

THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

Elan Valley Historic Landscape
HISTORIC LANDSCAPE CHARACTERIZATION



Garreg-ddu reservoir and the Foel valve tower during a period of low water levels. *Photo CPAT 1526.14*

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Elan Valley

HISTORIC LANDSCAPE CHARACTERIZATION

by W J Britnell
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Preface

Natural forces and human activity acting together over the last six thousand years have contributed to produce a landscape of great beauty and variety in Wales, a national asset that is essential both to our national identity and to our individual 'sense of place' and well-being. The diversity and imprint of human activity on the landscape is everywhere to be seen, from the enigmatic stone monuments of the prehistoric period and the magnificent castles and abbeys of the medieval period, to quite commonplace and typical features like field boundaries that can often be of great age. But the landscape is more than just attractive scenery or a record of the past; it also provides a place for us to live, work and sustain ourselves, through farming, forestry, tourism and so on, processes that all shape, and will continue to shape, the landscape.

Recognising and raising awareness of the importance and wealth of the historic fabric of the landscape has been the central theme and message of the non-statutory, *Register of Landscapes of Historic Interest in Wales*, the first part of which, covering thirty-six 'outstanding' landscapes, was published in January 1998. This is being compiled as a joint initiative between Cadw: Welsh Historic Monuments, the Countryside Council for Wales (CCW) and the International Council on Monuments and Sites (ICOMOS), working in collaboration with the four Welsh Archaeological Trusts, the Royal Commission on the Ancient and Historical Monuments of Wales and the Welsh unitary authorities.

The *Historic Landscapes Register* provides a first step, a national overview of the historic content of the Welsh landscape. The next step, so essential to the process of informing the way in which aspects of the historic landscape may be managed, is to make available more detailed information about the character of this landscape at a more local level. This is achieved through a process known as historic landscape characterisation which has been developed in Wales jointly by Cadw, the CCW and the Welsh Archaeological Trusts. This involves the identification of geographically definable and mappable areas of historic character, as determined by the range and distribution of surviving archaeological and historical

Rhagair

Mae'r grymoedd naturiol a'r gweithgaredd dynol a fu'n gweithredu ar y cyd dros y chwe mil o flynyddoedd diwethaf wedi cyfrannu at y broses o gynhyrchu tirwedd o harddwch ac amrywiaeth hynod yng Ngymru, ased cenedlaethol sy'n hanfodol i ni o ran ein hunaniaeth henedlaethol a hefyd o ran ein lles a'n 'hymdeimlad o berthyn i le' unigol. Gellir gweld ymhobman yr amrywiaeth a'r olion a adawyd ar y tirwedd gan weithgaredd dynol, o henebion cerrig enigmatig y cyfnod cynhanesyddol a chestyll ac abatai gwych y cyfnod canoloesol, i'r nodweddion eithaf cyffredin a nodweddiadol fel ffiniau caeau a all yn aml fod yn hen iawn. Ond nid dim ond golygyfeydd deniadol neu gofnod o'r gorffennol yn unig yw'r tirwedd; mae hyfyd yn darparu lle i ni fyw, gweithio a chynnal ein hunain ynddo, drwy gyfrwng amaeth, coedwigaeth, twristiaeth ac ati, oll yn broseu sy'n llunio, ac a fydd yn yn parhau i lunio'r tirwedd.

Bu cydnabod a chodi ymwybyddiaeth o bwysigrwydd a chyfoeth ffariog hanesyddol y tirwedd yn thema ac yn neges ganolog y gofrestr anstatudol, Cofrestr o Dirweddau o Ddiddordeb Hanesyddol Eithriadol Yng Nghymru, y cynoeddwyd y rhan gyntaf ohoni, sy'n cwmaus trideg chwech o dirweddau 'eithriadol' ym mis Ionawr 1998. Caiff y Gofrestr ei llunio fel menter ar y cyd rhwng Cadw, Cyngor Cefn Gwlad Cymru a'r Cyngor Rhyngwladol ar Henebion a Safleoedd (ICOMOS) sy'n gweithio mewn cydweithrediad â phedair Ymddiriedolaeth Archaeolegol Cymru, y Comisiwn Brenhinol Henebion Cymru ac awdurdodau unedol Cymru.

Cofrestr o Dirweddau o Ddiddordeb Hanesyddol yw'r cam cyntaf, trosolwg cenedlaethol o gynnwys hanesyddol tirwedd Cymru. Y cam nesaf, mor hanfodol i'r broses o lywio'r modd y gellir rheoli agweddau ar y tirwedd cenedlaethol, yw trefnu bod gwybodaeth fwy manwl ar gael ynglyn â chymeriad y tirwedd hwn ar lefel fwy lleol. Cyflawnir hyn drwy broses a elwir yn nodweddiad tirweddau hanesyddol y gellir eu diffinio a'u mapio'n ddaearyddol, yn ôl yr hyn a benderfynir gan ystod a dosbarthiad y nodweddion archeolegol a hanesyddol sy'n goroesi a'r prif fathau o batrymau defnydd tir hanesyddol neu 'themâe' hanesyddol

features and the main types of historical land use patterns or historic ‘themes’ that have shaped the area. The key historic characteristics of the area are then identified along with recommendations for their positive management.

This report is one of a series of landscape characterisation exercises being undertaken by the Welsh Archaeological Trusts with grant-aid from Cadw. These studies will initially concentrate on those areas identified on the *Historic Landscapes Register*, although it is accepted that the whole of the Welsh landscape can be said to be, in one way or another, historic. Information is being prepared in a form which is compatible to the CCW’s landscape assessment and decision making methodology, known as *LANDMAP*. It will be made available to a wide range of organisations and will feed into various initiatives to protect and manage the Welsh countryside, most notably the *Tir Gofal* agri-environment scheme. It is also seen as making a particularly important contribution to raising awareness and heightening a feeling of local distinctiveness.

The *Historic Landscapes Register* and these characterisation exercises fully acknowledge the dynamic and evolving nature of the landscape. They promote the view that protecting the legacy of the past in the landscape is not to be achieved by preventing change or fossilising the landscape but rather by informing the process of change, creating tomorrow’s landscapes without necessarily sacrificing the best of yesterday’s.

sydd wedi llunio'r ardal. Nodir nodweddion hanesyddol allweddol yr ardal felly ynghyd ag argymhellion ar gyfer eu rheli'n gadarnhaol.

Mae'r adroddiad hwn yn un o gyfres o ymarfeirion nodweddiad tirweddau hanesyddol yr ymngmeirir ag efgan Ymddiriedolaethau Archaeoleogol Cymru gyda chymorth grant gan Cadw. Bydd yr astudiaethau hyn yn canolbwyntio yn y lle cyntaf ar yr ardaloedd hynny a nodwyd yn y Gofestr o Ddiddordeb Hanesyddol, er y caiff ei dderbyn bod modd disgrifio tirwedd Cymru gyfan, mewn un ffordd neu'r llall, fel yn hanesyddol. Mae gwybodaeth yn cael ei pharatoi ar ffurf sy'n cydweddau â methodoleg asesu tirweddau a gwneud penderfyniadau Cyngor Cefn Gwlad Cymru, sef LANDMAP. Bydd ar gael i ystod eang o sefydliadau a chaiff ei fwydo i fentrau amrywiol er mwyn diogelu a rheoli cefn gwlad Cymru, yn bennaf y cynllun agri-amgylcheddol sef, Tir Gofal. Caiff ei weld hefyd yn gwneud cyfraniad arbennig o bwysig i'r broses o godi ymwybyddiaeth a dwyshau'r ymdeimlad o arbenigrwydd lleol.

Cydnabydda'r Gofestr o Dirweddau o Ddiddordeb Hanesyddol a'r ymarfeirion nodweddiad hyn yn llawn natur ddeinamig y tirwedd sy'n parhau i esblygu. Hyrwyddant y farn mai nid trwy rwystru newid neu ffosileiddio'r tirwedd y mae diogelu treftadaeth y gorffennol yn y tirwedd, ond yn hytrach drwy lywio'r broses o newid, gan greu tirweddau'r dyfodol heb o anghenraid abethu tirweddau gorau'r gorffennol.

Richard Avent

Cadw: Welsh Historic Monuments

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Cyngor Cefn Gwlad Cymru/Countryside Council for Wales

Introduction

THE PURPOSE OF THE PRESENT STUDY

This study is a contribution to the overall historic landscape initiative currently being funded by Cadw: Welsh Historic Monuments, the Countryside Council for Wales and ICOMOS UK. Its principal aim is to provide information to aid the management of the historic landscape. The following uses of historic landscape characterization were identified by Cadw:

- Planning, including large-scale intrusions such as roads, windfarms, mineral extraction, large-scale landfill/waste disposal, reclamation, water schemes, major settlement schemes, and major industrial developments
- Landscape management by large corporate landowners, farmers, industrial companies, water and electricity companies, the forestry industry, and the National Trust
- Advice to conservation bodies such as Cadw, the Countryside Council for Wales, the Environment Agency, local authorities, national parks
- Local landscape conservation initiatives and management agreements by Cadw, Countryside Council for Wales, local authorities
- To enhance our understanding of the historic aspects of landscape, stimulating further research, raising public perception of the landscape, and the preparation of policy statements by public bodies

EVOLVING HISTORIC LANDSCAPE CHARACTERIZATION METHODOLOGY

Historic landscape characterization is a contribution towards the overall historic landscape initiative currently being funded by Cadw: Welsh Historic Monuments, the Countryside Council for Wales and ICOMOS UK. Its principal aim is to provide information to aid the management of the historic environment.

Historical landscape characteristics are the tangible evidence of the activities and habits of the people who occupied, developed, used and shaped the land to serve human needs in the past; they reflect the beliefs, attitudes, traditions and values of these people. They include the physical remains of all aspects of human activities and the exploitation in the past (above and below ground, known and potential), and our understanding, interpretation and even perception of those remains. They may reflect a variety of activities occurring at one time, or evolving functions in different periods of time.

The Countryside Commission (in its document *Views from the Past*, 1996) states that as managers we should be concerned with the historic character of the present landscape, and not with the study of the past for its own sake. It places the idea of 'historic landscape character' at the centre of these ideas. Characterization is defined as the process of identifying and defining the particular characteristics which make each area distinctive, and is rapidly emerging as the basis for describing and understanding the environment. Historic landscape characterization is one dimension of this approach: it sets out to identify the principal historic components within the current landscape. It is the great depth of human activity which underpins much of that which we feel is important and helps to give an idea of its local distinctiveness.

The term ‘historic character’ is generally preferred to ‘historic landscape’, as it is now accepted that all landscape is historic in that it reflects, to a greater or lesser degree, the processes which have occurred in history and which have formed its present appearance.

At present there is no standard, accepted methodology for establishing the historical characterization of landscape, but work on Llyn and elsewhere in Wales has suggested a practical approach based on considering the evidence as a series of themes which may provide an answer. At a landscape level, what is significant in historical terms includes field boundary patterns (whether they are irregular or regular, their size, their date etc); settlement patterns (whether they are scattered, nucleated, their date of origin etc); the relict remains of earlier periods which are to be found in upland or marginal landscapes; the effect of 18th- and 19th-century estates on the landscape; the impact of industry, military installations and so on.

The dominant historic themes or patterns in a locality help define local historic character. The combination of these characteristics give an area its local distinctiveness, and it is the definition of areas of local distinctiveness which leads to the definition of ‘character areas’.

The concept of ‘character areas’ differs somewhat from comparable studies in England, which are based on ‘historic landscape types’, where the predominant form of the present landscape is identified principally by the existing patterns of enclosures within areas of landscape.

The process of characterization adopted here can be summarised as follows:

one or more <u>dominant patterns</u>	→	<u>coherent character</u>
<u>coherent character</u> with definable limits	→	<u>character area</u>
one or more <u>character areas</u>	→	<u>historic landscape area</u>

Characterization is a practical tool intended to aid management in its broadest forms. In order to be of any practical use, this has to be translated into the management of ‘landscape tangibles’ (ie the evidence for historical processes and periods in the present landscape). It is essential, therefore, that the key historic landscape characteristics are features and/or patterns to which can be applied management prescriptions whose success or otherwise can be measured for monitoring purposes.

The reports emanating from this work contain a number of elements: the description of each character area split into three parts — historical background, key historic landscape characteristics, and key historic landscape management priorities — accompanied by a map and a photograph. The historical background provides a straightforward description of the archaeological and historical development of the area. The section on key historic landscape characteristics lists the principal characteristics which make that area distinctive and which future management should therefore concentrate on. The section on key historic landscape management priorities begins to define the scope for creative action within a number of initiatives (including LANDMAP, Unitary Development Plans, and Tir Gofal, the all-Wales agri-environment scheme) which can sustain or even enhance elements considered essential to the historic character of the areas.

MANAGING HISTORIC CHARACTER

Rural land-use change

There have been many pressures on the rural environment and the countryside over the last 50 years as a result of changes in land use and shifting priorities for agriculture (the principal rural land use). Agricultural intensification and the maximization of productivity were the priorities up until the mid-1980s, and as a consequence the character

of rural landscapes changed dramatically during this period as hedgerows and trees were removed to create more efficient farming systems. Reclamation of the hills and marginal land led to the removal of significant upstanding archaeological sites and palimpsest landscapes.

Currently, due to agricultural overproduction and a general greater awareness of and concern for the quality and protection of the rural environment, the implementation of the Common Agricultural Policy provides a number of incentives to farmers and landowners to manage their land in an environmentally sensitive manner. The all-Wales Tir Gofal scheme includes provision for the conservation of certain habitats as well as sites and features of archaeological and historic landscape interest.

However, of the estimated 27,000 farms in Wales, only about 600 farms per year are currently entering into such agreements, which leaves the vast majority outside any formal management scheme, and so many important archaeological sites and landscape features continue to be lost. The challenge therefore is to identify historic landscape priorities for conservation, protection, enhancement or even restoration both within the scheme and without it.

Three of the principal advantages of an approach using character areas are that (a) it is able to identify and map both local distinctiveness and national importance; (b) by identifying physical features which can be managed it can feed directly into land management and development planning strategies; and (c) it sets the management of individual features within their local landscape context, allowing emphasis to be placed on those features which best define local landscape character. It can assist in management plans by setting priorities for management and enhancement, highlighting intrinsic values, and encouraging links to multi-purpose management.

Characterization is about management: if we are going to manage effectively, we must know what is there, what is important and what we want to do with it. Character areas can tell us what is distinctive (ie important both locally and nationally) about a particular area, and therefore what needs to be managed in order to retain that area's distinctiveness (character).

General considerations

Positive management should be aimed at halting and, if necessary, reversing any trends that can be shown to be causing unacceptable damage to the historic landscape resource. If at the same time management can actually enhance the historic landscape, then that is even better. It is essential that such management is continuous, and contains provisions for monitoring and review.

One of the basic tenets underpinning management is that we should be aiming to continue (rather than halt) the past evolution of the landscape: to do this we must first identify what is important and significant in historic landscape terms. It is the overall historic character of the present landscape (as evidenced in important and significant groupings and patterns) which we should aim to retain, but in order to do this we must concentrate management actions at the level of individual components. We must identify, conserve and enhance the local and regional historic diversity of our landscapes.

Agri-environment and other rural initiatives offer the opportunity to integrate the needs of the historic environment with modern land-use requirements to produce a workable, effective management system. More importantly, they should result in a working, viable landscape, which should provide ways and means for the various human activities in an area to be integrated with each other and with conservation, at the same time providing opportunities for study, research, education, interpretation and quiet enjoyment.

This means that sites and features of historic landscape interest are positively managed for their own sake, rather

than just left unimproved. It is important that the management of such features is integral to the management of the farm, or the scheme, as a whole, rather than an isolated, unrelated activity.

By working at the most basic level, management can be used to retain the general historic character of the area.

management of components → retain character → conserve diversity
 boundaries, buildings, and character areas
 archaeological sites etc

A management plan should specify conservation objectives for a site/area and how they will be monitored: it should identify points at which some response will be made if monitoring shows that a feature is changing: it should establish what activities/processes will be the subject of monitoring: it should establish what management of on-going activities is required; and identify the types of development or activities which might adversely affect the site.

Not all the sites and features which comprise the historic environment require the same detailed level of management: some sites can be adequately managed by the application of simple, general strategies, while more complex sites merit more detailed, site-specific, problem-led responses.

General mechanisms

It is envisaged that characterization has many potential applications to management including the following:

- assisting in developing landscape conservation and enhancement projects, by identifying elements and patterns of the historic environment which are considered either typical of a local area (provide local distinctiveness) or are of particular importance (rare at a national level)
- targeting resources within grant-aid by government and other organisations towards conserving elements and patterns of the historic environment in the same way
- developing policies for unitary development plans
- assisting in determining planning applications, especially large-scale developments such as roads, windfarms, mineral extraction, large-scale landfill, waste disposal, reclamation, water schemes, major settlement and major industrial development
- aiding the management of land by farmers, and large corporate landowners such as industrial companies, water or electricity companies, the forestry industry and the National Trust
- providing baseline information for local areas against which future change can be monitored, for example as part of the Tir Gofal scheme
- providing general information not already on the SMR which can be used to inform advice given as part of a number of rural initiatives such as Tir Gofal, Woodland Grant Schemes etc
- providing advice in a rural framework to conservation agencies including Cadw, Countryside Council for Wales, Environment Agency, local authorities, national parks and others
- providing information to a number of wider initiatives, including contributing to our academic understanding of landscape, stimulating further research, raising public perception of the landscape, and the preparation of policy statements by public bodies

Specific mechanisms

Tir Gofal is open to applications from farmers throughout Wales. Within the scheme, payments will be made to farmers for observing 'codes of good environmental practice', one of which is care and enhancement of the historic environment. As the scheme is a 'whole farm' scheme, it will allow archaeological management strategies sensitive to the character of the landscape as a whole to be integrated with farming practices. Characterization is useful for monitoring purposes, as it sets out the wider historic environment framework within which individual farm plans will sit. It can also help prioritise management within a broader landscape context.

Unitary Development Plans address 'land use' issues and are currently being compiled by unitary authorities in Wales and England.

Countryside strategies are the responsibility of local authorities (together with others), which have a general duty under section 1 of the Countryside Act, 1981, to have regard to the desirability of conserving the natural beauty and amenity of the countryside in the exercise of their functions relating to land. Countryside strategies principally address management of the countryside in areas outside settlement limits, but they are also a mechanism, at least in part, of implementing development plan policies. In Wales, such strategies are supported by the Countryside Council for Wales and in England by the Countryside Agency.

Local authorities have a number of powers which have implications for the management of the historic environment including the power to establish Country Parks (section 7 of the Countryside Act 1968); the ability to declare Local Nature Reserves (section 21 of the National Parks and Access to the Countryside Act 1949); the ability to enter into access agreements with landowners (section 64 of the National Parks and Access to the Countryside Act 1949); the ability to buy derelict land (often of industrial archaeological interest) for reclamation purposes (section 21 of the National Parks and Access to the Countryside Act 1949); the duty to make Tree Preservation Orders where appropriate (section 198 of the Town and Country Planning Act 1990); and the duty to apply The Hedgerow Regulations 1997 which controls the removal of certain important hedgerows (from section 97 of the Environment Act 1995). Other powers are treated separately below.

Local Agenda 21 programme At Rio, governments committed themselves to setting up national targets for safeguarding and improving the environment. Local Agenda 21 and Local Biodiversity Action Plans provide the means of meeting these targets, and of promoting the principles of sustainable development, at a local level. Both initiatives are about embracing a conscientious vision of the long-term future by identifying what matters locally and paying serious attention to the global costs of maintaining local lifestyles.

This has implications for archaeology and the historic environment. At a local level, sense of place is a fundamental aspect of quality of life. The present-day landscape underpins our sense of the place in which we live. Much of its character and distinctiveness is derived from the historic environment (archaeology and the built heritage in all its forms). The historic environment is of course both fragile and non-renewable. We have a responsibility to maintain it so that future generations can also appreciate and benefit from it in the same way that we do. However, the landscape is not static. Just as today's landscape is a product of the changing relationships between people and their environment through time, so it must be allowed to continue to change.

The point of sustainability is that it promotes change which meets the needs of the future whilst retaining the integrity of the historic environment. In order to do so decisions have to be made about the relative importance of different elements. Traditionally, evaluation has been based on individual sites, with particular examples being selected out for special protection (known as scheduling). However, it is the sum total of archaeological features not individual sites which give landscape its grain and it is often the more ordinary features that create 'local distinctiveness'. In order to ensure that decisions about the future of the historic environment are made on a secure basis,

sound information needs to be gathered. Historic landscape characterization work of the kind being carried out by the Welsh Archaeological Trusts provides historic environment audits, from which decisions of this kind can be made.

Biodiversity Action Plans Local Biodiversity Action Plans (LBAPs) are a means by which Local Government Authorities can implement the biodiversity recommendations established after the Rio Summit. They achieve this by building up local partnerships and taking account of both national and local biodiversity priorities to develop strategies for the conservation of species and habitats of local significance. As we are still at the early stages of our involvement, more information will be forthcoming at a later date, but it is already obvious that the type of general information coming from characterization projects will be able to feed into such plans.

At a general level, archaeology is of relevance to LBAPs because it raises awareness of the historical origins of the contemporary environment. There are no purely 'natural' environments in Britain; the landscape is the product of millennia of human activity. Our knowledge of the changing relationship between people and their environment through history allows us to understand the land-use activities which have led to the creation of contemporary landscapes, and comment from an informed historical perspective on those practices which could be encouraged in order to protect and conserve particular landscapes and ecosystems.

Access is a key issue in the countryside, if we are to enjoy the landscape and all its inherent interests and in turn engender understanding and respect for the countryside and the way it works. In addition to the rights of way network, a bill has recently been passed by Parliament with proposals to provide greater public access to open areas of countryside. As many of the best-preserved and most fragile palimpsest archaeological sites and landscapes lie within open areas of countryside, this has potential implications for archaeological management.

Historic landscape characterization can identify these areas (ie where there are well-preserved yet fragile archaeological remains) and thus highlight the potential management problems if the areas are 'opened up' to public access. It may even be that such areas could be excluded from unfettered access under new legislation, either permanently or on a temporary basis.

Characterization also has the potential to inform leaflets, trails and other interpretative material.

Leisure strategy Historic landscape characterization may have a bearing on local authority leisure strategies.

Tourism The Tourist Boards for Wales and England have the strategic responsibility for encouraging people to visit the borderlands and for the provision of tourist facilities. In recent years tourism has become one of the most important growth sectors of the economy. Unitary authorities all have a tourism strategy of some description, and historic characterization has a part to play in sustainable 'green tourism' in that it can help identify local distinctiveness which can be used both to attract visitors (by way of advertising), create atmosphere and to inform quality initiatives such as local walks, guides and other recreational activities. It can also direct visitors to areas with a robust historic environment, and away from those which are particularly fragile.

Management agreements In addition, local authorities have the ability (under section 39 of the Wildlife & Countryside Act, 1981) to enter into management agreements with landowners. This is an area which could be explored further from the historic environment perspective, as such agreements could cover not only individual monuments but also historic landscape characteristics (such as boundary types).

Other local authority programmes Local authorities have programmes for economic development, highways maintenance, environmental education and coastal protection. These would all benefit from the information which is being compiled through the characterization projects, and, in the other direction, the safeguarding of the historic

environment would benefit from those drawing up these programmes having direct access to historic landscape characterization data. In fact, information at this broad level would probably be more useful than detailed, site-specific SMR data.

Forestry Commission Information from characterization projects will be invaluable in contributing to national and regional indicative forestry strategies, indicating where new proposals for planting are likely to be acceptable (or unacceptable) from an historic environment perspective. On a day to day basis, it can provide information at a landscape level which can inform proposals for new planting. It will be particularly useful when considering proposals under any of the challenge schemes.

Environment Agency is responsible for producing Local Environment Action Plans (LEAPs) and Catchment Management Plans (CMPs). The historic environment does not have a high profile in either of these, and both could therefore benefit from information which characterization can provide.

Other bodies Historic landscape characterization information can be used to educate and inform a wide range of organisations and individuals including statutory agencies, voluntary bodies (RSPB, Woodland Trust, Wildlife Trusts, British Trust for Conservation Volunteers, National Trust) town councils, community councils, farming unions and others. It is our experience that often it is easier to explain the importance of, and inherent interest of, the historic environment by using historic characterization, than by the more traditional means of individual archaeological sites and excavations.

Local distinctiveness and a sense of place, which are of undoubted interest to people, can all be conveyed by such means, and the potential importance of this aspect of characterization cannot be emphasised too strongly.

David Thompson and Dafydd Gwyn
Gwynedd Archaeological Trust

Summary of the Elan Valley historic landscape area

The *Elan Valley* represents a diverse and well-preserved historic landscape. The following description, taken from the *Register of Landscapes of Special Historic Interest in Wales* (Cadw 2001, 00-00), identifies the essential historic landscape themes in the historic character area that are considered in greater detail in the sections which follow.



This remote area includes the larger part of the catchment of the River Elan and its tributary, the River Claerwen, which drain the south eastern side of the Cambrian Mountains in Mid-Wales. It comprises an extensive area of heavily dissected upland plateau between about 400m and 550m above OD, with the deeply incised valleys of the Elan and Claerwen providing the only routes east-west across this otherwise isolated and deserted part of Wales. The valley floors fall from over 300m above OD in the west to 200m above OD in the east, from where the River Elan continues to flow for a short distance beyond the area described here, to join the River Wye south of Rhayader.

This area is a prime example in Wales of a landscape showing human endeavour on a grand scale, having been substantially altered by major civil engineering projects connected with the water industry and its managed estate. The projects encompass the construction of a series of massive dams and ancillary works undertaken in two principal stages between the end of the 19th and the middle of the 20th centuries. The first stage was amongst the greatest 19th century civil engineering achievements in the whole of Britain, and was reported once as being the 'eighth wonder of the world'.

The series of reservoirs, known collectively as the Elan Valley, was started by the Birmingham Corporation in 1893, with the commencement of the Caban-coch Dam. This massive structure and its three subsidiary dams were described in an official report of the time as being 'of cyclopean rubble embedded in concrete and faced up-stream and down-stream with shaped stones arranged in snecked courses'. By the time they were completed in 1904, the Corporation had not only built the expected range of straining and valve towers, settling tanks, filter beds and other machine and generator houses necessary to control the water level and maintain its steady flow, but also enclosed most of the land immediately surrounding the reservoirs with a succession of massive stone walls and elaborate boundaries to protect the water from contamination. The height of the reservoirs enabled water to reach the outskirts of Birmingham by gravity alone, without the expense of pumping, along a remarkable system of buried aqueducts, 126km long.

The Birmingham Corporation employed direct labour for the scheme, which involved the construction of a railway to transport materials from the Cambrian Railways at Rhayader; in excess of 50km of track had to be laid to serve the various construction sites. Between 1906 and 1909, a small, high quality garden village in distinctive Arts-and-Crafts style, comprising a neat collection of detached and semi-detached stone houses ranged along the southern bank of the Elan, was built at the foot of the main dam to house those destined to work at and maintain the machinery and apparatus of the dam complex. The village included a school, a shop and an estate office.

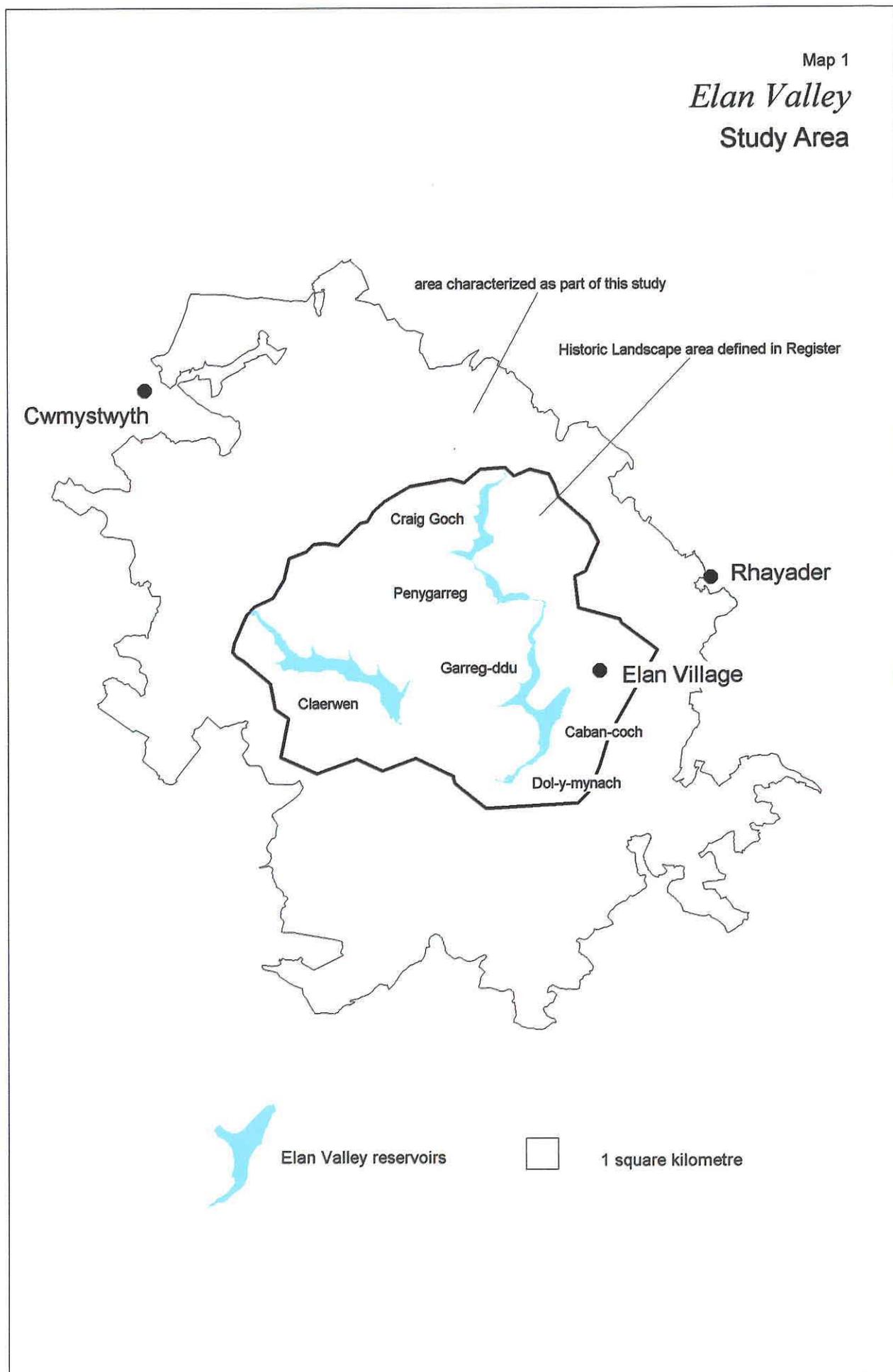
Much of this imposed landscape has survived more or less unaltered since the turn of the century as the estate has been strictly managed, to preserve water purity, by successive water boards and companies. The landscape has, therefore, avoided many of the recent trends for large-scale forestry and other upland agricultural improvements. Provision was made for the future expansion of the original scheme with the construction of the Claerwen Dam in the adjacent valley during 1948-52, making the Elan Valley complex one of the largest drinking water supply schemes in Britain with a combined capacity of over 100 billion litres. Since the privatization of the water companies, the ownership and management of the Elan Valley Estate has been passed to a charitable trust, which is charged with preserving the area's unique heritage and continuing its sympathetic management. This will, hopefully, maintain the landscapes atmosphere and serenity.

The remote and inaccessible upland areas which surround the reservoirs are liberally scattered with spectacular Bronze Age burial cairns and standing stones, while there is a Roman marching camp at Esgair Perfedd. In the medieval period, the area was part of the extensive Cwmteddwr grange of common pasture and isolated holdings belonging to the Cistercian Abbey at Strata Florida, Ceredigion. There are also post-medieval farmsteads, and a considerable number of late 18th and early 19th century mining sites and industrial monuments. Although physically dwarfed by, and secondary to, the theme of this landscape, many of these sites have been so well-preserved by the estate that they form a valuable historic adjunct to an otherwise modern landscape. The area also has important associations with P. B. Shelley who extolled the virtues of its character whilst writing his poetry at Nant Gwyllt.

Summary

Reference number	HLW (P) 4
Index map number	55
OS Map	Landranger 147
Former county	Powys (Dyfed)
Unitary authority	Powys (Ceredigion)
Principal area designations	The area is entirely within the Cambrians Mountains Environmentally Sensitive Area and the greater part is within the Elenydd Site of Special Scientific Interest. It includes: part of the Claerwen National Nature Reserve; part of the Carn Gafallt Site of Special Scientific Interest; Elan Village Conservation Area; Caban-coch dam, Craig Goch and Penyarreg dams and valve towers, Foel valve tower and Carreg-ddu viaduct are categorized as Grade II* Listed Buildings.
Criteria	1
Contents and significance	The area of the Elan and Claerwen valleys on the south eastern side of the Cambrian Mountains in Mid Wales represents a prime example in Wales of a landscape showing human endeavour on a grand scale, having been extensively remodelled by a water supply scheme that was amongst the greatest civil engineering achievements of the 19th century in the whole of Britain. The area remains substantially unaltered since the scheme was built and includes: massive dams and ancillary structures, complete with an Arts-and-Craft style village for maintenance workers and managers of the surrounding rural estate and water catchment.

Map 1
Elan Valley
Study Area



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About this study

The purpose of the present study is to provide a fuller and more detailed characterization of the *Elan Valley* historic landscape area. For the sake of completeness, the character areas identified by this study have been extended to their logical limits. The present study therefore covers a larger area than the historic landscape area defined in the Register of Landscapes of Special Historic Interest. (Map 1). The *Elan Valley* historic landscape area remains that defined in the register.

Methodology

A MapInfo 6 workspace was created, within which the Regional Sites and Monuments Record (SMR) held and maintained by the Clwyd-Powys Archaeological Trust could be interrogated against modern Ordnance Survey (OS) raster (1:10,000) and vector (LandLine) map-bases.

A total of 219 MapInfo polygons were drawn, representing *historic landscape types* defining settlements, field types and other land use types. These were classified according to a system devised for the project (see Appendix 2 and Map 5), which formed base-level data for this study. A topographical model of the area was also created (see Map 2) as a tool for landscape analysis. A database of about 900 place-names within the study area shown on recently published editions of the Ordnance Survey 6-inch maps was also created for the light that they might shed on the settlement and land use history of the area (see Appendix 1).

As part of the historic landscape characterization process a total of 9 *historic landscape character areas* were defined (see Map 4), representing discrete geographical areas of broadly consistent historic character represented physically by a dominant land use or form of settlement, for example, informed by the datasets noted above, or by historical associations (Cadw & CCW 2003). The character areas are primarily intended as a means of describing rather than classifying the historic elements of the landscape

The study has been primarily desk-based, drawing upon information in the regional Sites and Monuments Record maintained by the Clwyd-Powys Archaeological Trust and in readily available published sources. Limited fieldwork was undertaken to test the validity of the desk-based assessment and to provide ground-based photography. A single aircraft flight was undertaken to provide the aerial photography presented in this report. The identification of unrecorded sites of archaeological or historical significance and the confirmation of sites already identified was beyond the scope of the project and was not attempted.

Presentation

The results of the study are presented in two sections. The next section of the report provides a thematic narrative of the development of the *Elan Valley* landscape. This is followed by a description of individual historic landscape character areas, accompanied by a list of essential sources and a location map. Photographs of character areas are presented in a subsequent section.

In the absence of a condition survey of the historic landscape features in the Elan valley no attempt has been made to evaluate the historic landscape elements considered in this report or to formulate detailed management prescriptions, though a number of key historic landscape management issues are identified in the case of each of the character areas.

A bilingual version of the report will be available in due course on the CPAT website (www.cpat.org.uk) as part of the historic landscape characterization initiative, a consideration that has influenced the format and layout of this printed report to some extent. An illustrated leaflet about the historic landscape will also be produced to draw attention to the information available on the internet.

Spelling of place-names

The spelling and punctuation of a number of Welsh place-names in the Elan valley have changed over the years. The form 'Cwm Elan' is used for the house and estate named after the valley which also appears as 'Coombe Ellen', 'Cwmelan' and 'Cwm-Elan'. Likewise, 'Nantgwyllt' is used in preference for the name of a second gentry house in the valley which also appears in the forms 'Nantgwilt' and 'Nant-Gwyllt'. 'Elenydd' is used in preference to 'Elennydd', and 'Cwmteuddwr' in preference to 'Cwmdauddwr' or 'Cwmdeuddwr', the name of the commote, grange and parish being a contraction of 'Cwmwd Deuddwr'. Penygarreg, Garreg-ddu, Caban-coch and Llannerch-y-cawr are and many other place names have appeared in various guises, some which appear to show little similarity with each other. A farm in the Claerwen valley, for example, is recorded variously as 'Cilewent', 'Crinowin' and 'Ciloerwynt', and provides a salutary warning about the reliability to be attached to place-name evidence. The 16th-century form is 'Kele Gwent' derived from the *cil* ('retreat, sanctuary') and the personal name Ewent. The modern form 'Ciloerwynt' ('shelter from the cold wind') is a fanciful (if not wholly inappropriate) invention of the 19th century. The form 'Crinowin', which appears on the map of Glamorgan, Brecknock and Radnor by Greenwood, published in 1828, is evidently simply a mistake. Some names first recorded in the 16th century have now disappeared and appear untraceable. Some names appear in either anglicized forms at different periods (Noyadd for Neuadd, for example), or are translated (Hillgate for Lliidiart-y-mynydd, for example). Generally, an attempt has been made in this report to use the spelling and punctuation shown on various recent editions of Ordnance Survey 6-inch maps which, though not necessarily 'correct', are at least generally consistent with each other.

Recommendations

There is an urgent need to complete a comprehensive fieldwork recording and audit of sites of archaeological or historical interest within the Elan Valley and to integrate records of these sites into a single record base, both of which were beyond the resources available to the present study.

Acknowledgments

Help during the preparation of this report was given by Chris Martin of CPAT, Judith Alfrey of Cadw, Richard Suggett and David Thomas of RCAHMW, and Astrid Caseldine of the Department of Archaeology, University College Lampeter. Aerial photography was undertaken by Nigel Jones of CPAT. Helpful comments on a draft of this report were provided John Evans of the Elan Valley Trust, and by Richard Avent and Judith Alfrey of Cadw Welsh Historic Monuments.

The Making of the Elan Valley Historic Landscape

INTRODUCTION

The Elan valley is justly famous for its landscape of dams and reservoirs created for the corporation of Birmingham in the last decade of the 19th century and the first decade of the 20th century. It was a landscape superimposed upon a much more ancient landscape, however, which had developed over the course of many thousands of years, of which subtle elements still remain visible.

ENVIRONMENTS, BOUNDARIES AND PERCEPTIONS

The natural environment

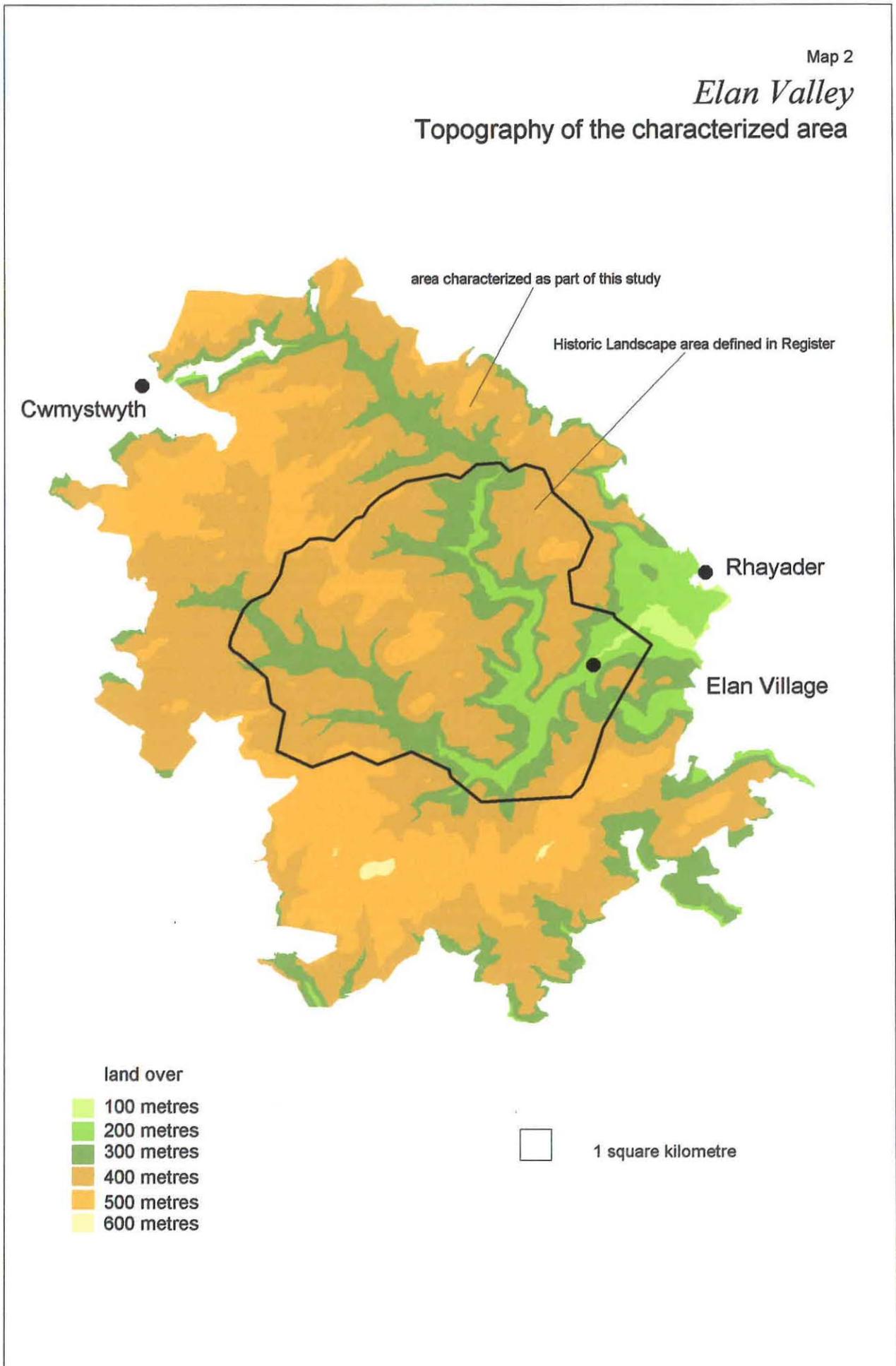
The rocks underlying the Elan valley historic landscape area are mostly composed of Silurian and some Ordovician shales, slates, mudstones and siltstones, together with beds of conglomerate. During the last Ice Age, between about 70,000 and 12,000 years ago, the area became submerged beneath a glacial ice sheet which had a considerable impact upon the present-day topography. Distinctive features of this period of glaciation are the smoothed and flattened upland plateaus, steep-sided, U-shaped glaciated valleys, morainic deposits, and hillside terraces and platforms where glacial meltwater has cut through the layers of stone debris deposited by glacial action. Glacial action disrupted the flow of the river Ystwyth which originally fed a lake in the area of Gors Lwyd, in the watershed between the Ystwyth and Elan, which in turn fed the river Elan, a tributary of the river Wye.

The historic landscape area falls into a number of distinct topographic areas which are closely reflected in the historic landscape character areas defined below. To the east is an undulating lowland area, mostly between 190–250m above sea level, extending from Rhayader to Elan Village and bounded by the mountains to the west and the river Wye to the east.

The lowest dam, at Caban-coch, was built at a natural bottleneck in the Elan valley, between the steep slopes of Craig Gigfran to the north and Craig Cnwch to the south. Formerly, the Elan and Claerwen joined about a kilometre upstream of the dam, the two rivers then diverging and snaking their separate ways into the moorland of Elenydd for a further 20 kilometres in the case of the Elan and 15 kilometres in the case of the Claerwen. The southern part of the moor is drained by tributaries of the Irfon, itself a tributary of the Wye, and the western part of is drained by the Ystwyth to the north-west, the Teifi to the west and the Tywi (Towy) to the south-west. Before the creation of the reservoirs the Elan and Claerwen occupied steep-sided and relatively fairly flat-bottomed valleys, often less than half a kilometre across, the floor of the valley rising from a height of about 250 metres above Ordnance Datum near their confluence to just under 400 metres in their upper reaches.

The moorland of Elenydd, which forms the central portion of the Cambrian Mountains, is dissected into three rough blocks by the river valleys. The southern part of the moor, to the south of the Claerwen valley, is the generally higher and more remote, with extensive upland plateaus at heights of between 400–500 metres and with peaks like as Drum yr Eira, Drygarn Fawr and Pen y Gorllwyn reaching over 600 metres from which both Cardigan Bay and the Brecon Beacons are visible on a clear day. The western part of the moor, between the Elan and Claerwen, again has extensive plateaus with somewhat lower peaks such as Bryn Garw, Trumau and Graig Dyfnant just over 500 metres high. The eastern part of the moor, overlooking the Wye valley, is generally lower though with a few peaks such as Moelfryn and Crugyn Ci of over 500 metres.

Two further distinct topographical areas in the study area are Carn Gafallt, an isolated upland block to the east of Elan Village and Cwm Dulas, a steep sided valley on the southern side of Carn Gafallt drained by a further tributary of the Wye.



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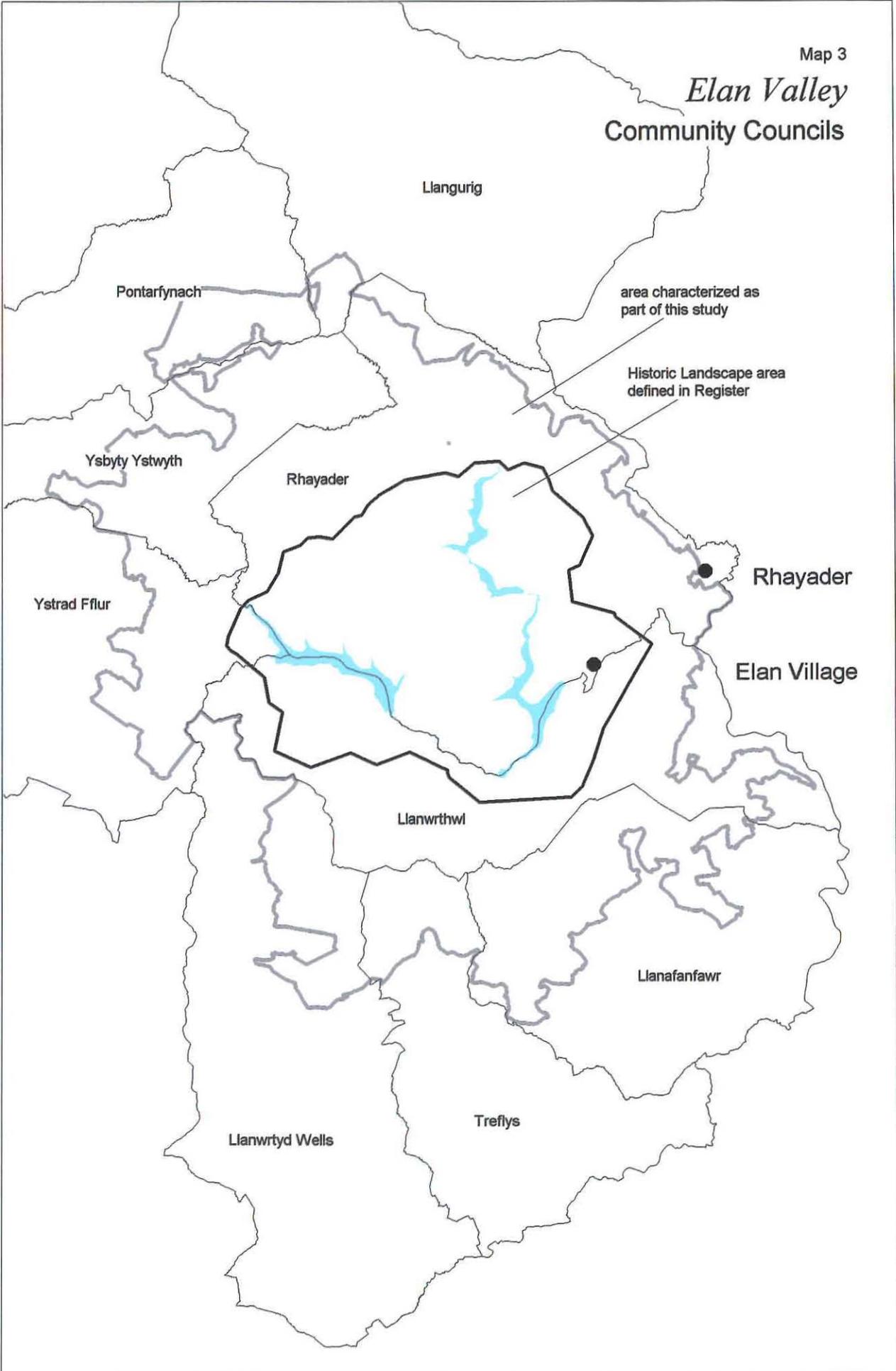
The soils in the lowland area of Cwmteuddwr between Rhayader and Elan Village and in Cwm Dulas are generally well drained, fine loamy and silty soils with deeper silty alluvial soils, in places overlying gravelly subsoils, on the flatter land bordering the Elan. Similar soils would formerly have existed in the valley bottom along the lower Elan and Claerwen valleys before the construction of the reservoirs. The small lowland lake of Gwynllyn, to the north-west of Rhayader, has resulted from impeded drainage caused during the last glaciation. The soils on the steep slopes margins of the valleys are generally well drained fine loamy and silty soils, with enclosed fields on some of the flatter areas free of rock outcrops and screes. The Elenydd uplands are principally covered with blanket and basin peat up to 3 metres deep, with areas of loamy upland soils.

The blanket bogs on Elenydd are dominated by sphagnum, cotton grasses and heathers with bog pools and larger clear-water lakes such as Llyn Gynon, Llyn Fyrddon Fawr and Llyn Fyrddon Fach, especially on the northern and western areas of the moor. The lakes, which have formed since the last glaciation, are exceptionally up to 25 hectares in extent and some support populations of brown trout and other fish species. Drier moorland areas on the thin free-draining acid soils beyond the extent of the blanket bogs support a grassy heathland vegetation with bell heather, bilberry and gorse. These upland areas have traditionally provided grazing land of poor to medium quality, exploited during the summer months, and have seen little management other than for the purposes of wildlife conservation in some areas.

The free-draining soils on the more steeply sloping stream and river valleys such as in the lower Elan and Claerwen, in Cwm Dulas and on the eastern slopes of Elenydd overlooking Rhayader, support areas of broadleaved woodland often dominated by sessile oak or by ash in the case of ravines or more rocky slopes, together with heathers and gorse. The less steeply sloping ground in these areas have generally been cleared of natural vegetation and enclosed, perhaps from the medieval period, to create grassland of moderate quality. Some of these areas were planted with conifers, on a smaller scale in the early 19th century but more extensively when the reservoirs were created in the later 19th and earlier 20th centuries.

The well-drained soils on the flatter ground along the unflooded areas of the lower Elan and Claerwen valleys and in the lowland area between Elan Village and Rhayader are almost exclusively maintained as grassland today, though historically they are likely to have been used for the production of cereals and root crops as well as for grazing.

A picture of the vegetational and hydrological change of the Elenydd uplands and the surrounding valleys has been provided by analysis of peat deposits at the head of the Elan valley, at Llyn Gynon (Cardiganshire), in a valley to the north of the Claerwen reservoir at Esgair Nantybuddau, and at upland plateau sites at Pwll-nant-ddu, between Claerwen and Penygareg and Bryniau Pica to the west of the Claerwen reservoir. These studies have shown that by about 8500 BC, following the end of the last Ice Age, that birch woodland became established over much of the area, with some willow perhaps on damper ground and sedges and grasses forming open heathland perhaps in some areas of high altitude. From about 8200 BC there was a rapid spread of hazel together with the beginnings of mixed broadleaved woodland, including oak and elm, possibly at all but the highest altitudes. Fragments of charcoal appearing in the peat deposits suggest the first indications of human activity in the period about 7500 BC, during the Mesolithic period. From about 6200 BC there was an increase in alder pollen, suggesting the onset of damper conditions and by about 5000 BC there was a transition to more open conditions with a rapid rise in heather, grass and sedge heathland, with continuing evidence of human activity spanning the late Mesolithic and earlier Neolithic periods possibly initially representing the hunting of game animals and later grazing by domesticated flocks. More extensive woodland clearance was taking place during the later Bronze Age, from about 1200 BC and there is some evidence to suggest cultivation at this time and during the subsequent Iron Age. By the later 1st century BC and the 1st century AD the pattern of vegetation had probably come to closely resemble that visible today. There is further evidence for the subsequent intensification of forest clearance affecting particularly alder, oak and birch woodland probably in



the lower valleys which it is argued took place during medieval times and accompanied with evidence of pastoral activity representing an intensification of grazing in the area following the establishment of monastic granges of the Cistercian monastery of Strata Florida in the later 12th century.

Administrative boundaries

During the earlier medieval period the greater part of the study area, to the north of the Claerwen, fell within the commote known as Cwmwd Deuddwr, (contracted to Cwmteuddwr) which derived its name from the two rivers Wye and Elan. The area to the south of the Claerwen fell within the commote of Dinan in the cantref of Buellt, which subsequently formed the hundred of Builth in Breconshire.

The western part of Cwmteuddwr fell within the commotes of Mefenydd and Pennardd which subsequently became the hundreds of Ilar and Penarth in Cardiganshire. From between about the 7th to earlier 10th centuries Cwmteuddwr had formed part of the kingdom of Powys, but in the later 10th and early 11th centuries it formed part of a separate territory between the Wye and Severn, known as Rhwng Gwy a Hafren which along with the kingdom of Brycheiniog showed allegiance to the royal house of Deuheubarth of south-west Wales.

From the end of the 11th century and throughout much of the 12th century ownership of the commote of Cwmteuddwr was to be disputed by the royal house of Deuheubarth and the Anglo-Norman marcher lords. Skirmishes between the Mortimers and Rhys ap Gruffydd (The Lord Rhys) had already occurred by 1176 when Rhys's two sons-in-law, Morgan ap Meredith and Einion Clyd, Lord of Elfael were ambushed and killed in the woods of 'Llawr Dderw' near Rhayader in Cwmteuddwr. Rhys later invaded the territory and established the castle at Rhayader in 1177. In 1184 the greater part of the commote of Cwmteuddwr was amongst the extensive tracts of land that Rhys granted to the newly founded Cistercian monastery at Strata Florida, of which Rhys was the principal benefactor. The grant was made to the abbot of Strata Florida, before Rhys's army, in the church of St Bridget at Rhayader. Rhys retained a small area of the commote, known as the manor of Cwmteuddwr, in the immediate vicinity of Rhayader, for the defence and provisioning of Rhayader castle. The part of the commote comprising Elenydd and the Elan valley became known as the manor of Grange.

Within a matter of a few years Cwmteuddwr fell into the hands of the Anglo-Norman Mortimer family, following which Cwmteuddwr came to form part of the marcher lordship of the cantref of Maelienydd. On the accession of Edward IV in 1462 it became a crown manor, and remained such until 1825 when it was sold. At the Act of Union of 1536 the former Mortimer commotes of Cwmteuddwr and Gwerthrynion were formed into the hundred of Rhayader in the county of Radnorshire.

Today, the eastern parts of the study area largely falls within the communities of Rhayader and Llanwrthwl, together with parts of the communities of Llanwrtyd Wells, Treflys and Llanafanfawr, in the county of Powys, created in 1974 by the amalgamation of Radnorshire, Breconshire and Montgomeryshire. The western part of the study area falls within the communities of Ysbyty Ystwyth, Ystrad Fflur and Tregaron in the county of Ceredigion.

The Grange of Cwmteuddwr was purchased in 1792 by a Wiltshire gentleman, Mr Thomas Grove, in 1792 who set about developing the estate. After changing hands several times the area of the grange within the watershed of the Elan and Claerwen rivers was acquired by the corporation of Birmingham in 1892 for the construction of the reservoir scheme, upon which work began in 1893. Responsibility for the reservoirs and the Elan Estate passed to Welsh Water in 1974 following the creation of privatized water companies, and remains the largest single area owned by a water company in Britain. In 1989 the Welsh Water Elan Trust was established, with responsibility for protecting the natural environment of the estate and encouraging public access and understanding. The southern part of Elenydd in Breconshire, known as Abergwesyn Common, now belongs to the National Trust. Carn Gafallt, a small separate upland area to the east, also in Breconshire, was purchased

by the Royal Society for the Protection of Birds from the Glanus Estate in 1983.

In ecclesiastical terms most of the study area fell within the medieval parishes of Llansantffraid Cwmteuddwr and Llanwrthwl within the deanery of Buellt, in the diocese of St Davids.

Early perceptions of the landscape

Early accounts of journeys by people travelling through the area, early maps and records of place-names provide a record of how the landscape of the Elan valley was described and perceived in the past by those who lived within it or visited it.

The mountainous area surrounding the head of the Elan has been known as Elenydd since early times. The name is probably being derived from the name of the river Elan with the ending -ydd, which implies 'the area of' to the name to which it is attached. It is first recorded in Gerald of Wales's *Journey through Wales*, composed in 1188, in which (in translation) he describes 'the lofty mountains of Moruge, called Elenydd in Welsh'. Gerald highlights Elenydd and Eryri (Snowdon) as the two principal mountain ranges in Wales and explains that the English name 'Moruge', a form otherwise unrecorded but probably derived from a word similar to the French *marais* ('marsh'), relates to the marshlands on its summit. The name therefore has the meaning the 'Marsh Mountains', to distinguish it from the English Snowdon the 'Snow Mountains'. Gerald was accompanying Archbishop Baldwin's journey through Wales, urging the faithful to join the Crusades, this particular leg of the journey being between Strata Florida abbey and the church at Llanbadarn Fawr. The Elan valley itself is first recorded as Glan Elan in the late 12th century and subsequently as Dyffryn Elan (Driffyn Elan).

A visit to the area, again in connection with Strata Florida, was made in the 1530s by John Leland, the king's antiquary, who explored the countryside around the abbey, no doubt with local guides. He visited Llyn Teifi and the other pools on the western side of the moor, noting that they were 'plentiful of troutes and elys'. From a point two miles beyond the lakes he surveyed a scene that can have changed little since the 16th century: 'I standing on Creggenaugllin [Carregyderlwyn?] saw no place within sight, no wood, but al hilly pastures'.

Further across the moor he reached, 'Llyn y vigin velen' (Llyn y Figyn), a name which he translates: 'Y vigin is to say a quaking more. Velen is yellow'. The lake he says is 'the colour of the mosse and corrupt gresse about it'. From here he went on to 'Llin creg lloydon' (Llyn Cerrigllwydion), presumably then taking the route known as the Monks' Way on towards Rhayader. Just as today, it was the wildness and remoteness of the area which the visitor remarked upon: 'Al the mountaine ground between Alen [Elan] and Strateflure [Strata Florida/Ystrad Fflur] longeth to Stratefleere, and is almost for wilde pastures and breeding ground'.

The first maps of the area began to be published in the 17th century though little detail of the area is generally given. Morden's map of South Wales published in Camden's *Britannia* of 1695 it is simply marked as 'Gwasted' (*gwastad*, 'waste'). Early 19th-century maps show a number of scarps around the head of the Elan and Claerwen, an area which at this date was often referred to as 'Cwm Toyddwr Hill', named after the parish of Cwmteuddwr.

Country 'seats' started to be shown on maps published from the early 18th century onwards, Cwm Elan being shown on Bowen's *New and Accurate Map of South Wales* first published by subscription in 1729 (Hugh Powell of Cwm Elan being one of the subscribers). Both Cwm Elan and Nantgwyllt houses are shown on Thomas Kitchen's map of Radnorshire of 1754 and on 1813 edition of Coltman's *Map of South Wales*.

The place-names of the Elan Valley area provide a record of an oral tradition that developed over the course of many generations and provide evidence of the ways in which the landscape of the Elan valley was perceived and exploited by those who drew their living from it, complementing evidence from other sources. In the 1860s and 1870s Cwmteuddwr was the only parish in Radnorshire where Welsh was still commonly spoken and by the 1880s it was the

only parish where it was actually still spoken. Consequently most early names are in Welsh, though some appear in anglicized forms. The most consistent record of names is that given on the larger-scale Ordnance Survey maps published in the later 19th century but many of the names are likely to have originated much earlier. The names are particularly significant for the mountainous parts of the area, especially since here as elsewhere in Wales the place-names often include early descriptive elements. It was in the valleys and on the valley edges that most people lived, and it is here that many of the names of farms and tenements first appear in written leases, wills and transactions from about the mid 16th century onwards, though some at least were probably much earlier.

Because of the particular topography of Elenydd, place-name elements distinguishing ridges (*esgair*, *rhestr*, *trum/drum*, *cefn*, *crib*) and slopes and ascents (*llethr*, *rhiw*, *llechwedd*, *allt* and *lan*) are particularly common, though the common terms *fan* 'peak', *bryn* 'hill', *moel/foel*, *moelfryn* 'bald hill', and *mynydd* 'mountain' also appear. The terms for hills and ridges appear to be some extent interchangeable, though *drum* tends to be reserved for the higher hilltops, over 500m, with the other terms generally below 500m, *esgair* being often used for the ridges between stream valleys and *cefn* for more extensive flatter upland areas. Terms for slopes likewise appear to be interchangeable, though *lethr* and *rhiw* tend to be used for the higher slopes whereas *allt* and *lan* tend to be more frequently applied to the lower slopes, below 400m around the margins of the uplands. Terms used to describe discrete eminences include *talcen* 'forehead', *pentanau*, 'nobs', *clap* 'lump', *clapiau* 'lumps's', *cnapiau* 'knobs', *cnwch* (*cnwc*), 'hillock', *uchelfa* 'high place', *copa* 'summit', *crug* 'hillock, heap', *banc* 'bank, hillock', *talar* 'headland', and more poetically, *llofft* 'loft', *castell* 'castle' and *disgwylfa* 'lookout'. The frequent rock outcrops on the sides of steep-sided valleys are called *carreg/cerrig* 'stone', *craig* and *creigiau* 'rock, crag'. Hollows are often indicated by the term *pwll*.

The broader river valleys are often referred to by the term *cwm*, several of the narrower stream valleys on the upland edge being distinguished by the terms *ceunant* or *dyfnant* 'ravine'. Some of the shallower upland valleys bear the place-name elements *pant* 'valley, dent' and *bwlch* 'pass, gap', the heads of a number of the upland streams being called *blaen* 'point, end, summit, source'.

Major rivers such as the Elan, Claerwen and Ystwyth are distinguished by the term *afon*, the term *aber* 'confluence, mouth' being restricted to the confluence of the Elan with a number of the major streams feeding it, including the Claerwen, the Afon Gwngu and the Nant Hirin. The majority of streams and brooks are called *nant*, of which almost 200 are named within the study area, the plural *neint* 'streams' being used for an area with many small streams near the head of the Ystwyth, though several smaller streams have the element *ffos* or *ffrwd*. The area includes numerous small waterfalls though none are called *pistyll*, possibly since they are so common, though the place-name Cwm Pistyll occurs in a single instance, and there is a single occurrence of the terms *sgwd* 'flow, fall'. *Ffynnon* 'spring, well' is a surprisingly rare place-name element in the area, and the two named springs Ffynnon Fyw and Fynnon Mary both lie on the southern edge of the Elenydd, in the community of Llanafan Fawr. The small upland lakes and associated topographical features of Elenydd are invariably carry the place-name element *llyn*, as does the small lowland lake called Gwynllyn to the north-west of Rhayader. The confluence of the Elan and Wye south of Rhayader is known as Llyn Aberdeuddwr.

These topographical features are described by a wide range of descriptive terms including anatomical terms such as *safn* 'mouth', *braich* 'arm, spur', *bron/fron* 'breast of hill', *troed* 'foot' and *gwar* 'neck'. Colour attributions are common and include *coch/cochion* 'red', *wen/gwyn* 'white', *gwinau* 'auburn, brown', *rhudd* 'red', *llwyd/lwyd/llwydion* 'grey, brown', *melyn* 'yellow', *du/ddu/duon* 'black, gloomy', and *glas/las* 'green, blue'. The colour attributions tend to have reasonably distinct altitudinal ranges, *du/ddu/duon* tending to be above a height of 500m OD, *llwyd/lwyd/llwydion* and *glas/las* tending to be above a height of 400m OD, and *coch/cochion*, *gwen/gwyn*, and *melyn* all tending to be above 300m and below 400m OD. Relative positions and sized tend to follow the same place-name formulae found elsewhere in Wales, including *ucha/uchaf* 'upper', *canoll/ganol* 'middle', *isaf* 'lower', *ochr* 'side, limit, border', *perfedd* 'middle', *dan* 'under', *traws* 'across', *pen* 'top', *mawr/fawr* 'big', *bach/fach* 'small' and *bychannau/bychan*, 'little'.

A number of widely-separated place-names are repeated, as in the case of Llethr Melyn which appears twice, Banc Du which appears three times, and Lan Wen which appears four times, though it is perhaps significant that there is little duplication in the naming of streams which tend to provide of a framework for the naming of places throughout much of the area. In other instances closely-grouped names appear in pairs distinguished by colour or hue such as *wen* 'white, *du* 'black' as in the case of Afon Claerwen (*clær* 'clear, bright' and *wen* 'white') and Afon Claerddu (*ddu* 'black') or size (*bach* 'small', *mawr* 'big') as in the case of Chawel Bach and Chwarel Mawr. The pairing of hill and stream names is frequent (eg Nant Cormwg and Esgair Cormwg), the sharing of place-names being extended in many instances to other neighbouring topographical to provide a word map of the moorland extending, probably originating as a device to distinguish between discrete unenclosed upland grazing areas up to between 0.5 to 3 kilometres across. The root name is often a stream or river, the means by which the moorland is often approached. The names Afon Gwngu, Abergwngu, Llyn Gwngu, Llethr Gwngu and Blaen Gwngu which define an area about 3 kilometres across near the headwaters of the river Elan. Nant Egnant, Cae Blaenegnant, Bryn Llyn Egnant, and Bryn Caeblaenegnant likewise define an area of upland about 1.5 kilometres across to the west of the Claerwen reservoir. Occasionally, the area names are derived from a particular settlement, as in the case of Treheslog, Creigiau Treheslog and Banc Treheslog, and even upon a colour, as in the case of Creigiau duon, Banc du, Chwarel du and Lan du, which are all to be found within a kilometre of each other.

The condition of the terrain is described by a wide variety of adjectives and nouns which generally emphasise the harshness of the landscape or its degree of exposure to the elements, such as *gwyllt* 'wild', *llaith* 'damp', *sych* 'dry', *dŷrys* 'difficult', *caled* 'hard', *garw* 'harsh, extreme, coarse', *chwefrin/chwefri*, 'wild', *wynt/gwynt*, 'wind', *eira* 'snow'. The terms *melys* 'sweet' and *paradwys* 'paradise', *tawell* 'peaceful', *clyd* 'sheltered' are less frequent and generally restricted to more sheltered locations, especially on south-facing slopes.

The shapes of the landforms are described by a wide range of terms, including *cadenu* 'shaggy', *crychion/crych*, 'wrinkled', *cwta* 'short', *hir* 'long', *pica/bica* 'pointed', *crwn* 'stocky', *lled* 'wide', *cam* 'bent, crooked'.

The names of areas of semi-natural and natural broadleaved woodland together with a number of conifer plantations include the term *coed* 'wood', though this is infrequently used as a place-name element elsewhere, as are *llwyn* 'grove, bush', *perth* 'bush, hedge' and *gelli celli*, 'grove'. The most common tree species name to be mentioned is *bedwen/fedwen*, (plural *bedw*) 'silver birch' and there are only rare occurrences of *onnen* 'ash', *derwen*, (plural *derw/ dderw*) 'oak', *helyg* 'willow', *gelynnen/celyn*, 'holly', and *afallen* 'apple', the latter predictably only occurring in a lowland context west of Rhayader. Other infrequent references to vegetation include *draen* 'thorn', *eithnog* 'gorsey', *cors* and *mign* (in the form *figyn/fign*) 'bog', *hesgog/hesg*, 'sedges', and *brwyn* 'rushes'.

Several of animal names occur, particularly in upland areas, including the domesticated animals *gaseg/caseg*, 'mare', *march* 'horse', *geifr/geifre*, 'flock of goats', *defaid* 'sheep', *ci* 'dog', *gwartheg* 'cattle', *anner* 'heifer', *ych* 'ox', *moch* 'pig', *hwch* 'sow'. These may provide an indication of the former land use but may alternatively have been used as terms to describe topographical features. Generally, however, the occurrences are so infrequent that few meaningful conclusions can be drawn. Bird names such as *aderyn* 'bird', *cywion* 'chickens', *ceiliog* 'cock', *twrci* 'turkey'? (perhaps a mistake for *chwrgi* 'otter'), *gigfran/cigfran*, 'raven', *gwalch* 'hawk' likewise only occur infrequently. The names of a number of wild animals also appear. The name of the river Elan, first recorded in the 12th century, is thought to derived from the Welsh *elain* 'hind', to describe the leaping and rushing character of the river before the construction of the reservoir. Other place-names in the area include the elements *bwch* 'buck' and *carw* 'deer, stag'.

Historic land use and settlement information is provided by a number of place-names with significantly discrete distributions in a number of instances. *Dol* 'meadow' occurs as an element in a number of place-names on land below 300m in the lower Elan and Claerwen valleys and in the lowlands west of Rhayader, in areas where historically hay meadows are likely to have been created. Upland grazing, by contrast, is indicated by a widespread scatter of place-names with the element *waun/gwaun* 'meadow, moor' which are generally to be found on all but the highest ground,

generally within the unenclosed moorland between 400-500m. *Rhos* 'moorland', probably also often indicating upland summer pasture, is represented by a smaller number of names with a similar altitudinal range, but reaching down to between 300-400m in the Elan valley itself, and sometime either within or close to the margins of the enclosed land. The distribution of both *waun* and *rhos* names, like that of encroachments are restricted to the more accessible areas of upland grazing on Elenydd. They are rarely found in the remote uplands in the south-eastern part of the area, suggesting that they relate to particular phase of settlement and land use history. The place-name element *ffriidd* 'mountain pasture, enclosed mountain pasture' is notably absent from the area, suggesting either that its place is locally taken by another terms or that the particular traditional land use system which the term applies to elsewhere in upland Wales was locally less well developed.

Other place-name elements indicating fields, including *cae*, *maes* and *erw* are very infrequent in the area and appear in both upland and lowland locations. Crops are only rarely mentioned and include *haidd* 'barley' and *gwair* 'hay' both of which are included as elements in place-names around the fringes of the lower-lying ground, at heights of between about 300-400m.

Clearance and enclosure is indicated by several names. *Llanerchllannerch*, 'glade, clearing' is represented by a number of place-names generally associated with dispersed settlements and generally confined to the now enclosed land in the lower Elan and Claerwen valleys. The terms *garth* 'enclosure, garden, hill, ridge', *corlan* 'fold, pen', *fuches* 'herd, fold', *camlas* 'ditch', *clawdd*, (plural *cloddiau*) 'ditch, barrier' also occur but are generally too infrequent for any positive conclusions to be drawn, except that as in the case of *waun* and *rhos* names, few of these forms are found in the remote uplands in the south-western part of the area. *Magwyr* (as in the stream name Nant y Fagwry) may represent 'wall, enclosure' or more simply 'rocky place'.

A number of significant place-names relate to the settlement history of the area which similarly tend to avoid the remote uplands in the south-western part of the area. *Tyddyn* 'smallholding', invariably contracted to *ty'n*, is often associated with existing dwellings within the enclosed land on the valley edge, generally at a height of between about 200-300m. By contrast, *llest* 'booth' and less frequently *hafod* 'summer house', *caban* 'hut, booth', by contrast occupy somewhat higher ground above or just above the enclosed land, often at a height of 300-400m. The element *hafod* occurs much less frequently than in some other areas of Wales, suggesting that locally it is replaced by *llest*. Both terms probably indicate seasonally occupied habitations, some of which have remained as permanently occupied farmsteads. The element *bod* 'dwelling', as in *Bodtalog*, is found in several upland valleys. The less specific place-name element *ty* 'house' occupies a fairly broad altitudinal range extending from valley bottom up onto the higher moors where its occurrence in place-names such as *Esgair-y-ty* may relate to former seasonal settlements. Higher status settlement place-name elements such as *cwrt* 'court' and *neuadd* 'hall' are infrequent and are predictably confined to the lower lying ground west of Rhayader.

Ownership or an association with individuals is represented by a relatively small number of place-names. Several personal names appears, as for example *Dafydd-shon*, *Iago*, *Ifan*, *Ifor*, *Owen*, *Madog*, *Mair* and *Mary*, *Siencyn*, and *Steffan*, and in other rare instances denoting associations with people with particular occupations or positions in society appear, such as *esgob* 'bishop', *mynach* 'monk', *gweis*, *gweision* 'servant', *offeiriad* 'priest', *rhingyll* 'bailiff', though in the case of *gwyddel* 'Irishman' and *bleiddiad* 'warrior' the association is probably legendary. A ridge on the southern part of the moor to the north of Rhos Saith-main is called *Rhiw Saeson* ('English ridge'). The elements *esgob* and *mynach* are both confined to the lower-lying ground in the lower Claerwen valley and the lowland to the east of Elan Village and are related to the Cistercian grange which existed in this area before the dissolution of the monasteries in the 16th century. Supernatural associations are implied by a mere handful of place-names, with the elements *diawl* 'devil' and *cawr* 'giant'. Two terms indicating boundaries, *gororion* 'border' and *ffin* 'boundary' both lie in the western part of the boundary, on the county boundary between Radnorshire and Ceredigion.

A number of antiquities are individually named which include a number prehistoric burial cairns with the place-

name element *carn* (Carn Nant-y-ffald, Carn Wen, Carn Ricet, and Carn Pant Maenllwyd) and several standing stones with the element *maen* (Maengwyngwedd, Maen Serth, Maen Cam, and Saith-maen) which mostly lie above 400m and probably represent ancient patterns of land use, though in some other instances both of these place-name elements may refer to natural outcrops of rock. The date of most of the names given to antiquities is uncertain, but folklore attached to the cairn known as Carn Gafallt, on the hill to the south-east of Elan Village, is mentioned as one of the *Mirabilia Britanniae* ('Marvels of Britain') appended to the mid 10th-century compilation known as the *Historia Brittonum*, attributed to the 8th-century Welsh writer Nennius, which provides an early source for the Arthurian legend. In translation, the relevant passage is as follows:

'There is another wonder in the region called Buelt [Builth]. There is a heap of stones, and one stone laid on the heap having upon it the footmark of a dog. When he hunted the swine Troynt, Cabal, which was a dog of the warrior Arthur, impressed the stone with the print of his foot, and Arthur afterwards collected a heap of stones beneath the stone in which was the print of his dog's foot, and it is called Carn Cabal [Carn Gafallt]. And people come and take away the stone in their hands for the space of a day and a night, and on the next day it is found on its heap.'

The hunting of the ferocious wild boar Troynt, in this instance known as Twrch Trwyth, also appears in the 11th-century tale of *Culhwch and Owen* which appears in the collection of medieval Welsh tales known as the *Mabinogion*.

Former quarries and mines are indicated in several instances by *mwyn* 'ore, mine', *plwm* 'lead', *chwarel* 'quarry', and *gwaith* 'works', the latter occurring near a known mining site. Other naturally-occurring resources which are possibly indicated by place-names include *gro* 'gravel'.

Lines of communication including the roads and tracks and associated structures which cross the mountain are referred to by common terms such as *sarn* 'road', *ffordd* 'way', *croes* 'cross, crossroads', *pont/bont* 'bridge', and *lidiart* 'gate'.

EARLY LAND USE AND SETTLEMENT

Prehistoric and Roman land use and settlement

Early settlement sites have yet to be identified within the historic landscape area, though the environmental evidence and the large numbers prehistoric burial and ritual monuments clearly indicate that the area was already well populated and undergoing clearance during the later Neolithic and early Bronze Age periods, from perhaps at least about 3000 BC. So much so, that it is probable that the patterns of land use which become more familiar at later periods — all-year-round settlements associated with arable and meadows in the lower-lying valleys combined with the exploitation of upland pastures in during the summer months — had its origins during this period.

Characteristic burial and ritual monuments of the prehistoric period are the stone burial cairns, standing stones, stone alignments and stone circles which crown many of the peaks and ridges of the Elenydd plateau, though often absent from some of the less accessible central parts of the moor.

Some of the cairns are quite slight, though others are several metres high and form landmarks visible from afar. Some of the cairns appear to be structurally quite complex, with outer kerbs of upright stone slabs or small internal burial chambers known as cists. In some cases isolated cists are known, as though the burial mound has been largely robbed of stone, and in the case of a monument on Beddaufolau, on the hills above the eastern side of the Garreg-ddu reservoir, there are the remains of a much larger stone chamber, up to about 2.5 metres across, which has the appearance of a Neolithic chambered tomb. Many of the burial mounds remain in

good condition, though some have unfortunately been robbed for stone in the past or have been disturbed for the creation of sheep shelters, possible shooting butts, superimposed by modern boundary markers, piled up into modern walkers' cairns, or disturbed by beacons. It is fortunate that few have suffered the fate of one of the three cairns on Clap yr Arian, carted away for road metalling in 1910, during the course of which part of a stone axe-hammer was discovered.

A number of the cairns take the form of ring-cairns which are known from excavations elsewhere to have been used for both burial and ritual. Prehistoric ceremonial activities are also thought to explain various other enigmatic types of prehistoric stone monument which are known from Elenydd. Alignments of between three and eight upright stones up to about a metre and a half tall are known at Saith-maen, at Rhosygelynnen on the hills above the west side of the Caban-coch reservoir and at Nant y Llyn, on the hills west of Treheslog. One stone circle 25 metres in diameter, composed of 16 stones, is known at Crugian Bach, near Allt Goch, on the hill above the east side of Caban-coch reservoir, and there are the possible remains of a second circle at Bwlch y Ddau Faen. Standing stones have been recorded on various parts of the moor. Some are likely to be later boundary markers, but a number have been found in association with other prehistoric monuments and are therefore likely to be of Bronze Age date. Some of the taller stones now lie where they have fallen, including two large stones, one 3.7 metres tall, near the radio mast on Cefn Llanerchi. A further tall stone at Drum Nant y Gorlan, 2.7 metres tall has also now fallen. The white quartz stone at Pen Maen Wern, 1.5 metres high, is amongst the tallest still standing. The tall and prominently sited standing stone known as Maen Serth, on the hill above the Rhayader-Aberystwyth road across the mountain, is inscribed with a cross, possibly being a prehistoric standing stone 'Christianized' between the 7th to 9th centuries. It is traditionally held to mark the spot where Einion Clyd, lord of Elfael, was ambushed and killed at the hands of the Mortimers in 1176, the spot being known locally, according to the Radnorshire historian W. H. Rouse, as 'The Prince's Grave'.

Early settlement or other activity is indicated by a scatter of prehistoric artefacts found within the historic landscape area including a number of flint flakes found on the shoreline of the Craig Goch reservoir and several copper and bronze artefacts belonging to various phases of the Bronze Age. Most of the metal artefacts are weapons, and include a dagger or possible halberd found near Glannau Wood, west of the Garreg-ddu reservoir, an early Bronze Age ogival dagger, found in peat digging on Bwlch y Ddau Faen, south of the Claerwen, and a middle Bronze Age rapier found on Drygarn Fawr. Tools from the area include four late Bronze Age socketed bronze axes found in 1895 near the Caban-coch dam during the construction of the Elan valley reservoirs. The axes appear to have been found with part of a stone mould and may represent a bronze smith's hoard. They were discovered beneath a mass of scree that had fallen from the precipitous valley side, being broken up for road metalling. More prestigious items, perhaps pointing to the presence of an elite within the local Bronze Age population is suggested by a number of middle Bronze Age gold ornaments, found in and on the margins of Cwm Dulas. They consist of a penannular gold ring or earring from Waun Sarn and the hoard of four middle Bronze Age gold torcs, found hidden under a small heap of stones in an area of rough pasture on the edge of the moorland of Carn Gafallt in the 1950s. Objects found associated with prehistoric burial mounds in the area are limited to part of an early Bronze Age battle axe found during the removal of the Clap yr Arian cairn mentioned above, made of dolerite from the Presely area, Pembrokeshire.

The great majority of the known prehistoric burial and ritual sites in the area are on the uplands of Elenydd, though there are suggestions that other similar sites once existed in the lower-lying valleys, having become ploughed down or cleared away in these more heavily cultivated areas. A possible complex of Bronze Age ceremonial sites has been recorded by aerial photography in the Elan valley, to the east of Coed-y-mynach farm, which include two or three ring-ditches, a possible henge monument and a possible pit circle, which it is likely represent Neolithic and early Bronze Age earth and timber equivalents of some of the stone monuments known from the uplands.

Clusters of upland sites are known in various places including those on Carnau Cefn-y-ffordd, Drygarn Fawr, Darren and Bryn. These complexes, together with more isolated burial and ritual monuments within the historic landscape area are likely to have performed a variety of roles within the developing landscape during the fourth to second millennia BC, between about 3500 and 1500 BC. Clusters of monuments may represent ceremonial foci within this landscape, and may indicate the activities of different family or tribal groupings within the area. The distribution of monuments from valley floor to mountain top suggests that a wide range of lowland and upland resources were being exploited by these communities by this time.

These early monuments will have become known and revered within the landscape and in some instances became the subject of folklore which would have helped to fix the place in memory. The 8th-century association of Carn Gafallt with the hunting of the mythical wild boar Troynt has been mentioned above. In the early 16th century John Leland noted that other antiquities on Elenydd were associated with Arthurian legend.

‘The first river that I passed over was Clardue [Claerddu] . . . hard by were two hilletes, through the wich Clarduy passith, where they fable that a gigant was wont to wasch his hondes, and that Arture killid hym. The dwellers say also that the giant was buried therby, and show the place.’

The sense of place which these mythical and historical associations create is given in characteristic fashion in Ruth Bidgood’s poem ‘Gigant Striding’ in her 1996 collection, *The Fluent Moment*.

Between two little hills
a gigant striding was wont to wasch his hondes,
 till Arthur killed him, for no reason known.

Perhaps it was just for his gigantic
 striding, that diminished the moor;
 his great hands commandeering the stream —

for being huge, anarchic; sharing
 ancientness and threat
 of the desolate land.

As in later periods, rocks, stones and cairns became a means of defining the territories and resources claimed by neighbouring or rival communities and which through the course of many hundreds of generations would give rise to the pattern of parishes that had emerged by the early medieval period. This, in turn, is reflected in the structure of communities around Elenydd and the Elan valley at the present day, each of which characteristically represents a ‘territory’ extending from valley floor up to moorland plateau. The legacy of these early monuments in providing fixed points from which the landscape might be portioned from an early date is amply illustrated by the fact that the southern boundary of Llanwrthwl community, where it abuts those of Llanwrtyd Wells, Treflys and Llanafanfawr, passes through no less than nine burial cairns, which must have acted as territorial markers until more detailed mapping of the uplands became available in the later 19th century, long after their original purpose had been forgotten.

Burial and ritual customs underwent a dramatic change throughout Britain from about 1500 BC onwards, and until the end of the prehistoric period virtually no burial or ceremonial sites are to be seen within the landscape. The upland pastures and lowland valleys of Elenydd will have continued to be exploited throughout the later prehistoric and Roman periods, though we still await the certain identification of settlement sites of these periods. Early buildings throughout much of this period were probably of timber and thatch, which has left little visible trace at ground level. Early cultivation is generally likely to have focused on the most fertile and

hospitable soils in the valleys and on the valley edge and therefore almost certainly obscured or transformed into more recent fields.

Despite the lack of dating evidence, however, it seems likely that settlement and land use during the broad span between the later prehistoric to early medieval periods, is represented by a number of early huts and stone clearance cairns which have been identified on the Elenydd uplands. Two possible settlement sites have been identified by fieldwork to the south of the Claerwen valley, a rounded enclosure 25 metres across on Esgair Gwar-y-cae with a round hut attached to the inside of the bank, and a rounded enclosure about 16 metres across apparently associated with three round huts between 10 and 11 metres in diameter. Clearance cairns have been identified on the hillside south of Cnwch and on the hillslopes to the north-east of Allt Goch. No doubt other sites of these types still await discovery.

The period of the Roman conquest of Wales is dramatically represented by the temporary Roman fort or 'marching camp' discovered on Esgair Perfedd as recently as 1966, represented by a low earthwork enclosure of characteristic 'playing-card' shape at a height of about 450 metres just to the south of the Rhayader to Aberystwyth turnpike road across the mountain. The camp encloses an area of just over 6 hectares and was built to house a force of about 4,000 men and their supplies in tented accommodation for perhaps only a matter of days. The fort is likely to belong to the period between about AD 74-80, and probably lay on a campaign route into present day Ceredigion or Montgomeryshire.

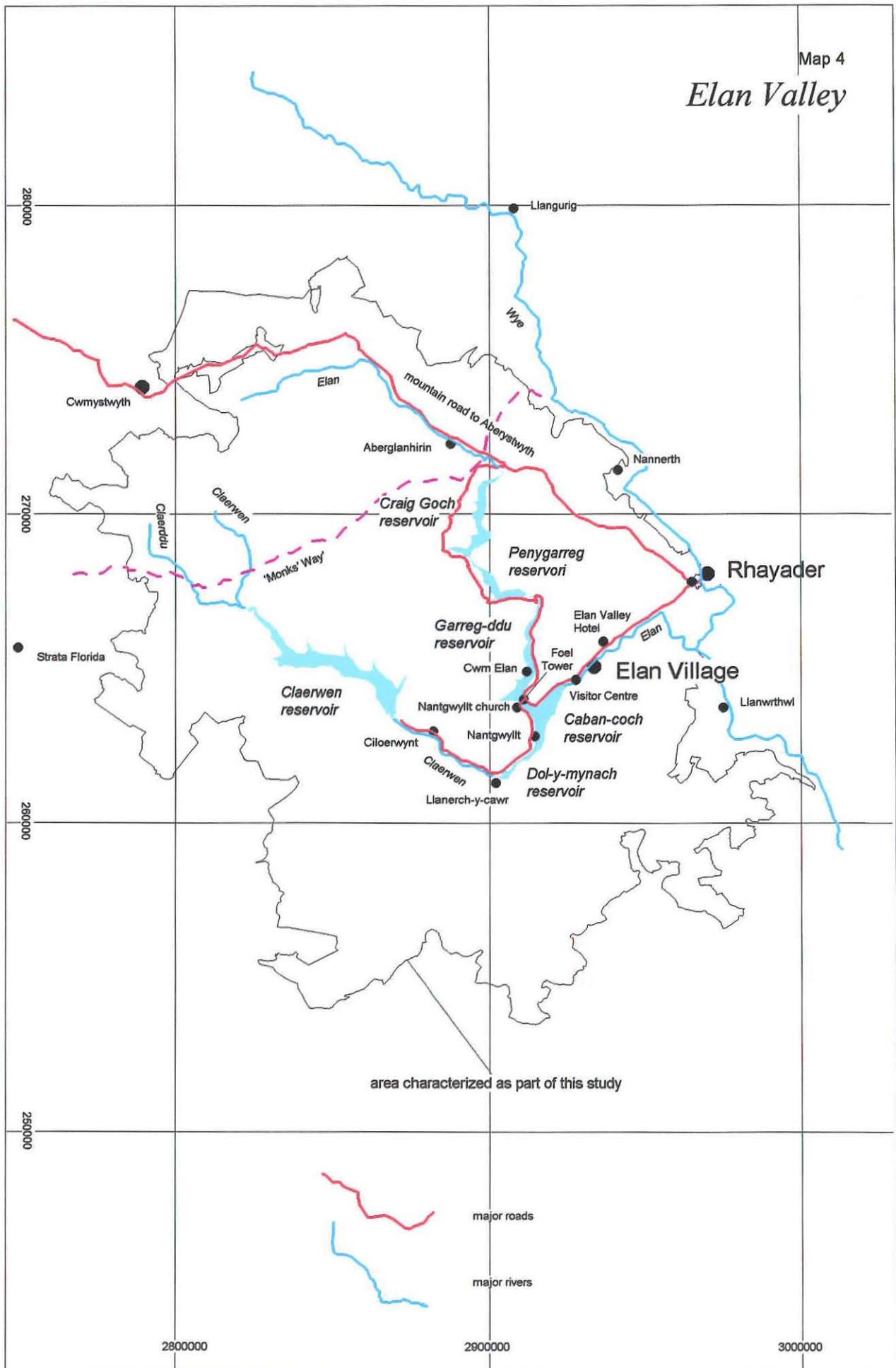
MEDIEVAL AND EARLY POST-MEDIEVAL LAND USE AND SETTLEMENT

Little is known of the area during the later Roman and early medieval periods, though it is to be supposed that it much of it was claimed as part of the grazing lands of the emerging communities encircling Elenydd.

The Cistercian grange

By the late 12th century practically the entire area formed part of the lands granted to the Cistercian abbey of Strata Florida by The Lord Rhys. Most of the historic landscape area falls within the Cwmteuddwr grange, the western part of the area falling within the Cwmystwyth grange to the north-west and the Pennardd grange to the south-east. Although few contemporary records survive there is some evidence which suggests how these monastic granges were managed in the Middle Ages.

As in the case of other similar Cistercian estates, grange centres were established in the most favoured areas for demesne cultivation or grazing by the abbey itself. Two such granges were established within the Cwmteuddwr grange, one in the area known as Llanmadog, now in the vicinity of the Elan Valley Hotel, with a subsidiary centre at Nannerth in a small valley bordering the river Wye just over 5 kilometres to the north. There are no surviving standing buildings associated with either centre, though the site of the grange chapel, Capel Madog ('Madog's chapel'), is known, in a field opposite the Elan Valley Hotel. Some remains of the building were still visible in the early 19th century, the architect Stephen Williams being instrumental in causing the track of the Elan Valley Railway to be slightly diverted to avoid it in the later 19th century. Other local place-names which suggest associations with the monastic grange include Nant Madog ('Madog's stream'), Llanmadog (Madog's 'enclosure' or 'church'), and Coed-y-mynach ('monks' wood), the name of woodland and a farm about a kilometre to the north. The section of valley in which Elan Village lies, about half a kilometre to the south-west is known as Cwm yr Esgob ('bishop's valley') which also appears significant. Other names in the area which indicate an association with the former grange are Dol-y-mynach ('monks' meadow') and Craig y Mynach ('monks' crag'), places which lie close to each other in the Claerwen valley, near Llannerch-y-cawr. Two other names which may possibly have early ecclesiastical associations include Nant Offeiriad 'priest's stream', a tributary of the Nant Cletwr, to the west of Craig Goch, and Nant Rhingyll ('steward/bailiff's stream') to the east of Garreg-ddu reservoir.



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The principal resource of these monastic lands was undoubtedly based on the extensive upland pastures upon which cattle and, increasingly, large flocks of sheep were grazed, both by the monastic granges themselves and by those with holdings within its boundaries. As in the time before they were bequeathed to the abbey, the greater part of the income derived is likely to have been derived from customary rents and dues by those with holdings in the area, though because of the nature of the estate the returns from this source were probably relatively low. The greater part of their wealth was probably derived from the wool trade, the monks of Strata Florida being granted a licence by the Crown in 1200 to export their wool free of duty to France and Flanders. The grange centres were ideally placed to manage the flocks of sheep brought down from the eastern side of Elenydd: Llanmadog straddles the principal valley on the eastern side of the uplands, and Nannerth sited on one of the principal stream valleys, the significantly named Nant y Sarn, which gives direct access to the northern areas of the moor from the Wye valley.

It is probable that some crops were grown on cultivated demesne lands at the Llanfadog grange centre and there seems a possibility that the regular field system along the north bank of the river Elan between Coed-y-mynach farm and Noyadd owes its origin either directly or indirectly to the medieval monastic grange. Low ridge and furrow has been noted in the fields opposite the Elan Valley Hotel which may possibly be of medieval date. Other holdings within the grange boundary, especially within the valleys and on the lower-lying ground bordering the Elan and Wye, are likely to have had cultivated fields.

Other resources in the locality available to the grange would have included the oak woodlands which must have once bordered the river valleys, supplying both fuel and building materials, and fish from the rivers and from the upland pools on Elenydd. Both Llyn Teifi and Llyn Fyrddon Fawr supplied eels and trout to the monastery.

Most of the other Cistercian granges in Wales were managed by lay stewards. At the time of the dissolution of Strata Florida abbey in 1539, the Cwmteuddwr grange was unusual in being managed by a monk-bailiff. A further unusual arrangement, evidently current in Cwmteuddwr in the earlier 19th century, which it has been suggested might have had its origin in monastic practice, was the custom of landlords within the parish in effect renting out their flocks on a yearly basis to the tenants living on their land. The rigour with which the monastic lands in Cwmteuddwr were managed at the time of the dissolution of the monasteries is brought into question, however, by John Leland's observation about Elenydd in the later 1530s that 'everi man there about puttith in bestes, as many a they wylle, without paying of mony'.

The break-up of the monastic grange

The grange remained in the hands of Strata Florida abbey until its dissolution in 1539 in the reign of Henry VIII, when the crown took possession of all the estates belonging to it. The lands remained in the possession of the crown for a number of years, being leased by various parties until the manor was acquired by Sir James Croft of Croft Castle and Thomas Wigmore of Shobdon, who then proceeded to resell it in lots. Much can be learnt from the extent of the monastic holdings, the tenements already in existence and the nature of their economy from the various deeds and leases relating to the splitting up of the estate in the later 16th century. Some of these documents refer back to tenancy arrangements made by the abbot of Strata Florida in the first decade of the 16th century.

Encroachments on the Elenydd moorland

Several of the isolated encroachments on the Elenydd moorland were probably also already in existence by the 16th century, a number having possibly originated a matter of centuries earlier. Today, these encroachments are represented by islands of enclosed fields within the moorland between about 3 and 35 hectares in extent. They are confined to the more accessible and agriculturally more favourable parts of the moorland, on the fringes of the moor or within easy access of the Elan and Claerwen valleys, generally on the sheltered south or east-facing slopes of stream valleys. Established in the first instance with or without the authority of manorial courts, these kinds of encroachments

on the common were often regularised by the imposition of annual fines which became converted into rents or sometimes into freehold tenure.

Many of these upland settlements possibly originated in the medieval period as a temporary summerhouse (*hafod*), occupied between about May and August or September, in order to exploit upland pastures at some distance from the home farm. Some were later to become permanently occupied farmsteads, of which a proportion have survived to the present day.

The names of a number of the encroachments on Elenydd include the significant element *llest*, which locally appears to take the place of *hafod* to describe an impermanent dwelling of some kind. Two neighbouring and now abandoned farmsteads on the uplands to the west of Graig Goch reservoir, for example, are called Llest-aber-caethon and Llest-Calettwr, named after the streams that they lie next to. Several other upland farms are named more simply after streams or rivers, such as Aberglanhirin, Abergwngu and Claerwen. The place-name element *hafod* does occur, as in Cwm yr Hafod ('hafod valley') and Esgairhafod ('hafod ridge'), signifying topographical features associated with *hafodydd*. Other upland habitations are suggested by the place-name element *tv*, as for example in the names Esgair y Ty and Gwar-y-ty.

The named encroachments and upland farms tend to be those which were still inhabited when the first accurate maps of the area were produced in the later 19th century. There is a range of archaeological evidence that there were many more *hafodydd* and other similar habitations that were abandoned before the first detailed maps of the area were produced. Few if any of these sites and their form and dating is often obscure since in some instances the site of earlier structures have been superimposed by later buildings. The earliest buildings of this period on Elenydd appear to be represented by a number of rectangular platforms, set at right-angles to the slope, where timber buildings were erected. In some instances, as in the case of a platform on Craig y Llest, traces of drystone walling are visible which seem to represent low sill walls on which timber structures of this kind were built.

A number of *hafodydd* on Elenydd are first documented in the 16th century, but may have originated much earlier. Typical of the leases of this period was one in 1579 for the tenement and lands of *Come Coill* [Cwm Coel, now on the western edge of the Garreg-ddu reservoir] which was let for keeping 40 cattle and 100 sheep. The ancient custom of moving to temporary summer homes in the uplands during the summer months to take advantage of the upland pastures is referred to in a lease drawn up in 1585 for 'a message or tenement called Y Brith come [cwm] Ycha, together with one somer house, called Y Clettwr mawr, sometime parcel', evidently referring to a lower-lying permanent house in the valley of Nant Brithgwm, on the west side of Penygareg reservoir and a summer house probably to be identified with the ruined upland farm at Llest-Calettwr, in the hills about 3 kilometres to the north-west, near the head of the Nant Clettwr stream. In the later 1530s John Leland records that near the Claerddu stream, at the head of the Claerwen valley, he saw 'two veri poore cottagis for somer dayres [summer dairies]', yet to be identified, which no doubt produced dairy products that were marketed in the surrounding villages.

Late medieval and early post-medieval farmsteads

Many early timber buildings are likely to have disappeared without trace, though the history of the former farmhouse at Ciloerwynt (Cilewent) may be typical of many of the smaller later medieval smallholdings in the area. The house lay within an encroachment in the Claerwen valley first recorded in a document of 1568 in which the owner is styled 'yeoman' farmer. The original house (moved to the Museum of Welsh Life at St Fagans in 1955 and replaced by a new bungalow) perhaps began life as a cruck-built single-bay hall which has been shown by tree-ring dating to have been built in about 1476, though it is uncertain whether the original outer walls were of timber or stone. The later form of the building, with a lintel dated 1734, took the form of a single-storey longhouse with a living-room and fireplace at one end and with accommodation for cattle, calves and horses at the other, perhaps mirroring the form of the 15th-century building.

Stone was probably becoming a more common building material from the later 16th century onwards. Other stone-built upland longhouses appear to have been built during the later 16th to earlier 18th centuries, again with living rooms at one end and with accommodation for animals at the other, a number of which, such as Bryn Melys, Lluest-fach (Llwst-fach), Penglanceinon, continued in habitation until the later 19th and earlier 20th centuries when they were abandoned. Writing in 1880, the Reverend R. W. Banks made the following perceptive comments:

‘the site of the old enclosure, as the names show, was generally selected by the side of one of the brooks, which run from the higher ground, and feed the rivers of the district, with a view to turn out a flock of sheep on the soundest portion of the extensive pasturages which the wastes afford, and at the same time obtain shelter from the steep hill sides. Rude, yet substantial dwellings, constructed of the large schistous flagstones of the district, with a chimney shaft of some pretensions . . . still in many instances remain, and wear the appearance of buildings which may have existed in the sixteenth century.’

Like Ciloerwynt, many of the lowland farms and smallholdings and the fields surrounding them which are shown on maps of the later 19th century were clearly already in existence by the later 15th century and early 16th century. The subsequent 18th- and 19th-century country house at Nantgwyllt in the Claerwen valley, for example, is first recorded as a tenement of ‘Y naungwyllt’ in a lease of 1568, its name taken from the adjacent stream. Mention being made of four neighbouring farms in the valley and in a deed of 10 October 1579 by which the then owners of the Grange of Cwmteuddwr, Sir James Croft and Thomas Wigmore esquire, granted to Howell ap John ap Howell, gentleman, for £110 the yearly rent of 6s 8d ‘Aber Nant Guilth’ (Nantgwyllt), ‘Aber Elan’ (Aber Elan), ‘Pen Glan Eignon’ (Penglanceinon) and ‘y Kayhayth’ (Cae-haidd).

The surviving longhouse at Llannerch-y-cawr in the Claerwen valley, now owned by the Elan Valley Trust, may be typical of the more substantial lowland farms of the later 15th and 16th centuries belonging to an emerging late-medieval gentry class. This stone-built longhouse was remodelled in the 17th century and later centuries from a late 15th- to early 16th-century timber cruck-built two-bay hall with a central open hearth and wooden outer walls built on a platform up and down the slope of the hill. One of the most distinctive features of the longhouse was the juxtaposition of living rooms at the upper end and cattle byre or cow-house at the lower end, typical of the later medieval and early post-medieval cattle farms in the area. A smaller, single-bay hall, of similar type is known at Nannerth-ganol in the Wye valley, just outside the historic landscape area, which has a tree-ring date of 1555/56. The farmhouse, again with a byre at one end, is probably more characteristic of the smaller tenanted farms in the area from the later 15th and 16th centuries. Other farmsteads that take this linear form are Nannerth Ffwrdd (just outside the historic landscape area) and at Ty’n y waun, west of Rhayader. The small farm at Cnwch, south of Caban-coch dam, may represent another typical layout, probably of later origin, in which small buildings are grouped informally around a yard.

Growth of landed estates in the early post-medieval period

The break-up of the monastic grange in the later 16th century gave rise to a number of the landed estates that were to dominate the history of the area in the 18th and 19th centuries. In 1579/80 the Howells of Nantgwyllt were acquiring land locally including ‘Groy gwonyon’ (Gro Hill lies on the eastern side of the valley), and ‘talke y rose y gelyne’ (Rhosygelynnen lies to the west) probably representing enclosed hill land within a kilometre of Nantgwyllt, on the margins of the moor. In 1581 he was disposing of Aber Elan and Penglanceinon, though in 1585 he was acquiring land further afield including ‘Dolfola’ (Dol-falau, a farm 2.8 kilometres away in the Elan valley, now submerged below the Garreg-ddu reservoir) and ‘Blaenllyngwynllyn’ (a farm near Gwynllyn, about 7 kilometres to the north-east), much of the land here and elsewhere tenanted to other farmers. By the time of his death in 1597 he was a substantial owner of land and mills in Radnorshire and north Breconshire, with a dozen farms in Llanafan Fawr, ten in Llanwrthwl in Breconshire, over twenty properties in Cwmteuddwr. His *marwnad* (‘elergy’) was sung by the prolific poet and genealogist Lewys Dwnn. His elder son became High Sheriff of Radnorshire. Much of his wealth was derived from his herds of cattle and flocks of sheep, the commercial value of the latter principally based on wool, horses and some grain. His descendant,

Howell Powell, was styled ‘Gentleman, of Nantgwyllt’ in the 1670s.

Population growth during the 16th and 17th centuries

The local population continued to expand during the 16th century and 17th centuries. New tenements continued to be created from the moorland well into the 17th century, if not later. In 1674, for example, a grant was given for ‘that new cottage in Clarwen [Claerwen], then lately built . . . upon Y Eskyrne y Guion [?Esgair y Guon, not closely located], being a common or waste within the lordship of the Grange, with all inclosures thereto, and with liberty to inclose on the same common, not exceeding sixteen acres’. Despite this, however, the nature of the agricultural economy of the area which had emerged in the later medieval period was probably to remain little changed until the middle of the 18th century. In contrast with the houses of the gentry, however, many households probably survived at little more than subsistence level. Taxation records known as the Lay Subsidy assessment for ‘Comelan’ (Cwm Elan) in 1544 suggests about taxable 21 households, though there were other poorer ones which were not assessed. Twice this number of households are listed in the district of ‘Diffryn Ellin’ (Dyffryn Elan) in Hearth Tax return of 1670, the average number of hearths per household suggesting that it was one of the least prosperous areas of a county which was already poorly off in comparison with its neighbours.

Peat cutting and other common rights

The 16th- and 17th-century farms and tenements of Elenydd and the Elan valley will have had common rights probably of great antiquity deriving from the Cwmteuddwr grange and the ancient manor of Builth. These will have included grazing rights for sheep, cattle, ponies, and rights for the digging of peat (turbary) and for taking wood for fuel or building repairs (estovers). The date at which the cutting of peat on the moorland commenced is uncertain, but it is likely that it only came into its own as a source of domestic fuel once sources of readily available wood had become exhausted. Evidence for peat cutting is widespread on Elenydd, as for example on Gwar y Ty on the northern side of the moor, on Waun Lydan, to the south of the Claerwen, and between Allt Goch and Y Gamriw, to the east of Caban-coch reservoir, and can often be most clearly identified by aerial reconnaissance. Artificial platforms on which peat may have been dried have been detected by fieldwork in some instances, including ones on Rhos Saeth-maen. It was often the more accessible and consequently often the shallower peat deposits that were exploited in order to lessen the burden of carrying it away from the hill. In some areas it is evident that each farm or a group of neighbouring farms had its own turbary, approached by trackway, which must have been used over the course of many years. Crossing the moor by way of the turnpike from Rhayader to Aberystwyth in about 1820 the scientist Michael Faraday noted the presence of ‘a turf-cutter or a peat digger here and there drew the eye for want of a better object’. Jonathan Williams, writing in the decade before noted that the hills in the parish of Cwmteuddwr

‘contain turbaries which supply the neighbourhood with the most excellent peat. This kind of fuel when dried by the joint action of the sun and the wind becomes a black and hard substance, make a cheerful fire, reflects great heat, and is little inferior to coal. A peat pit is three feet deep and more, and often contains branches and trunks of trees’.

Peat cutting had all but come to an end during the second half of the 19th century, locally coming into direct competition with the coal from depots at Rhayader following the opening of the Mid-Wales Railway in 1864.

Corn mills, fulling mills and saw mills and corn-drying kilns

Locally produced grain, wool and timber is likely to have been processed locally up to about the end of the 17th century, all based upon water power. One of the earliest references to the local corn is in a lease of the farm at Ciloerwynt, in the Claerwen valley, made in 1569. According to the custom of the times, the tenant of Ciloerwynt was required to take any corn he had grown to be ground at his landlord’s mill.

The site of this mill is uncertain, but it may have been the same mill in Cwmteuddwr mentioned as belonging to the Howell family of Nantgwyllt in 1597. This may have been on the site of the former corn watermill known as Melin Gwynllyn, now known as Upper Mill, on Nant Gwynllyn stream, to the north-west of Rhayader, which appears to have been in operation from before 1670 up to about 1900, when it consisted of a three-storey timber structure. Melin Gwynllyn operated as a woollen mill, first mentioned in 1710. Another woollen mill is represented by the converted mill building known as Walk Mill, just down stream, about which little has been written. A further woollen mill, a stone-built structure known as Fron Factory, for carding or fulling, was in operation about half a kilometre upstream until about 1840. Traces of its leat are still visible.

A second corn watermill known as Gro Mill, belonging to the Nantgwyllt estate, was in operation from at least 1806 until the time it was flooded by the rising waters of the Caban-coch reservoir in 1892. The mill was sited just below the confluence of the Elan and Claerwen rivers, and took its power from a leat drawn from the river Elan to the south of Cwm Elan house. At one period the a corn-drying kiln was attached to the mill, which also operated as a saw mill.

The sawmill complex until recently run by the Elan Valley estate on the western edge of the Caban-coch reservoir, alongside the Nantgwyllt stream and just to the south of the former Nantgwyllt house dates from about the 1920s and includes a complex of timber-framed, brick and corrugated buildings, and includes the remains of a tracked lifting crane, now unused.

Local corn-drying kilns are suggested by place-name evidence were evidently in use by at least the 17th century though no surviving structures have been identified. A late 17th-century deed relating to Rhydoldog, for example, mentions 'Kaer odin', a field-name derived from the Welsh *cae'r odin* (kiln field), which probably refers to a corn-drying kiln.

Earlier stone quarries

Small stone quarries are to be seen here and there, particularly around the fringes of the Elenydd uplands as for example near Rhydoldog, on Tremblyd and on the hills above Llannerch-y-cawr which were most probably in use from the later 16th century onwards for the construction of stone buildings and walls. The small quarry at Waun Geufron possibly may have supplied material for the Rhayader to Aberystwyth turnpike road. Other larger quarries at Cigfran and Cnwch, opened for the construction of the reservoirs are mentioned below.

LANDED ESTATES AND AGRICULTURAL IMPROVEMENTS OF THE 18TH AND 19TH CENTURIES

The 18th- and 19th-century history of the Elan valley is dominated by the landed estates and gentry houses that had emerged during the course earlier centuries, focused in particular on the gentry houses that had arisen at Nantgwyllt and Cwm Elan.

The Nantgwyllt estate had passed from the Howells (by now anglicized to Powells) to the Lewises and the Lewis Lloyds and continued to expand, the 18th century witnessing the acquisition of such properties as Cnwch, Cwm Esgob and Perthi Llwydion (Perthyllwydion), and the construction of the small proprietary church serving the estate at Nantgwyllt. A number of the older estates were to be purchased and developed as investments by 'gentleman farmers' formerly unconnected with area. The Grange of Cwmteuddwr was purchased by Mr Thomas Grove of Ferne House, Donhead St Andrew, Wiltshire in 1792 from John Jones of Hafod. Grove was described by his contemporary, the Radnorshire historian, the reverend Jonathan Williams, as 'a Wiltshire gentleman, who purchased 10,000 almost worthless acres, which he is now converting into a paradise'. The estate was no doubt attractive on a number of grounds: Cwm Elan could be made an attractive summer residence, away from the family seat in south-west Wiltshire; its wild scenery of mountains and waterfalls had become fashionable;

it offered a challenge in agricultural terms of introducing new farming policies for increased productivity; and it presented opportunities for hunting which would have been attractive to a keen huntsman such as Grove. There was also the prospect of revenue from lead mining which was proving profitable just across the hill in Cwmystwyth.

In the early years of the 19th century Cwm Elan is described by Jonathan Williams as being

‘situated on the left bank of the Elan, in a narrow vale, surrounded by the hills, some of which are inclosed and cultivated, and studded with convenient farm-houses seated at proper distances, whilst others are entirely covered with groves of oak from their summit down to the waters-edge’.

Indeed, so impressive was the scenery that Jonathan Williams himself considered that ‘nor is there another parish in this county or perhaps in the Principality itself, that can exhibit more romantic scenes of Nature than those well wooded, watered, and rocky yet fertile districts’.

The agricultural improvements being introduced by landlords such as Thomas Grove are alluded to in the blank-verse poem of 350 lines entitled ‘Coombe-Ellen’ (Cwm Elan) published in 1798 by William Lisle Bowles, embracing the romantic movement of the late eighteenth and early nineteenth century. In the words of Desmond Hawkins, ‘the poem reaches a climax when the poet ends his contemplation of the awesome solitude and pristine beauty of untouched Nature with the thought that human cultivation can further enhance the scene’, probably to be taken as a reference to the new arable rotation and clover which were being introduced by improving farmers and landowners at this period:

‘here I bid farewell
 To Fancy’s fading pictures, and farewell
 The ideal spirit that abides unseen
 ‘Mid rocks, and woods and solitudes. I hail
 Rather the steps of Culture, that ascend
 The precipice’s side. She bids the wild
 Bloom, and adorns with beauty not its own
 The ridged mountain’s tract; she speaks, and lo!
 The yellow harvest nods upon the slope;
 And through the dark and matted moss upshoots
 The bursting clover, smiling in the sun.
 These are thy offspring, Culture!’

Thomas Grove of Cwm Elan was to become one of Walter Davies’s local correspondents in his report on *Agriculture and the Domestic Economy of South Wales*, published in 1815 on behalf of the Board of Agriculture. Indeed, on Davies’s first visit to Radnorshire in 1802, he entered the county via Cwmystwyth and headed straight for Cwm Elan, describing Groves as ‘an improver on the Wiltshire system’, then taking in the estates at Nantgwyllt and Noyadd before proceeding to Rhayader. Notes compiled by Davies make references to some of the improvements that Grove had introduced to sheep farming, including the folding his flock and the crossing of native breeds with the Southdown. He also noted the lead ore discovered and being worked on Grove’s estate. The property was transferred to his son, Thomas Grove junior before about 1809 when he succeeded his father as High Sheriff of Radnorshire. The son, like his father before him, continued to make Cwm Elan his residence for about three months each summer, and maintained the agricultural improvements that his father had set in train. In 1811, Walter Davies noted with some relief that the rumours suggesting that the Cwm Elan estate had deteriorated since the son had taken over were unfounded.

The folding of sheep introduced by Grove upon his estate in the late 18th and early 19th century may have

involved the enclosure of selected areas of the moorland and the grazing of crops grown for fodder, perhaps including the ‘bursting clover’ referred to by Bowles, which would have had the advantages of improved nutrition for the livestock, controlling breeding, and improving soil fertility through manuring. These and other improvements had become commonplace towards the end of the 19th century. The Reverend R. W. Banks, writing of Cwmteuddwr in 1880 noted that although the intermixing of herds legally prevailed ‘the practice has been for each tenant to secure a distinct sheep walk and maintain his rights on it by keeping a strong flock, with as little change of sheep as may be’. Writing in about the first decade of the 19th century, Jonathan Williams praised the quality of the animals produced by the local farms:

‘many boast of a produce and stock scarcely to be surpassed for quality and usefulness in any part of the county. The sheep of this parish, which depasture upon the hills the whole of the year, are second to none in the Principality of Wales for symmetry of form, and a sound constitution; and the flavour and delicacy of their flesh are not surpassed by English venison, whilst their wool is admired for its fineness and sought for by the manufacturers of cloth’.

Until about the middle of the 18th century the wool from the district was probably processed locally, but after that date is probably supplied the burgeoning woollen industry in Newtown and Welshpool in the Severn valley in Montgomeryshire.

Most of the cattle in Cwmteuddwr at this period were kept ‘to supply the demands of the dairy’, and significantly a number of farmhouses such as Ciloerwynt were extended in the 18th century to include a separate dairy. Jonathan Williams acknowledged that the ‘small black and brindled cows, the aboriginals of this part of the county . . . have of late years undergone great improvement’ by crossing with Shropshire and Staffordshire breeds, but he was critical of the introduction of beef producing breeds such as the Hereford which (though disputed by other contemporary writers) he considered were ‘ill adapted to contend with the frequent inclemency of the weather, or to thrive with a scanty herbage, or in short to fulfil those purposes to which the climate of this county and the nature of the soil are more peculiarly adapted’.

The period from the 18th to the 20th centuries throughout Wales, however, witnessed an increasing emphasis upon sheep farming and a lessening in importance of lowland cattle farms and upland dairies alike. Longhouses with a byre became redundant, being replaced, if at all, by separate farmhouses and cattle sheds. The more inhospitable *hafodydd* and *lluestau* were abandoned, flock management on the Elenydd moorland during this period being marked by the erection of drystone sheepfolds, often with multiple pens, by occasional sheep shelters and by small drystone shepherd huts and shelters, sometimes built out of the ruins of the earlier summer houses. Shearing was carried out at the lowland farms in the spring, various of the larger farms and estate centres such as Nantgwyllt having barns where the wool was stored before being sold to dealers. This is possibly amongst the buildings shown in a drawing showing shearing under way in Eustace Tickell’s book, *The Vale of Nantgwyllt*, published in 1894.

Early woodland plantations

Ordnance Survey maps of the later 19th century identify a number of relatively small woodland plantations on the sides of the Claerwen and Elan valleys, that were no doubt amongst the investments being made by landlords and tenants from the late 18th century onwards. Eustace Tickell’s 1894 essay, published just before the flooding of the valleys describes Nantgwyllt as being ‘backed by wooded slopes of oak spruce and larch, interspersed with towering groups of Scotch fir’, which are also shown sketches which accompany his essay, some of these plantings evidently having been ornamental.

Hunting

The landscape being developed by some of the larger landowners in the area in the later 18th and earlier 19th

century was also taking the huntsman into account. William Lisle Bowles's poem, referred to above, seems to allude to Thomas Grove's love of hunting:

'All day, along the mountain's heathy waste,
Booted and strapped, and in rough coat succinct,
His small shrill whistle pendent at his breast,
With dogs and gun, untired the sportsman roams'.

Hunting was a pursuit shared by other gentry of the area. One of the sons of the Lewis family of Nantgwyllt was to be commemorated in the popular early 19th-century hunting song 'Cŵn Squeir Lewis Nantgwyllt' ('The hounds of Squire Lewis of Nantgwyllt'). Jonathan Williams noted that 'grouse, both of the black and red species' were to be found on the moorland, and though little effort appears to have been made in developing a shooting estate in the area at this date a number of former shooting butts are to be seen on the Elenydd moorland which may belong to this period.

Rabbit farming and crop cultivation in the uplands

Further agricultural innovations that may have been introduced to the area by go-ahead farmers and landowners such as Thomas Grove intent on enhancing their revenue from the land are the groups of artificial rabbit warrens or 'pillow mounds' and areas of ridge and furrow to be seen on parts of the moorland of Elenydd.

An impressive group of eight pillow mounds is to be seen on Esgair y Ty, just to the west of Pont ar Elan. A number of the mounds are up to about 40 metres long, 6 metres wide and a metre high, and clearly represent a significant investment by landlord or tenant. Further groups of mounds are to be seen near Glanhirin farm and near Aber Glanhirin farm, respectively about 1.5 and 3 kilometres further to the west. Two further mounds are known on the saddle between Esgair Dderw and Penrhiw-wen, closer to Rhayader. Excavations elsewhere have shown that mounds of this kind were constructed with artificial burrows entering from the sides, which would enable rabbits to be periodically culled with the help of ferrets, to be marketed for both their meat and skins. Artificial rabbit warrens were being built as early as the medieval period, but here it seems more likely that they are post-medieval in date. A concentration of other similar groups of pillow mounds in Radnorshire and in Breconshire has suggested that they may have supplied markets in the expanding industrial towns of south Wales and the Marches. Their siting, near the turnpike road across the moorland, would have helped in getting produce quickly to market.

Former cultivation in the uplands is represented by a number of discrete areas of narrow ridge and furrow some of which has only been identified quite recently as a result of aerial reconnaissance. Some of the ridging is to be found in the same general area as the pillow mounds, as for example on the southern slopes of Esgair y Ty and within the area of the encroachment at Aber Glanhirin. Other areas of ridging are known near the encroachment at Llest-pen-rhiw and on the slopes of Moelfryn (on the hills above Nannerth), on Cefn Gwair (west of the Craig Goch reservoir), on Cefn Cwm (east of Craig Goch reservoir) and in various places on Carn Gafallt (to the south-east of Elan Village). The ridging is generally fairly low and narrow, being up about 4 metres and as little as 1.5 metres wide and mostly lies between about 300 and 400 metres above sea level, on or beyond the margin of where traces of cultivation might be expected, and mostly lies on the more sheltered, south-facing slopes.

There is no certainty that all the ridging belongs to a single period, and although some might be of medieval or late medieval date, it seems likely that much if not all belongs to the same period of agricultural innovation to which the pillow mounds appear to belong, representing perhaps a relatively short-lived period of cultivation during the late 18th and early 19th centuries. Some of this upland ploughing is enclosed by earthen banks, though in some cases it is uncertain how crops were protected from stock grazing the adjacent moorland. Aber

Glanhirin farm significantly still possesses a small stone-built threshing barn of this period in which corn grown on these ridges was threshed.

Fieldsapes

A variety of different field boundary types had emerged within the landscape of the area by the end of the 19th century, some of great antiquity and others of more recent origin.

Most of the lowland area to the west of Rhayader, in Cwm Dulas and in the lower Elan and Claerwen valleys is likely to have been cleared and utilized for pastoral or arable agriculture here from early times and has resulted in a number of different kinds of fieldscape. Most of the area is characterized by irregular, small to medium-sized fields, many of which may have originated from medieval or earlier times, generally with low-cut, multiple-species hedges with scattered more mature trees.

A relatively small number of fields have been amalgamated in recent decades, with former hedge lines represented by low earth banks or intermittent lines of trees or bushes running across a field. In these low-lying areas there are a number of relatively small and discrete areas with more regular field patterns suggesting enclosure of former open pasture in the post-medieval period.

As noted above there seems a possibility that the regular field system along the north bank of the river Elan between Coed-y-mynach farm and Noyadd, some of it associated with ridge and furrow possibly of medieval origin, may have been associated either directly or indirectly with the monastic grange centre at Llanfadog.

The areas towards the wooded valley sides, most notably in Cwm Dulas, around the head of the Nant Madog valley near Galedrhyd, and around the head of the Nant Caethon and Nant Gwynllyn valleys between Rhydoldog and Treheslog, are characterized by smaller irregular fields which have the appearance of assarts, created by felling parts of the adjacent woodland. Similar field patterns clearly once existed in the Claerwen and Elan valleys which are now flooded and likewise probably represent the emergence of freehold farms in the medieval and late medieval periods. Most of these fields remain in use though a number of former hedges have become overgrown and replaced by post and wire fences, and in places field boundaries around the upland margin have effectively been abandoned and are either with overgrown or have intermittent hedges or engulfed in heather or bracken. A number of small areas of former field, such as in the area of The Clyn on the south side of Cwm Dulas, have been overplanted by conifers.

The lowland fields are predominantly used for pasture and fodder crops today, though the presence of field lynchets, particularly on more sloping ground, suggests that a higher proportion of land was cultivated for cereal or other crops in earlier centuries.

The uplands of Elenydd have remained unenclosed apart from the relatively small areas enclosed by encroachments. These generally have a smaller, earlier, core of fields or paddocks around the habitation defined by earth and stone banks, which may once have supported hedges or timber fences, some of which are likely to date from the medieval or early post-medieval periods. The holdings have often been extended by additional fields defined by post and wire fences, a technique dating from the second half of the 19th century to the present day. Sheep could feed all year on the common grazing and the enclosed fields around the upland farmsteads are likely to have been used for temporarily holding cattle overnight, or for calving or milking, or for protecting crops of hay to be fed to cattle or horses over the winter.

A number upland encroachments have polygonal walled enclosures of two or three hectares in extent, as at Lluestpen-rhiw above Nannerth, Blaen Methan in the Nant Methan valley, on the bank of the Rhiwnant stream south of the Claerwen valley, and at Cerrigcwplau, just below Claerwen dam. The walls, often now dilapidated, are constructed of either large upright slabs (as at Cerrigcwplau) or of drystone walls, or a combination of the two, depending upon the

nature of the material available locally. The dating of these walled enclosures has still to be firmly established, but they seem likely to be of later 17th to early 19th-century date.

Probably of similar date are occasional walled boundaries between neighbouring farms or estates, and the wall which isolates the mining operations at the late 18th- and 19th-century Cwm Elan mine, in the Nant Methan valley, west of the Garreg-ddu reservoir, from the neighbouring animal pasture. Walled yards and paddocks can be seen at a number of farms, as at Cnwch.

In contrast with many other upland areas in Wales there appears to have been relatively little late 18th- or early 19th-century enclosure around the margins of the upland area, though late enclosure defined by post and wire fencing are present on Cefn Gwair, west of Craig Goch reservoir and on Rhos y Gelynnen and Gurnos, to the west of Caban-coch reservoir.

Relict field boundaries in the form of banks and ditches can be seen around the shore line of the reservoirs of the Elan valley during periods of low water. Most, if not all of these boundaries are to be seen on Ordnance Survey maps of the late 19th-century, before the construction of the dams. Some of these older boundaries have been replaced by modern post and wire fences which extend down into the waters of the reservoir, to prevent stock from straying in periods of drought.

Development of farmhouses and gentry houses

The association of the Grove family with the Elan valley ended in 1815 when Thomas Grove the younger sold the Cwmeuddwr grange. By the later 18th century the principal landed estates in the area were the Peeles of Cwm Elan, Lewis Lloyds of Nantgwyllt, the Olivers of Rhydoldog, the Evanses of Noyadd, the Prickards of Dderw and the Davises of Gwardolau.

Two of the principal gentry houses of the area, Cwm Elan and Nantgwyllt, were to be demolished to make way for the Elan valley reservoirs. Their appearance and setting, however, is preserved in contemporary photographs and sketches of the 1890s. Cwm Elan, described by Jonathan Williams as having been 'a neat and elegant mansion', was a tall mansion of three storeys and three bays, which had been built by Thomas Grove after 1792. Nantgwyllt had been a low stone house with a pedimental gable which had probably been enlarged by Thomas Lloyd about 1770. Despite its picturesque setting it was considered 'bitterly cold and damp in winter, for the wooded slope south of the Claerwen shut out all the sunshine and was described by Percy Bysshe Shelley who rented it in 1812 as 'silent, solitary, old'.

The flooding of the Elan valley removed notable gardens associated with the two gentry houses of Cwm Elan and Nantgwyllt. Jonathan Williams describes the setting of Cwm Elan:

'The approach to the house is over a handsome stone bridge of one arch leading to a fine verdant lawn, which forms a curve with the course of the river and unites a 'singular combination', as a certain elegant author describes the situation, 'of natural and artificial beauties, of wild scenery, and elegant ornament, of a foaming river, and rugged rocks, perpendicular precipices, and lofty mountains, contrasted with rich meadows and neat enclosures, leaving apparently nothing deficient to complete this singular and picturesque scene.'

Nantgwyllt was accompanied by ornamental tree plantings and a lawn stretching down to the banks of the river Claerwen. Unlike the house, the walls of the large, polygonal walled garden behind the house and the adjacent 18th-century road bridge across the Nant Gwyllt were left intact when the Caban-coch reservoir was created and are still to be clearly seen when the water level of the reservoir drops.

Rhydoldog is one of the few surviving 18th-century gentry houses in the area, 'built somewhat in the cottage style' in about the middle of the 18th century but subsequently enlarged, replacing a 17th-century house. The present Dderw house was built in about 1870, replacing an earlier brick-built house of 1799, which in turn replaced an earlier house of perhaps the 16th century.

The Dderw house lies with a small park in a striking valley-bottom setting adjacent to the deep gully of the Nant Gwynllyn. The park appears to date from about 1800, being enclosed on the west by belts of ornamental woodland, with water features, late 19th-century kitchen garden and a formal Arts and Crafts style terraced grass garden and orchard added in the 1920s.

A number of the both upland and lowland farmhouses within the area were being rebuilt or enlarged during the course of the 18th and 19th centuries. The now-ruinous farmhouse at Llust-aber-caethon, probably built on the site of an earlier house, has a stone in the chimney stack inscribed 'D. E. 1814 CLETTWR', perhaps signifying that it was built by the owner of the adjacent Llust Clettwr. New farmhouses were built at Cerrigcwplau, Hirnant and Rhiwnant in the later 19th-century, sometimes of local stone with brick window and door openings. Several farmhouses were evidently replaced or superseded during the 20th-century, the longhouse at Llannerch-y-cawr being superseded by a new bungalow, the Victorian farmhouse at Cerrigcwplau demolished and replaced shortly after the construction of the Claerwen dam, and the longhouse at Ciloerwynt which was demolished and replaced by a modern, single-storey farmhouse.

METAL MINING IN THE LATE 18TH AND 19TH CENTURIES

The historic landscape includes a number of distinct mining landscapes of the late 18th and early 19th century which, though peripheral to and on a smaller scale than the more extensive workings in the upper Ystwyth valley in north Ceredigion, just to the west, are important in terms of landscape history of the historic landscape area. Most of the mines within the Elan valley are fairly well hidden from view, though occasionally the heaps of mineral waste and leats for harnessing water power for processing ores had a somewhat broader impact upon the landscape.

Despite a short-lived attempt to smelt the ores in Aberystwyth in the late 1780s and early 1790s, most of the processed ores from these small Radnorshire mines, like those from Cwmystwyth, were initially transported across the mountains to the coast, to be taken by sea to Deeside or to Neath or Swansea for smelting, though from 1864 onwards rail transport for ores was available from Rhayader.

There is no evidence of prehistoric or medieval workings at any of the mines in the Elan Valley historic landscape area though it is likely that early mining in Cwmystwyth will have had a visible and environmental impact upon the western side of Elenydd by the later 16th century when John Leland records that mining 'hath destroid the Woddes that sometime grew plentifull thereabout'.

The mine known as the Cwm Elan mine produced lead and zinc ores, appears to belong to a single phase of operation, and provides what is perhaps the best example of late 19th-century mining technology and planning in Powys, with the structures still remarkably well preserved. It lies on the western slopes of the Nant Methan stream in an upland valley on the edge of the moorland area to the west of the Garreg-ddu reservoir and originated from the discovery of lead ore during the digging of a drainage ditch in 1796, no doubt as part of the agricultural improvements being introduced on the estate of Thomas Grove. The early workings, which may have included a series of shallow open-cuts along the banks a stream flowing into the Nant Methan, were initially worked Grove who subsequently leased out the operations. The main phase of working, responsible for the majority of surviving structures, began in 1871 with the formation of the Cwm Elan Mining Company and by the following year included shallow and deep adits and

shafts. A processing mill began operations in 1873 with equipment supplied by William Thomas of Llanidloes Foundry, powered by three waterwheels, the largest of which was thirty-six feet in diameter. The waterwheels were powered by a 16-kilometre leat running on a carefully surveyed course across Elenydd moorland from Llyn Cerrigllwydion Isaf, 170 metres higher up and just 7 kilometres away as the crow flies, which took three months to complete. Drought and lack of funds forced the company into liquidation in 1874. Visible surviving remains include partially collapsed shafts, ore-bins for the storage of ore, platforms for stone houses and jiggers and a buddle for processing ore and settling pits. Surviving ruined stone buildings survive which were associated with the mine, including an explosives' magazine, a smithy and a mine manager's house and office, probably all built from stone obtained from the adjacent small stone quarry. There is also the remains of a red brick house built in the 1890s by the Birmingham Corporation Waterworks after they had acquired the Elan Estate to construct the existing reservoirs.

A second mining complex which produced copper and lead ores is to be seen in the valley of the Rhiwnant and Nant y Carw, to the south of the Claerwen valley, comprising a number of different small mines. Dalrhiw lay on gently sloping ground on the south side of the Rhiwnant. The earliest workings are marked by of an adit driven south from the banks of the stream in 1850, but a greater impact upon the landscape resulted from the subsequent sinking of a shaft and the development of on-site processing driven by waterwheels drawing power by water from leats taken off the Rhiwnant. Visible remains of the mining operations include a shaft from which ore was raised by means of a horse whim, ore bins, and a small crusher house powered by waterwheel, a wheel pit to house a fifty-two foot wheel for pumping, and a another wheel pit which probably powered jiggers. As at Cwm Elan there are the ruins of a number of stone buildings including the mine office or manager's house, a possible smithy, and a small walled enclosure, possibly a garden. A low earthwork enclosure just south of the mine buildings may have been used as a pound for horses employed at the whim or for the transporting the processed ore away from the mine. The workings here continued until 1881.

The third mine sett known as Nant y Car South, on the north bank of the Rhiwnant stream opposite Dalrhiw mine, produced copper, lead and zinc ores. As at Dalrhiw, the earliest workings appear to have been a series of adits driven into the hillside close to the stream. The main development of the mine took place during the 1860s and 1870s and involved the sinking of a shaft and the construction of an impressive crusher and wheelpit, along with other related structures which form the main features of the site. The spoil tips of development and processing waste create a distinctive landscape feature with the characteristic 'fingers' of spoil radiating below the shaft and ore-bins. The Nant y Car mine originally operated at a site on the south side of the Claerwen valley, to the north, where trials had been worked before the middle of the 19th century. From 1844 working developed on a much larger scale and by the 1850s a rich vein of copper ore was being exploited, although by 1854 this had proved disappointing. Prospecting elsewhere in the sett in 1855 revealed a promising lead lode in an adit on the north side of the Rhiwnant stream, at the mine to become known as Nant y Car South. The following year additional machinery was brought in to deepen the workings, although the lode ultimately proved disappointing and the company was wound-up in 1859. Visible remains at Nant y Car South consist of a series of adits driven in from the banks of the stream, an engine shaft with the adjacent foundations of a winding house, a tramway and ore-bins, waste tips, and platforms for a crusher and jiggers, and two circular buddles for ore processing, powered by a waterwheel.

A new and richer load was discovered in about 1883 further up the valley at the Nantygarn mine, leading to the abandonment of Nant y Car South. The mine occupies the only available ground on a natural terrace at the mouth of a hanging valley high above the Rhiwnant. Below the site the main valley sides are precipitous and rocky, while above more gently sloping ground rises to the moorland plateau to the north. The view eastwards from the site is spectacular, looking down the Rhiwnant Valley to Dalrhiw, Nant y Car South and beyond. The surviving remains which have transformed this remote upland location are the result of more than one period of tenure, although they are dominated by the latest phase of activity which saw the installation of a processing mill for which the site is perhaps best known. Other substantial structural remains survive, including the shaft, wheelpit, and smithy. Extensive spoil tips of processing waste spread outwards from the processing mill, while at the bottom end of the site spoil

tumbles down the steep valley sides to the Rhiwnant below. Visible structures include a substantial crushing mill, still standing to a height of over 4 metres, powered by a leat constructed in 1893 carrying water from Llyn Carw, about 100 metres higher up and 2 kilometres away to the west, jiggling platforms, and a small circular buddle, reservoir and settling pits. Building remains include possible barracks for housing workers during the week, a smithy, a mine office and possible manager's house and explosives' magazine which survives intact but without a roof, to a height of over three metres.

The Nantygarn mine, the latest and most remote of the Elan valley mines was wound up in 1893, and although little is known of the workings, 50 men were employed, suggesting a reasonably sizable enterprise. Despite large returns the company went into liquidation in 1897 and although some activity continued until 1899, all further mining was discontinued due to the risk of contaminating the Elan valley water supplies.

EARLY TRANSPORT AND COMMUNICATION

Early tracks and drove-ways

Various tracks and paths became established across the historic landscape area from early times. Early routes no doubt included ones which gave access to early settlements the Elan and Claerwen valleys from the Wye valley, as well as the mountain route from the Wye valley to Cwmystwyth via the upper Elan valley, a line of communication which the Roman marching camp on Esgair Perfedd suggests has been in use since at least Roman times. This route is shown on a number of late 17th and early 18th century maps, including Morden's map of South Wales published in Camden's *Britannia* of 1695. Other early routes across Elenydd were one linking Claerwen valley with the upper reaches of the Teifi valley and Tregaron, and another which strikes off across the mountain from the direction of the upper Teifi valley towards Aberglanhirin in the upper Elan valley and then directly down to the Wye valley near Llangurig.

Many of these early routes were only suitable for those travelling on foot or on horseback, though a horse-drawn wheeled sledge known as a 'wheel-car' (*sled olwynion*) is known to have been used in the area before the advent of mechanised transport which was ideal for carrying loads of peat, hay, heather or even fern across the wet moorland and steep valley sides. A sledge of this kind, a typical form of agricultural transport on early farms in Montgomeryshire and Radnorshire, was photographed in the Elan valley by Iorwerth Peate in the early 20th century

A number of the routes across the mountains formed part of recognised drovers' ways across Radnorshire linking Carmarthenshire and Ceredigion farms with the market towns in either the English Midlands, a trade in its heyday in the 18th and early 19th centuries. Four routes have been suggested across Elenydd from the account books of 19th-century drovers, early maps, earthwork and place-name evidence. The most northerly drove-way across Elenydd, leading to Shrewsbury and the north Midlands, went from Cwmystwyth (Ceredigion), along the upper Ystwyth valley and across Yr Allt to Llangurig (Montgomeryshire). A branch from this route probably also struck off along the turnpike road along the upper Ystwyth and Elan valleys to Rhayader. A further drove took cattle either via Llangurig or Rhayader, on a route from Ffair Rhos (Ceredigion) via the upper Claerddu and Claerwen valleys and the 'Ancient Road' to join the Cwmystwyth-Rhayader road near Aber Glanhirin or to continue northwards into the Wye valley by way of Cefn Bach. The further drove-way from Pontrhydfendigaid (Ceredigion), appears to have gone via Strata Florida, the upper Irfon valley, across Drygarn Fawr, and along the Rhiwnant valley to the lower Claerwen valley and thence to Rhayader via the Elan valley. This appears to have shared part of the same course as a drove from Tregaron (Carmarthenshire) which crossed the southern tip of Elenydd before taking a course along the Irfon valley to Abergwesyn (Breconshire).

A number of the routes across Elenydd are popularly held to have monastic associations, and although this

historical association is uncertain a number of the routes are undoubtedly of considerable antiquity. The 'Ancient Road' mentioned above is shown on Ordnance Survey maps of the 1890s and is known colloquially as the 'Monks' Way' or 'Monks' Trod', supposedly linking the Cistercian abbey at Strata Florida with its daughter house at Cwmhir. It was popularised in John Williams's *History of Radnorshire*, compiled in the early 19th century, which envisaged the monks of the monastic grange at Nant Madoc, near Elan Village, visiting their mother house at Strata Florida,

'either for the purpose of their mutual peace and edification, or for consulting together on their temporary interests; and it is recorded that the inhabitants of this religious establishment were accustomed on certain periodical seasons, to visit their brethren in the abbey of Strata Florida . . . marching over the hills in procession, and making the rocks re-echo their loud and chaunted hymns. Their road over the mountains may at this date be traced.'

Toll-roads

A few of these early tracks and routes across the mountains were to be improved during the course of the 18th and early 19th century to enable them to carry wheeled transport, in response to the increasing demands of trade, tourists and mail. The most prominent of these was the most direct route between Aberystwyth to Rhayader road across Elenydd, via Devil's Bridge and Cwmystyth, which was made into a toll road in about 1790. Surviving from this period are two typical early 19th-century round-headed roadside milestones, one to the east of Pont ar Elan and the other to the south of Dderw, inscribed with distances from Aberystwyth and Rhayader.

For many English travellers the sudden transition from lowland to upland scenery as they progressed on their coach journeys across Elenydd west of Rhayader often came as a shock. To quote Richard Moore-Colyer 'Henry Skrine wrote of his state of 'perpetual alarm' as he ascended the rocky road out of the town and subsequently lamented the dreary, treeless expanse of open hill which he traversed 'in mournful silence'. A more measured tone is registered in the diary of the scientist Michael Faraday in 1819: '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'. By 1829 this mountain route had been replaced as the main road between Aberystwyth and Rhayader by the more lowland road along the Rheidol and Wye valleys via Ponterwyd and Llangurig (A44/A470) which is now main route.

For a time, between the late 18th and the coming of the railways in the later 19th century there were occasional conflicts between the turnpike roads and the drovers and other travellers. Where possible, drovers would endeavour to keep to the unpaved mountain routes to avoid the tolls. The charges levied on other road users became very unpopular and gave rise to the 'Rebecca Riots' in parts of Wales. Trouble arose locally around Rhayader in 1842. In early September two gates where the Aberystwyth road branched off beyond the bridge over the Wye were destroyed and in the following month one of the most violent incidents of the riots took place halfway across the mountains at the Bodtalog tollgate, near Abergwngu Hill, when the lone woman who kept the gate was nearly blinded a powder-loaded gun. The riots resulted in a change in the law which established the County Road Boards which took over the responsibilities of the turnpike trusts from 1845.

Railway

The drovers' roads across Elenydd were to come to an end with the coming of the railways. This was marked locally by the Mid-Wales Railway from Llanidloes to Builth Road which opened in 1864 and which runs across the historic landscape area to the west of Rhayader. The railway closed in 1962, just under a century later, due to competition with road transport, the disused line of the railway still being marked by a cutting and by the short, 271-yard tunnel about half a kilometre south of Rhayader. The junction with the former Elan Valley Railway, just to the south of the tunnel, is described below.

LITERARY AND ANTIQUARIAN ASSOCIATIONS OF THE ELAN VALLEY

The history of the Elan valley today is dominated by two gentry mansions of Nantgwyllt and Cwm Elan, both now submerged below the reservoir, the families associated with them, and the inspiration they gave to several English poets of the romantic movement of the late 18th and early 19th century. The literary associations, though short-lived, have a profound and enduring effect upon our appreciation of the drowned landscapes of the Elan valley at the present day.

As noted above, the first of the poets to commemorate the Elan valley in verse was William Lisle Bowles, friend of Thomas Grove senior of Cwm Elan house. An edition of his extended blank-verse poem entitled 'Coombe-Ellen', published in 1801 is accompanied by an engraving 'from a drawing by Mrs. Grove'. In the words of Desmond Hawkins, the poem begins with an 'invocation to the spirit of wild untamed Nature':

'Call the strange spirit that abides unseen
In wilds, and wastes, and shaggy solitudes,
And bid this dim hand lead thee through these scenes
That burst immense around! By mountains, glens,
And solitary cataracts that dash
Through dark ravines.'

The Groves subsequently became related by marriage with the Bysshe Shelley family, one of whom in 1784 was High Sheriff of Radnorshire. The poet, Percy Bysshe Shelley came to Elan valley and stayed a month as the guest of his cousin, Thomas Grove, at the 'neat and elegant mansion' of Cwm-Elan in 1811. This was several months after the young poet had been sent down from Oxford following his co-authorship of the pamphlet called *Necessity of Atheism* and consequent estrangement from his family. In view of his reputation for eccentricity is it no surprise that Shelley was still remembered locally in the late 1870s.

His thoughts on the Elan valley, mostly contained in letters he wrote whilst staying there, were to become known from two biographies published before the end of the 19th century, after his death in 1822 at the age of 30. In a letter to a friend, Elizabeth Hitchener, he wrote from Cwm Elan in July 1811,

'This county of Wales is excessively grand; rocks piled on each other to tremendous heights, rivers formed into cataracts by their projections and valleys clothed in woods, present an appearance of enchantment but *why* do they enchant, *why* is it more affecting than a plain, it cannot be innate, is it acquired?'

In a note to Thomas Jefferson Hogg later in the month he wrote of 'waterfalls midst the umbrage of a thousand shadowy trees—form the principal feature of the scenery. I am not wholly uninfluenced by its magic in my lonely walks.'

Shelley was back in the valley with his first wife Harriet and sister-in-law in April the following year, and was this time staying at Nantgwyllt, a mile away from Cwm Elan, which he hoped to acquire. He wrote to William Godwin in April 1812 (a matter of only two years before his notorious elopement with Mary Wollstonecraft),

'We are not yet completely certain of being able to obtain the house where we now are. It has a farm of two hundred acres, and the rent is but ninety-eight pounds per annum. The cheapness, beauty, and retirement make this place in every point of view desirable. Nor can I view this scenery — mountains and rocks seeming to form a barrier round this quiet valley, which the tumult of the world may never overleap.'

A further letter describes the farm at that time consisting of about 200 acres was about 130 acres arable and the rest

wood and mountain. On 1 May he wrote, 'Give me Nantgwilt, fix me in this spot, so retired, so lovely, so fit for the seclusion of those who think and feel. Fate. I ask no more!'

The only mention of Cwm Elan in verse is in a poem of 1812 called 'The Retrospect, Cwm Elan, 1812', which though largely concerned with other matters, includes several descriptive passages:

'Ye jagged peaks that frown sublime,
Mocking the blunted scythe of Time,
Whence I would watch its lustre pale
Steal from the moon o'er yonder vale:
Though rock, whose bosom black and vast,
Bared to the stream's unceasing flow,
Ever its giant shade doth cast
On the tumultuous surge below'

Shelley tried to secure the lease of the estate for 'a little colony of enlightened souls' but protracted negotiations came to nothing. Despite his appreciation of the secluded and picturesque nature of the Elan valley he was not oblivious to social deprivations of the area. On his first visit to Cwm Elan in 1811 he was troubled mentally by an encounter with a beggar who claimed to have suffered at the hands of the better off. Shelley also spoke somewhat disparagingly about the local community: 'I have been to church to-day: they preach partly in Welsh, which sounds most singularly. A christening was performed out of an old broken slop-basin', and elsewhere 'I am all solitude, as I cannot call the society here an alternative to it', speaking elsewhere of missing letters and 'the pillage of the Rhayader mail'. Later, in 1812, after leaving the Elan valley he was to write of Wales, though not perhaps exclusively of Radnorshire, in the following terms:

'It is the last stronghold of the most vulgar and commonplace prejudices of aristocracy. Lawyers of unexampled villany rule and grind the poor, whilst they cheat the rich. The peasants are more serfs, and are fed and lodged worse than pigs. The gentry have all the ferocity and despotism of ancient barons, without their dignity and chivalric distain of shame and danger.'

The cultural significance of Shelley's appreciation of the secluded and picturesque nature of the Elan valley was recognised before the end of the 19th century, exemplified by the inclusion of an essay entitled 'Shelley at Cwm Elan and Nantgwilt' by William Rossetti, a member of the Pre-Raphaelite Brotherhood, in Eustace Tickell's *The Vale of Nantgwilt. A Submerged Valley*, published in 1894, as the Elan valley reservoir scheme was being constructed.

Attention was being drawn to the antiquities of *Elenydd* and the surrounding area early in the 19th century, in a fashion which combines the picturesque and romantic with a stab at a more rational and historical interpretations. In the second volume of his *History of the County of Brecknock*, published in 1809, Theophilus Jones speculates on the purpose of a number of antiquities on the southern portion of *Elenydd* in the parish of Llanwrthwl.

'A great part of this parish consists of lofty hills, bogs and commons; among the first is the Drygarn or Derwydd garn, (Mount Druid or Druid's rock) . . . On the top of this are many Carnau or Carneddau, large heaps of stones, as there were also upon a less elevated eminence not far from hence, called Gemrhiw [Gamriw].

On the road from Llandovery and Llangamarch to Rhayader, are seen stones placed irregularly in the ground, which have given a common, partly in this parish and partly in Llanafan, the name of Rhôs saith maen, or Seven-stone common; whether they are sepulchral, military or druidical remains, is not known, but from the name of Rhos y beddau, the common of the graves, not far from hence, nearer to the river Wye, it should seem that they commemorate a battle, most likely that of Llechryd and the slaughter in the flight of Riryd and Cadwgan.'

Jonathan Williams in his *General History of the County of Radnor*, published posthumously in 1859, likewise tried to associate what is in reality most probably a prehistoric burial monument in the neighbouring parish of Cwmteuddwr with historical events with which he was more familiar:

‘Near to Gwaith-y-mwynau there is a considerable tumulus, or barrow [probably the monument now known as Clap yr Arian, above the head of the Nantgwynllyn valley] . . . from thence may distinctly be seen the Castle of Rhayader, to which fortress therefore, it must have served as an outpost to give intelligence to the garrison of the approach of an enemy.’

Jonathan Williams also, as we have seen above, drew attention to the remains of the monastic grange in Cwmteuddwr, associated with the Cistercian abbey at Strata Florida.

In the 1840s, Lady Charlotte Guest, translator of the *Mabinogion*, became excited by the realisation that the cairn known as Carn Gafallt was mentioned in the 10th-century manuscript known as Nennius’s *Historia Brittonum* recording early folklore associated with the Arthurian legend that she ‘prevailed upon a gentleman to undertake a pilgrimage . . . to the summit of Cefn Carn Cavall. Her correspondent, who remains anonymous, prepared the following account of his expedition which combines romanticism with a rational interpretation of the association with one of Arthur’s hounds.

‘Carn Cavall, or, as it is generally pronounced, Corn Cavall, is a lofty and rugged mountain, in the upper part of the district anciently called Buellt, now written Builth, in Breconshire. Scattered over this mountain are several cairns of various dimensions, some of which are of very considerable magnitude, being at least a hundred and fifty feet in circumference. On one of these cairns may still be seen a stone, so nearly corresponding with the description in Nennius, as to furnish strong presumption that it is the identical as to furnish strong presumption that it is the identical object referred to. It is near two feet in length, and not quite a foot wide, and such as a man might, without any great exertion, carry away in his hands. On the one side is an oval indentation, rounded at the bottom, nearly four inches long by three wide, about two inches deep, and altogether presenting such an appearance as might, without any great strain of imagination, be thought to resemble the print of a dog’s foot . . . As the stone is a species of conglomerate, it is possible that some unimaginative geologist may persist in maintaining that this footprint is nothing more than the cavity, left by the removal of a rounded pebble, which was once embedded in the stone.’

The monastic associations of Elenydd and the Elan valley were being elaborated upon in the 1880s by the researches of Stephen Williams, the Radnorshire architect, who contributed a chapter entitled ‘The Grange of Cwmteuddwr’ to Eustace Tickell’s book, *The Vale of Nantgwilt*, published in 1894. Both Williams and Tickell were to be engaged upon the Elan valley reservoir scheme, Tickell being the civil engineer responsible for the construction of the Penygarreg dam. He was also a competent writer and artist, the numerous sketches in his book of the Elan valley before it was flooded by the reservoir, including views of Capel Nantgwyllt, and the houses at Nantgwyllt and Cwm Elan, amply illustrating its picturesque qualities. The object of Tickell’s book was 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 . . . Beautiful lakes they will doubtless be, winding up the valleys with sinuous margins, wooded promontories such as are seen on Derwentwater, frowning crags and screes which will remind one of Wastwater. But their construction dooms many a picturesque and interesting spot to destruction, and it would be indeed a pity if they should be allowed to pass away without some record, however inadequate.’

There were few visitors to the valley, since as Tickell observes ‘It lies hidden away amongst the mountains and leads

to nowhere. . . . The valley is visited by few, there being no inn for the tourist to put up at'. Tickell was conscious of the inevitable march of progress, however, and in counting the losses, observed that 'it must be remembered that, sad as it is, it would be difficult to find in this island a place where more than 70 square miles of land could be taken for a public purpose without dispossessing very many more people, destroying many more homes.'

In the same book, William Rossetti, perhaps with a vision of Millais' iconic *Ophelia* before him, was to introduce a more melodramatic air, prefiguring a theme which was to recur in a number of romantic novels of the early 20th century:

'Harriet Shelley died by her own deed in the Serpentine in 1816, Shelley in the Mediterranean waves in 1822; and now a watery doom effaces the scenes of their short-lived love, Nantgwilt and Cwm Elan. A world of waters, a world of death.'

These literary associations were well known when work began on Birmingham's reservoir scheme and are likely to have had a subtle influence on various picturesque aspects of its design.

THE ELAN VALLEY RESERVOIR SCHEME

The landscape character of the Elan valley changed dramatically with the construction of the reservoir scheme built between 1893 and 1906 for the corporation of Birmingham, but officially opened amidst much pomp by King Edward VII in 1904. The stunning new landscape that was created during this period, for which this area of western Radnorshire is justly famous, is thus mainly a Victorian to Edwardian in origin, created as a civic project by a distant city, though the valley's literary and historical associations continue to play an influential role in how the Elan valley is perceived. The qualities that contributed to the allure of the Elan valley's picturesque landscape — its the gushing streams, steep-sided valleys, and remoteness — were the very same as those which were to make it an ideal site for the Birmingham's reservoir scheme.

Birmingham, in common with other industrial cities in Britain, came under increasing pressure in the later 19th century to provide adequate water supplies for its rapidly expanding workforce, the population of the city at the time numbering about 650,000. Local water supplies were proving inadequate in terms of volume and had often become polluted, resulting in typhoid and cholera epidemics. As in the case of Liverpool Corporation's scheme a few years earlier at Lake Vyrnwy, Montgomeryshire, both the quantity and purity of the water were important factors, and Birmingham, like Liverpool, was to seek a solution to these problems in the Welsh hills, some 75 miles from the city.

The Elan valley had been first being examined as a suitable source for Birmingham's water supply in 1870 by Sir Robert Rawlinson. Nothing further was done for twenty years until 1890 when James Mansergh, the most distinguished water engineer of the day, was appointed as consultant engineer for the project. Mansergh had become familiar with the Elan and Claerwen valleys when working on the Mid-Wales railway in the 1860s. Birmingham Corporation had committed itself to the substantial investment that would be needed to ensure its water supplies to meet both present and future needs and accepted their consultant's recommendation to acquire the Elan valley watershed which a member of the corporation's Water Committee described as 'treasures of untold value'.

The Elan valley scheme, like Liverpool's early scheme at Lake Vyrnwy, was to be free of the political controversy that was surround the construction of reservoirs to supply English cities in Wales in the second half of the 20th century, as in the case of the Tryweryn reservoir near Bala, built for Liverpool in the early 1960s. Such opposition as there was, was largely concerned with the question of financial compensation and the potential disruption to existing water supplies. Some opposition was to be anticipated from the lord of the manor, Robert Lewis Lloyd of Nantgwilt though the committee in charge of the scheme 'very prudently therefore came to terms with that

gentleman early in the proceedings'. There was no serious opposition to the construction of the 73-mile aqueduct to the Frankley reservoir, near Birmingham, Mansergh noting somewhat sardonically in 1894 that 'landowners being well enough aware nowadays that they have little chance to stop a great and useful scheme of this character, and that their prudent policy is to acquiesce, with the chance of bleeding the promoters heavily for interfering with their property. Experience showing that in this process they are perhaps more than fairly proficient'. An extensive inquiry was also made into the rights and privileges of the local commoners.

The parliamentary bill granting the necessary legal powers to Birmingham Corporation to undertake the scheme became law in 1892. The determination of the area of the watershed to be acquired was in Mansergh's own words 'a comparatively easy problem (considered from a water engineer's point of view), because the contraction of the valley at Caban-coch, and the opening out above of the wide expanse of flat land, fixed at once the position of the dam of the lowest reservoir'. The extent of the watershed was mapped out by accurate survey onto Ordnance Survey plans and a three-dimensional scale model of the area was created, the watershed also being marked on the ground by stone pillars set at intervals. Birmingham was to purchase to entire watershed, an area of about 71 square miles, which Mansergh considered by the standards of 1894 to be 'an abnormally extensive tract of country to be secured in a mountain district', representing a large portion of the lands that had been granted by Rhys ap Gruffydd to the newly founded Cistercian monastery at Strata Florida in 1184.

Records of rainfall had been kept by the Lloyds of Nantgwilt since 1870, which indicated an average annual rainfall in the area of the watershed of about 70 inches, which over the area of the watershed would amount to an average of about 100 million gallons a day. Of this figure, the parliamentary bill provided for an average of 27 million gallons 'compensation water' to be passed into the Elan every day, although the act allowed for a proportion of this to be reserved to create periodic spates to help the fish to run up the river.

The scheme as originally envisaged, allowing for future expansion, comprised six reservoirs, three on the Elan — Caban-coch (partly on the Claerwen), Penyarreg and Craig Goch, and three on the Claerwen — Dol-y-mynach, Ciloerwynt and Pant-y-beddau. It had always been the intention that the work would be 'carried out by instalments to meet the growing requirements of the districts to be supplied'. The three Elan reservoirs were sufficient to meet the city's needs in the first decade of the 20th century and consequently the projected Ciloerwynt and Pant-y-beddau dams were never built. The foundations of Dol-y-mynach dam and the Dolymynach tunnel from the Claerwen to the Elan were built at an early stage, however, since the site of the dam would be flooded once the Caban-coch reservoir had filled up, but the dam was never completed as originally envisaged and only a small reservoir was created. The original proposals in the Claerwen valley were to be superseded by the construction of a single much larger dam, built in the late 1940s and early 1950s, described below. A symmetrical pair of hydroelectric power houses below the Caban-coch dam retaining their original turbines and generators which formed an integral part of the Elan valley reservoir scheme.

Contemporary technology favoured the construction of relatively high, stone-built dams across steep-sided valleys. A feature of the scheme considered by Mansergh to be 'novel and unique' was that in order to maintain a sufficient fall in the aqueduct between Elan and Birmingham it was necessary for the water to be drawn off above the lowest dam at Caban-coch. Water is therefore taken off at the Foel tower, at a point just above a weir below the Garreg-ddu viaduct, normally submerged 40 feet below the surface of the reservoir, the viaduct being necessary to carry the road further up the Claerwen valley, replacing the earlier road in the valley bottom. The water is carried from Foel tower in a tunnel excavated below Foel hill and running to the filter beds opposite Elan Village and from thence in the direction of Rhayader. The average height of the three complete dams, Caban-coch, Penyarreg and Craig Goch and was about 120 feet, the thickness of their bases being designed to be just about equal to their height.

The basic construction of the dams was of large irregular blocks of rubble embedded in concrete with a concrete lining six feet thick, faced upstream and downstream with facings of shaped stones arranged in snecked courses.

Stone for the core of the dams at Caban-coch, Penygarreg and Craig Goch was obtained from the two quarries specially opened on the same outcrop of conglomerate on opposite sides of the river Elan near Caban-coch — Cigfran quarry to the north and Craig Cnwch to the south, and the Aberdeuddwr quarry on Cerrig Gwynion, just to the south of Rhayader. Facing and other dressed stone was obtained from the quarries at Llanellwedd near Builth Wells and at Pontypridd. Cement came from works on the river Medway in south-east England, being delivered by sea to Aberystwyth and then by rail to the Elan valley. The cost of the Elan valley scheme ran slightly over budget due to the failure to find suitable building stone near any of the dams apart from Caban-coch, and the necessity of bringing additional stone in from further afield.

Building materials were delivered to the Elan valley by means of the Elan Valley Railway, specially constructed by Birmingham Corporation for the waterworks, the first section of the railway to be built, being the three-mile length from Rhayader Junction on the mid Wales section of the Mid-Wales Railway to the depot below the site of the Caban-coch dam, on the north bank of the Elan, which included a cement cooling shed, general stores, coal depot, workshops for carpenters, smiths, fitters and waggon builders, and sawmills. The various railway tracks leading to each of the dams had a total length of 33 miles and was worked by six locomotives capable of transporting 1,000 tons of materials a day.

In addition to the transport of materials, the railway was also used for transporting workmen from the temporary settlement of wooden huts constructed on the south bank of the river, on the site now occupied by Elan Village, occupied by skilled and unskilled workmen and clerical workers engaged on the scheme. Careful enquiry was made of other large contemporary civil engineering schemes to establish best practice in maintaining discipline and lawfulness, avoid drunkenness and illness in a large, temporary, and predominantly male workforce. Problems of nature had arisen just a few years before when a large influx of workers had arrived in a similarly remote rural setting to build the Liverpool Corporation's reservoir scheme at Lake Vyrnwy, Montgomeryshire. The village was provided with hospitals, schoolroom, public hall, fire brigade depot and canteen. The canteen was unique for its time in being a municipal public house, all the profits of which were devoted to the social welfare of the community, covering the costs of the mission room, recreation room, gymnasium, free library, recreation grounds and bathhouse. Access to the village was controlled by means of a guarded suspension bridge across the river Elan.

Like other large engineering works, the workforce was drawn from all over Britain. The resident engineer throughout the works was George Yourdi, 'an expert in cement work' of Greek and Irish parentage, who 'has tramped miles up and down the valley, inspecting, directing, controlling, everywhere, on the coldest of frosty winter days or in the most torrid summer heat'. Other engineers engaged upon the work included Eustace Tickell who supervised the construction of the Penygarreg dam, and who also, as mentioned in an earlier section, produced the book entitled *The Vale of Nantgwilt: A Submerged Valley*, published in London in 1894. Yourdi occupied the house at Nantgwyllt throughout much of the works, the principal offices occupying a site below the Garreg-ddu weir, near the confluence of the Elan and Claerwen.

Survey work and question of valuation and compensation within the Elan valley undertaken on behalf of Birmingham Corporation by the local surveyor and architect Stephen W. Williams, appointed James Mansergh, who had previously worked with him on the railway schemes in mid Wales. Williams was also made responsible for building the village to house the workmen working. Williams had long been engaged upon his researches on the Cistercian houses of Wales and being familiar with local antiquities was instrumental in effecting a realignment of the Elan Valley Railway to avoid the site of the grange chapel near the Elan Valley Hotel. Williams also designed what became the Birmingham Corporation Water Board's offices in South Street, Rhayader, built originally for his own use in 1893, and was the architect of Nantgwyllt church near the southern end of the Garreg-ddu viaduct, which replaced one drowned by the rising waters of the reservoir, under construction in 1898 and opened in 1903. Sculptured corbels inside the church are thought to include

representations of Stephen Williams and possibly of James Mansergh.

Demolition and flooding of existing houses and buildings within the Elan valley was inevitable. As noted by Mansergh in 1894

‘In the execution of these works (in addition to Nantgwilt already mentioned), there will be submerged the residence of Cwm Elan, the little church at Nantgwilt, the school, the Baptist chapel, and twenty farm and other buildings. With these, practically the whole of the valley lands now worked for agricultural purposes will be covered, leaving the area from which the water will be collected a vast tract of nearly uninhabited moorland, used only as sheepwalk.

All the manorial and other rights have been acquired so as to stop mining or quarrying of any description, and ample powers are possessed in the Act to prevent any chance of pollution, and ensure the collection of the water in its pristine purity’.

Careful attention was evidently given in the design and planning of the works to cause as little blemish as possible to the landscape of the Elan valley. Where possible, work yards, processing plants, railway cuttings and other essential works of this kind were sited in places where they would eventually be flooded by the rising waters of the reservoirs. Some elements of the works remain visible, however, including parts of the course of the railway tracks to Penyarreg and Craig Goch dams, the brick railway bridge across Nant Hespog as well as the course of the link to the former Mid-Wales Railway at Rhayader.

A foundations of number of the former houses are exposed during periods of low water, including those of Cwm Elan and Nantgwyllt, the walled garden and road bridge at Nantgwyllt, and the former farmhouses at Ty Nant below Penyarreg reservoir and Dol-faenog below Garreg-ddu reservoir. Various elements of the construction works are likewise exposed during periods of drought, notably the mason’s yard to the south-west of Caban-coch dam, and the stone and timber foundations of a workmen’s hut just to the west of the Craig Goch reservoir, similar to the complete hut which survives near the Elan Valley Visitor Centre.

The engineering-architecture of the project lends the area a strong unifying quality, as it is clear that the whole landscape of the reservoirs was carefully designed, not only in the interests of utility, but also consciously as spectacle. The lakeside roads and plantings, the carefully contrived viewpoints, especially that below the Penyarreg dam, and picturesque effects such as the siting and juxtaposition of Nantgwyllt church, Garreg-ddu viaduct and the Foel tower, a visual focal point of the entire scheme, suggest a strong governing aesthetic. The Garreg-ddu viaduct, a is one of the important visual element of the scheme and although well above the submerged weir, in Haslam’s words, ‘gives the illusion on of crossing a shallow lake’. Mansergh’s intentions are quite clear, stating that ‘when more than full water will overflow from all the reservoirs in picturesque cascades down the faces of the dams’, Caban-coch dam being calculated in times of maximum flood to form ‘probably the finest waterfall in this country’.

New roads were built to replace the roads and lanes linking the surviving farms around the Elan and Claerwen valleys, but they are more than this. The railed lakeside carriage rides are part of the original conception, giving access to a landscape designed to be seen, and which like Lake Vyrnwy before it would attract numerous visitors, perhaps especially from Birmingham. Each of the dams was to carry a plaque proudly quantifying its dimensions and the volume of water that it impounded. The Elan Valley Hotel, on the road towards Rhayader, appears to be broadly contemporary, its large function-roomed wing suggesting an early role in the promoting tourism in the area.

In many ways, this was a totally designed landscape: the dams and valve towers are pre-eminent in it, but the engineered roads with their railings, bridges and retaining walls are all part of a scheme whose reach can be mapped in the distribution of even minor architectural features such as culverts and parapets. Not least of these is the series of

retaining walls which line the roads: these are variously rock-faced stone, random rubble, and orthostatic blocks infilled with drystone walling, the latter probably derived from a local vernacular tradition of field walling. It was a landscape designed to blend in with the remnant of what had gone before, however. The richer valley-bottom fields and farms, roads and bridges were to disappear below the water. What survived was the remnant broadleaved woodland on the steep, uncultivated valley sides and the more marginal fields and smallholdings on the fringes of the moorland.

As in the case of a number of other large late 19th-century and early 20th-century reservoir schemes, Birmingham Corporation's Elan valley scheme was accompanied by large-scale afforestation, as an alternative to animal grazing and as a means of managing the purity of water runoff, particularly in the immediate vicinity of the reservoirs. William Linnard has stated that 'over 1,000 acres had been planted before 1918, mainly with Scots pine and European larch, but also with Japanese larch, Douglas fir, Sitka spruce and Corsican pine. One plantation of European larch, with Scots pine for shelter at the higher elevations, planted in 1904-05, was awarded the Silver Medal at the Royal Agricultural Society's show in 1919'. The plantings were carefully blended in with the existing ancient and replanted broadleaved woodland which formerly existed around the valley sides, of which remnants survive around the fringes of the Caban-coch, Garreg-ddu and Penyarreg reservoirs. Most of the catchment area for the Elan reservoirs was to remain unplanted, however, experience elsewhere having shown that the loss of water by transpiration resulting from afforestation, unlike much of the neighbouring hill land in Ceredigion and north Breconshire which is now cloaked in forestry planted in the early 20th century.

This engineering-architecture has a strong stylistic signature and constructional vocabulary. It is a kind of civic baroque, and is very theatrical, which has become popularly styled 'Birmingham Baroque'. It relies on exaggeration: the use of over-scaled detailing on the stonework of the dams, for example, is used symbolically to suggest strength; the materials were presumably largely local, and it seems likely that the designers of the scheme were seeking a style that would somehow be apt for the rugged terrain; its context therefore is at least partly in the long-fascination with the picturesque in English architecture and landscape architecture.

Elan Village, much of which is dated 1909, was built to house maintenance workers, replacing the earlier timber settlement built to house the workforce engaged on the construction of the reservoir scheme. The village represents a perfect arts and crafts ensemble including houses, estate office, and other ancillary structures. It again uses local stone and possibly slate, but employs styles which were common currency in the arts and crafts movement, and whilst seen as a vernacular revival had little to do with specific regional traditions. The village is best seen as another manifestation of the picturesque, very carefully composed and integrating open spaces and planting as part of its overall design. Its gentler architectural language is perfectly adapted to the domesticity of its purpose, contrasting with the robust muscularity of the architecture of the reservoirs themselves, again fitting into notions of fitness for purpose which would have been common currency at the time.

The works in the Elan valley themselves were carried out by direct administration. The aqueduct, by contrast, was carried out largely by contractors and is generally shows less concern at blending in with its surroundings. The 73 miles of aqueduct linking the Elan valley with the service reservoir at Frankley, about 7 miles from the centre of Birmingham, at 600 feet above OD, a drop of about 170 feet. For about half its length the water flows at atmospheric pressure in a brick-lined conduit laid in a cut-and-cover trench, but where the aqueduct is below the hydraulic gradient, where it crosses valleys for example, it flows in cast iron pipes under pressure and included, when first constructed, about 13 miles of tunnel. The initial scheme used two 42-inch diameter pipes, to which two more 60-inch diameter pipes were added in 1919 and 1961 which increased the capacity of the aqueducts to 75 million gallons a day. The distinctive and somewhat obtrusive brick-built 'Washout Chamber' to the north-east of Coed-y-mynach farm is characteristic of the structures that mark the line of the aqueduct that reaches across Radnorshire and the Midland to the Frankley reservoir, skirting Rhayader, Nantmel, Bleddfa and Cleobury Mortimer.

The romantic associations of the Elan valley were to be renewed in the novel *The House Under the Water* by Francis Brett Young, first published in 1932. Young, born and raised in Halesowen, Worcestershire, was nine when construction work began on the Elan valley reservoirs. In the preface which accompanied later editions of the novel he wrote,

‘In every childhood there are, I suppose, certain features in the physical environment which exercise a preponderating effect on the imagination. Such, for me, without doubt, was the building of the Elan Valley reservoirs which impounded the wild waters of the Rhayader Massif in Radnorshire, diverting them from their natural outlet, which was by way of the Wye and the Bristol Channel to the Atlantic, into the sewers of a city which lay on the eastern side of the central watershed, and discharging them finally, by way of the Trent, into the North Sea.’

The House Under the Water was one of a series of Midlands novels by Young set ‘like beads along the string’ that was the Elan valley scheme’s pipeline and in this instance set in the border country popularized by late 19th and early twentieth century authors as A. E. Housman and Mary Webb. Its precursor, *Undergrowth*, written in collaboration with his brother and published in 1911 when he was in his twenties, also describes the building of a dam in a Welsh valley. His novel, *The Black Diamond*, takes place along the track of Birmingham’s Elan valley aqueduct. *The House Under the Water* which charts the romantic entanglements of Griffith Tregaron and his family from their removal from Worcestershire to the ancestral seat at Nant Escob, set in a deep Welsh valley, and the eventual abandonment of the house and valley as it was slowly drowned by the flooding of the river Garon. One of the underlying themes of the novel, by a novelist widely admired during his lifetime but considered by some to be over-sentimental, was the contrast between the harshness of the Welsh valleys and mountains within easy reach of the more hospitable farming landscape of the Midlands. The nature of the place had irrevocably changed, but Phillipa, the heroine of the novel, no doubt expressed a popular opinion about the Elan valley, that the spirit of the place ‘resurgent, inviolable, had perfected out of man’s disfigurement, a new loveliness surpassing any that conscious man could achieve’:

‘a new earth, if not a new heaven. For the earth that she knew and loved had passed away and the waters lay everywhere . . . in two shining lakes whose clear surface, swept by the draughts curling through the valley, danced with crystalline wavelets, which lapped their shores in an innocent gaiety, or, when flaws of wind passed, spread mirrors of indigo in whose depths the reflected mountains appeared to dream, as though lost in the contemplation of their own still beauty’.

The severe drought of 1937 provided a warning that the city of Birmingham would need to increase capacity, and although plans for the new reservoir, requiring a further parliamentary bill, were at an advanced stage in 1939 construction work was delayed due to the onset of the Second World War. The dams and reservoirs in the Elan valley were seen as obvious targets for sabotage or bombing during the Second World War since this would threaten Birmingham’s principal water supply and were guarded by employees and units of the Home Guard throughout the war, visible remnants of this period being two hexagonal red brick pillbox gun emplacements in Coed y Foel at the junction between the Caban-coch and Garreg-ddu reservoirs. A small, 35-foot high masonry dam which had been built across the Nant-y-gro stream, upstream of the Caban-coch dam, at an early stage in the late 19th century to supply the workmen’s village was to play a notable role in May and July 1942, being used during the early and highly secretive preparations for Barnes Wallis’s ‘Dambusters’ raids on the dams of the Ruhr valley in 1943. The bombed Nant-y-gro dam survives in much the same condition in which it was left during the war.

Work on extending the capacity of the Elan valley reservoirs was taken up again after the end of the war. The advances in engineering and mechanisation that has taken place during the course of the earlier 20th century permitted the construction of a broader and taller dam than had originally been envisaged, about 1.5 kilometres downstream of the dam proposed for the Pant-y-beddau reservoir. The reservoir, started in 1946 and

officially opened by Queen Elizabeth in 1952 as one of her first official engagements, almost doubled the supply of water to Birmingham from the Elan valley.

About 470 men worked on the construction of the dam, 56 metres high and 355 metres in breadth, who unlike the workforce employed on the earlier reservoirs were all housed in the local community and transported to the site by road. The workforce included about 100 Italian stonemasons due to a shortage of skilled workmen because of the repairs due to war damage being undertaken in a number of British cities at the time, including the restoration work being undertaken on London's Houses of Parliament. Building materials were mostly transported by road from the railway depot at Rhayader.

The reservoir was to be the largest in the Elan valley complex. It is built of concrete but at considerable extra cost in terms of both materials and labour the dam was faced in rock-faced stonework from South Wales and Derbyshire and incorporated other design features in order to harmonize with the aesthetic standards of earlier dams in the Elan valley. Water is released from the reservoir by either of two 1.2 metre diameter pipes, each side of the dam base, which discharge into the river Claerwen.

Further proposals to extend the capacity of the Elan valley reservoirs were under active consideration in the early 1970s, which focused upon a new 'High Dam' which would in effect replace the Craig Goch dam. The scheme failed to go ahead, though it is evident from a report presented in 1973 that this new engineering works would have broken with tradition:

'at the time of their construction these structures were technological achievements of the highest order. A new and higher dam at Craig Goch would, in our view, best be designed in a style appropriate to its size and the times in which we live.'

In addition to the original turbine houses below the Caban-coch dam, hydroelectric turbines were added to the Claerwen, Craig Goch, Penygarnedd dams and the Foel tower in 1998. The generating sites have been concealed as far as possible and are connected by underground cables.

The Elan Estate has been managed to protect the quality and quantity of the water supplies since 1892 and partly as a consequence its moorlands, bogs, woodlands, rivers and reservoirs are of national importance for plants and wildlife. Today, the estate is divided into 43 holdings covering some 17,402 hectares, five managed directly by the estate and the remainder are tenants of the Elan Valley Trust. The moorland within the watershed of the reservoirs is predominantly used for sheep farming, together with a limited number of cattle and a handful semi-wild Welsh mountain ponies.

Historic landscape character areas in the Elan Valley

Map 5
Elan Valley
Character Areas



Historic Landscape Characterization

Elan Valley: *Elan Valley Reservoirs* Llanwrthwl and Rhayader Communities, Powys (HLCA 1131)

Diverse landscape within, around and below the Victorian and Edwardian reservoir scheme, including dams, reservoirs and ancillary structures, remains of features associated with construction, the flooded landscape in the valley bottoms exposed periodically when the water level is low, together with conifer plantations, remnant natural and semi-natural broadleaved woodland, fields and farms around the valley sides.

Historic background and key historic landscape characteristics

The character area is an amalgam of diverse yet integrated landscape elements, including the relict landscapes both around and below the reservoirs, elements associated with the construction of the reservoirs, the reservoir scheme itself, together with woodland plantings around the reservoir margins. The character area occupies the steep-sided lower valleys of the Elan and Claerwen rivers and the surrounding enclosed land, and lies between about 200–450 metres above Ordnance Datum.

There is no clear evidence of the nature of prehistoric settlement and land use in the area, though significant activity is represented by chance finds and by burial and ceremonial sites. Several undated flint flakes have been found on the shoreline of the Craig Goch reservoir, and Bronze Age finds are represented by a dagger or possible halberd found near Glannau Wood, west of the Garreg-ddu reservoir, and by a hoard of late Bronze Age socketed axes found during road-building operations below Caban-coch dam. A dispersed complex of ceremonial sites of perhaps early Bronze Age date on the enclosed upland area west of the Garreg-ddu reservoir comprises a stone alignment and a burial cairn on Rhosygelynnen and a pair of large though now fallen standing stones on Cefn Llanerchi. Other burial cairns are scattered on the upland margin around the valley sides.

The more hospitable and fertile soils of the valley bottom are likely to have been a focus for early woodland clearance and settlement in the period between the early prehistoric and early medieval periods. The character area formed part of the lands in the commote of Deuddwr granted to by Rhys ap Gruffydd to the Cistercian abbey at Strata Florida in 1184, the grange being commemorated in the place-names Dol-y-mynach ('Monk's Meadow') and Craig Mynach ('Monk's cliff') near the Dolymynach reservoir. The abbey may have farmed some of the land itself, though much of the revenue from the land was probably obtained from the farms and smallholdings leased to individual tenants. Early settlement evidence is suggested by a number of platform sites which probably represent the site of timber buildings which have now disappeared. Characteristic of buildings of the later Middle Ages is the cruck-framed longhouse at Llannnerch-y-cawr, of late 14th to early 15th century date, with accommodation for humans and animals beneath the same roof.

The dissolution of Strata Florida abbey in 1539 saw much of the enclosed land on the valley bottom and valley sides being sold off and the emergence of many of the farms that are later known dotted along the valley bottom and on the valley sides. The later 16th to 18th centuries saw the growth of a number of landed estates within the valley, most notably those based upon what were to become the small and fashionable country houses at Nantgwyllt and Cwm Elan in the later 18th and early 19th centuries, both associated with small parks and gardens which were both briefly to become associated with the poet Percy Bysshe Shelley in the second decade

of the 19th century, drawn to the picturesque landscapes of the Elan valley.

The larger houses at Nantgwyllt and Cwm Elan formed part of a broader landscape of dispersed stone-built farmsteads, perhaps characterized by the 18th-century farmhouse with attached cowhouse at Cwm Clyd set within a fieldscape of small irregular fields. Building materials were obtained from a number of small scattered quarries, such as those on southern end of Craig Mynach, on the edge of Moelfryn, and near Henfron farm. A number of these farms and smallholdings had probably been already abandoned before construction work began on the Elan valley reservoirs in the last decade of the 19th century, evident from the now ruinous farm houses and farm buildings at Yr Allt and Pant, respectively to the north and east of Marchnant farm, at Pen-cae-haidd, Llanerchi and Blaen-coel and elsewhere on the marginal land around the margins of the reservoirs due as a result of rural depopulation and the amalgamation of holdings.

The reservoir scheme built for the corporation of Birmingham built between 1893 and 1906 was superimposed upon these earlier landscapes and involved the demolition and flooding of about thirty buildings. The foundations of a number of these buildings, including Nantgwyllt house and its walled garden and Garreg-ddu house below the Caban-coch reservoir, Cwm Elan house and Dol-faenog house below the Garreg-ddu reservoir, and Ty-nant house below the Penygarreg reservoir, together with roads, tracks, bridges, field boundaries are periodically exposed when the water levels fall within the reservoirs.

The original reservoir scheme which allowed for some expansion envisaged seven reservoirs, of which four — Caban-coch, Garreg-ddu, Penygarreg and Graig Goch — were fully completed and one, Dolymynach, partly completed. The engineering architecture which embraces the major structures such as dams and valve towers, as well as more minor features such as parapets, culverts were built in rock-faced masonry in a distinctive civic style which has become popularly known as ‘Birmingham Baroque’ which has a unifying effect upon the widespread elements of the scheme. Various aspects of the scheme were designed to contribute to the stunningly picturesque natural landscape, consciously creating views and visual effects that would enthral generations of visitors. This was further enhanced by lakeside woodland plantings which likewise had a practical as well as ornamental purpose, which blends in with the remnant ancient broadleaved woodland surviving around some of the valley sides. Particular attention was given to the confluence of the Elan and Claerwen valleys, the focal point of the scheme, which includes the Foel tower where the water drawn off for Birmingham begins its journey, the deceptive Garreg-ddu viaduct which creates the illusion of crossing a shallow lake, and the gothic Nantgwyllt church which replaced the chapel submerged below the adjacent reservoir.

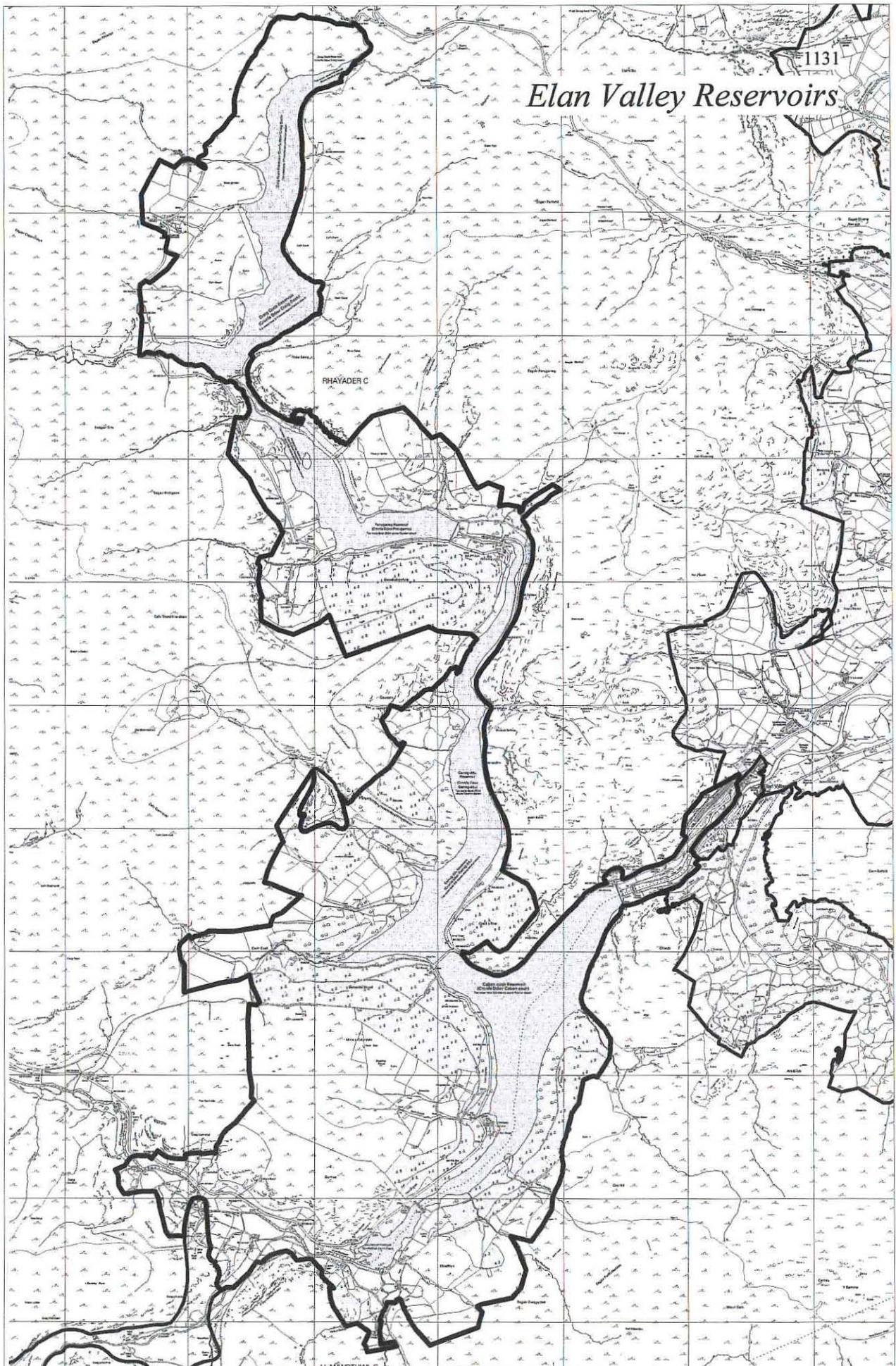
Construction works were clearly designed to have a limited impact upon the landscape, though some important features remain, including the Cigfran quarry above the Caban-coch dam, the former railway lines visible below Dolfaenog and along the north bank of the Penygarreg reservoir, including the brick bridge across the Nant Hesgog just to the west of the Penygarreg dam, and the deep cutting known as the ‘Devil’s Gulch’ through edge Craig yr Allt-goch. Many of the other working areas were to be submerged as the waters of the reservoirs rose, though some element are exposed when the water level drops, including for example the masons’ yard to the eastern shore of Caban-coch reservoir and the foundations of a workmen’s hut near Craig Goch dam.

Sources

Abse 2000; Anon 1813; Bidgood 1995, 1996; Fenn, Fenn & Sinclair 2002; Fenn & Sinclair 2003; Hawkins 1985; Hubbard 1979; Jones & Smith 1963; Judge 1997; Lloyd 1989; Mansergh 1894; Miles & Worthington 1999; Newman 1960; Nicholson 1813; Owens 2000; Rosetti 1894; Savory 1980; P. Smith 1963, 1975; Tickell 1894; D. H. Williams 1999, 2001; Listed Buildings lists; Regional Sites and Monuments Record.

Key historic landscape management issues

- *Earlier prehistoric burial and ceremonial monuments.*
- *Traces of medieval settlement and land use.*
- *Remnant ancient and semi-natural broadleaved woodland.*
- *Relict Victorian landscape around the margins of the reservoir, including vernacular farm buildings and traditional farm buildings, old field boundaries and enclosures, abandoned farm, cottages and outbuildings, small stone quarries.*
- *Relict landscape normally submerged below the reservoirs but exposed during periods of low water, including building foundations, field boundaries, bridges, roads and tracks, garden remains.*
- *Remains of construction features above and below normal reservoir level, including working areas, railways, quarry workings, temporary building remains.*
- *Buildings and structures belonging to the highly designed Victorian and Edwardian reservoir scheme, including dams, valve towers, bridges, roadside parapets, retaining walls, culverts, church, viaduct, which require an integrated approach to conservation and management.*



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Historic Landscape Characterization

Elan Valley: *Elan Village*

Rhayader Community, Powys
(HLCA 1132)

Small and well-preserved estate village with stone-built houses, school, estate office in Arts and Crafts style built by City of Birmingham Corporation largely in 1909.

Historic background and key historic landscape characteristics

The former village of wooden sheds, accidents hospital, public hall and reading room, mission room, canteen, recreation room, gymnasium, post office, fire brigade depot, and bath house built between 1895–95 for housing the navvies who worked on the construction of the reservoir, together with recreation grounds. Like its successor, the early wooden ‘model village’ lay on the south bank of the Elan, opposite the main workshops which lay on the north bank, access to the village being by means of a suspension bridge. The existing iron suspension bridge (now out of use and replaced by a Bailey Bridge) has been replaced twice. Other elements of the early ‘model village’ included a ‘Doss House’ and an ‘Infectious Hospital’ higher up on the hills to protect the health and welfare of the workforce, and a police station for the maintenance of law and order. A bridge-keeper’s hut was also built on the south bank of the river, manned night and day to control unauthorised access to the village. At its height, the village housed about 1,500 navvies and other tradesmen and the school catered for over 200 children, with its own private water and electricity supplies, the hydroelectric generators below Caban-coch dam remaining in use today.

The present village, built to house maintenance workers, was completed in 1909. It is a small and well-preserved garden village below the lowest dam at Caban-coch along the south bank of the river Elan was designed by Buckland, Haywood and Farmer, architects, of Birmingham, between 1906–09 for maintenance workers at the Elan Valley reservoir scheme, replacing the former timber village built to house the workforce that constructed the reservoirs. The village comprises 11 detached and semidetached houses, including one for the school teacher, former school (Elan Valley Lodge), former Co-op stores (Caban View), former superintendent’s house and office (now the Estate Office) with iron railings and gate, shelter and fountain, small stone bridge. The buildings and structures are all in a high quality buildings in an Arts and Crafts style, mostly built in local rock-faced masonry with imported stone dressings and with slated roofs possibly of local slate. Plantings including chestnut and cedar along riverside, with planned open spaces.

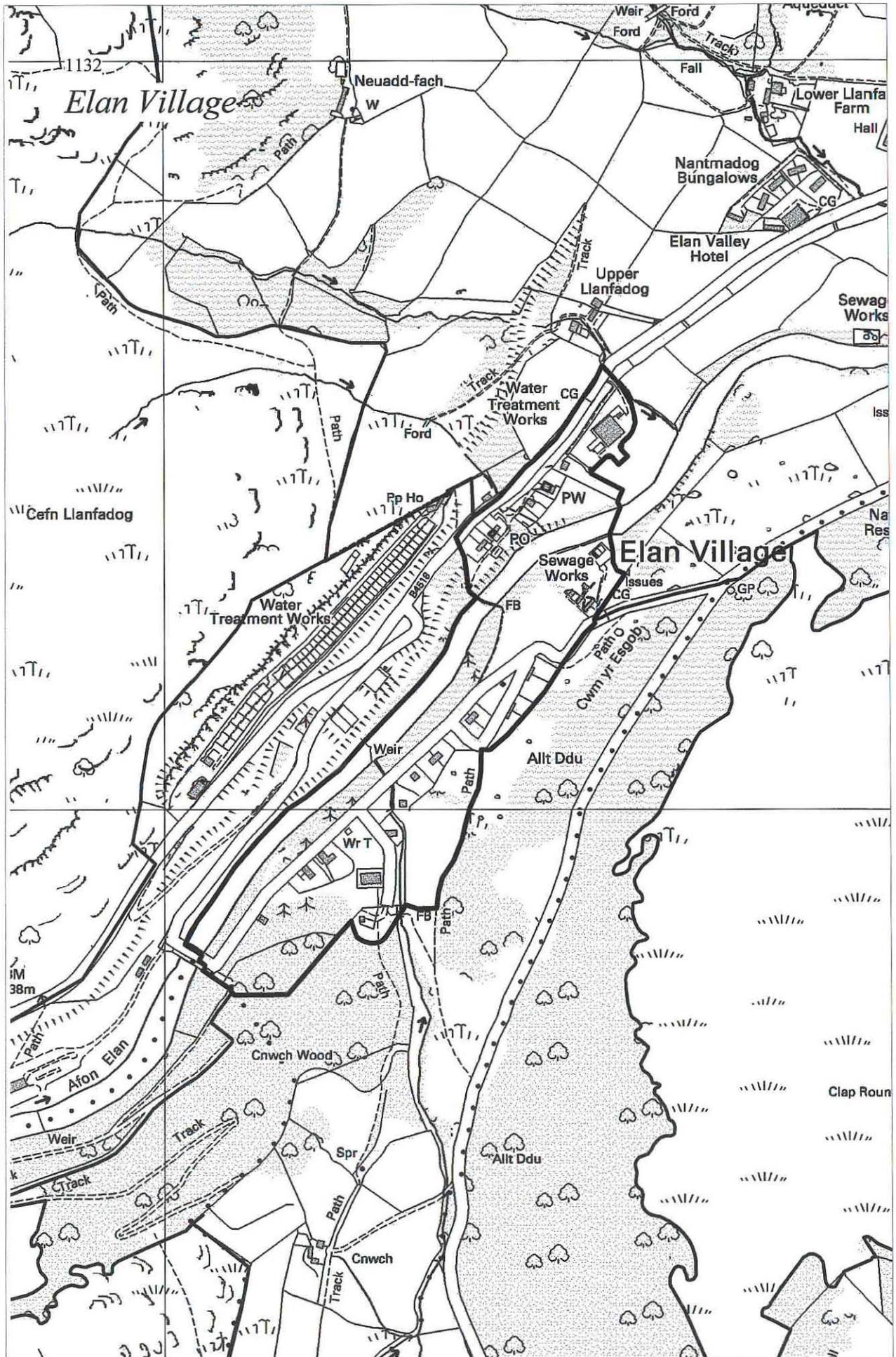
The Bethania Chapel had been built by 1900 across the river at Llanfadog was built to replace Carreg-ddu Baptist Chapel submerged below the Caban-coch reservoir and to which the remains of those interred at the graveyard attached to the former chapel were removed. The Elan Valley Hotel which lies on the roadside to Rhayader, less than a kilometre from Elan Village was built in 1893–94. Four additional houses were built between the two world wars at Glan-yr-afon on the north side of the river and six bungalows were built behind the Elan Valley Hotel in the 1940s in connection with the construction of the Claerwen Dam.

Sources

Haslam 1979; Judge 1987; Listed Buildings lists; Regional Sites and Monuments Record

Key historic landscape management priorities

- *Buildings and structures associated with the village and their setting, including riverside plantings.*



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Historic Landscape Characterization

Elan Valley: *Claerwen*

Llanwrthwl and Rhayader (Powys), Ystrad Fflur (Ceredigion) Communities (HLCA 1133)

Dam and reservoir constructed in the late 1940s and early 1950s to enhance Birmingham's water supplies from the Elan valley, built in a style which harmonizes with the earlier Elan Valley reservoirs.

Historic background and key historic landscape characteristics

Little is known of the earlier archaeological history of the upper Claerwen valley most of which formed unenclosed pasture when construction began on the present reservoir in the 1940s. A somewhat smaller reservoir, provisionally named the 'Pant-y-beddau Reservoir', had been planned as part of the scheme designed by James Mansergh on behalf of Birmingham City Corporation in the late 19th century at the upper end of the Claerwen valley. The land was compulsorily purchased as part *Birmingham Corporation Water Act 1892* but the dam was not built at that time since sufficient capacity had been achieved by the other reservoirs in the scheme.

The severe drought of 1937 provided a warning that the city would need to increase capacity, and although plans for the new reservoir, requiring a further parliamentary bill, were at an advanced stage in 1939 construction work was delayed due to the onset of the Second World War. The advances in engineering and mechanisation that has taken place during the course of the earlier 20th century permitted the construction of a broader and taller dam than had originally been envisaged, about 1.5 kilometres downstream of the dam proposed for the Pant-y-beddau reservoir. The reservoir, started in 1946 and officially opened by Queen Elizabeth in 1952 as one of her first official engagements, almost doubled the supply of water to Birmingham from the Elan valley.

About 470 men worked on the construction of the dam, 56 metres high and 355 metres in breadth, who unlike the workforce employed on the earlier reservoirs were all housed in the local community and transported to the site by road. The workforce included about 100 Italian stonemasons due to a shortage of skilled workmen because of the repairs due to war damage being undertaken in a number of British cities at the time, including the restoration work being undertaken on London's Houses of Parliament. Building materials were mostly transported by road from the railway, 14 kilometres away at Rhayader.

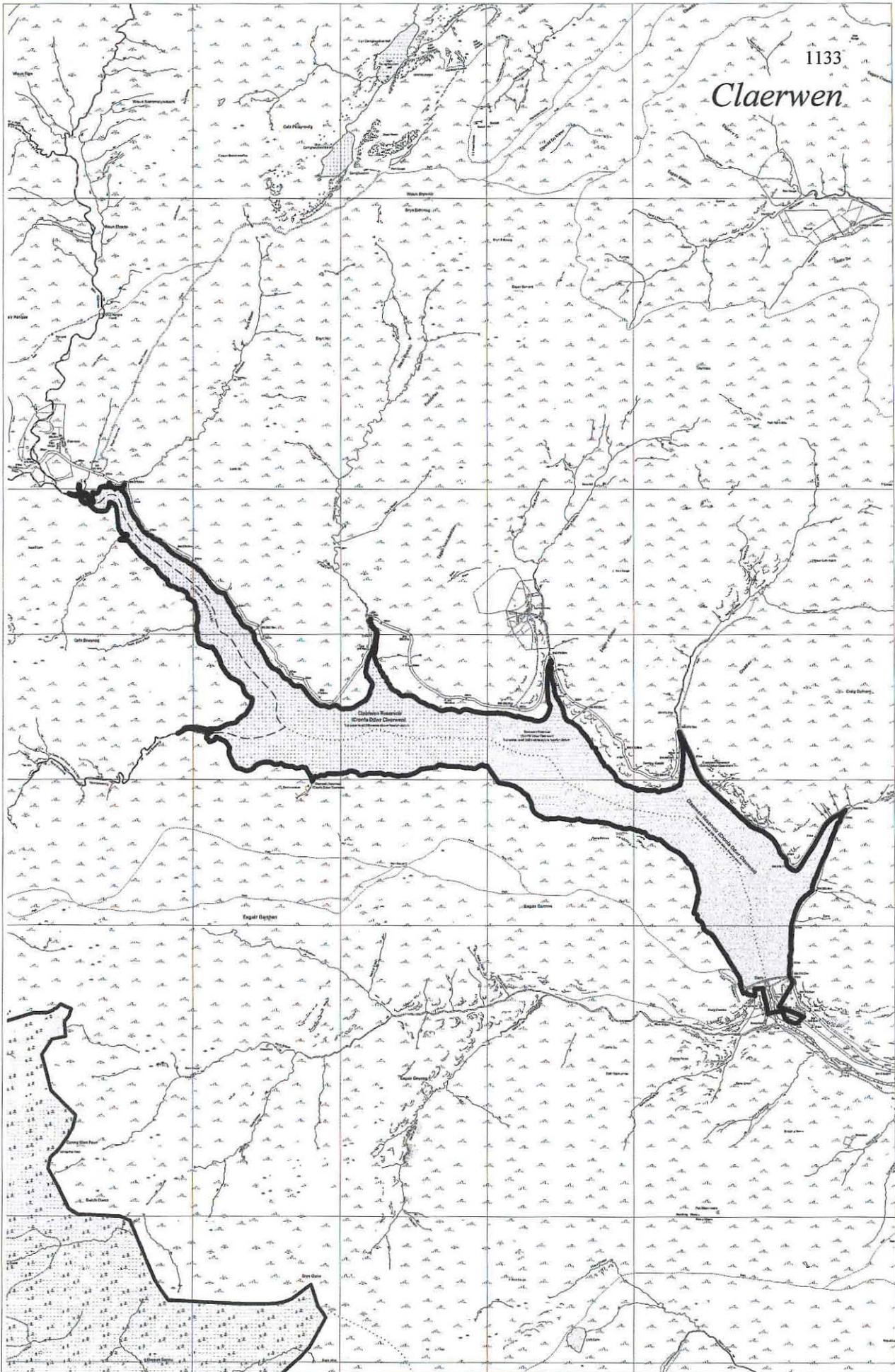
The 263-hectare reservoir occupies the head of the Claerwen valley, the highest water level being about 368m above Ordnance Datum. The curving Claerwen Dam, 56 metres high and 355 metres in breadth, designed by William Halcrow & Partners, is the largest in the Elan Valley complex. It is built of concrete but at considerable extra cost in terms of both materials and labour the dam was faced in rock-faced stonework from South Wales and Derbyshire and incorporated other design features in order to harmonize with the aesthetic standards of earlier dams in the Elan Valley. Water is released from the reservoir by either of two 1.2 metre diameter pipes, each side of the dam base, which discharge into the river Claerwen. A hydroelectric turbine house incorporating a Francis 1680 kilowatt turbine has recently been built below ground level, fed by an extension to one of the outlet pipes.

Sources

Hubbard 1979; Tickell 1894; Regional Sites and Monuments Record; Listed Building lists

Key historic landscape management priorities

- *Structure and setting of the dam and reservoir.*



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Historic Landscape Characterization

Elan Valley: *Cwm Elan Mine*

Rhayader Community, Powys
(HLCA 1134)

Compact and well-preserved former lead and zinc mining landscape, principally of the late 19th century, with traces of earlier mining remains.

Historic background and key historic landscape characteristics

The Cwm Elan mine lies in a remote site on the western slopes of the Nant Methan valley, at the head of an upland valley, 1 kilometre west of the Garreg-ddu Reservoir, at a height of between about 290-380m. The surviving remains of the mine, which produced which produced lead and zinc ores, present a compact mining landscape, the site being surrounded by steep valley slopes as well as being constrained by the geology. The majority of the surviving remains belong to a single phase of operation, and provide what is perhaps the best example of late 19th-century mining technology and planning in Powys, with the structures still remarkably well preserved. Earlier working and processing was initially undertaken by the landowner, the Groves of Cwm Elan, before it was leased to a firm headed by Sir Thomas Bonsall. Operations were later taken over by a Cornish company before working was temporarily abandoned. The main phase of working began in 1871 with the formation of the Cwm Elan Mining Company. Two main lodes were explored, and by November 1872 workings included shallow and deep adits as well as a 10 fathom level. In April 1873 a processing mill began operations, including a Blake's stonebreaker, crushing rolls, Collom's patent jiggers and round buddles, all of which were supplied by William Thomas of Llanidloes Foundry. Power was supplied by three waterwheels, the largest of which was 36 feet by 4 feet, fed by water running in a leat which ran for nine miles from Llyn Cerrig-Ilwydion towards the western side of the Elenydd moorland. Workings had extended to the 20 fathom level by 1874, but a drought and lack of funds forced the company into voluntary liquidation. Work restarted the following year as New Cwm Elan Mine, with the shaft eventually being extended to the 40 fathom level when work finally ceased in 1877.

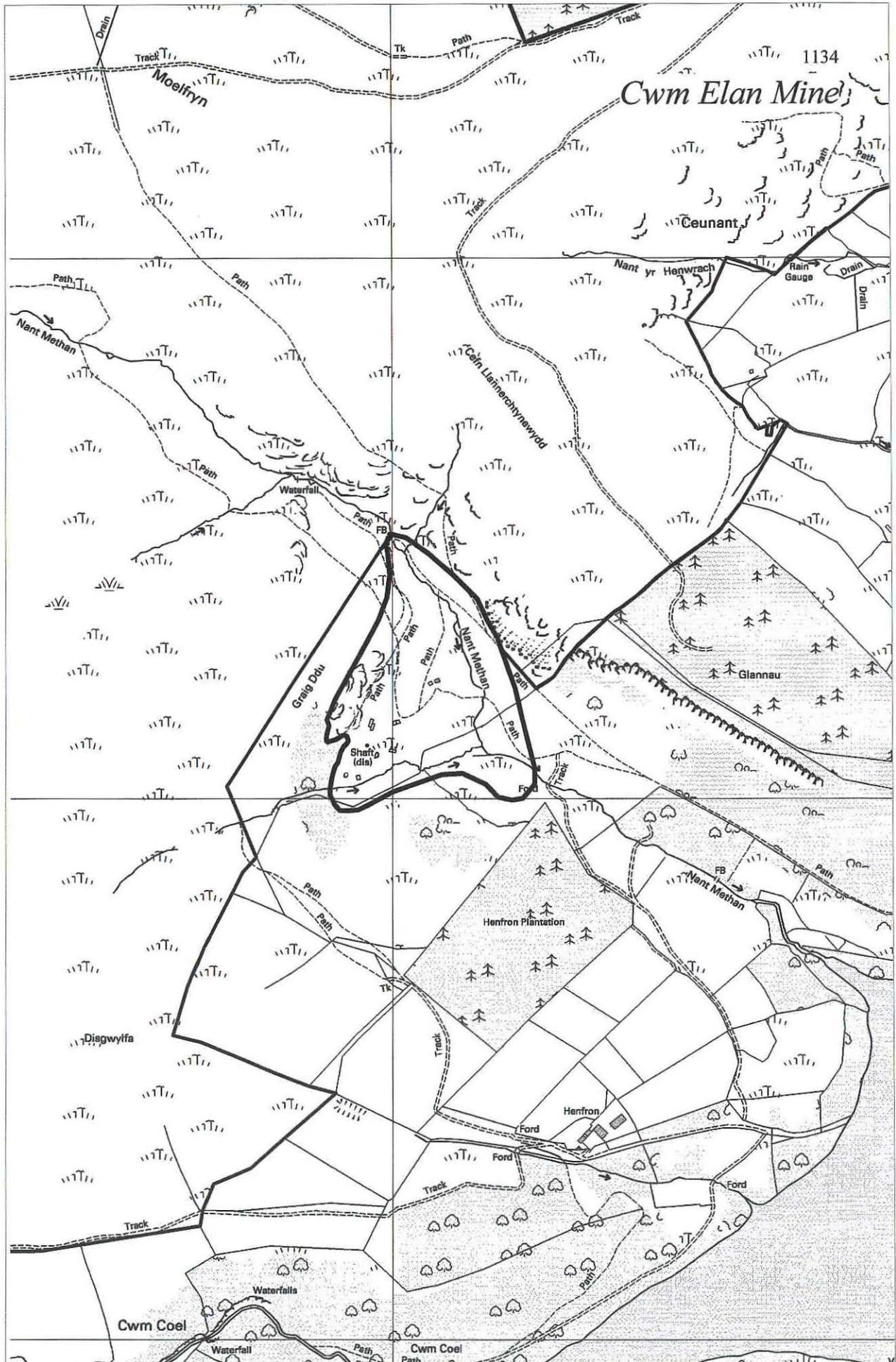
Most of the visible remains date to the later 19th century, though earlier workings may be represented by a series of shallow open-cuts along the banks of the stream, and early processing is possibly represented by two building platforms with surrounding waste tips. Visible remains include the partially collapsed shafts and levels and drainage adits, a wheel pit, bob-pit, a stone quarry which presumably provided stone for the mine buildings, the remains of which include an explosive's magazine, a single storey smithy, crusher house, a manager's house and office. To the east is a red brick house built in the 1890s by the Birmingham Corporation to house estate workers, after they had acquired the Elan Estate to construct the existing reservoirs. There is no indication of any workers' accommodation and it is possible that the workforce travelled to the site each day from the valley below, any evidence for which has been lost beneath the reservoirs. Ore was stored in a bank of three ore-bins, surviving remains of ore processing including stone revetted platforms for jiggers and a circular buddle and settling pits. Other mining remains include leats, culverts, a water reservoir, building platforms and a boundary bank.

Sources

Hall 1993; Hawkins 1985; Jones, Walters & Frost forthcoming; Welsh Water (undated), Regional Sites and Monuments Record

Key historic landscape management priorities

- *Mining, quarrying and processing remains and their landscape setting.*



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Historic Landscape Characterization

Elan Valley: *Dalrhiw* Llanwrthwl Community, Powys (HLCA 1135)

Dispersed copper and lead mining landscape of the mid to late 19th century in the Claerwen valley and adjacent upland stream valleys, comprising the Nant y Car North, Nant y Car South, Dalrhiw and Nantygawr mining sets.

Historic background and key historic landscape characteristics

Upland valley with remains of four separate mining sets, worked in the mid to late 19th century, Nant y Car North, near the south bank of the Claerwen, Dalrhiw and Nant y Car South mines on opposite banks of the Rhiwnant, and Nantygawr mine on the Nant-y-carw stream about a kilometre further west, producing copper, lead and zinc ores.

Dalrhiw occupies a fairly small area on the south side of the stream, on gently sloping ground, with the valley side rising steeply to rocky outcrops above. Early workings at both Dalrhiw and Nant y Car North, dating from the mid 19th century, appear to have been a series of adits driven into the hillside on either side of the stream. Both Dalrhiw and Nant y Car were developed on a larger scale from about 1850, the main development at Nant y Car South taking place during the 1860s and 1870s. Between 1862 and 1867 Dalrhiw mine was worked by Parry and Company. Production at Dalrhiw continued until 1881.

The Nant y Car enterprise was wound-up in 1859 but in 1863 was taken over by B. B. Popplewell, and then successively by George Tetley in 1872, Mrs Tetley in 1875 and finally C. W. Seccombe in 1878. Around 1883 a new and richer lode was discovered at the head of the valley, which was developed by Seccombe as Nantygawr mine, leading to the abandonment of Nant y Car South. In September 1886 Seccombe sold his lease to the Builth Lead Mining Company and reports in 1888 refer to an adit and a level being worked, with the dressing of ore commencing later in the same year. The company was wound up in 1893. The property then appears to have been in the possession of George Green of Aberystwyth for a short time. Green, who owned the Cambrian Foundry supplying mining equipment to mines in mid-Wales and further afield, patented his 'self-acting dressing machinery', which included crusher rolls, jiggers, buddles and classifiers, installed in purpose-built mills powered by water. The remains of one of Green's processing mills survive at Nantygawr, although they are difficult to interpret.

The Nantygawr Mining Company was registered in December 1893, and although little is known of the workings, 50 men were employed, suggesting a reasonably sizable enterprise. During the week the workforce would have been housed on site in barracks accommodation, the remains of which still survive. Despite the large returns the company went into liquidation in 1897 and although some activity continued until 1899, all work was then abandoned due to the construction of the Elan Valley reservoirs.

A wide variety of structures survive which illustrate the various processes involved in winning and processing the ore. Visible remains at Dalrhiw Mine include shafts, adits, horse whim circle, a substantial wheelpit for a 52 foot by 5 foot waterwheel, ore-bins and the remains of a small crusher house, the ruins of the mine office or manager's house are sited on the banks of the stream, the remains of a small shelter or store and low earthworks of an enclosure which may have been used as a pound for horses employed at the whim or for the general transportation of ore. Visible remains at Nant y Car include a shaft and adits driven in from the banks of the stream, the foundations for the winding house, remains of a tramway to the top of a bank of two or possibly three ore-bins, a wheelpit for an ore

crusher, and stone-revetted platforms for jiggers and the remains of two circular buddles for processing ore. Visible remains at Nantygarrw comprise a stone-lined shaft, remains of a mine building, a large wheel-pit to house a water-wheel drawn driven by water from an adjacent stream, and the remains of buildings which housed the Green's processing mill, a small circular buddle, platforms for jiggers, a smithy, possible housing for workers and an explosives magazine.

The remote location of the mine must have made the transportation of ore an important economic factor. Processed ores would have been transported by horse and cart down to the Claerwen valley and then over the mountains in the direction of Aberystwyth, though from 1864 rail transport was available from Rhayader, about 12 kilometres away.

Sources

Hall 1993; Jones, Walters & Frost forthcoming; Welsh Water (undated); Regional Sites and Monuments Record

Key historic landscape management priorities

- *Mining, quarrying and processing remains and their landscape setting.*

Historic Landscape Characterization

Elan Valley: *Elenydd*

Llanwrthwl, Rhayader, Llanafanfawr, Treflys, Llanwrtyd Wells, Llangurig Communities, Powys and Ysbyty Ystwyth, Pontarfynach and Ystrad Fflur Communities, Ceredigion
(HLCA 1136)

Extensive, unenclosed moorland with small upland lakes, peat bogs, prehistoric funerary and ritual monuments and small and dispersed medieval to early post-medieval encroachments.

Historic background and key historic landscape characteristics

Extensive upland common forming the central portion of the Cambrian Mountains, dissected by the Elan and Claerwen river valleys. To the south are extensive upland plateaus at heights of between 400–500 metres, with peaks such as Drum yr Eira, Drygarn Fawr and Pen y Gorllwyn reaching over 600 metres, from which both Cardigan Bay and the Brecon Beacons are visible on a clear day. The western part of the moor, between the Elan and Claerwen, again has extensive plateaus with somewhat lower peaks such as Bryn Garw, Trumau and Graig Dyfnant just over 500 metres high. The eastern part of the moor, overlooking the Wye valley is generally lower though with a few peaks such as Moelfryn and Crugyn Ci of over 500 metres.

During the last Ice Age, between about 70,000 and 12,000 years ago, the area became submerged beneath a glacial ice sheet which had a considerable impact upon the present-day topography. Distinctive features of this period of glaciation are the smoothed and flattened upland plateaus, steep-sided, U-shaped glaciated valleys, morainic deposits, and hillside terraces and platforms where glacial meltwater has cut through the layers of stone debris deposited by glacial action. Glacial action disrupted the flow of the river Ystwyth which originally fed a lake in the area of Gors Lwyd, in the watershed between the Ystwyth and Elan, which in turn fed the river Elan, a tributary of the river Wye. Present-day vegetation is predominantly grassy heathland with heather, bilberry and gorse and with extensive blanket bogs dominated by sphagnum, cotton grasses and heathers with bog pools and larger clear-water lakes such as Llyn Gynon, Llyn Fyrddon Fawr and Llyn Fyrddon Fach, especially in the northern and western areas of the moor, which have formed since the last glaciation. Pollen analysis of peat deposits on Elenydd has shown that the broadleaved woodland that had become established on the upland plateaus of Elenydd in the post-glacial period began to be affected by human activity during the earlier prehistoric period, woodland clearance and climatic change giving rise at high altitude to the onset of blanket peat formation. Continued woodland clearance for cultivation and for the creation of upland pastures appears to have continued from the later prehistoric to the medieval periods.

Physical evidence of prehistoric activity in the Elenydd uplands is largely limited to stone burial cairns, standing stones, stone alignments and stone circles which crown many of the peaks and ridges and are possibly to be associated with the exploitation of the exploitation of upland pastures in the period between about 3500 and 1500 BC. Clusters of upland sites such as those on Carnau Cefn-y-ffordd, Drygarn Fawr, Darren and Bryn. may represent ceremonial foci within the landscape, and may possibly representing the activities of different family or tribal groupings. Settlement and cultivation on Elenydd in the later prehistoric to early medieval periods may be represented by a number of early huts and stone clearance cairns. The period of the Roman conquest of Wales in the late 1st century is represented by the military Roman ‘marching camp’ discovered on Esgair Perfedd.

By the late 12th century most of the area fell within the Cwmteuddwr grange granted to the Cisterian abbey of

Strata Florida. The principal resource derived from the extensive upland pastures upon which cattle and, increasingly, large flocks of sheep were grazed, most of the income from the grange probably arising from customary rents and dues from those with holdings in the area rather than by direct exploitation by the abbey itself. Upland pools on Elenydd also supplied eels and trout to the monastery.

Small, scattered encroachments represented by a habitation attached to a several isolated fields had probably come into existence well before the dissolution of Strata Florida abbey in 1539, often sited on the sheltered south or east-facing slopes of stream valleys, many of which probably originated as seasonally-occupied farmsteads, enabling the exploitation of upland pastures at some distance from home during the summer months of which a number probably became established as permanently-occupied farms in the later medieval period. The isolated farmstead at Ciloerwynt (Cilewent) in the upper Claerwen valley, for example, began life as a cruck-built single-bay hall which has been shown to date to about 1476. Stone cottages, farmhouses and outbuildings were built at a number of these isolated upland farmsteads in the later 16th to 18th centuries, though many of these were subsequently abandoned during the 19th and earlier 20th centuries. Stone sheepfolds, sheep shelters and shepherd's huts are to be seen across the moorland, often now in a ruinous condition, many perhaps dating from the 16th to early 19th centuries.

Further agricultural innovations that may have been introduced to the area by go-ahead farmers and landowners in the late 18th and early 19th centuries intent on enhancing their revenue from the land are the groups of artificial rabbit warrens or 'pillow mounds' such as those on Esgair y Ty and near Glanhirin and Aberglanhirin farms. Areas of ridge and furrow cultivation in these areas as well as near Lluest-pen-rhiw and on the slopes of Moelfryn and Cefn Cwm, for example, may also represent a relatively short-lived experimentation with upland cultivation at this period.

Peat cutting for domestic fuel was amongst the common rights exercised on the moorland in former times but perhaps only being undertaken on a significant scale in the later medieval and post-medieval periods once suitable sources of firewood had become exhausted. Evidence is widespread and can be seen, for example, on Gwar y Ty, Waun Lydan, Allt Goch and Y Gamriw. Possible peat-drying platforms have been identified in a number of places, including Rhos Saeth-maen. In some areas it is evident that each farm or a group of neighbouring farms had its own turbary, approached by trackway, which must have been used over the course of many years. The area is crossed by other ancient trackways and by drovers' roads, in their heyday in the later 18th and earlier 19th centuries for transporting cattle on the hoof from west Wales to markets in the English Midlands.

The opening up of the metal mines on the moorland edge in the late 18th and earlier 19th centuries, to the west of the Elan valley and the south of the Claerwen valleys, depended upon the harnessing of water power from the moorland, and involved the digging of a leat which carried water for nine miles from Llyn Cerrig-llwydion on the western side of the Elenydd moorland to the Cwm Elan mine, just to the west of Garreg-ddu reservoir.

Sources

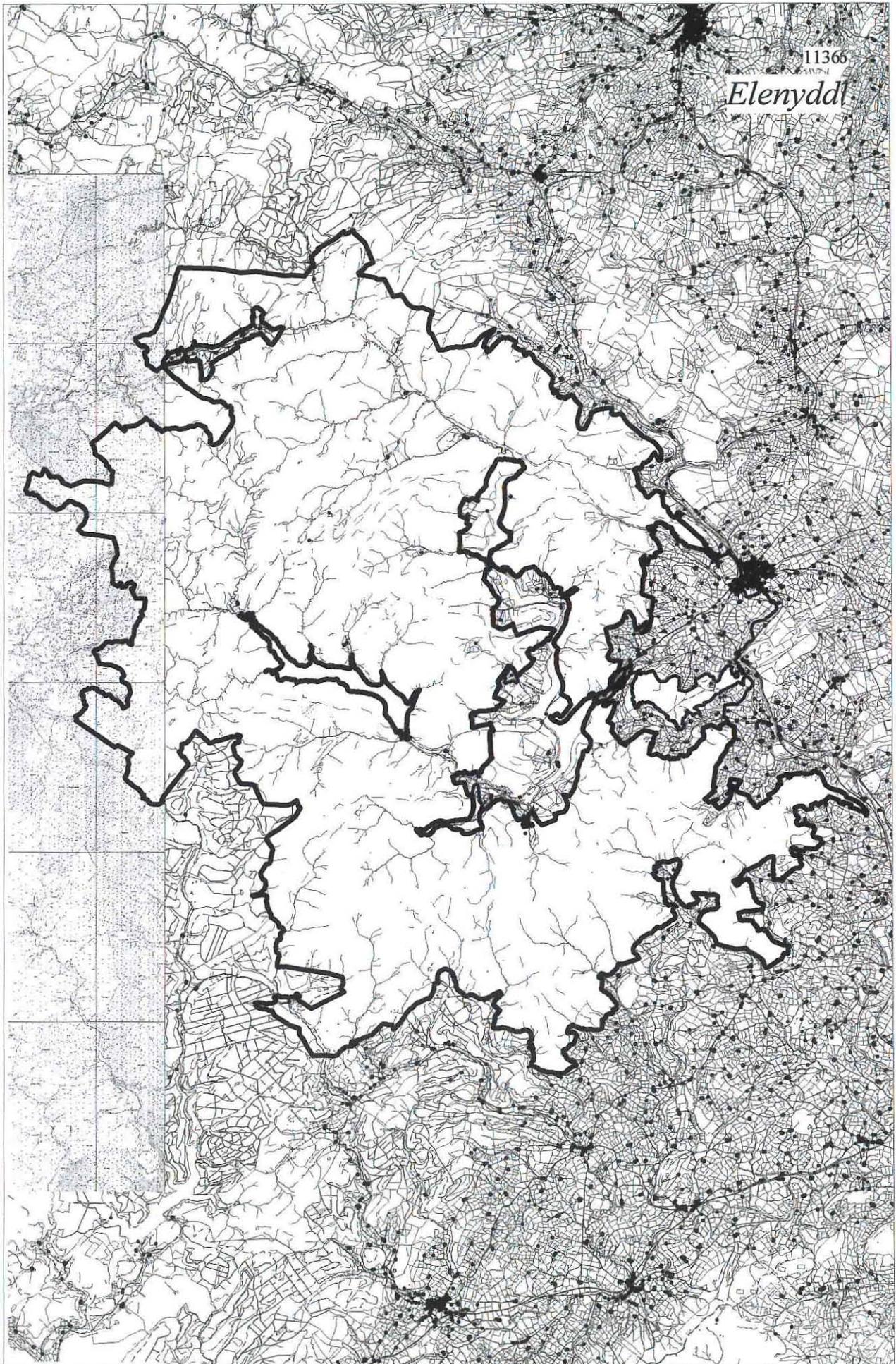
Banks 1880; Caseldine 1990; Countryside Commission; Drake 2000; Flemming-Williams & Myhill 2003; Jones & Smith 1963; Moore-Colyer 2001, 2002; Moore & Chater 1969a, 1969b; Wiliam 1992; D. H. Williams 1990, 2001; J. Williams 1905; Wiltshire & Moore 1983; Regional Sites and Monuments Record.

Key historic landscape management priorities

- *Late glacial lake deposits and peat bogs which are of palaeoenvironmental significance.*
- *Prehistoric burial cairns, standing stones and stone rows.*
- *Earthworks and buried deposits associated with the Esgair Perfedd Roman military marching camp.*
- *Medieval and post-medieval settlement and land use evidence including clearance cairns, abandoned*

field systems and enclosures, areas of ridge and furrow, abandoned hafodydd, farmsteads and cottages, and pillow mounds.

- *Ancient trackways and drovers' roads and structures associated with the Rhayader to Aberystwyth turnpike via the upper Elan valley.*
- *Sheepfolds, sheep shelters and shepherd's huts.*
- *Structures and tracks associated with former peat cutting.*
- *Leats, trackways and other structures associated with former metal mining.*
- *Boundary markers associated with parish boundaries, estates and the estate purchased by the corporation of Birmingham.*



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Historic Landscape Characterization

Elan Valley: *Cwm Dulas*

Llanwrthwl and Rhayader Communities, Powys
(HLCA 1137)

Landscape of dispersed farms and small irregular fields of medieval and later origin in upland valley between Carn Gafallt and the Elenydd uplands, with indications of much earlier, prehistoric activity.

Historic background and key historic landscape characteristics

Upland valley lying between Carn Gafallt to the north and part of the Elenydd uplands to the south. The valley bottom, between about 200-300 metres above Ordnance Datum rises steeply to meet the surrounding upland at a height of about 400 metres. The sides of the valley are cloaked in ancient natural and semi-natural oak woodland, such as Allt Ddu, Talwrn Wood, Coed Cefngafallt and Crwnallt, with some hazel groves towards the valley bottom.

Although no early settlements have yet been identified, early activity is suggested by a number of high-status finds of middle Bronze Age jewellery, including a penannular gold ring found near Talwrn farm and a hoard of four gold torcs found to the east of Cae-haidd farm, which may imply that some farming establishments had been established by at least 1500 BC.

The present-day landscape of dispersed small farms and smallholdings is likely to be predominantly of medieval and early post-medieval origin. Medieval settlement is suggested by a number of abandoned platforms which were once superimposed by timber buildings which have now disappeared. An early building horizon is suggested by the farmhouse at Talwrn which evidently began life as a timber, cruck-built longhouse of perhaps late 15th to early 16th-century date, partly rebuilt in stone in the later 17th century. A number of the existing farms such as Cefn, Crownant (Crawnant) and Blaen-y-cwm are known to have been in existence by the 16th and early 17th centuries but may have earlier origins, characterized by small farm complexes with stone farmhouses and outbuildings, some originally of longhouse form, with accommodation for people and animals under the same roof. Characteristic farm buildings include small 18th and 19th-century hay or threshing barns with ventilation slits.

The fieldscape associated with these farms is characterized by small irregular fields extending onto the steep valley sides, many of which have evidently been created by clearance of native broadleaved woodland along the valley sides, many bounded by multi-species hedges. A small number of fields have boundaries defined by drystone walls. The predominant land use today is for pasture, but the evidence of lynchet formation and place-names such as Cae-haidd ('Barley Field') indicate that cultivation was more widespread in the past. Rural depopulation in the 19th and 20th centuries is represented by a number of abandoned cottages and houses which now lie in ruins. Some areas of former ancient fields, such as those near The Clyn, were overplanted with conifers in the 20th century. Some poorly drained land along the valley bottom.

Sources

Bidgood 1995; Jones & Smith 1963; T. Jones 1909-30; Savory 1958, 1980; Smith 1975; Regional Sites and Monuments Record

Key historic landscape management priorities

- *Ancient and semi-natural broadleaved woodland.*
- *Ancient field patterns and traditional field boundaries.*
- *Vernacular farmhouses and traditional farm buildings.*

Historic Landscape Characterization

Elan Valley: *Carn Gafallt* Llanwrthwl Community, Powys (HLCA 1138)

Small isolated upland area between the Cwm Elan and Cwm Dulas valleys with steep, wooded sides, now partly managed as a nature reserve, with prehistoric burial monuments and traces of possibly post-medieval cultivation.

Historic background and key historic landscape characteristics

Small isolated and predominantly heather-covered upland area between the Cwm Elan Cwm Dulas valleys, between about 250-460m above Ordnance Datum. Some hill slopes bracken covered with rock outcrops and occasional large natural boulders.

The area formed part of the early medieval and medieval cantref of Builth, and was formerly part of the Glanusk estate, but was purchased by and is now partly managed as a nature reserve by the RSPB. Prehistoric activity is suggested by a group of probably Bronze Age burial cairns on the southern edge of the hill, above Talwrn, and by several isolated cairns elsewhere, suggesting that upland pastures may have been exploited for grazing from an early date. One of the cairns has a mythical association with the King Arthur's dog Cabal and the hunting of the wild boar Troynt, dating from perhaps the 8th century.

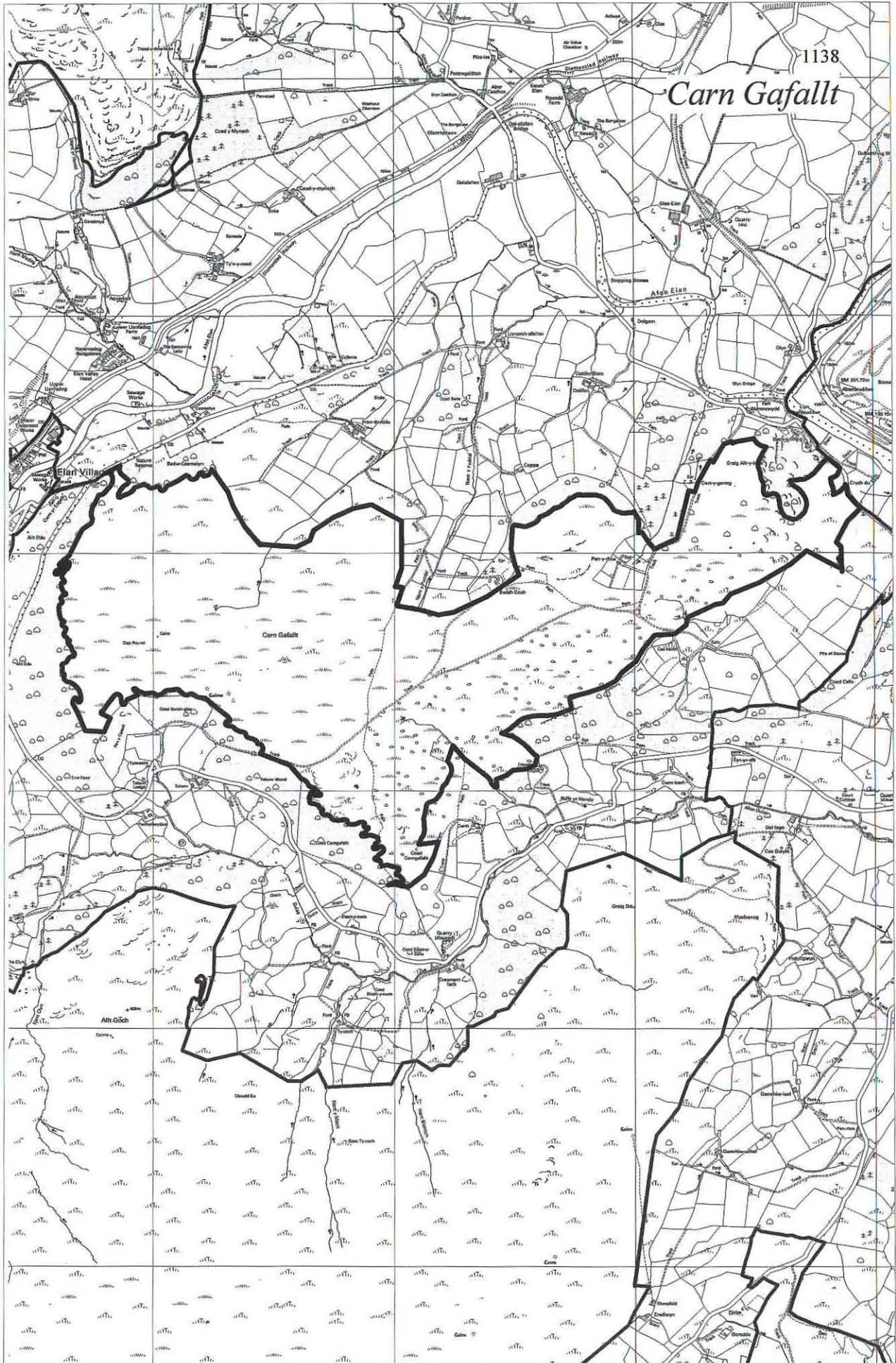
Former agricultural activity is indicated by a number of isolated areas with stone clearance cairns of ridge and furrow cultivation recorded by aerial reconnaissance. These are undated, but possibly belong to the post-medieval period. The small group of enclosed fields at Pen-y-rhiw and Gwarallt represent medieval or early post-medieval encroachment onto the upland common. A number of houses on the margins of the upland, inhabited in the mid 19th century, have since been abandoned, including the now ruinous building at Gwarallt above Crownant.

Sources

Guest 1849; Jones 1909-30; RCAHMW 1997; Wade-Evans 1938; Regional Sites and Monuments Record

Key historic landscape management priorities

- *Prehistoric burial cairns.*
- *Areas stone clearance cairns and of ridge and furrow field systems of medieval or post-medieval date.*
- *Old field banks and walls associated with medieval or early post-medieval encroachments.*
- *Derelict and abandoned houses and outbuildings.*



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Historic Landscape Characterization

Elan Valley: *Deuddwr*

Llanwrthwl and Rhayader Communities, Powys
(HLCA 1139)

Undulating lowland fieldscapes and farms of medieval and later origin along the lower Elan valley and its confluence, between Elan Village and Llansantffraid Cwmdeuddwr, to the west of Rhayader.

Historic background and key historic landscape characteristics

Early activity in the area is indicated by a possible complex of prehistoric burial and ceremonial sites including ring-ditches, a pit circle and henge monument near Coed-y-mynach farm, on a slight terrace to the north of the river Elan. Although there is little known evidence for early settlement in the area it is likely that a pattern of dispersed habitations based upon a mixed farming economy emerged as a result of gradual woodland clearance and land improvement between the early prehistoric to medieval periods.

The area formed a major portion of the lowland of the early medieval commote of Cwmwd Deuddwr, and was included within the extensive grange granted by Rhys ap Gruffydd to the Cistercian abbey at Strata Florida in 1184. A grange centre was established on a fertile area of land in the Llanmadog area, to the north-east of Elan Village, which may have operated as an administrative centre for the grange and where cultivation was undertaken by or on behalf of the abbey. Traces of the grange chapel, known as Capel Madoc, are said to have been visible in the 19th and early 20th centuries. Tenanted and freehold farms emerged within the area probably emerged during the course of the Middle Ages, a number of new farms being created following the dissolution of Strata Florida abbey in 1539 and the subsequent sale of its lands.

The later 16th to later 18th centuries saw the growth of a number of landed estates based upon the gentry properties at Rhydoldog, Noyadd, Dderw and Gwardolau, which between them owned much of the land in the area and which spearheaded the introduction of a number of agricultural improvements. Several watermills were in operation on the Nant Gwynllyn stream to the north-west of Rhayader from the later 17th century to about the end of the 19th century, for grinding locally-produced corn and for carding or fulling wool from the herds of sheep grazed on the mountains to the west. Corn-drying prior to grinding or storage, in the late 17th century or earlier, is suggested by field-name evidence. Extensive tracts of broadleaved woodland still survived into the late 18th century, when significant quantities of oak trees were being felled on land at Upper Llanfadog.

Pressure for improved transport resulted in the creation of the Rhayader to Aberystwyth turnpike road via across the mountains via the upper Elan valley in the late 18th century, replaced by the less direct valley route via Llangurig in the early 19th century. Further improvements in longer-distance travel came with the opening of the Mid-Wales Railway running between Llanidloes and Builth Wells which crosses the eastern side of the area. The railway is now closed but its course can still be traced in embankments and cuttings and a short length of tunnel south of Rhayader.

Though lying beyond the Elan valley reservoirs the area was nonetheless affected by their construction between 1894 and 1910. The area was crossed by the Elan Valley Railway which linked the construction works with the Mid-Wales Railway at the Elan Valley Junction, south of Rhayader, and was crossed by the aqueducts carrying water to Birmingham. The course of the dismantled Elan Valley Railway remains a distinctive landscape feature, particularly alongside the road from Rhayader to the reservoirs. The course of the aqueduct is visible where it crosses the Nant Madog, Nant yr Haidd and Nant Caethon streams, an air valve chamber to the north

of Noyadd farm, and the distinctive, brick-built washout chamber on the hillside to the north-east of Coed-y-mynach farm

The predominant fieldscape within the area is one of small irregular fields bounded by hedges. A small area of possible strip fields on the southern outskirts of Llansantffraid Cwmteuddwr may be a remnant of medieval open field cultivation associated with the medieval nucleated settlement. There are a number of small areas of small regular fields, including a more extensive area in the vicinity of the monastic grange centre at Llanmadog, some of which appears to be associated with ridge and furrow cultivation. This field system might be of medieval origin or derive from the enclosure of a monastic holding following the dissolution of Strata Florida abbey. There are a small number of areas of more straight-sided fields, such as those to the south of Fron-dorddu farm, which have the appearance of 18th or 19th-century enclosure around the margins of the upland common.

Sources

Banks 1880; Baughan 1991; Bidgood 1995; Cadw 1999; Cragg 1997; Howse 1949; Jones & Owen 2003; Judge 1997; Kidner 2003; Price 1936; Pugh 1931-40; Ridyard 1994a, 1994b, 1997, 1998; Smith & Jones 1963; D. H. Williams 1990, 2001; J. Williams 1848; S. W. Williams 1894; Regional Sites and Monuments Record.

Key historic landscape management priorities

- *Palaeological deposits associated with the potentially late glacial lake at Gwynllyn.*
- *Remnants of ancient and semi-natural broadleaved woodland.*
- *Buried prehistoric cropmark sites not visible at the surface.*
- *Buried structures and deposits associated with the medieval grange centre at Llanmadog.*
- *Ancient field patterns and traditional field boundaries, including possible traces of medieval field ridge and furrow.*
- *Vernacular farmhouses and traditional farm buildings.*
- *Post-medieval water-powered corn mills and fulling mills and associated leats.*
- *Buildings and structures associated with the late 18th-century Rhayader-Aberystwyth turnpike road across the mountains.*
- *Buildings and structures associated with the 19th and 20th-century Mid-Wales Railway and the Elan Valley Railway.*
- *Buildings and structures associated with the Elan Valley Victorian to Edwardian aqueduct.*
- *The Elan Valley Hotel complex and other structures associated with early tourism to the Elan Valley reservoirs.*
- *The registered 20th-century terraced garden at The Dderw.*



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Photographs of Character Areas

Elan Valley: *Elan Valley Reservoirs* (HLCA 1131)



Enclosed fields near Alltgoch and Penygarreg farm with Penygarreg dam in the foreground. The course of the former railway up to Craig Goch dam runs along the far bank of the reservoir. *Photo: CPAT 03-C-0616.*



Enclosed fields near Tynllidiart farm, on west bank of Garreg-ddu reservoir, with Moelfryn on the horizon. Old field banks are visible along the shore line of the reservoir during a period of low water. *Photo: CPAT 1527.26.*



Rhiwnant farm in the Claerwen valley, with Waun Lydan in the background *Photo: CPAT 1527.06.*

Elan Valley: *Elan Valley Reservoirs* (HLCA 1131)



Northern end of the Garreg-ddu reservoir, looking north. *Photo: CPAT 03-C-0613.*



Craig Goch dam and reservoir at the head of the Elan valley, viewed from the south-west. Work on the Craig Goch dam began in 1897, three years after work had started on the Caban-coch, the lowest dam across the Elan. *Photo: CPAT 03-C-0620.*



Foel valve tower with the Garreg-ddu reservoir, seen during a period of low water. Water from the Elan valley reservoirs begins its journey to Birmingham at the tower. The distinctive architectural style of the dams and valve towers in the Elan valley has been called 'Birmingham Baroque'. *Photo: CPAT 1526.14.*

Elan Valley: *Elan Valley Reservoirs* (HLCA 1131)



Part of the Visitor Centre below Caban-coch dam, occupying one of the former works buildings belonging to the Elan valley reservoir scheme.

Photo: CPAT 1538.08.



From left to right: modern lakeside road, revetted course of former railway to the foot of the Penygarreg dam and revetted course of railway line to the Craig Coch dam, near the northern end of the Carreg-ddu reservoir. *Photo: CPAT 1540.01.*

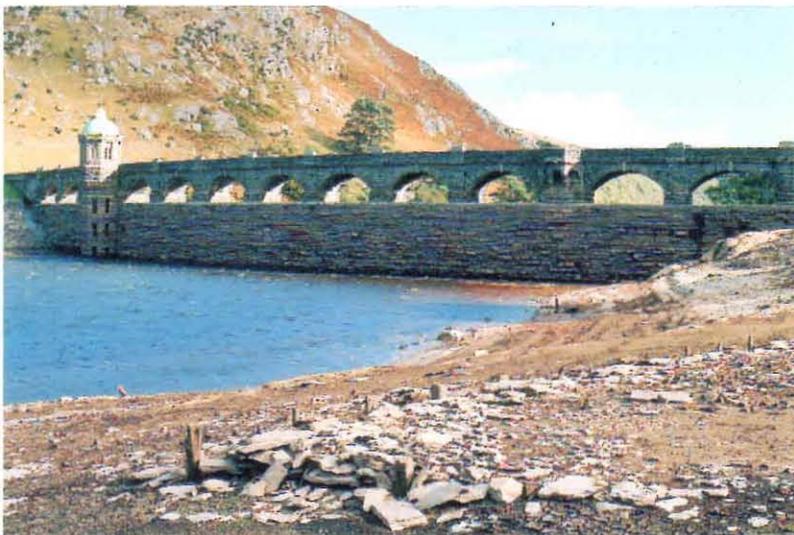


The Carreg-ddu viaduct with Caban-coch reservoir in the foreground, seen during a period of low water. The weir at the foot of the viaduct is normally hidden from view. The viaduct, used during the construction period to carry a railway line into the Claerwen valley, is today used for road traffic. *Photo: CPAT 1527.15b.*

Elan Valley: *Elan Valley Reservoirs* (HLCA 1131)



Distant view of Craig Goch dam from the south-east with Penyarreg reservoir in the foreground, seen during a period of low water. The remains of Ty-nant house, demolished to make way for the reservoir and normally submerged below the reservoir, are visible at the bottom left. In the far distance is Esgair Rhiwlan. *Photo: CPAT 1528.08.*

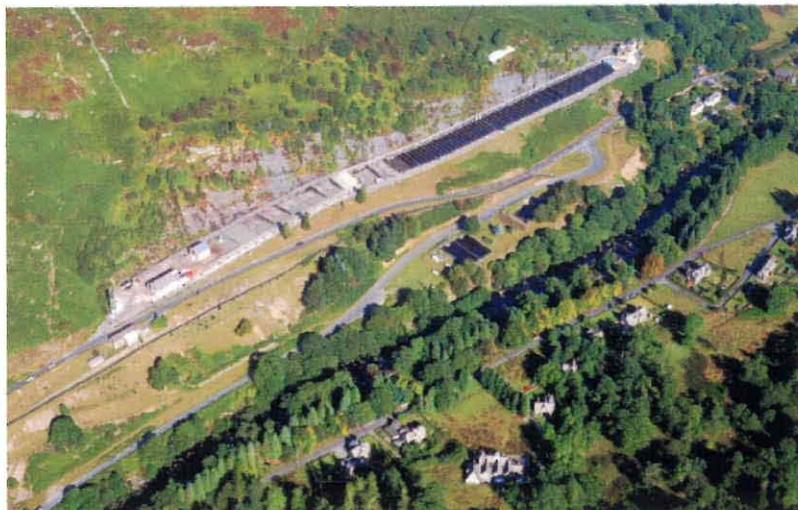


Craig Goch dam and domed valve tower, seen from the west during a period of low water. The stone platform and timber uprights of a workmen's hut used during the construction of the dam, are visible in the foreground. The hut would have been similar to one still visible near the Elan Valley Visitor Centre. The arches along the top of the dam carry a narrow roadway. *Photo: CPAT 1528.34.*



Remains of the walled garden of the Nantgwyllt country house, visible during a period of low water. Caban-coch dam is visible in the distance. *Photo: CPAT 1539.13b.*

Elan Valley: *Elan Village* (HLCA 1132)



Elan Village viewed from the south with the river Elan and the water treatment works beyond. The village was built to house maintenance workers was completed in 1909 and replaced a temporary village of wooden huts that housed construction workers. *Photo: CPAT 03-C-0599.*



Pair of semi-detached houses in Elan Village. Like the other buildings in the village they are built in an Arts and Crafts style, with local rock-faced masonry, window surrounds of stone imported from elsewhere, and slated roofs, possibly of local slate. In the background is the isolated hilltop of Carn Gafallt. *Photo: CPAT 1538.15.*

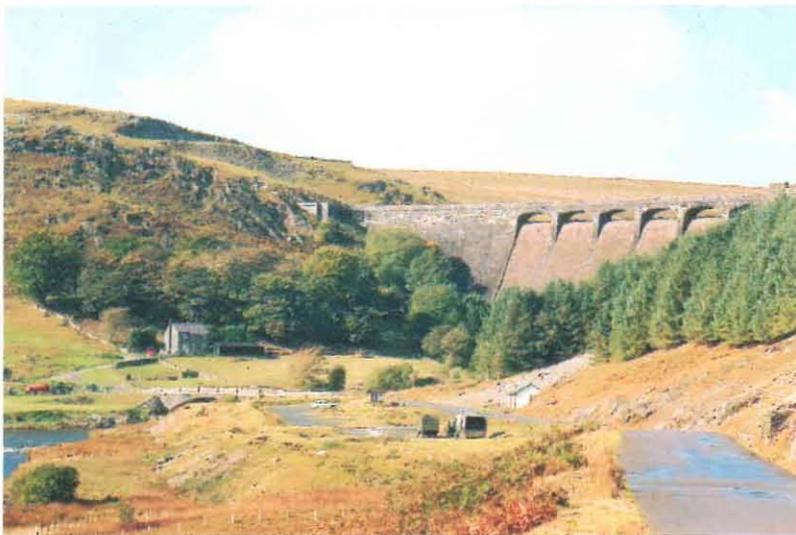


Former village shop (now a private house) in foreground and superintendent's office and house (now the Elan Valley Estate Office). *Photo: CPAT 1538.14.*

Elan Valley: *Claerwen* (HLCA 1133)



Claerwen dam, viewed from the south. The reservoir, started in 1946 and officially opened by Queen Elizabeth in 1952 as one of her first official engagements, almost doubled the supply of water to Birmingham from the Elan valley. *Photo: CPAT 03-C-0658.*



Claerwen dam, seen from the east. Unlike the other reservoirs in the Elan valley complex, the Claerwen dam was constructed of concrete but is faced with rock-faced masonry to match the style of its Victorian predecessors. *Photo: CPAT 1526.31.*



Claerwen reservoir, viewed from the south-east. *Photo: CPAT 03-C-0661.*

Elan Valley: *Cwm Elan Mine* (HLCA 1134)



Late 19th-century lead and zinc mining landscape on the slopes of the Nant Methan valley. *Photo: CPAT 03-C-0604.*



Derelict buildings within the mining landscape include the remains of a crusher house, smithy, mine manager's house and office. *Photo: CPAT 03-C-0607.*



Remains of water-powered crusher house that once housed two sets of rolls for crushing ores. *Photo: CPAT CS94-38-27.*

Elan Valley: *Dalrhiw* (HLCA 1135)



Aerial view of the Nant y Car and Dalrhiw lead mines. *Photo: CPAT 03-C-0669.*



Aerial view of the Nantgarw lead mine. *Photo: CPAT 03-C-0673.*



Substantial wheelpit at Dalrhiw mine which housed a 52-foot diameter waterwheel which drove a pump that drained the mine. *Photo: CPAT CS94-39-17.*

Elan Valley: *Elenydd* (HLCA 1136)



The two upland lakes called Llyn Fyrddon Fach (in the foreground) and Llyn Fyrddon Fawr, at a height of about 530 metres on the western side of Elenydd upland. Llyn Fyrddon Fawr is one of the upland lakes in the area which is said to have supplied eels and trout to the medieval Cistercian monastery at Strata Florida, about 7 kilometres as the crow flies, to the south-west.

Photo: CPAT 03-C-0653.



Part of the Claerwen valley, with the river in the foreground. In the background is the valley of the Afon Arban, looking towards Crug Gynon on the far horizon. *Photo: CPAT 1526.32.*



The small upland farm at Ciloerwynt in the Claerwen valley, with Graig Fawr beyond, is characteristic of a number of encroachments on the Elenydd moorland. The modern farmhouse replaces the stone-built longhouse which was moved to the Museum of Welsh Life in 1955. The longhouse began life as a timber cruck-built building dating to about 1476 and first referred to in documents of 1568. *Photo: CPAT 1527.02.*

Elan Valley: *Elenydd* (HLCA 1136)



Stone-walled enclosure and remains of longhouse at Llest-pen-rhiw, on the eastern edge of the moorland, above Nannerth. The encroachment is associated with areas of narrow ridge and furrow. *Photo: CPAT 03-C-0587.*



The ruins of the farmhouse and outbuildings at Llest-aber-caethon, to the west of Craig Goch dam. According to a datestone in the chimney, the house was built in 1814, but the encroachment on the moorland might have originated much earlier. An oval earthwork enclosure of unknown date is visible towards the bottom right. *Photo: CPAT 03-C-0632.*



Pillow mounds and narrow ridge and furrow on the lower slopes of Esgair y Ty. In the background are the former turnpike road across the moorland between Rhayader and Aberystwyth and the distinctive but unusual meanders of the upper reaches of the river Elan. *Photo: CPAT 03-C-0640.*

Elan Valley: *Cwm Dulas* (HLCA 1137)



View along Cwm Dulas, looking in the direction of Llanwrthwl, with Crownant farm and broadleaved woodland on the slopes of Carn Gafallt towards the lower left-hand corner. *Photo: CPAT 03-C-0688.*



Small stone-built farm complex with walled enclosure, with the Cnwch upland beyond. *Photo: CPAT 1538.18b.*



Fieldscape with drystone walling, looking towards Crownant farm, with broadleaved woodland on the slopes of Carn Gafallt beyond. *Photo: CPAT 1525.14.*

Elan Valley: *Carn Gafallt* (HLCA 1138)



Small isolated upland area, looking towards the east, between Cwm Elan to the left and Cwm Dulas to the right, with steep, wooded sides. The upland vegetation is managed as part of a nature reserve. *Photo: CPAT 03-C-0687.*



Carn Gafallt to the right, viewed from the east, with Talwrn farm towards the lower right-hand corner and the Elenydd uplands in the background. *Photo: CPAT 03-C-0689.*

Elan Valley: *Deuddwr* (HLCA 1139)



Field pattern near Caeyroen, looking towards Upper and Middle Ochr-cefn and the mixed broadleaved and conifer woodland at Coed y Cefn.

Photo: CPAT 03-C-0593.



Fieldscape along the Elan valley, looking towards Elan Village. The pattern of small regular fields in the vicinity of Coed-y-mynach farm, contrasting with the irregular fields elsewhere, may have originated from the medieval Cistercian grange centre here. A complex of earlier prehistoric burial and ritual sites has also been identified in this area from cropmark evidence. *Photo: CPAT 03-C-0691.*



The Dderw country house and gardens. The house was built in about 1870, partly retaining an earlier brick-built house of 1799, which had replaced an earlier house of perhaps the 16th century. The grass terraced gardens belong were added in about the 1920s *Photo: CPAT 03-C-0567.*

Elan Valley: *Deuddwr* (HLCA 1139)



The Elan Valley hotel, on the road to Rhayader, built in 1893–94 to accommodate visitors and coach parties visiting the Elan Valley reservoirs. *Photo: CPAT 1538-04.*



The aqueduct carrying water from the Elan Valley to Birmingham. Here it crosses the Nant Caethon stream, just to the east of Elan Village. *Photo: CPAT 1540.17b.*



Brick-built washout chamber near Coed-y-mynach farm, just to the east of Elan Village. The building is characteristic of the structures which appear along the line of the aqueduct from the Elan Valley across the Midlands towards Birmingham. *Photo: CPAT 1540.15.*

Bibliography

The following is a list of sources relating to the history and archaeology of the Elan valley, not all of which have been consulted in the preparation of this study.

Printed Sources

- Abse, J., 2000. *Letters from Wales*, Brigend.
- Anon, 1813. *Cambrian Traveller's Guide*, London.
- Baker, A.R.H & Butler, R.H. (eds), 1973. *Studies of Field Systems in the British Isles*, Cambridge.
- B[anks], R.W., 1880. 'Grange of Cwmtoyddur', *Archaeologia Cambrensis* 2, 4th ser., 30-50.
- Banks, R W , 1885 , 'On a bronze dagger found at Bwlch y ddey faen, Breconshire', *Archaeologia Cambrensis* 2 , 156.
- Barclay, T., 1898. *The Future Water Supply of Birmingham*.
- Baughan, P.E., 1991. *A Regional History of the Railways of Great Britain, Volume 11, North and Mid Wales*, Nairn.
- Bidgood, R., 1986. 'Early families of Rhydoldog, Llansanffraid Cwmteuddwr, Part 1', *Transactions of the Radnorshire Society* 56, 35-51.
- Bidgood, R., 1987. 'Early families of Rhydoldog, Llansanffraid Cwmteuddwr, Part 2', *Transactions of the Radnorshire Society* 57, 34-48.
- Bidgood, R., 1992. *Selected Poems*, Bridgend.
- Bidgood, R., 1995. 'Nantgwyllt, Part 1', *Transactions of the Radnorshire Society* 65, 33-46.
- Bidgood, R., 1996a. 'Nantgwyllt, Part 2', *Transactions of the Radnorshire Society* 66, 16-30.
- Bidgood, R., 1996b. *The Fluent Moment*, Brigend.
- Bidgood, R., 2003. *Abergwesyn: Bwlch y Ddau Faen*, Places. y Man a'r Lle 6, Gwasg Gregynog.
- Bowen, E.G., 1950. 'The monastic economy of the Cistercians of Strata Florida', *Ceredigion* 1.
- Bowen, E.G., 1965. *Wales: A Physical, Historical and Regional Geography*, London, 2nd edn.
- Bromwich, R., & Evans, D. Simon, 1992. *Culhwch and Olwen*, Cardiff.
- Browne, D. & Hughes, S., 2003. *The Archaeology of the Welsh Uplands*, RCAHMW.
- Buckley, S.L. & Waler, M.J.C., 2001. 'The Flandrian vegetation history of upland Mid-Wales — Bryniau Pica', in M.J.C. Walker & D. McCarroll (eds), *The Quaternary of West Wales: Field Guide*, Quaternary Research Association, 93-102.
- Bull, D.E., 2003. *Aberglanhirin, Elan Valley: Tir Gofal Historic Environment report – HE2*, CPAT Report 602.
- Burgess, C. B., 1962 , 'The Bronze Age in Radnorshire: a re-appraisal', *Transactions of the Radnorshire Society* 32, 7-24.
- Burnham, H. , 1995. *A Guide to Ancient and Historic Wales: Clwyd and Powys* .
- Cadw 1999. *Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales. Part 1: Parks & Gardens, Powys*.
- Cadw 2001. *Register of Landscapes of Special Historic Interest in Wales*, CCW/Cadw/ICOMOS UK.
- Cadw & CCW 2003. *Guide to Good Practice on using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process*, Cadw Welsh Historic Monuments and Countryside Council for Wales, July 2003.
- Cambrian Archaeological Projects 2001. *Uplands Survey Initiative - Landscape No: 55. The Elan Valley*, Cambrian Archaeological Project Report No. 161.
- Carter, D., 1840? *Rhaiadr Gwy: a poem illustrated by notes historical and topographical, antiquarian and archaeological*, Llanidloes.
- Caseldine, A., 1990. *Environmental Archaeology in Wales*, St David's University College, Lampeter.
- CCW 2001. *The LANDMAP Information System/System Wybodaeth LANDMAP*, Countryside Council for Wales, 2001, version 1.
- Clark, J., 1794. *A General View of the Agriculture of the County of Radnor*, London.

- Colyer, R.J., 1966. *The Welsh Cattle Drivers*, Cardiff.
- Colyer, R.J., 1977. 'Welsh cattle drovers in the nineteenth century', *National Library of Wales Journal* 17, 392-409.
- Coppack, G., 2000. *The White Monks. The Cistercians in Britain 1128-1540*, Stroud.
- Countryside Commission 1988. *The Common Lands of Wales [Map and Gazetteer]*.
- Cragg, R., (ed.) 1997. *Civil Engineering Heritage: Wales and West Central England*, London.
- Davies, D. R., 1948. 'Old Music Manuscript', *Transactions of the Radnorshire Society* 18, 69.
- Davies, E., 1980. 'Hafod, hafoty, and lluest: their distribution, features and purpose', *Ceredigion* 9.1, 1-41.
- Davies, E., 1984-85. 'Hafod and lluest', *Folk Life* 23, 76-96.
- Davies, J.K.L. & Webster, P., 1977. *Archaeological Survey, Site of Enlaged Craig Goch Reservoir*.
- Davies, Walter, 1815. *A General View of the Agriculture and Domestic Economy of South Wales*, London, 2 vols.
- Dowden, E., 1886. *The Life of Percy Bysshe Shelley*, 2 vols.
- Drake, A.J., 2000. *Cambrian Way*, Tewkesbury.
- Faraday, M.A., 1996. 'The Radnorshire Lay Subsidy of 1543-1545', *Transactions of the Radnorshire Society* 66, 82-129.
- Faraday, M.A., 1989. 'The Radnorshire Hearth Tax Return of 1670. Part One', *Transactions of the Radnorshire Society* 59, 29-58.
- Fenn, R.W.D. & Sinclair, J.B., 1989. '“Our ubiquitous friend”. S.W. Williams, F.S.A., F.R.I.B.A., F.S.I., 1837-1899', *Transactions of the Radnorshire Society* 59, 116-33.
- Fenn, R.W.D. & Sinclair, J.B., 2003. 'Stephen W. Williams of Penralley, 1837-1899', *Archaeologia Cambrensis* 149 (2000), 89-121.
- Fenn, R.W.D., Fenn, A.C.W. & Sinclair, J.B., 2002. 'Radnorshire: some polite perceptions of its landscape', *Transactions of the Radnorshire Society* 72, 84-120.
- Flemming-Williams, L. & Myhill, C., 2003. 'The Monks Trod: a path of time and place', *Rural Wales*, Summer 2003, 12-17.
- George, T.N., 1970. *British Regional Geology: South Wales*, HMSO, 3rd edn.
- Godwin, F. & Toulson, S., 1977. *The Drovers' Roads of Wales*, London.
- Gregory, D., 1994. *Radnorshire: A Historical Guide*.
- Grimes, W. F. , 1937. 'Recent finds of prehistoric implements', *Bulletin of the Board of Celtic Studies* 8, 96.
- Grimes, W. F. , 1951. *Prehistory of Wales*.
- Guest, C., 1849. *The Mabinogion from the Llyfr Coch o Hergest and other ancient Wesh Manuscripts, with an English Translation and Notes*, 3 vols, London.
- Hall, G.W., 1993. *Metal Mines of Southern Wales*, Herefordshire.
- Hankinson, R., 2003. *Elan Valley (NE) Upland Survey, Powys: Field Survey*, CPAT Report 516.
- Haslam, R., 1979. *The Buildings of Wales: Powys*, Cardiff.
- Hawkins, D., 1985. 'The Groves of Cwm Elan', *Transactions of the Radnorshire Society* 60, 45-9.
- Hogg, A.H.A. & Jones, G.D.B., 1979. 'The Roman marching camp at Esgairperfedd (Radnor)', *Bulletin of the Board of Celtic Studies* 22, 274-6.
- Hopkinson, C. & Speight, M., 2002. *The Mortimers, Lords of the March*, Logaston.
- Hoskins, W.G. & Stamp, L. Dudley, 1963. *The Common Lands of England and Wales*, London.
- Houlder, C., 1974. *Archaeological Guide to Wales*.
- Howse, W., 1952. 'The Turnpike System', *Radnorshire Society Transactions* 22, 12-21, 64-5.
- Howse, W.H., 1949. *History of Radnorshire*, London.
- Jarrett, M.G., 1969 (ed.). *The Roman Frontier in Wales*, Cardiff.
- Jenkins, J.G., 1962. *Agricultural Transport in Wales*, National Museum of Wales, Cardiff.
- Jenkins, J.G., 1969. *The Welsh Woollen Industry*, National Museum of Wales, Cardiff.
- Jerman, H. N. , 1936 , 'The Bronze Age in Radnorshire. Part I', *Transactions of the Radnorshire Society* 6 , 33-48.
- Jones, F.L. (ed.) 1964. *The Letters of P.B. Shelley*, Oxford University Press.

- Jones, I.E., 1977. 'The mapping of Radnorshire before the Ordnance Survey', *Transactions of the Radnorshire Society*, 47, 13-24.
- Jones, N.W., Walters, M. & Frost, P., forthcoming. *Metal Mining Landscapes of Mid and North-East Wales*, Council for British Archaeology Research Report.
- Jones, S.R. & Smith, J.T., 1963. 'The houses of Breconshire. Part I. The Builth District', *Brycheiniog* 9, 1-77.
- Jones, T., 1909-30. *History of the County of Brecknock*, 4 vols in 2 vols, Glanusk edn.
- Jones, T. Thornley, 1951, 'The Giant's Grave', *Transactions of the Radnorshire Society* 21, 50.
- Judge, C.W., 1997. *The Elan Valley Railway: The Railway of the Birmingham Corporation Waterworks*, Usk.
- Kidner, R.W., 2003. *The Mid-Wales Railway*, Usk.
- Lapworth, H., 1899-1900. 'The construction of the Elan Aqueduct: Rhayader to Dolau', *Min. Proc. Instn Civ. Engrs*, 140, 235-48.
- Lewis, M. Gwyneth, 1977. *The Printed Maps of Radnorshire 1578-1900*, National Library of Wales.
- Lewis, S., 1833. *A Topographical Dictionary of Wales*, London.
- Lewis Lloyd, L.B., 1950. 'Squire Lewis's hounds', *Transactions of the Radnorshire Society* 20, 65-6.
- Lewis, W.J., 1967. *Lead Mining in Wales*, University of Wales Press, Cardiff.
- Linnard, W., 2000. *Welsh Woods and Forests*, Llandysul.
- Lloyd, J.E. & Jenkins, R.T., 1959. *The Dictionary of Welsh Biography Down to 1940*, The Honourable Society of the Cymmrodorion.
- Lloyd, T., 1989. *The Lost Houses of Wales*, 2nd edn, London.
- MAFF 1985. 'Agricultural Land Classification of England and Wales', Map and Technical Report No. 11, HMSO, London.
- Mansergh, J., 1894. 'The Birmingham Water Scheme', in R.E. Tickell, *The Vale of Nantgwilt: A Submerged Valley*, London, 11-17.
- Mansergh, E.L. & Mansergh, W.L., 1911-12. 'The works for the supply of water to the City of Birmingham from mid-Wales', *Min. Proc. Instn Civ. Engrs* 190, 23-25.
- Maxfield, C.E., 2003. *Penglaneinon, Elan Valley, Tir Gofal Historic Environment Report – HE2*, Clwyd-Powys Archaeological Trust Report 602.
- Miles, D. H. and Haddon-Reece, D., 1996. 'Welsh Dendrochronology Project', *Vernacular Architecture* 27, 106-13.
- Miles, D. H. & Worthington, M. J., 1999, 'List 103: Welsh Dendrochronology Project - phase three', *Vernacular Architecture* 30.
- Milton, D., 1999. *The Elan Valley Way*, Oldbury.
- Moore, P.D., 1994. 'The history of vegetation in Cardiganshire', in J.L. Davies & D.P. Kirby (eds), *Cardiganshire County History. Volume 1. From the Earliest Times to the Coming of the Normans*, Cardiff.
- Moore, P.D. & Chater, E.H., 1969a. 'Studies in the vegetation history of mid Wales. I. The post-glacial period in Cardiganshire', *New Phytologist* 68, 183-96.
- Moore, P.D. & Chater, E.H., 1969b. 'The changing vegetation of west-central Wales in the light of human history', *Journal of Ecology* 57, 361-79.
- Moore-Colyer, R., 2001. *Roads & Trackways of Wales*, Ashbourne.
- Moore-Colyer, R., 2002. *Welsh Cattle Drovers*, Ashbourne.
- Morgan, R., 1998. *A Study of Radnorshire Place-Names*, Llanrwst.
- Morgan, R. & Powell, R.F.P., 1999. *A Study of Breconshire Place-Names*, Llanrwst.
- Morton, R., 1997. *The Building of the Elan Valley Dams*.
- Nash-Williams, V.E., 1950. *The Early Christian Monuments of Wales*.
- Newman, C. W., 1960. 'Shelley and Nantgwyllt: three new letters', *Transactions of the Radnorshire Society* 30, 17-30.
- Nicholson, G., 1813. *The Cambrian Traveller's Guide in Every Direction*.
- O'Dwyer, S., 1936. *The Roman Roads of Wales. IV. Cardiganshire and Radnorshire*, Newtown.
- Oliver, R. C. B., 1983. 'The diary of Captain Frederick Jones. Part I, 1789 to 1799', *Transactions of the Radnorshire Society* 53, 28-56.

- Owen, D. E., 1911. 'On a stone axe hammer from Clap-yr-arian, Rhayader', *Archaeologia Cambrensis* 11, 153.
- Owen, D. H., 1989. 'The Middle Ages', in D. H. Owen (ed.), *Settlement and Society in Wales*, Cardiff.
- Owens, M., 2000. 'Llanerch-y-Cawr — An old Welsh longhouse restored by the Welsh Water Elan Trust', *Rural Wales*, 13.
- Parker, W. K., 1977. 'The visits of Walter Davies to Radnorshire, 1802-11', *Transactions of the Radnorshire Society* 47, 52-61.
- Peate, Iorwerth C., 1944. *The Welsh House*, 2nd edn, Liverpool.
- Peate, Iorwerth C., 1972. *Tradition and Folk Life: A Welsh View*, London.
- Pennant, T., 1784. *A Tour in Wales*, London.
- Pierce, T. Jones, 1950. 'Strata Florida Abbey', *Ceredigion* 1.
- Platt, C., 1969. *The Monastic Grange in Medieval England*, London.
- Price, J. E., 1936. 'Schedule of Radnorshire Place names. Parish of Llansantffraed Cwmduddwr', *Transactions of the Radnorshire Society* 6, 66-78.
- Prince, H., 1989. 'The changing rural landscape' 1750-1850', in G.E. Mingay (ed.), *The Agrarian History of England and Wales Vol. 6, 1750-1850*, Cambridge University Press, 7-83.
- Pugh, J. A., 1936. 'Notes on the parish of Cwmteuddwr', *Transactions of the Radnorshire Society* 6, 61-5.
- RCAHM, 1913. *Inventory of the Ancient Monuments in Wales and Monmouth III - County of Radnor*.
- RCAHMW 1992. *An Inventory of the Ancient Monuments in Glamorgan, Volume III: Medieval Secular Monuments, Part II: Non-defensive*, Royal Commission on the Ancient and Historical Monuments of Wales.
- RCAHMW 1997. *An Inventory of the Ancient Monuments in Brecknock (Brycheiniog): The Prehistoric and Roman Monuments, Part 1, Later Prehistoric Monuments and Unenclosed Settlements to 1000 A.D.*, Royal Commission on the Ancient and Historical Monuments of Wales.
- Rees, S. E., 1997. 'The historical and cultural importance of ponds and small lakes in Wales, UK', *Aquatic Conservation* 7 (1997), 133-9.
- Rees, W., 1924. *South Wales and the March, 1284-1415*, Oxford.
- Rees, W., 1968. *An Historical Atlas of Wales*, 3rd edn, London.
- Richards, M., *Welsh Administrative and Territorial Units*, Cardiff.
- Ridyard, G.W., 1994a. 'Water power in Radnorshire', *Transactions of the Radnorshire Society* 9, 36-48.
- Ridyard, G.W., 1994b. 'Supplementary notes on watermills of Radnorshire - part II', *Melin* 10, 2-39.
- Ridyard, G.W., 1997. 'Supplementary notes on watermills of Radnorshire - part IV', *Melin* 13, 55-87.
- Ridyard, G.W., 1998. 'Supplementary notes on the watermills of Radnorshire - part V', *Melin* 14, 15-50.
- Rossetti, W.M., 1894. 'Shelley at Cwm Elan and Nantgwilt', in R.E. Tickell, *The Vale of Nantgwilt: A Submerged Valley*, London, 17-35.
- Rowlands, D.W.L., 2003. 'David Jones's reminiscences on old Llanwddyn and the construction of Lake Vyrnwy', *Montgomeryshire Collections* 91, 109-36.
- Rudelforth, C.C., Hartnup, R., Lea, J. W., Thompson, T. R. E., & Wright, P.S., 1984. *Soils and their Uses in Wales*, Bulletin No. 11, Soil Survey of England and Wales, Harpenden.
- Savory, H.N., 1958. 'The Late Bronze Age in Wales. Some new discoveries and interpretations', *Archaeologia Cambrensis* 107, 3-63.
- Savory, H. N., 1980. *Guide Catalogue of the Bronze Age Collections*.
- Sheail, J., 1971. *Rabbits and their History*, Newton Abbot.
- Silvester, R.J., 1991. 'Tomen Llansantffraed: a motte near Rhaeadr, Powys', *Medieval Archaeology* 35, 109-14.
- Silvester, R.J., 1994a. *Elan Valley Uplands Field Survey 1993/94*, Clwyd-Powys Archaeological Trust Report 97.
- Silvester, R. J., 1994b. *Radnorshire Historic Settlements*, Clwyd-Powys Archaeological Trust Report 92.
- Silvester, R.J., 1995. 'Pillow mounds at Y Foel, Llanllugan', *Montgomeryshire Collections* 83 (1995), 75-90.
- Silvester, R.J., 1997. *Deserted medieval and later rural settlements in Radnorshire*, Clwyd-Powys Archaeological Trust Report 227.

- Silvester, R.J., 2000. 'Deserted rural settlements of medieval and later date in north-eastern and central Wales', in Atkinson, J.A., Banks, I. & MacGregor, G., *Townships to Farmsteads: Rural Settlement Studies in Scotland, England and Wales*, British Archaeological Reports, British Series 293.
- Smith, L.T., (ed.), 1907-10. *The Itinerary of John Leland the Antiquary, in or about the years 1535-45*, 5 vols, London.
- Smith, P., 1963, 'The longhouse and the laithe house: a study of the house-and-byre homestead in Wales and the West Riding', in L. Alcock & I. Ll. Foster, *Culture and Environment*, 415-37.
- Smith, P., 1988. *Houses of the Welsh Countryside*, 2nd edn.
- Smith, R.T. & Taylor, J.A., 1969. 'The post-glacial development of vegetation and soils in north Cardiganshire', *Transactions of the Institute of British Geography* 48, 75-95.
- Soil Survey 1983. *1:250,000 Soil Map of England and Wales, Sheet 2, Wales*, Soil Survey of England and Wales.
- Stephens, M., 1986. *The Oxford Companion to the Literature of Wales*, Oxford University Press.
- Suggett, R., 1996. 'The chronology of late-medieval timber houses in Wales', *Vernacular Architecture* 27, 28-35.
- Suggett, R., forthcoming. *Houses and History in the Welsh Marches: the Medieval Houses of Radnorshire and their Transformations*, RCAHMW.
- Taylor, C., 1975. *Fields in the English Landscape*, London.
- Thirlwell, A., 2003. *William and Lucy: the other Rossettis*, Yale.
- Thomas, S.P., 1984. 'Twelve miles a day: some thoughts on the drovers', *Transactions of the Radnorshire Society* 54, 58-66.
- Thorpe, L., 1978. *Gerald of Wales: The Journey through Wales and The Description of Wales*, Harmondsworth.
- Tickell, R.E., 1894. *The Vale of Nantgwilt: A Submerged Valley*, London.
- Timberlake, S., 2002. 'Medieval lead-smelting boles near Penguelan, Cwmystwyth, Ceredigion', *Archaeology in Wales* 42, 45-60.
- Timberlake, S., 2003. *Excavations on Copa Hill, Cwmystwyth (1986-1999): An Early Bronze Age Copper Mine within the uplands of Central Wales*, British Archaeological Reports 348.
- Tomos, D., 1980. *Michael Faraday in Wales*, London.
- Wade-Evans, A.W., 1938. *Nennius's History of the Britons*.
- Walters, M., 1993. *Powys Metal Mines Survey*, Clwyd-Powys Archaeological Trust Report 89.
- Ward, C., 2002. *Cotters and Squatters: Housing's Hidden History*, Nottingham.
- Welsh Water (undated). *Metal Mines of the Elan Estate*, Elan.
- William, E., 1986. *The Historical Farm Buildings of Wales*.
- William, E., 1992. *Welsh Long-houses. Four Centuries of Farming at Cilewent*, National Museum of Wales, Cardiff.
- Williams, D., 1954. *The Rebecca Riots*, University of Wales Press, Cardiff.
- Williams, D. H., 1990. *Atlas of Cistercian Lands in Wales*, University of Wales Press, Cardiff.
- Williams, D. H., 1999, 'Stephen William Williams: The Archaeologist and Soldier: The Man and his Family', *Transactions of the Radnorshire Society* 69, 116-42.
- Williams, D. H., 2001. *The Welsh Cistercians*, Leominster.
- Williams, G., 1991. 'Romantic and Realist: Theophilus Evans and Theophilus Jones', *Archaeologia Cambrensis* 149, 17-27.
- Williams, J., 1905. *A General History of the County of Radnor*, Brecon.
- Williams, S.W., 1889. *The Cistercian Abbey of Strata Florida*, London.
- Williams, S.W., 1894. 'The Grange of Cwmteuddwr', in R.E. Tickell, *The Vale of Nantgwilt: A Submerged Valley*, London, 36-40.
- Wiltshire, P.E.J. & Moore, P.D., 1983. 'Palaeovegetation and palaeohydrology in upland Britain' in K.J. Gregory, *Background to Palaeohydrology*, [John Wiley & Sons], 433-51.
- Winchester, A.J.L., 2000. *The Harvest of the Hills*, Edinburgh University Press.
- Young, Francis Brett, 1932. *The House Under the Water*, Combridge, Birmingham.

Websites

- British Dams Society* <<http://www.britishdams.org>>: various matters concerning British dams.
- Clwyd-Powys Archaeological Trust <<http://www.cpat.org.uk>>: the Elan Valley Historic Landscape.
- Elan Valley Trust <<http://www.elanvalley.org.uk>>: natural history, wildlife and conservation.
- Gathering the Jewels <<http://www.gtj.org.uk>>: archive photographs, drawings and text.
- Powys Digital History Project <<http://history.powys.org.uk>>: archive photographs, drawings and text..
- 671 Squadron: The “Dambusters” <<http://www.dambusters.org.uk>> about wartime activities in the Elan valley.
- The Lost Club Journal, Howard, J., 2001. ‘The vision of Francis Brett Young’, *The Lost Club Journal* 3 <<http://www.lost-club.co.uk>>, about Francis Brett Young.

Appendix 1: Gazetteer of Place-Names

With a few notable exceptions, the gazetteer is restricted to place names which appear on modern editions of the Ordnance Survey 6 inch maps of the study area.

Aber Caethon, SN9544666941	Banc yr Wyn Isaf, SN8195273929	Bryn Mawr, SN8564771842
Aber Glanhirin, SN8871872268	Banc Ystrad-wen, SN9831461541	Bryn Melys, SN9326460464
Abergwngu, SN8703273538	Banc-y-llyn, SN8057165285	Bryn Moel, SN9297959704
Abergwngu Hill, SN8615774475	Beddaufolau, SN9219365994	Bryn Poeth, SN8035771217
Aberhenllan, SN8992272023	Bedw-Caemelyn, SN9414465389	Bryn Rhiwidau, SN7943066960
Afon Arban, SN8618263339	Blaen Cammarch, SN8722657232	Bryn Rhudd, SN8807858864
Afon Claerddu SN8066967305	Blaen Fign, SN9141770504	Bryn Rhydd, SN9121955941
Afon Claerwen, SN8236468354	Blaen Gwesyn, SN8556058239	Bryn Sopen, SN7886968083
Afon Dulas, SN9625763971	Blaen Gwnfel, SN9092556018	Bryn Suog, SN8832273208
Afon Elan, SN9286064597	Blaen Gwngu, SN8260673317	Bryn Trapau, SN8156065752
Afon Gwesyn, SN8599956533	Blaen Irfon, SN8390861012	Bryn y Gaifr, SN8054970100
Afon Gwngu SN8449972750	Blaen Mwyro, SN7921463846	Bryn yr Hyrddod, SN8113569340
Afon Ystwyth, SN8377275402	Blaen Rhestr, SN8433169457	Bryn yr leir, SN8402772359
Allt Ddu, SN9344764546	Blaen Rhiwnant, SN8570158962	Bryn-Iago, SN8813862783
Allt Du, SN9361465165	Blaen-Coel, SN8904464031	Bryniau Pica, SN8048466301
Allt Goch, SN9389063035	Blaen-nant, SN9580360873	Bwlch, SN9241572553
Allt Lwyd, SN9160454386	Blaen-y-clawdd-du, SN8769675222	Bwlch Coch, SN9545364884
Allt y Clych, SN9794057024	Blaen-y-cwm, SN9482363434	Bwlch Coch, SN9550464823
Allt y Ddinas, SN9283156685	Blaen-y-cwm, SN8533275688	Bwlch Croesnewydd, SN9279267596
Alltgoch, SN9097967700	Blychau, SN8712272905	Bwlch Owen, SN8236862099
Bach-y-Graig, SN9673365455	Bodtalog, SN8683075025	Bwlch Trypeg, SN8750558613
Badell, SN8502969510	Botalog, SN8572276571	Bwlch y Cloddiau, SN8542378225
Banc Carreg-bica, SN7942068434	Braich y Wern, SN8709162584	Bwlch y Ddau Faen, SN8927058373
Banc Cerrig-fendigaid, SN8463874207	Briddell Felen, SN9231069218	Bwlch y Gadair, SN8812766442
Banc Cerrig-gwynion, SN8592973472	Bryn, SN9053455181	Bwlch yr Hendre, SN8056666483
Banc Cerrig-gwynion, SN8529274127	Bryn Bach, SN7609570715	Byrlymau Elan, SN8275374083
Banc Cynnydd, SN8901673836	Bryn Caeblaenegnant, SN7979966230	Caban-coch Reservoir, SN9251464692
Banc Dafadbeddol, SN8013668129	Bryn Caerwthigisaf, SN8178871979	Cadney, SN8960956873
Banc Dafydd-shon, SN7874968517	Bryn Caethon, SN9528266925	Cae Blaenegnant, SN7930866476
Banc Du, SN9231856034	Bryn Ceinon, SN9518558756	Cae Blaenmethan, SN8861865777
Banc Du, SN8692556307	Bryn Copa, SN8168975637	Cae-haidd, SN9617864575
Banc Du, SN8038772025	Bryn Cyncoed, SN9338658378	Cae-llaith, SN8977366810
Banc Gorweddfa, SN7961268338	Bryn Dafadd, SN7911271425	Caemelyn, SN9417365585
Banc Gwyn, SN8672162921	Bryn Du, SN8387456947	Caeyroen, SN9455767755
Banc Llwyd Mawr, SN8234576811	Bryn Du, SN9312559118	Camddwr Bleiddiad, SN8396954982
Banc Llyn-hir, SN7914968275	Bryn Eithinog, SN8454968911	Carn Gafallt, SN9450664656
Banc Mawr, SN7942271718	Bryn Garw, SN8379661589	Carn Nant-y-ffald, SN9005073973
Banc Steffan, SN8296769685	Bryn Garw, SN8482771411	Carn Pantmaenllwyd, SN9567258948
Banc Trehesglog, SN9352169198	Bryn Glas, SN8670657529	Carn Ricet, SN8715070927
Banc Ty-coch, SN9484262531	Bryn Glas, SN8111267527	Carn Ricet, SN8698370672
Banc y Chwarel, SN7988567926	Bryn Glas, SN8532175259	Carnau, SN8889257936
Banc y Defaid, SN8778972827	Bryn Hir, SN8388468040	Carnau, SN9406861339
Banc y Ty, SN7929768740	Bryn Llyn Egnant, SN7955266644	Carnau Cefn-y-ffordd, SN9566260576
Banc yr Wyn, SN8160673690	Bryn Maen, SN9387459659	Carn-wen, SN9809760482
	Bryn Mawr, SN8682657020	Carn-wen, SN9028573845

Carn-y-geifr, SN9713360414	Chwarel Ddu, SN8754456624	Craig Fawr, SN7907868969
Carnyrhyddod, SN7906770424	Chwarel Goch, SN8633670874	Craig Fedwen-fach, SN8532154733
Carreg Bwlchlllynfyrdon, SN7959871102	Chwarel Mawr, SN7628270651	Craig Gigfran, SN9256664897
Carreg Corneldrawallt, SN7991471018	Ciloerwynt, SN8828962986	Craig Goch Reservoir, SN8969969227
Carreg Ddiddos, SN8039971712	Claerddu, SN7926768657	Craig Gwesyn, SN8585255640
Carreg Nant-y-maen, SN8042168411	Claerwen, SN8209667315	Craig Irfon, SN8464954461
Carreg naw llyn, SN7963769894	Claerwen Reservoir, SN8390665272	Craig Llannerch-y-cawr, SN8962861192
Carreg Wen Fawr, SN8220862490	Clap Round, SN9394164626	Craig Rhiwnant, SN8784961022
Carreg Wrach, SN8522254317	Clapiau Elan, SN8143873450	Craig y Bwch, SN8960062158
Carreg y Fedw, SN8943760440	Clas, SN9606867234	Craig y Dalriw, SN8826160659
Carreg yr Ast, SN8771159231	Clawdd Du, SN9438462715	Craig y Ddalfa, SN8133675122
Carregyderlwyn, SN8078371029	Clawdd Du, SN7865668645	Craig y Diawl, SN9403268719
Castell-bwyngau, SN8984163869	Clawdd Du Mawr, SN8542769397	Craig y Foel, SN9182064439
Cefn, SN9632464611	Clawdd-du-bach, SN8644370342	Craig y Lluest, SN8535076456
Cefn Bach, SN9091073632	Cloddiau, SN8674265770	Craig y Llysiau, SN8890261202
Cefn Blaen-coel, SN8787664531	Cnapiau'r Ferlen, SN9253760468	Craig y Mynach, SN9035761742
Cefn Blaen-y-nant, SN8667955628	Cnapyn Blaendrawsffos, SN8323569277	Craig y Rhiplem, SN7865968287
Cefn Brwynog, SN8226765937	Cnapyn Drawsffos, SN8312070362	Craig yr Allt-goch, SN8968568610
Cefn Craig Gwesyn, SN8545555334	Cnwch, SN9280464035	Crawnant-fach, SN9523463233
Cefn Cwm, SN9010069795	Cnwch, SN9320464409	Creigiau Canol, SN8028468785
Cefn Cwm-coel, SN8874665143	Cnwch Wood, SN9317164671	Creigiau Coed, SN7969667369
Cefn Ffosyrewig, SN8368769464	Cnyfliad, SN8692755500	Creigiau Dolfolau, SN9157665495
Cefn Gwair, SN8921769440	Coed Aberelan, SN9107563559	Creigiau Duon, SN8770455975
Cefn Llanerchi, SN8981563445	Coed Blaen-y-cwm, SN9508763329	Creigiau Duon, SN8552677794
Cefn Llanfadog, SN9290665393	Coed Bwlch-glas, SN9404864350	Creigiau Hirion, SN8684059578
Cefn Llannerchtynewydd, SN9023565733	Coed Bwls, SN9521465635	Creigiau Rhydoldog, SN9401768100
Cefn Nannerth, SN9252072053	Coed Carn gafallt, SN9483663746	Creigiau Trehesglog, SN9388368640
Cefn Nant-y-firwd, SN8611656452	Coed Gelynnen, SN9137762996	Crigiau Car, SN7947168935
Cefn Nant-yr-iau, SN8589762974	Coed Lan-fraith, SN9075862055	Cringwm, SN9069165788
Cefn Neint, SN8476175208	Coed y Cefn, SN9538468052	Cripau, SN8532273902
Cefn Rhydoldog, SN9314968040	Coed y Foel, SN9139964220	Cripiau Bach, SN7896668371
Cefn Trapiaudyfrigwn, SN8517471798	Coed y Mynach, SN9429366773	Croes Fan, SN7960167912
Cefn Troedrhiw-drain, SN8885966697	Coed yr Allt-goch, SN9031167826	Crogau, SN9686958438
Cerrig Cochion, SN9361572192	Coed-y-mynach, SN9458466525	Crownant, SN9558664083
Cerrig Gwalch, SN9347970737	Coppa, SN9553665349	Crug Gynon, SN8015863781
Cerrig Gwinau, SN8582464611	Cors Dywi, SN8103163616	Crugian Bach, SN9320562928
Cerrig Llwyd y Rhestr, SN8450660408	Cors y Ddalfa, SN8404074365	Crugiau Duon, SN8524377493
Cerrig Llwydion, SN8805562142	Cors yr Hwch, SN8624460604	Crugyn Ci, SN9260168763
Cerrig Llwydion, SN9094473063	Craig Chwefri, SN9640357551	Crwnnalt, SN9323164018
Cerrig Plwm, SN8868261765	Craig Cnwch, SN9241964119	Crygyn Gwyddel, SN9197568793
Cerrig y Gadair, SN8612565127	Craig Cwm-clyd, SN8908362519	Cwm, SN9533763850
Cerrig y Twrci, SN8023272414	Craig Cwmgwnfel, SN9210654871	Cwm Clyd, SN8922962335
Cerrigcwplau, SN8685363455	Craig Cwmntinwen, SN8315974673	Cwm Coel, SN8956464021
Cerrigllwydion, SN8416769193	Craig Cwplau, SN8653663421	Cwm Elan, SN9122364872
Ceunant, SN8452261964	Craig Ddu, SN9411369201	Cwm Garw, SN9021069287
Ceunant, SN9058066050	Craig Ddu Fach, SN7934768185	Cwm Gwesyn, SN8592755576
Chwarel Bach, SN7648370612	Craig Dyfnant, SN8748665603	Cwm Nant-y-ffaid, SN8966672689
	Craig Fawr, SN8805263947	Cwm Pistyll, SN9428360663

Cwm y Gorlan, SN8209775553	Esgair Cywion, SN8267867900	Ffos Fraith, SN8390866470
Cwm yr Esgob, SN9360165198	Esgair Cywion, SN8806570457	Ffos Gynant, SN8451367840
Cwm yr Hafod, SN9093668770	Esgair Dderw, SN9435569956	Ffos Las, SN8445259579
Cwm-bach, SN9607964054	Esgair Dderwen, SN8599673866	Ffos Las, SN8951959394
Cwm-clyd, SN8915062235	Esgair Elan, SN9564666991	Ffos Las, SN8079372490
Cwmdderw, SN9598168546	Esgair Elan, SN8394274788	Ffos y Gorian, SN8379067249
Cwmnant, SN9379467643	Esgair Embor, SN7685570510	Ffos y Mwyn, SN8438666885
Cwrt-y-garreg, SN9624065303	Esgair Fraith, SN8927156631	Ffos y Rhestr, SN8572061642
Dalrhiw, SN8828060236	Esgair Ganol, SN9118757901	Ffosfaenog, SN9645763470
Darren, SN9081456872	Esgair Ganol, SN8708760376	Ffos-las, SN9542367088
Dderw, SN9615068427	Esgair Garregnawlyn, SN7974469799	Ffos-lwyd, SN8607175338
Dderw, Bridge, SN9625968101	Esgair Garthen, SN8342664053	Ffostrosol, SN8245371757
Dderw Bungalow, SN9623368561	Esgair Gnycog, SN8449162940	Ffos-yr-hwch, SN8711474754
Ddole, SN9766967363	Esgair Goch, SN8189966599	Ffrwd Wen, SN8455970481
Ddwynant, SN8326567810	Esgair Gris, SN8830368269	Ffrwd yr Ydfran, SN8232076381
Ddwynant, SN8690772164	Esgair Gul, SN8855156488	Ffynnon Fyw, SN9259258350
Dibyn Du, SN7892865486	Esgair Gwar-y-cae, SN9174861156	Ffynnon Mary, SN9821660194
Disgwylfa, SN8948164547	Esgair Gwar-y-ty, SN8246067346	Fron Cottages, SN9586268385
Dolafallen, SN9542266585	Esgair Gwngu, SN8549673149	Fron-dorddu, SN9484965526
Dolafallen Bridge, SN9545266824	Esgair Gyrnant, SN8525968405	Fron-felen, SN9792259548
Dolberthog Wood, SN9702366660	Esgair Hengae, SN8176568162	Fuches, SN8593668599
Dol-falau, SN9132965640	Esgair Irfon, SN8506554294	Galedrhyd, SN9372766397
Dolgarn, SN9599365980	Esgair Las, SN8512375579	Gamlas Las, SN8434970745
Dolifor/Dol-Ifor, SN9580865698	Esgair Lwyd, SN8448272043	Garn Lwyd, SN9192361548
Dol-y-mynach, SN9033961612	Esgair Maingwynion, SN8122776199	Garreg Bica, SN8302972174
Dolymynach Reservoir, SN9058961621	Esgair Nantybeddau, SN8472766614	Garreg Felen, SN8630863085
Domen Milwyn, SN8083471979	Esgair Nefal, SN9396059135	Garreg-ddu Reservoir, SN9107964582
Drum Dagwylltion, SN8434660761	Esgair Pentanau, SN8470870370	Garth, SN9869860333
Drum Ddu, SN9681360280	Esgair Penygarrag, SN9182268694	Gelli Faenog, SN9247454985
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Dyfnant Ganol, SN8426758889	Esgair y Gadair, SN8580865937	Glanrhydwen, SN9529566748
Dyfnant Isaf, SN8397158570	Esgair y Llwyn, SN8979873475	Glyn, SN9664265857
Dyfnant Uchaf, SN8439959248	Esgair y Llyn, SN8422770418	Glyn Bridge, SN9654465688
Elan Valley Hotel, SN9381365783	Esgair y Ty, SN8664369442	Gorllwyn, SN9173459101
Elan Village, SN9342365162	Esgair y Ty, SN8945272493	Gors Goch, SN8931663235
Erw Fawr, SN9369764063	Esgair yr Adar, SN8328958492	Gors Lwyd, SN8570175285
Esgair Beddau, SN8631269140	Esgairhafod, SN8913360467	Gors y Nod, SN8343471531
Esgair Bethfa, SN8105869619	Fagwyr Wen, SN8297872936	Grafea Elan, SN8188673378
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Graig Fawr, SN9297955446	Lethr Melyn, SN9599058133	Llyn Fyrddon Fach, SN7963970133
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Graig Wen, SN8161775132	Llanerch-afallen, SN9554465926	Llyn Gwngu, SN8389472955
Graig y Ddalfa, SN7970074450	Llanercherfa, SN8350855587	Llyn Gynon, SN7996864610
Gribyn, SN9117253927	Llanerchi, SN9066163497	Llyn Uchaf, SN8035376185
Gro Hill, SN9246762103	Llanerchi Wood, SN9037763699	Llyn y Ferlen, SN9256560261
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Groes Wnws, SN7853368069	Llanerch-ty-newydd, SN9090965498	Lower Llanfadog Farm, SN9380265964
Groesuchaf, SN8984256957	Llawr Dderw, SN9539369025	Lower Ochr-cefn, SN9567267924
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Gurn, SN9370967141	Llechwedd Ty-mawr, SN8180374496	Maengwyngweddw, SN9257370566
Gurnos, SN9208657758	Llednant, SN9064254433	Maen-serth, SN9430769886
Gurnos, SN9013862166	Llethr Du, SN8582163167	Maes Anau, SN9272857430
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Gwarcac, SN9410666546	Llethr Gwngu, SN8309773337	Middle Ochr-cefn, SN9488468093
Gwardolau Farm, SN9615468658	Llethr Hir, SN8331367133	Moel Crychion, SN8876472921
Gwynllyn, SN9476168977	Llethr Llwyd, SN9305266580	Moel Geufron, SN9105571880
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Hen Glawdd, SN9119755132	Llethr Melyn, SN9174865085	Moelfryn, SN8959266308
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Henfron Plantation, SN9024164771	Llethr Tirion, SN7931770476	Moelfryn Bach, SN9238067178
Hengae, SN8205768054	Llethr y Rhyd, SN8234967868	Moelfryn Mawr, SN9252667459
Hillgate, SN8706974085	Lloches Lewsyn, SN8456569829	Moelydd, SN9277155421
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Lan Fach, SN9718757482	Lluest-pen-rhiw, SN9309371483	Nant Blymbren, SN9207967908
Lan Fawr, SN9403557820	Lluest-y-gader, SN8687566289	Nant Bodtalog, SN8684874904
Lan Fawr, SN8301276504	Llwt-fach/Lluest-fach, SN9668861403	Nant Brithgwm, SN8926967327
Lan Fraith, SN8663355911	Llwydnant, SN9121659803	Nant Brwynog, SN8125764453
Lan Fraith, SN8735772174	Llwydnant, SN8776362347	Nant Bryngarw, SN8022376441
Lan Ganol, SN9731157148	Llwydnant, SN8948763693	Nant Bryn-hir, SN8437167901
Lan Goch, SN9196556685	Llyn Aberdeuddwr, SN9664065625	Nant Bryn-hir, SN8437068083
Lan Las Bica, SN7927667666	Llyn Carw, SN8560861173	Nant Bryn-yr-Ieir, SN8419972035
Lan Wen, SN9077457739	Llyn Cerregllwydion Isaf, SN8434069937	Nant Bwdran, SN8376663784
Lan Wen, SN8072768118	Llyn Cerrigllwydion Uchaf, SN8398469293	Nant Caethon, SN9512367068
Lan Wen, SN9039470592		Nant Cammarch, SN8725856782
Lan Wen, SN9178072613		Nant Canol, SN8036168723
Lethr Garw, SN8536457241		Nant Cedenu, SN9096871028

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Nant Cerrigfendigaid, SN8514274400	Nant Hafen, SN9513459833	Nant y Fedw, SN8515956461
Nant Cerrigyrehelyg, SN8474170167	Nant Helffin, SN8940674727	Nant y Fedwen, SN8604955307
Nant Chwefri, SN9294959988	Nant Hesgog, SN9104768592	Nant y Ffaid, SN9014172868
Nant Cletwr, SN8710168974	Nant Hirin, SN8495670722	Nant y Ffin, SN8111264079
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Neuadd-fach, SN9324065953	Perfeddfynydd, SN8680575437	The Clyn, SN9337963249
New House, SN9676267364	Perthyllwydion, SN9397363898	The Flickering Lamp, SN9151467208
Noyadd Farm, SN9574566925	Pont ar Elan, SN9031471554	The Slan, SN9435367389
Ochr Lon, SN9619067402	Priddellau, SN8463167592	Tir Caled, SN8569659278
Ochr Lwyd, SN7937172184	Pwll Cou, SN7818965838	Trawsallt, SN7789270451
Ochr Ysgyfarnog, SN7893269028	Pwll Ifan-mawr, SN8183371106	Trawsallt, SN8260376429
Ochr-lwyd, SN8339073680	Pwll Nant-ddu, SN8691967462	Trawsnant, SN9586161217
Old Clyn, SN9362763525	Pwll Tribeddau, SN9259160937	Trawsnant, SN8738466171
Pant, SN9043261239	Pwll y March, SN8533154327	Trawsnant, SN9016373428
Pant Dolfolau, SN9204565812	Rhiplem, SN7858168385	Treheslog Farm, SN9434668793
Pant Glas, SN8629759797	Rhiw Afon, SN9025273891	Trembyd, SN9843361595
Pant Gwenith, SN8587560347	Rhiw Caws, SN8987368817	Troed-rhiw-draen, SN8957167046
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Pen Carreg-dan, SN8614254894	Rhos y Gafallt, SN7668070899	Ty'n-y-ffald, SN9069165681
Pen Cwmyrhafod, SN9059868776	Rhos y Gelynnen, SN9034263272	Ty'n-y-gors, SN9046061073
Pen Garn-du, SN8914062786	Rhosmebryn, SN8957571034	Ty'n-y-graig, SN9326763690
Pen Lan-fawr, SN8910874481	Rhyd Garreg-lwyd, SN9230571614	Ty'n-y-pant, SN9263263205
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Pen y Castell, SN9385564226	Rhyd y Gors, SN9163371959	Upper Llanfadog, SN9356965668
Pen y Ddeunant, SN8431673731	Rhydoldog, SN9418267909	Upper Mill, SN9616868077
Pen y Gorllwyn, SN9178559017	Rhydoldog Cottages, SN9458367821	Upper Ochr-cefn, SN9488468162
Pen y Maen, SN8642861985	Saith-main, SN9493260313	Walk Mill, SN9641668075
Pen y Rhestr, SN9271858657	Sarn Geufron, SN9136071553	Waun Abergwngu, SN8565174552
Pen-cae-haidd, SN9080062426	Sgwd y Ffrwd, SN8618756169	Waun Bryn-hir, SN8443667904
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Penrhiwgwnau, SN8485877759	Talar, SN8339772794	Waun Ddeunant, SN8412773040
Pen-rhiwlan, SN9078061529	Talcen yr Esgair, SN8515075198	Waun Drawsffos, SN8284770742
Penrhiw-wen, SN9250670901	Talwrn, SN9418364034	Waun Ffaethnant, SN8232871045
Penrhiwysgaden, SN8642175372	Talwrn Lodge, SN9396264055	Waun Ffos-to, SN8248368809
Pentregeithon, SN9522267032	Talwrn Wood, SN9448764052	Waun Fign, SN8181869844

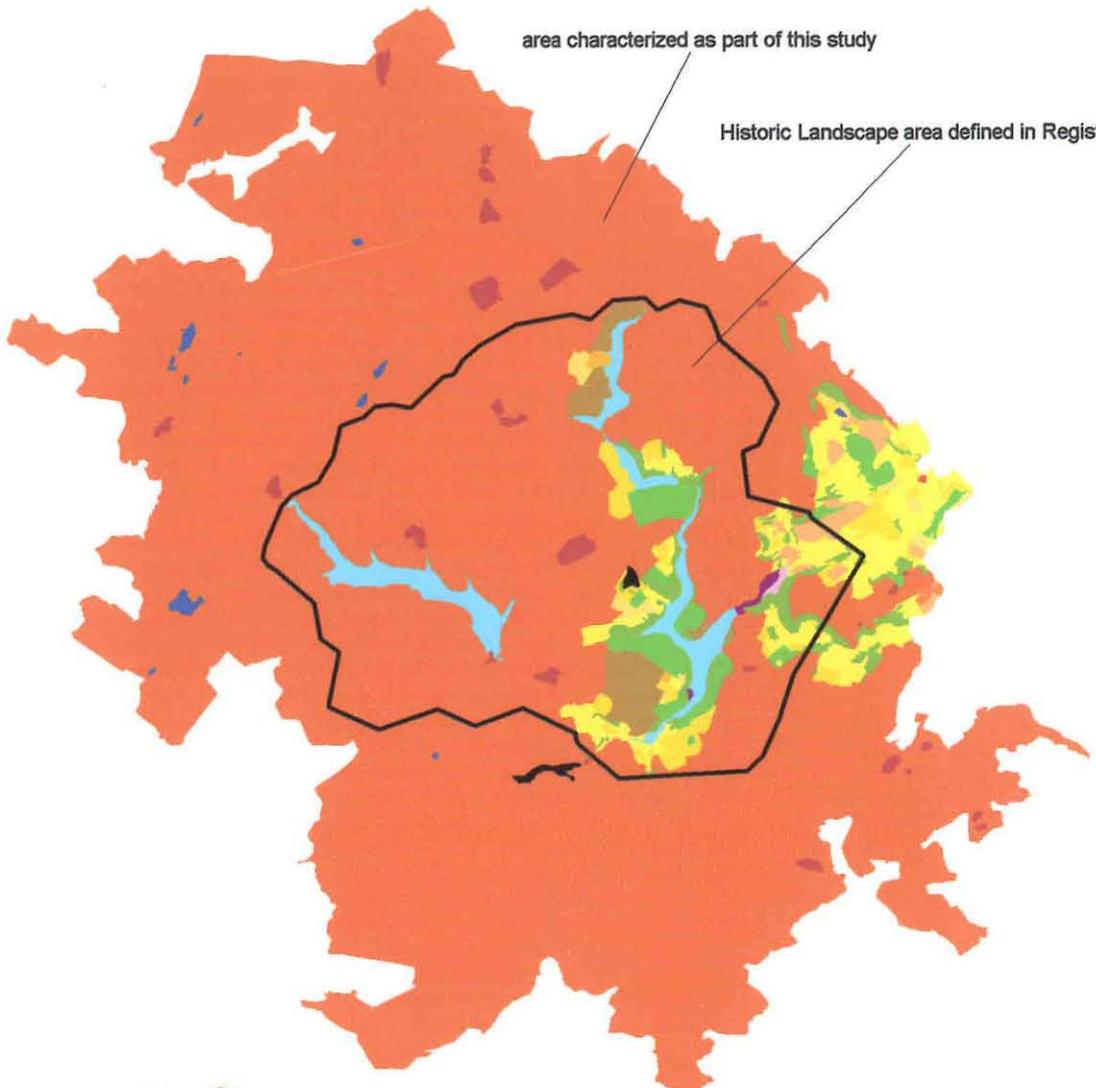
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Waun Lle'r-helm, SN8727766488	Wennallt, SN9335957099	Y Groes, SN8772867038
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Waun Lydan, SN8773561137	Wernnewydd, SN9649265594	Yr Allt, SN8388875955
Waun Mynydd, SN9802059423	Woodlands, SN9710966753	Yr Allt, SN8836961954
Waun Nant-garth, SN9015857659	Y Foel, SN9210065062	

Appendix 2: Historic Landscape types

The following list shows the historic landscape types used in this study, drawn from the map sources stated elsewhere in this report. The minimum size of units was intended to be 1 hectare.

Elan Valley historic landscape types	Notes
ENCLOSED LAND	
large irregular fields	> 3ha
large regular fields	> 3ha; imprecisely rectilinear fields without precisely straight boundaries; set out in relationship to other fields in an organised system; having the appearance of an organised or reorganised landscape
small irregular fields	< 3ha
small regular fields	< 3ha, imprecisely rectilinear; set out in relationship to other fields in a system; generally only identified if 3 or more fields in system
strip fields	length:breadth ratio generally >2:1, generally in series; generally only identified if 3 or more fields in series
large straight-sided fields	> 3ha, strictly straight-sided fields, as set out by surveyor, on at least 2-3 sides with irregular sides up against eg road or stream on other side
small straight-sided fields	< 3ha, strictly straight-sided fields, as set out by surveyor, on at least 2-3 sides with irregular sides up against eg road or stream on other side; generally only identified if 3 fields juxtaposed
upland encroachment	discrete encroachment enclosed by eg moorland
MOUNTAIN LAND	
open moorland	
enclosed moorland	large polygonal/straight-sided enclosures
INDUSTRIAL, COMMERCIAL, RETAIL, UTILITIES	
manufacturing/processing complex	water treatment works; sawmill
former mine	
SETTLEMENT	
small nucleated settlement	>5 houses
WATER	
natural lake	
reservoir	
WOODLAND, SCRUB, ORCHARD	
broadleaved woodland	
mixed woodland	
conifer plantation	

Map 6
Elan Valley
 Historic Landscape Types



- | | | | |
|---|----------------------------|---|----------------------------------|
|  | open upland |  | small irregular fields |
|  | upland encroachment |  | large irregular fields |
|  | enclosed moorland |  | small straight-sided fields |
|  | broadleaved woodland |  | small regular fields |
|  | conifer plantation |  | strip fields |
|  | natural lake |  | former mine |
|  | reservoir |  | manufacturing/processing complex |
|  | small nucleated settlement | | |