

2 Understanding the Elan Links Area

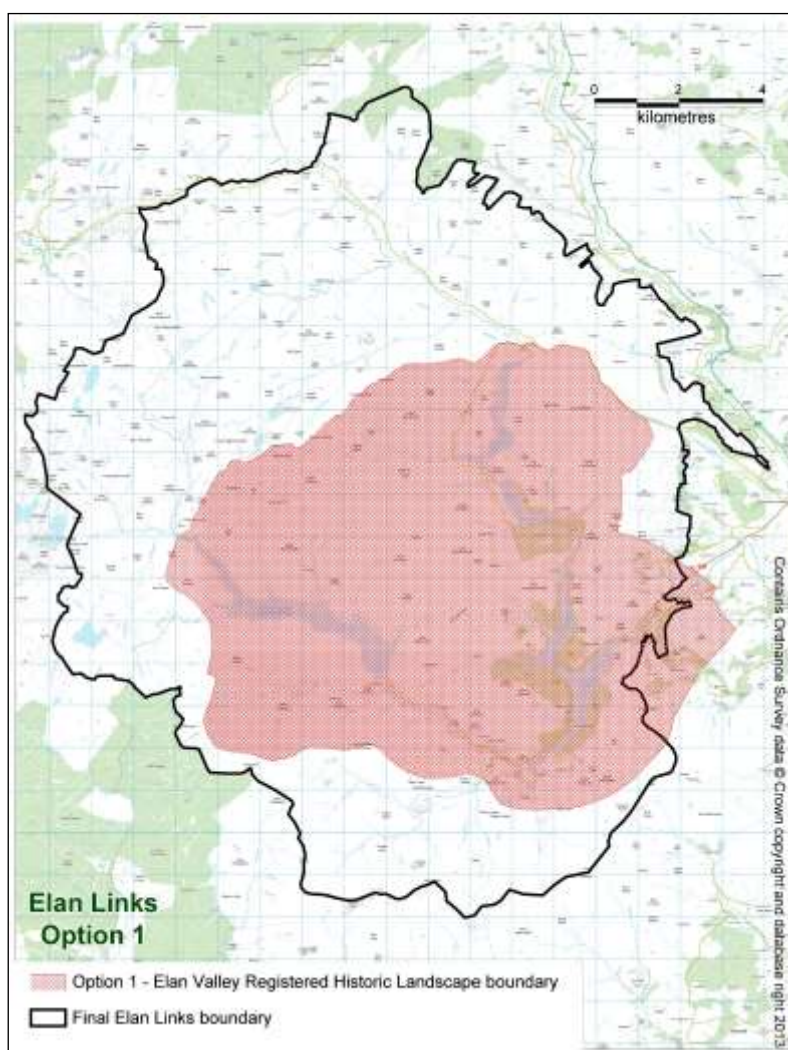
2.1 Introduction and project boundary

This chapter has been prepared with the support of consultants; Trysor, who have also undertaken a full re-examination of the landscape character of the Elan Links area and initial scheme boundary which was submitted with the first round application to the Heritage Lottery Fund (HLF) in June 2015.

The next few paragraphs outline the decision-making process in defining the project boundary.

2.1.1 Option 1

An early suggestion was to utilise the Elan Valley Historic Landscape area to define the project boundary (see below). However, this boundary excludes large areas of the watershed and cuts across management boundaries for land management and other purposes. Since water is a highly significant theme for the project involving the Elan Valley reservoirs it is felt that including the whole of the Elan watershed is a fundamental requirement for the boundary. Furthermore, ensuring the boundary does not cut across areas under single management is important in terms of ensuring project actions and activities are undertaken coherently. Using the Elan Valley Historic Landscape area has therefore been rejected as an option.



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2.1.2 Option 2:

During consultation it became apparent that the entire boundary of the original estate purchased by the Birmingham Corporation is still marked out in the landscape by hundreds of cast concrete posts. These were put in place over a century ago and accurately mark out the extent of the Elan watershed. This is a remarkable, probably unique, example of a physical estate boundary surviving in the Welsh landscape. Adopting the original estate boundary as defined by the posts was therefore considered an option with considerable merit. A disadvantage of this option is that the posts bisect an area of common land along the Eastern boundary which is under single management by the Cwmdauddwr Commoners. Therefore, along the Eastern boundary it is considered advantageous to also include the areas of Cwmdauddwr Common outside the watershed.



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2.1.3 Option 3:

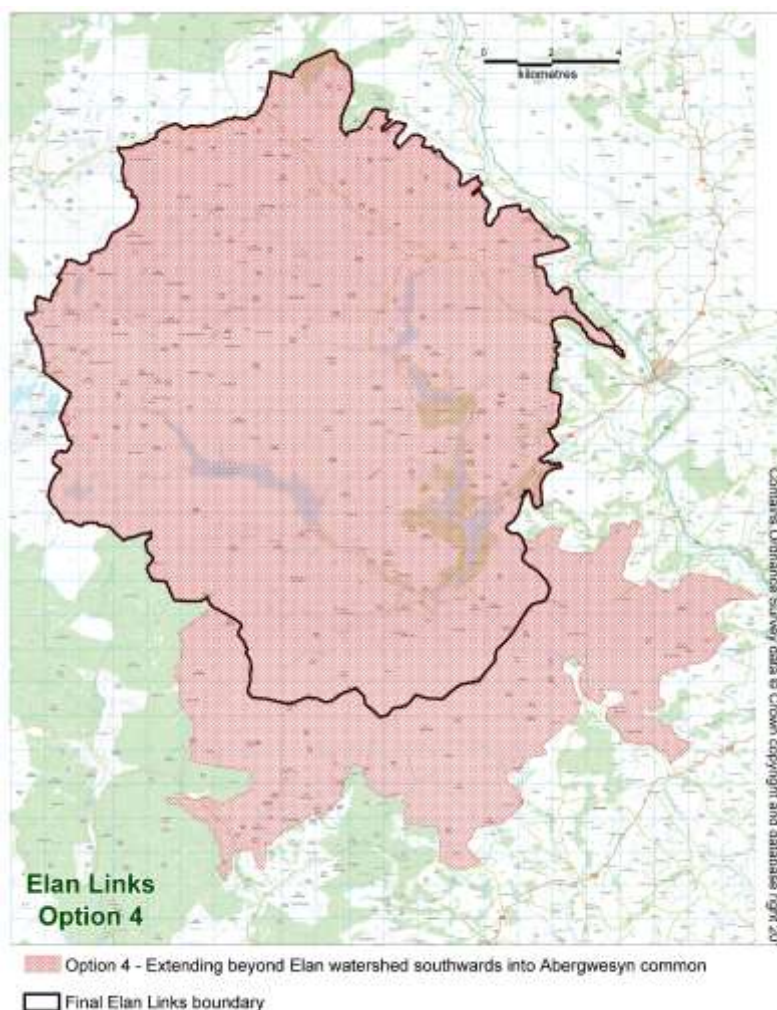
Consideration was given to using the historic estate boundary as the core of the Elan Links Area, but extending the overall project area to include the lower lying farmland between the modern estate boundary and the River Wye and Rhayader town to the east, to be able to further links between the Elan Valley and adjacent farm holdings and communities. This option was discarded because it included large areas not integral to the story of the reservoirs or in the watershed.



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2.1.4 Option 4:

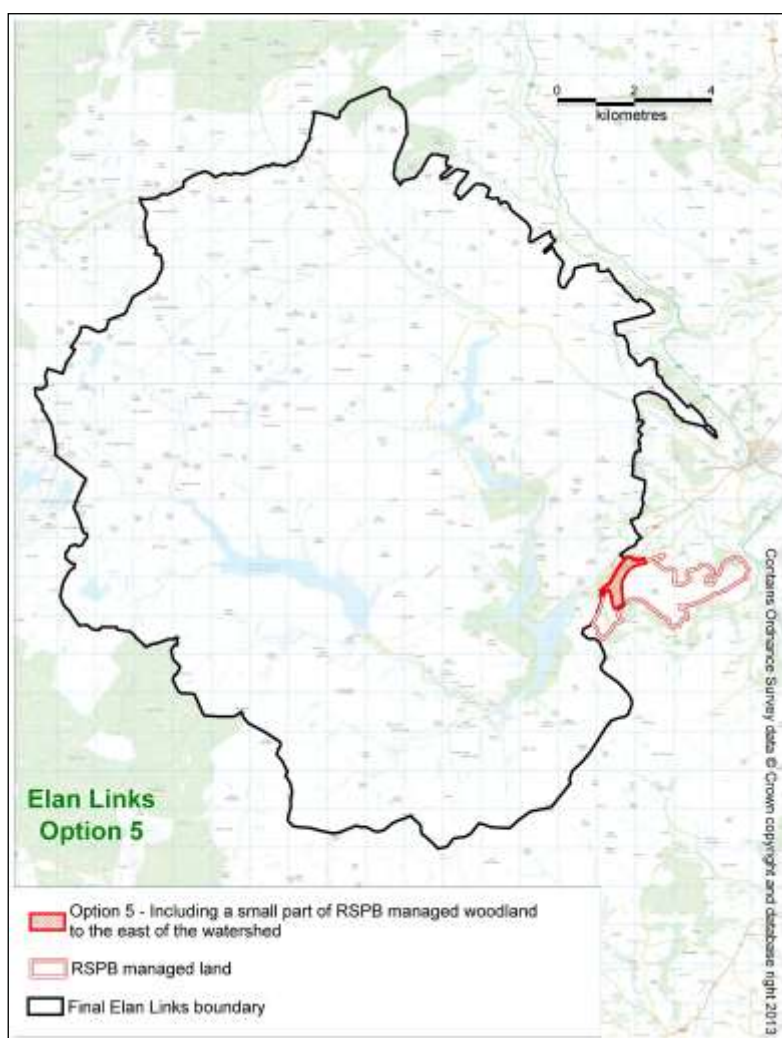
Consideration was given to bringing areas of open mountain ground to the south of the Elan watershed into the project area due to the similarities of the landscape and its management requirements, especially in relation to breeding golden plover. Including this area, while not cutting across areas under single management, would mean incorporating Abergwesyn Commons, an additional **7,200** hectares of land taking the project area well beyond the HLF guidelines. Ultimately, this option was rejected; firstly, because Abergwesyn Commons extends well beyond the boundaries of the Elan watershed and hence is not integral to the Elan Valley water story. Secondly, there are considerable areas of golden plover habitat that will be managed within the watershed and these are situated in a way that a coherent management approach can be taken for this species at a scale that will make a significant impact on Welsh targets for this species.



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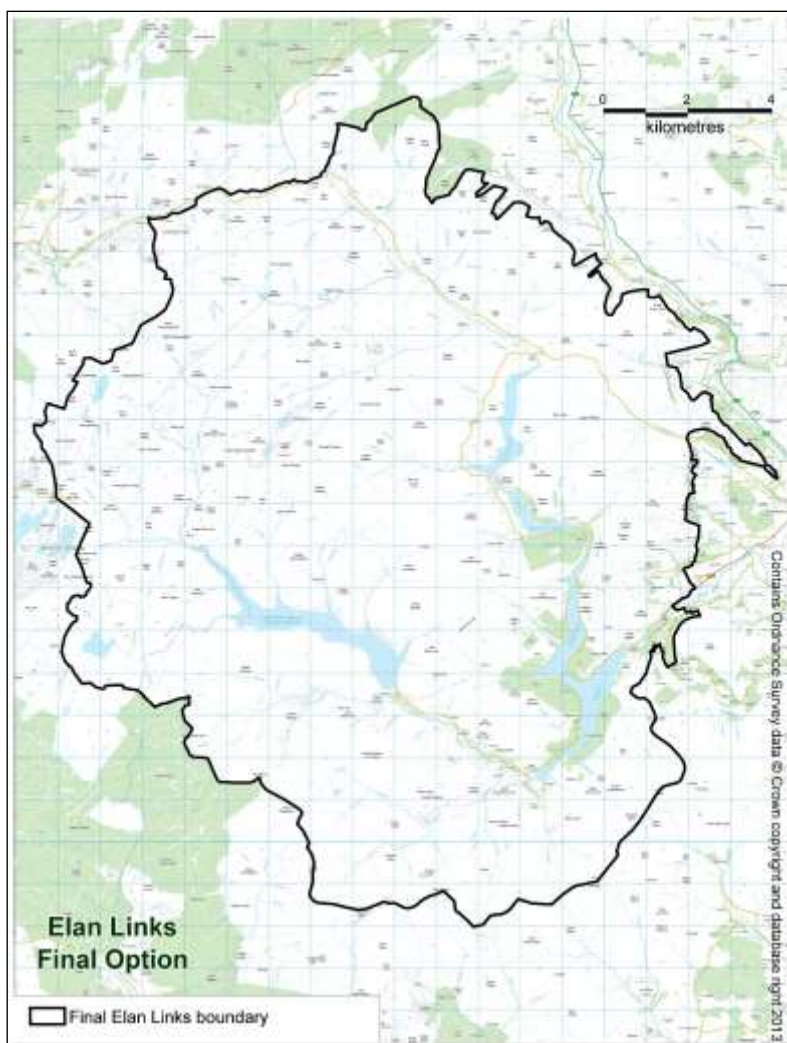
2.1.5 Option 5:

Inclusion of the Elan Valley Woodland Special Area of Conservation (SAC). A significant portion of the Elan Valley Woodland SAC lies within the watershed. Since this is a key component of the natural heritage of the area consideration was given to including all of the SAC. Following a survey supported by the Woodland Trust of the SAC a number of actions were identified. However, the only section of the SAC where actions are a priority are in the woodland at Carngefalt owned by the RSPB. This woodland shares the characteristics of the small woodlands of the Elan and Claerwen valleys within the watershed boundary. Furthermore, Carngefalt is easily accessible from, and indeed integral to, the footpath network which radiates out from the Elan Valley Visitor Centre at Elan Village. It was therefore agreed, through consultation, that on the basis of “added value” that the SAC woodland at Carngefalt should be added into the project area. Since no priority actions were identified in other SAC woodland areas outside the watershed these woodlands have been excluded from the project area.



The Elan Links boundary is therefore defined to include the whole of the original Birmingham Corporation estate boundary, the watershed of the Elan, with the addition of Cwmdauddwr Common to the East, plus, the SAC woodland at Carngefalt. The final second phase Elan Links boundary is therefore:

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This gives a total landscape area of 209 square kilometres, close to the upper limit preferred by the Heritage Lottery.

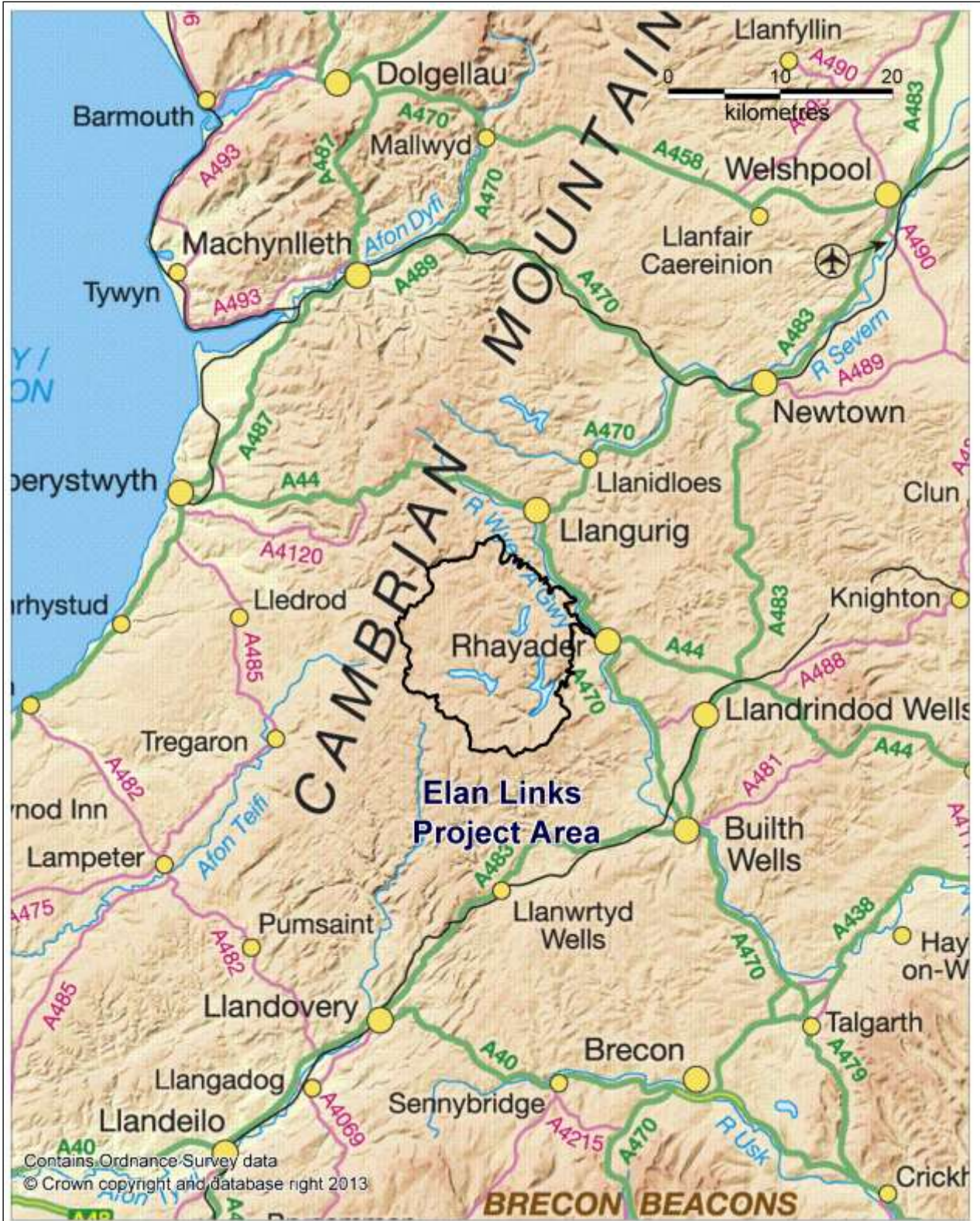
The Elan Links area is a unique historic entity which was defined for a specific purpose i.e. to include the entire watershed of the Elan Valley to feed the reservoir system which had been proposed in the late 19th century. Small additions to the estate have been made through land acquisitions during the 20th century, but the estate boundary has remained largely stable to the present day.

The boundary adopted is based on the digitised holding boundary used by the Elan Valley Trust, modified in those areas where concrete boundary posts erected by the Birmingham Corporation in 1913 extend beyond the digitised boundary line.

The estate has been under consistent management for over a century. This is what makes its landscape special and stands out from adjacent landscapes. It is by far the most robust boundary available for consideration, as both the Historic Landscape and LANDMAP boundaries may be reviewed in future.

Having established the project boundary, Landscape Character Areas have also been created to further break down and explain the overall area, details of which are included in this report.

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Elan Links area within mid Wales

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2.2 The Landscape of Elan Links: An Overview

The Elan Valley Estate was created in 1892 by an Act of Parliament. Its boundaries were defined to encompass the watersheds of the Elan and Claerwen rivers. This secured the water supply for a series of reservoirs in the heart of the Cambrian Mountains in order to provide the city of Birmingham with fresh, clean water.

The estate includes a significant portion of the Elenydd uplands as well as five reservoirs in the Elan and Claerwen valleys. The juxtaposition of the wild, open spaces of Elenydd against the designed, engineered landscapes of the valleys is quite unique in a Welsh context. The reservoirs are today a major attraction, annually drawing tens of thousands of visitors into the Elan Valley.

The distinctive upland plateau of Elenydd is underlain by early Silurian sandstones and turbidites and dissected by valleys, carved by glacial and fluvial action. Boulder clay deposited at the end of the last Ice Age masks much of the area and was responsible for turning the river Ystwyth to the west and creating the Elan. Acidic soils and poor drainage have led to the development of blanket bogs across parts of the landscape, some of which have considerable palaeoenvironmental importance. Peat cut from bogs was the main source of domestic fuel in the district for much of the post-medieval period.

The estate includes nationally and internationally recognised habitats, especially for breeding birds, which are reflected in the 80% of the landscape here which is protected as a SSSI or a SPA and 32% as a SAC. The uplands and the Claerwen valley are a mixture of wet heathland, dry heaths and blanket bog whilst the Elan Valley is a mosaic of enclosed pasture fields, broad-leaved woodlands and conifer plantations.

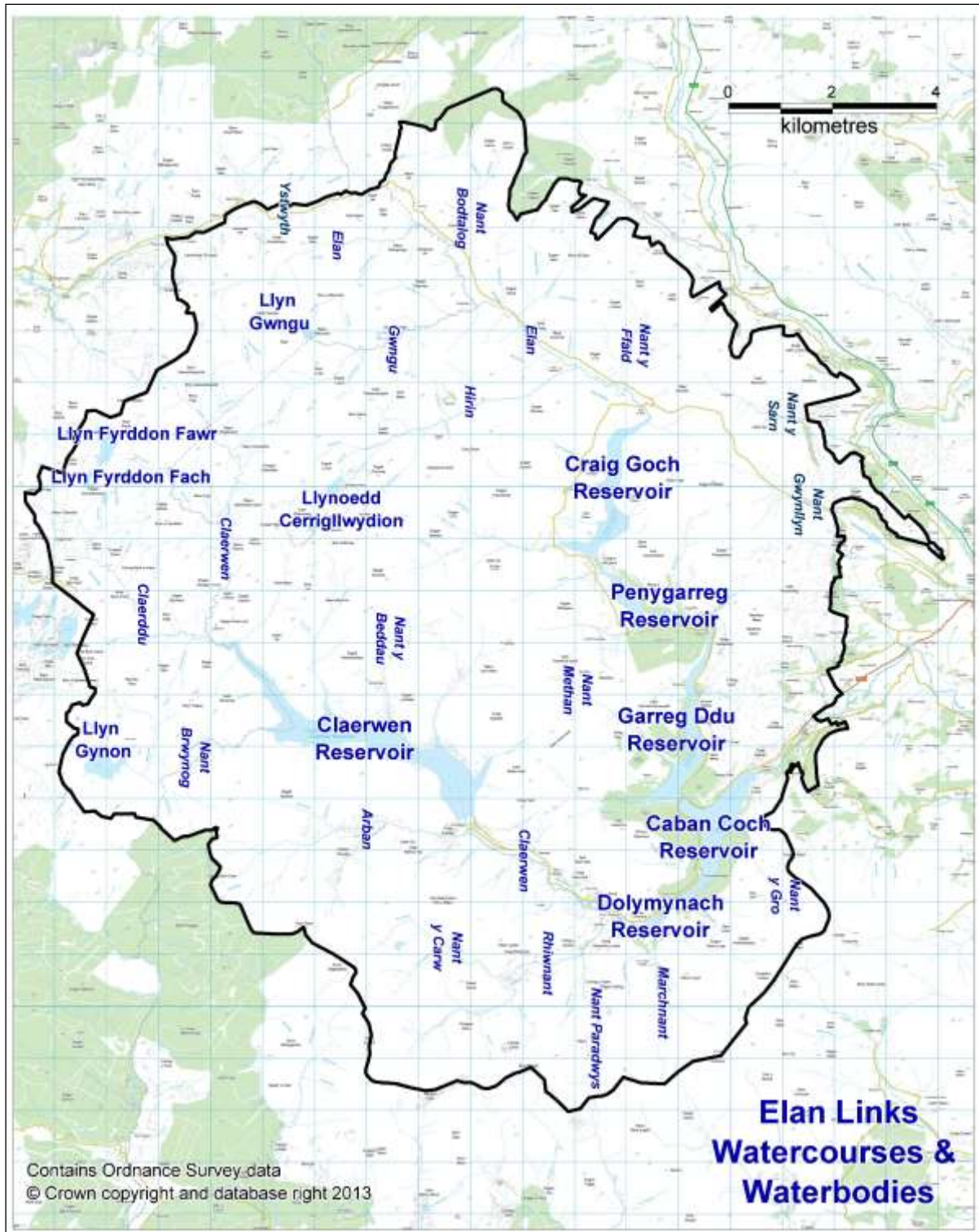
In an upland area which is otherwise devoid of modern settlement, 28 farms are maintained by the estate, their boundaries largely based on traditional sheepwalks which estate records show to have been in existence by the 1870s. Despite the low population in modern times, this is an archaeologically diverse landscape, with evidence of human settlement, industry and burial extending back over some 5,000 years. This includes nationally important remains from the Bronze Age, medieval activity related to its use as a grange by the monks of Strata Florida, as well as the extraction of metalliferous ores during the 19th century.

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Elan Links and its water

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In later post-medieval and modern times, sheep-farming has dominated the management of the uplands. The cottages, huts and folds of shepherds dot the area. Today, the spread of purple-moor grass, *Molinia Caerula*, now presents a particular challenge for the management of upland habitats, with invasive species such as gorse and bracken also established and spreading on some valley slopes.

Culturally, the Elenydd uplands have great significance. Gerald of Wales visiting Strata Florida abbey in Ceredigion mentioned the “lofty mountains” of Elenydd in 1188. John Leland, the English antiquarian, crossed the western part of the area when sent by Henry VIII to assess Strata Florida in 1538. His itinerary records encounters with herdsmen on these wild and remote hills and documents their world. The Abbey controlled Elenydd throughout the Medieval period and divided it into a series of upland granges from which it drew much of its wealth.

The Elan valley also has important cultural associations. It was once at the heart of the Cwm Elan Estate, the forerunner of the modern Elan Valley Estate. In the early 19th century the poet Percy Bysshe-Shelley visited his cousins, the Grove family of Cwm Elan, on a number of occasions. He fell in love with the valley and intended to lease a local farm. At the eastern side of the area lies Elan Village, a maintenance workers’ settlement built in the Arts and Crafts style, completed in 1909.

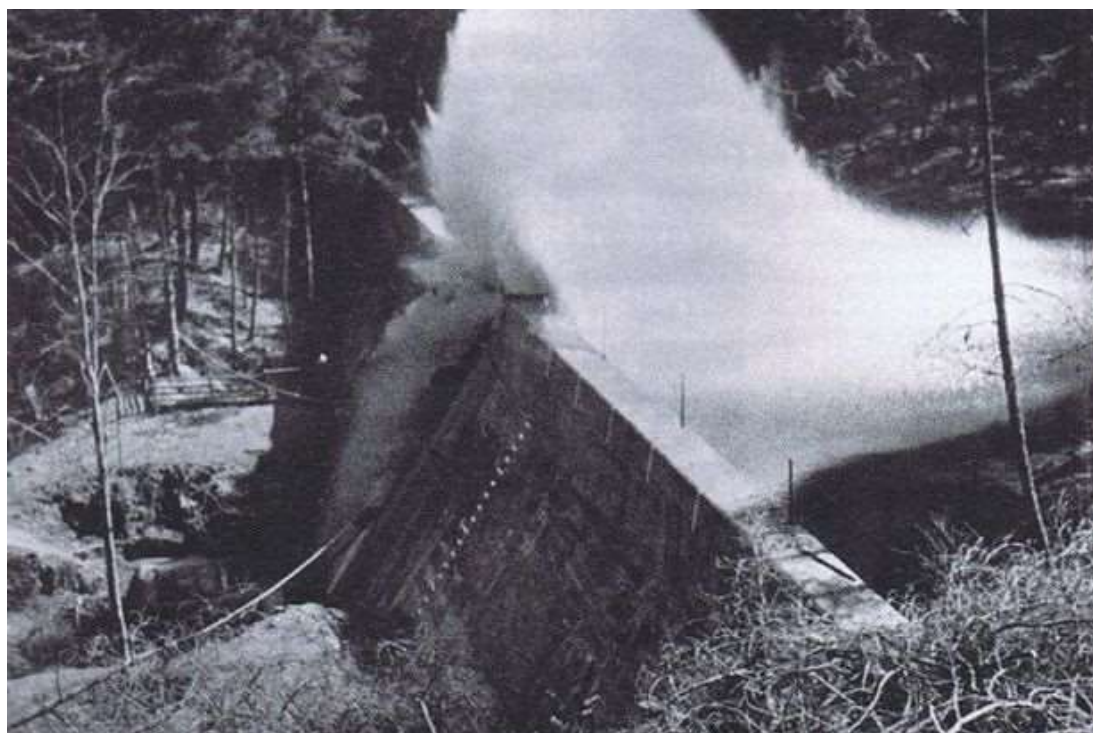


Plate 4: The Nant y Gro Dam, built to supply water for the workers’ settlement at Elan Village, was breached by Barnes Wallace’s experiments when developing bouncing bombs in 1942.

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2.3 Landscape Characterisation

The landscapes of Wales have been characterised through various projects over the past two decades or so. The process started with the identification of particular landscapes that were seen as being historically important - Historic Landscapes. These were broken down into smaller character areas. LANDMAP followed with a grand plan to characterise the whole of Wales according to five themes or aspects: Geological, Historical, Cultural, Visual & Sensory and Landscape Habitat. Since then characterisation has been seen as a useful tool and other projects have been carried out a local authority level often using the 5 aspect areas of LANDMAP to develop a single layer characterisation.

2.3.1 Historic Landscapes

In the late 1990s Cadw, CCW and ICOMOS started to draw up a Register of landscapes which were considered to be the best examples of different types of historic landscapes across Wales. This led to the publication of two volumes describing 58 separate landscapes. The first volume describes 36 Landscapes of Outstanding Historic Interest (Cadw, 1998) and the second volume 22 Landscapes of Special Historic Interest (Cadw, 2001)

Following publication of the Registers, Cadw grant-aided the four Welsh Archaeological Trusts to undertake a characterisation programme, looking at each of the 58 areas and subdividing them into smaller areas, looking more at the patterns in the landscape rather than the finer detail.

The Elan Valley Trust area lies within two Historic Landscapes. The core of the estate lies within the Elan Valley Historic Landscape, characterised by Clwyd Powys Archaeological Trust <http://www.cpat.org.uk/projects/longer/histland/histland.htm>. The western edge lies within Upland Ceredigion Historic Landscape, characterised by Dyfed Archaeological Trust, <http://www.dyfedarchaeology.org.uk/>

The Historic Landscapes Register is non-statutory and advisory.

2.3.2 LANDMAP

LANDMAP is a formally adopted methodology for characterisation of the whole landscape according to five themes or aspects. It was developed by CCW, now NRW, and involved specialists in five aspects, Geological, Historical, Landscape Habitats, Cultural and Visual & Sensory. Each aspect was assessed on a county by county basis and the resulting character areas given a unique number based on the county there were in. This means in some areas such as Elan Valley where three counties of Cardiganshire, Radnorshire and Breconshire meet what is visually one area will be represented by three aspect areas, one for each county.

2.3.3 Powys LCA

The Powys Landscape Character Assessment was undertaken between 2007 and 2008 by John Campion Associates for Powys County Council. The aim was to distinguish areas of common character across the county, excluding Brecon Beacons National Park. Seventy six areas were identified subdivided between Breconshire, Radnorshire and Montgomeryshire. The five LANDMAP aspect layers were used to inform the Landscape Character Areas (LCAs). Initially the LANDMAP Visual and Sensory aspect was used. This was then refined by looking at the

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LANDMAP Landscape Habitat and Geological aspects and finally by looking at the LANDMAP Historical and Cultural aspects.

2.3.4 Ceredigion SLA

In Ceredigion Special Landscape Areas were reviewed in 2010 followed the methodology outlined in a LANDMAP practice guidance note 1 (CCW, 2008). This guidance note has since been updated.

2.3.5 Having established a boundary for this Landscape Character Assessment, Trysor have considered all the previous Landscape Characterisation work of relevance to arrive at a more detailed breakdown of the Elan Links area Landscape. This was informed by LANDMAP, Historic Landscape Characterisation and the county-based characterisation assessments, as well as archaeological fieldwork undertaken by Trysor and others within the estate since the 1990s.

Since the LANDMAP surveys were undertaken, there has been a significant amount of archaeological field work within the Elan Valley Trust holding, chiefly undertaken as part of the Uplands Initiative, a pan-Wales survey of all uplands of Wales, co-ordinated by the Royal Commission on the Ancient and Historical Monuments. These surveys have significantly increased the numbers of recorded archaeological sites within the estate and have some bearing of the understanding of the landscape history of the area as well.

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2.3.6 This process resulted in the definition of 13 Landscape Character Areas (see Figure 3). An overview of each of these areas, and the justification for their selection, is provided below;

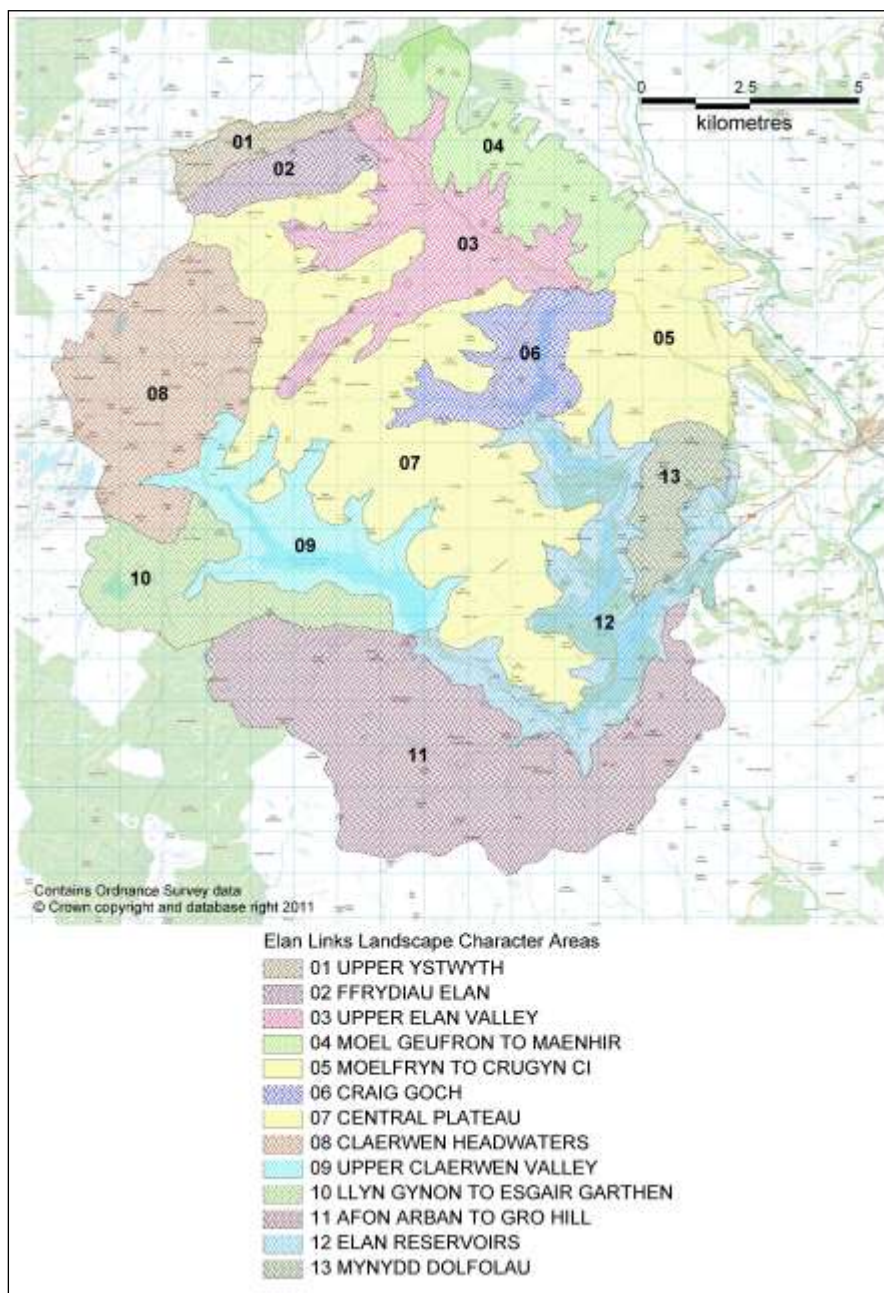


Figure 3: The Landscape Character Areas of the Elan Links project

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2.3.6.1 LANDSCAPE CHARACTERISATION AREA 1: THE UPPER YSTWYTH VALLEY

This small landscape area is distinctive as it lies within the Ystwyth valley, outside the Elan watershed, although is still part of the Elan Links area.

The steep and high north-facing valley slopes of the valley, cut through Lower Silurian sandstone by glacial action, dominate the area. There are some significant glacial features, such as a nivation cirque below Craig Cwmtinwen.

The landscape is characterised by unimproved acid grassland. The area falls within the Elenydd SSSI.

The Rhayader to Cwmystwyth road passes through the area and is popular with touring visitors. This rugged upland valley environment is rather tamed by the presence of the road and its ease of access.

The landscape has been historically used for upland pastoral farming. During medieval times the pastures were controlled by Strata Florida abbey and would have been managed as seasonally grazed "hafod" lands.

There is evidence of medieval or early post-medieval settlement in the form of a number of earthwork house platforms on the valley slope. When the early antiquarian John Leland walked through the upper Ystwyth valley in 1538 he noted that, by that time, poor management had already stripped the district of woodland. An early road along the Ystwyth valley was turned into a turnpike road by the early 19th century. A turnpike tollhouse, known as the Blaenycwm tollgate, stood at the top of the valley. This was attacked by Rebecca Rioters in 1843. By the 19th century the Ystwyth was affected by the growth of lead mining. The small mining settlement of Blaenycwm developed within this landscape area, which included a row of terraced houses and its own Methodist chapel, neither of which now survive.



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2.3.6.2 LANDSCAPE CHARACTERISATION AREA 2: FFRYDIAU ELAN

This landscape area includes the source and the upper reaches of the Afon Elan, focused on the valley through which the first stage of the river flows.

The area forms part of the Elenydd upland plateau. The river has cut through the Lower Silurian bedrock and several rocky outcrops occur along the upper section of the river.

There are large areas of blanket bog as well as modified bog covered in thick *Molinia* or purple moor-grass. The higher ridges either side of the river are characterised by unimproved acid grassland.

Views are restricted within the valley, with views over the wider landscape mainly gained from the higher ground either side of the river. This is a very tranquil area where few hillwalkers venture.

During medieval times these upland pastures were controlled by Strata Florida abbey and would have been managed as seasonally grazed "hafod" lands.

There is evidence of prehistoric activity within this area, with two probable Bronze Age cairns recorded at Bryn Glas. The peat bog of Gorslwyd has significant palaeoenvironmental value, with deposits dating from the Neolithic to the present day within the bog. There is also evidence of medieval or early post medieval settlement along the river valley. More recent activity includes post-medieval peat cutting.



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2.3.6.3 LANDSCAPE CHARACTERISATION AREA 3: UPPER ELAN VALLEY

This area includes a section of the upper Elan valley and its tributary valleys of the Nant Hirin and Afon Gwngu.

These valleys were created by glacial action and the Lower Silurian bedrock is masked by glacial till. There are some areas of peat. The glacial lakes of Llyncerrigllwydion Uchaf and Isaf and Llyn Gwngu are found within this area.

This area includes areas of blanket bog and acid grassland and is of international importance for breeding birds. *Molinia* is common across the whole of the landscape area.

The river valleys are generally broad and open. The Afon Elan is a highly visible feature along the main part of the Elan Valley. The steep valley slopes block long range views out of the area in all directions. The tranquillity of this area is lowered by the traffic on the road which runs along the valley floor, which is popular with visitors.

During medieval times these upland pastures were controlled by Strata Florida abbey and would have been managed as seasonally grazed "hafod" lands. The Elizabethan writer John Leland described the lakes at Llyn Cerrigllwydion in about 1538. The whole area was associated with the Cwm Elan estate up until its purchase by the Birmingham Corporation in the 1890s.

The upper Elan valley is an important east-west route through the Elenydd hills, with the modern road following the line of an 18th century turnpike road, which itself followed an earlier road line with possible medieval origins. A number of working post-medieval farmsteads are found within the area, some of which may have origins as holdings on the medieval monastic grange of Cwmdeuddwr.



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2.3.6.4 LANDSCAPE CHARACTERISATION AREA 4: PENLAN FAWR TO MAENHIR

This area includes the high ground to the north of the Afon Elan and the northeast-facing slopes of the Nant Dernol valley at the northern edge of the Elan Links area. It is underlain by Lower Silurian sandstones and gritstones, and is largely covered with glacial till.

It is a treeless environment, with some rough pasture, areas of peat bog and also extensive wet modified bog with *Molinia* vegetation.

There are views over the adjacent Wye, Elan and Nant y Dernol valleys and, from the western end of the area, also down the Ystwyth valley into Ceredigion.

The landscape is unimproved and mostly unenclosed, with few rocky outcrops, being generally rounded and gentle in character, with occasional steep valley sides along the minor stream valleys. The northern edge of the area, facing Nant y Dernol, falls away steeply and has grassland and bracken cover, with some scattered trees, giving it a rather different appearance to the higher pastures.

During medieval times these upland pastures were controlled by Strata Florida abbey's Cwmdeuddwr grange and would have been managed as seasonally grazed "hafod" lands. In post-medieval times the northern third of this landscape area actually fell within the historic county of Montgomeryshire and the land owned by the Wynnstay Estate. A boundary change in the later 19th century put the whole area into Radnorshire

The archaeology of this landscape area includes a group of Bronze Age funerary cairns which mostly overlook the upper Elan valley, although cairns at the western and eastern ends of this upland block also overlook the upper Ystwyth and the Wye valleys.



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2.3.6.5 LANDSCAPE CHARACTERISATION AREA 5: NANNERTH TO MOELFRYN

A block of high ground at the eastern edge of the Elenydd upland plateau, where the landscape often has a more craggy character than that seen to the west, particularly around Nannerth at the northeastern corner of the area. There are views over the adjacent Wye, Elan and Nant y Dernol valleys.

This area is underlain by Lower Silurian mudstones. Parts of the area are quite craggy and steep sided but most of the landscape is covered in glacial till and there are pockets of blanket bog within the area, from where peat has been cut as a fuel source in the past. This area is mostly bleak and treeless in appearance. The northern and eastern edge of the area, facing the Wye valley, falls away steeply and is rocky in appearance, with some sparse woodland.

There is a high percentage of unimproved acid grassland and marshy grassland, as well as extensive areas of wet modified bog and some blanket bog. There are limited areas of bracken on drier valley slopes. *Molinia* is common across the higher parts of the area.

During medieval times these upland pastures were controlled by Strata Florida abbey's Cwmdeuddwr grange and would have been managed as seasonally grazed "hafod" lands. The area has remained in use for upland grazing.

A number of Bronze Age funerary monuments are known within the area and it also includes the only known Roman site within the Elan Links area, namely the Roman marching camp on Esgair Perfedd. Some of the early homesteads on the grange, such as Nannerth, lay within the area.



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2.3.6.6 LANDSCAPE CHARACTERISATION AREA 6: GRAIG GOCH

This part of the central Elan Valley is quite broad and open, but dominated by the Craig Goch reservoir. There is little woodland and only a small number of farmsteads along the lower valley slopes.

This section of the valley was carved out by glacial action during the last Ice Age. Alluvial deposits are present along the valley floor, with glacial till deposited on the valley slopes. The bedrock is composed of Lower Silurian mudstones, sandstones and shales.

The reservoir is largely surrounded by relatively dry terrestrial habitat, which includes a high percentage of unimproved acid grassland and marshy grassland, as well as areas of wet modified bog. There are areas of bracken on drier valley slopes and *Molinia* is common.

The tranquillity of this area is lowered by the traffic on the road which runs along the valley. Pont ar Elan, at the northern edge of the area is a popular parking place for visitors. Valley slopes block long range views out of the area in all directions.

During medieval times these upland pastures were part of Strata Florida abbey's Cwmdeuddwr grange and managed as seasonally grazed "hafod" lands. In post-medieval times the area has remained in use for upland grazing, with little land enclosure. Hirnant farm is the only occupied dwelling and is known to have been in existence by the 17th century.

The area has small number of Bronze Age cairns and two flint flakes found near Pont ar Elan may be evidence of earlier prehistoric activity. There are several deserted settlement sites which may date to the medieval period, such as the longhouses at Esgair Gris and Esgair Rhiwlan.



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2.3.6.7 LANDSCAPE CHARACTERISATION AREA 7: CENTRAL PLATEAU

This area is a large expanse of undulating upland terrain at the heart of the Elan Links area. Much of the area is modified bog, covered with *Molinia*. There are also large areas of peat bog, some of which are of palaeoenvironmental importance and the area is of international importance for breeding birds.

The area is mostly underlain by Lower Silurian sedimentary rocks. At Pengarnddu, in the southeastern corner of this area, Ordovician slates are exposed at the core of the Rhiwnant Anticline.

There has been no settlement within the area since early post-medieval times and this is one of the most remote and wild parts of the Elenydd hills. This is a very tranquil area, with no roads. The "Monks' Trod", which was a droving route in the 17th century, is used at a low level by hill-walkers, but the area is otherwise unaffected by the tourism generated by the popularity of the nearby Elan Valley. Long-range views are gained in all directions from local summits rising from the plateau.

The area has relatively few archaeological sites, although some Bronze Age funerary monuments are known. There are some long huts associated with medieval pastoral farming, when the mountain pastures were managed by Strata Florida abbey as seasonally grazed "hafod" lands. There is some evidence of industrial activity here. In the 19th century, a leat carried water from the lakes at Cerrig Llwydion to the Cwm Elan Lead Mine, over 7km to the southeast. Many peat cutting areas are also found, which date to the 18th and 19th centuries.



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2.3.6.8 LANDSCAPE CHARACTERISATION AREA 8: CLAERWEN HEADWATERS

This area is a large area of heath, modified bog and peat bog which includes the tributaries and upper reaches of the Claerwen. The area is of international importance for breeding birds.

The land here is generally of open, exposed moorland, comprised of gentle rolling slopes and shallow valleys. *Molinia* is common across the whole of the landscape area.

The area is underlain by Lower Silurian bedrock and masked by extensive peat bogs. The upper Claerwen valley is infilled by glacial clay with some alluvial deposits along the stream valleys. At the southwestern edge of the area the terrain changes considerably, becoming much rockier around Cripiau Bach and Craig Fawr.

The road between Ffair Rhos and the Claerwen valley passes through the southern edge of this area, and brings visitors to the area around the Teifi Pools, diminishing the tranquility of the area to some extent.

This landscape area has some evidence of Bronze Age activity in the form of a small number of funerary cairns, but is most notable for a significant group of medieval or early post-medieval long huts concentrated on the area around Claerddu. These may well date back to medieval times when upland pastures were managed by Strata Florida abbey as seasonally grazed "hafod" lands. The Tudor antiquarian John Leland came here around 1538 and provides rare evidence that some of the long huts near Claerddu were in use as "hafotai" at that time.

There has been little post-medieval settlement here. The farmstead of Claerddu was abandoned during the 20th century and is now used as a bothy by hill walkers.



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2.3.6.9 LANDSCAPE CHARACTERISATION AREA 9: UPPER CLAERWEN VALLEY

This landscape area includes the upper Claerwen valley, which is dominated by the Claerwen Reservoir and its impressive dam, which were created in the 1960s.

This part of the Claerwen valley developed along a geological fault and was cut through the Lower Silurian sandstones and mudstones by glacial action during the last Ice Age. The valley floor, now flooded by the Claerwen reservoir, is infilled by glacial clay with some alluvial deposits also present.

The reservoir is bordered to the north by steep slopes and an area of relatively dry terrestrial habitat. The gentler southern and western banks of the reservoir lay within an area of wet terrestrial habitat, which has a high proportion of wet modified bog and blanket bog. *Molinia* is common across the area.

There is evidence of Bronze Age funerary monuments in the area. During medieval times these upland pastures were managed by Strata Florida abbey as seasonally grazed "hafod" lands. The valley itself was also an important communications route between Strata Florida and its lands to the east at Rhayader.

A small number of medieval or early-post medieval settlements are hidden in the sheltered valleys to the north of the reservoir. Three of these, Claerwen, Nantybeddau and Cerrigcwplau have remained in occupation to the present day.

A rough trackway runs the entire length of the valley along this side, giving access to the farms. The Claerwen dam, at the eastern end of the valley, draws many visitors and detracts from the tranquility of what is otherwise a remote and quiet valley.



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2.3.6.10 LANDSCAPE CHARACTERISATION AREA 10: ESGAIR WEN TO CRAIG CWPLA

A large area of wetland and peat bog to the south of the Claerwen valley. Large parts of this area are dominated by peat bog and modified bog, which is covered with *Molinia*. There is some variation to the west, where Crug Gynon rises and creates a more rugged landscape.

The Lower Silurian bedrock underlying this area is masked by extensive areas of peat bog and glacial till. The glacial lake of Llyn Gynon sits at the western edge of the area.

This is a particularly exposed and bleak environment, especially during the winter months. It is a remote and tranquil area with a low-level of leisure activity, with hill-walkers infrequently passing through.

During medieval times these upland pastures were controlled by Strata Florida abbey and would have been managed as seasonally grazed "hafod" lands. The "home grange" of the abbey extended up into these hills and there are several deserted medieval settlement sites, such as at Esgair Wen and Llyn Gynon, which may well be associated with the grange.

A disused trackway runs east to west across this area. This may be the line of one of the medieval routes connecting Strata Florida with its possessions to the east, such as Rhayader.

There is also evidence that peat was cut in the area for use as a domestic fuel on the farms and cottages of the surrounding districts. There are now no occupied dwellings in this area, with only the ruined Pantybeddau cottage representing an attempt to settle the area in the past 200 years.



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2.3.6.11 LANDSCAPE CHARACTERISATION AREA 11: ESGAIR GARTHEN TO GRO HILL

A large and high upland block forming the southern edge of the Elan Links area. The area includes a number of tributary streams which flow northwards to the Claerwen. These valleys and some of the higher summits are often rocky and rugged.

Ordovician mudstones outcrop at the heart of this area, which are cut by the Rhiwnant valley, which follows a geological fault line. Lead ore veins along the fault were mined during the 19th century. To the east and west of this lay rocks of Lower Silurian age.

The landscape is masked glacial till with large areas of peat bog and some acid grassland and heathland. Slopes above the valley floor to the east have some dry heath and bracken.

This is one of the more accessible parts of Elenydd, via the road to the Claerwen reservoir, allowing hillwalkers easy access. Good views are possible across the Elenydd uplands and the Claerwen valley from higher ground.

There are a many Bronze Age funerary cairns within this area and rare examples of Bronze Age hut circles. During medieval times these upland pastures were controlled by Strata Florida abbey and would have been managed as seasonally grazed "hafod" lands. There are a significant number of ruined dwellings, huts, enclosures and sheepfolds here, some of which may have medieval origins. There are no later post-medieval settlements within this wild and remote landscape.

As well as lead mining sites in the Rhiwnant valley and along Nant y Carw, there is also evidence of peat cutting in the area, another important industry during post-medieval times when peat was the main source of domestic fuel.



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2.3.6.12 LANDSCAPE CHARACTERISATION AREA 12: ELAN RESERVOIRS

This area is focused on the floors of the Elan and lower Claerwen valleys, which were carved out by glacial action during the last Ice Age. The area is underlain by Ordovician and Lower Silurian mudstones, sandstones and shales, which are masked by glacial till deposited on the slopes either side of the valley.

The valley floor is now mostly flooded by the Garreg Ddu, Penygarreg and Caban Coch reservoirs. Their impressive stone-built dams and the scenic landscape surrounding them dominate this sheltered valley. The valley is very distinctive, compared to the surrounding exposed and bleak hills of Elenydd. This is a varied landscape, with deciduous woodland cloaking the valley sides, as well as coniferous plantations and some improved grassland.

This is also the only part of the Elan Links area where there is a significant population, found in the scattered farms and cottages along the valley, as well as at Elan Village, which is now the only village within the Elan Links area. Large numbers of visitors also come to the valley throughout the year, drawn by its beauty.

This sheltered valley was under the control of Strata Florida abbey in medieval times, as part of the abbey's upland granges. During post-medieval times a number of cottages farms and country houses developed, including the small village of Cwm Elan, which stood near the confluence of the Elan and Claerwen rivers. This village and all of the valley-floor settlements were lost beneath the waters of the Elan reservoirs by the start of the 20th century.

This area has an important association with the 19th century poet Percy Bysshe-Shelley, who often visited his cousins at Plas Cwm Elan and fell in love with the valley.



Photograph: David James

Understanding the Elan Links Area

2.3.6.13 LANDSCAPE CHARACTERISATION AREA 13: CEFN RHYDOLDOG TO CEFN LLANFADOG

This area forms part of the dissected plateau which defines much of the landscape of the Elan Links area. This landscape area lies at the eastern edge of the Elan Links area and forms part of the extensive Elenydd upland plateau. There are views over the adjacent Wye and Elan valleys.

Parts of the area are quite craggy and steep sided. The area is underlain by Lower Silurian bedrock which includes outcrops of Llandovery series conglomerates. Most of the landscape is covered in glacial till and there are pockets of peat bog within the area, some of which have been exploited as a fuel source. This landscape area is defined as a relatively dry terrestrial habitat, with a high percentage of dry dwarf shrub heath. An extensive carpet of heather dominates the landscape.

There are a small number of Bronze Age funerary monuments known within the area, but most of the archaeological evidence relates to more recent periods. In medieval times these hills would have formed the eastern part of the upland grange of Cwmdeuddwr, which was in the hands of Strata Florida abbey, when the upland pastures would have been managed as seasonally grazed "hafod" lands.

Aerial photographs show that there is evidence of cultivation and settlement, as yet unrecorded, along the southeastern side of this landscape area. There is evidence of post-medieval peat cutting in a number of turbaries at the heart of the area, indicating that it was once an important source of domestic fuel for the local population.



2.3.7

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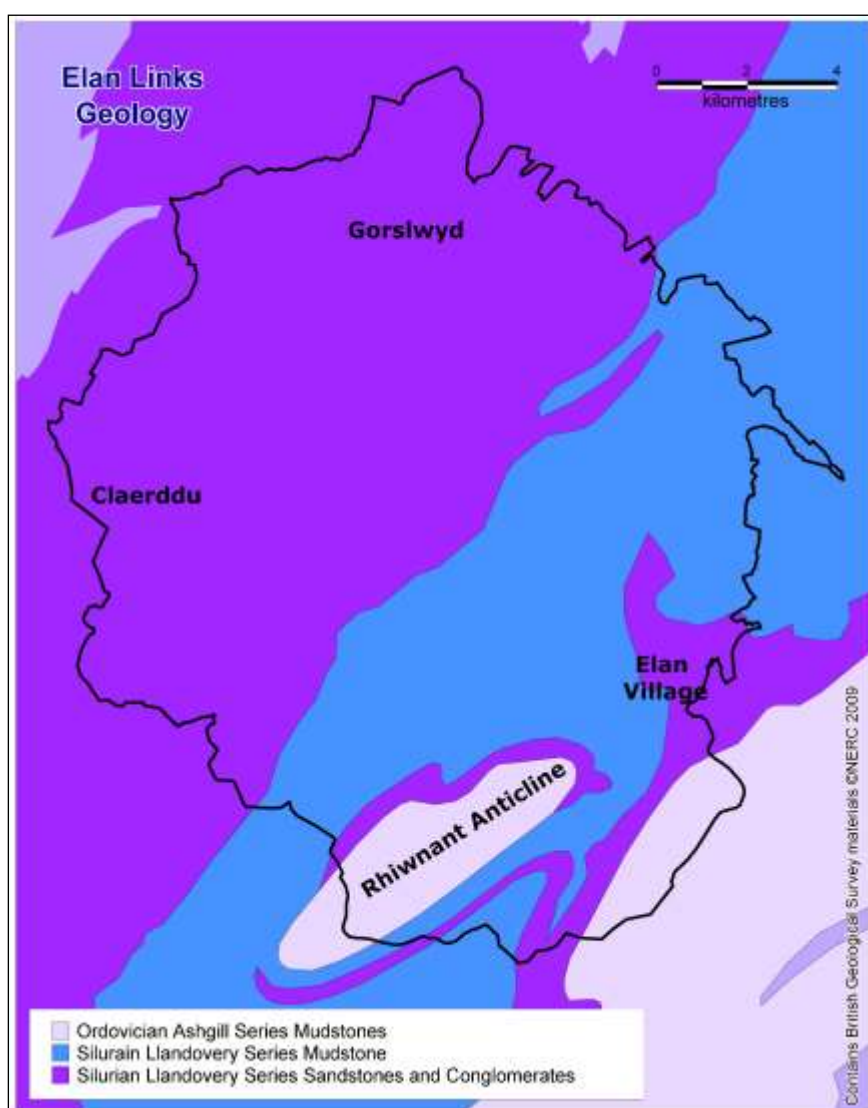
2.4 Elan Links: Thematic Overview

2.4.1 Geology

The geology of the Elan Valley is dominated by sedimentary rocks of Lower Silurian age, including mudstones, shales, sandstones and conglomerates, which form the upland dissected plateau which gives the area its character.

The Rhiwnant Anticline is a major geological feature at the southeastern corner of the Elan Links area. The core of the anticline is composed of Upper Ordovician sedimentary rocks and the mineralisation of faults along the anticline has led to the formation of metal ores which were mined in the 19th century at Cwm Elan, Dalrhiw and Nant y Carw.

Much of the landscape is masked by deposits of glacial till and peat bogs, including a number of significant areas of blanket bog which have palaeoenvironmental importance.



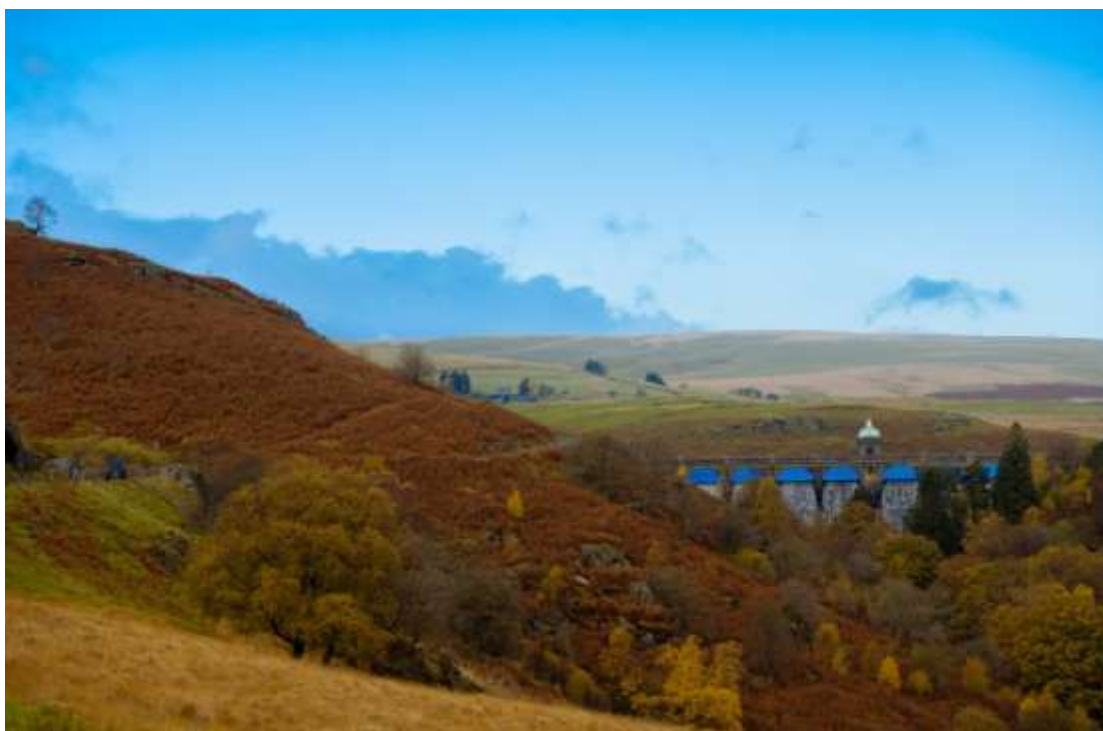
A map of the solid geology of Elan Links

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2.4.2 Topography

The landscape across large parts the Elan Links area is dominated by an open and extensive upland plateau. This is generally a smooth and rounded landscape, the product of glaciation, with relatively little outcropping rock. Much of the high ground of the plateau is characterised blanket bog and modified bog and large areas are covered with *Molinia* vegetation. These remote hills are very tranquil areas where only occasional hill-walkers are encountered. They can be both inspiring and intimidating because of their openness and scale, with weather and light conditions often affecting dramatic changes in their appearance.

The plateau is dissected by numerous streams, which feed into the main river valleys of the Elan and Claerwen. These valleys are also generally rounded and smooth in appearance, with their floors and sides masked with glacial deposits and peat bogs. Many of the valleys are relatively deeply-incised, and wind through the upland plateau. Although they are mostly treeless and unencumbered by development, this often restricts views to within the confines of sections of each valley.



There are limited areas which are more craggy and dramatic in appearance. This is particularly true along the eastern edge of the area, where a rocky escarpment forms the eastern limit of the Elenydd upland plateau. Further south, the deeply-incised valleys of Rhiwnant and Nant y Carw also have a rocky character, enhanced by the presence of 19th century mine workings which exploited the exposure of the bedrock in the search for metal ores. Even at the heart of the upland plateau, at the Cerrigllwydion lakes, a discrete area of outcropping gritstones provides an unexpected variation in colour and texture in an area which is otherwise dominated by an expanse of rolling, *Molinia*-covered moorland.

The appearance of the Elan and Claerwen valleys is of course heavily influenced by the presence of the reservoirs which have been constructed within them. The Claerwen reservoir is located in an open, broad valley, along which long views are possible. Its concrete dam forms and

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impressive barrier to the upper valley and draws many visitors. The Elan reservoirs sit in a much more restricted valley, which has a much more intimate feel and markedly more sheltered than the treeless valleys further to the west. This part of the Elan Valley comprises of a mosaic of enclosed fields, deciduous woodland, coniferous plantations and some unimproved pasture along the sides of the reservoirs and the lower parts of the valley slopes which rise above them. These reservoirs influence the landscape with their impressive stone-built dams and the scenic, engineered landscape surrounding them.

This is the only part of the Elan Links area where there is a significant population, found in the scattered farms and cottages along the valley, as well as at Elan Village. Large numbers of visitors also come to the valley throughout the year, drawn by its beauty and accessibility. The visitor centre near Elan Village, car parks at key locations and promoted walks along the valley, as well as access to the lakes for anglers, mean that the area can often be quite busy and does not always share the tranquillity which can be found on the surrounding hills.



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Rocks dumped by glacial action at the end of the last Ice Age. Llyn Cerriglwydion Isaf.



A view north-eastwards down the Gwngu valley towards the Elan.

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2.4.3 Archaeology and History

The landscape of the Elan Valley includes the physical evidence of at least 4,500 years of human occupation and activity.

2.4.3.1 Early Prehistory

There is no archaeological evidence of human activity within the Elan Valley during early prehistoric times, namely the Palaeolithic and Mesolithic periods.

Palaeoenvironmental evidence from the peat bog at Gors Lwyd, in the upper Elan Valley, gives some insight into environmental conditions in the late glacial and early prehistoric periods (Moore & Chater, 1969; Moore, 1970). Pollen evidence demonstrates that a tundra environment was present in the area around 13,000 BC. Around 9,800 BC birch forests were beginning to be established, although by 8,800 BC this first flourishing of birch came to an end and there appears to have been a return to open montane grassland and juniper scrub on local hills. The colder period of the Younger Dryas, 8,800 to 8,300 BC, saw a brief return to a tundra environment.

By 8,000 BC, it would appear that birch woodland was again established in hollows and valleys, gradually spreading onto the hills, although pollen evidence suggests that grasses and open-habitat herbs may have survived longer locally, on the more exposed hills. A sharp rise in the hazel appears to have followed, a characteristic found in many western parts of Britain, where mild, maritime conditions favoured its growth.

The work of Wiltshire & Moore (1983), at Pwll Nant Ddu and Esgair Nantybeddau, over 5km to the south of Gors Lwyd, provides slightly different dates for the spread of birch forests (circa 8,500 BC) and date the rise of hazel to circa 8,200 BC. They also reported charcoal fragments dating to circa 7,500 BC, suggesting this to be evidence of the first human impact on the area.

Throughout the Mesolithic period (7,700 – 5,500 BC), pollen evidence from Gors Lwyd shows that there was a mixed woodland in the area, possibly not extending onto the highest land, with species such as pine, oak and elm becoming increasingly dominant. Wiltshire & Moore note damper conditions and a rise in alder pollens after 6200 BC, with a transition to more open conditions, with heather, grass and sedge pollens increasing by circa 5,000 BC. This may well be evidence of the clearance of woodland for hunting, with the open hills then being used to graze domesticated animals during the Neolithic.

Moore & Chater found evidence of a marked rise in pine pollens by circa 4000 BC, and suggest that this may represent an invasion of pine on early bog surfaces, formed at wet hollow locations such as Gors Lwyd, at a time when these bog surfaces were drying out in the warmer climate, as the Climatic Optimum approached. They also speculate that extensive peat bog formation had begun in the region by 3000 BC, quoting the discovery of pine wood beneath peat formations at Llyn Teifi, Ceredigion (Moore & Chater, 1969, 195). This pine wood was dated to 3300 bc by radiocarbon dating and must have been buried by the peat quickly enough to have ensured its preservation.

By the late Neolithic, human activity was also undoubtedly a factor in environmental change and the appearance of pollens associated with cultivation at Gors Lwyd, including *Plantago lanceolata*, English Plantain, indicates that domesticated animals were almost certainly grazing in the area by the early Bronze Age.

Two postulated Neolithic sites are recorded in the NMR within Rhayader community. These are two undated, possibly Neolithic, flint flakes (NPRN 261803) from the shore of Craig Goch reservoir

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in the Elan Valley, recorded in 1977, and a possible chambered tomb (NPRN 261599) at Brinddel Felen, the identification of which is tenuous. The chambered tomb has been discounted as an antiquity by CPAT.

The regional HER also dates a funerary monument at Beddaufolau, Rhayader to the Neolithic (PRN 871), although the RCAHMW classify the site as a Bronze Age round barrow. It has an unusually large central cist or chamber, some 2.5m square. At Coed Mynach, Rhayader there is also a HER record of a possible Neolithic henge (PRN 80132), which is a circular cropmark site, circa 16m in diameter. Two Neolithic stone axe heads have been found at Cloggarmon, St Harmon (recorded in the regional HER as PRNs 3374 & 6403), indicating that Neolithic communities must have been present within the wider area. The small number of Neolithic finds or sites in neighbouring areas are scant clues to the presence of the human community which, according to the palaeoenvironmental record, began to farm the landscape and graze domesticated animals on the Elenydd hills some 5,000 or 6,000 years ago.



A view southwards across Gorslwyd bog.

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2.4.3.2 The Bronze Age

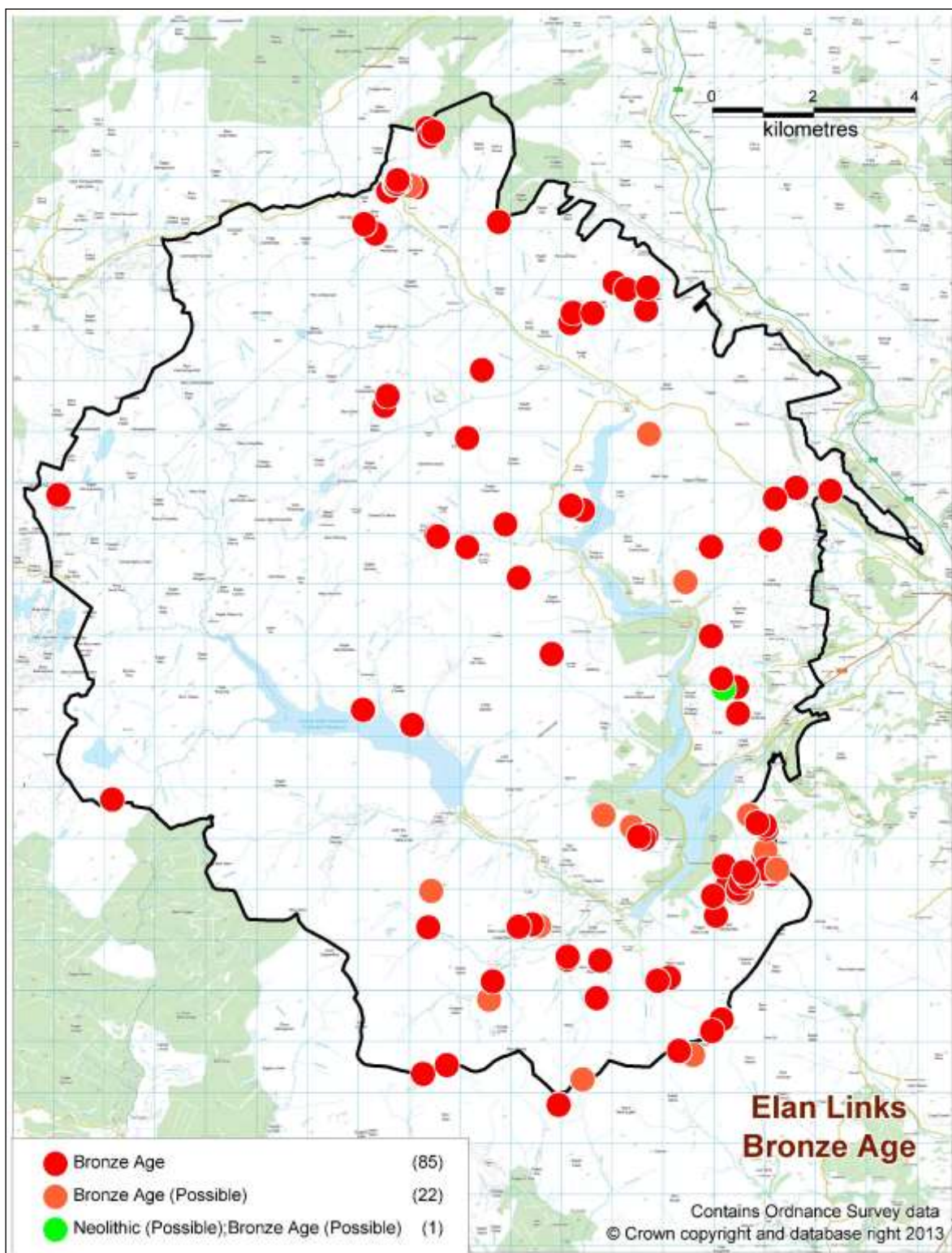
Finds of Bronze Age artefacts suggest that the wider district was well settled during the period. Just outside the western boundary of the Elan Links area is found the important Bronze Age mining site of Copa Hill, Cwmystwyth, Ceredigion. National Museum of Wales records show that a number of significant bronze artefacts have been found on the Powys side of the border, including an important hoard of six bronze socketed axe heads is recorded from Caban Coch common (NMW Code 25.59E/2 – 7), to the southeast of the estate. Further to the southeast, more personal items have been found around Llanwrthwl, including four gold torques of Middle Bronze Age date from Cae Gwyllt Bank Field (NMW Code 54.306/1 – 4), Llanwrthwl and a gold ring from Talwrn Farm NMW Code 59.96). Two bronze palstaves have also been recorded at Clochfaen (NMW Code 25.59E/1) and Llangurig (NMW Code 25.59E), within 3km to the north of the study area.

Archaeologically, the Elan Valley includes a significant group of monuments dating to the Bronze Age (2500BC-750BC), mostly funerary cairns, which occur on summits on the high ground surrounding the Elan and Claerwen valleys, but also in some lower positions on terraces along the valley sides. There are also a number of standing stones recorded within the area as well as a small stone circle at Crugia Bach, near Gro Hill.

Their positioning seems to imply that the area was utilised by Bronze Age communities which used the east-west valleys as communication routes through the Elenydd hills. The location of Bronze Age settlements is not known but is presumed to have been in the sheltered valleys of the wider district. The peat bogs and mires which have developed across large parts of the Elenydd uplands since the late prehistory may well mask many features associated with the Bronze Age or earlier activity.

Pollen evidence from Esgair Nantbeddau and Pwll Nant Ddu (Wiltshire & Moore, 1983) suggests that cultivation was present in the wider landscape by the later Bronze Age and into the Iron Age.

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Carn Nant y Ffald Bronze Age cairn, looking southwards towards the Elan Valley.

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2.4.3.3 The Iron Age and Roman Period

There is currently no firm evidence of Iron Age activity within the Elan Links area (750BC to AD43). The absence of evidence of Iron Age activity in the study area may well simply indicate that settlement was focused on sites away from the main Cambrian Mountain block. Iron Age hillforts are known on the Ceredigion side of the county boundary around Pontrhydfendigaid and Ystrad Meurig. In Powys, to the east there is a possible Iron Age homestead recorded at Gelli Las, in St Harmon community (NPRN 304957).

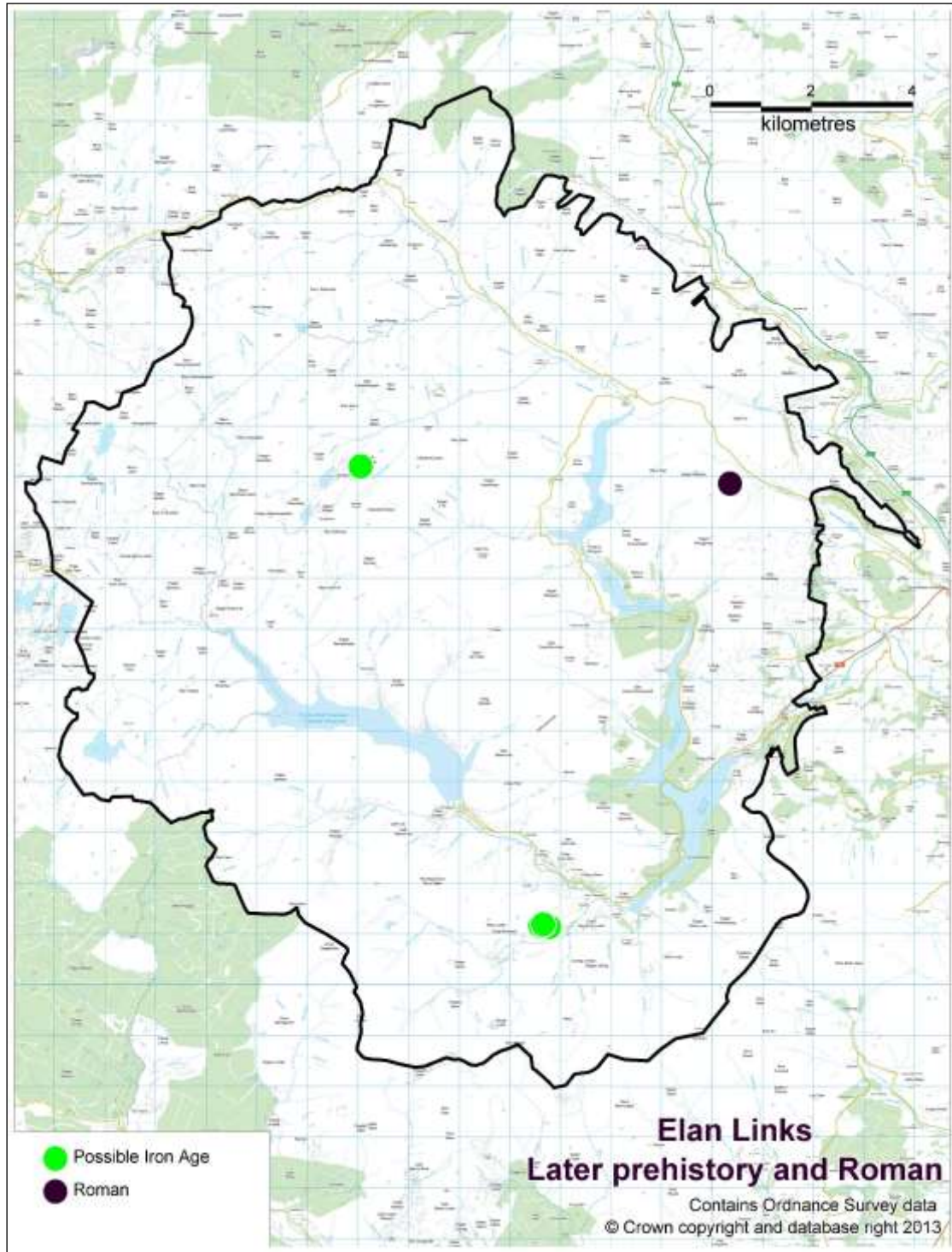
It seems likely that the Elenydd hills were valued as mountain pastures during the Iron Age, perhaps with settlement and cultivation confined to lower land either side of the upland block. At two locations within the Elan Links area there are the remains of circular or sub-circular structures which could be of Iron Age date. These are the Craig Llysiau settlement site, which is a Scheduled Monument (BR209) and includes a large circular enclosure around which are found three smaller hut circles. At Esgair Cormwng, close to the Cerrigllwydion lakes at the heart of the Elan Links uplands, a single sub-circular hut (NPRN 503565) has been recorded. Neither of these sites have been excavated and no evidence is available to date them. Structures of this form could date to any period from the Bronze Age to Medieval times.

A spindle-whorl (NPRN 261815) found in 1976 at Penyarreg, in the Elan Valley some 8km to the south east of the study area is the only possible Iron Age artefact recorded in either the NMR or Regional HER.

Roman activity is evidenced by the presence of a Roman Marching Camp on Esgair Perfedd, to the east of the Elan Valley. This fort probably dates to around AD75 and would have given temporary shelter to a large Roman force on military campaign during the conquest period. There is little evidence of Roman activity in this part of the Cambrian Mountains. There is a small fortlet further to the north at Cae Gaer, which is higher up the Wye Valley, and the findspot of Roman jewellery on Gwastedyn Hill, to the south of Rhayader. On the basis of present evidence, however, the Elan Links district appears to have been left far from the influence of Roman rule and have only been subject to a fleeting visit by campaigning army.

Some light is thrown on the environmental history of the later prehistoric and early historic periods in the wider area by the work carried out by Chambers et al (2007) at Drygarn Fawr. Radiocarbon dating at this site shows that between circa 60 BC and 320 AD, which roughly corresponds with the Roman period, the area was probably relatively dry, with heather and sedges present, as well as some purple-moor grass, but not sphagnum moss. This may just reflect a generally warmer, drier climatic period. It appears likely that since the Roman period climatic variation has simply meant that there have been fluctuations between drier and wetter conditions, but the essential open character of the Elenydd hills has been maintained throughout the centuries.

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Esgair Perfedd Roman Marching Camp viewed from the air. Photograph by David James.

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2.4.3.4 The Dark Ages and Medieval: Strata Florida Abbey

There is no known archaeological evidence in the Elan Links area associated with the period between the Roman conquest and the Norman conquest of mid-Wales, in the late 11th century, a gap of some 1,000 years. During the 12th century however the rise of Strata Florida abbey in Ceredigion was to prove highly influential.

The abbey was founded by Rhys ap Gruffudd, prince of Deheubarth and granted extensive estates or granges in Ceredigion and Powys. These estates included much of the central Cambrian Mountain range, where control over the vast areas of wild mountain pasture became an important element in the abbey's development. A later copy of this grant shows that it extended from Nannerth in the Wye valley across the Elenydd range and southwards to the upper Tywi valley, as well as westwards to the sources of the Teifi, Aeron and Arth rivers. (Williams, 1889).

It seems likely that this large area was subsequently divided into granges by the Abbey, possibly following early land divisions, established even before the time of Rhys ap Gruffudd.

The granges were estates which included lowland areas, where settlement and arable farming would be focused. In terms of the Elan Links area, the landscape is almost entirely an upland environment. We have little understanding of settlement in the valleys and lowland fringes within and around the uplands here during medieval times. The fact that Rhys ap Gruffudd's grant of lands to Strata Florida abbey in the 12th century mentioned Nannerth may indicate that a farm or settlement of some sort existed there at the time, perhaps a "tyddyn" or tenement, a form of farmstead often mentioned in early historical sources, including medieval Welsh lawbooks. Llanfadog may have been another medieval tenement within the area, although its name is thought to be of religious significance (Madog's llan or church), and traditionally it is said that a medieval church or chapel-of-ease was located near the present farm. Other farms or tenements named in 16th century sources include Caehaidd and Nantgwyllt, which may have medieval origins (Williams, 1889). The longhouse at Ciloerwynt, in the Claerwen valley, was dismantled and moved to St. Fagan's Folk Museum, Cardiff in the 20th century. Tree-ring dating on some of the beams of the house showed that they dated to 1476AD, indicating a late medieval date of construction.

These scant records suggest that permanent farmsteads and a settled population were present in low-lying and sheltered parts of the Elan Links area during medieval times. Yet it is the dominant upland areas which provide most of our evidence of medieval activity here.

The wealth of Strata Florida abbey came to depend in a large part on the rearing of sheep and the export of wool from their granges. Each of the granges included upland or marginal areas where sheep, cattle and horses animals could be moved for the summer months, traditionally from May to October, to graze the mountain pastures. Several granges had significant upland blocks which extended into the Elan Links area.

The large Cwmdeuddwr grange covered the eastern part of the Elan Links area, defined by the main rivers of the district, its boundary running from the Wye to the east, along the Dernol to the north, westwards to the Gwngu and then south to the Claerwen. The aforementioned lowland farmsteads all fall within this grange.

The home grange of the abbey, the Pennardd Grange, extended up the Mwyro valley to the upland plateau around Llyn Gynon. To its northern side was the Mefenydd Grange, which also stretched up onto the Elenydd uplands.

The mining and smelting of the lead and other metal ores also contributed to the Abbey's wealth, most notably on the Cwmystwyth Grange, which lay immediately to the north of the Mefenydd Grange. The abbey also held land at Rhayader and Llangurig, as well as a daughter abbey at Abbey Cwmhir, Radnorshire. Communications routes undoubtedly ran across the Elenydd uplands

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and along the Elan and Claerwen valleys, connecting Strata Florida with these possessions. A major route may well have run between the Abbey and Rhayader, via the lower Claerwen valley. A second route is said to have run to Abbey Cwmhir, the so-called Monk's Trod, which is still in use across the Elenydd hills, although there is no historical evidence of its use in medieval times.

South of the Claerwen, the uplands formed part of the Lordship of Builth and lay outside the control of Strata Florida Abbey.

During medieval times the uplands would have been settled only during the summer months, from May until October, by herdsmen who would have occupied huts which allowed them to remain close to their animals on the mountain pastures. These seasonal, upland settlements were known as "hafotai" in Welsh, translated as "summer houses" in English. The place name "Hafod" usually signifies lands which were used under this regime.

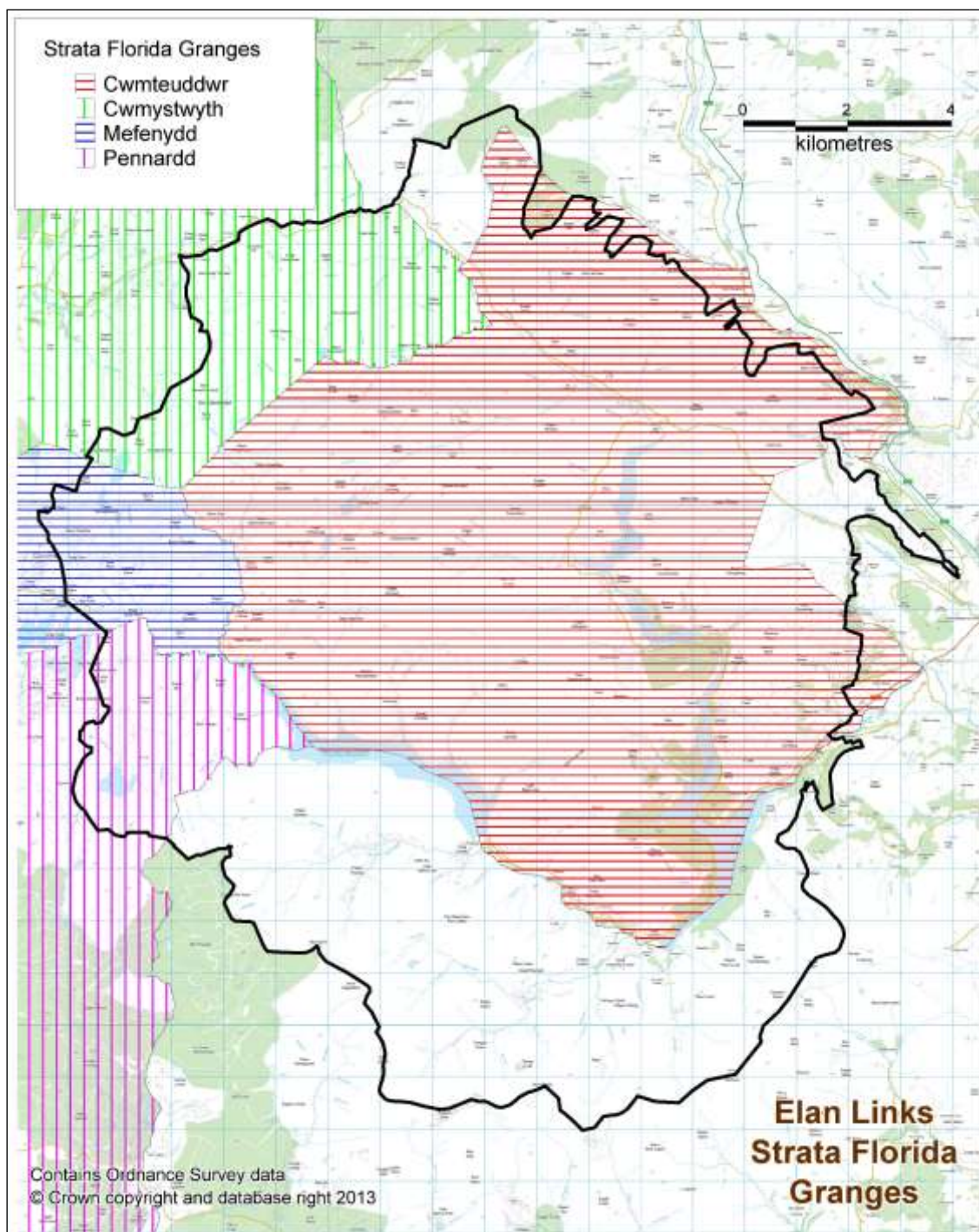
The system of transhumant pastoral farming followed in medieval Wales is commonly known as the "hafod/hendre" system. Cattle and sheep would have been milked at the "hafod", where milk, butter and cheese would have been produced. These perishable foods would possibly have been stored in underground chambers, known as "sunken shelters" to modern archaeologists, examples of which are found dotted across the hills of Elenydd. They are usually found close to the remains of longhouse or long huts, the dwellings which would have been occupied by the herdsmen during the summer grazing season.

Although modern Elenydd often appears to be a barren, mountainous block, it is likely that the hill pasture of this area had a far more diverse flora during medieval and early post medieval times, when the climate was generally warmer than it has been in modern times. Palaeoenvironmental evidence suggests that the use of the upland pastures of Elenydd was intensified to some degree during the Medieval period, despite contemporary descriptions of the area, dismissing it as something of a wilderness.

Notable visitors to the abbey and its granges included Gerald of Wales in 1188 and John Leland circa 1538. Both had the opportunity to set eyes on Elenydd and provide us with early descriptions of the landscape which now forms the core of the Elan Links area. Both of these medieval figures noted the scale and wilderness of Elenydd, a characteristic which continues to impress visitors to the present day.

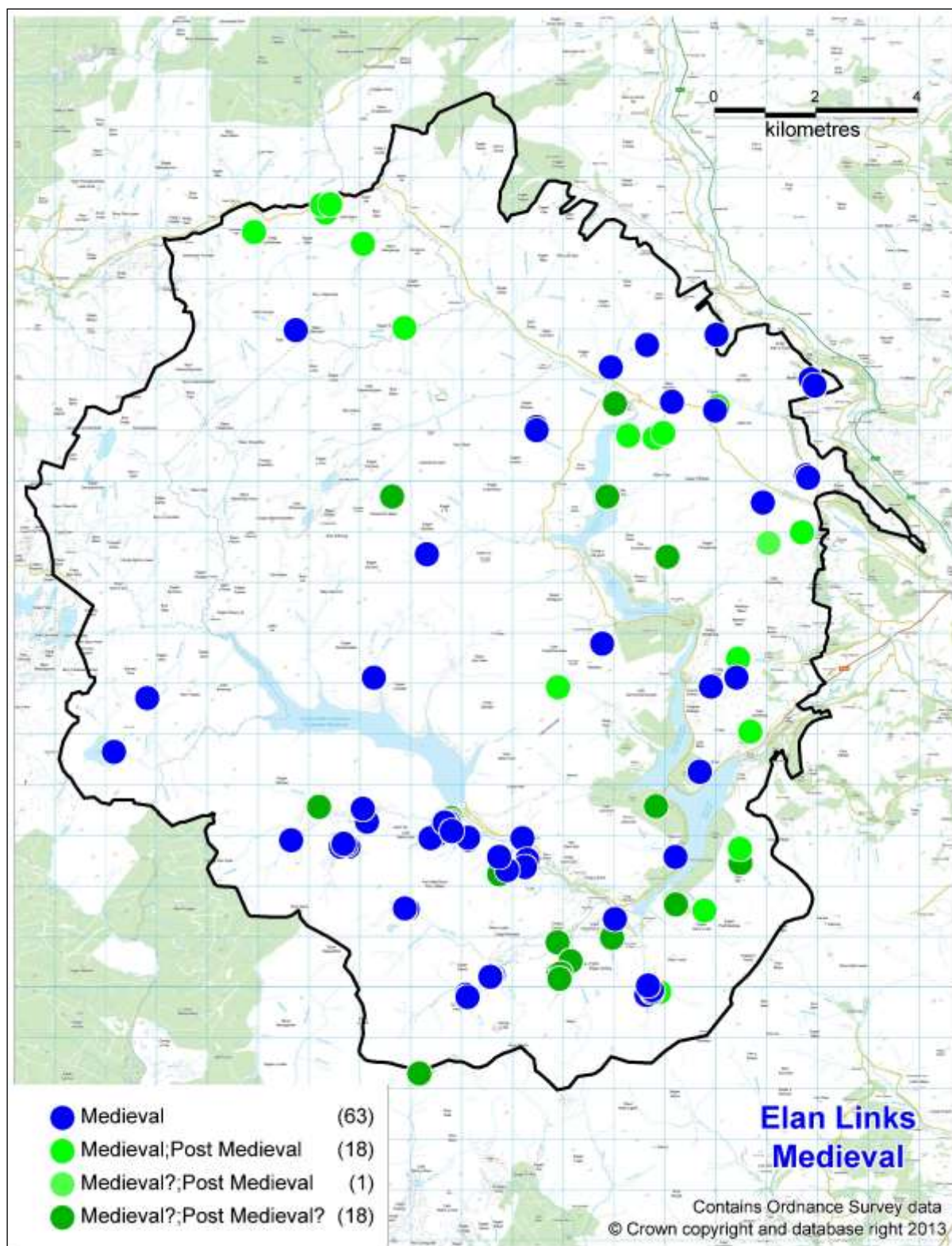
In his late 12th century work "A Description of Wales", Gerald of Wales refers to Elenydd as the "*lofty mountains of Moruge called Elenydd in Welsh.*" Leland visited a number of known locations within the area, including Carreg Naw Llyn, Llyn y Fign and the Cerrigllwydion lakes and also spoke to herdsmen who lived in "summer houses" near Claerddu, right at the end of the "hafod/hendre" tradition. Many social and economic changes were heralded by the Tudor era and the "Act of Union" between Wales and England in 1536, which outlawed ancient Welsh laws and practices.

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The Strata Florida Granges of the Elan Links area. The white area to the south fell within the Lordship of Builth. The red-shaded area to the east was the Manor of Cwmdeuddwr, which was attached to the abbey's property at Rhayader and administered separately from the monastic grange.

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Settlements and sites of medieval or early post medieval date recorded within the Elan Links area.

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Lluest y Gader, the ruins of a post-medieval shepherd's cottage and outbuilding, north of the Claerwen valley.



A medieval or early post-medieval deserted settlement site (foreground), with the modern Aberglanhirin farm in the distance.

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The Monk's Trod.

This rather enigmatic trackway passes through the heart of the Elan Links area, from the Teifi Pools to the west, along the Claerddu valley, across the Claerwen valley and northeastwards to Pont-ar-elan in the upper Elan Valley. It is said to continue from there to Nannerth in the Wye Valley and then onwards to the east.

It has been suggested that the “Monks’ Trod” is perhaps the best preserved, engineered medieval road in Britain, and dates to the time of Rhys ap Gruffudd (the Lord Rhys) of Deheubarth, and that Rhys himself ordered the construction of the road, to link his lands in mid-Wales. (Fleming, 2009a and 2009b). These included the territories where the Cistercian abbeys of Strata Florida, Ceredigion and Abbey Cwmhir, Powys were founded and granted extensive granges by Rhys.

A more well-established tradition is that the route was constructed by the monks of Strata Florida as a means of travelling easily between the abbey and its daughter-house at Abbey Cwmhir.

There is, however, no historical evidence to back either claim or to demonstrate that the “Monks’ Trod” is of medieval date or associated with Strata Florida Abbey, or an engineered road. Significantly, perhaps, the earliest sources we have are mute on the subject of the “Trod”.

When Giraldus Cambrensis visited the area in 1188 (Butler, 2005, 163) he recorded that his assistant had been instructed to take the road from Brecon to Builth in order to carry some of his most precious possessions quickly through the mid-Wales landscape. Yet, when Giraldus mentions that he had to make a hasty journey between Strata Florida and Abbey Cwmhir, he made no mention of following any specific road. Had the Monks’ Trod existed at that time, it would have been relatively new and Giraldus would surely have followed it. His silence on the matter is perhaps significant.

The traveller John Leland, who visited Strata Florida Abbey about 1538, just before the Dissolution of the Abbey, explored some of its upland granges. He was led into the heart of the hills via the Teifi Pools to Carregnewlyn. He did not travel via the “Monks’ Trod”, but rather along a route further to the north that took him to a remote viewpoint. The area was wild and untamed to his eye. Surely a road through the hills would have merited his attention?

John Ogilby’s road map, published in his ‘Britannia’ in 1675, shows the road connecting Rhayader and Cwmystwyth, via Pont-ar-Elan. This road later became a turnpike road and is now the only tarmacadamed road connecting the Ystwyth and Elan valleys. Ogilby depicts a track joining the main road from the south at this point, which he labels as the road to *Rhose Ffaire* (now known as Ffair Rhos, Ceredigion). This clearly corresponds with the route now known as the “Monks’ Trod”. Ffair Rhos was known for its horse and cattle fairs in earlier post-medieval times. Any road running from there in the late 17th century must be strongly suspected to be a post-medieval drove road.

The earliest identifiable source which refers to the trackway as a “Monks’ Road” is much more recent, namely Jonathan Williams, who refers to it in his “History of Radnorshire”, published in 1869 but written earlier in the 19th century. Williams does not identify the origins of this tradition, unfortunately. Whether it can be said that the use of the trackway extended back to medieval times or had any association with the monks of Strata Florida cannot be said. Nevertheless, the trackway remains as an important historical feature and access point into the very heart of the Elenydd uplands. It passes close to the remote Cerrigllwydion glacial lakes and offers visitors a unique insight into one of the wildest and most unspoilt upland landscapes in Wales.

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Walking the Monks' Trod.

2.4.3.5 Post-Medieval Period

Shortly after John Leland visited Strata Florida, the abbey was closed and its estates broken up under the Dissolution of the Monasteries. This event had significant consequences across Wales, which must have been felt in the Elan Links area, which was largely made up of monastic grange lands. Other changes to the economy and administration of the country, particularly the Act of Union of 1536, which abolished Welsh law, also had an impact.

Of great relevance to the uplands of Elenydd was the gradual end of the "hafod" tradition which had been a characteristic feature of upland life in of medieval Wales. The practice of herdsmen moving to the "hafod" for the summer grazing season to stay with their animals, returning to the lowlands during the winter months, gave way to the "lluest" tradition, by which shepherds lived permanently on the hills to manage their flocks.

Clear evidence of this change was recorded by Lewis Morris, Deputy Steward of the Crown Manor of Perfedd, which lies just to the north of Elenydd. In 1744, Morris mapped the "lluestau" (shepherding cottages) and farmsteads of the Pumlumon uplands and spoke to some of the shepherds who tended flocks on the hills. He recorded that "lluestau" were occupied all year round, but that it was known among the shepherds that "before the memory of man" these places were only occupied during the summer months, a direct link to the "hafod" tradition.

Even so, Lewis Morris recorded a system of pastoral farming which was itself close to disappearing. Within 50 years most of the "lluestau" of Pumlumon had been abandoned and settlement focused on a smaller number of farmsteads and smallholdings. Today, these "lluestau" survive as ruined huts or cottages on the mountain pastures.

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The Pumlumon landscape and the Elan Links area landscape in Elenydd are similar in their form and history. There is no doubt that the same process of change occurred across Elenydd between the mid-16th century and the 18th century. From the 16th century onwards, historic sources identify some of the “lluestau” of Elenydd. Aberglanhirin, now a modern sheep farm, is named as a “lluest” of Nannerth (Davies, 1980), whilst Nannerth also held Lluest y Penrhiw, now a ruin on the hills to the west of the main farm. Other examples of this relationship between lowland farms and their upland shepherding stations are the farms of Abercaethon and Brithgwm which held the *lluestau* of Lluest Abercaethon and Y Clettwr Mawr respectively.

By the time the first maps of the district were produced in the early 19th century there were very few occupied settlements in the area, yet abandoned cottage and hut sites dot the hills, a situation directly comparable with the Pumlumon area.

Farmsteads within the modern Elan Links area, such as Claerddu, Claerwen, Henfron, Hirnant, Aberglanhirin and Bodtalog were already in existence by the start of the 19th century, although their roots evidently lay in much earlier times, possibly even as “hafod” or “lluest” settlements.

Higher status houses, such as the now lost gentry homestead of Nantgwyllt, grew out of the break-up of the monastic granges, when the Crown sold these lands into private hands to form the estates of a new class of rural gentry. One such estate was based on the former Cwmdeuddwr Grange for example, whilst some of the great estates in Ceredigion, such as Trawsgoed and Hafod, bought former grange lands on the western side of Elenydd.

Drovers

One of the important changes that came with the reforms of the Tudor period was the increasing trade in cattle, sheep and geese with the great English cities.

In medieval times, the “Hafod/hendre” economy operated to meet local need and produce surplus to feed the nobility. From the 16th century onwards, the pastoral economy of upland Wales needed to supply a growing population, particularly in the cities to the east.

This demand invariably continued to grow throughout post-medieval times, especially during the industrial period, when the populations of industrial and urban centres increased rapidly.

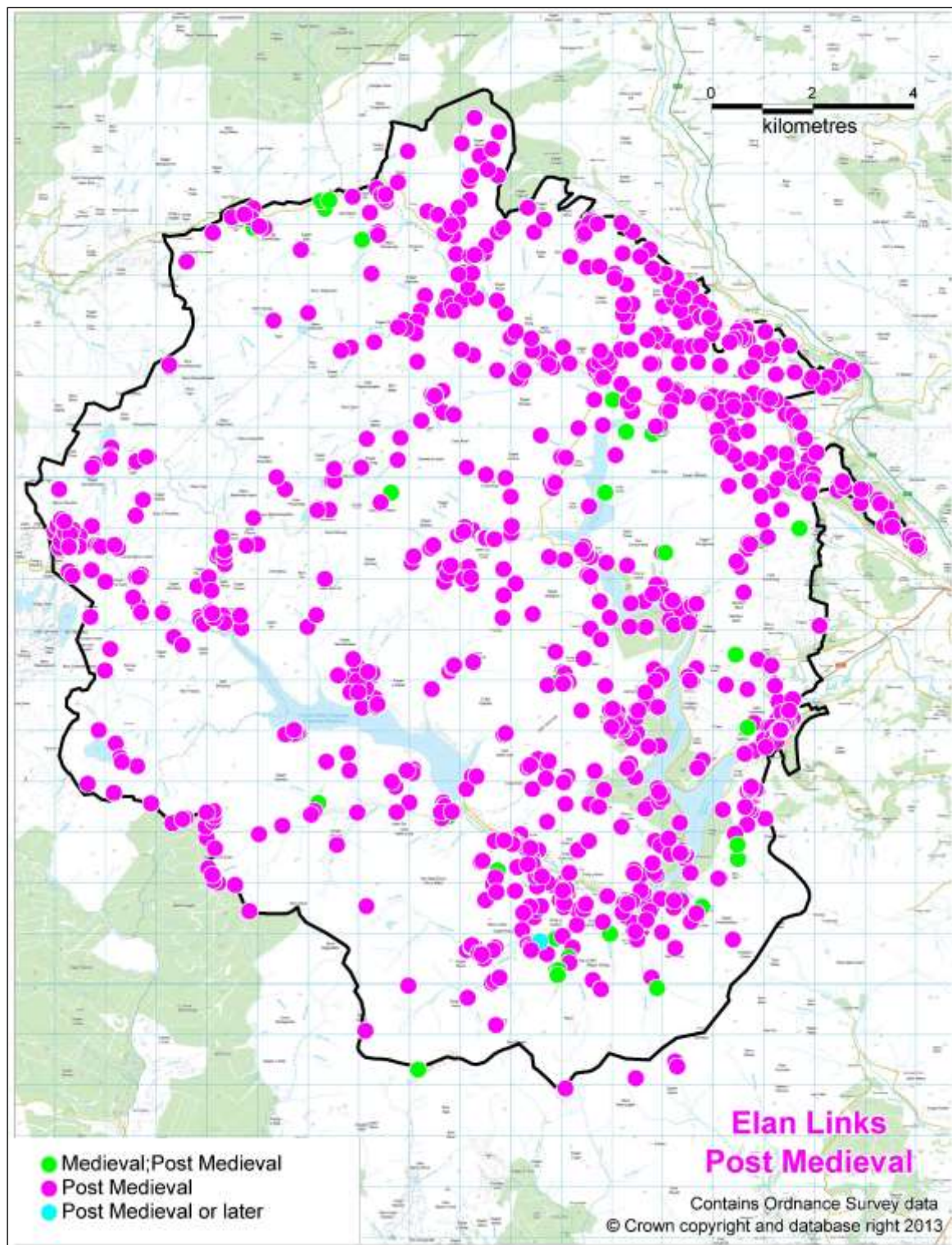
There is little doubt that the need to produce more food during these centuries drew more and more settlement onto the uplands, as new lands needed to be improved and cultivated and more stock animals reared on the mountain pastures. It is likely that the shift from the “hafod” to the “lluest” was to some extent a response to this.

With more stock animals being raised and the markets to be supplied being quite some distance away, the only method of moving the animals to the market was on foot. This saw the development of a new and significant industry, droving. The drovers of Wales were a celebrated and hardy breed of men. They moved herds and flocks of cattle, sheep, geese and horses across great distances, usually following routes which kept them away from settlements and well-travelled roads. They took the mountain trails and passes instead, avoiding society as much as possible.

Amongst the most notable droving routes in mid-Wales was one which crossed through the heart of the Elan Links area. Drovers travelling from central Ceredigion to the markets of the English Midlands would follow a route that took them to Ffair Rhos and then across the Elenydd uplands, fording the Claerwen and then proceeding to cross the Elan and the Rhayader to Cwmystwyth road at Aberhenllan, just upstream from Pont-ar-elan. This route corresponds with the trail which is now known as the Monks’ Trod.

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In the 19th century drovers would also followed the turnpike road from Cwmystwyth, along the upper Ystwyth valley, but would turn north before they reached the Elan Valley, heading up the Diluw valley to avoid paying tolls at the Blaenycwm tollgate.



Post Medieval sites within the Elan Links area represent a marked increase in activity across the area.

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Glanhirin farm sits within the vast expanse of unimproved moorland which characterises much of the Elenydd upland plateau.



Claerddu farmhouse is now a bothy popular with hillwalkers.

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2.4.3.6 Industry and the Elan Valley Reservoirs

Lead mining

Lead has been mined in Wales since around 1,000BC. During the roman occupation of AD43 – 407 lead was used in large quantities for water pipes, ornaments and coffins. Demand was high again in the eleventh and twelfth centuries to cover roofs of castles, churches and other great buildings. The scale of workings remained small until the sixteenth century when the industry saw steady growth promoted by Queen Elizabeth 1st. Technical advances from Germany greatly improved methods of production and by the eighteenth century Britain was the most important producer of lead in Europe.

Lead mining continued into the nineteenth century and most of the mines found in the Elan Links area date from this period. During the later nineteenth century however, there was a massive increase in foreign produce and the industry declined, no longer able to compete.

One of the earliest major mines identified in the Elan Links area were a collection of shafts and levels in the northeast of the area known as Gwaith y Mwynau. There were noted in the early 19th century by the historian Jonathan Williams;

“In former times, as well as at present, this parish was distinguished by containing mines and minerals. At a place on the hills, about three miles west from the town of Rhayader, near the line of the old road that led to Aberystwyth, named Gwaith-y-mwynau, i.e., the miners' works, great quantities of lead ore, impregnated with silver, were found in the reign of Charles I., which were melted and coined for the pay of the royal army; and recently a lead mine was worked at Cwmelan, by the late Thomas Grove, Esq., its proprietor.” (Williams, J., 1869, 235).

This mine was active in the 17th century but had ceased to be worked by the mid-19th century. Gwaith y Mwynau was never organised as an industrial complex in the way that later mines, further to the south, were developed.

South of the Claerwen valley, metal ores are found and three significant mine complexes developed in the 19th century. At Nant y Car south the main shaft, now flooded, was lined with masonry resting on timber lintels. There are also the foundations of a stonework winding arrangement on the western side of the shaft and 'bob-pit'. The shaft was pumped by a flat-rod system powered by the main wheelpit, the narrow stone-lined culvert to the east of the wheelpit housed these rods.

A tramway connects the shaft structures with the two or three stone built ore bins with picking floors in front. Considerable amounts of 'jigtailings' by the bins indicate that there were jiggers in use at the site, probably located on the platform remains on the north-east of the crusher house, which still contains the remains of four beam ends, indicating that there were two crusher rolls in operation. A ramp connects the ore bins to the crusher house. To the east lie two circular 'buddles' with stone revetment walls surrounding them. Water would flow from the crusher house via a culvert to the buddle area.

The main leat is largely stone lined and is fed from the Rhiwnant stream. The site has remains of three drainage 'adits'. A series of three-sided shelters, located amongst some natural stone fall, is presumed to have been used for some form of shelter for people employed to dress the stone for building use.

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Nearby is the Dalrhiw Mine, which produced copper and lead. Dalrhiw was originally accessed by a footbridge from Nant y Car south mine. The main shaft is located on the southern hill slopes at the top of the site, with a drainage adit on the south bank of the stream. A horse whim would have raised the ore from the shaft. A bob-pit and a wheel pit are associated with the shaft, and the track beds from this system can still be traced. The water channel from the wheel pit runs into Rhiwnant stream.

There are the remains of three ore bins and a small building beside them, probably where the ore was hand sorted before going to the crusher house. The remains of the crusher house and its wheelpit are located down slope from the ore bins. There is a slab floor beside the building which is possibly the washing area. Jigs were powered by another small wheelpit and the stone-slabbed floor on which they stood remains along with jig-waste by the wheelpit wall. No evidence remains of buddles. The mine office/mine managers house has collapsed, attached to it was probably the smithy.

The Nantycarw Mine produced lead. There a few signs of the earliest workings, most of the remains visible today date from 1886 onwards. The main shaft is stone lined with a timber frame surrounding the top, some timber pump-rods remain in place. Along the south side is the bob-pit and to the east side is a single roomed building of unknown usage. A roughly circular area in the vicinity is probably all that remains of a whim circle. There is a substantial wheelpit to the east with water probably being drawn directly from the stream.

A track leads up to the remains of a processing mill. No wheelpit remains, however, power was presumably provided by water. Three adjoining buildings would once have provided processing machinery. There are also piles of jig waste and the remains of a buddle near to the mill site. Two buildings to the east of the mill consist of stone walls with a concrete cap, which would suggest a timber structure above this point. One of the buildings is divided up internally and may have been a barracks, the other building only contains a single room partition and the presence of a slot in one of the walls suggests the housing of some form of machinery. Jig platforms remain to the east of the shaft.

The remains of a leat exist which probably took 'slimes' from the mill to a settling pit. The remains of the mine office are of stone base with a concrete cap, which is divided into two rooms internally. There is also some evidence of a possible garden which appears as a grassy area now. The mine magazine is located at some distance to the east.

Further north, on the western side of the Elan Valley was the Cwm Elan Mine, which produced lead and zinc for much of the 19th century. The early workings remain a series of open-cuts, some small tips and the earthwork remains of a few buildings. Other workings from the 18th century are now lost beneath the spoil tips of the larger 19th century operations. The majority of the structural remains at Cwm Elan date from the 1870's.

The pumping wheelpit for the main shaft would have housed a 36x4ft wheel, water from this wheel would then pass through the archway to be re-used at the crusher wheelpit. Some of the pumping rods and other supporting iron work can still be found around the site.

Ore from the main shaft would be stored in three ore bins, of which only one remains fairly intact. From here the ore would be taken to the crusher house by tramways. The walls of the crusher house still stand almost at full height, and the crushing rolls supporting beams lie close to the building. The associated wheelpit is of similar size to that of the pumping pit, powering a crusher, jiggers and a circular buddle.

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Water from the crusher house wheelpit again flowed out of an arch to feed a third smaller wheelpit which powered a buddle below. Water passed along wooden 'launders' and the supports remain in situ.

The site shows evidence of three parallel rows of ten settling pits to launder the lead waste, and these all had interconnecting leats. Situated away from the main areas of activity is the magazine, a small roomed stone building used to store explosives.



A mining landscape: A view of the Rhiwnant Valley from the east.

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The remains of the crusher-house at the Cwm Elan Mine complex.

Peat Cutting

The extensive areas of blanket peat bog and raised peat bogs across the Elenydd uplands mean that peat cutting has been an industrial activity of great significance in the past.

Before coal was made easily available from the late 19th century onwards, peat was the only fuel available in the upland areas of mid-Wales, where wood was a scarce commodity. Farms on the uplands enjoyed rights of turbary, or peat cutting, as did the inhabitants of farms and parishes around the upland fringe. This practice was recalled by Elan Valley native Hetty Price in the mid-20th century;

“The farmers always went up to the hills to the turf pits to cut out plenty of turf for the year. It was hard work, and the men would be perhaps a week putting them up in stacks to dry. Then in September when they were dry and hard the turfs were hauled home for the winter. They would burn away to ashes and make such a lovely fire. If a turf was covered with ashes the last thing before going to bed, it would last bright till the morning. At most homes there was a turf house built to keep the peat dry.” (Price, H., 1948, 51).

The local tradition was to pile the freshly cut peat in small stacks for drying at the edge of the cutting. Trefor M. Owen, in his 1990 publication on peat cutting in Wales, illustrates with photographs the local method of peat cutting on two of the farms of the Elan Links area, Bodtalog and Hirnant, (Owen, 1990, 27-28, 31, 39 & 41), capturing what was by that time a dying industry, properly understood only by elder members of the community.

Once cut, the peat was stacked in neat piles to dry in the mountain breeze. It was then transported by sleds and carts to the farms, villages and towns of the wider district. In many parts of the Elan

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Links area the old peat cutters tracks can still be seen, descending steep slopes, along which sled loads of peat were taken away with the help of horses and gravity.

The effects of peat cutting can still be seen on the Elan Links landscape. Large areas of peat cuttings, known as turbaries, are commonly encountered. These old turbaries can be found on the open moorlands, as well as on hollows and terraces along valley slopes. Smaller workings are found on the upland pastures associated with individual farms, with much bigger turbaries found on the higher hills, where extensive blanket bogs had grown. To the north of the upper Elan Valley particularly large peat workings can be found, extending across an area of some 25 hectares at Rhiw Afon and 15 hectares above Gwar y Ty.

Quarrying

There are a number of interesting quarry sites within the Elan Links landscape. Most of the quarries known in the area are small workings exploited by farms to take stone for building construction or, increasing in modern times, track building. Some of the quarries of the area are much bigger workings however. One of the most interesting, yet undated and unexplained, quarries is found to the east of the Elan Valley, where numerous workings and stony spoil tips are seen around Crugyn Ci and Mynydd Dolfolau. It appears that a slaty stone was quarried in these areas, but it is not known when the quarries were active. By the late 19th century map evidence shows that they had already been abandoned.

The impressive Caban Coch Dam was built alongside a large quarry worked during the 1890s, from where stone was obtained for use in the dam building project. The modern Marchnant Quarry to the south of the Claerwen valley, near Dolymynach Reservoir, exploited Ordovician igneous rock. This large quarry was worked in the late 1940s and early 1950s to obtain stone in association with the construction of the Claerwen Dam.

The Water Industry

The character and history of this district was changed dramatically in the 1890s when the Birmingham Corporation purchased a huge swathe of land focused on the Elan Valley, with the intention of creating a reservoir system to supply their city with clean water. The attractions of the valley as the location for the scheme included the high rainfall in the area, suitable geology and topography and the fact that the area is much higher than Birmingham, which would allow for the water to be gravity-fed to the city, without any need to pump water over distance.

An Act of Parliament, known as the “Birmingham Corporation Water Act”, was passed in 1892, allowing the Corporation to purchase all of the land defined as the watershed of the Elan River. Most of this land fell within the boundary of the Cwmdeuddwr parish commons and was bought from the Lewis-Lloyd family who owned the Cwm Elan estate. The Llanwrthwl parish commons, to the south of the Claerwen River, were also purchased in 1894 from the industrialist Sir Joseph Russell Bailey (1840-1906), who was the Lord of Builth.

This acquisition of lands led directly to the creation of the Elan Valley Estate, a new entity carved out of the historic estates, which has survived to the present day and is in itself an important cultural asset.

It has ensured the continued use of the tenanted, upland farmsteads of the area which have been maintained by the estate throughout the past 120 years. Many similar upland areas have lost their most remote settlements during the 20th century, creating abandoned landscapes, bereft of people. The Elan Links area remains a populated landscape, which adds to its special qualities

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and ensures that the tradition of human occupation on these remote hills and valleys has a future, as well as a rich history.

The Elan Valley water scheme was a unique and epic feat of civil engineering, which is today acknowledged by heritage experts as being of international significance. The scope of the scheme was breathtaking. Four dams were erected along the course of the Elan Valley, to create the Craig Goch, Garreg Ddu, Peny Garreg and Caban Coch reservoirs. A rare example of a submerged dam was also built in the Garreg Ddu reservoir, to ensure that water could constantly be gravity-fed into the Foel tunnel. This is one of two long tunnels which are connected to the 73-mile long aqueduct that carries water to Birmingham, again fed by gravity, carefully engineered so that no pumps were needed.

The scheme also included the construction of a railway branch line along the Elan Valley by 1894, connected to the Mid Wales Railway at Rhayader. Sections of the former track-bed of the Elan Valley branch are still used as paths along the valley side.

In the Claerwen Valley the foundations of the Doly Mynach dam were put down during the 1890s. The intention was that more could be dams constructed along the Claerwen to meet an expected increase in Birmingham's future water requirements. This part of the scheme was never fully realised and the Doly Mynach Dam remained unfinished, although the Claerwen Dam was built further up the valley after the Second World War, employing Italian stonemasons. The Claerwen reservoir was put in to commission in 1952. With these developments, the landscape gained a series of striking stone dams, some with ornate towers, carefully engineered and designed to be aesthetically pleasing and retain something of the picturesque landscape that had been lost. These features are popular landmarks along the Elan Valley today and draw in many thousands of visitors annually, making the valley one of the most popular visitor attractions in Wales.

Rainfall

The Elan Links area is one of the wettest parts of the British Isles. As early as 1870, civil engineer James Mansergh had identified the potential of the Elan and Claerwen valleys as a source to supply clean water to the city of Birmingham. Rain gauges were set up at an early date in order to monitor rainfall levels in the district;

“In the year 1871 a rain-gauge was set up at Nantgwyllt, just at the foot of the watershed, and has since been systematically kept by Mr. Lloyd, a large landowner in the district. Mr. Mansergh has put together these gaugings and finds the mean annual rainfall for the 20 years ending 1889 was 63.78 inches (1.62 metres). The position of the gauge was 768 feet above sea-level, and as the mean altitude of the watershed is about 600 feet higher, he calculates that we may expect the rainfall on the gathering-ground to be 66 inches (1.67 metres). In order to verify this, four rain gauges have been placed in different parts of the area, and are being carefully registered.” (Barclay, 1898, p.37-38).

Today the remains of a number of now disused rain gauges can still be seen in the Elan Links area, although it is not known if any of these date back to the 19th century. They are often found to be small, square enclosures, defined by a turf bank or a post and wire fence. Some still have the collecting pot of the gauge inside the enclosure.

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A disused rain gauge on Waun Ffaethnant.

A LOST COMMUNITY

The physical impact of the reservoir building was felt most heavily within the Elan and Claerwen valleys. A series of dams and reservoirs were built, which meant the loss of many historic features, including farms and farmland, cottages, the gentry houses of Cwm Elan and Nantgwyllt, a corn mill, the parish church and a Baptist chapel, all of which were set in a picturesque and celebrated landscape.

Hetty Price was brought up in this community and later in her life documented her rich memories of Cwm Elan as it was in the decades before the water scheme was devised;

“My home was just over the Claerwen River opposite the Grand Mansion of Nantgwyllt where the Squire lived. He was looked up to by his tenants and workmen. Mrs. Lloyd was kindness itself to one and all, and the sons and daughters we loved. They kept a number of workmen the Gamekeeper lived in the Lodge, the Gardener and Coachman in nice new Cottages, the Cowman at Aberelan Cottage.

Then there was a nice School and School-house attached, kept altogether by Miss Gertrude Lewis Lloyd, a sister of the Squire. She was always doing good deeds, giving suits of clothes for the

poorer children, and material to make frocks for the girls. At Christmas we always had a treat and Christmas Tree in the drawing-room at Nantgwyllt, and the young ladies waited on us. It was looked forward to for months.

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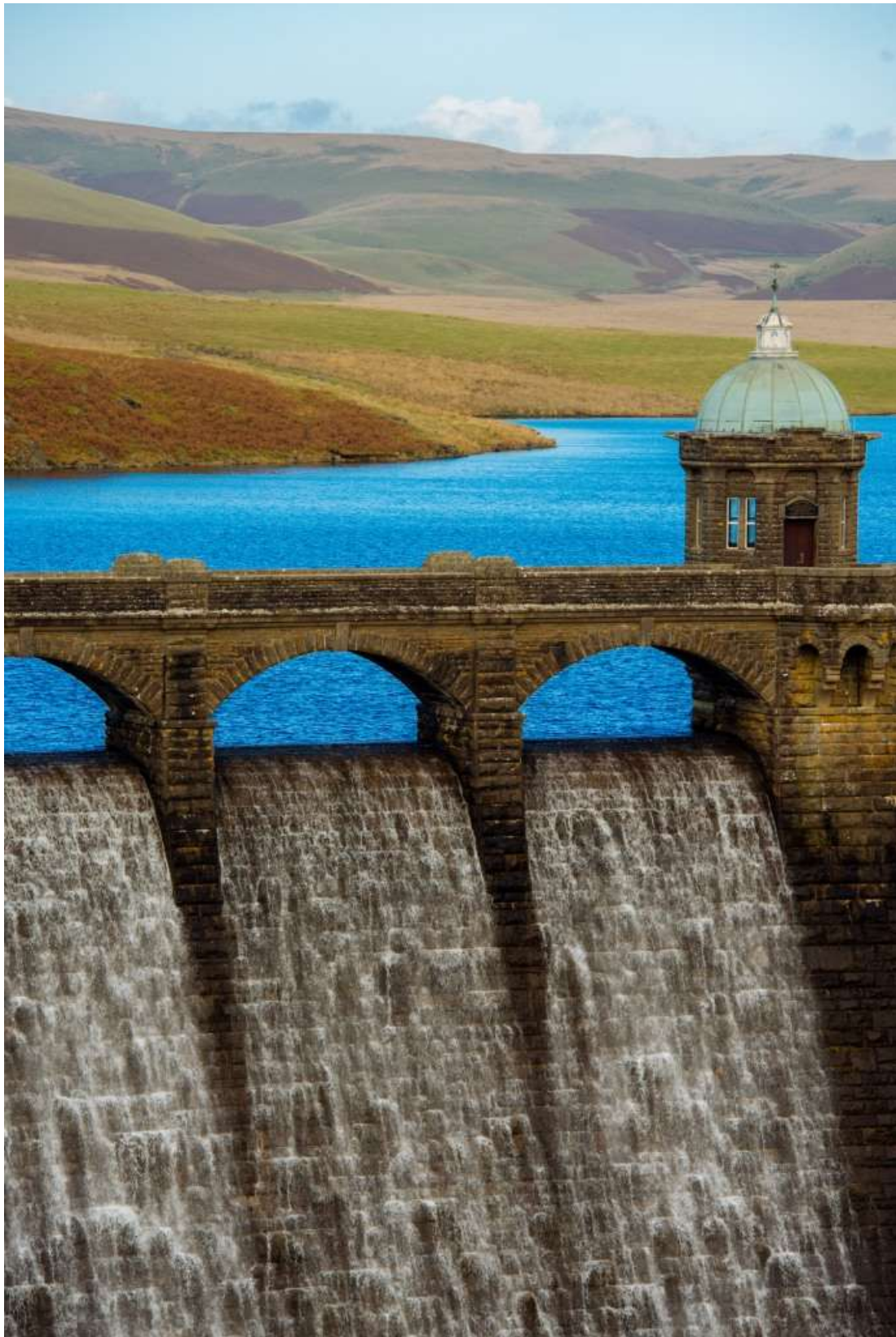
Lower down the road from the School was Nantgwilt Church where most of the children and parents of the two valleys went to worship every Sunday afternoon.

The Parson had to come all the way from Rhayader on horse back. He had a very long beard, and we children stood in awe of him, and also of the Gentry of Nantgwilt. Woe betide us if we forgot to curtsy to them as they passed. Even our mothers used to do it, but these days are much more reasserting than then. You won't see it done now. Well, just by the Church was the Mill, a lovely quaint old wheel fed by a brook, to saw all the timber for the Estate, and also to grind the oats and barley into oatmeal and flummery stuff, and the rest into meal for the pigs. Nearly every farmer took their grain to be done in the autumn. There was also a kiln to dry the grain. It was done by night, and most of the young men around would congregate to have a good time around the large fire that was kept up all night." (Price, H., 1948, 47).

The physical beauty of that which was soon to be lost was documented in a book of sketches published by Richard Eustace Tickell, a civil engineer working on the scheme. He published "The Vale of Nantgwilt: A submerged valley" in 1894, describing his motivation thus;

"The object of this book is to commemorate scenes in one of the most charming valleys in Great Britain. Scenes which are soon to be lost for ever, submerged beneath the waters of a series of lakes, which, by a colossal engineering undertaking, are about to be constructed for the purpose of supplying water to the city of Birmingham, nearly eighty miles away."

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Elan Village

The scheme brought many hundreds of navvies, labourers, craftsmen, engineers and architects to this remote area, who needed homes, workshops and offices. An important addition to the local landscape, therefore, was Elan Village, where the workers and their families lived. This village included a school, hospital and even a small gaol. In 1898 the population of the settlement reached its peak of 1,500. Only one of the original workers' huts survives today, having been relocated to Cwm Clyd farm, Claerwen during the 20th century. Another wooden hut, formerly an Engineer's Hut, stands intact near Peny Garreg dam.

During the first decade of the 20th century, once the construction phase of the water scheme had been completed, Elan Village was developed as a settlement for those employed to maintain the dams and their infrastructure. A series of stone built houses, offices and a new school replaced the wooden huts of the workers' village. These new buildings were beautifully constructed in the Arts & Craft style and still stand today, protected as listed buildings. With the loss of the old village of Cwm Elan as a result of the flooding of the valley, Elan Village survives as the only village in the Elan Links area.

In 1898, Thomas Barclay wrote an informative account of the scheme which included many important details about the workers' settlement;

"The village is thus on the opposite side of the river to the road, and access is given to it by a suspension bridge constructed by the Corporation. The position of the village in that it has to be approached by this bridge, and that it is erected on private ground to which there is no public right of way... no strangers are allowed in the village without permission. Every tradesman who wishes to deliver goods is required to furnish himself with a pass on which somewhat stringent regulations are laid down. For instance, the owner undertakes that he will not deliver any intoxicating drinks within the Elan village, and the Sunday quiet and rest of the inhabitants are protected by a regulation that, with the exception of milk, no goods shall be delivered or sold on that day... at the end of the bridge, on the village side, a gate is situate at which the bridge-keeper, who is constantly in attendance, examines the contents of every cart before it is permitted to proceed."

"All the erections in the village are constructed of wood, the only brick or stone in the houses being the hearth and seatings for the grates and the chimney flues. Externally the buildings are weather-boarded and... the roofs are covered also with felt over the boards, and the whole is then tarred... The village has a complete system of sewerage, scavenging, public lighting and water supply. Fire hydrants are fixed on the water mains, and fire extinguishing appliances are provided at convenient points. In the middle of the village there is a small fire station surmounted by a fire bell. This is the rendezvous of the fire brigade, some members of which are on duty every evening. The village is perambulated throughout the night by two watchmen ; all of the huts, moreover, are inspected weekly by the village superintendent, with a view to the removal of all refuse and the prevention of the use of oil lamps of dangerous type, and of any other articles likely to occasion an outbreak of fire. The police arrangements are carried out by the county constabulary of Brecon as regards the village, and by the Radnorshire police as regards the works generally. A police station has been erected on the Radnorshire side."

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"The huts are of four classes : the first is the ordinary lodgers' hut. This provides accommodation at one end for the hut-keeper, his wife and family, and at the other end for eight lodgers, each of whom is provided with a separate cubicle or sleeping room. Midway between the two ends of the hut the common living-room is placed."

"The second class of huts is for gangers. These are constructed for the overseers and gangers of the workmen, and accommodate only the man and his family, lodgers being permitted in these huts only under exceptional circumstances, and by special permit of the resident engineer."

"The third type of huts is for officials. In these the accommodation is somewhat more extensive. In the village itself there are two huts of this type, one of which is occupied by the missionary and the other by the schoolmaster. Most of the houses for officials are erected adjoining the chief offices, and together form a separate and picturesque group."

"The huts of the fourth type comprise only three rooms each, and afford accommodation for married workmen."



The last surviving dam worker's hut, now at Cwm Clyd farm.

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The Engineers' Hut near Peny Garreg.

Estate Farms

Despite the loss of so many historic buildings when the Elan Valley was flooded to create the reservoirs we see today, the modern Elan Valley estate owns 28 farms and 38 houses and also manages a number of holiday cottages. The architecture and history of these holdings is remarkably varied. At the heart of the estate are the Arts and Crafts style houses of Elan Village, but the sheltered river valleys, especially along the Elan and Claerwen valleys, a variety of settlements are found.

The estate farms are of particular interest, as they include a number of working, upland farms. Some of the farmsteads are in remote, upland contexts, such as Claerwen and Glanhirin. In many upland areas within the Cambrian Mountains, such remote properties have generally fallen out of use and their houses become ruins. Comparisons can be made with the uplands farmsteads of the Pumlumon district, to the northwest. Similar upland holdings along the Hengwm valley, to the northern side of Pumlumon, all fell out of use and into ruination during the 20th century and the area now has no resident human population. Closer to the Elan Links area, the same is true of holdings along the northern side of the Ystwyth Valley, or southwards along the upper reaches of the Tywi Valley, where many upland farms went out of use during the 20th century, their ruins often being swallowed up by forestry plantations. The Elan Links landscape, as a direct result of the management practices of the Elan Estate, is a rare example of an upland landscape in Central Wales where people continue to live and farm in small and remote farm holdings.

Analysis of the parish tithe maps of the 1840s suggest that most of the upland farmsteads of the Elan Links area were completely rebuilt during the second half of the 19th century, a process that happened generally in the Welsh uplands during this period. The Cwm Elan estate is likely to have been behind this programme of improvement of its tenant farms.

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Nantybeddau Farmhouse



Aberglanhirin Barn

The evidence of Ordnance Survey maps shows that at a number of these upland holdings new farmhouses were added during the 20th century, after Birmingham Corporation took over the management of the estate, such as at Hirnant and Aberglanhirin. Some of the farmhouses in use today may pre-date the arrival of the Birmingham Corporation, however. The houses at Nantybeddau and Abergwngu, for example, may be the same as shown on late 19th century Ordnance Survey maps. Most of the upland farmsteads of the Elan Links area have been expanded in modern times with the addition of larger new farm sheds, but the farmhouses and outbuildings are usually of 19th or early 20th century date. They tend to be relatively plain, functional, stone buildings, marked out as estate buildings by the general use of dark green paint on fascias, guttering, downpipes and doors. This colour scheme is also generally applied to other houses and buildings owned by the Elan Valley estate.

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Whereas the upland farm buildings are of relatively recent date, there are a number of farms which survive in the shelter of the main valleys which are of earlier origin. These include the former farmhouse at Llanerch y Cawr, in the Claerwen valley, which has been converted for use as holiday lets by the Elan Valley estate. Dendrochronology has dated the beam above the fireplace in the house to the late 16th century, with probable earlier origins, making this one of the oldest known dwellings still standing within the Elan Links area. The farmhouse of Cilewent or Ciloerwynt, which originally stood on the opposite side of the Claerwen valley to Llanerch y Cawr, was dismantled and moved to the Welsh Folk Museum at St. Fagan's in the late 1950s. By that time a new bungalow had been built for the farm and the Birmingham Corporation offered the old house to the National Museum of Wales. Like Llanerch y Cawr, Ciloerwynt has also been dated by dendrochronology and was found to have been built as a hall house in AD1470. The original house would have had wattle and clay walls, but these were replaced with stone walls in 1734.

Both Llanerch y Cawr and Ciloerwynt are houses in the Welsh longhouse tradition, each having a byre attached to the lower end of the dwelling, in which cattle would have been housed, connected with the dwelling via an internal door. Houses of this type were once common across Wales and had their origins in medieval times. Good examples such as Llanerch y Cawr and Ciloerwynt are not commonly found and both are protected as listed buildings, despite the removal of Ciloerwynt from its original position.



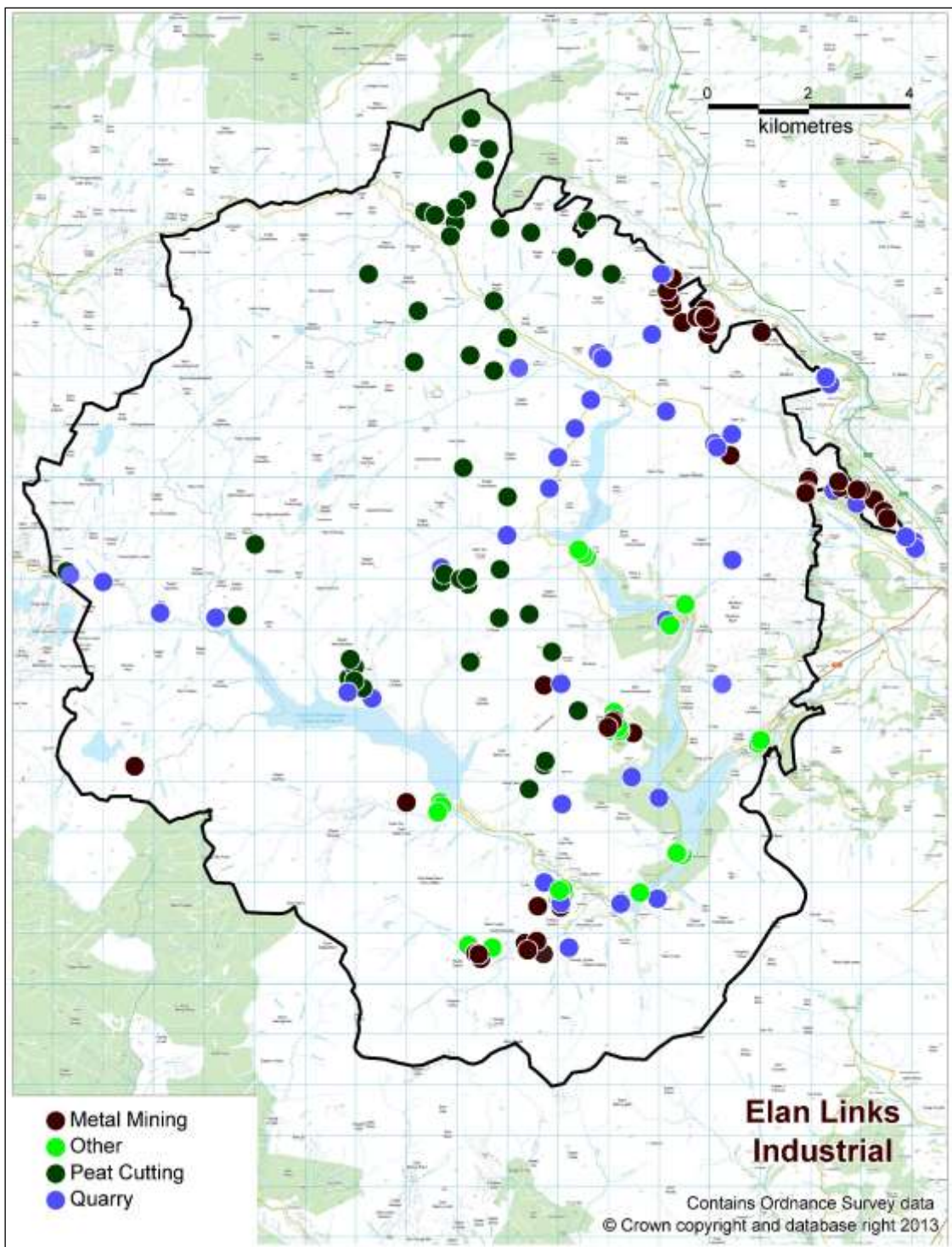
Llanerch y Cawr

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Cilewent (Ciloerwynt) in its original position) ©RCAHMW

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2.4.4 Cultural Associations

The cultural associations of the Elan Links area is remarkably rich for a district which was sparsely populated and considered to be remote throughout history.

The Welsh language and Welsh placenames.

The Elan Links area was the last bastion of the Welsh language in Radnorshire, a county which had become almost wholly English in speech before the 19th century. Benjamin Malkin noted this during his excursions in Wales in the early 19th century;

“The language of Radnorshire is almost universally English. In learning to converse with their Saxon neighbours, they have forgotten the use of their vernacular tongue. It is uncommon to meet with a peasant who understands Welsh, though it seems to have been generally spoken even in the eastern parts of this county so lately as the middle of the seventeenth century. The angle of the county beyond Rhayader to the north-west is however to be excepted, where the few scattered people speak nothing else.” (Malkin, B.H., 1807, 418-419).

The social changes which accompanied the Birmingham water scheme saw English quickly become the main language of the district at the end of the 19th century. The 1901 census includes a remarkable example of how one farming family seems to have responded to this. The census entry for Claerwen farm was filled in entirely in Welsh, with the occupants noting their nationality as “Cymro” (Welsh), seemingly a declaration that the linguistic boundary had suddenly shifted westwards, to the Ceredigion border at the top of the Claerwen valley. By this time, just beyond the eastern end of the Claerwen, a large population of industrial workers and their families had already settled in the Elan Valley and at Elan Village. The census returns show that they included people from Ireland, Cornwall, Shropshire, Cheshire and Lancashire, as well as workers from all parts of Wales, but their presence changed the previously rural character of the district in every respect.

However, the rich and descriptive Welsh placenames of the Elan Valley and its surrounding hills have not changed. Some names tell us of wildlife which have been associated with the landscape in the past. Examples include names such as Cefn Trappiau Dyfrgwn (Otters’ Trap Hill), Nant y Carw (Deer Brook), Cefn Ffos yr Ewig (Hart’s Ditch Hill) or Craig y Gigfran (Raven’s Rock). Other names, attached to what are now bare upland hills and ridges, suggest that the local environment has changed over the centuries. These include names such as Creigiau Coed (Wood Rocks), Glan Fedwen (Birch Side) and Carreg y Derwlwyn (Oak Bush Rock).

There are also placenames which tell us something of past land use. Cwm yr Hafod (Valley of the Summer Houses) tells us that in medieval times herdsman would have lived with their cattle there. Cerrig Plwm (Lead Rocks) tell us of the presence of lead ores recognised by earlier generations and eventually mined by the Nant y Car Lead Mine in the 19th century. Esgair y Ty (Hill of the House) tells of a long vanished dwelling where now there is only mountain pasture.

Some of the most fascinating placenames can help us identify archaeological sites. Maen Hir (Long Stone) may well point to the former present of a Bronze Age standing stone. Banc y Clawdd Du (Black Dyke Bank) shows us where a substantial, early, boundary bank crosses the moorland

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to the north of the Elan Valley. Nant y Beddau (Stream of the Graves) may refer to an ancient burial site, as might Pwll Tri Beddau (The Pool of Three Graves). Carn y Groes (Cross Cairn) is a pointer to the presence of a Bronze Age burial cairn.

Medieval Literature

The earliest references to the area date back to the 12th century. In 1188, when Gerald of Wales visited Strata Florida Abbey and surveyed the uplands to the east. He noted that these were known as *Moruge* to the Anglo-Normans and *Elenydd* to the Welsh. The precise meaning of Elenydd has not been established, but it is thought that *Moruge* comes from the Norman French *marais*, meaning marshland.

Elenydd also appears in the medieval Welsh folk tales known as the Mabinogi, which were written down in the late 14th or early 15th century, but based on much older folk tales. In the mythical story of Math son of Mathonwy, *Elenit* is named on the route taken by magical pigs on a journey from south to north Wales.

A'r nos honno y kerdysant hyt ygwarthaf Keredigyawn, y lle a elwir etwa o achau hynny Mochtref. A thrannoeth y kymeryssant eu hynt; dros Elenit y doethant. A'r nos honno y buant y rwng Keri ac Arwystli, yn y dref a elwir heuyt o achau hynny Mochtref.

That night they reached the limits of Ceredigion, to the place known thereafter as Mochtref. The next night they moved on: across Elenydd. And that night they were to be found between Ceri and Arwystli, in the town also known as Mochtref as a result.

Post Medieval Literature: The Age of Travel

Many travellers have passed through the Elan Links area over the centuries, but few have recorded their thoughts whilst doing so.

Probably the first clear observation of the western part of Elenydd was recorded by John Leland, circa 1538, when he visited Strata Florida Abbey and its estates at the behest of Henry VIII. During this visit, Leland was taken to the viewpoint he called *Greggennaugllin*, which is today known as Carregnewlyn. From this hill, just to the north of Claerddu, a fine view is gained across the Elenydd uplands, including the nine natural upland lakes of the area (hence the reference to Naw Llyn –“Nine Lakes” in the name). Leland surveyed this view almost 500 years ago and noted;

“I standing on Creggennaugllin saw in no place within sight no woodd but al hilly pastures.” (Toulmin-Smith, L., ed, 1906, 119)

In the following centuries the road between Rhayader and Cwmystwyth was a well-travelled, if unremarkable, route. During the 18th century there was an increase in the numbers of people who had the wealth and time to explore the country, and the education to keep diaries of their experiences, some of which were published to inform other prospective travellers of the delights that they could experience for themselves.

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Some published descriptions of the Elan Links area are therefore available to us, dating to the late 18th and 19th centuries. The early travellers often had a very different view of the upland environment, compared to our modern eyes. Whereas the modern visitor would take pleasure from natural beauty, wildlife, solitude and tranquillity, to the early traveller the sight of empty hills could bring a sense of drab foreboding. Travel diarists were not always impressed with what they saw in passing through the open mountain landscape of the upper Elan Valley, following the turnpike road between Rhayader and Cwmystwyth. Typical of such travellers was that of the Reverend Richard Warner, who walked the route from east to west in the summer of 1797;

“The waving woods, which had beautified our former prospects, now disappeared. The neat cottages, which had hitherto ornamented the vallies, now ceased to enliven the scene. Man had fled “the dismal situation waste and wild;” and no traces of human society appeared, except in two or three small hovels, which occurred in the course of ten miles, and were inhabited by the joyless beings who tended the widely-spread flocks that fed upon these mountains.” (Warner, R, 1797, 60-61).

A few years earlier, and travelling in the opposite direction, Henry Skrine of Surrey was similarly unimpressed with his first views of Radnorshire;

“We soon entered that county and after coasting the river Eilon (Elan) for several miles on a deplorable road abounding in precipices we attained the summit of Cwmythen (Cwmdeuddwr) hills commanding an uninterrupted view over the dreary expanse we had passed, which exhibited extreme wildness without majesty. the whole country appeared bare and uncultivated nor do I ever remember a more dreary solitude than that which prevailed on the Cwmythen hills where not a single tree varied the scene and no human habitation was distinguishable over their gloomy hollows we proceeded in mournful silence, till reaching their extreme point a glorious view burst upon us in front where the Wye, emerging from a deep, narrow channel, fringed with wood, issued forth into the spacious plain in which Rhayader Gowy is situated.”

Eminent scientist Michael Faraday passed along the same road in 1819 and was more interested in the form of the hills;

‘After a while we got among more mountains and nothing but large concave forms met the eye for a long time. Lively little cattle with myriads of sheep now and then diversified the general monotony’.(Tomos, 1970).

More investigative travellers such as Benjamin Malkin (Malkin, 1804) took the time to explore the hidden beauties of the Elan Valley, however, and recorded very different emotions. In 1803, he travelled from Rhayader, along the Elan river to its confluence with the Claerwen at Aber Elan;

“The Eland here is a stream of considerable width, with nothing to control its tendency to expansion. It comes rolling along in front, and taking a turn close by the present path, runs near a respectable looking old mansion to the left (Nantgwyllt)... It was the time of sheep-shearing, and I was very much struck by with the difference between the hilly sheep and those of the vale. The former are infinitely more elegant and picturesque in figure. They seemed to have all their wits about them... When we got into the lane, we met with a flock of several hundred, which live among the rocks all the year round, only

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coming down at shearing time... Some way further in the valley, there is a retired and neat chapel by the road side, not far from a good house... The scene here becomes more and more confined but most meritoriously cultivated at the bottom, while the rocks rise higher and higher... The road sometimes passes through groves of oak, with naked points and mountainous projections impending over their tops... My guide was surprised on our arrival at Mr. Groves's, the principal seat in Cwmeiland, at seeing the clover ready for the sithe, nearly at the summit of hills, which a short time ago were without a trace of vegetation. Mr. Groves is a Wiltshire gentleman, who purchased ten thousand of these almost worthless acres a few years since, and is making a paradise of a wilderness. We found them here performing the ceremony of sheep-washing in the river... The scenery beyond becomes wilder: the path lies along the side of a rock, down which rushes a mountain brook, frequently bringing with it such masses of stone as might endanger an incautious traveller. At this point, the channel of the Eland assumes a new aspect. The rocks choak it, it forces its passage, through curving gullies: the deep gulph of water becomes black and terrific, contrasted with the milk-white schistus which it excavates. The foot passenger leaves it to cross some cultivated lands, and comes suddenly upon it again, to pass a truly Alpine bridge of planks from rock to rock, over a continued, but no where precipitous water-fall. Immediately under this tremendous bridge, the river wears its way at the depth of thirty feet, cutting the smooth white rock into the greatest possible variety of shapes. After rain, the fury of this torrent, confined for several miles within a rocky chasm, is awful in the extreme. There is no longer a worn path to lead into the great road. The river must be crossed repeatedly, where its bed is shallow and stony Cultivation fades, and the whole becomes barren and unpleasing. There is nothing to describe." (Malkin, 1804, 298-300).

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Shelley

In the early 19th century one visitor to the Elan Valley saw the landscape in a much more positive light than some previous travellers. The poet Percy Bysshe-Shelley visited his cousins, the Grove family of Cwm Elan House, on two occasions. His uncle, Thomas Grove, had purchased Cwm Elan in 1792. The newly-married Shelley visited Cwm Elan in April 1812, accompanied by his wife Harriet. He had fallen in love with the rugged valley on a previous visit and in 1812 he attempted to lease the historic homestead of Nantgwyllt as a home for himself and his new bride. Sadly, his dream was never realised, but during this stay he wrote the following lines to a friend, which express his delight at returning to the Elan Valley;

“Oh my friend, what shall I say of the scenery but you will enjoy it with us, which is all that is wanting to render it a perfect heaven.” (Matthews & Everest ed., 2014, 216).

Shelley is thought to have composed his poem “Spring” in the Elan Valley during this second and final visit to Cwm Elan (Matthews & Everest ed., 2014, 217);

Spring

In that strange mental wandering when to live,
 To breathe, to be, is undivided joy,
 When the most woe-worn wretch would cease to grieve,
 When satiation’s self would fail to cloy;
 When unperceptive of all other things
 Than those that press around – the breathing Earth,
 The gleaming sky and the fresh season’s birth –
 Sensation all its wondrous rapture brings,
 And to itself not once the mind recurs,
 Is it foretaste of Heaven?
 So sweet as this the nerves it stirs,
 And mingling in the vital tide,
 With gentle motion driven
 Cheers the sunk spirits, lifts the languid eye,
 And scattering through the frame its influence wide
 Revives the spirits when they droop and die,
 The frozen blood with genial being warms,
 And to a gorgeous fly the sluggish worm transforms.

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Tickell's view of Dolymynach, 1893.



'Prometheus Unbound', a sculpture commemorating the link between Shelley and the Elan Valley, stands at the Elan Valley Visitor Centre.

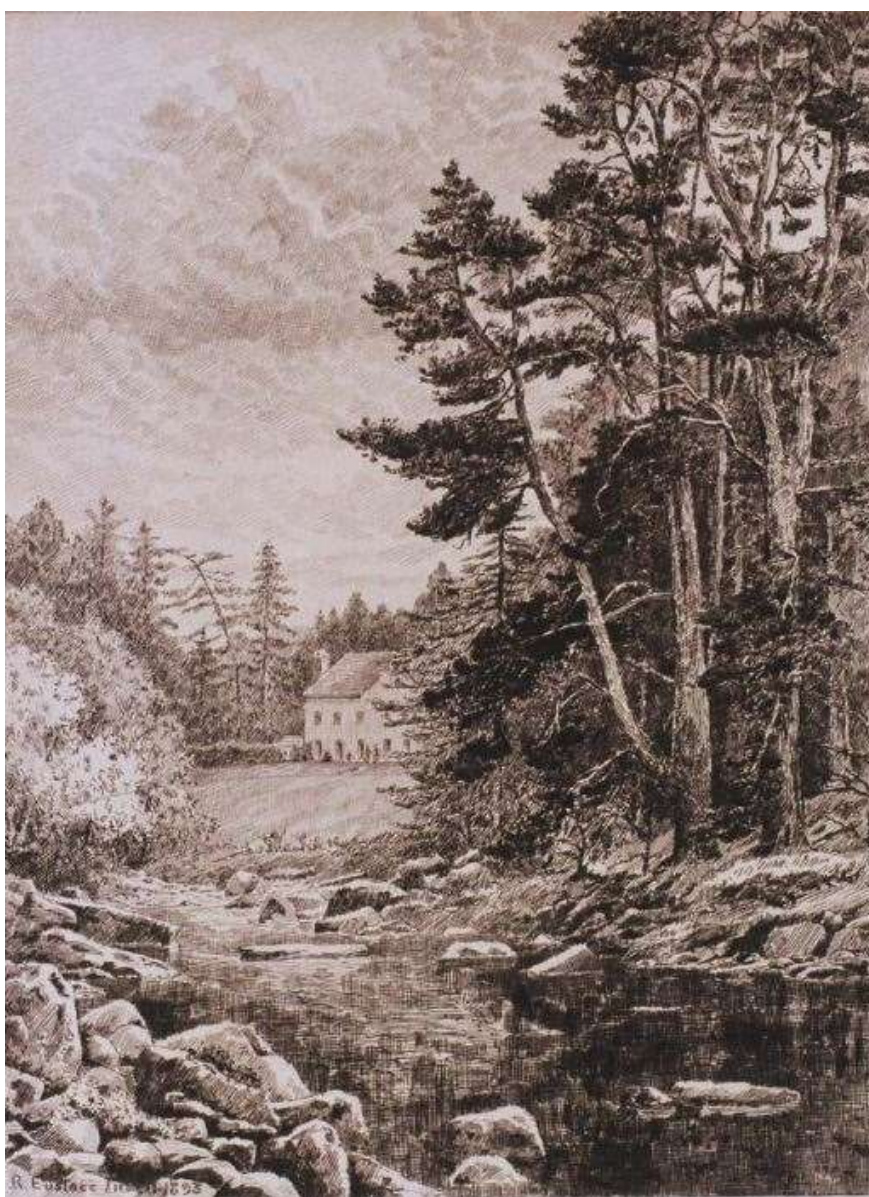
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“The Vale of Nantgwilt”

Celebrated because of its links with the poet Shelley. Nantgwylt was also the ancestral home of the Lewis Lloyd family and one of the ancient homesteads within the manor of Cwmdeuddwr. The house stood above the banks of the Claerwen River, close to its confluence with the Elan.

“Nantgwilt” by Eustace Tickell, 1893

Nantgwylt took its name from a small mountain stream which flowed into the Claerwen close to the old house. It was the name of this stream which was adopted by Eustace Tickell, an engineer on the construction of the Penyarreg Dam, who spent time sketching scenes along the Elan Valley before it was transformed by the reservoir. He published this artistic endeavour in a volume known as "The Vale of Nantgwilt"



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The flooding of the Elan and Claerwen valleys has not lessened the attraction of the Elan Links landscape to artists and poets, or to visitors. In 1941, the following poem was published in a historical journal, the work of Jonathan Pugh of St. Harmon, Radnorshire.

THE ELAN VALLEY.

The rugged peaks, remote, serene,
 Look down o'er cliffs and pastures green
 On deep untroubled lakes
 Beneath this golden sun it seems
 Like some arcadian land of dreams,
 Where discord ne'er awakes.
 Here man has conquered Nature, see
 The waters pent eternally
 Where once they freely ran,
 By walls the Titans might have wrought,
 Barriers immense, they wake the thought
 How wonderful is man.
 Yet silent, flooded vale, by me
 Is read a tale of tragedy,
 As I the past recall.
 Thy mighty oaks, thy meadows low,
 Thy ancient halls, where are they now ?
 A flood has covered all
 Yet through the vale of former days
 My errant fancy often strays
 As on this autumn morn,
 To resurrect a cheerful scene
 Of clover's red, and meadows green,
 'Mid fields of golden corn
 And Elan winding down the glen,
 Among the quiet homes of men
 To rustic labour born.
 Now through the sister vale I rove
 Where Claerwen runs by moor, and grove,
 By corlan, and by carn

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Till by some giant boulder pent,
 She pauses in her wild descent
 To form a limpid tarn.
 Then on by precipice, and glade,
 By homesteads, nestling in the shade
 Of naked mountain wall
 To sing her final melody
 Where many a dark Norwegian tree,
 Protects the Manor Hall.
 I view that Manor Hall once more,
 Home of that gallant race which bore
 The name of Lewis-Lloyd.
 E'en Time, stern foe to mortal fame,
 The glamour of the Nantgwyllt name
 As yet has not destroyed.
 And when the silver moonlight breaks
 Above the overhanging peaks,
 I wander down the glyn,
 To meet perchance that English seer
 Who saw the vision glorious here,
 Yet did not cast out sin.
 But when the midnight hour draws near
 A dismal wail breaks on my ear,
 Now clamorous, now low,
 Sad and unearthly, can it be
 The Nantgwyllt hound of destiny
 Prognosticating Woe?
 Now dreaming of a distant age,
 I pause at Madoc's hermitage
 By Elan's grassy marge,
 Or watch the choirs of Ystrad Flur,
 Proceeding to remote Cwm Hir,
 To chant Llewelyn's dirge.
 The rugged peaks, remote, serene,
 Look down o'er cliffs and pastures green

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On deep untroubled lakes
 Beneath this golden sun it seems
 Like some arcadian land of dreams,
 Where discord ne'er awakes.

ELAN VALLEY.

Jonathan Pugh.

Other Cultural Activities

From the 1930's onwards, writers, film makers, visual artists, musicians, photographers, film makers and craftspeople have taken inspiration from Elan to support their art. Theatre and dance companies have used the dams as a backdrop to showcase and enhance their performances.

There have been television series which have taken local stories as their subject as well as informing them by using the landscape to help tell the stories, perhaps most notably the BBC's Top Gear series, which filmed a landrover being driven up the steep face of the Claerwen dam. Parts of the Elan Valley have been used as filming locations for the popular tv series "Hinterland" in recent times. Film companies have also begun to take an interest in Elan with its landscapes, buildings and wildness potentially offering excellent filming locations.

Modern Tourism

The popularity of the Elan Links area has grown during the past century, largely as a result of the Birmingham Corporations water scheme. In popular culture, the area is perceived as a landscape which is worth visiting, and many hundreds of thousands of visitors pass through the area every year.

This has not happened completely by accident. When the land was acquired by the Birmingham Corporation in the 1890s, a desire to make the landscape accessible to all was already evident. Indeed, the Act of Parliament passed in 1892 permitting the sale of the land for the purposes of water storage, specifically notes;

"The public shall be entitled to a privilege at all times of enjoying air, exercise and recreation on such parts of any common or unenclosed land acquired by the Corporation."

During the parliamentary debate held before the passing of the Act, Birmingham MP Joseph Chamberlain had predicted that the creation of the Elan reservoirs would undoubtedly encourage tourism in the area. History has proved him to be right.

It is evident from the archive indexes of various sources, including those of the Birmingham Corporation and city authority that the Elan Valley became a place of wonder and attraction to many residents of the city during the 20th century. During Edwardian times early motorists were already venturing onto the road network built in association with the Elan reservoirs. By the First World War, the Elan reservoirs were also popular fishing grounds for anglers. For many years the Lord Mayor of Birmingham undertook an annual visit to Rhayader and the Elan valley. There are

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references to excursions to the Elan Valley, such as that undertaken by the Blue Coat Charity School from Birmingham to Ludlow and the Elan Valley in 1935 (Birmingham Archives MS 1622/6/19). A more unusual association between the Midlands and the Elan Links area has resulted from the establishment of a Police Training Camp at Elan Village, which was used by the West Midlands Police during the later 20th century. To the present day, former police cadets return to the valley to revisit their former training camp and a special visitor book is even kept at the Elan Valley Visitor Centre for returnees to sign. The camp was at the northeastern end of Elan Village, complete with wooden chalets and its own football pitch.

In the present day, the Elan Links area is as popular as ever as a destination for day trippers, with the roads of the Elan Valley often busy with the cars of sightseers who merely wish to drive through the picturesque landscape and make brief stops to enjoy views. Fewer people venture onto the hills of the area, but hill-walking is popular and during the summer months the paths which cross local hills are frequented by those who seek the solitude and beauty of some of the more remote corners of the area.

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2.4.5 Natural Heritage

2.4.6 Habitat

The landscape of the Elan Links area has high ecological value and much of the area is protected as a result, with large areas designated as Sites of Special Scientific Interest, Special Areas of Conservation and Special Protection Areas.

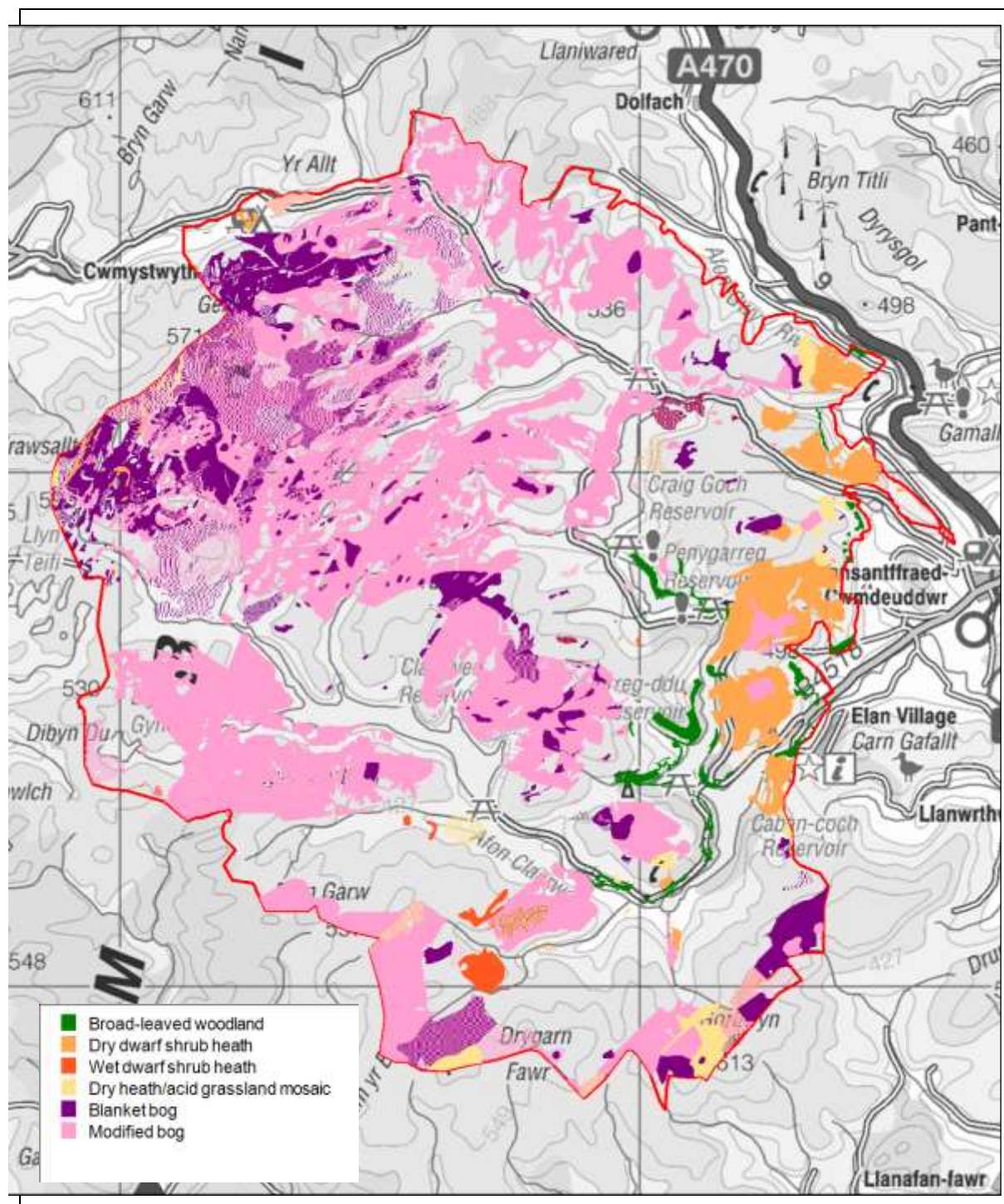
Habitats across large parts of the Elan Links landscape were surveyed mapped during the 1980s and 1990s. These surveys have informed the definition of the Habitat aspect areas in LANDMAP and, to some degree, are reflected in the Landscape Character Areas for the Elan Links area proposed in this report.

The map reproduced below shows clearly that extensive areas of peat bog are found across the upland plateau which forms the bulk of the estate. For this reason many of the Landscape Character Areas defined here are characterised by blanket bog or wet or dry modified bog. Some areas show more variation however;

- Dry and wet dwarf shrub heath is concentrated mainly to the eastern side of the estate, which gives Landscape Character Area 5 its distinctive habitat.
- Landscape Character Area 11 is chiefly characterised by acid grassland, as is Area 9, which includes the waters of Claerwen Reservoir which is chiefly surrounded by a strip of acid grassland.
- Broad leaved woodlands are restricted to the sheltered Elan Valley and lower Claerwen valley, providing an important element defining Landscape Character Area 12.

Much of the landscape here is also classed as unimproved or semi-improved acid grassland. These areas appear to have been left blank in the map reproduced below.

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Distribution of broadleaved woodland, dry heath, wet heath and blanket bog in the Phase 1 dataset (1979-1997) on Elan Valley Trust owned land, courtesy of NRW, contains Ordnance Survey data © Crown copyright and database right 2013.

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The Joint Nature Conservancy Council (2007) define the habitats described in this section as;

Blanket bog Comprises *Sphagnum-rich* vegetation on deep peat (more than 0.5 metres thick) forming a blanket over both concave and convex surfaces, on level to moderately sloping grounds in the uplands. Blanket bog includes watershed mires, saddle mire, terrace bog and valley side mire. The water table lies at or just below the surface and there is no input of water from the surrounding land.

Dry modified bog is dominated by *Calluna vulgaris* and other ericoids or by *Eriophorum vaginatum*, on peat more than 0.5 metres deep. *Sphagnum* is notably absent, but under the dwarf shrubs there may be a carpet of hypnoid mosses, with lichens such as *Cladonia portentosa* and *Cladonia arbuscula*.

Wet modified bog has little or no *Sphagnum*, often with bare peat and patches of *Trichophorum cespitosum* and/or *Molinia caerulea*. Ericoids may be abundant, sparse or absent and it is distinguished by having a peat depth greater than 0.5 metres.

Dry dwarf shrub heath is found generally on well-drained acid soils on peat less than 0.5 metres thick, with little or no *Sphagnum*. The vegetation has greater than 25% cover of ericoids or small gorse species in relatively dry situations.”

Wet dwarf shrub heath is found generally on well-drained acid soils on peat less than 0.5 metres thick and has more than 25% cover of ericoids and/or small *Ulex* (gorse) species. However, it differs from (Dry dwarf shrub heath) in that *Molinia caerulea* is often abundant and it generally contains some *Sphagnum compactum* or *Sphagnum tenellum*.

Acid grassland is often unenclosed as on hill grazing land and occurs on a range of acid soils with a pH of less than 5.5. It is generally species poor and often grades into wet or dry dwarf shrub heath, although it has less than 25% dwarf shrub cover.

Broad leaved woodlands are defined as woodland which has less than 10% conifers in the canopy.

Birds of Elan

The 70 square miles of moorland, bog, woodland, river and reservoir are of national importance for their diversity of lower plants (mosses, liverworts and lichens) and the Estate is among the most important areas for land birds in Wales.

Most of the 180 square kilometres of the Elan Links area is covered by 12 separate Sites of Special Scientific Interest. Within the Estate is the Claerwen National Nature Reserve, 800 hectares of upland plateaux with gently rolling hills covered with acid grassland and in parts, blanket bog on a mantle of peat. Grazing has been reduced on the reserve to protect species like bog mosses, bog rosemary, cotton grasses and heather. This bleak upland provides breeding or feeding ground for scarce birds like the dunlin and golden plover.

180 different species of bird have been recorded within the Elan Links area since records began in the 1880's. Perhaps the best known these days is the Red Kite which thrives in the Elan Valley. However, Elan is also home to 8 of the rarest 36 bird species in the UK, all of which breed here. Amongst these are the Merlin, Hawfinch and Lesser Spotted Woodpecker.

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Of the 110 species "Amber Listed" (declining, some now uncommon) by the RSPB and BTO, 21 breed regularly here and a further 47 have been seen on the Estate. 11 species of bird of prey have been recorded and 19 species of duck. Rare birds seen include Roller and White Stork.

In 1975 there were about 40 pairs each of Curlew and Lapwing; now there are 1 or 2 Curlew and no Lapwings. Other losses of breeding birds in the last ten years include Stock Dove and Woodcock.

Over the last twenty or so years we have gained Goosanders and Goshawks whilst Peregrine, Red Kite, Siskin and Crossbill have all greatly increased. The most common breeding bird on the Estate is the Meadow Pipit, a small brown bird which nests all over the abundant grass moorland. Common birds of the broadleaved woodlands include Redstart, Pied Flycatcher and Wood Warbler. The rocky hillsides have many Wheatears which are often seen by the roadside. Whinchats, Tree Pipits and a few Stonechats breed on the hillsides.



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On the highest moors can still be found about 40 pairs each of Golden Plover and Dunlin. Winter visitors to the Estate from the north and east include Goldeneye, Pochard, Brambling and Fieldfare. About 20 pairs each of Spotted Flycatcher and Swallow breed on the Estate. They migrate each year to South Africa - a round trip of 20,000 kilometres!



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Plant Life

The Elan Links area is nationally important for its variety of lower plants (mosses, liverworts, lichens, ferns and fungi). Its semi-natural ancient woodlands are some of the finest in Britain and all are included in Sites of Special Scientific Interest. The upland bogs and mires are also very important for wildlife. Twenty-six species of sedge have been found, 11 species of rush and no fewer than 18 different bog mosses (*Sphagnum* spp.)

There are several species-rich hay meadows on the Estate of a type unique to parts of upland Wales. There are fewer than 100 of them left in total. Within the Elan Links area the hay meadows are carefully managed to protect the great variety of wild flowers which include the rare Upright Vetch, Globeflower, Greater Butterfly Orchid and Fragrant Orchid, and two strange ferns, the Adders Tongue Fern and Moonwort.

In total 26 species of fern have been found including the Royal Fern, Beech Fern, Oak fern, Brittle Bladder Fern and the very small Wilson's Filmy Fern. Sixteen different broadleaved trees grow including the rare English Whitebeam on the cliffs above the Visitor Centre. More than 300 species of flowering plant have been found. A similar number of lichens and the same again for mosses and liverworts combined.

Seven species of orchid grow here; Lesser Twayblade, Fragrant Orchid, Early Marsh Orchid, Common Spotted Orchid, Heath Spotted Orchid, Lesser and Greater Butterfly Orchid. Thirty-five different species of grass have also been identified.

The spread of purple moor-grass (*Molinia caerulea*) across the upland pastures of Elenydd is a matter of concern as it tends to suffocate other grass and plant species. The spread may well be a phenomenon associated with changes in the management of the upland pastures during the past century or so. The modern landscape across most of Elenydd (North), and neighbouring areas, is dominated by *Molinia caerulea* or purple-moor grass, which has had a negative impact, both on the natural mires of the area and the traditional heather and grass pastures which have sustained local pastoral activity for centuries. Studies on Drygarn Fawr indicate that the present dominance of *Molinia caerulea* may in fact be due to high stocking rates and consequent nutrient enrichment of the soil in within the past two centuries (Chambers et al, 2007).

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Plant species named in documentation for the Elan Links SSSIs

	Cae Aber-Glanhirin	Cae Henfron	Caeau Hirnant	Caeau Penglaneinon	Caeau Troed Rhiw-drain	Gweunyddy Ty'n Lliidiart	Rhos Hafod yr
Betony <i>Stachys officinalis</i>	X			X		X	X
Bluebell <i>Endymion non-scriptus</i>		X					
Bluebell <i>Hyacinthoides non-scriptus</i>	X		X	X	X		
Bog asphodel <i>Narthecium ossifragum</i>						X	X
Bracken <i>Pteridium Aquilinum</i>				X			
Bulbous buttercup <i>Ranunculus bulbosus</i>			X				
Bulbous rush <i>Juncus bulbosus</i>				X			
Burnet saxifrage <i>Pimpinella saxifrage</i>				X			X
Butterwort <i>Pinguicula vulgaris</i>					X		
Carnation sedge <i>Carex panicea</i>				X		X	X
Cat's-ear <i>Hypochoeris radicata</i>				X			X
Cock's-foot <i>Dactylis glomerata</i>			X				
Common bird's-foot-trefoil <i>Lotus corniculatus,</i>			X	X			
Common bent <i>Agrostis capillaris</i>	X		X	X	X	X	X
Common knapweed <i>Centaurea nigra</i>	X		X	X			
Common sorrel <i>Rumex acetosa</i>				X		X	
Common yellow sedge <i>Carex demissa</i>				X			

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	Cae Aber-Glanhirin	Cae Henfron	Caeau Hirnant	Caeau Penglanein on	Caeau Troed Rhiw-drain	Gweunydd Ty'n Lliidiart y	Rhos Hafod yr
Crested dogs-tail <i>Cynosurus cristatus</i>	X		X	X		X	X
Cross-leaved heath <i>Erica tetralix</i>						X	
Common cottongrass <i>Eriophorum angustifolium</i>						X	
Deer grass <i>Trichophorum cespitosum</i>						X	
Devils-bit scabious <i>Succisa pratensis</i>	X			X		X	X
Dyer's Greenweed <i>Genista tinctoria</i>							X
Early hair-grass <i>Aira praecox</i>			X				X
Early marsh-orchid <i>Dactylorhiza incarnata</i>		X					
Eyebright <i>Euphrasia officinalis,</i>	X		X	X	X		X
Fairy flax <i>Linum catharticum</i>				X		X	
Fragrant orchid <i>Gymnadenia conopsea</i>		X			X		
Globe flower <i>Trollius europaeus</i>					X		
Golden Rod <i>Solidago virgaurea</i>							X
Great burnet <i>Sanguisorba officinalis</i>	X		X	X	X	X	X
Greater birds-foot-trefoil <i>Lotus uliginosis</i>	X						
Greater butterfly-orchid <i>Platanthera chloranther.</i>	X	X			X		

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	Cae Aber-Glanhirin	Cae Henfron	Caeau Hirnant	Caeau Penglanein on	Caeau Troed Rhiw-drain	Gweunydd Ty'n y Lliidiart	Rhos yr Hafod
Ivy-leaved bellflower <i>Wahlenbergia hederacea</i>						X	
Harebell <i>Campanula rotundifolia</i> ,	X		X	X			
Hawthorn <i>Crataegus monogyna</i>				X			
Heath bedstraw <i>Galium saxatile</i> ,	X						
Heath-grass <i>Danthonia decumbens</i> ,	X					X	
Heath milkwort <i>Polygala serpyllifolia</i>				X			
Heath spotted orchid <i>Dactylorhiza maculate</i>				X	X	X	
Lousewort <i>Pedicularis sylvatica</i>						X	X
Marsh-marigold <i>Caltha palustris</i> ,	X						
Marsh violet <i>Viola palustris</i>	X			X		X	
Meadow buttercup <i>Ranunculus acris</i>				X			
Meadow thistle <i>Cirsium dissectum</i>					X		
Moonwort <i>Botrichium lunaria</i>			X				
Mountain pansy <i>Viola lutea</i>	X			X			X
Oxeye daisy <i>Leucanthemum vulgare</i>				X			
Petty whin <i>Genista anglica</i>							X
Pignut <i>Conopodium majus</i>	X		X	X			

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	Cae Aber-Glanhirin	Cae Henfron	Caeau Hirnant	Caeau Penglaneinon	Caeau Troed Rhiw-drain	Gweunyddy Ty'n Lliart	Rhos y Hafod
Purple moor-grass <i>Molinia caerulea</i>			X	X	X	X	X
Red clover <i>Trifolium pratense</i>	X		X	X			X
Red fescue <i>Festuca rubra,</i>			X	X	X		
Ribwort plantain <i>Plantago lanceolata,</i>				X			
Rowan <i>Sorbus aucuparia</i>				X			
Rough hawkbit <i>Leontodon hispidus</i>			X	X			
Round-leaved sundew <i>Drosera rotundifolia</i>					X	X	
Saw-wort <i>Serratula tinctoria</i>				X	X	X	X
Sessile oak <i>Quercus petraea</i>				X			
Sharp-flowered rush <i>Juncus acutiflorus,</i>	X			X			X
Sheep's bit <i>Jasione montana</i>							X
Sheeps fescue <i>Festuca ovina</i>	X				X	X	X
Sphagnum mosses <i>Sphagnum spp.</i>						X	
Star sedge <i>Carex echinata</i>						X	
Sheep's sorrel <i>Rumex acetosella</i>			X				
Sweet vernal-grass <i>Anthoxanthum odoratum</i>	X		X	X	X	X	X
Tormentil <i>Potentilla erecta</i>	X			X		X	X
Wavy-hair grass <i>Deschampsia flexuosa</i>							X

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	Cae Aber-Glanhirin	Cae Henfron	Caeau Hirnant	Caeau Penglaneinon	Caeau Troed Rhiw-drain	Gweunydd Ty'n y Lliidiart	Rhos y Hafod
Western gorse <i>Ulex gallii</i>							X
Wood bitter-vetch <i>Vicia orobus</i>		X		X	X		X
Yarrow <i>Achillea millefolium</i>				X			
Yellow rattle <i>Rhinanthus minor</i>	X		X	X	X		
Yorkshire fog <i>Holcus lanatus</i>	X		X	X		X	X

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Mammals

The majority of the Estate is included in a Special Protection Area under the EC Directive on Wild Birds and falls within the Cambrian Mountains Environmentally Sensitive Area. The Estate is home to a wide range of wildlife, many species thriving and in good numbers, others more perilous and in need of careful stewardship.

There are over 20 species of mammal in Elan, most are nocturnal and wary of man and are therefore rarely seen. Grey Squirrels are common and easy to see, they come originally from America and are larger and more adaptable than the native Red Squirrel. There are no records of reds since the 1960s.

There are only occasional records of Deer on the Estate. Foxes mostly live alone and usually adapt old rabbit or badger burrows into earths which are used for shelter and for females to raise cubs in. Badgers, Otters, Polecats, Mink, Stoats and Weasels are all members of the weasel (mustelid) family. Badgers are strong burrowers and live in setts as family groups. As well as the main sett which is always in use, they may have other smaller setts in their territory which they only use occasionally. Otters occur close to the Estate and they do use our rivers, reservoirs and lakes as fishing grounds for brown trout. Polecats are uncommon outside of Wales and its bordering counties although the population is spreading. They are the wild cousins of domestic ferrets with which they will interbreed. Stoats and Weasels are often confused, both are chestnut brown with a white belly but Stoats are larger, with a black tipped tail and the line where the brown fur meets the white fur is straight. Weasels have a shorter, untipped, tail and a wavy line between the brown and white.

American Mink escaped from fur farms mostly during the 1960s and 1970s, they bred in the wild and spread into the Estate by the late 1980s. They are found near to water where they prey on birds, small mammals and fish. Ground nesting ducks suffer from predation as the mink take eggs, chicks and adult birds. Water voles numbers have reduced nationally in streams and rivers where mink occur. Moles are surprisingly common here even up on the highest moorland. Hedgehogs are uncommon on the Estate. Their main natural predator in Britain is the Badger. Rabbits are widespread but uncommon because they have many predators here including foxes, polecats, buzzards and kites. Brown Hares are very rare and Mountain Hares do not occur here. Small Mammals occur all over the Estate in every habitat. Shrews are insectivores with very large appetites, they need to eat every 3-4 hours. We have 3 types of shrew, the Common, the Pygmy and the Water Shrew which has been found at Dol y Mynach. Woodmice are common especially in broadleaved woodlands on the Estate and provide an important source of food for Tawny owls. House Mice and Brown Rats are rare here.

There are also three types of vole, Bank, Field and Water Voles. Field or Short-Tailed Voles are an important source of food to many upland animals and birds of prey.

Invertebrates

Twenty-seven species of butterflies have been seen in the Elan Links area. One of these, the Purple Hairstreak can be easily overlooked as it spends most of its time in the top canopy of oakwoods during July and August. Its larvae feed on oak buds and leaves.

Over two hundred species of moths have been identified in the Elan. One of our largest and most spectacular is the Emperor Moth. Both adults have large black eye-spots on each wing, the day-flying male being more orange than the greyer female. Male Emperors are able to detect females by scent over 2 km away.

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Dung Beetles are large, black, shiny insects which are commonly seen along the grassy tracks of the Elan. They dig holes in the ground and roll balls of dung down to feed their larvae on.

Seventeen kinds of dragonfly and damselfly have been seen in the Elan Links area. Our largest British species, the Golden-ringed Dragonfly, breeds commonly along the many streams within the Elan. It has bright yellow and black stripes across its body and can reach up to 84 mm in length. Large black slugs up to 15 cm in length can sometimes be seen in large numbers, particularly in the Elan oakwoods. As slugs lose water quickly from their soft, moist, bodies they emerge only at night or on wet days.

A search around the outside walls of the Visitor Centre during spring and summer may reveal the presence of a beautiful, 10mm long, green and pink metallic insect called a Ruby-tailed Wasp. They can be watched running over the surface of walls, with characteristic jerky movements, in search of the nests of Mason Bees (which dig holes into the mortar in which to lay their eggs). The Ruby-tails lay eggs in the same nest, their grubs then eat the Mason Bee larvae!

Froghoppers are jumping, frog-like, bugs up to 12mm long that are responsible for producing cuckoo-spit which is the froth found attached to grass and plant stems in spring. The young froghoppers or nymphs feed on sap. They form the cuckoo-spit by producing a sticky fluid which they froth by blowing into it to provide protection from the sun and to deter predators. A closer look under the leaves of oak trees in late summer or early autumn may reveal small growths called galls. These are caused by a tiny ant-like insect called a Gall-wasp, their average size being no more than 3mm. Females lay eggs in the leaves and when these hatch the leaf tissues swell up around the larvae. These then feed inside the gall, pupate, and eventually emerge as adult wasps the following year. The oak trees of the Elan have several different kinds of gall, made by different wasp species.

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