

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

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

CEREDIGION

GRO YSTWYTH

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Site Area: 58.9 ha

Description:

Gro Ystwyth is of special interest for both its fluvial geomorphological and biological features. The site comprises six discrete areas along the middle and upper reaches of the Afon Ystwyth, the largest of which is 2 km west of Pontrhydygroes and known as Grogwynion. This area contains a particularly fine example of an actively braiding river system, a feature which is now quite rare in Wales. Throughout the site, the alluvial deposits on the valley floor support a mosaic of riverside habitats, including rare 'shingle heath' communities which are known from only one other river in England and Wales. A rich and unique assemblage of lichens is found at Grogwynion, including species associated with metal-rich habitats.

Fluvial Morphology

The reach of the Afon Ystwyth at Grogwynion is one of the finest examples of an actively braiding river in Wales and is important for studies of processes and form in gravel-bed rivers. Changes in planform have been reconstructed over the last hundred years, during which time the river has moved across the valley floor creating a series of abandoned chutes. This pattern of behaviour may reflect the high toxicity of the sediments, associated with past mining activity, impeding vegetation development and, therefore, bank stability, rather than the input of coarse sediment to the system. Recent studies have shown rapid contemporary change in the channel section in response to high magnitude floods.

Biology

Lateral movement of the river channel has led to the deposition of shingle and finer sediments on which has developed a mosaic of habitats, ranging from unstable shingle beach communities to grassland, heathland and scrub. The vegetation communities tend to occur in bands, reflecting the presence of a series of shingle ridges and depressions underlain by sediments of varying grain size.

The ecological setting and types of heathland communities which have developed on the shingle of the rivers Rheidol and Ystwyth are highly distinctive and very unusual in southern Britain; the only known examples showing any close similarity are found in central and northern Scotland. Grogwynion has the largest area of such communities in England and Wales. They are characterised by the presence of heather *Calluna vulgaris*, with wavy hair-grass *Deschampsia flexuosa*, purple moor-grass *Molinia caerulea*, sheep's-fescue *Festuca ovina*, and sheep's-bit *Jasione montana*. In the more grassy areas, common bent *Agrostis capillaris* is frequent and sheep's sorrel *Rumex acetosella* is common on less stable shingle banks. The metal-tolerant sea campion *Silene uniflora* is an unusual feature of the communities.

Some of these heathland communities include an extensive cover of mosses and lichens, with mounds of *Pleurozium schreberi* moss and prominent clumps of *Cladonia* lichens. At Grogwynion, the lichens include the uncommon *C. fragilissima* and *C. uncialis* ssp. *uncialis*. The latter is rare in Scotland and unknown elsewhere in Britain south of the Scottish border. Lichen species which are normally montane, such as *Stereocaulon condensatum* and *Epilichen scabrosus*, are present at low altitudes on these river gravels and contribute to making this lichen assemblage unique.

Parts of the now abandoned Grogwynion and Gwaithgoch metal mines are included in the site. On the abandoned spoil heaps and remains of buildings there has developed a rich metallophyte lichen flora, including a number of nationally scarce species such as *Vezdaea acicularis*, *Gyalidea subscutellaris* and *Thelocarpon impressellum*.

Tree regeneration on the flood plain is probably restricted by the nutrient-poor, porous substrate and the high concentrations of heavy metals which have resulted from past mining activity. Gorse *Ulex europaeus* is common, and in places forms thick bands of scrub, with occasional western gorse *Ulex gallii*. Damp scrub-woodland of grey willow *Salix cinerea* has developed in places alongside backwaters, the latter dominated in parts by broad-leaved pondweed *Potamogeton natans* and floating sweet-grass *Glyceria fluitans*. Large areas of marshy grassland dominated by purple moor-grass occur where drainage is impeded, such as in areas of fine silt, and there are patches of great wood-rush *Luzula sylvatica*.

Large areas of unstable river shingle at Grogwynion support a number of nationally scarce species of beetle, including the five-spot ladybird *Coccinella quinquepunctata*. Frequent signs of otter activity can be found at the site.

Remarks:

The majority of Grogwynion is managed as a nature reserve by the Wildlife Trust West Wales. Otter is listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Annexes II and IV of the European Council Directive 92/43/EEC on the conservation of Natural Habitats and of Wild Fauna and Flora.

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