



*Wyndrush Wild*  
Tel: 07870515942

**Preliminary Ecological Assessment  
for a proposed development  
at Nant-y-Caws Recycling Centre  
Nantycaws  
Carmarthen  
Carmarthenshire**

**Client:** Cwm Environmental Ltd

**Survey Date:** 2<sup>nd</sup> July 2024

**Report Reference:** WW/20724

**Author:** Matt Sutton

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## 1. Introduction

Wyndrush Wild was contracted to carry out a preliminary ecological appraisal in support of an application to Carmarthenshire County Council for a new solar farm on land at Nantycaws. The grid reference is SN472173 (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 or sites in the area.



Figure 1. Application Area

## Site Description

The proposed site comprises part of an old landfill site to the east of Carmarthen, capped with at least a metre of soil and covered in grassland. The ground slopes gently to the south and east.



Figure 2. Proposed Development Site

## 2. Methodology

### 2.1 Desk Exercise

A limited desk exercise was carried out. Pen-ty Meadows and Woods SSSI is just under 1km to the south-west. The Carmarthenshire Rare Plant Register holds no records for the site; the closest being a record of meadow brome (*Bromus commutatus*) from 1km to the north. The British Bryological Society database holds no records for the site. Hazel dormice have been recorded approximately 1km from the site. A PEA for an adjoining site to the east was carried out by Fiona Lanc, Habitat Matters in 2023; no notable species or habitats were recorded.

## 2.2 Extended Phase I Survey

A thorough site inspection was made on 2<sup>nd</sup> July 2024. 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.

## 2.3 Constraints

There were no significant constraints to the survey. Most of the grassland had been topped prior to survey, but an assessment could be made from vegetative material.

### 3. Results

#### 3.1 Vegetation and habitat survey

The habitats at and adjoining the site location were recorded in detail. The application area comprises four grassland types: improved grassland (B4), poor semi-improved grassland (B6), semi-improved neutral grassland (B2.2) and marshy grassland (B5). There are patches of scrub (A2). The western boundary is a stone track.



Figure 3. Phase I habitat map

TN1: Japanese knotweed

**Improved Grassland (B4) / Tall Ruderal (C3.1) / Scrub (A2)**

*The core part of the application area comprises this area dominated by coarse grasses with nettles and pendulous sedge.*

The grassland across the main, western part of the site comprises a grass-dominated sward, subject to regular topping. Creeping bent and Yorkshire fog dominate, and rough meadow grass, perennial rye-grass and cock's-foot were also noted. Associated species are almost all indicators of nutrient-enrichment or disturbance, with nettle, creeping buttercup, broad-leaved dock and pendulous sedge all prominent. Such improved grassland is of little ecological value, although the coarse structure of this sward may make it attractive to some common invertebrates, small mammals and possibly reptiles.

Some unmown areas around gas wells and alongside an old fence are dominated by great willowherb, with a few additional competitive species such as nettle, common figwort, male fern, hemlock water-dropwort, cow parsley, hogweed and false oat-grass. Bramble is also scattered in such patches, and some have field rose and grey willow. These patches can be referred to as tall ruderal with scattered scrub. They are of some minor ecological interest, and provide habitat for insects and nesting birds.



*Patches of unmown tall ruderal and scrub are associated with gas wells and an old fenceline*

**Poor Semi-improved Grassland (B6) / Semi-improved Neutral Grassland (B2.2) / Marshy Grassland (B5)**



*The eastern part of the site has semi-improved grassland, which becomes progressively damper towards the lower edge of the slope*



The eastern part of the site has semi-improved grassland of variable quality. That on the northern side of an old fenceline is – like the improved grassland - dominated by creeping bent and Yorkshire fog, and Italian rye-grass is at least locally-frequent. However, hairy sedge is also abundant in the sward, and a few plants more typical of semi-improved grassland, such as greater bird's-foot trefoil, meadow buttercup, common vetch, self-heal and lesser knapweed, are at least occasional. Disturbance indicators such as common ragwort and broad-leaved dock are also occasional.

To the south of this old fence-line, the sward is slightly more diverse, with finer-leaved grasses such as crested dog's-tail and common bent, and a broader range of wildflowers which include meadow vetchling, red clover, lesser stitchwort and lesser trefoil. Towards the eastern edge on the lower part of the slope, apparently damper conditions encourage species such as ragged robin and marsh bedstraw to appear in the sward, and where these occur alongside frequent soft-rush, marshy grassland has been mapped. In the National Vegetation Classification, some of this may be a form of *Holcus lanatus* – *Juncus effusus* rush-pasture (MG10) rather than *Juncus effusus* / *acutiflorus* – *Galium palustre* rush-pasture (M23). The eastern boundary of this area has similar but unmown marshy grassland, with compact rush alongside the soft rush, as well as taller plants such as common figwort and marsh thistle. Small patches of meadowsweet also occur towards the northern corner of the site.



*Small areas of unmown marshy grassland including this patch of meadowsweet are present around the edge of the site*

Both marshy grassland and semi-improved grassland (where classed as ‘Lowland Meadows’) are Priority Habitats under the Environment (Wales) Act (2016). Recent topping prevented a full quality assessment of the sward, but the semi-improved grassland appears to lack common bird’s-foot trefoil or other good indicator species for lowland meadows. Although much of the marshy grassland is broadly referable to rush-pasture, it is a grassy and not notably species-rich example. The grassland can be considered of no more than local ecological value as a result.

### 3.2 Protected species

No badger setts, latrines or signs of foraging were found on the site. The development will not affect badgers. The site has no potential to support otters or hazel dormice.

The site generally has low potential for reptiles and amphibians, although widespread species such as grass snake could be present in the grassland, and the unmown areas provide potential refuges for these. No further survey should be required, but a Reasonable Avoidance Measures Scheme for reptiles may be required to take account of their potential presence.

The grassland is of little value to birds, and no skylarks were singing here. Two birds of conservation concern – linnets and whitethroats – were associated with small scrub patches, and the site potentially holds a breeding pair of each.

No bat survey was carried out. There is no potential for roosting bats on the site – there are no mature trees or buildings. The site could be used by foraging bats.

### 3.3 Invasive Species



*(left) A single patch of Japanese knotweed is present in the application area*

There is one patch of Japanese knotweed in the application area, for which treatment via stem injection is proposed.

## **4. Discussion**

### **4.1 Scheme Details**

The development proposal is for a solar farm. No further details were available prior to survey.

### **4.2 Recommendations**

Any clearance of scrub required should take account of the potential for nesting birds, and take place outside of the breeding season (March 1<sup>st</sup> – August 31<sup>st</sup>).

Semi-improved grassland and marshy grassland should be maintained between solar panels, and ideally managed through mowing in March and August/September with all arisings taken off-site for composting. This would deplete soil fertility and promote wildflowers, at least in areas not subject to heavy shading.

### **4.3 Compliance with Environment (Wales) Act 2016**

The Environment (Wales) Act 2016 replaced the NERC (2006) Act in 2016. This now imposes a stronger duty for Local Authorities to maintain and enhance biodiversity. Planning Policy Wales (PPW) 11 set 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”. This policy and subsequent policies in Chapter 6 of PPW 11 respond to the Section 6 Duty of the Environment (Wales) Act 2016. PPW has been revised to PPW 12, with legislation on green infrastructure and stepwise approach to biodiversity and planning.

Carmarthenshire County Council thus requires that biodiversity enhancements are included in all proposals, and a ‘Step-Wise Approach’ to developments must be taken. This means that the first priority for planning authorities is to avoid damage to biodiversity in its widest sense. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites (including alternative siting and design options) that would result in less harm, no harm or benefit have been fully considered. Proposals in statutory designated sites are, as a matter of principle unacceptable, and therefore must be excluded from site searches undertaken by developers. This principle also extends to those sites containing protected species and habitats which are irreplaceable and must be safeguarded. Such sites form the heart of resilient ecological networks and their role and the ecosystem services they provide must be protected, maintained and enhanced and safeguarded from development. When all locational, siting and design options for avoiding damage to biodiversity have been exhausted, applicants, in discussion with planning authorities must seek to minimise the initial impact on biodiversity and ecosystems by:

- maintaining the largest possible area of existing habitat supporting biodiversity and functioning ecosystems, particularly Section 7 habitats and species where present, by

minimising development size and appropriate orientation on site, paying due regard to the potential for continued long term maintenance and management of retained areas to benefit biodiversity.

Having due regard to the above, the proposal should firstly seek to avoid development on at least the main area mapped as marshy grassland, as this is referable to the 'Purple moor-grass and Rush-pastures' Priority Habitat. The adjoining semi-improved neutral grassland, although not currently referable to 'Lowland Meadows' Priority Habitat, should also be excluded from the development footprint if possible, and managed towards a more species-rich grassland through late summer mowing with associated removal of arisings.

Development of the core part of the site, currently nutrient-rich improved grassland, is unconstrained by habitat or species features. It could possibly be capped with an impoverished substrate prior to panel installation. Impoverished stoney soil, sand, rubble or marine dredgings for example, can create valuable habitat for wild plants and insects if managed appropriately. Natural colonisation processes may be preferred. The reduced plant growth in such situations would potentially reduce the amount of mowing or other maintenance required.

## 5. Summary and Conclusions

The proposed development presents some risk to habitats in the area, as areas of semi-improved neutral grassland and marshy grassland would be impacted. However, the former does not meet the criteria for classification as Priority Habitat, and the latter is Priority Habitat of relatively low quality. Protected species are unlikely to be affected provided any clearance work is carried out in a considered and timely manner. Opportunities may exist to make the development net-positive for biodiversity, should the development footprint be able to avoid Priority Habitat areas, and should there be an option to replace the current improved grassland with naturally-developing open-ground vegetation over an infertile substrate.

## 6. References

Handbook for Phase I habitat survey Nature Conservancy Council 1990

### Appendix 1 Plant species recorded at the site during the walkover visit 2/7/2024

|                |                             |
|----------------|-----------------------------|
| Common Bent    | <i>Agrostis capillaris</i>  |
| Creeping Bent  | <i>Agrostis stolonifera</i> |
| Garlic Mustard | <i>Alliaria petiolata</i>   |
| Meadow Foxtail | <i>Alopecurus pratensis</i> |
| Wild Angelica  | <i>Angelica sylvestris</i>  |

|                             |                                |
|-----------------------------|--------------------------------|
| Cow Parsley                 | <i>Anthriscus sylvestris</i>   |
| False Oat-grass             | <i>Arrhenatherum elatius</i>   |
| Wavy Bittercress            | <i>Cardamine flexuosa</i>      |
| Hairy Sedge                 | <i>Carex hirta</i>             |
| Pendulous Sedge             | <i>Carex pendula</i>           |
| Lesser Knapweed             | <i>Centaurea nigra</i>         |
| Creeping Thistle            | <i>Cirsium arvense</i>         |
| Marsh Thistle               | <i>Cirsium palustre</i>        |
| Creeping Thistle            | <i>Cirsium vulgare</i>         |
| Dogwood                     | <i>Cornus sanguinea</i>        |
| Crested Dog's-tail          | <i>Cynosurus cristatus</i>     |
| Tufted Hair-grass           | <i>Deschampsia cespitosa</i>   |
| Common Couch                | <i>Elytrigia repens</i>        |
| Great Willowherb            | <i>Epilobium hirsutum</i>      |
| Hoary Willowherb            | <i>Epilobium parviflorum</i>   |
| Field Horsetail             | <i>Equisetum arvense</i>       |
| Hairy Tare                  | <i>Ervila hirsuta</i>          |
| Tall Fescue                 | <i>Festuca arundinacea</i>     |
| Goosegrass                  | <i>Galium aparine</i>          |
| Marsh Bedstraw              | <i>Galium palustre</i>         |
| Cut-leaved Cranesbill       | <i>Geranium dissectum</i>      |
| Ground Ivy                  | <i>Glechoma hederacea</i>      |
| Hogweed                     | <i>Heracleum sphondylium</i>   |
| Yorkshire Fog               | <i>Holcus lanatus</i>          |
| Compact Rush                | <i>Juncus conglomeratus</i>    |
| Soft Rush                   | <i>Juncus effusus</i>          |
| Hard Rush                   | <i>Juncus inflexus</i>         |
| Nipplewort                  | <i>Lapsana communis</i>        |
| Meadow Vetchling            | <i>Lathyrus pratensis</i>      |
| Ox-eye Daisy                | <i>Leucanthemum vulgare</i>    |
| Italian Rye-grass           | <i>Lolium multiflorum</i>      |
| Perennial Rye-grass         | <i>Lolium perenne</i>          |
| Greater Bird's-foot Trefoil | <i>Lotus pedunculatus</i>      |
| Ragged Robin                | <i>Lychnis flos-cuculi</i>     |
| Black Medick                | <i>Medicago lupulina</i>       |
| Hemlock Water-dropwort      | <i>Oenanthe crocata</i>        |
| Timothy                     | <i>Phleum pratense</i>         |
| Ribwort Plantain            | <i>Plantago lanceolata</i>     |
| Rough Meadow-grass          | <i>Poa trivialis</i>           |
| Silverweed                  | <i>Potentilla anserina</i>     |
| Creeping Cinquefoil         | <i>Potentilla reptans</i>      |
| Pedunculate / Sessile Oak   | <i>Quercus petraea / robur</i> |
| Meadow Buttercup            | <i>Ranunculus acris</i>        |
| Creeping Buttercup          | <i>Ranunculus repens</i>       |
| Japanese Knotweed           | <i>Reynoutria japonica</i>     |
| Bramble                     | <i>Rubus fruticosus</i>        |
| Broad-leaved Dock           | <i>Rumex obtusifolius</i>      |

|                     |                             |
|---------------------|-----------------------------|
| Common Figwort      | <i>Scrophularia nodosa</i>  |
| Red Campion         | <i>Silene dioica</i>        |
| Lesser Stitchwort   | <i>Stellaria graminea</i>   |
| Dandelion           | <i>Taraxacum officinale</i> |
| Lesser Trefoil      | <i>Trifolium dubium</i>     |
| Red Clover          | <i>Trifolium pratense</i>   |
| Nettle              | <i>Urtica dioica</i>        |
| Germander Speedwell | <i>Veronica chamaedrys</i>  |