

PARTNERIAETH TIRWEDD Y CARNEDDAU LANDSCAPE PARTNERSHIP

Landscape Character Areas

Rhaeadr Fawr, Abergwyngregyn © John Briggs

The mountains of northern Snowdonia contain the highest ground in the Britain south of the Scottish Highlands, with the Carneddau peaks, at over a thousand metres, only slightly lower than those of the Yr Wyddfa (Snowdon) massif. The environment of the Carneddau today is a product of its geology, altitudinal range, climatic conditions and the past and present activity of people. The area has a wet climate with the high Carneddau and inland valleys having the highest annual rainfall in Wales and amongst the highest in the UK, Its topography and its proximity to the sea means that there is great variation and weather systems can change rapidly. The north coast and the lower Conwy Valley generally have a more benign climate than the rest of the area. Winter conditions vary from year to year, but most years there are periods of snow coverage lasting a few days at a time in the high uplands above about 600m.

The Carneddau are geologically complex, with a mix of sedimentary (mudstone, siltstone and sandstone; includes slate) and igneous (volcanic) rock. The ridges and summits are composed largely of igneous rock such as lavas and ash-flows formed from volcanic eruptions about 450 million years ago. These rocks were squeezed into a series of large folds about 50 million years ago, as the earth's tectonic plates moved and collided, leaving the mountains oriented roughly south-west to north-east.

The characteristic landforms of the Carneddau including U-shaped valleys, cwmoedd (corries), moraines (rock debris deposited by glaciers), screes, cliffs and exposed rock were shaped by glaciation during a series of cold climatic periods in the Pleistocene (between about 2 million to 10,000 years ago). Lakes were created by moraine forming natural dams in many of the cwmoedd and valleys. Today the soils of the Carneddau are thin at higher levels but increase in depth and fertility with decreasing altitude; the best soils are fine glacially deposited sediments and alluvial soils in the river valleys.



Nant Ffrancon, classic U-shaped glacial valley © John G Roberts



Igneous rocks (columnar jointing), Tal y Fan © Mike Raine



As the ice retreated, plants slowly began to recolonise barren rock and sediment. Initially the main colonists were mosses and lichens but later flowering plants appeared including arctic-alpine species such as Snowdon Lily, Mountain Avens, and Purple Saxifrage; today, they are found only on the high mountains. As the climate continued to warm, woodland developed, eventually covering most of the area to about 600-700m altitude. Early tree species were juniper scrub and then birch, later giving way to more mixed woodland including pine, elm and small-leaved lime. By around 8,000 years ago, further climate change had led to oak becoming the dominant woodland tree and it remains the dominant species in most native woodland in the Carneddau area today.

There were people in north Wales towards the end of the last Ice Age, but probably just in the summer months, following migrating mammals such as reindeer and mammoth. During the Mesolithic, the period after the end of the Ice Age, people would have been present year-round, in small groups and very low population numbers. They moved around over large areas, exploiting seasonal plant and animals resources through gathering, hunting and fishing. They had a very limited impact on the landscape. During the Neolithic (about 6,000 to 4,500 years ago), as people began to exploit domesticated animal and plant species though agriculture, their impact on the landscape becomes visible in our evidence as signs of declining woodland cover. Quarry stone above Penmaenmawr for axe making and the Maen y Bardd burial tomb date to this period.

Maen y Bardd Neolithic tomb © SNPA

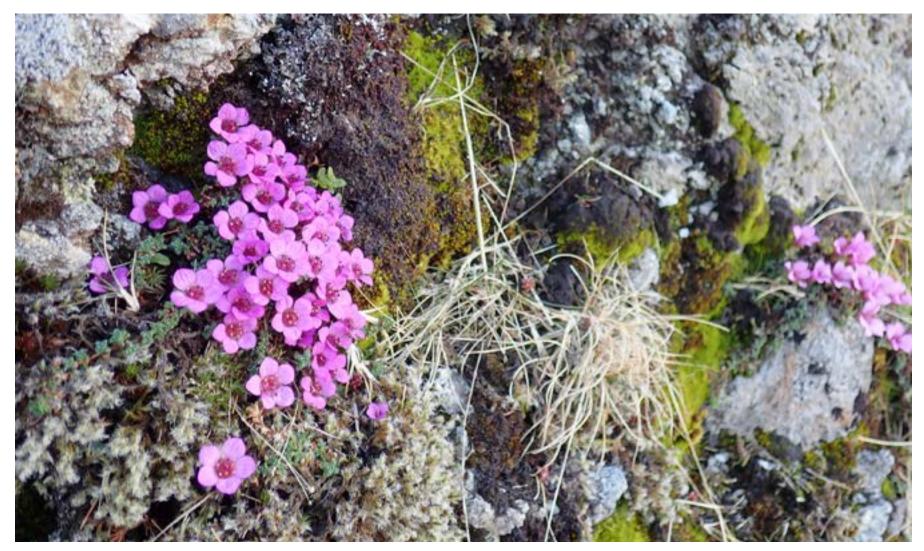
In the uplands, climate change and clearance of woodland created more acidic soils, the spread of acid grassland and heath, and the development of blanket peat on the upland plateaux.

During the Bronze Age (4,500 to 3,000 years ago), the large cairns built on many of the high mountain summits and ridges, and the burial and ceremonial sites (e.g. stone circles, standing stones) which scatter the valleys and mountain fringes of LPS, show that people were active across the entire area of the Carneddau in increasing numbers. Summer grazing of cattle was probably the primary subsistence activity (with hunting secondary), forming the basis of a practice that lasted for thousands of years. We do not know much about their settlements, but in the uplands they were probably temporary structures, possibly even something like yurts. Mounds of burnt stone in crescent shapes beside stream are common in the Carneddau; they mostly date to the Bronze Age and are cooking or sauna places where water was heated in troughs using fire-heated stones.

Round houses, individually or in groups, many with irregular patterns of enclosure around them are found in the Carneddau's high valleys and are probably seasonal settlements from the Iron Age and Roman (roughly 3,000 to 1,500 years ago) period for people managing stock. The enclosures are marked by sparse stone wall-footings and were probably the bases for hedged, fenced or turfed boundaries. They can be difficult to see on the ground, but can cover large areas, for example nearly 10 hectares at one group in Cwm Caseg. The enclosures were probably for corralling livestock for milking, for establishing their cynefin or heft, and for defence against predators – there were wolves in the mountains of Snowdonia until just a few centuries ago. As use of the uplands intensified, woodland declined as it was cleared for pasture or felled for timber and fuel. Livestock grazing prevented regeneration and increasingly shaped the vegetation of the Carneddau uplands. It is believed that by the eighteenth century most of the upland woodland had disappeared. Today there is no woodland on the main mountain blocks and within the upland boundary only 12% of the areas is scrub or woodland, most of which is conifer plantation with very small areas of broadleaf upland woodland confined largely to steep ravines and cliffs or protected areas.

Upland land use in the Medieval period was mainly concerned with the seasonal movement of stock from the lowlands in winter to the higher pastures in summer, as part of a pastoral transhumance system known as hendre-hafod (meaning old farm/base-summer place). Numerous rectangular building footings in the area, either isolated or in small groups, usually close to streams, are mostly the remains of hafotai, (plural of hafoty); dwellings occupied in the summer by people looking after the livestock. Milking and butter and cheese-making would have been amongst their activities. Initially cattle would have been more common in the uplands but as the wool trade developed sheep became increasingly important; the transhumance system declined and had come to end by the end of the eighteenth century. Sheep numbers increased massively in the nineteenth and twentieth centuries, reaching a peak in the 1980s and 1990s as a result of the headage-based subsidy payments. Cattle on the other hand have declined with none currently on the open mountain, although some suckler herds are found on areas of enclosed upland such as around Llyn Eigiau.

Sheep rearing did not require large numbers of people to live in the mountains and the hafotai were abandoned. The landscape features of sheep rearing include substantial drystone walls, folds (including multicellular sheepfolds for dividing flocks on common land by farm), and shelters for shepherds.

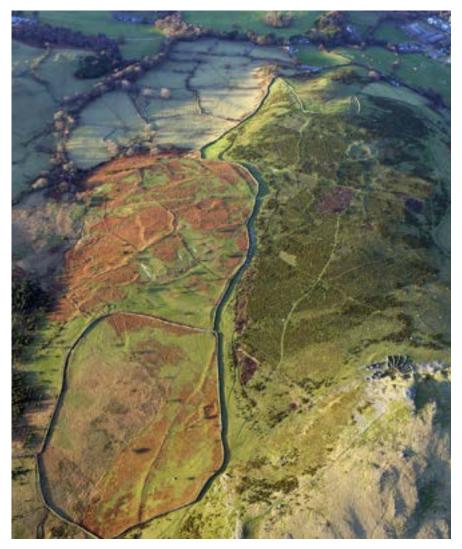


Purple saxifrage © Richard Gallon, Cofnod

The shift from cattle to sheep is significant in vegetation terms because of the very different ways that the animals graze. Heavy sheep grazing reduces habitat diversity, suppresses flowering and encourages the spread of short species-poor grassland. Today on the main Carneddau ridges there are large areas of acid grassland and degraded blanket bog. Where grazing pressures have historically been lower or where sheep have been unable to gain access for grazing, such as on the steep cliffs, a greater diversity of habitats and associated species has been maintained, for example heath and blanket bog vegetation on the Tal y Fan ridge and artic-alpine vegetation on cliffs at Cregiau Gleision, Craig y Dulyn and Ysgolion Duon.

In the lowlands surrounding the mountain, land use has also changed over the millennia. On the fringes of the upland, including on the plateaux behind many of the coastal hills and valley scarps, are the remains of substantial permanent Iron Age and Roman period settlement. These were year-round farmsteads with a mixed economy of crops and livestock and were well located to advantage of both lowland coastal and upland resources. They consist of groups of large round houses, enclosed by banks and walls, and set within extensive field systems which link up, more or less, to form a band from Trefriw in the Conwy Valley to Bethesda in Dyffryn Ogwen (for example: Garreg Fawr, Llanfairfechan; Maen y Bardd area Rowen, Corbri area Llanllechid). During the Medieval period, similar areas of the landscape saw cultivation of hardy arable crops, such as oats, barley and rye and there are good examples of cultivation remains above Aber and Llanllechid. The lower-lying land of the Conwy valley and coastal strip had guality pasture and valuable arable crops such as wheat.

Historically, the diversity of open habitats and their associated species increased on the lower-lying land as woodland cover decreased. This included a variety of grasslands, arable fields, mires, wetlands and heathlands rich in plants, insects, birds and small mammals. It



Garreg Fawr multiperiod landscape, Llanfairfechan © RCAHMW

is generally believed that across the UK species and habitat diversity reached a peak in the early eighteenth century before the impact of the agricultural revolution. Since the 1900s increased mechanization and the post-World War II fertiliser boom have resulted in the rapid decline of habitat and species diversity. In the uplands, where the terrain is more difficult due to rock exposure, incline or the presence of very wet and peaty ground, intensification has been more limited.

Villages developed in the valleys around the Carneddau from the Medieval period and beyond them a landscape of dispersed farms and cottages. Some of the former hafotai locations became permanent farms in the uplands but made a tough living. Extractive industry, particularly stone quarrying (Penmaenmawr), slate quarrying and metal mining are an influence on the landscape, but for the latter two, most of the works are either small-scale or trials; the large slate quarries in Bethesda and the substantial metal mines of the Gwydir ore field lie outside the Carneddau LPS area. Penmaenmawr Quarry is the only active extractive industry site in the LPS area; all of the rest are abandoned working, disused since the nineteenth or early twentieth centuries, or earlier. Today 50% of the enclosed farmed land within the project area is agriculturally improved grassland managed for pasture and silage and is generally poor in biodiversity. Significant areas of semi-natural habitat, particularly acid grassland and bracken, can still be found at the uplandlowland interface in the ffridd. Unlike many parts of lowland Wales, broadleaved woodland is still a significant component in the landscape particularly in the Conwy Valley. Hedgerows are frequent in the Conwy Valley and along the coast; they are important for woodland species biodiversity and provide connectivity between woodlands.

The landscape and habitats of the Carneddau will continue to be shaped by changing economic and social practices but increasingly factors such as climate change, atmospheric pollution and the needs of wider society will impact on how the uplands are managed and how the habitats and associated species respond.

Level 1	Level 2	Level 3
Development	Built land	Urban
		Village
	Developed unbuilt land	Excavation
Upland	Exposed upland/ Plateau	Upland grazing
		Barren/rocky upland
		Upland moorland
	Upland valleys	Open upland valleys
	Hills, lower plateau & scarp slopes	Wooded hillside & scarp slopes
		Hillside & scarp slopes mosaic
		Hillside & scarp slopes grazing
		Enclosed hill & scarp grazing
Lowland	Lowland valleys	Open lowland valleys
		Mosaic lowland valleys
		Wooded lowland valleys

Landscape types

The national landscape assessment process in Wales does not use character types in the same way as the assessment process in England and Scotland but NRW's LANDMAP (see below) Visual and Sensory landscape aspect uses similar terms. The table (left) is derived from relevant terms used in the Visual and Sensory areas covering the Carneddau and give a good sense of the range of landscape types present in the LPS area in relation to three hierarchical spatial scales of definition.

Landscape Character

Background – sources of evidence and delineation of the landscape character of the Carneddau area

Landscape Character Areas are subdivisions of landscape comprising distinct and consistent elements that set them apart from other areas. They can be created at different spatial scales. NRW has produced 48 areas National Landscape Character Areas for Wales; the Carneddau LPS lies within three of these: NLCA3 Arfon, NLCA6 Eryri/Snowdonia, and NLCA7 Conwy Valley. At a finer scale, the Snowdonia National Park is subdivided into 25 areas in the SNPA Supplementary Planning Guidance: Landscapes and Seascapes of Eryri, 2014. The Carneddau LPS area is mainly covered by two of these, Ucheldir y Gogledd/Northern Uplands and Y Carneddau, with a third area, Coedwig Gwydir/Gwydir Forest coinciding with the south east portion of the LPS area.

NRW's LANDMAP process (an evidence base to inform sustainable landscape management decision making) maps and classifies landscapes in terms of five subject categories: Geological Landscape; Landscape Habitats; Visual and Sensory; Historic Landscape and; Cultural Landscape. The landscape subdivisions for each category are at a larger (more detailed) spatial scale than the character areas above. The number of LANDMAP areas coinciding with the Carneddau LPS area varies between 18 and 36 depending on aspect category.

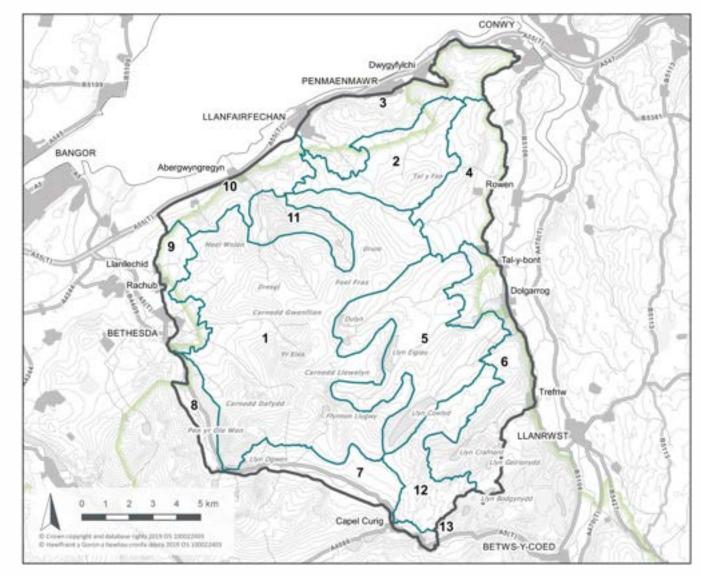
Landscape Character Areas (LCAs) of the Carneddau LPS area

- 1 Carneddau Mountains
- 2 Tal y Fan & Bwlch y Ddeufaen
- 3 Llanfairfechan, Penmaenmawr & Conwy coastal hills
- 4 Rowen farmed hillslopes
- 5 Dulyn, Eigiau & Cowlyd upland valleys
- 6 Conwy Valley wooded hillslopes
- 7 Nant y Benglog
- 8 Nant Ffrancon
- 9 Bethesda & Llanllechid hillslopes and fields
- 10 Abergwyngregyn and wooded coastal hill slopes
- 11 Abergwyngregyn & Anafon valleys
 - Creigiau Gleision, Crimpiau
- 12 and Cefn Cyfarwydd open mountain land
- 13 Capel Curig wooded hillslopes and fields



Carneddau Project Area

Snowdonia National Park Boundary



Landscape character areas

Richard Sumner, Landscape Architect at NRW, produced 13 landscape character areas (LCA) for the scheme based on the evidence in the studies above, particularly the five LANDMAP aspects, together with mapping, aerial photographs, and other sources of information. Summary descriptions were produced to accompany the areas. The boundaries and the summaries were presented to the Partnership for discussion and agreement in June 2018.

Alex Turner, Eryri Ecology, reviewed the boundaries and made some minor adjustments to make sure that at the local level they followed obvious topographic or boundary features (such as watersheds and the mountain wall delineating the change from enclosed to unenclosed landscape) and made sense in relation to habitat boundaries as these are often fundamental to understanding differences in landscape character on the ground.

Descriptions for the LCAs are presented below and are based on a broad range of evidence, including the findings of the consultation sessions, contributions by Partnership members and the specialist studies that we commissioned. There was broad agreement to the LCA boundaries when discussed during the public consultation sessions; any differences of opinion involved minor variations of specific stretches of boundary between character areas rather than large-scale disagreement over the number and geography of the areas.

In the following section, an expanded summary is presented for each LCA, together with key features relating to: landuse; recreation; geology; habitats and species; historic environment and; cultural heritage (and associations where relevant). The challenges relating to the LCAs are indicated separately in the risks and opportunities section of the LCAP because these often apply across LCA boundaries. Note that for biodiversity, capitalised habitat names indicate that they are UK biodiversity Priority Habitats.

The areas have a physical, mapped geography, but landscape is a product of perception, interpretation and experience. We have included insights from the consultation session in the production of the LCAs and their descriptions and details for each of the consultation areas are given in the Audience Development Plan. People were asked to describe what the Carneddau meant to them in three words and the following word-clouds derived from sessions in the Conwy Valley, Penmaenmawr and Bethesda respectively giving an interesting sense of people's perceptions of the landscape, showing some variation against a background of positive appreciation of its tranquil and unspoilt qualities.

Carnedd Llywelyn, Yr Elen and Carnedd Dafydd © RCAHMW

Summary description

The Carneddau Mountains form the core of the Landscape Partnership Scheme and at around 75 square kilometres is the largest single LCA. It is an extensive upland massif of impressive mountain peaks, scree slopes and boulder fields, broad ridges, rough grass, heath, cliffs and spurs. The mountains are cut by secluded upland valleys and cymoedd (glacial cirques) containing lakes, reservoirs, streams and rivers.

The area has the highest altitudinal range of the LCAs and includes many mountain summits. Carnedd Llewelyn (1064m) and Carnedd Dafydd (1044m) are the third and fourth highest peaks in Snowdonia (and Wales). No roads cross the area and the experience of remoteness is heightened by elevation, giving expansive views to the coast, Isle of Anglesey and wider uplands of Snowdonia. Prehistoric cairns mark many of the highest points and the valleys contain scattered relict farmsteads, field enclosures and a few small guarries.

Key characteristics

Land-use

The land is mainly used for livestock agriculture and recreation. Sheep are kept across the whole area and there is a seasonal ebb and flow of stock up into this LCA in the spring and back down in the autumn, with some sheep remaining here all year round. Additionally, the area supports a high proportion of the genetically distinct Carneddau pony population. Much of the area is registered common land, with almost all of Llanllechid Common and most of Aber Common contained within it. Only a very small amount of the LCA falls within the enclosed land below the mountain wall/fence and, apart from the area north-west of Foel Fras, there is free movement of sheep and ponies across all boundaries.

Leisure

Popular mountain walking routes ascend from the surrounding LCAs, following the crests of the main ridges. Access is busiest from Nant y Benglog, Nant Ffrancon and Bethesda in the south and west. Climbing has a long history on some of the larger steeper cliffs both in summer (e.g. Craig yr Ysfa) and winter under snow and ice conditions (e.g. Yr Ysgolion Duon). Other recreational activities include fell-running, mountain biking, paragliding and even, when the conditions allow, ski touring. However, the area is much quieter than either the Gylderau range to the south or the Yr Wyddfa (Snowdon) group beyond that, which receive approximately five times and 25 times more visitors respectively than the Carneddau.

Geology

The area has a mix of igneous (volcanic) and sedimentary (sandstones, siltstones and mudstones) rock. Thick glaciers shaped the area during the last Ice Age period, eroding the sedimentary rocks at a faster rate than the harder igneous, so that these make up the main ridges and summits. Prominent glacial features include the frost shattered rock of scree-slopes and at many of the ridges and summits, long and deeply incised valleys (e.g. Cwm Llafar and Cwm Caseq, large cliffs (Ysgolion Duon, Craig vr Ysfa, Craig Lloer and Craig Eigiau). Drift deposits in the form of boulder clay and



Frost-sorted patterned ground, Foel Grach © Stewart Campbell

moraines fill most of the valleys giving impeded drainage. Most of the larger glacial lakes are included in other LCAs, but of those that do occur, many are named Ffynnon rather than Llyn such as Ffynnon Lloer, Ffynnon Llugwy, Ffynnon Caseg and the tiny Ffynnon Llyffant to the east of Carnedd Llywelyn's summit. During the coldest winters, frost continues to form and shape stony areas on some of the high tops into line and circle patterns.

Habitats and species

The most abundant habitats are grassland (2795 hectares) and heathland (1957 hectares). Peatland habitats (blanket mire, fen, flushes and swamp) occupy a further 1897 hectares. Montane heath is mostly restricted to this LCA, which contains more than any other location in Wales. It occurs on many of the higher summits and is characteristically short and wind-pruned. It is in unfavourable condition due to a combination of overgrazing and atmospheric nitrogen deposition which act in together in a cycle of degradation. Woodland is relatively scarce, covering only 3 hectares.

The five most important Priority Habitats in this character area are Upland Heath, Montane Heath, Blanket Bog, Upland Flush, Fen and Swamp, and Inland Rock Outcrop and Scree. There is also a small amount of Upland Calcareous Grassland. Blanket Bog is widespread in the area with much of it in unfavourable condition because overgrazing removes heather and other dwarf-shrubs. The only areas where good condition bog is found are to the east of the Foel Fras-Drum ridge.

Inland Rock Outcrops and Scree Priority Habitat is mainly found in this LCA: the large cliffs of Ysgolion Duon, Craig yr Ysfa, Craig Lloer, Craig Eigiau and the crags above Ffynnon Llyffant are all important locations for chasmophytic (crevice) vegetation, scree and tall-herb ledge vegetation. Upland Calcareous Grassland occurs as small patches below some of the calcareous cliffs. Although only occupying a small

proportion of the Partnership area, the representation of Oligotrophic (nutrient poor, oxygen rich) and Dystrophic Lake (acidic and low in oxygen) Priority Habitats in the Carneddau Mountains is significant. Ffynnon Lloer is the richest lake in Wales for rare bryophytes.

Upland Heath in the area supports an important assemblage of key bird species which include Merlin, Kestrel, Red Grouse, Ring Ouzel. For plants, the habitat includes rare liverworts which occur on north-facing steeply sloping damp heath and include Lesser Whipwort. Montane Heath has several important key species, including the dwarf-shrubs Mountain Crowberry and Dwarf Willow. Although atmospheric nitrogen deposition has led to the steep decline in lichens, some alpine species such as Grey Reindeer Lichen still survive.



Ffynnon Lloer © Nathan Jones

Dotterel, a high mountain bird species, and mainly a passage migrant in Wales, has bred on the higher tops of the Carneddau. The Snow Bunting is another high mountain bird that is a winter visitor, feeding on invertebrates in moss-heath and snow bed vegetation. There is an important assemblage of montane spiders and beetles restricted to mountain tops, including the Broad Groove-head Spider. Alpine fungi, often in a mycorrhizal association with Dwarf Willow, also grows here, including the striking Mountain Grisette found at Pen yr Ole Wen.

Priority species for peatland habitats include Bog Orchid recorded from Cwm Llafar, Three-flowered Rush from alpine calcareous flushes below Ysgolion Duon and elsewhere, and Pale Glaucous Thread-moss, Duvall's Thread-moss and Marsh Earwort, all known from alpine mountain springs. The list of key plant species restricted to Inland Rock Outcrops and Scree is long, and includes Alpine Woodsia, Northern Buckler-fern, Dwarf Juniper, Snowdon Lily, Alpine Mouse-ear Chickweed, Welsh Poppy and the Quilt-lichen. Peregrine Falcon use ledges on several steep and inaccessible mountain cliffs in the area for nest sites. Chough also occasionally breed on natural cliffs, although more often in old quarries and mines.

In the small patches of Upland Calcareous Grassland in the area there are records for Moonwort, the Welsh endemic Welsh Eyebright and Confused Eyebright. Key species from Ffynnon Lloer, an Oligotrophic and Dystrophic Lake, include Muehlenbeck's Thread-moss and the lichen Tarn Lecanora, the latter also occurring locally along the Afon Llafar. Otter are also known from along the lower sections of the Afonydd Llafar and Caseg.

Spread more widely in upland acid grassland and ffridd habitats, the following occur occasionally: Stag's-horn Club-moss, Common Frog, Skylark, Kestrel, Twite and Brown Hare. Chough use some of the shorter grassland areas as feeding sites for invertebrates.

Historic environment

The Carneddau takes its name from the distinctive Early Bronze Age (about 4,500-3,500 years ago) stone cairns that survive on many of its peaks and ridges and which are visible from distant valleys and coast around the area. They suggest that the mountains were symbolically important and sacred places for people at the time, where ancestors or other spirits could be venerated.

Although the LCA has no occupied settlements or dwellings today, people have lived here in the past. There is evidence for settlements, ancient fields and enclosures from the Iron Age (and possibly earlier) through to the Medieval and Early Modern periods, up to about 500m altitude with some higher outliers. It is unlikely that many of the examples over 300m were occupied year-round; mostly these remains relate to tending livestock on summer mountain pastures. The early settlements are of roundhouses, either individually or in dispersed groups or clusters of 5 to 20 or so, sometimes accompanied by enclosures for stock. They can cover large areas, for example a complex of relict-walled globular enclosures and round houses in Cwm Caseg is around 10 hectares in extent. Medieval and later dwellings survive as rectangular building footings, generally on their own or in small groups. All of these dwellings, prehistoric or medieval are likely to have been simply built structures, roofed of heather, bracken or turf and mended each year for the season's use. They are present in their hundreds across this and the other upland LCAs and give a picture of a very different way of life and relationship with the mountains than today. At lower altitudes, running into the surrounding valley side and upland fringe LCAs the pattern of enclosures around Iron Age and Roman settlements and the size of their round houses suggests permanently occupied farmsteads and fields with both livestock and crops.

Cattle were the most important livestock in the upland economy until the seventeenth and eighteenth centuries, when sheep became

dominant, as they are today. Characteristic features for managing sheep include drystone walls which mark the boundaries of the open ground and the multicellular sheepfolds which are particularly distinctive of the Carneddau and are used for sorting sheep gathered from the open common land into the farms that they belong to. Few people lived in the high mountains after the economic shift to sheep, although there are numerous rough shelters used by shepherds; some were roofed and could be used overnight if needed. One has been rebuilt as a mountain refuge shelter, just below the summit of Foel Grach.

There are remains of extractive industry, but no active work, across the area – mainly slate quarries. These are mostly small-scale trials or short-lived enterprises. Workings known locally as Chwarel Doctor Huws in Cwm Caseg had a barrack block whose remains can still be seen beside the main path through the valley. More substantial exceptions to the small-scale workings (e.g. Bryn Hafod y Wern, Tan y Bwlch and Moel Faban quarries) are located at the south west boundary of the LCA above Llanllechid and Rachub (Bethesda area) and were in operation, variously, from the later eighteenth century to the early twentieth century with all of them having been abandoned before the First World War. However, even these quarries were tiny in comparison to the scale of the operation at Penrhyn Quarry on the other side of the valley, beyond the LPS. There was a small mispickel mine (arsenic pyrites; which was used for hardening metals in armaments) near Tan Y Garth, Gerlan.

Water drawn from the streams and rivers flowing from the mountains was harnessed to power machinery and mills from the Medieval period onward. A leat shown on a Penrhyn Estate map of 1786 carrying water from the Afon Ffrydlas is thought to have originated in the fifteenth century or earlier to power mill equipment at Plas Coetmor above Bethesda. Most of the quarries relied on water power for mill, pump and lifting equipment. A 7km leat, still traceable on the ground, carried water from the Afon Wen, high up in Cwm Caseg, to Bryn Hafod y Wern quarry and is an impressive feat of engineering. To the south east of the area, the lake at Ffynnon Llugwy was made into a reservoir in the early twentieth century for drinking water; a substantial leat, which defines the border of the LCA here, still carries water to the large Llyn Cowlyd reservoir.

Cultural heritage and associations

The traditions of communal gathering and management of livestock (sheep and ponies) on the open-mountain land of the commons were central to mountain life, with people setting off very early in the morning to the high peaks to start bringing the animals down from day-break. The gathering of sheep and ponies from the mountains in autumn continues to be an impressive sight. Before mechanisation, shearing was a significant communal undertaking with farmers and their labourers helping each other with the task and the lunches and teas provided for them being important social events in the lives of the rural community. Shepherding in the mountains requires great skill and specially trained, sharp and independent dogs and is very impressive to see; some shepherds control three or more dogs at one time.

The mountains of the Carneddau have loomed large in the lives and creative imagination of the area's inhabitants through time and feature strongly in a rich corpus of Welsh language literature, poetry and prose. Ieuan Wyn's review of literature in the Carneddau LPS lists a great number of authors whose work draws on the Carneddau mountains for inspiration, benign or otherwise. Their picturesque qualities of natural beauty, tranquillity and spectacular views underpin 'hiraeth' or longing. These are captured in the preacher and poet John T. Jôb's simple and effective lines in a verse about Cwm Pen-Ilafar in his poem 'Ffarwel i Eryri' written on leaving the area for south Wales in 1917 (lines which many local people know by heart):

Ffarwel i Gwm Pen-llafar A'i hiraeth di-ystŵr Lle nad oes lef – ond ambell fref A Duw, a sŵn y dŵr. John T. Jôb, 1917

(Jôb writes a farewell to the valley and its affecting peacefulness, which is touched only by the occasional lowing of livestock, the sound of the water and the presence of God).

The antithesis is the landscape as a tough environment, a place for physical agricultural or industrial work affected by the vagaries and hardships of the weather (cold, rain, snow, wind). One of Welsh literature's most famous novels, 'Un Nos Oleu Lleuad' ('One Moonlight Night'), written by Caradog Pritchard from Bethesda draws on the darker symbolism of the mountainous landscape. Pritchard's long poem 'Y Briodas' ('The Wedding') which won the Coron at the National Eisteddfod in 1927, personifies elements of the landscape to take a dramatic role in the narrative.

Hugh Derfel Hughes's 'Llawlyfr Carnedd Llewelyn' ('Guidebook to Carnedd Llewelyn'), 1864, is one of the first of its kind – a guide to a mountain – written in any language and was produced initially for competition in an Eisteddfod in Bethesda.

Ieuan Wyn's presentation 'Mae'r Mynyddoedd yn Siarad' ('The Mountains Speak') to the conference of Cymdeithas Enwau Lleoedd Cymru (The Welsh Placename Society) focusses on the place names of the Carneddau in particular and shows how the mountains tell their own narrative of the landscape and its history through the names people have given to its feature through time. For example, names refer to people's activities, the colours of the landscape, its animals, myths and vegetation, including references to trees where none remain today.

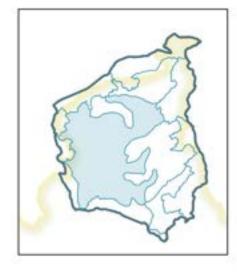
Carneddau Llywelyn, Carneddau Dafydd and Yr Elen are named after thirteenth century Tywysogion, or rulers, of Gwynedd: Llywelyn possibly after both Llywelyn ap Iorweth and Llywelyn ap Gruffudd, and Dafydd after either/or Dafydd ap Llywelyn or Dafydd ap Gruffudd, and Yr Elen after Eleanor de Montfort, wife of Llywelyn ap Gruffudd. The mountainscape has inspired a great number of artists, amongst them Kyffin Williams ('Farmers on the Carneddau' c1980) and John Piper ('Ffynnon Lloer' c1948-50).

During the 1900-03 labour dispute and highly contentious lockout from Penrhyn Quarry, some of the old quarries in this area which were not under the Penrhyn Estate's control were re-opened and run on a cooperative basis.

In the mid-nineteenth century these was a fashion for crowds of local young people to climb Carnedd Llywelyn to sing psalms and hymns and that on one occasion, in September 1865, this involved a crowd of nearly 200.

It is said locally that the shelter near the summit of Foel Grach was known as Cwt (hut) Dafydd Rhos, after a shepherd from Cwm Eigiau; he was remembered as a difficult and belligerent character and that it was to the relief of many that he spent much of his time up on the mountain!

LCA01 Carneddau Mountains





Cameddau Landscape Partnership Scheme Area

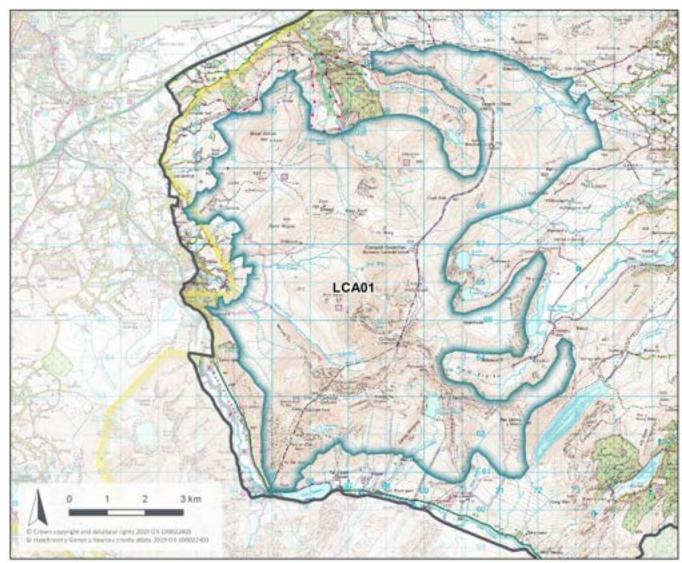


Snowdonia National Park Boundary

Landscape Character Area



LCA01 - Cameddau mountains



The second second

Tal y Fan summit looking north east © Aneurin Phillips

Summary description

This is a prominent upland peak and plateau of marginal land lying between the coastal hills, the Carneddau massif and the enclosed farmland of the Conwy valley. Tal y Fan, the highest point, is the last area of mountain before the sea. Most of the ground is open and unfenced and is covered by a series of commons extending from above Abergwyngregyn to Bwlch y Ddeufaen in the south, and in the north following a very irregular line from Garreg Fawr to Moelfre (both above Llanfairfechan) to Maen Esgob overlooking the Conwy Valley. The southern slopes of Tal y Fan and Foel Lwyd are enclosed by dry stone walls. In the north a series of enclosed fields stretches from the Fairy Glen at Capelulo to Maen Crwn along the upper part of the Afon Gyrach. The barrier effect of the coastal hills and relatively low passes to the north and south of Tal y Fan has given rise to historically important trackways and significant prehistoric, Roman and Medieval features that remain an influence on the landscape today. Peatland is a feature of the flatter and more gently sloping areas.

Key characteristics

Land-use

The main land-use is for summer grazing by sheep, at a lower stock level than some other mountain areas, as demonstrated by a higher ratio of heathland to acid grassland. Carneddau ponies are a frequent and distinctive sight on the common land.

Leisure

Recreational use is concentrated along the Bwlch y Ddeufaen track in the south and along the busier route of the North Wales Path which traverses the northern edge of the area and other paths accessed from the Sychnant Pass area.

Geology

The underlying geology is a mixture of sedimentary rock with volcanic intrusions which form some of the distinctive hills and peaks. The flatter parts of the area are covered in a blanket of bounder clay with poor drainage, with areas of deep peat

Habitats and species

The most widespread habitat is upland heath which occurs throughout the area. Other habitats are upland flush and fen and, where the land drains more freely, upland acid grassland. There are areas of deep peat Blanket Bog Priority Habitat, much of which is in good condition. There is very little woodland and standing freshwater is limited to two small bodies, Llyn Wrach and a reservoir. The natural environment studies identify relatively few key species in this character area but this might reflect lower levels of recording than elsewhere. Among those present are Chough in the short-grazed grasslands and Merlin, Red Grouse and Ring Ouzel in areas of heathland. Brown Hare is a key species across the area. There are some small patches of Upland Calcareous Grassland Priority Habitat on the north side of Tal y Fan with small herbs such as Wild Thyme, Self-heal and Heath Dog-violet.

Historic environment

Fine-grained volcanic stone from Garreg Fawr was made into axes in the Neolithic, one of a three main locations; see LCA03. The area has an exceptional concentration of burial and ceremonial monuments from the Early Bronze Age; amongst the greatest density of anywhere in the UK. These include standing stones, stone circles and settings of different types and burial cairns. They are spread across most of the area, but there are some significant patterns to their distribution: along two ancient routeways between the Conwy Valley and north west coast at Abergwyngregyn; in the Cefn Coch stone circle complex which was



probably a ceremonial centre for large gatherings of people; marking passes; and in clusters above the edge of wet ground in the area where they may have marked areas of pasture.

A Roman road, from the Canovium fort (Caerhun) in Conwy Valley to Segontium fort (Caernarfon) and Anglesey, passed through Bwlch y Ddeufaen and can be seen clearly in places on the ground. There is an important and well-preserved Iron Age and Roman period settlement and extensive relict field system at Garreg Fawr. A small hillfort, Caer Bach close to Llangelynin church (area LCA04) makes a good visit but could be anything from Late Bronze Age to Early Medieval in date. The remains of rectangular hafotai, upland houses for people tending livestock on summer pastures, are frequent across the area, either alone or in clusters, and often near streams. They date to the Medieval and Early Modern periods. There is evidence of peat-cutting (for use as a fuel) and two of Wales' finest examples of peat houses, roofed buildings for storing and drying cut peat, lie to the north east of Tal y Fan. They are thought to have been built between 1700 and 1900.

Roman milestone found between Abergwyngregyn and Llanfairfechan, now in the British Museum © John G Roberts

Cultural heritage and associations

- From the Medieval to the Early Modern periods, cattle were driven along the ancient west-east routes on their way to markets in England.
- A small slate quarry at Tal y Fan could be Medieval in origin; smallscale working took place here until 1914, sustained by H.L. North's use of its distinctive green-brown roofing slates for his buildings (see LCA03).
- The pass at Bwlch y Ddeufaen ('two stones') takes its name from the 3m high standing stones here although in fact there are more than two of them.
- An American B-24 Liberator bomber, 'Bachelor's Baby' crashed into the west side of Moelfre in heavy cloud, 7 January 1944, on its way from RAF Valley, Anglesey, to Norfolk. It was carrying a huge cargo of ammunition, which exploded on impact. Local police and quarrymen helped rescue survivors. A memorial to the 5 members of its 11 crew who died has been put up at the site by the Penmaenmawr Historical Society and the SNPA Warden team.
- R. Williams Parry's poem 'Y Peilon' 1941 refers to the 33kV overhead electricity powerlines, which run through Bwlch y Ddeufaen and across the southern part of the LCA, and their impact on nature and landscape, using the Hare as a metaphor.

Meini Hirion stone circle, Cefn Coch 🛛 Jean Williamson

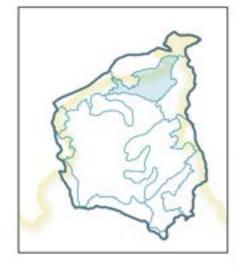
Y PEILON

Tybiais pan welais giang o hogiau iach Yn plannu'r peilon ar y drum ddi-rwst Na welwn mwy mo'r ysgyfarnog fach, Y brid sydd rhwng Llanllechid a Llanrwst. Pa fodd y gallai blwyfo fel o'r blaen Yn yr un cwmwd â'r ysgerbwd gwyn? A rhoi ei chorff i orffwys ar y waun Dan yr un wybren â'i asennau syn? Ba sentimentaleiddiwch! Heddiw'r pnawn, O'r eithin wrth ei fôn fe wibiodd pry' Ar garlam igam-ogam hyd y mawn, Ac wele, nid oedd undim ond lle bu; Fel petai'r llymbar llonydd yn y gwellt Wedi rhyddhau o'i afael un o'i fellt.

R. Williams Parry, 1952

Pylons and standing stones, Bwlch y Ddeufaen © John G Roberts

LCA02 Tal y Fan & Bwlch y Ddeufaen



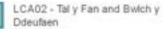


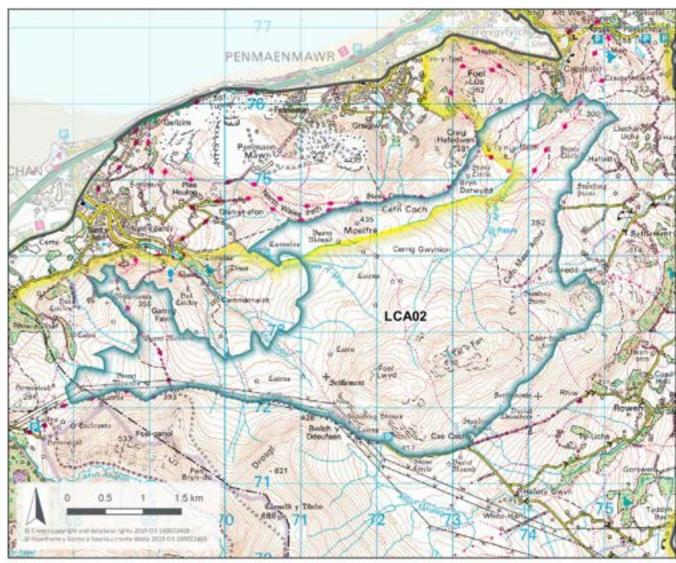
Cameddau Landscape Partnership Scheme Area



Snowdonia National Park Boundary

Landscape Character Area





Overlooking Llanfairfechan and coastal hills © RCAHMW

Carneddau Landscape Partnership | 24

Level and and

Summary description

This area comprises a series of low rugged coastal hills and small farmed valleys occupied by the settlements of Dwygyfylchi, Capelulo, Penmaenmawr and Llanfairfechan. The craggy headlands of Penmaenbach and Penmaen Mawr dominate and were a barrier to land travel along the coast until embankments and tunnels were made in the nineteenth and twentieth centuries. To the north east the area borders, but does not include, Conwy town. There is a strong mountain and coast character with expansive sea views and steep hills rising from the coastline. Towns, transport networks (A55 dual carriageway and railway) and Penmaenmawr Quarry strongly influence the coastal context.

Just inland, the character changes markedly as enclosed lowland fields give way to rugged uplands of heathland and semi-improved grasslands. Although the hills are lower (400m maximum) than the Carneddau Mountains to the south, their position and the precipitous slopes give them dramatic and expansive regional-scale views of both sea and mountains. Along the area's southern boundary, the presence of notable archaeology and feeling of remoteness increases, with ancient hillforts, prehistoric burial and ceremonial monuments, localised field enclosure and trackways as the area meets the upland plateau north of Tal y Fan. The area includes two main watercourses, the Afon Llanfairfechan at the western end and part of the Afon Gyrach, above Dwygyfylchi, where it enters the Fairy Glen (at Capelulo).

Key characteristics

Land-use

Land-use is split between agriculture, settlement and quarrying. Agriculture mainly consists of cattle and sheep rearing, some of the sheep being summered on the upland parts of the area and the adjacent Tal y Fan and Bwlch y Ddeufaen character area. Most of the unenclosed uplands are part of a series of commons. Groups of Carneddau ponies roam across this and the other upland LCAs. Conwy County Borough Council owns and manages Conwy Mountain as a local nature reserve and has another small nature reserve at Nant y Coed above Llanfairfechan. Pensychnant Conservation Centre, on the Conwy side of the Sychnant Pass, is also a nature reserve and a centre for wildlife recording: as a result the area immediately around it has the third highest number of species records in the whole of the LPS area.

Leisure

The area is popular with walkers and has good accessible local routes and sections of longer distance paths, including the North Wales Path and the Pilgrims' Way which follow the southern edge of the character area above Penmaenmawr. The bridleway here is also used by mountain bikers and horse riders. The Sychnant Pass and Conwy Mountain areas are busier and the small car parks at the Sychnant Pass are full in good weather and at peak times of the year.

Geology

The distinctive coastal hills were formed by volcanic eruptions pushing through earlier sedimentary rocks such as siltstones and sandstones. They are prominent today because the rock they are made of is very tough and more resistant to erosion than the softer rocks around them. Llanfairfechan and Penmaenmawr are located on areas of sedimentary rocks overlain by boulder clay and gravels deposits by glaciers.

Habitats and key species

The most significant habitat in the LCA is heathland, particularly on Foel Lus and the Conwy hills, where it is dominated by heather. It suffers from fires, possibly deliberately set, which in places are leading to invasion by bracken and dominance of bilberry, to the detriment of the habitat. Other habitats include improved grassland and bracken. Key heath, grassland and ffridd mosaic species are for reptiles: Grass Snake, Adder, Slow-worm and Common Lizard; plants: Common Juniper; birds: Chough, Stonechat, Tree Pipit, Kestrel. This LCA has the highest number of records in the LPS area for Chough because it includes both feeding grounds and nesting sites.

The area, especially Gwern Engan to the south of Pensychnant, is important for grassland fungi species such as Waxcaps, Pink-gills, Corals, Clubs, Spindles, spectacular and eccentric looking species which are indicators of old, undisturbed, pasture land. There is an area of Lowland Dry Acid Grassland, a biodiversity Priority Habitat, on the upper slopes of the area above Llanfairfechan but it is in poor condition, probably due to high grazing intensity. Woodland around the bases of the hills has important bat (Noctule Bat, Common Pipistrelle, Soprano Pipistrelle and Lesser Horseshoe Bat) and bird (Lesser Redpoll, Pied Flycatcher, Red Kite, Spotted Flycatcher, Green Woodpecker, Bullfinch, Woodcock and Song Thrush) species. Near the Sychnant Pass, there are ponds with Great-crested Newt and Palmate Newt, and Lanceolate Spleenwort, a rare species of fern, is found on rock outcrops. Priority species occurring in more than one habitat include mammals: Hedgehog, Brown Hare and Polecat and birds: Red Kite and Dunnock.

Historic environment

The archaeology of the area is especially rich and important. A special type of fine-grained volcanic rock was quarried from outcrops and screes above Penmaenmawr and Llanfairfechan in the Neolithic (5,500 to 4,500 years ago) to make axes that were exchanged over long distances across the southern half of Britain. Burial cairns form part of a wider Bronze Age landscape of ritual monuments extending across the upland plateau to the south. Iron Age and Roman period hillforts, with thick stone walls, at Conwy Mountain and Allt Wen (Sychant area) and Dinas (Llanfairfechan) have dramatic views over the sea, mountains and valleys. One of Britain's best-preserved hillforts, with around 100 round houses, Braich y Dinas above Penmaenmawr, was destroyed by quarrying in the early twentieth century. There are Iron Age and Roman period settlements and field systems in the valley land and upland fringes below Dinas and at other locations.

The hard diorite rock at Penmaenmawr was quarried on an industrial scale from the 1830s for making 'setts' using to pave city streets in Britain and Europe and later, crushed-stone for railway ballast. The stone was exported by ship from dedicated jetties and by rail after this reached the area in the 1840s. By the end of the nineteenth-century, Penmaenmawr's quarries formed one of the largest stone-working sites in Britain, employing around a thousand men from Penmaenmawr, Llanfairfechan, the Conwy Valley and further afield. Quarrying continues

today at Penmaenmawr Quarry, under current owner Hanson UK, but on a much smaller scale. There are extensive remains from the historic workings including inclines, sett-makers huts and crushing machinery. Small quarries on Conwy Mountain date to the Napoleonic wars and were for millstones.

Until the nineteenth-century the coastal settlements were small and agricultural, developing and expanding because of guarrying, road and rail connections, and tourism. The western part of Penmaenmawr is a planned landscape of guarry workers' housing and associated facilities, including chapels, church, shops, pubs and halls. The eastern part of Penmaenmawr and parts of Llanfairfechan and Dwygyfylchi have mansions and grand boarding houses that reflect the influence of tourism and of wealthy families from the industrial English cities who established homes here.

Conwy Mountain overlooks the Conwy town which is outside the LPS and is part of the Castles and Town Walls of Edward I in North Wales World Heritage Site.



Exporting from Penmaenmawr Quarry, early C20th (courtesy of Penmaenmawr Museum)



Quarry workers (courtesy Penmaenmawr Museum)



Penmaenmawr Quarry 2017 © Penmaenmawr Museum

Cultural heritage and associations

- Penmaenmawr's industrial history produced a close-knit and mostly Welsh-speaking community. The social life of the town and its clubs and societies continues to reflect this.
- The tourist heyday was in the second half of the nineteenthcentury but was relatively short-lived. Visitors came to swim in the sea and for walking in the uplands; hobbies included plant collecting and geology. The Sychnant Pass and the Fairy Glen in Capelulo were popular places to visit.
- Huw Thomas Edwards ('Huw Tom'), 1892-1970, was a trade union leader, politician and writer who became known as 'the unofficial Prime Minister of Wales' in the 1950s. He worked in the quarry during school holidays and as a young man, walking a daily round trip of 12 kilometres from his home near Rowen to the quarry.
- The area's most famous visitor is W.E. Gladstone (1809

 1898), four times Liberal Prime Minister of Britain, who holidayed in Penmaenmawr numerous times between 1855 and 1896.
- Joseph Mallord William Turner sketched the Sychnant Pass in 1799 as part of a wider tour of North Wales; the sketch survives in his 'Dolbadarn Notebook' held by the Tate, London.
- Herbert Luck North, renowned architect of the Arts and Crafts style, settled in Llanfairfechan in 1901. The Close in Llanfairfechan is a fine example of his work.



William Gladstone & the Darbishire Family (courtesy Penmaenmawr Museum)

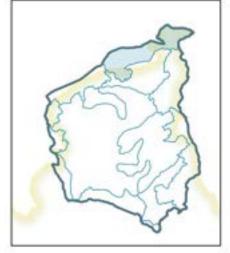


Houses in The Close, Llanfairfechan designed by H.L.North $\ensuremath{\textcircled{}}$ RCAHMW



Coach in the Sychnant pass (courtesy Penmaenmawr Museum)

LCA03 Llanfairfechan, Penmaenmawr and Conwy coastal hills





Cameddau Landscape Partnership Scheme Area

Boundary

Snowdonia National Park

Landscape Character Area



LCA03 - Llanfairfechan, Penmaenmawr and Conwy coastal hills



Looking across the character area from near Henryd, towards Tal y Fan © John Briggs

and a state

Summary description

This is an area of enclosed pasture on the upper slopes of the Conwy Valley that have evolved since the prehistoric period. Native woodlands line the steeper slopes and streams. The area displays diverse periods of archaeology and settlement with remoteness and exposure increasing with distance from the settled valley floor. Rowen, a small and attractive linear village, lies just below the steeper hillslopes. Several lanes climb the hillside, providing access to the historic trackway at Bwlch y Ddeufaen, road crossing at Penysychnant and the flanks of Tal y Fan.

Key characteristics

Land-use

The predominant land-use is sheep and cattle-rearing.

Leisure

There is an extensive network of public footpaths criss-crossing the area along with two prominent bridleways, and there is a Youth Hostel at Rowen.

Geology

The underlying geology is mainly glacially deposited boulder clay with small isolated pockets of alluvium along some of the watercourses. The solid geology between Tal y Fan and the eastern slopes of Cefn Llechen is a mixture of basic igneous (volcanic) rocks which give rise to more base-rich soils downslope.

Habitats and species

Improved grassland covers almost half the area, with lowland acid grassland and bracken found on remaining open land, and woodland mainly occurring along watercourses and on the steep scarp above Merchlyn. Fields around Maen y Bardd have some Lowland Meadow, Purple Moor-grass and Rush Pasture Priority Habitats. Coed Gorswen, in the southern part of the character area, is a woodland National Nature Reserve managed by NRW. Parc Mawr woodlands are managed by the Woodland Trust. Some of the higher slopes are classified as ffridd, and these have mosaics of acid grassland, bracken and small patches of lowland heath. Species linked to the abundant Lowland Dry Acid Grassland Priority Habitat are generally characteristic of ffridd habitat and include the birds Tree Pipit, Yellowhammer, Kestrel and Merlin. The woodland Priority Habitats (Upland Oak Woodland and Lowland Mixed Deciduous Woodland) support a varied bird population including Pied Flycatcher, Spotted Flycatcher, Redstart, Wood Warbler, Marshy Tit, Woodcock, Song Thrush and Red Kite. Bats recorded here include Natterer's Bat, Brown Long-eared Bat and Lesser Horseshoe Bat. The only notable priority woodland plant is Broad-leaved Helleborine which has been recorded at Coed Gorswen and below Parc Mawr. Watercourses around Rowen support Water Shrew. Priority species which occur in multiple habitats include Brown Hare, Hazel Dormouse, Red Kite, Barn Owl and Common Frog. There are good hedgerow networks locally in but these haven't been surveyed or mapped in any detail

Historic environment

Maen y Bardd, on the south east slopes of Tal y Fan, is a simple and aesthetically appealing Early Neolithic burial chamber (about 6,000 years old). It seems to have been deliberately positioned to maximise its sweeping views over the Conwy Valley. Some of Wales's best preserved Iron Age settlements (round houses in substantial circular enclosure banks) and field systems are located in the same area, with linked remains forming an extensive ancient landscape covering much of the higher ground in the western part of the LCA. Accumulations of soil as banks at many of the boundaries suggests the fields were cultivated for crops and the landscape appears to have comprised permanent settlement with mixed farming, well positioned between the various resources of the uplands and valley. The Roman road between

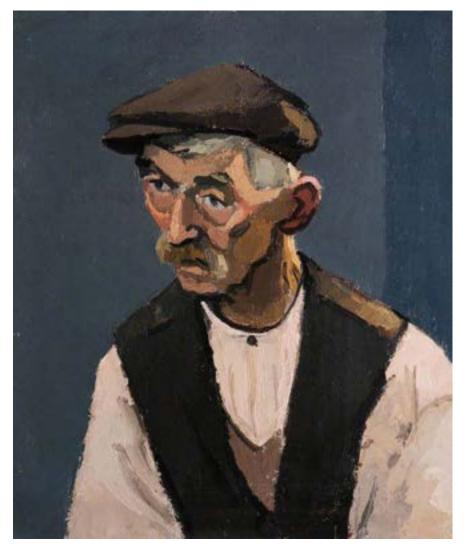
Canovium fort (at Caerhun, 3km south east of Rowen, on the Afon Conwy) and the north west coast near Abergwyngregyn passed through Bwlch y Ddeufaen; where it runs across the Iron Age fields near Maen y Bardd it appears to have have cut straight across them.

Llangelynin old church is a simple and ancient stone church in a remote location, at about 300m altitude. It is Medieval in origin. There is a holy well, whose waters were considered to have healing properties. A large round house is located near the church. The group of features and the location suggest very early origins and it has been suggested that the round house could be the 6th century dwelling of St Celynin. Many paths and tracks converge at the church and it is said that there was an inn here for travellers crossing the mountains.

Historically, Rowen was an agricultural community and apart from the village, the settlement pattern is of dispersed large farms and small holdings. Water power from the Afon Ro powered mills including a pandy (fulling mill) for making woollen fabric. Historically, a significant amount of the lower-lying land was cultivated with arable crops and there were grain mills on rivers in the area; the land is pasture today. Trecastell, a lead mine near Henryd, was worked from 1753, with its height of production between 1894 and 1920. It may have much earlier origins, dating as far back as the thirteenth century. There was a further period of mining between 1950 to 1955. Despite having been very productive there are now few remains (apart from a smelter flue and chimney which survive in the northern part of Parc Mawr woodland) because it was extensively landscaped after closure.



Ancient fields and settlement on slopes of Tal y Fan above Rowen © RCAHMW

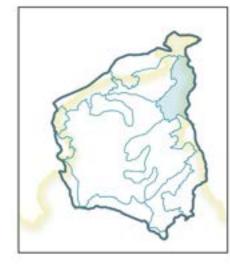


Cultural heritage associations

- Hugh Thomas Edwards, 'Huw Tom', one of Wales' greatest cultural and political figures of the C20th century came from very humble origins; he was born at Pen y Ffridd, a small isolated cottage high up on the eastern slopes of Tal y Fan above Rowen.
- Kyffin Williams painted a portrait of local resident Hugh Thomas (no relation to Huw Tom, who Kyffin also painted). The local story goes that when Kyffin arrived at the family home Hugh was in his best clothes in preparation for the portrait. However, Kyffin was keen to depict him in his working clothes, and Hugh reluctantly agreed. He and his family never liked the completed painting which has become one of Kyffin's most famous portraits.
- There is evidence for an ancient tradition of separating the sexes at Llangelynin old church, a practice know from elsewhere in Wales; part of the church is called Capel Meibion (Men's Chapel).
- There is an impressive concentration of indigenous daffodils near Llangelynin old church. Within living memory, school children would walk here from Rowen and Penmaenmawr to see the flowers and pick some as Mothering Sunday gifts (picking is no longer allowed of course).
- Rowen village has a busy and popular annual carnival in July. It has been suggested that its origins may be in a fair linked to the droving trade; cattle were brought over the Carneddau through Rowen via Bwlch y Ddeufaen to the crossing of the Afon Conwy at Tal y Cafn.

'Hugh Thomas, Portrait of a Farmer', by Kyffin Williams, 1950 © University of Bangor

LCA04 Rowen farmed hillslopes



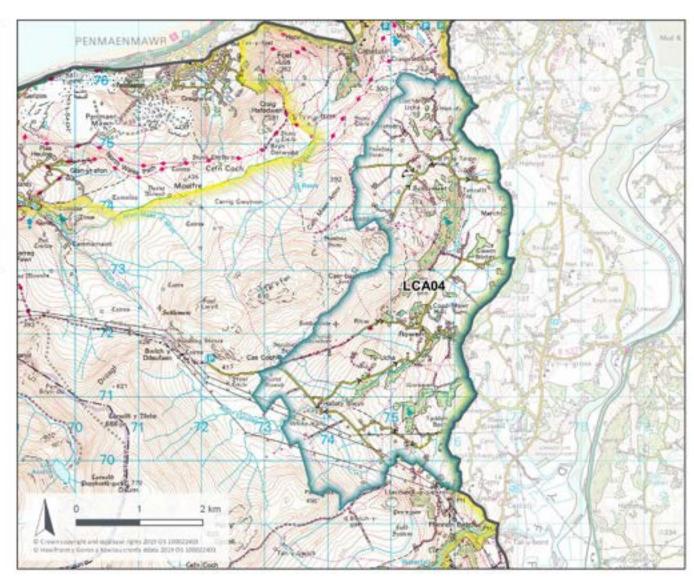


Cameddau Landscape Partnership Scheme Area

Snowdonia National Park Boundary

Landscape Character Area

LCA04 - Rowen farmed hillslopes



Landscape Landscape Character - LCA05 Dulyn, Eigiau & Cowlyd upland valleys

lyn Eigiau and Melynllyn with the Glyderau and Yr Wyddfa groups beyond © RCAHM

Carneddau Landscape Partnership | 3

Summary description

This area is defined by the remote and secluded upland valleys of the Afon Dulyn, Afon Porth-Ilwyd and Afon Ddu. The valleys create an attractive open setting to the mountains and several reservoirs form major bodies of water. Cwm Eigiau conceals a hidden valley which ends at the buttress of Craig Yr Ysfa, while the shores of Llyn Colwyd reservoir provide a passageway through the mountains to Cwm Nant y Benglog. Although there are only a small number of farms today, there is archaeological and historical evidence for earlier settlement across large areas, including prehistoric field boundaries and round houses. Industrial remains include quarrying and the reservoir infrastructure.

Key characteristics

Land-use

The main land-use is a mixture of sheep and cattle-rearing, the former of these ranging more widely above enclosed land. The other major land-use is water collection for drinking water and power generation.

Leisure

There is moderate recreational use of the area, with several walking routes up onto the eastern side of the Carneddau starting in the LCA. There is a popular through route along Llyn Cowlyd, a bridleway, used by walkers and mountain bikers. Fishing takes place at several of the lakes, mainly for Brown Trout or Arctic Char. The area is popular with Duke of Edinburgh groups.

Geology

Boulder clay and alluvium are found in the valley bottoms, deposited by the large glaciers that carved out the valleys during the Last Ice Age. The intervening higher ground and land at the head of the valleys are underlain by solid rock which is predominantly igneous (volcanic) in origin and includes several prominent cliffs such as Craig Dulyn and Craig Fawr. Some of the igneous rock is basaltic in composition and gives rise to free-draining fertile soils.

Habitats and species

The most abundant habitat is Upland Heath. Other habitats include Blanket Bog, acid grassland, marshy grassland and upland Fen, Flush and Swamp. Woodland is relatively scarce, with small stands of oak and ash woodland around the northern base of Moel Eilio. Bracken can be found in small patches, mainly at the lower ends of the valleys within the enclosed landscape.

Inland Rock and Scree vegetation occurs frequently on the valley sides and heads. Large cliffs at Craig Dulyn and Craig Fawr support tall-herb and crevice vegetation, while scree and boulder slopes are found below Craig Eigiau, Creigiau Gleision and Craig yr Ysfa, and on the slopes of Pen Llithrig y Wrach. Ffridd vegetation, generally mosaics of heath, acid grassland, scattered scrub, bracken and marshy grassland, is found in the lower parts of all three valleys.

The uplands in this area are notable for some of the Priority bird species including Hen Harrier, Red Grouse, Ring Ouzel and Kestrel. At lower altitudes, Whinchat has also been recorded. The Short-eared Owl, a species which is normally seen in Blanket Bog areas, has been recorded in the Eigiau-Dulyn area. Grasshopper Warbler, seen in Blanket Bog and upland grassland areas, has been noted and there are records in all three valleys for Reed Bunting associated with Upland Flushes and Fen. Peregrine Falcon, a species which nest on steep rock outcrops, is seen in the Eigiau and Cowlyd valleys. Goosander are seen on Llyn Eigiau. Upland grasslands also have Skylark and Whinchat, while Linnet has been noted in the Eigiau and Cowlyd areas. Ffridd areas also have some of the above noted species, and Stonechat. Woodlands in the area support Lesser Redpoll, Hawfinch, Stock Dove and Redstart.



Ring Ouzel © David Smith

Key plant species are relatively localised. The Broad-leaved Cotton-grass, Grass of Parnassus and Woolly Feather-moss all occur near Rowlyn Uchaf; Awlwort occurs in Llyn Eigiau. For terrestrial mammals, Water Vole have been recorded along the Afon Ddu and the Afon Porth-llwyd. Other key animal species in the area include Common Frog in upland grassland, blanket bog and wet heath, and Common Lizard in sunny grassland and scree habitats.

Historic environment

This character area contains archaeological and historical remains of exceptional variety and age, despite comprising high upland ground. The most substantial and dramatic feature is the hillfort at Pen y Gaer, located on a hill overlooking the Conwy Valley. With its commanding position and expansive views in all directions, one has to wonder about the relationship between it and the Roman fort at Caerhun, only 3km to the north east. A very unusual feature at Pen y Gaer is its Chevaux de Frise, an area of scattered edge-set stones in front of its entrance, forming another layer of defence against attack; although more common in continental Europe, it is very rare in Britain.

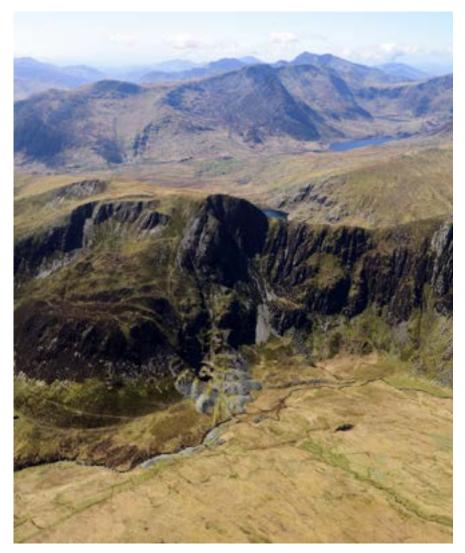
There is probable Iron Age and Roman period settlement, comprising extensive and substantial roundhouse and fields below the fort and across much of the eastern part of the LCA. The relevant area extends from the edge of the scarp at 250-300m, along the narrow upland plateau, with concentrations on the favourable south facing aspects. It appears to represent year round settlement despite the altitude. This landscape is overlain by later rectangular houses, often on platforms terraced into gentle hillslopes. Fields and evidence for ploughing (indicating arable crops) suggest year round occupation. The place name Bryn-gwenith (gwenith is wheat in Welsh) on land north of the Afon Porth Llwyd is another indication of historic crop cultivation in this upland landscape.

Ardda, an area above Coed Dolgarrog was a medieval township. Its land was given to the Cistercian's of Aberconwy Abbey by Llywelyn ap lorweth, ruler of Gwynedd, around the turn of the twelfth and thirteenth centuries and was held by them until the Dissolution of the Monasteries in the sixteenth century. The monastic farmland probably consisted of the whole of the valley including Llyn Cowlyd and the area to the north as far as Cwm Eigiau. The main produce would have been wool from sheep kept on the upland pastures beyond Ardda settlement and the Cistercians established a fulling mill at the bottom of the Afon Ddu to process this into valuable fabric.

Permanent settlement continued after the Dissolution. More substantial building remains, although all now ruinous and abandoned, overlie the Medieval Ardda settlement. It is thought that they are a planned estate settlement of the seventeenth or eighteenth century. Further west in the LCA though, as the ground rises and the valleys cut further into the high Carneddau, the land would have been for grazing and occupation in the summer. Round houses and rectangular building remains scattered across this area are mostly seasonal dwellings linked to grazing. There are numerous 'hafod' (upland summer dwelling) place names in the area. It appears that many of these seasonal settlements became permanently occupied as upland farms in the sixteenth to the eighteenth centuries, although they must always have been tough and precarious undertakings. By the late nineteenth and early twentieth-centuries most of them had been abandoned.

Early Bronze Age monuments including cairns seem to mark routes through local passes and areas of upland pasture across the area.

Remains of a lead mine near Ardda are an outlier of the extensive metal mining landscape to the south. There are a small number of tiny slate quarries and trial workings dating to the eighteenth and nineteenthcenturies and two more substantial quarries high up in the head of



Cwm Eigiau slate quarry © RCAHMW

Cwm Eigiau; Cedryn quarry, early 1800s to about 1880 and Cwm Eigiau quarry, about 1840 to the early 1900s. However, although there are interesting features here (Cwm Eigiau quarries layout of mills, powder house, barracks, workshop and water-catchment system has been described as text book example), neither were successful, and it is likely that investors lost substantial amounts of money speculating in the quarries. A long tramway connecting the quarries to a wharf on the Afon Conwy was built in the 1860s. A small mid-nineteenth century slate quarry near Melynllyn was shifted to working honestone; it was closed before 1910.

The most significant and extensive industrial features in the LCA are its water catchment and impoundment system which was developed in the late nineteenth and early twentieth-centuries. This includes Llyn Cowlyd, Llyn Eigiau, Melynllyn, Dulyn and Coedty (described in roughly south to north order) as well as Ffynnon Llugwy to the west, in LCA01. With the exception of Coedty, the reservoirs are all natural lakes in glacial valleys which have been expanded by dams. Llugwy and Cowlyd are connected by a leat. The Afon Dulyn and Llyn Eigiau and Llyn Eigiau and Cowlyd are connected by tunnels, roughly 1km and 2km respectively. The system was established with Llyn Dulyn (1878) and Llyn Cowlyd in (1881), to provide drinking water to Conwy, Llandudno and Colwyn Bay. From the early 1900s the system was expaned to include additional reservoirs (Eigiau 1911, Coedty 1924) and Cowlyd was increased in size (1927) and as well as providing drinking water it fed a hydroelectricity power station and aluminium works in Dolgarrog (the aluminium works were established in 1907 and closed in 2007; the power station is still in operation). Materials for the Eigiau dam were transported along a railway which reusing part of the earlier Cedryn and Eigiau guarry tramway.

Cultural heritage associations

Eigiau dam was poorly constructed, and on 2 November 1925, after five days of heavy rain, it failed, releasing a huge amount of water which overflowed Coedty Reservoir below it and flooded Dolgarrog killing 16 people. The disaster led to the Reservoirs (Safety Provisions) Act in 1930.

Llyn Cowlyd is the deepest lake in North Wales; around 75m at its deepest point. It is a natural breeding lake for brown trout and also contains arctic char which were brought from Llyn Peris, Llanberis, when that lake was drained during the construction of Dinorwic Hydroelectric Power Station.

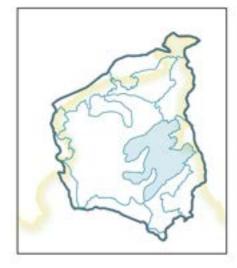
Cowlyd appears in Culhwch and Olwen, one of the stories of the Mabinogion. To win the hand of Olwen, Culhwch has to perform as series of challenges as set by the Olwen's father, the giant Ysbaddaden. To help him in one of the tasks, his cousin Arthur consults the five most ancient creatures, one of whom is the Owl of Cwm Cowlyd. The owl relates the history of its Cwm, its woodlands and their clearance by people. Alan Llwyd uses the Owl as a device in his poem 'Y Tylluan', (1975), as does R.S. Thomas in his poem "The Ancients of the World". The poet Gwilym Cowlyd (William John Roberts, 1828–1904), of Trefriw took his bardic name from Llyn Cowlyd. Y Llynnau Y llynnau gwyrddion llonydd – a gysgant Mewn gwasgod o fynydd, A thyn heulwen ysblennydd Ar len y dŵr lun y dydd.

Gwilym Cowlyd (1828-1904)

Llyn Cowlyd © Robert J Heath

Carneddau Landscape Partnership | 40

LCA05 Dulyn, Eigiau & Cowlyd upland valleys





Cameddau Landscape Partnership Scheme Area

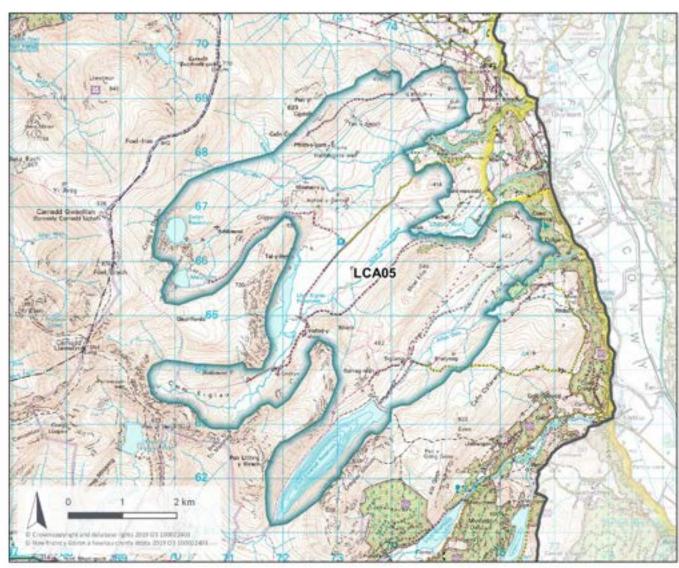


Snowdonia National Park Boundary

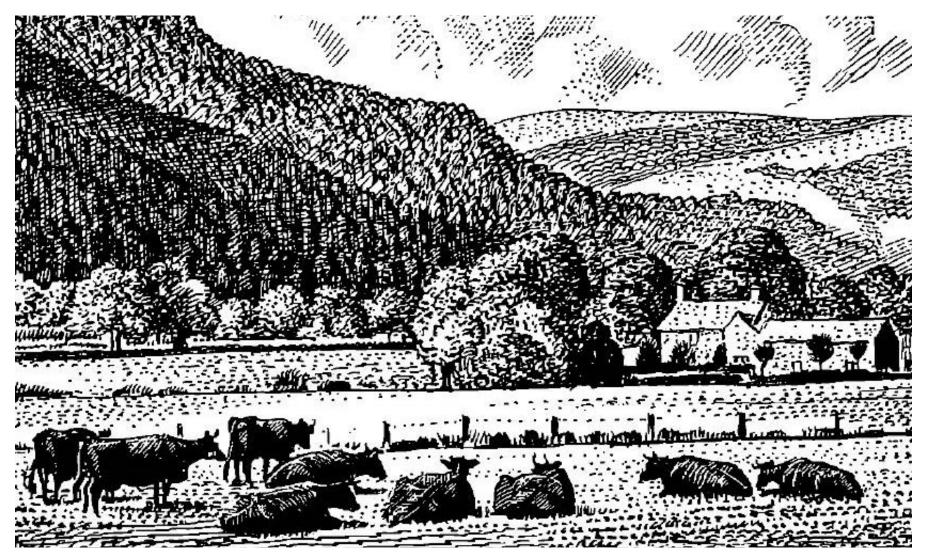
Landscape Character Area



LCA05 - Dulyn, Eigiau and Cowlyd upland valleys



Llyn Crafnant © Andrew (Flickr)



Hills above Trefriw and Dolgarrog from the Conwy Valley (engraving by Charles Tunnicliffe for Forestry Commission booklet, Gwydyr Forest - A History, 1971)

Summary description

This area includes the steep escarpment lining the Conwy valley and the narrow secluded side-valleys containing Llyn Crafnant and Llyn Geirionydd. The area is predominately covered by broadleaf and coniferous woodland of Gwydir Forest, interspersed with crags, streams, small pasture fields and scattered farming settlement. The villages of Dolgarrog, Trefriw, and Llanbedr y Cennin sit along the toe of scarp slopes above the Conwy valley floodplain. The area ranges in altitude from only a few metres above sea level to 530m above Llyn Crafnant.

Key features

Land-use

The main land-use is forestry, with large plantations in the Cwm Crafnant and Llyn Geirionydd areas. Stock rearing, which includes cattle and sheep, occurs mainly at higher levels above the steep woodland zone.

Leisure

Recreational use in the area includes walking, gorge scrambling (Afon Ddu), cycling, fishing and climbing. Trefriw Trails (a local community group) promotes a series of walks, runs a popular walking festival each May and has attained 'Walkers are Welcome' status for the village.

Geology

The scarp edge was formed by a large glacier moving northwards creating the Conwy Valley. It truncated smaller glaciers descending from the Carneddau leaving hanging valleys above the scarp, including Cwm Crafnant and Geirionydd as well as the valleys in LCA05. The underlying geology is a mixture of sedimentary and volcanic rocks, which are more prominent on the steeper slopes, and boulder clay mantling shallower slopes elsewhere. Some of the volcanic rock is base-rich, particularly in the north, giving rise to more fertile soils.

Habitats and species

The most abundant habitat type is woodland which accounts for almost half of the area, more or less equally divided between deciduous and coniferous trees. It is mainly found on the steepest ground and includes Coed Dolgarrog National Nature Reserve (NRW), made up of Upland Oak Woodland with some Upland Mixed Ash Woodland. Elsewhere, improved grassland is most common. Other habitats include bracken and standing water.

The Upland Oak Woodland has a rich variety of species including those acclimatised to humid oceanic conditions found in some of the ravines: Killarney Fern and the liverworts Long-leaved Pouncewort, Toothed Pouncewort and Pointed Pouncewort. Elsewhere, the very rare parasitic Bird's-nest Orchid occurs in Coed Dolgarrog. Terrestrial mammals present in this habitat include Hazel Dormouse and various bat species such as Noctule Bat, Pipistrelle, Greater Horseshoe Bat and Lesser Horseshoe Bat. Redstart, Wood Warbler, Willow Tit, Marsh Tit and Song Thrush are the key bird species found here. Finally, there are records for the butterflies Small Pearl-bordered Fritillary, Wall and White-letter Hairstreak. Crossbill occur occasionally among the conifer plantations around Llyn Crafnant and Llyn Geirionydd.



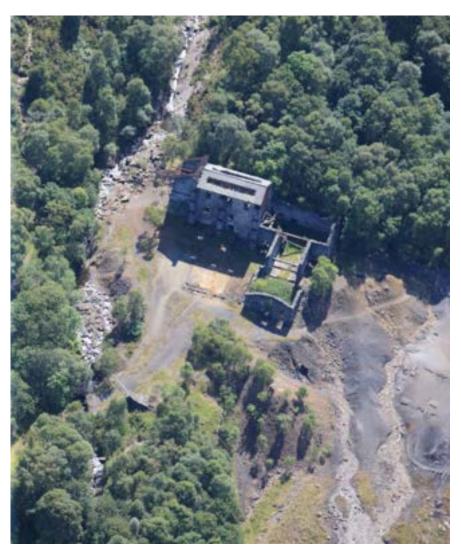
The Crafnant Valley © Mike Raine

Of the more open habitats, heathland has records for Adder and Nightjar in the Mynydd Deulyn/Geirionydd area. Tree Pipit has been recorded in the ffridd, at the northern end of Llyn Crafnant and Llyn Geirionydd. Spring Quillwort and Quillwort occur in Llynnau Crafnant and Geirionydd. Other miscellaneous key species include some adapted to heavy-metals from former lead mining including Welsh Red Data Book species: Forked Spleenwort, Alpine Penny-cress, and Lead-moss (the former two occur in the Geirionydd area, with the latter more widespread).

Historic environment

Under the Tywysogion, the rulers of Gwynedd, in the thirteenth century the area was part of the Nant Conwy commote. It is likely that there was a llys (royal court) and its linked maerdref settlement at Trefriw. Both Trefriw and Llanbedr y Cennin have churches with medieval origins, dating back to at least the thirteenth century. A few hundred metres south of Llanbedr church there was a holy well, Ffynnon Bedr, part of a complex of buildings owned by the Cistercian Aberconwy monks. Until the sixteenth century Dissolution of the Monasteries, the Cistecians held and exploited land in the area that had been given to them by Tywysgog Llywelyn ap lorwerth around the turn of the twelfth and thirteenth centuries. They owned the woodland above Dolgarrog, had a fulling mill for making wool fabric on the Afon Ddu and may have operated mines in the area. There was still a fulling mill in the sixteenth and seventeenth centuries and a wool textile factory was established in the early nineteenth century. Trefriw Woollen Mills, a family business since 1859, still manufactures traditional wool cloth and is powered by a vintage water turbine. A water powered saw mill was established on the Afon Ddu in the mid-nineteenth century.

Lead and zinc is found in the area. The Roman's may have mined lead here; Canovium fort, Caerhun, is just a few kilometres to the north. The Gwydir Estate developed the ore fields on its land from the seventeenth



Mill buildings at Klondyke mine, Trefriw © RCAHMW

century, but the peak period for mining was not until about 1850 to 1920. The principal mines such as Cyffty, Hafna, Llanrwst, Pandora and Parc mines all lie outside the Carneddau LPS. The largest mine within this LCA is Klondyke lead mine, above Trefriw. It was relatively unproductive but a large mill was constructed there to process ore from the mine and from the larger New Pandora mine 3km to the south, connected by an aerial ropeway and tramway. The mill and mine were closed by 1920. The largest mine in Gwydir Forest, Parc, continued intermittently until about 1960. In the second half of the nineteenth century, many inhabitants of the area worked in the mines.

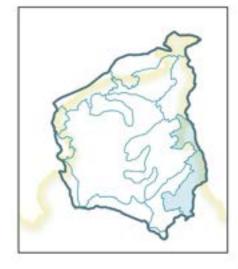
Dolgarrog has a starkly contrasting pattern of settlement to the old villages of Trefriw and Llanbedr because of the establishment in 1907/08 of an aluminium works and a hydro-power station to supply it with the huge amount of electricity needed nineteenth aluminium production. Suburban-style houses were built for the workers in the 1910s and 1920s, laid out in rows along the road. The failure of the Llyn Eigiau dam in 1925 caused the Dolgarrog Disaster, when water flooded the village and killed 16 people. Many local people were watching a film at the village theatre at the time, and the death toll would have much higher if this building hadn't been on higher ground. The aluminium works closed in 2007 and the site has now been converted into a wave pool for Surf Snowdonia, a visitor attraction.

Alltwyllt, an area of hillside about 25 hectares in size between Dolgarrog and Tal y Bont, is another area with a distinctive pattern of historic settlement. A landscape of small irregularly shaped fields and cottages has mostly become abandoned, ruinous and overgrown. The area was inhabited until around the end of the nineteenth century; the economy of its inhabitants was based on a mix of quarrying, mining, agricultural labouring and other activities such as basket-making and knitting socks.

Cultural heritage and associations

- A number of Scottish families moved to Dolgarrog to work in the aluminium works in the early twentieth century and there are still many Scottish surnames locally.
- The sixth-century bard, Taliesin, composer of some of the earliest surviving Welsh poetry, is claimed to have lived on the shores of Llyn Geirionydd (and there is a monument to him at the lake).
- Scratches on the north wall of the church in Llanbedr y Cennin are thought to be score marks for hand-ball games played in the church yard against the wall; a custom known from other churches in Wales and which was frowned on by church authorities.
- The Conwy Valley became increasingly popular with tourists from the 1840s for its attractive scenery. Until they were subdued by impoundment of water in the reservoirs above it, the waterfalls on the Afon Porth Llwyd were a famous beauty spot. An ancient mineral-water well was re-opened in Trefriw and developed into a spa attracting large numbers of people. A fleet of small steam boats carried visitors to Trefriw from Conwy Town along the Afon Conwy and continued until about 1940.
- The Afon Conwy was a major transport corridor in the past; a striking insight into the use of the river and of the historic extent of woodland in the area is shown by information that between 1754 and 1760 £50,000 worth of oak was felled and floated down river from woodland near Betws y Coed.

LCA06 Conwy Valley wooded hillslopes



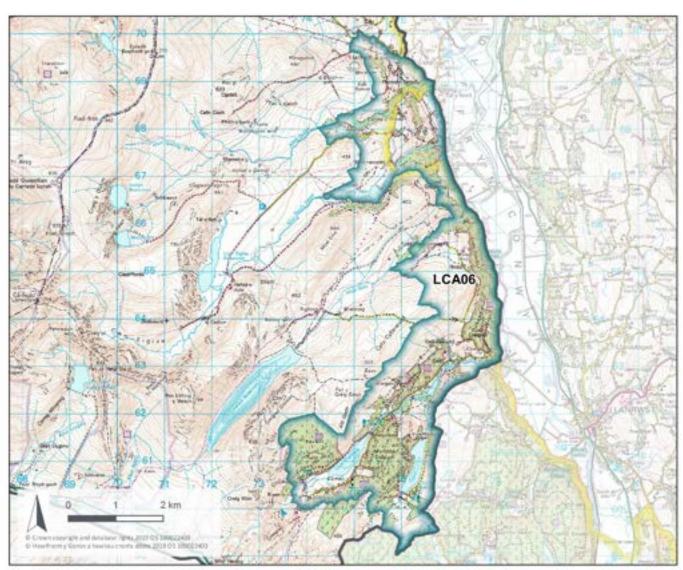


Carneddau Landscape Partnership Scheme Area

Snowdonia National Park Boundary

Landscape Character Area

LCA06 - Conwy Valley wooded hillslopes



Nant y Benglog looking towards Tryfan and Pen yr Ole Wen © John G Roberts

Summary description

This is an open and wild upland valley, dominated by the Carneddau and Glyderau mountains that define its skyline. Llyn Ogwen lies to the west and drains westwards down the Afon Ogwen through the adjacent Nant Ffrancon character area. Water flowing eastwards through Nant y Benglog is carried by the Afon Llugwy towards Capel Curig and the Conwy Valley. Wet marginal grazing land, small shelter belt woodlands and scattered farming settlement are situated on the gentle southfacing slopes above the Afon Llugwy. The A5 road, engineered by Thomas Telford, runs through the valley; the dramatic mountain landscape makes it one of Wales' most iconic roads.

Key features

Land-use

The main land-use is for sheep and cattle rearing. The leat forming the north-eastern upper boundary of the area is part of a system linking together several large lakes in adjacent LCAs for drinking water and power generation.

Leisure

This is a popular area for walking, although much quieter than the Glyderau to the south. One of the commonly used access points to the high Carneddau to the north is via the Cwm Lloer path from Glan Dena at the east end of Llyn Ogwen. Another is via Ffynnon Llugwy by the reservoir service track. The old road through the valley, to the south of the Afon Llugwy, is a bridleway and forms an un-metalled continuation to Capel Curig of the Lôn Las Ogwen cycle track from Bangor to Ogwen Cottage. The Slate Trail, a long-distance walk, follows the north side of Llyn Ogwen and then joins the old road to Capel Curig. Two bridleways from the Nant y Benglog converge at Bwlch Cowlyd to descend into the Conwy Valley; both routes are in poor condition where they cross peatland. Over half the area is notified as open access land. Parking is limited in the valley and is problematic during good weather at weekends and holiday periods. There is very little parking in the eastern part of the valley, from Gwen Gof Isaf to Capel Curig.

Geology

The valley was formed by glaciers during the last Ice Age. At one time Pen yr Ole Wen (the Carneddau) and Tryfan (the Glyderau) to the south of the valley would have been joined together by a high ridge. They were eventually separated through erosion by separate glaciers flowing east and north west. The rocky lip at the west end of this character area, which overlooks Nant Ffrancon, remained, forming a natural dam which is responsible for Llyn Ogwen. The underlying geology is mainly of mixed glacial deposits with boulder clay and some areas of deep peat. The lower enclosed slopes of Pen yr Ole Wen have localised concentrations of boulders, and other patches of dumped boulders occur sporadically on the lower slopes further east in the valley.

Habitats and species

The most abundant habitat in the area is Upland Acid Grassland, followed by Upland Heathland which is scattered across the area. Blanket Bog Priority Habitat occurs in several small pockets and one large area located north-east of Tal y Braich farm. Smaller areas of improved grassland, marshy grassland, rock and scree can be found, but there is very little woodland. The mosaic of terrestrial habitats across this character area is a good example of ffridd with only localised improvement. There are scattered willows, particularly along some of the watercourses, forming linear patches of woodland. Bracken grows in small patches across the LCA, with a larger stand at Tal y Llyn. Llyn Ogwen has a low nutrient content, low algal production and, as a result, very clear waters, with high drinking-water quality (an oligotrophic lake).

Most of the area's habitats are in unfavourable condition due to the low cover of Heather. The only key heathland species is Marsh Clubmoss

which occurs in flushed wet heathland on Tal y Braich land, not far above the A5. A key species, characteristic of the ffridd habitat in this area, is Twite which has been recorded in moderate numbers in the past but has been declining. Ring Ouzel are seen at the western end of the site above Llyn Ogwen. Water Vole occur around Llyn Ogwen and the Afon Denau leading into it. Llyn Ogwen also has Goosander and these have been seen further east along the Afon Llugwy. Additionally, signs of Otter have been recorded along the Afon Llugwy and at Llyn Ogwen.

Historic environment

This wide upland valley has traditionally been an area of seasonal settlement and exploitation for upland grazing. Early Bronze Age burial cists, small cairns and a standing stone seem to be focussed on routes to Bwlch Cowlyd, the pass to the Conwy Valley. There is scattered late Prehistoric round house and rectangular Medieval/Early Modern hafotai type settlement remains throughout the valley but mostly at low density and widely dispersed. Traditionally the whole of the valley and upland surrounding it would have been open ground, but portions were enclosed with walls from around the sixteenth century. A legal document from a court action by the Crown against William Williams of Cochwillan (between Bethesda and Bangor) and his tenants for illegally enclosing Crown land shows this process underway in the 1580s and places named in the document include farms (such as Tal y Braich) in Nant y Benglog. Most of Nant y Benglog and surrounding lands was part of the huge Penrhyn Estate by the eighteenth century. Much of the Penrhyn land in the Carneddau (and Glyderau) was given to the National Trust in lieu of death duties in 1951 and many of the farms in the valley are National Trust tenancies.

The only routes through the valley before the late eighteenth century were paths and pony trails. In the 1790s, Lord Penrhyn had a new road built connecting an existing route to his quarry near Bethesda with Capel Curig. In Nant y Benglog this contoured round the valley on the south side of the Afon Llugwy. In 1802 it was superseded by a turnpike road on a more direct route; this is now a bridleway and defines the southern edge of the LCA. Telford's London to Holyhead road (the current A5) runs on the north side of the Afon Llugwy, and was completed in about 1820.

A concrete 'pillbox' from WWII overlooks Llyn Ogwen from its north shore and is part of a wider group of features running into the adjacent Nant Ffrancon LCA. It is said to have been designed to guard against flying boat landings on the lake as well as road traffic on the opposite shore. North west Wales' passes, including this one at the west end of Llyn Ogwen, were considered strategically important and defended so that the progress of any German invasion by sea could be held up in its progress to the industrial cities of Liverpool and Manchester.

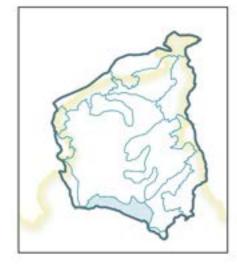
Cultural heritage and associations

- Margaret Roberts' book 'Oes o Fyw ar y Mynydd' ('The Time of Living on the Mountain'; 1979) is a classic account of Glan Llugwy farm during the early twentieth century. It describes life in the valley, farming, personalities and characters, school, visitors, good and bad times, the vagaries of the weather including great hardship during heavy snow and long winters in the 1940s and periods of illness and family tragedy. This community of the valley was close-knit and shared in each other's labours, especially at hay making and shearing time, agricultural events and major social occasion with lunch and tea an important part of the proceedings. Community life was articulated through Welsh, as it continues to be today. While describing the challenges of making a living in a tough environment it also shows great feeling and affinity for landscape and its natural beauty. The author worries about the impact of Victorian and earlier plant hunters who depleted the flora of the valley. Mrs Roberts' family still farm Glan Llugwy.
- Artist John Piper was inspired by the mountainous landscape of north Wales and its geology. Between 1949 and 1956, he and his family rented Bodesi farmhouse in Nant y Benglog (apart from during the summer months when it was used by its owner; a reflection of the traditional summer 'hafod' tradition), staying there for long periods. Amongst the locations he painted is Cwm Ffynnon Lloer below Pen yr Ole Wen.
- George Borrow walked through Nant y Benglog on route for Bangor in 1854. In Wild Wales, published 1860, he gives an interesting and moving account of meeting the young inhabitants of Helyg, a cottage on the north banks of the Afon Llugwy, which as he reflects, tells us something about the lives and experience of the rural poor at the time. Helyg was later purchased by the Climber's Club and opened as club bothy in 1925, which it still is. It played an important role in the development of British mountaineering and was used as a base for many famous climbers of new routes in the Glyderau and Carneddau, especially between the World Wars.



Helyg, Nant y Benglog © John G Roberts

LCA07 Nant y Benglog





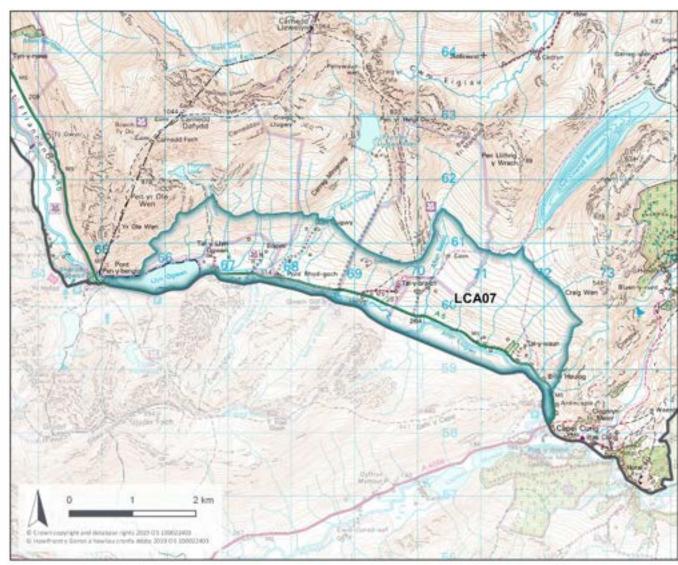
Cameddau Landscape Partnership Scheme Area

Snowdonia National Park Boundary

Landscape Character Area



LCA07 - Nant y Benglog



Nant Ffrancon, looking south. The old road (Lord Penrhyn's Road) visible in the distance © John Hughes

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Natio

Summary description

This is an open upland valley dominated by the steep slopes and mountain scenery of the Carneddau and Glyderau. The valley floor includes marginal and semi-improved pasture fields lined by drystone walls and occasional slate fences, clumps of broadleaf trees along the river and conifer stands on rocky knolls, and scattered estate influenced stone-built farmhouses. The historic A5 road provides easy access and the valley forms a dramatic gateway into the mountains from the lower coastal areas.

Key features

Land-use

Sheep and cattle are kept in the valley bottom, and sheep on the steeper hillsides. The Afon Ogwen is the largest river in the Partnership area: it was deepened in the 1960s to improve grazing and reduce flooding. Over-deepening, flushing and scouring of fine river gravels, however, lead to declining salmon numbers, and because of this the river was restored in the late 1990s.

Leisure

Recreational use of the valley bottom is limited to one public footpath crossing the river, but most of the steeper slopes are open access land. Locations for parking to access the steeper ground are limited to two laybys on the A5 above Braich Ty Du farm. The Lôn Las Ogwen trail is a popular cycling and walking route from Bangor to Nant Ffrancon. The Slate Trail, a long-distance walk, follows Lôn Las Ogwen from south of Bethesda through the valley. Ogwen Cottage is an access point on foot to the high Carneddau, but also (and predominantly) to Cwm Idwal and the Glyderau.

Geology

Nant Ffrancon is a classic example of a U-shaped valley shaped by glaciers during the last Ice Age (and a frequently quoted example of its type in UK geography lessons!). Besides its deep and flat-based profile, its truncated hanging valleys and scoured rocks are other signs of the former presence of the ice mass that shaped it. The bed of the valley was a lake in the immediate post-Glacial period which became infilled and today there are significant areas of alluvium and deep peat where once there was standing water. Large vegetated alluvial fans occur where steep streams enter the valley bottom, and these are well-drained and provide good quality grazing. The unenclosed slopes above the A5 have large scree fans fed from the cliffs above. The solid geology is exposed locally on the north-eastern part of the character area and mainly comprises sedimentary rocks of Ordovician age (443-485 million years ago).

Habitats and species

There is a good diversity of vegetation types with grassland, heathland, Marshy Grassland, Blanket Bog, fen and some rock outcrops. Other habitats include bracken, small conifer plantations and some improved grassland. Deciduous woodland is sparse and limited to small patches below the A5 and around Blaen Nant farm at the head of the valley. Deep peat vegetation in the valley bottom includes Blanket Bog, Marshy Grassland and areas of transitional swampy vegetation. The bog here has been partially drained, and where dominated by Purple Moor-grass is in unfavourable condition. Where the peat layer becomes shallower or where there had been peat cutting in historical times, there are areas of wet heathland. At the northern end of the valley bottom, where there has only been light grazing in the recent past, willow scrub in swampy areas is coalescing into stands of the Wet Woodland Priority Habitat, a

relatively rare woodland type within the Partnership area. Some of the small areas of woodland on steep slopes below the A5 are examples of Upland Mixed Ash Woodland Priority Habitat. The lower slopes of the steeper enclosed land above the A5 have numerous Hawthorns which form part of the ffridd vegetation in this character area. The oldest trees are over 100 years old, but population growth is low, with very few trees less than 30 years old.

Upland Heathland has few species of note but is the main habitat for Ring Ouzel in the area. The ffridd area, generally occupying the steeper ground above the A5, has a population of Twite which utilise grasslands and heathland. Chough also make use of the shorter grasslands here for feeding. The Afon Ogwen is an important habitat for Water Vole and Otter, and Goosander also occur. Eel are also present, and Salmon numbers are increasing gradually since the remedial work in the late 1990s.

Historic environment

The valley sides are so steep that there is little evidence for past settlement on them until the gentler slopes at the mouth of the valley, where there is a round house. There are occasional sheepfolds on the valley sides. Settlement activity has been mainly restricted to the flat floor of the valley. The land was part of the Penrhyn Estate which undertook a programme of landscape improvements and development schemes during the late eighteenth and nineteenth centuries. Substantial new stone-built farm houses and outbuildings, in a consistent and attractive estate style, were constructed and field boundaries revised. Very little remains of the pre-existing settlement pattern.



Thomas Telford's road (A5) at head of Nant Ffrancon and Llyn Ogwen. The earlier turnpike road can be seen to right of road, bottom of shot © RCAHMW

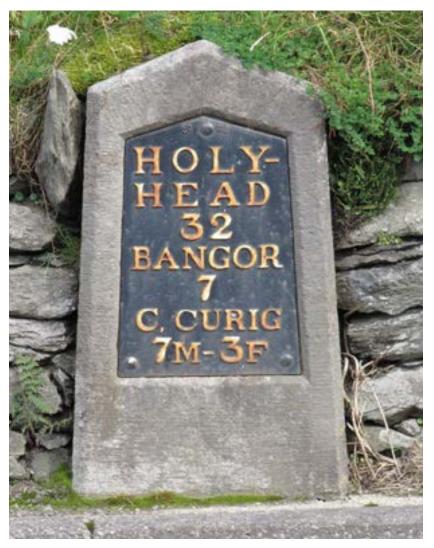


Old bridge beneath Telford's bridge on A5, Pont Pen y Benglog © Steven Vacher

The estate's owners had a picturesque lodge and gardens at Ogwen Bank (now a static caravan site) and model dairy at Plas Penisarnant (beside what is now the A5), both of which feature favourably in well-heeled tourist's accounts of their visits to the area in the early nineteenth century (these features are just outside the LPS boundary which follows the A5 into Bethesda). The industrial landscape of the nearby Penrhyn Quarry was another attraction for these visitors: It saw huge expansion from the 1760s onwards and by the end of the nineteenth century was the world's largest slate quarry and had nearly 3,000 workers at its peak. It is still an active quarry. The quarry lies a kilometre outside the LPS area, but its spoil tips nearly run into this character area. There are some very small-scale metal mining (copper) trial workings in the valley.

Before the late eighteenth century, the route through Nant Ffrancon and Nant y Benglog was notoriously arduous. Thomas Pennant wrote after his tour of the area in 1773 that the way 'into the valley, or rather chasm, of Nant Francon, is called The Ben-glog, the most dreadful horse path in Wales, worked in the rudest manner into steps, for a great length'. Lord Penhryn commissioned a new road to Capel Curig from the Penrhyn Quarry near Ogwen Bank headed along the south side of the valley, rising very steeply over the headwall (vertical rise of about 100m over a distance of 1.5km). The road was superseded by one built by the Capel Curig Turnpike Trust in 1802, and then by Thomas Telford's road (the current A5).

During World War II Nant Ffrancon formed part of Western Command's Stop Line No. 23 which ran from Bangor to Porthmadog and the Stop Line 23 and a series of anti-invasion defences were constructed at the south end of the valley to defend the Pen y Benglog pass. Surviving structures include two pillboxes (one is on Llyn Ogwen, in the adjacent Nant y Benglog LCA), six spigot mortar emplacements, three sheltered infantry shooting positions and a row of anti-tank blocks. The Stop Lines were intended to slow down the progress inland of any German force attacking the west coast.



Milestone on Thomas Telford's London to Holyhead road (A5) in Nant Ffrancon © The Milestone Society

Cultural heritage and associations

- Thomas Pennant wrote after his tour of the area in 1773 that the way 'into the valley, or rather chasm, of Nant Francon, is called The Benglog, the most dreadful horse path in Wales, worked in the rudest manner into steps, for a great length'. A very attractive, crudely-built, bridge of pitched stone slabs survives beneath Telford's bridge at Pont y Benglog, spanning the Afon Ogwen as it falls dramatically into Nant Ffrancon, and is probably part of the 'dreadful horse path' referred to by Pennant.
- Artist John Piper stayed at Pentre Farm near the head of the valley during the 1940s until 1949. Nant Ffrancon features is many of his sketches and paintings.

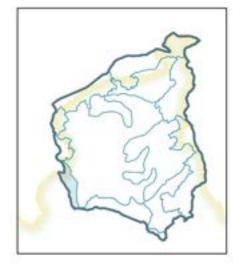


'Nant Ffrancon Farm', by John Piper 1950 © Piper Trust (via National Museum of Wales and People's Collection Wales)



Pentre farmhouse, 2011 © National Museum Wales (via People's Collection Wales)

LCA08 Nant Ffrancon



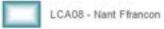


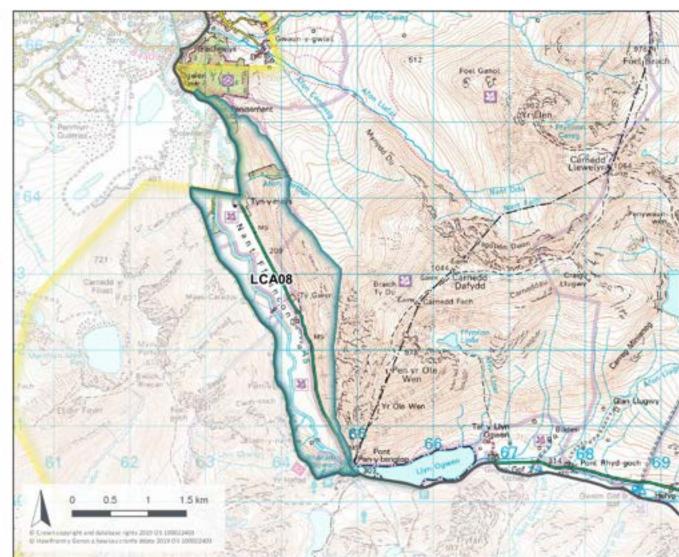
Cameddau Landscape Partnership Scheme Area



Snowdonia National Park

Landscape Character Area





Carneddau Landscape Partnership | 59

Summary description

This area includes the eastern edge of Bethesda and Llanllechid and enclosed farmland below the mountain uplands. The settlements expanded rapidly in the nineteenth century, providing new housing for slate workers employed in the Penrhyn Estate and other quarries. The valley slopes are covered with a mosaic of small irregular enclosures, marginal land, scattered settlement, quarries and a large block of coniferous woodland at Braich Melyn.

Key features

Land-use

There is mixed land-use, with settlement at lower levels and agricultural higher up. Stock rearing includes sheep and cattle, with the rights to Llanllechid Common, which lies above the LCA, attached to land within the LCA. There is evidence of former slate quarrying, with a large surviving quarry hole and spoil heaps at Bryn Hall, and the remains of smaller-scale trials and spoil heaps above Rachub and Hen Barc. There is a hydropower scheme with two intakes in the Afonydd Llafar and Caseg just outside the LCA, returning water close to the junction of these two rivers.

Leisure

There is an extensive network of local footpaths and several good paths that lead to the open mountain access land which are popular with local people. Rugby and football are important sports in Bethesda; the rugby club is a hub for community social life and has a substantial new club house (with a spectacular view of the Carneddau).

Geology

The solid geology of the area is mainly sedimentary with a variety of slates, mudstones, siltstones and sandstones which have resulted in a fairly smooth topography apart from where gritstone outcrops on Y Garth. Glaciation left boulder clay covering most of the area and deep, moderately fertile soils which vary between well- and poorly-drained depending on locality.

Habitats and species

Within this character area there is a significant amount of Lowland Dry Acid Grassland, mainly located at higher levels and often adjacent to similar upland vegetation above the mountain fence or wall. Ffridd vegetation occurs at higher levels above Bethesda and to some extent further north, and includes lowland acid grassland, together with improved grassland, bracken, scattered scrub and occasional small patches of woodland. There are a few localised areas of Lowland Meadow around Bethesda and Llanllechid, but these are mostly rushdominated and in poor condition.

Some of the areas of Lowland Dry Acid Grassland within the LCA, particularly where the vegetation is dominated by Fescues and Bents, provide feeding areas for Chough. The small patches of woodland and the large conifer plantation are used by Lesser Horseshoe Bats and a population of Red Squirrel have been reintroduced into woodlands in this area and the adjacent Nant Ffrancon (LCA08). Otter have been recorded in the lower reaches of the Caseg and Llafar rivers. Key species characteristic of the ffridd habitat in this area include Yellowhammer, Twite and Tree Pipit. Other key species occurring in more than one habitat in the area include Brown Hare and Polecat.

Historic environment

The open and gentle slopes of this area, with their southerly and westerly aspects, have attracted permanent settlement for thousands of years. To the north of Rachub, on the north west slopes of Moel Faban, is an extensive relict pattern of terraced fields and round houses; the core area is covers about 30 hectares, but linked features spread out more widely suggesting that this pattern once covered much of the LCA. The terraces and banks are up to 3m high in places. The round houses, forming at least 15 groups, are very substantially built. Ancient double-walled trackways can be made out in places joining the settlement groups. Stripy patterns of plough marks can be seen in some of the fields showing that they were cultivated for crops. There are alrosome rectangular building remains within the group. The features probably date mostly to the Iron Age and Roman period (about 2,500 to 1,500 years ago) but may have been used into the Medieval period. There is a small hillfort, Pen y Gaer, also probably Iron Age or Roman period, above Cilfodan, visible in the landscape today because more recent stone walls form a circle around its former defences.

Overlying the Iron Age, Roman and Medieval period settlement is a complex landscape of small irregularly shaped fields form the eighteenth and nineteenth centuries, some of them preserving the field shapes of the earlier features. Farms are dispersed within these fields; many of them were rebuilt in the nineteenth century by the Penrhyn Estate.

Apart from agriculture, the strongest historic influence on the landscape has been quarrying and the settlements and other activities linked to it. The Penrhyn Quarry, outside the Carneddau landscape partnership scheme area, to the south of the Afon Ogwen, expanded enormously from the late eighteenth century and by the late nineteenth was the largest slate quarry in the world, with around 3,000 workers.



Complex multiperiod landscape of ancient settlement and fields with Iron Age origins; Bryn Hafod y Wern slate quarry beyond © SNPA



Penrhyn slate quarry, early 1900s

Bethesda developed rapidly along Thomas Telford's new London to Holyhead road from around the 1820s, independently of the Penrhyn Estate, on land that the Estate did not own. Independence from the Estate was important to Bethesda's development and to the community whose lives were dominated by it in many aspects. Two smaller, local, estates, Coetmor and Cefnfaes owned and controlled much of the land here. The street pattern of early workers' housing in Bethesda is irregular and crowded and is in stark contrast to the formal and regimented planned workers' settlements that the Penrhyn Estate established on the other side of the valley in Tregarth and Mynydd Llandegai. Most of Bethesda lies outside the Carneddau LPS area, but there are a series of satellite settlements and villages within this character area, including Cae-llwyn-grydd (1830s/40s; known as Rachub today) and Gerlan (1850s) both of which were laid out on a more regular street pattern than earlier settlement. There was little new housing development in the Bethesda until the second half of the twentieth century, due to the decline of Penrhyn Quarry after the early 1900s.

The disused Ty'n Ffridd, Tan y Bwlch and Bryn Hafod y Wern slate quarries are in the LCA. The former, south of Rachub village, is very small-scale early nineteenth century surface workings. Tan y Bwlch, north of Rachub started in 1805 and in sporadic use until 1911, including a period when it was run co-operatively during and after the Penrhyn strike. Bryn Hafod y Wern is the most substantial of the three. It started in the 1780s and was forced to close when the Penrhyn Estate cut off the water supply that powered it.

Cultural heritage and associations

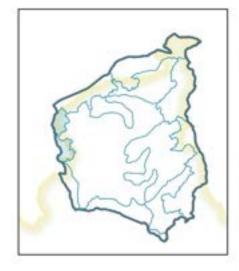
- Historically religious life was very important to the community, both church and chapel, but particularly the latter. The 1851 Religious census for Llanllechid parish lists one church (Llanllechid) and thirteen chapels, including seven different denominations: Welsh Calvinistic Methodist, Independent, Calvinistic Methodist, Wesleyan Methodist, Separate Baptist, Calvinistic Methodist and Particular Baptist. Neither the church nor any of the chapels are within the LCA (or the LPS area) but a number are close to its boundary; however, they are an important aspect of the community's heritage.
- Quarrying made Bethesda an affluent community by the second half of the nineteenth century, as shown by the grand scale of its three largest chapels, Jerusalem, Bethania and Bethesda (which gave its name to the settlement). The highly acrimonious Penrhyn strike and lockout of 1900-1903 had a disastrous and divisive impact on the community. The industry, and by association the local economy, collapsed in the twentieth century and although Penrhyn Quarry is still active it employs a tiny number of people in comparison to the workforce of thousands at its heyday.
- Education was highly valued by the quarrying communities and chapel and Sunday Schools provided an important context for learning. There is a rich literary tradition of poetry, prose and nonfiction writing in the Welsh language, as demonstrated by leuan Wyn's review for the Carneddau LPS. Dyffryn Ogwen has produced four Prifardd (an honorific title; the highest accolade awarded to bards by the National Eisteddfod of Wales): Caradog Prichard, Emrys Edwards, leuan Wyn and Gwynfor ab Ifor.



Detail of carved slate fireplace © RCAHMW

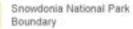
- An accomplished folk-art tradition of slate-carving developed in Dyffryn Ogwen in the 1820s to 1840s, particularly of fireplace surrounds. A large number of the examples recorded by Cymdeithas Archaeoleg Llandegai a Llanllechid (Llandegai and Llanllechid Archaeological Society) are from within this landscape character area and immediate surroundings. The decoration includes geometrical patterns and freehand designs including a great variety of subjects such as people, animals, buildings, objects, furniture, landscape scenes, pieces of music and astronomical information.
- Artist, poet and prose writer Brenda Chamberlain from Bangor lived in Rachub, in a cottage at the top of the village bordering the open mountain land, in the 1930s and 1940s. Together with her husband, artist John Petts, she ran the Caseg Press from the cottage. She won the first two Gold Medals awarded by the National Eisteddfod of Wales for Fine Art, in 1951 and 1953.
- Gruff Rhys, lead singer with the Super Fury Animals and solo artist, was born and brought up in Rachub.

LCA09 Bethesda & Llanllechid hillslopes and fields





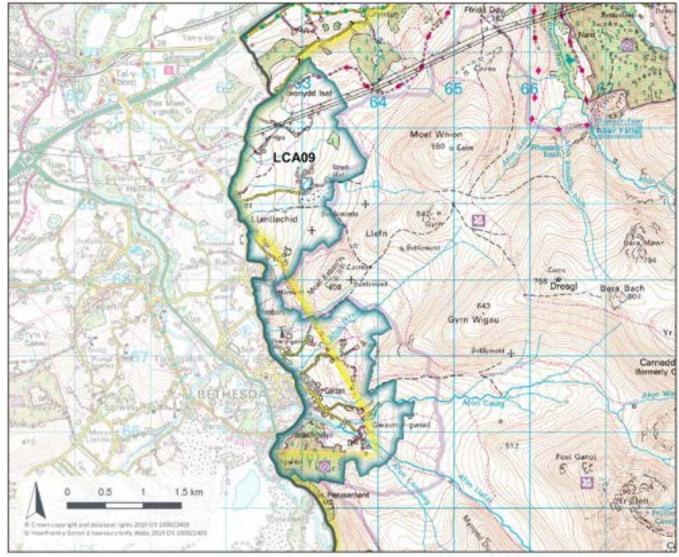
Cameddau Landscape Partnership Scheme Area



Landscape Character Area



LCA09 - Bethesda & Llanllechid hillslopes and fields



Tree of

Abergwyngregyn village looking towards Llanfairfechan. Remains of Medieval buildings can be seen in the excavations near the motte mound © SNPA

Summary description

This area includes a prominent line of wooded coastal hillslopes and fields, intersected by the Aber valleys. Land cover comprises large deciduous and mixed woodlands, interspersed with smaller irregular fields and hedgerows. The influence of Penrhyn Estate planning can be seen in regular enclosures, planted woodland, drystone walls, slate fencing and the largely nineteenth-century village of Abergwyngregyn. Lanes contour the hillside with one heading into the mountains to the trackway mountain crossing of Bwlch y Ddeufaen. The northern boundary is defined by the busy A55 dual carriageway.



Slate fence near Crymlyn (c) John Briggs

Key features

Land-use

The land is used for stock rearing, mainly sheep and cows, some of the former being wintered on the improved land after being brought down from the mountains. There are several conifer plantations including large blocks at Ty'n Hendre, Nant Heilyn and above Abergwyngregyn.

Leisure

The old lane at the foot of the western scarp is part of a National Cycle Route, which continues beside the A5 to Llanfairfechan and beyond to Conwy. The North Wales Path crosses the area along a track through the ffridd land between Bronydd Isaf and Abergwyngregyn.

Geology

The underlying geology is sedimentary, comprising mudstones, siltstones and sandstones but is covered by thick glacial gravel and boulder deposits. The soils on the coastal land and ffridd are generally deep, well-drained and relatively fertile.

Habitats and species

The two key habitats in the area are woodland and acid grassland. A small proportion of the woodland is Upland Oak Woodland Priority Habitat, with a small amount of Lowland Mixed Deciduous Woodland also present. Lowland Dry Acid Grassland Priority Habitat occurs, often in combination with bracken, on some of the steeper slopes and above, extending to the mountain boundary. Other minor amounts of Lowland Heath and Lowland Meadows also occur.

The key species in this area are limited because of extensive agricultural land improvement: there are records for the woodland Priority Species Pied Flycatcher, as well as for various bat species including Pipistrelle and Whiskered Bat. Some relatively unimproved dry acid grasslands in the area around Abergwyngregyn support important assemblages of grassland fungi including Waxcaps, Pink-gills Earthtongues and Spindles or Fairy Clubs. Other key species include Otter and Eel.

Historic environment

There are a series of large farms on the coastal plain, which were rebuilt by the Penrhyn Estate in the nineteenth century; many of them have extensive ranges of outbuildings. The farms have land on the ffridd pasture above the steep escarpment behind them, and grazing rights on the open mountain common above that, as well as their coastal land.

The remarkable multiperiod landscape seen in LCA09 continues here, with the features being most well-defined on the ffriddoedd above Crymlyn and Aber village. Substantial Iron Age and Roman period round houses survive here, circled by large banked enclosures, and are set within radiating patterns of linked fields. The fields have large banks and terraces showing that they were cultivated. These were permanent, and presumably wealthy, mixed-economy farmsteads with both crops and livestock, located between the resources of the coast and the mountains.

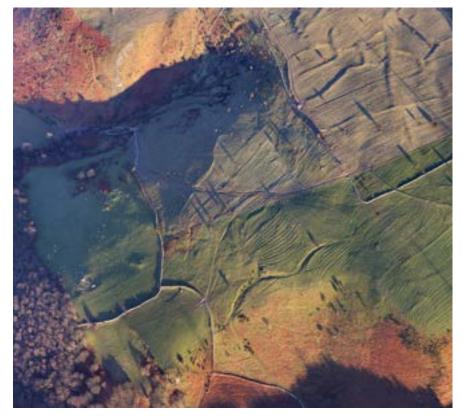
In the Medieval period, this landscape was ploughed, as the visible remains of curving - ridge and furrow - cultivation marks show. Hardy species such as rye, barley and oats would have been grown on these upland slopes. Wheat was grown on the good soils of the coastal plain historically, but now this land is almost exclusively pasture.

An Iron Age hillfort, Maes y Gaer, sits at the top of the wooded scarp above Aber. An ancient route from the Conwy Valley over the Carneddau (see LCA02) came to the coast at Aber. The tidal Traeth Lafan (Lavan Sands) and the Menai Strait, were one of the main crossing points between Anglesey and the mainland prior to Thomas Telford's Menai Bridge in the early nineteenth century. They could be treacherous and in misty conditions the church bell in Aber was rung to help guide people across. Cattle and other livestock were driven over Traeth Lafan: inns and fields in the village provided refreshment for the drovers and the animals respectively! Abergwyngregyn village developed around a motte, an earthen castle mound for a timber castle, which is probably Norman (eleventh century) in origin, on the west bank of the Afon Aber. The main street curves around the motte and the fields beside it, which may originally have formed part of the bailey enclosure of the castle. The most significant historical aspect of Aber is its association with the Tywysogion, the rulers of Gwynedd and much of the rest of Wales in the thirteenth century, who had a llys (court) and linked maerdref settlement here. Archaeological remains of substantial stone buildings found in 1993 and 2010 in the field to the south of the motte along with finds of silver coins of late thirteenth century and other artefacts. They suggest that this was the location of the llys. Pen y Bryn, a mansion on a hill terrace overlooking Aber village from the opposite side of the river, has also been claimed as the location of the llys, but the archaeological evidence is much less compelling. The political and administrational significance of Aber declined after the Edwardian conquest of 1283. Wig (now a farm) and Bodsilin (an area of upland above Aber and Gorddinog woods) were Medieval townships linked to the llys in Aber. There are extensive remains of rectangular buildings and fields including ploughcultivation evidence at Bodsilin.

The Anglesey-based Baron Hill Estate owned Aber until the late nineteenth century, when it was bought by the Penrhyn Estate which carried out redevelopment of housing and the mill. There had probably been a mill in Aber for hundreds of years, probably as far back as the thirteenth century. According to historical records there was a group of Flemish weavers living here in the 1300s; presumably they were woollen cloth makers, implying the presence of a fulling mill on the river and sheep in the local economy.

Gorddinog, a grand house and gardens, between Aber and Llanfairfechan, was designed by architect H.L. North for Colonel Henry Platt in the early twentieth century. The Platt family of Oldham had

established a textile machinery making company in the 1770s and by the mid-nineteenth century was the largest of its kind in the world, making the family very wealthy. They bought property in Llanfairfechan, developed the village as a tourist destination, and rebuilt Bryn y Neuadd mansion as a grand house set in a landscaped park. Madryn, near Gorddinog, was built as a substantial model farm for the Platt estate in the 1880s.

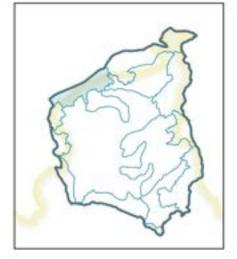


Cultural heritage and associations

- Aber was reputed to have been the favourite llys of the Tywysogion in the thirteenth century, one of the centres at which they regularly stayed as they moved around their lands. It is particularly associated with Llywelyn ap lowerth (known as Llywelyn Fawr – i.e. The Great) and Llywelyn ap Gruffudd, who ruled large portions of Wales.
- A number of important royal events occurred at Aber. Llywelyn ap lorwerth's wife, Joan (Siwan in Welsh; a daughter of King John of England), died at Aber in 1237, as did his son and successor, Dafydd, nine years later. Eleanor, wife of Llywelyn ap Gruffudd, may also have died there in June 1282 giving birth to their daughter, Gwenllian. John Pecham, archbishop of Canterbury, came to Aber in November 1282 to propose onerous peace terms to Llywelyn ap Gruffudd, as war with Edward I loomed. Llywelyn refused. He was killed in mid-Wales later in the year.
- The people of Aber had to pay dues of produce and labour to the Tywysog. This included: honey, butter, flour, meat, poultry and eggs; providing a day's subsistence four times a year for about 100 members of the royal entourage and their horses; and working the royal arable land.
- Joan, Llywelyn ap lorwerth's wife, had an affair with the Norman Marcher lord William de Braose while he was being held prisoner by Llywelyn. Llywelyn had him publically hanged in 1230; locally there is a tradition that this happened in Aber, but others believe that it happened near Bala. Saunders Lewis' play 'Siwan' (1956) is based on these events and is set in Aber. It is considered to be one of the most important Welsh language plays.

Detail of multiperiod landscape of settlement, fields and cultivation marks, above Crymlyn © RCAHMW

LCA10 Abergwyngregryn and wooded coastal hill slopes





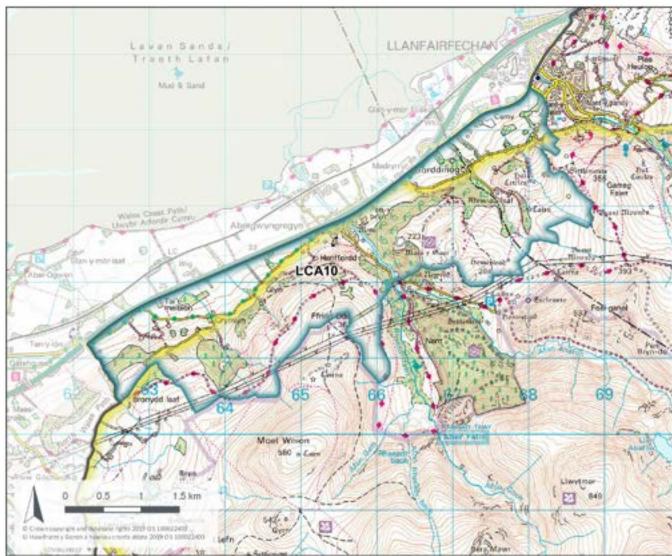
Carneddau Landscape Partnership Scheme Area



Snowdonia National Park Boundary

Landscape Character Area

LCA10 - Wooded coastal hill slopes and Abergwyngregyn village



Landscape Landscape Character - LCA11 Abergwyngregyn & Anafon Valleys

Rhaeadr Fawr - Aber Falls © John G Roberts

Carneddau Landscape Partnership | 70

Landscape Landscape Character - LCA11 Abergwyngregyn & Anafon Valleys

Summary description

The area consists of the mid-ranges of two deep-cut valleys, through which the Afon Rhaeadr Fawr and the Afon Anafon flow. The former, Aber Valley, is relatively broad and is terminated by cliffs around the waterfall of Rhaeadr Fawr, the Aber Falls. The Anafon Valley, by contrast, is narrower, long and sinuous, ending in a hollow containing Llyn Anafon, which is bounded by steep ground below Llwytmor and Drum. The area is very popular for recreation, with tens of thousands of people visiting the Aber Falls each year.

Key features

Land-use

The main land-use is sheep rearing. Aber Common includes the whole of the Anafon Valley above the mountain wall, together with the steep ground around Rhaeadr Fawr. There are also groups of mountain ponies in the area. Coedydd Aber National Nature Reserve which is owned and managed by NRW occupies part of the Aber Valley and Maes y Gaer. Forestry land, also NRW, at Meuryn and part of Maes y Gaer, occupies about a tenth of the area and was formerly a large expanse of conifer plantation but is slowly being cleared and replaced with deciduous woodland. Llyn Anafon, a natural lake made into a reservoir was used as a water supply for coastal villages until recently. A community hydro-electric scheme was installed on the Afon Anafon in 2015 by Abergwyngregyn community-company Ynni Anafon in collaboration with the National Trust.

Leisure

Recreational use is high and the area is very popular with walkers. The gentle track through the Aber Valley to Rhaeadr Fawr falls receives the bulk of the visitors but the reservoir service track to Llyn Anafon and a track leading to Llanfairfechan and Bwlch y Ddeufaen are also popular. Both of these routes are also used by mountain bikers and horse riders

but not in high numbers. The Bwlch y Ddeufaen track and the main Coedydd Aber NNR track form part of the North Wales Path.

Geology

The river running through the Aber Valley rises in a hanging valley, Cwm yr Afon Goch, before dropping over cliffs of base-poor igneous rock as the Rhaeadr Fawr waterfall. Both the Aber and Anafon valleys are glacial in origin, cut into sedimentary rocks. The steeper slopes above Llyn Anafon are also composed of base-poor igneous rocks. Small outcrops of dolerite occur locally in both areas creating patches of more fertile soils.

Habitats and species

The most abundant habitats in the LCA are woodland and heathland. There are moderate areas of grassland and bracken, and small areas of blanket mire and flush vegetation. The woodland in Coedydd Aber NNR and the Coedydd Aber SAC, which covers a slightly larger area, incorporating Gorddinog woods, is the most important habitat, comprising Upland Oak Woodland with Sessile Oak dominating. Other tree species such as Common Ash, Rowan, Hazel and Downy Birch are also present. Some areas of woodland have a great diversity of mosses and liverworts, but elsewhere the ground vegetation is grassy. Along the course of the Afon Rhaeadr Fawr, there are frequent Common Alder and Common Ash and, where wetter, Wet Woodland. A third of the area is Upland Heath, mainly found in the upper parts of the Anafon Valley. At lower altitudes, there is abundant Western Gorse often to the exclusion of other dwarf shrubs; higher up Heathland and Bilberry dominate.

Rare fern and lichen are found in the oak woodland, including Killarney Fern, Wilson's Filmy-fern, Lungwort, Parchment lichen, Green Satin Lichen, Peppered-moon Lichen, Powdered Moon Lichen, Woodpitted Lichen and Mustard Kidney Lichen. As well as plants, there are frequent records of bird species associated with oak woodland such

Landscape Landscape Character - LCA11 Abergwyngregyn & Anafon Valleys

as the Pied Flycatcher, Redstart and Song Thrush. Upland Heathland in the area is not noted for any rare plant species, but the habitat is used particularly by Ring Ouzel in the Anafon Valley, and Kestrel hunt over this and the upland grassland. Although upland acid grassland is not a UK priority habitat, short well-drained forms provide good areas for the invertebrates that Chough feed on and the Anafon Valley in particular is a very important foraging area for the bird. Peregrine Falcon has been recorded in both the Anafon and Abergwyngregyn Valleys, associated with the Inland Rock and Scree Priority Habitat.

Llyn Anafon is a Mesotrophic Lake Priority Habitat and is the only mesotrophic (medium nutrient level) water body within the Partnership area. It is noticeably richer than most of the other water bodies and its plant assemblage is unique in the UK. It supports two rare Pondweed hybrids which are part of the Eryri SAC feature. The Afon Anafon supports the Welsh endangered Red Data Book species Broad-leaved Brook-moss in several places.



Lobaria pulmonaria lichen, commonly known as 'tree lungwort', on an oak in Coedydd Aber NNR © John G Roberts



The Anafon Valley and multicellular sheepfold © SNPA

Landscape Landscape Character - LCA11 Abergwyngregyn & Anafon Valleys



Hafod y Gelyn ancient settlement © RCAHMW

Historic environment

There are several Bronze Age burial cairns in the Anafon valley beneath Foel Dduarth, near the track to Bwlch y Ddeufaen, and another one on the slopes of Meuryn (which is a broad ridge between the Aber and Anafon valleys). Some of them have intricate elements such as well-defined kerbs, external rings of slabs set on end, cists (square boxes of slabs that would have held a pottery urn and cremation) and large capstones which originally covered the cists.

The area was part of the royal ffridd pasture linked to the llys in Aber. A Medieval document names five vaccaries, effectively cattle ranges, in Aber, two of which were in the Anafon and Aber valleys respectively and a third on Meuryn. Cattle were a valuable and important source of wealth for the Tywysogion and would have been closely managed and protected. There are numerous rectangular building remains in each valley, possibly the dwellings for people herding, milking and otherwise looking after the herds.

Near Hafod y Gelyn, a ruined cottage on a plateau of land in the Anafon Valley, a substantial Iron Age or Roman settlement enclosure appears to have been re-used in the Medieval period to protect the herds at a key access point to the pastures and alongside the traditional route to Bwlch y Ddeufaen and the Conwy Valley.

An Iron Age round house near the falls in the Aber Valley was found to have been re-used as a grain kiln in the Medieval period, used for drying crops before storage, when it was excavated. It showed that oats, barley and rye had been grown in the valley at the time. The landscape is grassland and woodland today, but there are some cultivation marks as well as some large field terraces that indicate ploughing. A field in the middle of the valley is known locally as Cae Rhyg (Rye Field).

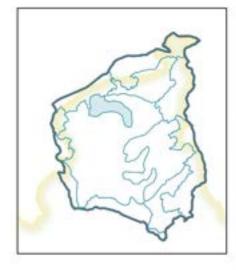
The complex multicellular sheepfold in Anafon is still used for sorting sheep gathered from the common into their different farms.

Landscape Landscape Character - LCA11 Abergwyngregyn & Anafon Valleys

Cultural heritage and associations

- Hafod y Gelyn could be a more significant site than is currently recognised. The Tywysogion had castles defending most of the upland royal ffridd pastures, for example at Dolbadarn, Llanberis and at Dolwyddelan. Hafod y Gelyn is not a castle, but its large enclosure bank suggests a stronghold and the exceptionally large round house is substantial enough to have been the base of a tower. The royal entourage was mobile, travelling around the Tywysog's territory, governing and administering justice at different locations as it went. Castles and other locations in upland pastures, such as monastic grange farms, were often used for official business as shown by the sites at which charters were signed. It is possible that Archbishop John Pecham, who would have travelled along the Bwlch y Ddeufaen track from the Conwy Valley, met Llywelyn ap Gruffudd and his court at Hafod y Gelyn rather than at the llys in Aber when he came to propose peace terms to in November 1282. By local tradition the remains of a stone building near Hafod y Gelyn was a small church or chapel.
- The poet Meuryn (Robert John Rowlands, 1880-1967) won the awdl (a long-form poem) competition at the National Eisteddfod 1921 with his 'Min y Môr' which includes a description of the woodland in the Aber valley and its importance to him.
- The Aber Falls have been a popular visitor destination for centuries and feature in many early travel writers' accounts. Wordsworth visited in the 1820s as part of a tour of north Wales, and wrote 'We had also a delightful walk next morning up the vale of Aber, terminated by a lofty waterfall; not much in itself, but most striking as a closing accompaniment to the secluded valley. Here, in the early morning, I saw an odd sight – fifteen milk-maids together, laden with their brimming pails. How cheerful and happy they appeared!' While not very flattering of the falls, it is an interesting comment on the economy of the valley, where there must have been guite a large number of cows to require so many milk-maids. It isn't clear whether this was an odd sight to Wordsworth because there were so many milk-maids together, or that there were milk-maids there at all (at a time when sheep were replacing cattle as the mainstay of the upland economy) or simply because it was unusual that they were happy! The numbers of visitors swelled after the arrival of the railway along the north Wales coast in the mid-nineteenth century. Nant Cottage, half way along the valley, sold refreshments including cakes and lemonade to visitors at the end of the nineteenth century; it is no longer inhabited, but NRW have a small exhibition in its outbuilding.

LCA11 Abergwyngregyn & Anafon Valleys





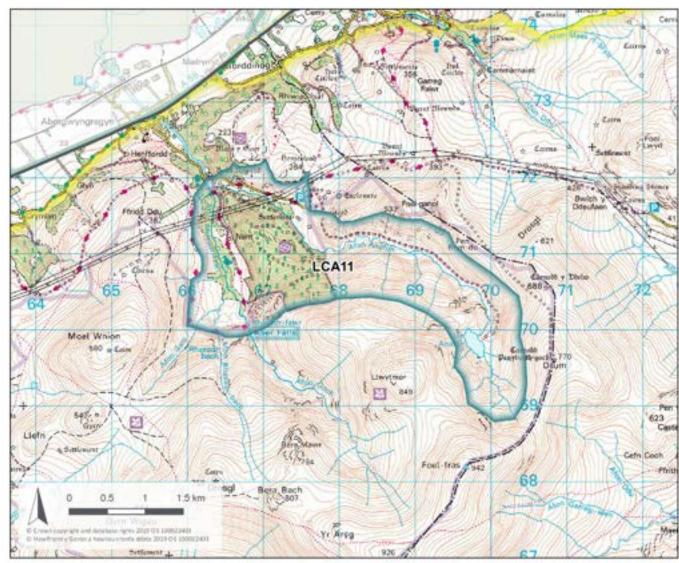
Cameddau Landscape Partnership Scheme Area

Snowdonia National Park Boundary

Landscape Character Area



LCA11 - Abergwyngregyn and Anafon valleys



Landscape Landscape Character LCA12 Creigiau Gleision, Crimpiau and Cefn Cyfarwydd open mountain land

Looking north across Crimpiau and Craig Wen © Alex Turner

Landscape Landscape Character

LCA12 Creigiau Gleision, Crimpiau and Cefn Cyfarwydd open mountain land

Summary description

This is an area of rugged hills with crags and heathland. It lies at the gateway to Cwm Nant y Benglog, between the high uplands of the Carneddau Mountains and the enclosed pasture fields at Capel Curig. A historic trackway crosses the area through a low pass above Llyn Crafnant, linking Capel Curig and Trefriw and the area also includes Bwlch Cowlyd, a pass between Nant y Benglog and the Conwy Valley.

Key features

Land-use

The main land-use is for sheep rearing, although at a lower density than some of the more mountainous parts of the Carneddau. Some of the western part of the LCA is used as a water collection area for the Cowlyd reservoir. There is a National Nature Reserve at the head of the Crafnant Valley (Cwm Glas Crafnant).

Leisure

The Capel Curig-Cwm Crafnant bridleway is a popular walking route between Capel Curig and Trefriw. Crimpiau is amongst the SNPAs promoted walks and is frequently used as a navigation and outdoor leadership training area by outdoor centres including Plas y Brenin.

Geology

The underlying geology has a large amount of igneous (volcanic) rock and there are several rocky summits including Crimpiau, Craig Wen, Creigiau Gleision and Pen Cowlyd, as well as steep cliffs overlooking the two bounding valleys. Some of the igneous rock is base-rich in composition which very provides important locations for rare plants. There are also localised areas of deep peat in hollows and hillsides between and around the peaks.



Mountain Avens © Mike Raine

Landscape Landscape Character LCA12 Creigiau Gleision, Crimpiau and Cefn Cyfarwydd open mountain land

Habitats and species

The most abundant habitat is heathland, often associated with areas of blanket mire and upland fen and flush. Other habitats include bracken and upland acid grassland. There is a small area of montane heath on the Llyn Cowlyd side of Creigiau Gleision. Woodland is relatively sparse with small areas of broadleaved and conifer present.

Rock outcrops are frequent across the area but do not occupy a large area in plan. Some of the most important parts of the LCA occur as a series of parallel slanting outcrops above Llyn Cowlyd and support uncommon arctic-alpine species. Associated with some of these are patches of Upland Calcareous Grassland, generally occurring as small stands amongst heathland vegetation. There are also outcrops of base-rich rock in the Cwm Glas Crafnant NNR where crevice vegetation with Green Spleenwort occurs. The final key habitat is Upland Mixed Ash Woodland, of which a small area occurs in Cwm Crafnant, characterised by frequent Common Ash with a ground layer including species such as Wild Garlic, Primrose and Bluebell.

No rare species are restricted to Upland Heathland in this area. There are records for Adder from heathland in the Cors Geuallt area and on Creigiau Gleision. The only Blanket Bog key species present is Oblong-leaved Sundew which occurs in wet peaty flushes and around the margins of pools in the mire at Cors Geuallt. Base-enriched flush habitat locally supports the Priority Species Grassof-Parnassus (*Parnassia palustris*) on lower ground in Cwm Glas Crafnant. Rock outcrops, where there is some base-rich influence, support a few important Priority Species. On cliffs overlooking Llyn Cowlyd, a small stand of alpine calcareous grassland vegetation occurs which has Hair Sedge and Mountain Aven, both of which only occur in two locations in Wales. Elsewhere, on Crimpiau, also on base-enriched rock, there are small colonies of Rock Stonecrop. Moonwort is occasionally found in very small patches of Upland Calcareous Grassland on Creigiau Gleision and around Crimpiau.



Lichen, Crimpiau summit - Cladonia floerkeana © Mike Raine



Lichen, Crimpiau summit - Parmelia saxatalis © Mike Raine



Lichen, Crimpiau summit - Stereocaulon vesuvianum © Mike Raine

Landscape Landscape Character LCA12 Creigiau Gleision, Crimpiau and Cefn Cyfarwydd open mountain land

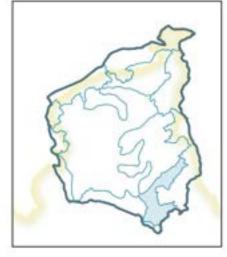
Historic environment

A Bronze Age cairn at Bwlch Cowlyd is one of a group extending into the Nant y Benglog LCA. There are roundhouses in the character area, but in smaller numbers to many other LCAs and are mainly concentrated in the Nant y Benglog and Cwm Crafnant valley portions of LCA. There are rectangular building remains, probable hafotai (summer dwellings) associated with tending cattle, often associated with old, low, fragmentary field walls. It isn't possible to date any of these features precisely, but it is likely that they all relate to management of cattle on summer pastures from the Medieval period until the seventeenth or eighteenth centuries. More substantial and extensive walls were built as sheep farming became dominant from the end of the eighteenth century. Cattle do not require such tall walls as sheep to hold them, but if they were being milked would have needed to be held within manageable areas. These smaller, localized fields seems to bear out this pattern in the LCA and can be contrasted with more extensive 'sheep walks' enclosed by the later walls. There are a small number of abandoned buildings which probably date to the eighteenth to early twentieth centuries. There is evidence of peat cutting to the south of Cors Geuallt in the south of the LCA. There are a few small-scale trial workings for slate and metal, but no fully developed guarries or mines. There are zinc mines to the east of the character area in LCA06.

Cultural heritage and associations

- There are two historically important routes between the Llugwy and Conwy valleys in the character area; Bwlch Cowlyd and the low pass between Capel Curig and Cwm Crafnant. It is probably no coincidence that both have Bronze Age burial cairns, one at Bwlch Cowlyd (part of a group), another, just outside the area in LCA13, above Capel Curig. These were traditionally important routes for local journeys, for example for farming, trade, employment in quarrying and mining, as well as for travellers over longer distances. There are still family links between the areas.
- Cors Geuallt wetland is a former lake basin which gradually became filled with sediment after the end of the last Ice Age. The sediments are over 10 metres deep. It is one of a very small number of sites in Wales where both preserved pollen grains and diatoms (a diverse type of algae) have been studied to build up a picture of climate and vegetation change over the last 10,000 years.

LCA12 Creigiau Gleision, Crimpiau and Cefn Cyfarwydd open mountain land



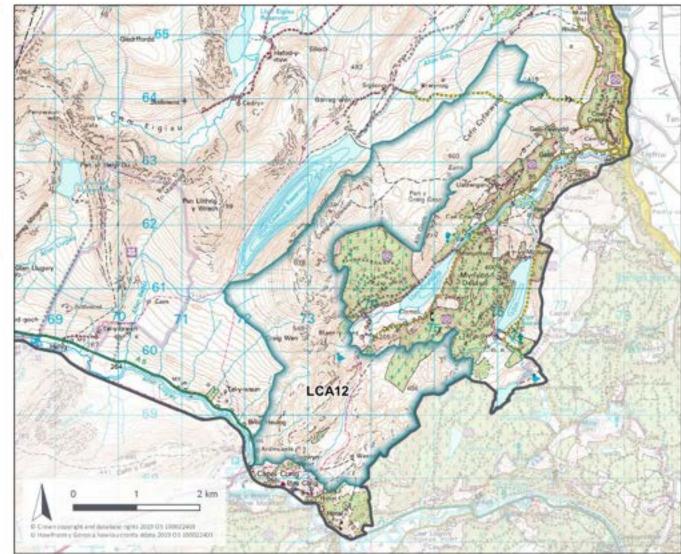


Carneddau Landscape Partnership Scheme Area

Snowdonia National Park Boundary

Landscape Character Area

LCA12 - Creigiau Gleision, Crimpiau and Cefn Cyfarwydd open mountain land



Landscape Landscape Character - LCA13 Capel Curig wooded hillslopes and fields

Oak in field boundary near Capel Curig © Mike Raine

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Landscape Landscape Character - LCA13 Capel Curig wooded hillslopes and fields

Summary description

This is the smallest of the 13 Landscape Character Areas, covering only 71 hectares, and consists of the south-facing mainly wooded hillslopes above Capel Curig. The area also includes the village, which lies on the A5 Thomas Telford road at an important intersection of three major and valleys, Dyffryn Mymbyr, Nant y Benglog and Llugwy, which are quite different from each other in character. Capel Curig has the highest annual rainfall in Wales and amongst the highest in the UK.

Key features

Land-use

Besides the woodland, the land-use is mainly sheep rearing. The SNPA owns and manages Coed Bryn Brethynau (woodland).

Leisure

This is a popular area for recreational use, with many public footpaths and bridleways providing good access through the area and to the hills and mountains beyond. Y Pincin, a rock outcrop, is used as an introductory training area by outdoor education centres. Capel Curig village is a centre for outdoor activities including climbing, walking and mountaineering, trail- and fell-running, kayaking and mountain biking.

Geology

The area has two upstanding rock outcrops, Clogwyn Mawr and Y Pincin (also known as The Pinnacles) which are composed of volcanic rock.

Habitats and species

Upland Oak Woodland habitat covers 33 hectares and comprises almost a quarter of the LCA. There is other unclassified woodland in the LCA which may also form part of the same Priority Habitat but has not been assessed. Small amounts of Lowland Dry Acid Grassland, Purple Moorgrass and Rush Pasture, Lowland Heath and Upland Heath also occur. The only key species recorded in any numbers is the Soprano Pipistrelle bat which is associated with Upland Oak Woodland. There are a few records for the Common Pipistrelle.

Historic environment

There is a Bronze Age burial cairn beside Coed Bryn Brethynau; it may be significant that it is on a route to the pass between Capel Curig and Cwm Crafnant. A Roman fort, Bryn y Gefeiliau (also known as Caer Llugwy), is located a few hundred metres to the south-east of the LCA on the opposite side of the Afon Llugwy. It is likely that the southern boundary of the LCA, at the current main road, follows the original line of a Roman road.

There was a royal hafod of the Tywysogion in the vicinity of Capel Curig in the thirteenth century, the lands probably occupying part of this character area and extending into LCA12. Despite being a located at the junction of three valleys, making it an important through route for northern Snowdonia, Capel Curig did not develop into a large settlement. Before the late eighteenth century, employment was mainly agriculture, guarrying and mining. The guality of the roads was notoriously poor, but in the 1790s Lord Penrhyn's road was built between Dyffryn Ogwen and Capel Curig. Tourism to the area for walking, fishing and sight-seeing developed in the following centuries, stimulated by the new road and by the subsequent turnpike road (1805) and Thomas Telford's London to Holyhead road (today's A5; this section completed in 1819). Settlement in Capel Curig developed along the road. In 1786 the Penrhyn Estate built the Capel Curig Inn, which was renamed the Royal Hotel, in 1870. By the late twentieth century there were four hotels in the village.

Landscape Landscape Character - LCA13 Capel Curig wooded hillslopes and fields

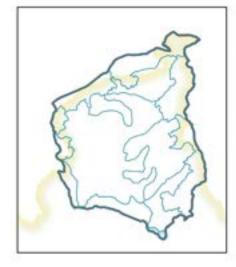
Cultural heritage and associations

- Evan Roberts, renowned botanist and conservationist, was born in Capel Curig in 1906 and lived there his whole life. He worked in the slate quarry on Moel Siabod from the age of 14 and developed a passionate interest in botany, particularly the Alpine plants of the Snowdonia about which he became an authority. After the quarry closed in the early 1950s he worked for the Nature Conservancy Council and became the warden of Cwm Idwal.
- The Penrhyn Estate's Capel Curig Inn was popular with early tourists and coach-travellers on the Holyhead to London road. The number of visitors to north Wales rose during the early nineteenth century when wealthy travellers were not able to visit continental Europe because of the Napoleonic Wars. The Reverend Bingley praised Lord Penrhyn for the new hotel, commenting that when he stayed in Capel Curig previously, the only accommodation available was a 'mean pot house', and that few hotels in England 'will surpass in comfort, cleanliness and civility'. Its guests included Queen Victoria, Kings Edward VII and VIII, and George V. The Central Council for Physical Recreation acquired the site in 1955 for use as a national recreation centre and it was renamed Plas y Brenin. Since 1997, Plas y Brenin has been operated on behalf of Sport England by the Mountain Training Trust. It is one of the UK's leading outdoor centres.
- The former church (now a private house) near the road junction (A5 and A4086), which is just inside the LCA, was built by the Penrhyn Estate in the 1880s and called St Curig's. The original St Curig's church (and the site referred to in the name Capel Curig) stands 300m away on the opposite side of the Afon Llugwy, outside the LCA. Its name was changed to St Julitta's in the nineteenth century possibly to avoid confusion with the new Penrhyn Estate church; both sites are depicted as St Curig's on the late nineteenth century Ordnance Survey map. The Friends of St Julitta's group are restoring the old church and put on a different exhibition each summer about the history of the area.



'Snowdon from Capel Curig', by Louis Haghe c.1840. The large building is The Capel Curig Inn, now Plas y Brenin © The National Library of Wales

LCA13 Capel Curig wooded hillslopes and fields





Carneddau Landscape Partnership Scheme Area

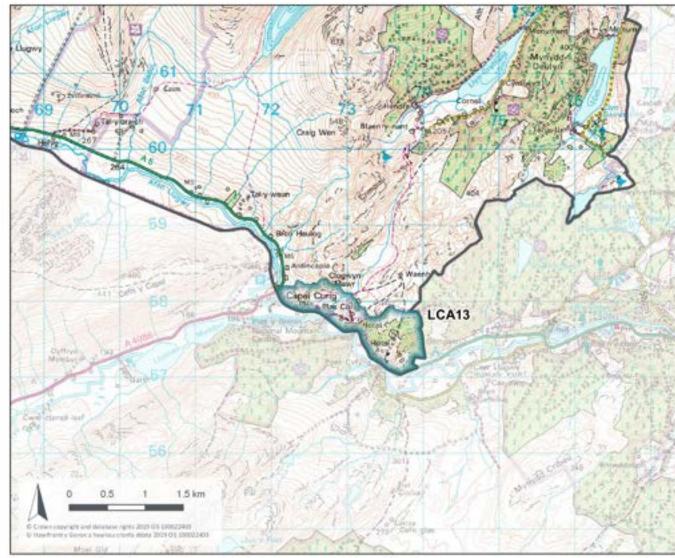


Snowdonia National Park

Landscape Character Area



LCA13 - Capel Curig wooded hillslopes and fields





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