



## **Bryniau'r Canolbarth – Disgrifiad Cryno**

Mae Bryniau'r Canolbarth yn llwyfandir uchel, eang, ac yn gefnen fewndirol sy'n gwahanu dalgylchoedd afonydd y dwyrain rhag rhai'r gorllewin. Dyma un o ardaloedd ehangaf a mwyaf tawel de Ynys Prydain. Mae Gwy, Hafren ac Wysg, ymysg eraill, yn tarddu oddi yma. Mae nifer helaeth o ddyffrynnoedd dyfnion a nodweddion rhewlifol, gan gynnwys sawl dyffryn ffurf "U", llyn a marian. Â'i gilydd, mae mawnogydd, pyllau, gweunydd agored a choedwigoedd conwydd helaeth yn gorchuddio llawer o'r ardal, heblaw'r ymylon a'r dyffrynnoedd dyfnach, lle mae caeau gleision, ir wedi'u cysgodi gan wrychoedd trwchus. Mae sawl cronfa fawr, hefyd, sydd â'u siapiau'n ymddolennu wrth i ffurf y tir newid yn aml. Y mae'n ardal bellennig, yn nannedd y gwynt: yn denau ei phoblogaeth, gydag ond ychydig aneddiadau. Bu cloddio yma am gyfoeth mwynau'r fro, gyda gweddillion eto i'w gweld yn ychydig fannau. Ychydig ffyrdd sy'n croesi o'r dwyrain i'r gorllewin, ac y mae cymeriad diwylliannol yr ymylon dwyreiniol a gorllewinol yn dra gwahanol i'w gilydd. Nid yw twristiaeth, a marchnata'r ardal megis "brand", wedi newid llawer ar ei chymeriad annatblygedig, gan fwyaf: ond yn rhai mannau, mae amllder cronfeydd, coedwigaeth a ffermydd gwynt, ynghyd â natur y llystyfiant sy'n ganlyniad i fagu defaid ar raddfa helaeth ar y llwyfandir, yn ein hatgoffa am effeithiau sylweddol ôl llaw dyn ar gymeriad yr ardal.

## **Summary Description**

The Cambrian Mountains form an extensive upland plateau, being an inland spine that divides western and eastern river catchments and forms one of the most extensive and tranquil areas of Southern Britain. The rivers Wye, Severn and Tywi emerge from this area, amongst others. Deep valleys and glacial features are abundant, including a number of 'U' shaped valleys, lakes and moraines. Peat bogs, pools open moorland and areas of extensive coniferous forestry collectively cover much of the area, except in the margins and deeper valleys where lush green fields are sheltered by thick hedges. There are also a number of major reservoirs, whose shapes meander sinuously with the many changes in topography. It is a windswept, remote and sparsely populated area with very few settlements. The area's mineral wealth has been exploited, with remains still visible at a few locations. Few roads cross from east to west, and the cultural character between eastern and western fringes is quite different. Tourism and marketing the area as a brand have not distracted from the predominantly undeveloped character. However the abundance in some areas of reservoirs, forestry and wind farms, together with the legacy land cover from extensive plateau sheep rearing, reminds us of the significant effects of human activity on the overall character of the area.



Key Characteristics
<b>Upland plateau</b> - A band of resistant Silurian grits forming a vast upland, rolling, windswept plateau of moorland hills and incised valleys at the heart of Wales.
<b>Deep valleys and glacial features</b> - Glaciation gouged deeply dissected U-shaped valleys into the plateau, as well as corries (cymoedd), lakes and moraines.
<b>Open moorland and forestry</b> - Thin soils support extensive tracts of sheep grazed grassy moorland – the smooth slopes are interspersed with bracken scrub, wind blown oaks and angular blocks of coniferous forestry.
<b>Peat bogs, pools</b> - Upland peat deposits give rise to large areas of blanket bog and pools of open water.
<b>Hedgerow enclosed pastures</b> - Deep valleys on the edges of the moorland, with their distinctive pattern of hedgerow enclosures, lush pastures for stock grazing, and woodland.
<b>Major reservoirs</b> – notably Nant-y-Moch, Llyn Clywedog, Craig Goch, Penygarreg, Garreg-ddu, Claerwen and Llyn Brianne are features of the valleys, contributing to the landscape's man-made features.
<b>Mineral exploitation</b> - Metal ores have been exploited from the prehistoric period with evidence for Bronze Age copper working at Copa Hill, however, most activity relates to extensive lead and silver mining which occurred principally during the 19th and 20th centuries.
<b>Lack of settlement</b> - Settlement is largely absent, being confined to the lower hillsides and valleys, however, a large number of deserted settlements indicate that settlement was once more widespread than today.
<b>Natural features</b> - Screes and cliffs, gritstone outcrops, stony summits, bracken scrub and wind blown oaks provide texture in the landscape.
<b>Panoramic views</b> - from high summits over the moorlands and adjacent lowlands are a feature of the hills.
<b>Tranquil</b> - The mountains engender a sense of remoteness because of their dark night-time skies, low population density, relative inaccessibility, the impression of naturalness they impart and the relative lack of visible, built influences.
<b>Archaeology</b> - The mountains contain a significant scattering of prehistoric monuments, including round barrows, cairns, stone circles and standing stones, Iron Age hillforts and settlements. The fort at Cae Gaer indicates a Roman presence, while the Cistercian abbey of Strata Florida was established on the west side of the mountains in the late 12th century. Its granges covered much of this area as well as part of lowland Ceredigion.

## Visual and Sensory profile

This extensive, windswept, upland area is notable for its sense of vast emptiness, on either side of gentler landscapes. It is not generally a landscape of steep, high peaks but more of a smooth and undulating, very exposed upland plateau, moulded by glaciation. Its sweeping open panoramas are on a grand scale. Although moorland dominates the plateau, it is interrupted in a few places by peaks and knobs including Plynlimon. It offers some of the longest distance views in Wales - endless vistas, occasionally with small lakes in the foreground. Many areas are only accessible on foot or horseback and on occasion at the fringes of the plateau, the land gives way via dramatic cliffs, corries and scree slopes. Narrow valleys carve the plateau and its fringes, ranging from small ravines and gorges to twisting and lengthy U-shaped valleys. Their valley sides are clothed in semi-natural woodland or conifer plantations with 'ffridd' pasture on shallower slopes and valley floors. Several of our most notable rivers issue from the Cambrian Mountains, including the Tywi, Severn and Wye.

Our perception of colour changes dramatically with the quality of light and through the seasons with heather and gorse adding colourful highlights to the hills, in contrast to the bracken and tussocky grass on other parts. There are many low-angle views across summit ridges, where the topography of the intermediate valleys is hidden. Some of these include 'borrowed' backdrop from uplands in other areas, notably Eryri and Y Berwyn to the north and Brecon beacons to the south. The visual effect is one of vast, uninterrupted extents of rolling moorland. Topography moulds the various, often large, reservoirs into twisting, linear forms. In some places, small fingers of water penetrate intermediate side valleys whilst steep hillside spurs fall down between them, resulting in very remote and hard to access shorelines.

Isolated farmsteads, where they exist, are often sheltered by coniferous shelter belts, which stand out against the light coloured open moorland.

The presence of car parks, forestry plantations, wind farms and reservoir infrastructure contrasts from the sense of open remoteness in places, as does the busy A44 trunk road, which crosses the mountain range and forms a vital transport link to the Aberystwyth area. Jet aircraft training exercises also have a visible and audible presence at times, but even so, this is one of the most tranquil areas in southern Britain, devoid of light pollution and with little noise. It offers a glorious solitude and represents an increasingly rare and fragile resource.



Upper Elan valley, above the reservoirs, with a fresh sward of green in summer. © Bronwen Thomas



For much of the year these remote uplands are more brown than green. View near Soar-y-mynydd © Bronwen Thomas



In contrast, the deeply cut upper Tywi valley near Rhandirmwyn © John Briggs



The remote, tranquil, Elan Valley reservoir and a winter's hue to the vegetation. © Bronwen Thomas



An isolated upland farm in the upper Elan valley and its associated shelter belt plantation.

© John Briggs



Extensive forestry near Devil's Bridge. © John Briggs

## Geological Landscape influences

The Cambrian Mountains consist of an extensive tract of deeply dissected upland plateau which reaches a maximum elevation of 752m along the summit ridge of Pumlumon Fawr. The area contains the sources of several major rivers including the Severn, Wye, Rheidol, Ystwyth, and Teifi, as well as the Tywi which outfalls from Llyn Brianne Reservoir. A number of the high valleys have been impounded to form large reservoirs that form an important component of the landscape. In the north these include Nant-y-moch Reservoir at the head of the Rheidol Valley and Llyn Clywedog Reservoir to the north-west of Llanidloes. Farther south in the Elan catchment are the Claerwen, Caban Coch and Carreg-ddu, Penyarreg and Craig Goch reservoirs, whilst tributaries of the Tywi catchment have been captured in Llyn Brianne.

The bedrock geology of the Cambrian Mountains comprises mid-Ordovician to mid-Silurian sedimentary and volcanic rocks, the former having repetitive sequences of sandstones, siltstones and mudstones. Fold and fault structures control the distribution of different rock types, often defining zones that have different susceptibilities to erosion. This can strongly influence the form of the local landscape and frequently give rise to the development of a characteristic linear, ridged topography. From south-east to north-west there are three major folds.

The oldest rocks in the area are basaltic lavas which form a distinctive rugged terrain north of Llanwrtyd Wells. West of Caban Coch Reservoir, late Ordovician rocks are exposed. The trace of the Ystwyth Fault forms a major topographical feature that is coincident with the deeply-incised valley of the Afon Ystwyth and can be traced west-south-west from the Elan catchment into the adjacent Rheidol and Ystwyth Hills and Valleys and Ceredigion Coast character areas, a distance of over 30km. Similarly, the E-W striking Llyfnant Fault defines the course of the Llyfnant Valley for over 10km, in the north-western part of the area. The area is also transected by numerous other faults and frequently define distinctive linear topographic features in the landscape, such as hollows and ridges.

The Cambrian Mountains contains the eastern and southern sectors of the Central Wales Orefield, a major source of lead, silver and zinc with most production during the C19th. The ore was mostly located along mineralised fractures, the traces of which, although not forming a major physical component of the landscape, are now clearly defined by the numerous abandoned spoil tips, shafts and associated mining infrastructure. Major mines in the area include those around Dylife and Van in the north, Cwmystwyth and Pont-rhyd-y-groes in the central areas, and Nantymwyn in the south. The mineralogical diversity of the area is represented by several SSSI including Dylife, Castell and Cwmystwyth mines.

Much of the present-day landscape of the Cambrian Mountains is a product of glaciation. With the possible exception of Pumlumon, the area was completely covered by ice, with major glaciers outflowing north towards the Dyfi, for example along the Twymyn Valley, west towards Cardigan Bay, for example along the Ystwyth and Rheidol valleys, and eastwards towards the Welsh Marches utilizing the Severn and Wye valleys. The glaciers excavated impressive U-shaped valleys, often guided by pre-existing faults in the underlying bedrock as in the case of the Ystwyth Valley. Fine examples of rock-walled cwms occur around the Pumlumon massif, for example above Llyn Llygad Rheidol and Cwm Gwarin, where they are associated with distinctive areas of glacially striated pavement. In the uplands, true glacial till deposits (boulder clay) are generally preserved only in topographic depressions and as localized valley fills. Elsewhere, such deposits have been modified by solifluction (slope processes) or re-worked by post-glacial rivers.

After the main glaciation, perennial snow patches persisted on a few north-facing slopes, resulting in large hollows. Cwm Ddu and Cwm Tinwen in the Ystwyth Valley, Moelfryn above Craig Goch Reservoir, and Cerrig Gwinau above Claerwen Reservoir represent fine examples of these 'nivation cirques'.

Considerable modification of the drainage pattern followed as the glaciers melted. For example, east of Dylife a west-flowing tributary stream of the Afon Clywedog was captured by southward erosion of the head of the Twymyn Valley. This process left an abandoned, high level, till-floored valley (wind-gap), whilst the point of capture is now marked by the spectacular 50m-high stepped waterfall at Ffrwd Fawr. The upper reach of the Afon Twymyn is an SSSI on account of its fluvial geomorphological importance. Similarly, headward erosion of the Ystwyth and Rheidol valleys resulted in a two-stage capture of the headwaters of the Afon Teifi leaving dry, elevated wind-gaps south of Devil's Bridge and south of Pont-rhyd-y-groes, along the transition with Rheidol and Ystwyth Hills and Valleys.

Most upland valley floors in the Cambrian Mountains are filled with a range of morainic drift deposits, including till, clays, sands and gravels, boulders and cobbles. In post-glacial times, these deposits have been extensively re-worked by rivers to form distinctive flights of floodplain terraces, often accompanied by meander belts. The uplands are also characterised by large areas of 'blanket' peat that has developed in response to higher rainfall and restricted or enclosed drainage, often on an impermeable substrate of till. For

example, the large blanket bog at Gors Lwyd, in the Elan Valley, records peat accumulation since early Holocene times, approximately 10,000 years ago, and provides important evidence of recent climatic change. Elements of geomorphological significance form key components of Elenydd and Pumlumon SSSI.

## Landscape Habitats influences

The climate is wet and cool, and the higher peaks and ridges are highly exposed to both prevailing south westerly and the more damaging north easterly winds. Rainfall is high but, for a mountainous area in the UK, there is relatively little snow.

The Plynlimon massif supports a mixture of heathland and blanket bog with acid grassland, whilst mat-grass dominates the steeper and better drained slopes and banks. Heathland is dominated by bilberry and crowberry, with heather dominant only in certain smaller areas, such as around Glaslyn, now a NNR. Starry saxifrage, occurring on rocks and cliffs over the site, is here at its southern-most limit in Britain.

The southern parts are dominated by vast tracts of purple moor-grass, forming a sea of green in the summer, and turning to light brown in the winter. The Elenydd SSSI protects this area especially for its range of breeding upland and woodland birds. Towards the extreme south, Mynydd Mallaen (SSSI) forms a large area of common land rough grazing, and of outstanding importance for its range of habitats, including upland grassland, moorland and blanket bog, as well as fine sessile oak woods and alder-fringed river valleys.

Below the moorland edge the enclosed land provides a stark contrast to the open windswept nature of the hills, and comprises a mosaic of green fields, hedgerows and small woods, albeit often bracken- and gorse-covered on the steeper ground, and with fringing oak woodlands snaking along the steep valley sides. The uplands are also well wooded. There are large areas of coniferous planting such as Hafren Forest in the north and Tywi Forest and Brechfa Forests in the south, forming some of the largest woodland areas in Wales, but of only poor diversity and little interest as habitats. They do however form part of the breeding and foraging areas for the red kites, a bird closely associated with the mountains. The reservoirs give freshwater habitat frequented by waterside birds.

## Historic Landscape influences

The mountains contain a dense scattering of prehistoric, funerary and ritual monuments including round barrows, cairns, stone circles and standing stones, reflecting their long history of human occupation. Hillforts overlook the surrounding lowlands, for example, Castell Rhyfel, Pen Dinas Camp and Pen y Castell. Today, settlement is absent from vast areas of the mountains – it is generally confined to sheltered valleys and lower hillsides where buildings are of a simple style utilising local stone with slate roofs. Farmsteads are often sheltered by coniferous shelter belts which stand out against the light-coloured open moorland. The large number of lluestai (shepherds' huts) and other deserted upland settlements, for example, Nant Gwyddel, Hafod Frith and Hafod Eidos, indicate that settlement was once much more widespread. Agricultural improvements resulted in Parliamentary enclosure of some parts, however, the greater part of the area remains not only uninhabited but unenclosed above the valleys with their distinctive pattern of hedgerow enclosures.



The fort at Cae Gaer indicates a Roman presence here. The Cistercian House of Strata Florida was established on the west side of the mountains in 1184. Its granges covered much of this area, as well as part of lowland Ceredigion, and it is linked to Abbey Cwm Hir in the Radnorshire Hills area to the east, by the celebrated Monks' Trod (footway) across the bleak moorland.

The area was extensively exploited for its reserves of lead, zinc and copper ore in the late 19th and early 20th centuries, bequeathing pitted landscapes of spoil, processing buildings and miners' cottages., though the industry's origins can be traced to the Bronze Age, on the evidence of Copa Hill (Cwmystwyth).

As mining and hill-farming declined, forestry took over, introducing thick, dense coniferous blocks to the open moors. Another significant change was the construction of dams and reservoirs. The 'Birmingham baroque' of the Corporation's Elan dam complex and its associated buildings created one of the largest drinking water supply schemes in Britain. In the last quarter of the 20th century they were actively promoted as a visitor destination, complete with interpretation centre and café, and today there is an active and successful wildlife and landscape conservation regime. The Clywedog Dam was built in 1966, as a means of controlling the waters of the Severn – the highest mass concrete dam in Britain. It is also a valued recreational resource, principally for fishermen and sailing enthusiasts.

## Cultural Landscape influences

The cultural landscape is the story of a hardy breed of men and women who attempted to wrest a living from this stark and challenging environment. They were farmers and shepherds of the lluestai, lead-miners in their diggings, foresters – outlaws and robbers as well, if the tales of Twm Siôn Cati have any truth, or if the mobster Llewelyn Murray 'the Hump' Humphreys (1899-1965) accounts are to be believed.

Lewis Morris' maps and paintings of the mines bring out the inhospitable terrain, yet the gothic and picturesque landscapes of Hafod, once one of the wonders of Wales, also form part of this area. The miners are long gone, but some traditional agricultural practices remain, such as the cutting of 'rhos' hay on some of the more accessible and flatter areas of purple moor-grass, and the communal rounding up of the sheep flocks on horseback in autumn for bringing down to winter grazing on lower land. The traditional rural culture of this area inspired Iorwerth Peate (1901-1982) of Llanbryn-mair, geographer, poet, scholar, pacifist and Curator of the Welsh Folk Museum at St Fagan's.

Mention should be made of the poets associated with Strata Florida Abbey – Gutun Owain, Guto'r Glyn and above all Dafydd ap Gwilym. Strata Florida was the site of a council presided over by Llywelyn the Great around 1238. The English romantic poet P B Shelley found solace and inspiration at Nant Gwylt in the Elan Valley.



Nant-y-moch reservoir on the Pumlimon massif. © John Briggs