

**CYNGOR CEFN GWLAD CYMRU  
COUNTRYSIDE COUNCIL FOR WALES**

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

**POWYS**

**RHÔSYDD LLANWRTHWL**

**Date of Notification:** 1994

**National Grid Reference:** SN 935639, SN 945634 and SN 952630

**O.S. Maps:** 1:50, 000 Sheet number: 147  
1:25, 000 Sheet number: SN 96

**Site Area:** 46.4 ha

**Description:**

This site, which is in five portions, comprises a series of unimproved wet pastures on level or gently sloping ground in the valley of the Afon Dulas. This valley has largely escaped modern agricultural practice and has stands of marshy grassland and wet heath that are of significance in both local and regional terms. The size and quality of the stands of wet grassland, wet heath and flush vegetation present at Rhôsydd Llanwrthwl are exceptional, and represent a significant proportion of the higher quality remnants of this habitat resource left in Brecknock. Several locally scarce plants are present, and nationally scarce invertebrates have been recorded from the site.

The site lies 2 miles south-west of Rhayader on the eastern fringe of the Cambrian Mountains, at an altitude of approximately 300 metres. The hard geology is relatively complex as the site lies on the junction between Llandovery rocks of Silurian age to the north-west, and on Ashgill rocks of Ordovician age to the south-east. Both are sedimentary rocks which give rise to nutrient-deficient, acid soils. The picture is complicated by the mantle of peat that covers much of the site. This, in some cases, would appear to be of a considerable depth and has been cut in the past for fuel.

The vegetation communities overlying these substrates are typical of such situations and, before the advent of more intensive agricultural practices, would have been widespread in mid-Wales. The most common plant communities present at Rhôsydd Llanwrthwl are those in which either soft-rush *Juncus effusus* or sharp-flowered rush *J. acutiflorus* dominates, but amongst these, smaller species such as velvet bent *Agrostis canina*, common marsh-bedstraw *Galium palustre*, greater bird's-foot-trefoil *Lotus uliginosus*, marsh thistle *Cirsium palustre*, marsh pennywort *Hydrocotyle vulgaris*, common sorrel *Rumex acetosa* and marsh violet *Viola palustris* occur. The scarce ivy-leaved bellflower *Wahlenbergia hederacea* is locally abundant within this vegetation type.

Where the ground is more waterlogged, the above community tends to be transitional to one in which purple moor-grass *Molinia caerulea* is more prominent. In the more species-poor stands, purple moor-grass is frequently the overwhelming dominant, with only sparse shoots of tormentil *Potentilla erecta* and of a few grasses such as sweet vernal-grass *Anthoxanthum odoratum*, sheep's-fescue *Festuca ovina*, common bent *Agrostis capillaris* and velvet bent.

In other stands, though purple moor-grass is still dominant, the associates are much more mixed and include a distinct heathy element, with species such as cross-leaved heath *Erica tetralix* and heather *Calluna vulgaris* being joined here by a diverse assemblage of associates, including star sedge *Carex echinata*, carnation sedge *C. panicea*, common cottongrass *Eriophorum angustifolium*, mat-grass *Nardus stricta*, bog asphodel *Narthecium ossifragum*, round-leaved sundew *Drosera rotundifolia* and the bog-mosses *Sphagnum papillosum* and *S. capillifolium*. Within this community the regionally scarce petty whin *Genista anglica* is locally frequent.

On pockets of deeper peat, or where peat cutting has occurred in the past, there is a further transition. The vegetation here still has many of the species mentioned above, but purple moor-grass is no longer dominant and its tussocks are interspersed with lawns of more open-structured vegetation, in which deergrass *Scirpus cespitosus* is prominent, along with cross-leaved heath and heather. In wetter areas of this community, cranberry *Vaccinium oxycoccos* and hare's-tail cottongrass *Eriophorum vaginatum* are both prominent. In addition to the typical stands of this community, small areas of different sub-communities also occur. In one of these, the wet heath element is enriched by surface flushing, resulting in high cover of sedges such as carnation and star sedge. In the second sub-community, conditions are much drier with moisture-loving species generally being replaced by plants such as bilberry *Vaccinium myrtillus*, mat-grass and heath rush *Juncus squarrosus*. Particularly where excessive burning and heavy grazing have taken place, this community is replaced by one in which heath rush and mat-grass are abundant, with the ericoids reduced in both vigour and frequency.

Further variety is lent to the vegetation by the amount of ground-water flushing that occurs on the site. Most often, such ground-water is still relatively base-poor, and is characterised by dominant soft-rush or sharp-flowered rush over a carpet of the bog-moss *Sphagnum recurvum*. In other areas, the bog-moss cover remains high, but the tall canopy of rushes is absent, enabling the ubiquitous star sedge to be joined by other sedges such as common sedge *Carex nigra*, carnation sedge and common yellow-sedge *Carex demissa*. Where somewhat more base-rich ground-water flushes the substrate, a very distinctive soakway dominated by marsh St John's-wort *Hypericum elodes* and bog pondweed *Potamogeton polygonifolius* occurs.

Very locally, springlines bearing quite mesotrophic ground-water arise, providing one of the most floristically diverse vegetation types found on the site. Species present in such situations include tawny sedge *Carex hostiana*, flea sedge *Carex pulicaris*, common butterwort *Pinguicula vulgaris* and the locally uncommon meadow thistle *Cirsium dissectum*.

The site includes a significant component of scrub and wet woodland, the most abundant species being rusty willow *Carex cinerea* subsp. *oleifolia* and alder *Alnus glutinosa*, the latter occurring particularly as a corridor along the Afon Dulas and providing cover for otters. The river itself is still relatively unpolluted and holds a diverse population of freshwater invertebrates. These in turn support good populations of young salmon *Salmo salar*, trout *Salmo trutta* and brook lamprey *Lampetra planeri*.

The bird interest of the area is considerable. Waders such as curlew, snipe and woodcock use the wet pastures, and the area provides important hunting territory for raptors such as buzzard and red kite. The valley is particularly important as a rich foraging area for small passerines such as whinchat, linnets and tree pipit. Barn owls hunt over the site.

The invertebrates of the site are also of considerable note. The lepidoptera have been relatively well studied and the fauna is typical of that of good rhos (wet heathy) pasture. Characteristic species include the marsh fritillary butterfly *Eurodryas aurinia*, the silver hook moth *Eustrotia uncula*, the Devon carpet *Lampropteryx otregiata* and the ruddy highflyer *Hydriomena ruberata*. All these are scarce in Britain as a whole and their populations on the wet pastures of Wales are of national importance. Other butterflies present include small pearl-bordered fritillary *Clossiana selene*, dark green fritillary *Argynnis aglaja*, green hairstreak *Callophrys rubi* and common blue *Polyommatus icarus*. The dragonflies are also of interest and include typical species of acidic streams, such as the golden-ringed dragonfly *Cordulegaster boltonii* and the beautiful demoiselle *Calopteryx virgo*. Also present on the site is the keeled skimmer *Orthetrum coerulescens*, which is a very localised inhabitant of acidic flushes in mid-Wales.

### **Remarks:**

Part of the site is owned by the Royal Society for the Protection of Birds.

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