



**Preliminary Ecological Assessment
for a proposed One Planet development
on land at Maesyberllan,
Felinfach,
Brecon**

Client: Emma Rodell

Survey Date: 11th December 2021

Report Reference: WW/OPD111221

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1. Introduction

Wyndrush Wild were contracted by the client to carry out a Preliminary Ecological Appraisal in support of an application to Powys County Council for a One Planet development.

The proposed OPD is on land to the north of Felinfach, Brecon. The site is centred on grid reference SO086338 (see figure 1 below).

The aim of the survey is to provide baseline data on habitat and species, both on and adjacent to the site, and to investigate potential impacts that may occur during construction and post-construction stages. An assessment is made of any potential impact on protected species in the area.



Approximate boundary of Surveyed Site at Maesyberllan

Site Description

The site comprises a single field and an area of woodland. The Afon Dulas forms the southern boundary, above which is an area of woodland on a steep slope. The gentle south-east facing slope above this is horse-grazed pasture at around 190m above sea-level. It is adjoined by a minor road to the west, a chapel to the north, and improved pasture to the east.



Part of Proposed Development Site

2. Methodology

2.1 Desk Exercise

A limited desk exercise was carried out. The nearest protected site – Afon Llynfi SSSI – lies less than 1km downstream and in direct hydrological continuity. Otter, salmon and bullhead are the notified features of the site. NBN Atlas holds a 1998 record for hazel dormouse within 1km of the site.

2.2 Extended Phase I survey

A thorough site inspection was made by Matt Sutton on 11th December 2021.

The survey followed the methodology set out by the Handbook for Phase 1 Habitat Survey (JNCC, 1993) and then subsequently by the Institute of Environmental Assessment (1995). The methods provide quick and accurate classification of habitats.

In addition, the survey looked for field signs of protected species and assessed the habitat for their potential presence. Measures taken included:-

- A search for signs of badgers on the site.
- Consideration of the potential impact of the development on bats, reptiles and other protected species.
- Recording birds and identifying the suitability of the habitat for nesting birds especially those listed as species of conservation concern.
- Recording a list of plants found on the site, shown in Appendix 1.
- Recording grassland fungi.

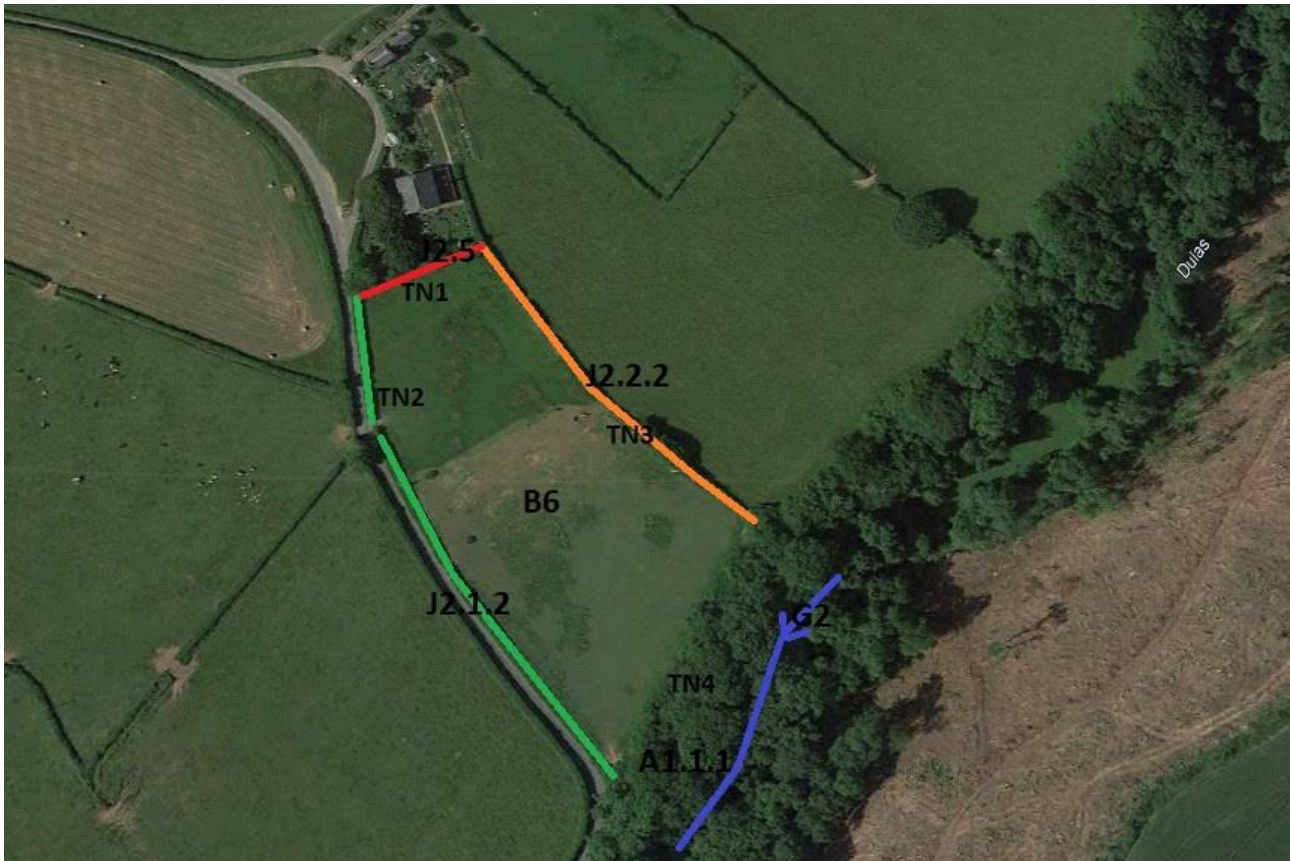
2.3 Constraints

There were no significant constraints to the survey. Although the time of year was not conducive to breeding bird survey, some resident species could be recorded and an assessment made of 'birds of conservation concern' likely to be present. Although the grassland was hard-grazed, identification of vegetative material was possible.

3. Results

3.1 Vegetation and habitat survey

The habitats on the site were recorded in detail. The application area comprises poor semi-improved grassland (B6), semi-natural broad-leaved woodland (A1.1.1) and running water (G2). Boundaries comprise intact species-poor hedge (J2.1.2), defunct hedge (J2.2.2) and wall (J2.5).



Phase I Habitat Map

TN1: Apiary

TN2: Field Shelter, with heavily poached grassland around

TN3: Badger sett outlier and recently removed trees

TN4: Main badger sett along woodland edge

Poor Semi-improved Neutral Grassland (B6)



Creeping buttercup is abundant in a heavily horse-grazed sward

The field comprises pasture continually grazed by four horses. It is short throughout the field, and heavily poached towards the gateway and nearby field shelter. Perennial rye-grass is occasional or frequent in the sward with other typical grasses such as common bent, Yorkshire fog and crested dog's-tail. Agriculturally-favoured species include creeping buttercup, white clover, broad-leaved dock, common mouse-ear and spear thistle.

Lesser knapweed is frequent in parts of the field, and indicative of semi-improved neutral grassland, along with self-heal, field woodrush and greater bird's-foot trefoil. However, indicators of higher quality semi-improved grassland appear to be absent, and grazing pressure has favoured grass-dominance and a relatively low species-diversity. A few common moss species of disturbed ground were noted, including *Bryum rubens* and *Tortula truncata*. A waxcap, *Hygrocybe virginea* var. *ochraceopallida*, was the only grassland fungus seen.

The habitat is currently of minor ecological significance, but has the potential to revert to a more species-rich grassland under appropriate management.

Semi-Natural Broad-leaved Woodland (A1.1.1)



(top) Bramble dominates most of the woodland floor beneath ash and hazel; (bottom-left) sparse ground flora on upper slope; (bottom-right) hazel in understory

A largely unmanaged woodland occupies the steeper streamside slope. Ash is dominant, with some English oak and an understory of hazel, hawthorn and holly. There are small numbers of sycamore, beech, young wych elm and hornbeam. Although many trees are young and slender, some of the ash trees are more mature. The ground flora is strongly dominated by bramble, and more open patches created by periodic horse-grazing on the upper slope have a sparse flora, with species such as lesser celandine, yellow archangel and dog's mercury. A

few damp patches on the lower slope have opposite-leaved golden saxifrage under the bramble. This woodland is of local ecological significance.

Hedgerow: Intact Species-poor (J2.1.2) / Defunct (J2.2.2) / Wall (J2.5)



(top) roadside hedge; (bottom-left) eastern boundary hedge; (bottom-right) northern boundary wall

The roadside hedge is a regularly trimmed but dense and relatively diverse hedge. Hawthorn dominates, but there are patches of holly and yew, and occasional hazel, blackthorn, elder, oak and ash. There are no standard trees. The hedge is set on a 1-2m bank with a ground

flora which includes dog's mercury, gooseberry, greater stitchwort, bush vetch, field scabious and hedge woundwort.

In contrast, the eastern boundary hedge is a sparse, gappy hawthorn hedge subject to annual flailing and horse trampling. There are no standard trees, and aerial photos indicate that a patch of taller trees have recently been removed. A short section of this hedge has been laid.

The northern boundary against the chapel is a stone wall with no significant flora. There is a small apiary set against it.

The boundary features here are of minor ecological significance, although the relative diversity of woody species in the roadside hedge may qualify it as an important hedge as defined by the Hedgerow Regulations.

Running Water (G2)



Boundary stream

A stream, mapped as **running water**, forms the southern site boundary. The banks are regularly scoured and the flora is dominated by common mosses and liverworts, together with a few flowering plants such as wavy bittercress and meadowsweet. It appears to be only of minor ecological interest, but feeds into a river designated SSSI some 1km downstream.

3.2 Protected species

A large and active badger sett runs along a long section of the upper woodland boundary. A single outlier, with no signs of recent use, was noted in the hedge on the eastern boundary of the field.

The woodland has some potential to support hazel dormouse, but is poorly structured and lacks significant amounts of hazel or well-developed scrubby margins. If no significant management changes are proposed, no further survey should be required here. The roadside hedgerow also has some potential to be used by this species, and further survey may be required prior to any removal or translocation.

The stream boundary was surveyed for signs of otter. No spraints were found, but water levels were high and the stream is likely to form a commuting corridor. There is some low potential for a maternal den to be located within dense bramble areas in the woodland.



Badger sett at top of woodland

The site currently has no significant potential to support reptiles. No further survey is required. Proposed management would create more structural diversity and basking opportunities.

The grassland on the site is of no value to nesting birds. Two birds of conservation concern

were noted – a yellowhammer was noted in a roadside tree adjoining the site, and a goldcrest was seen in the woodland. The former, red-listed in Wales and the UK, is unlikely to breed in the hedges here, and the habitats on site currently provide very limited foraging opportunities. The latter, amber-listed in Wales, could possibly breed in ivy-covered trees in the woodland. Other birds of conservation concern, such as willow warbler and song thrush, could also potentially be present and breeding in summer.

There are no buildings on the application area, but some of the ash trees within the woodland have dense ivy cover and thus some potential for roosting bats. The surrounding hedgerows will provide foraging and commuting corridors for bats, and there is perhaps likely to be a roost within the adjoining chapel building. The erection of a new dwelling could provide new roosting potential.

3.3 Invasive Species

No invasive non-native species were seen.

4. Discussion

4.1 Scheme Details



A new dwelling would be constructed in the upper part of the field

The proposal is for a One Planet development. Business activities on the land were yet to be fully determined at the time of survey, but would include gardening / vegetable production and beekeeping. A new dwelling would be built. Woodland management would be limited, and an area of grassland would be retained for grazing. Fertiliser inputs would be avoided.

4.2 Recommendations

Bats and Lighting

Although some bats, such as pipistrelles, can be attracted to lighting in pursuit of moths, the longer-term impacts of external lighting are thought to be negative due to a potential impact on moth lifespans and reproductive success. The development should seek to minimise any potential light spill in this currently unlit location. External security lighting should be avoided, and light-spill from internal lighting via windows reduced as far as possible.

Hedgerows and Hazel Dormouse

A visibility splay may be required at the current access. Translocation of sections of this hedgerow should follow a best-practice technique such as 'incremental dragging'. Work should be carried out by an experienced machine operator during the winter period, outside of the bird breeding season and when trees are dormant and most likely to survive. Specific survey for hazel dormouse or a finger-tip search by a suitably qualified ecologist may be required prior to translocation.

Otters

The stream could be used by otters for commuting and potentially for lying-up. Areas of dense bramble may have some potential to be used for maternal dens, so care should be taken to avoid or limit mechanical clearance of such areas without further survey.

Invasive Non-native Species

The site is currently free from non-native species. Particular care should be taken to avoid introducing invasive or potentially invasive species - either intentionally with garden plantings, or unintentionally via stone for tracks or other construction materials. All species listed on Schedule 9 of the Wildlife and Countryside Act must be avoided, and those listed in [Thomas \(2010\)](#) should also be avoided.

4.3 Promotion of Biodiversity at the Site

Any improvements in grassland quality would depend on reductions in grazing pressure, particularly during summer and winter periods.

The eastern boundary hedgerow is poor-quality, gappy, and subject to annual flailing. Double-fencing, a reduced frequency of management, and planting and protection of standard trees within the gaps could enhance its potential for biodiversity. Development of a thick, bushy hedge could increase the value of the site to yellowhammers.

A new dwelling and barn here would prove attractive to roosting bats, and consideration should be given to specifically designed bat roost features within one or both of them.

5. Summary and Conclusions

Any development on the upper part of the site would impact only on poor quality, heavily-grazed grassland and could potentially diversify opportunities for wildlife. Buildings could provide roosting opportunities for bats and nest spaces for birds. The area of woodland on the site should be subject to minimal management, and the active badger sett protected from potentially damaging operations. Any hedgerow translocation required should take account of the potential for nesting birds and hazel dormouse. Care will be required to ensure light pollution does not impact the site, and that invasive non-native species are not introduced.

6. References

Nature Conservancy Council 1990 *Handbook for Phase I habitat survey*

Thomas, S (2010). *Horizon-scanning for invasive non-native plants in Great Britain*. Natural England Commissioned Reports, Number 053.

Appendix 1 Plant Species recorded at the site during the walkover visit 13/11/2021

Ash	<i>Fraxinus excelsior</i>
Atlantic Ivy	<i>Hedera helix hibernica</i>
Barren Strawberry	<i>Potentilla sterilis</i>
Beech	<i>Fagus sylvatica</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Bush Vetch	<i>Vicia sepium</i>
Butterbur	<i>Petasites fragrans</i>
Cat's-ear	<i>Hypochoeris radicata</i>
Chickweed	<i>Stellaria media</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common Bent	<i>Agrostis capillaris</i>
Common Dog Violet	<i>Viola riviniana</i>
Common Dog-rose	<i>Rosa canina</i>
Common Mouse-ear	<i>Cerastium fontanum</i>
Cow Parsley	<i>Anthriscus sylvestris</i>
Creeping Buttercup	<i>Ranunculus repens</i>

Crested Dog's-tail	<i>Cynosurus cristatus</i>
Dandelion	<i>Taraxacum officinale</i>
Dog's Mercury	<i>Mercurialis perennis</i>
Elder	<i>Sambucus niger</i>
Field Scabious	<i>Knautia arvensis</i>
Field Woodrush	<i>Luzula campestris</i>
Foxglove	<i>Digitalis purpurea</i>
Giant Fescue	<i>Festuca gigantea</i>
Gooseberry	<i>Ribes uva-crispa</i>
Goose-grass	<i>Galium aparine</i>
Greater Bird's-foot Trefoil	<i>Lotus uliginosus</i>
Greater Stitchwort	<i>Stellaria holosteoides</i>
Ground Ivy	<i>Glechoma hederacea</i>
Hart's-tongue Fern	<i>Phyllitis scolopendrium</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Coryllus avellana</i>
Hedge Woundwort	<i>Stachys sylvatica</i>
Herb Robert	<i>Geranium robertianum</i>
Holly	<i>Ilex aquifolium</i>
Hornbeam	<i>Carpinus betulus</i>
Lesser Celandine	<i>Ranunculus ficaria</i>
Lesser Knapweed	<i>Centaurea nigra</i>
Male Fern	<i>Dryopteris filix-mas</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Nettle	<i>Urtica dioica</i>
Nipplewort	<i>Lapsana communis</i>
Opposite-leaved Golden Saxifrage	<i>Chrysosplenium oppositifolium</i>
Pedunculate Oak	<i>Quercus robur</i>
Perennial Rye-grass	<i>Lolium perenne</i>
Procumbent Pearlwort	<i>Sagina procumbens</i>
Red Campion	<i>Silene dioica</i>
Red Fescue	<i>Festuca rubra</i>
Ribwort Plantain	<i>Plantago lanceolata</i>
Scaly Male Fern	<i>Dryopteris affinis</i>
Self-heal	<i>Prunella vulgaris</i>
Sheep's Sorrel	<i>Rumex acetosella</i>
Smooth Meadow-grass	<i>Poa pratensis</i>
Spear Thistle	<i>Cirsium vulgare</i>
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>
Sycamore	<i>Acer pseudoplatanus</i>
Three-nerved Sandwort	<i>Moehringia trinervis</i>
Thyme-leaved Speedwell	<i>Veronica serpyllifolia</i>
Tufted Hair-grass	<i>Deschampsia cespitosa</i>
Wavy Bittercress	<i>Cardamine flexuosa</i>
White Clover	<i>Trifolium repens</i>
Wood Anemone	<i>Anemone nemorosa</i>
Wood Avens	<i>Geum urbanum</i>
Wood Sedge	<i>Carex sylvatica</i>

Wood Speedwell
Wych Elm
Yarrow
Yellow Archangel
Yew
Yorkshire Fog

Veronica montana
Ulmus glabra
Achillea millefolium
Lamiastrum galeobdolon ssp. montanum
Taxus baccata
Holcus lanatus