of biodiversity by the incorporation of a house sparrow terrace into the design of the new build. This would provide nesting habitat for a section 7 listed species.
- 5.32 The planting of a native species-rich hedgerow consisting of berry and seed-bearing woody species along the boundaries of the site would also provide additional habitat. Species that could be planted include Hawthorn, Hazel, Blackthorn, Rowan, Guelder Rose, Alder Buckthorn, native Crab-apple and Elder. Native species of trees and shrubs (including non berry-bearing species) generally have higher invertebrate productivity than alien species, thus resulting in a richer environment for birds and other fauna. This would provide nesting and foraging habitat for section 7 listed bird species such as house sparrow, dunnock, song thrush and bullfinch as well as providing foraging and commuting habitat for section 7 mammals such as hedgehog and bats.

Invasive Species

- 5.33 Three non-native invasive species were noted growing in and at the foot of the hedgerows (see the Phase 1 habitat map, Figure 19, for locations). These are monbretia (*Crocosmia x crocosmiiflora*), Himalayan cotoneaster (*Cotoneaster horizontalis*) and Himalayan honeysuckle (*Leycesteria formosa*).
- 5.34 The cotoneaster and monbretia are listed under Schedule 9 Part 2 of the Wildlife and Countryside Act (1981) as amended. Section 14 of the above act states that it is illegal to plant or otherwise cause to grow in the wild a plant listed in Schedule 9.
- 5.35 Whilst there is no obligation for the site owners to eradicate these species from land or to report their presence, there is a risk that these species could be spread to other sites during the construction works associated with the development as machinery moves off and on site depending on the works that need to be undertaken. It is possible that soil and mud attached to wheels and other parts of machines could well contain monbretia corms or cotoneaster seeds. The same applies to any soil that needs to be taken of site.

- 5.36 As such, if any of the digging works to take place involve the removal of sections of garden where these species are growing it is recommended that these species are eradicated from those locations prior to the onset of works.
- 5.37 Soils containing these species are classified as controlled waste and should be disposed of at licensed landfill.
- 5.38 Himalayan honeysuckle is not listed under section 9 of the Wildlife and Countryside Act but is still considered by to an invasive non-native species (INNS). Therefore, whilst there is no legal obligation to do so, it is recommended that this species is also eradicated from the site prior to the onset of works.

During Site Works

- 5.39 All artificial lighting will be directed away from the eastern and southern boundaries of the site. Any external lighting used during construction should be switched off at night time to prevent disturbance to nocturnal animals.
- 5.40 Any excavations associated with development should be either closed at night or fitted with ramps to help animals such as reptiles, hedgehogs and small mammals to escape.
- 5.41 Any temporary exposed open pipe system will be capped to prevent mammals gaining access when contractors are off site.
- 5.42 Any exposed pipes and trenches shall be checked for trapped wildlife each morning before starting construction activities.

6.0 CONCLUSIONS AND RECOMMENDATIONS

- 6.1 With current knowledge of the Site and its locality it is considered that the loss of habitats on Site and their potential to support protected species will be of **minor significance** in a Site context but of **no significance** in a local or regional context on the ability of populations of protected species to survive and breed.
- 6.2 It is recommended that:
- 6.3 The non-native invasive species Himalayan cotoneaster, monbretia and Himalayan honeysuckle are eradicated from the site if the areas where they grow are to be disturbed by the development.
- 6.4 To allow the movement of hedgehogs in and out of the site any new boundary treatments should not be flush to the floor. If this is not possible a series of suitably sized gaps (13cm x 13m) should be strategically placed intermittently along the new boundary treatment.
- 6.5 Any tree/shrub or bramble clearance; will need to take place outside of the bird breeding season i.e. March to August inclusive. If it is not possible to time the works in accordance with the main bird breeding season a nesting bird check should be performed in the 24-hour period prior to the works. The nesting bird check should be undertaken by a suitably qualified ecologist.
- 6.6 Lighting of the site is considered, particularly in relation to bats.
- 6.7 Biodiversity enhancements can be achieved by incorporating a house sparrow terrace into the design of the house and the planting of native species-rich hedgerows along the boundaries of the site.
- 6.8 Where a tree is to be lost, two native, locally-sourced, trees are to be planted to replace it.
- 6.9 Appropriate measures are taken during construction works to prevent harm to wildlife.

7.0 REFERENCES

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

JNCC. (2010). Handbook for Phase 1 habitat survey: A technique for environmental audit.

Mitchell-Jones, AJ (2004a). Bat Mitigation Guidelines. English Nature, Peterborough

www.magic.defra.gov.uk/magicMap.aspx, accessed January 2021

APPENDICES

APPENDIX A: Plant Species List for the Site

The letters D A F O R refer to the abundance of each species within the habitat that it is found in as follows: D = Dominant, A=Abundant, F= Frequent, O= Occasional, R= Rare. The qualifier L is sometimes used to indicate Locally. So, for example, LA would stand for locally abundant. This would mean that the plant species was not abundant throughout the habitat but in select patches it was abundant.

Amenity Grassland (Phase 1 Habitat Codes: J1.2)

Perennial Ryegrass	<i>Lolium perenne</i>	D
Daisy	<i>Bellis perennis</i>	F
Dandelion	<i>Taraxacum officinalis</i>	F
Creeping Buttercup	<i>Ranunculus repens</i>	O
White Clover	<i>Trifolium repens</i>	O
Rough-stalked Feather-moss	<i>Brachythecium rutabulum</i>	O
Common Bent	<i>Agrostis capillaris</i>	O
Broad-leaved Dock	<i>Rumex obtusifolius</i>	R
Swan's-neck Thyme-moss	<i>Mnium hornum</i>	LR
Willowherb	<i>Epilobium</i> sp.	R
Cuckoo Flower	<i>Cardamine pratensis</i>	R
Annual Meadow-grass	<i>Poa annua</i>	R
Lesser Celandine	<i>Ranunculus ficaria</i>	R
Field Speedwell	<i>Veronica arvensis</i>	R
Wavy Bitter-cress	<i>Cardamine flexuosa</i>	R
Cock's-foot	<i>Dactylis glomerata</i>	R
Timothy	<i>Phleum pratense</i>	R
Spear Thistle	<i>Cirsium vulgare</i>	R
Primrose	<i>Primula vulgaris</i>	R
French Crane's-bill	<i>Geranium endressii</i>	R

Steep Bank – Northern End of Garden (J2.1)

Wintercress	<i>Barbarea vulgaris</i>	R
Willowherb	<i>Epilobium</i> sp.	R
Annual Meadow-grass	<i>Poa annua</i>	O
Creeping Soft-grass	<i>Holcus mollis</i>	LO
Common Field-speedwell	<i>Veronica persica</i>	O
Spurge	<i>Euphorbia robbiae</i>	LO
Dandelion	<i>Taraxacum officinale</i>	O
Common Nettle	<i>Urtica dioica</i>	O
Bramble	<i>Rubus fruticosus</i>	F – LA
Foxglove	<i>Digitalis purpurea</i>	O
Wilson's Honeysuckle	<i>Lonicera nitida</i>	LF
Daisy	<i>Bellis perennis</i>	O
Great Willowherb	<i>Epilobium hirsutum</i>	O
Creeping Buttercup	<i>Ranunculus repens</i>	O
Cleavers	<i>Galium aparine</i>	O
Creeping Bent	<i>Agrostis stolonifera</i>	LF

French Crane's-bill	<i>Geranium endressii</i>	O
Scarlet Pimpernel	<i>Anagallis arvensis</i>	O
Honeysuckle	<i>Lonicera periclymenum</i>	LF
Herb Robert	<i>Geranium robertianum</i>	O
Common Ragwort	<i>Senecio jacobaea</i>	R
Smooth Sow-thistle	<i>Sonchus oleraceus</i>	R
Beaked Hawk's-beard	<i>Crepis vesicaria</i>	R
White Clover	<i>Trifolium repens</i>	R
Groundsel	<i>Senecio vulgaris</i>	R
Smooth-stalked Meadow-grass	<i>Poa pratensis</i>	O
Red Fescue	<i>Festuca rubra</i>	O
Zig Zag Clover	<i>Trifolium medium</i>	R
Hedge Woundwort	<i>Stachy sylvatica</i>	R
Common Cat's-ear	<i>Hypochaeris radicata</i>	R
Butterfly Bush	<i>Buddleja davidii</i>	R
Ivy-leaved Toadflax	<i>Cymbalaria muralis</i>	R
Himalayan honeysuckle	<i>Leycesteria formosa</i>	LF
Snapdragon	<i>Antirrhinum majus</i>	R
Common Columbine	<i>Aquilegia vulgaris</i>	R
Ash (sapling)	<i>Fraxinus excelsior</i>	R
Thyme-leaved Speedwell	<i>Veronica serpyllifolia</i>	R
Himalayan Cotoneaster	<i>Cotoneaster horizontalis</i>	R
Pendulous Sedge	<i>Carex pendula</i>	R
Wild Strawberry	<i>Fragaria vesca</i>	R
Clustered Dock	<i>Rumex conglomeratus</i>	R

**Steep South Facing Bank Adjacent to Birch Tree at Southern End of Garden(Phase 1
Habitat Code: J2.1)**

Ivy	<i>Hedera helix</i>	D/A
Lesser Celandine	<i>Ranunculus ficaria</i>	O
Wood Avens	<i>Geum urbanum</i>	R
Cleavers	<i>Galium aparine</i>	O
Bramble	<i>Rubus fruticosus</i>	F
Garden Privet	<i>Ligustrum ovalifolium</i>	O

Brash Pile and Fire Pit Area

Bramble	<i>Rubus fruticosus</i>	LA
Willowherb	<i>Epilobium sp.</i>	O
Tutsan	<i>Hypericum androsaemum</i>	R
Common Ragwort	<i>Senecio jacobaea</i>	R
Great Mullein	<i>Verbascum thapsus</i>	R
Herb Robert	<i>Geranium robertianum</i>	R
Perennial Ryegrass	<i>Lolium perenne</i>	LF
Hairy Bittercress	<i>Cardamine hirsuta</i>	O
Yorkshire Fog	<i>Holcus lanatus</i>	O
Dandelion	<i>Taraxacum officinale</i>	O

White Clover	<i>Trifolium repens</i>	O
Broad-leaved Dock	<i>Rumex obtusifolius</i>	R
Common Field-speedwell	<i>Veronica persica</i>	R
Hart's-tongue Fern	<i>Phyllitis scolopendrium</i>	R
Primrose	<i>Primula vulgaris</i>	R
Self Heal	<i>Prunella vulgaris</i>	O
Common Nettle	<i>Urtica dioica</i>	O
Honeysuckle	<i>Lonicera periclymenum</i>	O
Common Mouse-ear	<i>Cerastium fontanum</i>	R
Procumbent Pearlwort	<i>Sagina procumbens</i>	R
Thyme-leaved Speedwell	<i>Veronica serpyllifolia</i>	R

Raised Beds, Walls and Hardstanding

Shrubs

Juniper	<i>Juniperus media</i>	O
Osmanthus	<i>Osmanthus heterophyllus</i>	R
Shrubby Veronica	<i>Hebe</i> sp.	O
Common Privet	<i>Ligustrum ovalifolium</i>	LF
Himalayan Honeysuckle	<i>Leycesteria formosa</i>	LF
St. John's Wort	<i>Hypericum calycinum</i>	R
Andromeda	<i>Pieris formosa</i>	R
Cherry Laurel	<i>Prunus laurocerasus</i>	R

Herbs

Pendulous Sedge	<i>Carex pendula</i>	O
Common Bent	<i>Agrostis capillaris</i>	O
French Crane's-bill	<i>Geranium endressii</i>	O
Willowherb	<i>Epilobium</i> sp.	O
Bugle	<i>Ajuga reptans atropurpurea</i>	O
Avens	<i>Geum</i> sp.	R
Spurge	<i>Euphorbia robbiae</i>	O
Clustered Dock	<i>Rumex conglomeratus</i>	R
Thale Cress	<i>Arabidopsis thaliana</i>	R
Field Forget-me-not	<i>Myosotis arvensis</i>	R
Monbretia	<i>Crocsmia x crocosmiiflora</i>	R

Paving Cracks

Procumbent Pearlwort	<i>Sagina procumbens</i>	R
Hairy Bittercress	<i>Cardamine hirsuta</i>	R
Annual Meadow-grass	<i>Poa annua</i>	O
Butterfly Bush	<i>Buddleja davidii</i>	O
Dandelion	<i>Taraxacum officinale</i>	O
Pendulous Sedge	<i>Carex pendula</i>	O
Petty Spurge	<i>Euphorbia peplus</i>	O

Cracks in Walls

Maidenhair Spleenwort	<i>Asplenium trichomanes</i>	O
Wall Rue	<i>Asplenium ruta-muraria</i>	O

APPENDIX B: Biodiversity Enhancement Ideas

Suggestions for Bird Boxes

House Sparrows

House Sparrows are red listed as a bird of high conservation concern and artificial nest box colonies are well received by sparrows and this sort of design is popular. A house sparrow terrace installed on the side of the house will add to the enhancement of the site.

This selection of bricks were found on the internet at the time of writing the report:

Integrated British Bird houses:



Garden Bird house from Wayfair Ltd:



Or a Woodcrete single or double chamber brick



APPENDIX C: Disclaimer

Copyright and Intellectual Property

- The copyright of ecology reports provided remain the property of the ecologist pending payment of the account in full.
- We provide species data sets to the local Biodiversity Information Centre on an annual basis which will include any records from your survey (species and general location.)

Accuracy of information

- Our ecologists are experienced and professional in their approach and work to published Professional Codes of Conduct (British Standard 42020:2013 “Biodiversity. Code of practice for planning and development” and CIEEM Guidelines for Ecological Report writing (2016) where appropriate. Ecologists are however working in the natural world which may be subject to rapid changes not under their control. The information they collect will be as accurate as possible based on the time of the year and the natural conditions they face but we, and they, cannot be held responsible for any changes which occur subsequently.
- The company warrants that the reports supplied will be based on information collected using reasonable care and skill. In some cases, data sets may be large, and, in such circumstances, ecologists will make professional judgements on their analysis and presentation of data.
- Most reports are valid for a maximum period of two years provided no significant changes have been made to the property or land use nearby.
- It is possible that further survey work is recommended which would be the subject of additional fees. In this event the company and the ecologists cannot accept any liability if the client proceeds without acting on this advice.
- Ecological reports provide information on the site as a whole and the company and the ecologists cannot be held responsible for the effects that the findings might have on any planning or developments proposed.

Confidentiality

- The reports provided will be for the client’s sole use and for the purposes declared in the initial contact and confirmed in our quotation.
- No other party may use, copy or rely on the report or any of its contents or conclusions without written confirmation from the author.
- The company will maintain a copy of the reports, on behalf of the ecologist, in an electronic format. It will not be provided to any other person without the client’s consent.
- The survey data will be submitted to the Brecon Biodiversity Information Centre automatically unless otherwise requested

Limitation of Liability

- The company and its ecologist contractors shall not be held responsible for any claim arising out of any defect found in the service provided as a result of information provided which is subsequently found to be defective.

Contacts between the company, its ecologists and the client shall be governed by the laws of England and Wales.