
Archaeological potential of ancient and semi-natural woodland

Work undertaken by GWYNEDD ARCHAEOLOGICAL TRUST
in conjunction with NORTH WALES ENVIRONMENTAL SERVICES

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Executive Summary *Crynodeb Gweithredol*

This report was commissioned by the Forestry Commission to consider the archaeological potential of Ancient and Semi-Natural Woodland (ASNW) and Plantation on Ancient Woodland Sites (PAWS) in north Wales, and identify appropriate methodologies for assessing the significance of individual woods and suggesting management action.

Six woods were examined in detail through a combination of gathering data on individual sites from the regional sites and monuments record (SMR), summarising the historical background of the woods through desk-based survey, fieldwork and report-writing. Given the close links between the history of woodland management and its ecology, the project involved an ecologist as well as archaeological field staff.

The project identified that some woods will have considerable potential for previously-unrecorded archaeological remains. Many of these could be identified on the basis of a combination of known background information, professional judgement and topography.

This project is envisaged as a first step towards the effective management of privately-owned ancient semi-natural woodlands which form such an invaluable part of the historic environment. It establishes a database of woodland sites which will allow a quantification of the woodland resource in north-west Wales, as well as a methodology for recording the archaeological and historic interest of these woodlands with a view to ensuring effective future management. It could form the basis of a possible future pan-Wales project which would bring together Cadw:Welsh Historic Monuments, the Welsh Archaeological Trusts, the Forestry Commission and the Countryside Council for Wales.

Comisiynwyd yr adroddiad hwn gan y Comisiwn Coedwigaeth i ystyried potensial archeolegol Coetiroedd Hynafol a Lled-Naturiol (CHLIN) a Phlannu ar Safleoedd Coetiroedd Hynafol (PSCH) yng ngogledd Cymru, a chlustnodi methodolegau priodol ar gyfer asesu arwyddocâd coedwigoedd unigol ac awgrymu camau rheoli.

Archwiliwyd chwe choedwig yn fanwl trwy gyfuniad o gasglu data ynghylch safleoedd unigol o'r cofnod safleoedd a henebion rhanbarthol (CSH), crynhoi cefndir hanesyddol y coedwigoedd trwy arolwg desg, gwaith maes ac ysgrifennu adroddiadau. Oherwydd y cysylltiadau agos rhwng hanes rheoli coetiroedd a'u hecole, bu ecolegydd yn ogystal â staff maes archeolegol yn rhan o'r prosiect.

Canfu'r prosiect y bydd gan rai coedwigoedd botensial sylweddol o ran olion archeolegol nas canfuwyd gynt. Gellid clustnodi nifer o'r rhain ar sail cyfuniad o wybodaeth gefndir gyfarwydd, barn broffesiynol a thopograffeg.

Gwelir y prosiect fel cam cyntaf tuag at reolaeth effeithiol dros goetiroedd lled-naturiol hynafol sydd dan berchnogaeth breifat, sy'n rhan mor amhrisiadwy o'r amgylchedd hanesyddol. Mae'n sefydlu cronfa ddata o goetiroedd a fydd yn gyfrwng i fesur adnoddau coetir gogledd orllewin Cymru, yn ogystal â methodoleg ar gyfer cofnodi diddordeb archeolegol a hanesyddol y coetiroedd hyn, gyda golwg ar sicrhau rheolaeth effeithiol i'r dyfodol. Gallai ffurfio sail ar gyfer prosiect Cymru-gyfan posibl a fyddai'n dwyn ynghyd Cadw: Henebion Hanesyddol Cymru, Ymddiriedolaethau Archeolegol Cymru, y Comisiwn Coedwigaeth a Chyngor Cefn Gwlad Cymru.

1. Introduction

- 1.1 This project was intended as a possible pilot project ahead of an all-Wales initiative. The intention was to undertake a series of historic audits of privately-owned woodland to complement and extend the recently-completed Welsh Heritage Assets Project (WHAP) appraisal of Forest Enterprise land in order, at this stage, to test methodologies and establish guidance for further work.
- 1.2 Desk-top research and survey work was carried out by archaeologists working in parallel with an ecologist (a) to assess the quantity and nature of unrecorded archaeological remains in private woodland areas, and (b) to supply information on the age and management of the wood itself as a component feature of the historic landscape in order that the historical development of ancient and semi-natural woodland, and the contribution that it makes to the present day landscape, can be better understood.
- 1.3 It is intended that the information gathered during the project will be used on two levels. At the broad level it provides criteria by which the potential of woods might be assessed for their archaeological (and ecological) potential as part of the Forestry Commission grant-awarding process. At the detailed (individual wood) level it demonstrates the potential for informing owners about sites (woodland and archaeological) within their ownership and how they might manage such sites for conservation. This will become particularly important in coming years if the drawing-up of management plans for private woodlands is encouraged.

2 Background to the project

2.1 General

- 2.1.1 The results of upland survey and deserted (prehistoric and medieval) settlement projects, amongst others over the years, as well as the extensive experience of Trust staff, have demonstrated the deficiencies of the regional Sites and Monuments Record in representing the true extent of the historic environment in areas where upstanding archaeology is known, or is likely, to survive. Of these, some marginal areas, such as the uplands, continue to receive attention. However, little attention has been paid to land in non-upland areas, such as woodland. Where visits have been made during the course of the Trust's work to historic woodland areas, they have, more often than not, resulted in the addition of significant numbers of new sites. For example, a recent survey of an 80-acre farm as part of a Woodland Grant Scheme consultation resulted in the recording of over 100 features of archaeological interest, only two of which were documented on the SMR (some of these have been put forward for consideration for scheduling).
- 2.1.2 However, ancient woodlands are not only to be seen as habitats which can aid the preservation of earlier archaeological remains, they are important features of the historic environment in their own right, a fact which recent historic landscape characterisation exercises have confirmed. Ancient semi-natural woods are defined as those areas of woodland which have had a continuous cover of native trees and plants since at least 1600AD, having not been cleared or extensively replanted since then. Historic landscape characterisation is demonstrating the crucial importance of a wider approach to the historic environment, and the identification of areas of ancient semi-natural woodland is now seen as an essential part of the management of the historic environment, at both a broad (characterisation) and detailed (site-

specific) level. Such woods are of key ecological importance and influence the quality and appearance of the landscape and environment in general, and have been described as ‘an irreplaceable asset of great importance which, once destroyed, can never be recreated’ (Peterken, 1977, *Woodland Conservation and Management*).

- 2.1.3 A desk-based exercise undertaken in the 1980s by the former Nature Conservancy Council compiled a provisional inventory of semi-natural and other woodlands, and one of these volumes covers Gwynedd (‘Gwynedd – an Inventory of Ancient Woodland’, NCC, 1989). This survey was fairly basic, comprising only a series of outline maps at 1:50,000, backed up by a very rudimentary database, now maintained by the Countryside Council for Wales (CCW). By comparison with early Ordnance Survey maps (1899-1939), it was estimated that throughout Gwynedd 171 sites had been affected by woodland clearance over the past century, involving a total of 377ha (approximately 5% of the ancient woodland resource), the vast majority of which had been cleared for agriculture. Seven sites were eradicated completely. An estimated 50% of the remaining ancient woodland has been replanted. Sparse as it is in detail, nevertheless this is still the most up-to-date work on ancient woodlands, and forms the basis for the proposed project.
- 2.1.4 The WHAP initiative, jointly funded by the Forestry Commission and the Heritage Lottery Fund, investigated the archaeological resource on land managed by Forest Enterprise. The project has added many sites to the known archaeological resource. However, the methodological approach adopted has considerably biased the extent and range of archaeological features discovered, as the main focus of WHAP was on desk-top research and in particular on scrutiny of the second edition 6” and 25” OS maps (surveyed and published in the early twentieth century). Fieldwork was primarily undertaken to verify the existence of features identified through cartographic analysis, and to assess their condition and importance, rather than to search for hitherto unrecorded features which may be present within the woodlands. As a result, its findings are biased heavily towards nineteenth-century structural remains.
- 2.1.5 There are as yet, however, no initiatives comparable to the WHAP for the areas of woodland which lie outside FE ownership. The need to assess the potential of these for archaeological remains has perhaps greater potential, and is arguably of more pressing importance, than the FE review. There are two main reasons for this. Firstly, many privately-owned woods are classified as ‘ancient and semi-natural woodlands’, which, by their very nature are both historical artefacts in themselves (part of the historic landscape), as well as containing upstanding remains from earlier periods, often in good condition. Secondly, the extensive pre-planting ploughing of Forestry Commission land (generally acknowledged to be highly destructive of both upstanding and buried archaeological remains) has not occurred in many areas of privately-owned woodland, which as a result often contain a richer variety of surviving archaeological features.
- 2.1.6 The Forestry Commission has increasingly acknowledged the importance of the archaeological features on its land over the past decade, and has adopted and published a statement of its responsibility and commitment for these features. No such unified strategy for the future survival of features within areas of privately-owned woodland exists.

2.2 Project Aims and Objectives

2.2.1 The proposed project sought to establish a methodology for assessing the archaeological potential and importance of ancient and semi-natural woodland in private ownership in north-west Wales. An important part of the project was the involvement of an ecologist from North Wales Environmental Services (a wholly-owned subsidiary of the North Wales Wildlife Trust).

2.2.2 The main objectives of the project were:

- To define the known archaeological resource within areas of ancient and semi-natural woodland in north-west Wales from the basis of the regional Sites and Monuments Record;
- To undertake a series of pilot historic audits of privately-owned woodland, to include desk-top research (based on historic maps, archive collections and the regional Sites and Monuments Record) and archaeological and ecological field survey to assess the quantity and nature of the history of areas of privately-owned ancient woodland and of the hitherto-unrecorded archaeological remains that exist within them;
- To develop a field recording methodology for application in north-west Wales, and more generally;
- To draw up criteria for predicting which woods have areas of high archaeological potential, which would allow a programme of survey work to be established for woodlands most likely to require further work; and
- To evaluate the benefits of adopting a more integrated archaeological and ecological approach to the study of the woodland history, and to assess the value of archaeologists and ecologists working in tandem, as well as the methodological and practical considerations that this entails.

2.3 Brief summary of research into the archaeology and history of woodlands in north-west Wales

2.3.1 The history of woodland in Wales has been described in general terms by Linnard (*Welsh woods and forests: history and utilisation*, 1982; and *Welsh woods and forests - a history*, 2000). Some aspects of the history of woodland in the area have been documented by antiquarian writers and by historians, but the archaeology of woodland in the area is poorly understood. The WHAP project has taken a broad-brush approach to the archaeological resource of land (mostly under conifers) managed by Forest Enterprise, as discussed above. However, there has been no consistent assessment, at either a quantitative or qualitative level, of the archaeological resource of woodland in private ownership in north-west Wales. Neither has there been an appraisal of ancient woodlands as an archaeological resource in their own right, or of archaeological remains associated with woodland management in the past and with traditional woodland industries.

2.3.2 Several studies and projects have looked at aspects of the archaeology of individual woods or of specific areas. For example, the Woodland Trust commissioned Gwynedd Archaeological Trust (GAT) to carry out heritage audit surveys of two blocks of woodland in the Conwy valley, and the Coedydd Aber Heritage Assessment and Resource Management Survey commissioned by the Countryside Council for Wales, and again carried out by GAT, surveyed

the archaeology of a National Nature Reserve, and commented on the development of woodland in the valley from the perspective of landscape history.

- 2.3.3 However, the most detailed work related to the archaeology and history of woodlands anywhere in north-west Wales is Peter Crew's ongoing research into prehistoric and medieval iron working in the Trawsfynydd to Dolgellau area. The research has led him to investigate the nature of past woodland environments in the area, and the extent of woodland management associated with iron working.

3 Desk-based assessment of the resource in Gwynedd

- 3.1 A Register of Ancient and Semi-Natural Woodland in Gwynedd was produced in 1989. This drew on primary research, as well as on a number of published works, including a 'Survey of Amenity Woodlands' (undertaken by Snowdonia National Park between 1975-7), as well as a 1985 publication 'Broad-leaved woodlands in the North Wales Region' (P Day), and a 'Broad-leaved Woodlands in east Gwynedd Survey Evaluation' (M E Smith, 1981).
- 3.2 The report estimated that approximately 24% of the estimated 27,067ha of woodland in Gwynedd (*i.e.* c. 6,500ha) is 'ancient'. The majority of 'ancient' woods are small, an estimated 79% being less than 20ha in size with over 60% being less than 10ha in extent: only two are larger than 100ha.
- 3.3 Digital data on the distribution of areas of ancient and semi-natural and ancient replanted woodland in north-west Wales were provided by the Forestry Commission (figure 1). These were interrogated against SMR data using a Geographical Information System (GIS), to produce gazetteers of the current known archaeological resource within these areas. The results of the searches are reproduced here as Appendix I, which presents lists of all sites within areas of ancient and semi-natural and ancient replanted woodland respectively, as well as summary tables of these sites analysed by site type and by chronological period.

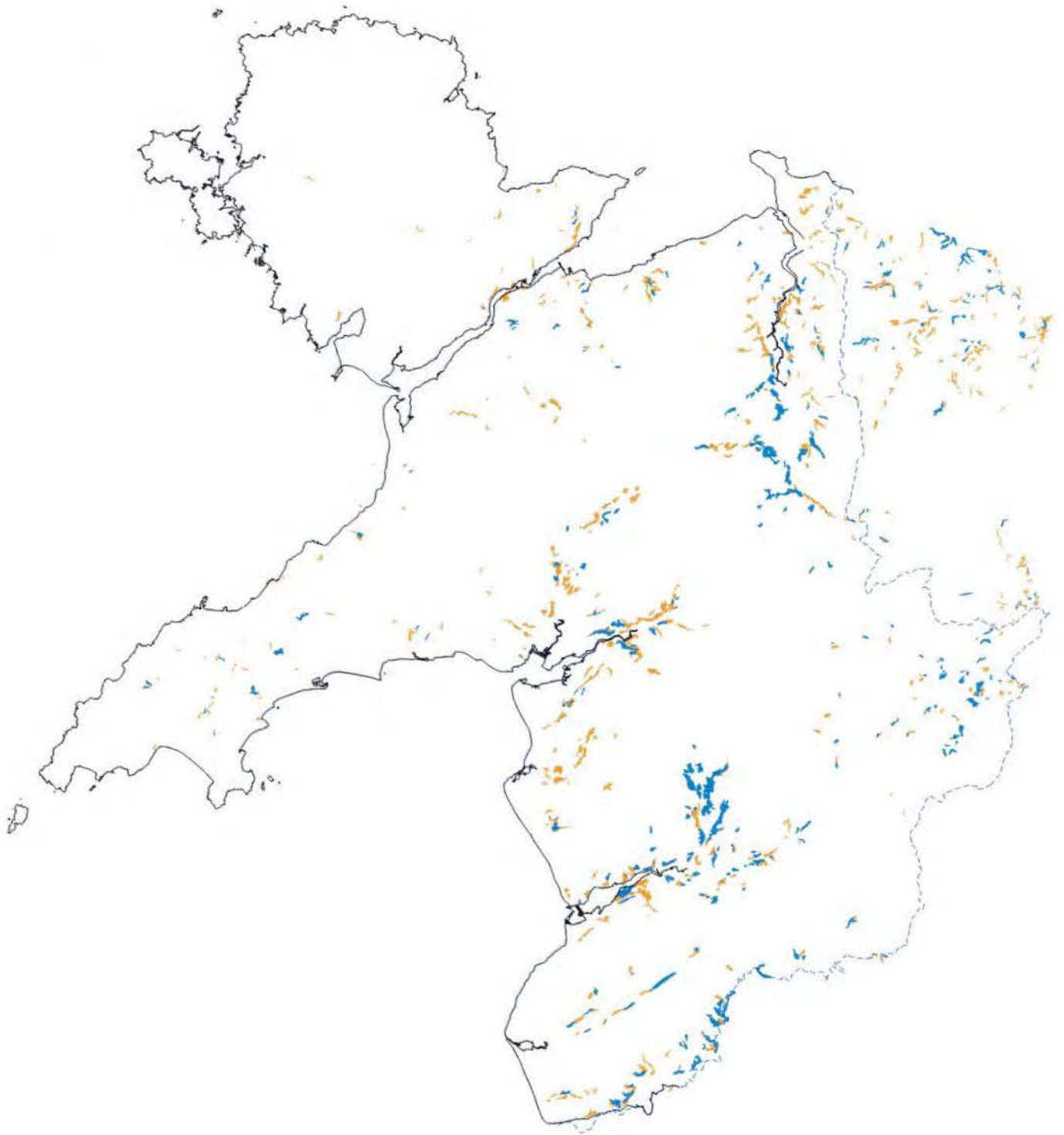


Figure 1 Distribution of areas of ancient and semi-natural (orange) and ancient replanted (blue) woodland in north-west Wales

4 Selection of woods for study

4.1 Selection criteria

4.1.1 Six discrete woodlands were selected from sites included on the Register of Ancient and Semi-Natural Woodland, for detailed documentary work and rapid survey. The selection of the sites was based on the following broadly-based criteria:

- To reflect a range of historic influences on woodland management and exploitation, as well as known areas of woodland management (commercial and recreational) in the area, including mining, quarrying, ship-building, fuel for industrial processes (including charcoal production (furnaces, foundries *etc.*)), tan bark, saw mills, and late eighteenth- and nineteenth-century large scale estate planting;
- To reflect, as far as possible, a broad geographical spread across the area;
- To reflect a range of topographical situations (taking into account gradient, exposure, altitude, drainage / water, rockiness, *etc.*);
- To reflect a range of different ownership and woodland management regimes in order to assess the extent to which these may have influence differential survival and preservation as well as site management requirements; and
- To include both 'ancient semi-natural' and 'ancient replanted' woodlands as defined in the Register.

4.1.2 The above themes were considered in conjunction with the results of a series of searches made of the regional Sites and Monuments Record. This included analysis of the data presented in Appendix I, combined with professional knowledge of local historic influences on woodland. These were intended to ensure that the study could:

- Assess areas of woodland with known presence of archaeological sites (condition and management requirements of sites, areas with potential for the presence of further, hitherto unrecorded, archaeological features); and
- Assess areas of woodland with no recorded presence of archaeological features but considered to have potential (in terms of presence of sites in the vicinity of the wood or promising topography and/or history).

4.2 Selected sites

4.2.1 The following six sites were identified for further work using the above criteria. The accompanying notes outline the reasons for the selection of the respective woodland blocks.

1 Cymerau Isaf, Vale of Ffestiniog (centred on SH 690427).

Most of the area is owned and managed by the Woodland Trust, although part of the site is a National Nature Reserve (NNR) managed by the Countryside Council for Wales. Historic influences on woodland in the area include shipbuilding, estate planting and management, a saw-mill enterprise, a tannery known to have been in operation in the adjacent village of Rhyd y Sarn in the nineteenth century, and quarrying.

2 Coed Dolgarrog, west Conwy valley (centred on SH 767665).

An area of known historic woodland management. There are early records of transportation of timber down the Conwy from woodland in the upper Conwy Valley. A number of tanneries are known to have been present in Llanrwst in the seventeenth century and later. Coed Dolgarrog and much of the land to the west of it was under Cistercian ownership from the thirteenth to the sixteenth century, so there is a possible monastic influence on the woodland. Coed Dolgarrog is a SSSI and NNR.

3 Coed Llety Walter, Llanbedr (centred on SH 599277).

Selected for proximity to known nineteenth-century tannery (Argoed), and as historically part of Cochwillan Estate. Owned by the Woodland Trust.

4 Hafod Garregog, Aberglaslyn. (centred on SH 600445).

A National Nature Reserve which is also partly within a Tir Gofal agri-environmental scheme. The wood is known to have supplied timber to mining interests in the late eighteenth century.

5 Coed Dolgun Uchaf, Dolgellau (centred on SH 746181)

Proximity of post-medieval blast furnace at Dolgun Uchaf farm may be expected to have influenced management and exploitation of woodland in the area as a source of charcoal to fuel the furnace, and features such as charcoal burning platforms might therefore be present in the wood. Coed Dolgun Uchaf is an area of replanted ancient woodland and is a mix of conifer and broadleaf. It is managed by a private, commercial, forestry organisation.

6 Cors y Gedol, Tal y Bont, Barmouth (centred on SH597224).

Whilst relatively few sites were recorded on the SMR within Coed Cors y Gedol in advance of the current survey, the surrounding area is rich in archaeological remains. A large scheduled area to the north-east of the wood constitutes one of the best-preserved historic landscapes in north-west Wales (late prehistoric and medieval field systems and settlement remains as well as an important prehistoric burial tomb). There was thought to be a strong possibility that the features in this area may extend into the wood itself. Coed Cors y Gedol is a mix of ancient replanted (majority) and ancient semi-natural (on steeper areas) woodland: it is assumed that the ancient woodland was added to and redesigned as part of the 'gardening' of Cors y Gedol from the seventeenth century onwards.

5 Survey methodology

- 5.1 First edition 6" ordnance survey (OS) maps (surveyed in the 1880s and published in the late 1880s to early 1890s) were consulted in conjunction with the second edition 25" OS maps, where available, in advance of undertaking fieldwork. The maps were scanned to digital form and registered into a GIS against the British National Grid. All potential archaeological features were digitised from these early OS maps for corroboration in the field. Survey base-maps were produced using GIS for each of the woods by overlaying the modern 1:10000 scale OS data with information from the SMR and that transcribed from the early OS maps.
- 5.2 Fieldwork was carried out in February 2002 by two members of staff, an archaeologist from Gwynedd Archaeological Trust (John Roberts) and an ecologist from North Wales Environmental Services (Geoff Radford). Field survey was undertaken to rapid walk-over survey specifications at a level comparable to farm visits carried out as part of the ongoing Tir Gofal agri-environmental scheme. A day was spent on each of the six woods, with traverses structured to allow as full a coverage of the wood as possible within the time available.
- 5.3 All features of archaeological interest identified during the survey were mapped onto the drawing film covering the base-line maps, along with a full description which included details of form, dimensions, function/interpretation, condition, management recommendations and any other factors such as aspect, landscape setting and so on. A photographic record was made of each feature (35mm colour transparencies). The original field record of annotated survey plan and photographic record is held in the project archive, lodged at the regional Sites and Monuments Record.
- 5.4 Many dry-stone walls and other field boundaries were located within the woods. Making a full record of these boundaries was not possible within the time available, or even considered desirable. Therefore, where boundaries were shown on the present-day OS maps, rather than record them individually, an indicative assessment of the range and form of boundary types in the woods was made. However, boundaries were generally recorded if they appeared in locations not shown on the present-day OS map, in case they represented arrangements of boundaries or fields of greater historic interest. They were compared with the nineteenth-century OS maps later. Boundaries were also recorded where they showed unusual characteristics or were especially good examples of particular types (for example, boundary furniture, coping styles, size, estate influence, style/tradition *etc*), or where their form or location suggested some function beyond standard field boundaries relating to stock management, such as parish or geo-political boundary or as an enclosure around different type of land-use such as coppice coups. The presence of a large number of walls in the woodlands surveyed suggests episodic changes of land-use between pasture and woodland, although some form of wood-pasture may have been carried out in some of them.
- 5.5 An ecological record was made at three levels. At a general level, the vegetation of each wood was mapped to assess the nature and distribution of the main vegetation types present. Any ecological records available for the various woodlands (such as SSSI descriptions, NNR management plans, NVC (national vegetation classification) survey data and so on) had been consulted in advance and used to inform recording work carried out during the survey visit. At a more particular level, any indications of anthropogenic influence on the woodland were noted, including coppicing, pollarding and thinning. Finally, an ecological assessment was made of each of the archaeological sites recorded during the survey, to record the species present and consider the historical ecology of the site where appropriate, and to make management recommendations sensitive to both the site and its flora.

6 Presentation of project findings

6.1 Explanation of the woodland proformas

6.1.1 The results of the various stages of research into the individual woods (desk-top, archaeological survey, ecological assessment) are present together in section 7 of this report, as proformas, in the order in which the woods were surveyed. Full descriptions were made for each of the features recorded in the survey.

6.1.2 However, as these amount to almost 170 sets of detailed descriptions, and for the sake of brevity and relevance, they have not been included within this report, but form part of the site archive lodged with the regional Sites and Monuments Record. A database containing full site details has been prepared for the purpose of accessioning the information generated during the project to the regional Sites and Monuments Record.

6.1.3 For each of the woods, results are presented here in the following format:

1. Location

Geographical and geo-political location of the woodland area.

2. Topography

The topography of the wood and its immediate environs.

3. History

A summary of the known history of the wood derived from primary and secondary research during the desk-top phase of the study.

4. Brief ecological descriptions of the woodland

Accompanied by a map showing the distribution of the main vegetation categories – as derived from field observations at the time of the current project alongside any existing vegetation records (such as SSSI descriptions, NVC (national vegetation classification) survey data and other ecological records). See note below on methodology for further details.

Only the common names of species have been used in the descriptions. Equivalent scientific names for each of the species referred to are given in Appendix II.

5. Summary breakdown of archaeological sites recorded within the woodland by site type and period

Gazetteers are presented in Appendix IV giving the following details for each PRN: national grid reference, site name, site type category (derived from a glossary of terms in use in Wales agreed by the RCAHMW and the Welsh Archaeological Trusts), site importance category and chronological period (see below for definition of chronological period categories). Each wood description is accompanied by a map showing the location and extent of all features recorded during the survey. Sites are numbered with their unique PRN (Primary Record Number, the numbering system used by the regional Sites and Monuments Record) and are colour-coded according to site importance category (as described below).

6. Discussion of selected archaeological sites

Sample descriptions are given of a number of key features recorded during the survey work (mostly previously unknown) for each of the woodland areas, and their interpretation discussed. Information on condition alongside any management recommendations is given where appropriate. It should be noted that the observations on perceived threats to archaeological features and recommendations on possible management options favouring their maintenance or enhancement are made without reference to the current ownership or protection status of woodland and without regard to any conflict that might arise with current management programmes or proposals favouring other aspects of the woodland character.

6.2 Classification of woodland types

- 6.2.1 In characterising woodland types for broad mapping purposes, stands were attributed to categories broadly equivalent to communities of the NVC (Rodwell 1991). However, it should be borne in mind that this was done by rapid observation rather than by use of the formal samples that NVC methodology would normally require. Consequently, the formal nomenclature of NVC woodland types has not been used, although the broad equivalents are summarised in Table 1.

Woodland survey category	NVC reference	NVC Description
Birch – purple-moor grass woodland	W4	<i>Betula pubescens</i> – <i>Molinia caerulea</i> woodland
Alder – ash woodland	W7	<i>Alnus glutinosa</i> – <i>Fraxinus excelsior</i> – <i>Lysimachia nemorum</i> woodland
Ash – rowan woodland	W9	<i>Fraxinus excelsior</i> – <i>Sorbus aucuparia</i> – <i>Mercurialis perennis</i> woodland
Pedunculate oak – bracken – bramble woodland	W10	<i>Quercus robur</i> – <i>Pteridium aquilinum</i> – <i>Rubus fruticosus</i> woodland
Sessile oak – birch – herb woodland	W11	<i>Quercus petraea</i> – <i>Betula pubescens</i> – <i>Oxalis acetosella</i> woodland
Sessile oak – birch – moss woodland	W17	<i>Quercus petraea</i> – <i>Betula pubescens</i> – <i>Dicranum majus</i> woodland

Table 1. Principal woodland types encountered in the six survey areas, and their closest NVC reference communities

6.3 Site importance categories

- 6.3.1 The relative value and importance of each of the features recorded during the survey has been assessed using the following categories (the category ascribed to each site is quoted in the site summary gazetteers given in Appendix III), which also include comments on generalised management responses appropriate for the different categories. These categories have widespread currency and are used in projects carried out by this Trust and others (for example in connection with Tir Gofal).

Category A Sites of national importance

This includes Scheduled Ancient Monuments, Grade I and II* (and some Grade II) Listed Buildings and sites of similar quality, i.e. those which would meet the requirements for scheduling or listing at the top two grades. There is a presumption in favour of preservation of all such sites and their settings should they come under threat. These sites require detailed management plans. Such sites might include those which survive principally as buried remains.

Category B Sites of regional importance

This includes sites which would fulfil the criteria for listing at Grade II (if a building), but not for scheduling (if a relict archaeological site). Nevertheless, such sites are of particular importance in a regional context and, if threatened, should ideally be preserved in situ, although complete excavation and/or recording may be an acceptable alternative. In management terms, general guidelines might be sufficient for sites in this category, adapted to the peculiarities of individual sites. Most sites of archaeological and/or historical interest will fall within this category.

Category C Sites of local importance

This category includes components of the historic environment (such as walls, gateposts, tracks etc.) which help define local distinctiveness and character. They may not be of sufficient importance to justify a recommendation for preservation if threatened, but they nevertheless have an interest and importance in their local context. In management terms, general guidelines will almost certainly be adequate for such sites/features.

Category D Minor and damaged sites

These are sites which are of minor importance, or are so badly damaged that too little remains to justify their inclusion in a higher category. All contribute to the character of the local historic landscape, but it is useful to be able to differentiate them from category C. Features may include, for example, distinctive gates, the majority of boundaries recorded (although some boundaries will be included in category C) and boundary furniture (such as stiles, sheep troughs (*tyllau defaid*), stone gateposts, pillars *etc*). In management terms, general guidelines are adequate for such sites, and if threatened with destruction, rapid record in advance of destruction should be sufficient.

Category E Sites needing further investigation (including obscured and ephemeral sites) and those with no defined physical presence.

This category includes sites whose function or interpretation is uncertain. This may be for a number of reasons. For example, the site may be obscured by vegetation or by the dumping of waste material upon it. The above ground surface remains of some features may be very ephemeral (either because of the original nature of the site or because of subsequent robbing or damage). These sites will require further work before they can be allocated to Categories A-D and before appropriate management recommendations can be devised.

The category also includes sites with no defined physical presence such as findspots, sites noted but not accurately located in antiquarian references, sites known only from place-name evidence and other sites reported at a specified location but which have not been found during archaeological fieldwork carried out in the area. It may not be possible to make specific management recommendations for these features, although the landowner/land manager should be informed of them as they may be of importance to the broader history of the land, as well as indicating the potentially archaeologically sensitive nature of the area.

6.4 Chronological period categories

6.4.1 The following chronological period categories, agreed between the Welsh Archaeological Trusts and the Royal Commission on Ancient and Historic Monument (Wales), have been used.

1.	Prehistoric	Until AD43
2.	Romano-British	AD43 - AD450
3.	Early Medieval	AD451 - AD1080
4.	Medieval	AD1081 - AD1540
5.	Post-Medieval	AD1541 - AD1900
6.	Modern	AD1901 - Yesterday
7.	Undetermined	Cannot yet be established
8.	Unknown	Cannot be established

7 Woodland descriptions and survey findings

- 7.1 The six woods which were surveyed are described below in the order in which fieldwork was carried out. These descriptions are detailed to demonstrate the potential of the information which could be made available to individual owners and occupiers (rather than the Forestry Commission itself). They also serve to indicate the amount of material that is potentially available on individual woodlands, and therefore their importance in terms of landscape history and the need for this type of work.

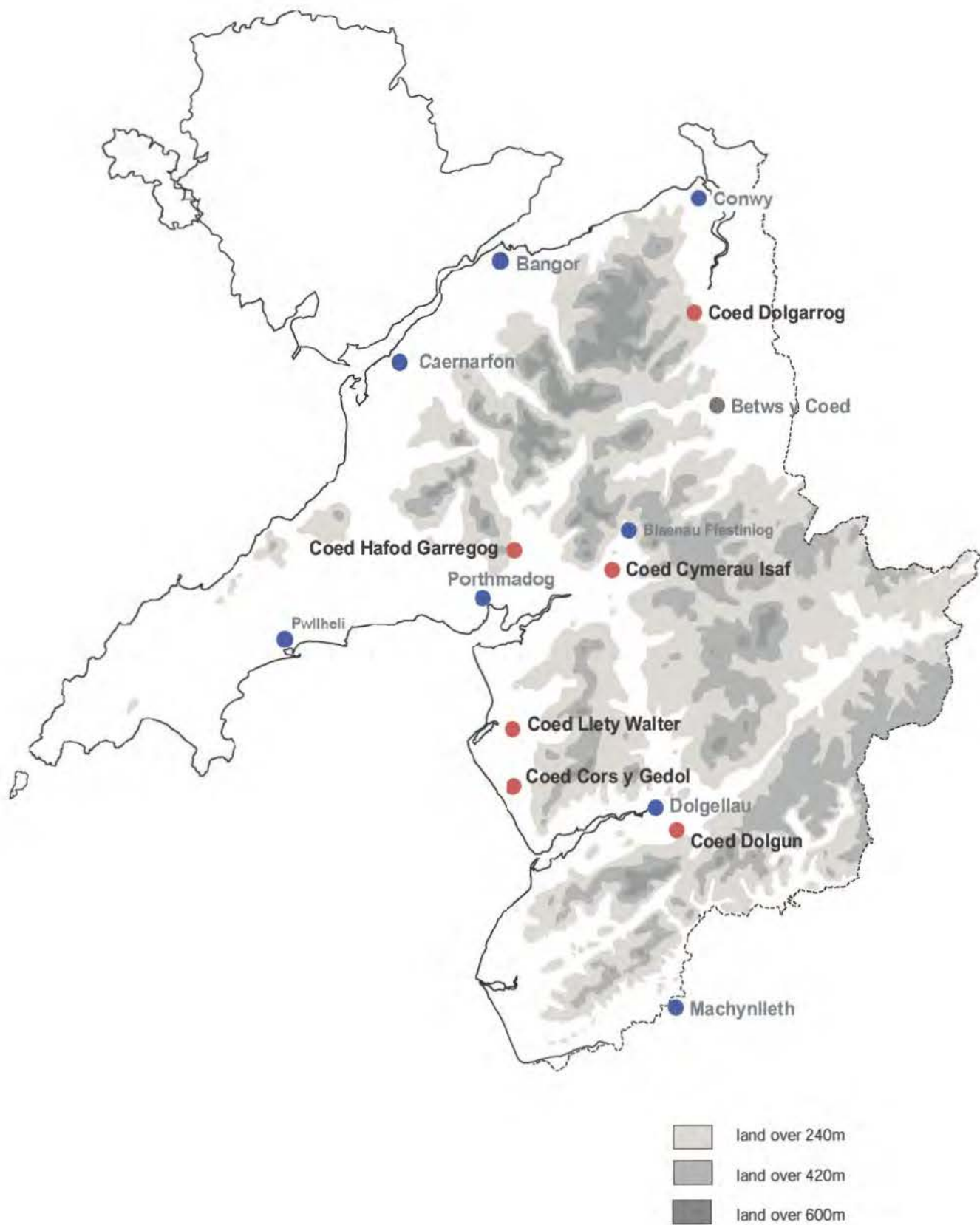


Figure 2 Location of the woodland survey areas

7.1 Coed Cymerau Isaf

7.1.1 Location

Cymerau isaf is situated in the community (formerly parish) of Ffestiniog in the county of Gwynedd.

7.1.2 Topography

Cymerau Isaf farm is situated on a spur between the Afon Goedol and the Afon Teigl on the lower slopes of the Vale of Ffestiniog, immediately above the point where the rivers join at Rhyd y Sarn, which gives the farm its name ('the lower confluences'). Rhyd y Sarn lies at the uppermost point of the alluvial plain that reaches to the sea at the Traeth Bach.

7.1.3 History

Although Ffestiniog is traditionally associated with the quarrying of slate, and grew to be one of the most productive slate areas of the world, quarrying came comparatively late to the parish, probably from about 1760 onwards. In the eighteenth century the felling of timber formed a more important part of the local economy, and though documentary sources typically have far more to do with the sale and transport of timber than with the management of the woodlands themselves, enough evidence has survived to give some indication of the scope of the trade and the sources exploited.

Timber – hardwoods, especially oak – was being exported from the heavily-wooded slopes not only of Ffestiniog and Maentwrog but also of the neighbouring parishes of Llanfrothen and Llandecwyn. Though the trade may have begun earlier, the first record dates from 1739, and concerns the Pengwern estate, when it was specified that timber to the value of £400 was to be felled.¹ The only specific reference to timber-felling at Cymerau comes in the *Journeys* of Sir Richard Colt Hoare in 1801, when he describes making his way from Tan y Bwlch to Cwmorthin through Cymerau:

I continued my rough and Alpine track through some oak groves, in some of which the axe has lately been introduced; £900 of timber was cut last year and a considerable fall has been made in the present. It is a lamentable sight for a lover of picturesque scenery; in a few years little wood will be left in Merionethshire. During the few years [since 1797, when he first visited the area] I have been frequenting this county the havock has been great; several of my favourite groves which I have so often admired have already fallen, and I hear of more where speedy doom is impending. But the evil does not only arise from felling the wood but from not properly fencing them out when cut by which the young shoots and prospects of a future copse are totally annihilated. The woodland track, intermixed with small pastures, distant mountains etc. affords many pleasing points of view.²

By the end of the eighteenth century, the Vale of Ffestiniog had suffered much deforestation. Already by 1763 it was reported of Merioneth that 'this county has been much drained of her timber',³ and in 1788 it was reported that the stocks of oak in Caernarvonshire, Denbighshire,

¹ UCNW Maenan 419; demise of Pengwern and estate, including Cymerau Isaf and Cymerau Uchaf, to John Garnons of Rhiwgoch, Merionethshire, gent., Edward Jones of Caernarvon, mercer, and David Prichard of Caernarvon, gent., who are instructed to sell 'so much of the said Woods, underwoods & Timber as will raise the sum of four hundred pounds,' dated 24 August 1739.

² Sir Richard Colt Hoare, *The Journeys of Sir Richard Colt Hoare through Wales and England 1793-1810*, ed. M.W. Thompson (Alan Sutton, 1983), p. 174.

³ R. Fisher, *Heart of Oak, the British Bulwark* (1763), p. 32.

Merioneth and Flintshire had decreased by two-thirds.⁴ An indication of the scale of the trade is the advertisements carried by local newspapers, which record sales of timber worth up to £900 a time. By the nineteenth century as many as 6,400 trees a year were offered for sale. Further pointers to the importance of the timber trade are the individuals who were clearly acting as timber merchants. Sometimes they are acknowledged as such; Owen David of Maentwrog is identified as a timber merchant in 1785,⁵ and another had been married at Llanfrothen in 1749. Others carried on other trades. In 1749 the Ffestiniog blacksmith, for instance, bought £500 worth of timber at Llandecwyn, far more than he would need for his own use, and far more than he could have sold locally, even if he had had the means to transport it up the valley.

With the revival of shipbuilding in the northern part of Cardigan Bay in the late eighteenth century, local timber came to be needed in ever-greater quantities. This remained the case until the 1820s, when Porthmadog shipwrights began to use Mawddach timber instead, and later still supplies of Baltic and Canadian pine became available. Local mines and quarries were still small affairs, but burnt some timber in the smithies and some used timber as props. Some timber was probably burnt as firewood. Bark also formed an export, some doubtless going to local tanneries, but there was also considerable trade with tanneries in Ireland.⁶

By 1807 the Merioneth Quarter Sessions records confirm that local landowners were encouraging new plantations,⁷ and sales of timber are recorded in the *North Wales Gazette* over the following years.⁸ By 1816 a quay specifically dedicated to the export of timber is recorded at Cemlyn on the Dwyryd tidal estuary, a little way below Cymerau.⁹

Little has survived in the way of estate documents or maps for Cymerau Isaf itself, mainly for the reason that its owners, until 1919, lived outside the area and their papers, if they survive at all, may still be in their possession, or those of their lawyers. Some papers survive in the collection of the adjoining Newborough estate at the CRO. The earliest of these is dated 1802, and shows plans for a proposed road from Lord Newborough's quarries at Blaenau Ffestiniog. It uses what was already an archaic convention, in which buildings and other features are shown as if in bird's eye view rather than in plan, and shows a small farm-house at Cymerau Isaf, but provides no information on the woodlands other than showing a wooded area immediately adjacent.¹⁰ A map of 1813 shows the cottage to the south of Cymerau Isaf, r' Allt, without identifying it as such, but gives no details of Cymerau Isaf itself. The third, an 'ocular survey' of 1827 for what may be either a road or a railway, is equally uninformative.

Other documents which survive are those which record Pengwern's transactions with other estates. The earliest reference to Cymerau Isaf comes in 1739, when it was owned by the Pengwern estate. Pengwern itself, an imposing house of late sixteenth-century date, stands barely 500 m to the north-east of the Cymerau Isaf farmhouse. It was built and inhabited by a family of local consequence, who adopted the surname Lewis; in the eighteenth century, Anne Lewis of Pengwern married Owen Wynne of Llwyn, Denbighshire, and the property remained

⁴ *Third Report of Commissioners appointed to enquire into state of Woods, Forests and Land Revenues* (1788), p. 72.

⁵ DRO Z/QS/M1785.

⁶ M.J.T. Lewis, *Sails on the Dwyryd* (Plas Tan y Bwlch, 1989) pp. 21-2 gives detailed references to the timber trade.

⁷ DRO Z/QS/H18070

⁸ *E.g.*, 14 April 1808 p. 2 col. e, 16 March 1809 p. 3 col. a, 20 April 1809 p. 3 col. a, 2 August 1810 p. 3 col. b, 23 April 1812 p. 3 col. a, 6 August 1812 p. 3 col. b, 7 April 1814 p. 3 col. a, 12 May 1814 p. 2 col. d.

⁹ DRO Z/DV/4/95.

¹⁰ CRO XD2A 394.

in the Wynnes' hands until the death of the Rev. Dr Maurice Wynne in 1835. It ceased to be a family home c. 1800, and was divided up into tenements. Pengwern then passed to Maurice Wynne's nephew, the Rev. Lloyd Fletcher, who assumed the surname Wynne by sign manual, and, like his uncle, died unmarried. Pengwern and Cymerau Isaf remained in the possession of a collateral descendant until 1919, when all the lands were sold.¹¹ Part of the estate, including Cymerau Isaf, seems to have been bought by the Newborough family, and was sold by them again in 1937.¹²

An adjacent holding, Cymerau Uchaf, is recorded in 1739,¹³ and again on the 1818 2" ordnance survey manuscript map, though the 1" ordnance survey of 1839-1841 records the farm simply as 'Cymerau', as does the tithe map of 1843.

However, despite the comparative paucity of information relating specifically to Cymerau Isaf and to general agricultural management within the holding, more general information survives relating to the woodlands both of Cymerau and the areas immediately adjacent.

Dr Michael Lewis has recently raised an intriguing possibility as a result of his researches into the history of the Ffestiniog area.

At the foot of the hill on which Cymerau is situated is Rhyd y Sarn, now a private house. It is first attested on a Newborough estate map of 1802, which identifies it as 'The Great Factory', a designation which suggests a woollen mill.¹⁴ Certainly, by 1841, it did function as such,¹⁵ but the importance that the Newborough estate seems to have attached to building a road to Rhyd y Sarn (rather than to navigable water), implicit in the 1802 map, strongly suggests that it was connected with the slate trade, probably as a mill for sawing slabs. This would make it the oldest mechanical slate saw-mill in Wales, and hence the world, making use of the falls of the Afon Teigl, and perhaps the Goedol as well, to drive a water-wheel.

Dr Lewis suggests that the mill may have had an earlier history as a timber mill. Richard Morris, who owned the land on which the mill was built, witnessed the marriage of William Solomon, a partner in Diffwys slate quarry in the upper part of the parish, in 1779. Whilst Morris was overseer of the poor at the time, it is more likely that there was a business connection between the two men, and the possibility is that the mill was already in existence sawing slate slabs from Diffwys quarry. This possibility receives some slight confirmation from the existence of sawn gravestones in the area from 1775, though these could have been cut with a hand-operated saw. However, the thirty-five stones recorded could not have kept the mill in business, and the mill may have had a dual purpose, sawing timber with a vertical saw, and sawing slate with a reciprocating saw.

In 1761 one John Williams is found selling timber to a copper mine on the Migneint moors, and a John Williams is found selling deal for rebuilding a house locally in 1798, possibly another of the local timber merchants.¹⁶

G J Williams's *Hanes Plwyf Ffestiniog* includes amongst sons of the parish one John Williams y Factory who bought the Plas Tan y Bwlch library when it was sold.¹⁷ There is no record of

¹¹ K.W. Jones-Roberts, William Ll. Davies, 'Pengwern, Ffestiniog' *Journal of the Merioneth Historical and Record Society* 13 (1951) pp. 180-184.

¹² CRO XSC 139.

¹³ UWB Maenan ms 419.

¹⁴ XD2A 394.

¹⁵ Ffestiniog census, 1841.

¹⁶ Notes passed to author from Dr Michael Lewis.

¹⁷ G.J. Williams *Hanes Plwyf Ffestiniog* (Wrexham, 1881), p. 232

the sale of the library (which itself makes it likely that it took place earlier rather than later), but it is likely to have been between 1770, when the last Griffith died, and 1789, when the daughter of the house married William Oakeley. 'Factory', or Welsh *ffatri*, tends to mean a woollen mill, but there was no woollen mill in the area until the 1870s. It is therefore possible that John Williams was connected with Rhyd y Sarn in the 1770s or 1780s, and that it was already functioning as a timber mill. This would make it very early indeed for a mechanical, water-driven mill – it would be the first in Wales. But Rhyd y Sarn was in all probability the earliest slate-slab mill in Wales, and there is no inherent objection, in terms of available technology, to it having also been a pioneer of timber-sawing.

As against this theory, the Ffestiniog historian Steffan ab Owain believes that the John Williams referred to by G J Williams is a later individual, and that the 'Factory' by which he is identified was the fulling mill in Tan y Grisiau, elsewhere in the parish of Ffestiniog, which he built in the 1840s.¹⁸

7.1.4 Brief ecological descriptions of the woodland

The main vegetation types in the woodland are shown on figure 3. Coed Cymerau occupies the well-sheltered slopes of the Afon Goedol, and is primarily a western oakwood, with birch achieving local dominance. Birch and to a lesser extent rowan are generally sub-dominant; ash, sycamore, alder and holly occur occasionally. The understorey is generally poorly developed, but hazel achieves moderate density as coppice in the north-west of the area, along the river. The cleared area around Cymerau Isaf is boggy and drains through the woodland via an extensive wet flush. Under closed woodland canopy, bryophytes dominate the field layer on the extensive rocky areas and crags, while grasses dominate where there is reasonable soil depth. Bracken tends to dominate under areas of open canopy that are not too poorly drained. Regeneration is generally rather weak.

7.1.5 Summary breakdown by site type and chronological period of archaeological sites known within woodland following survey

Site type	Count
Cairn - field clearance	1
Coppice	2
Cottages, field system	1
Enclosure, wall	1
Paths, trackways	3
Pen	1
Sheepfold	1
Shooting butt	1
Terrace	1
Wall	1
Wall, terrace	1

Period	Count
Medieval/Post-Medieval	1
Post Medieval	9
Undetermined	4

¹⁸ Steffan ab Owain, article forthcoming in *Rhamant Bro*, and personal communication.

7.1.6 Discussion of selected archaeological sites

PRN 942 Cottages and enclosures

Description

A terrace of derelict houses, with associated field system. Surrounding land slopes fairly steeply from N to S and is generally boulder-strewn. Terrace lies on approx. E-W axis, 16m x 5m, cut into the hill slope at N side and terraced out at front (S). Divided into 4 houses, each a single room's width (c. 4m wide). Originally 2 storey (low ground floor, c. 1.7m high judging from height of floor beams); first floor would have been in form of crogllofts in eaves. Fireplaces on ground floor. Shot holes in stone of fireplace lintel means construction post-dates late C18. Chimneys stand to c. 6m high. The settlement is shown on 2nd ed. 25" OS map (1901) and 1st ed. 6" (1890). Named simply as 'Allt' (Hill) on the 1890 map (surveyed 1888-1889), at which time the terrace is shown as roofed, but not named on 1901 map, by which time buildings appear to have become derelict.

Detail on the 1901 map indicates that the field system comprised between 5 and 7 folds / pens and more than 10 enclosures or small fields, ranging between 0.13 and 0.73ha area. The fields are enclosed by dry-stone walls and are terraced against the hill slope in many places; walls are up to 1.8m high, half the height of which forms revetting to the fields where terraced.

There are several single- and multiple-stemmed trees within the field system, including several ash, two coppiced oak and a rowan. The rowan is multiple-stemmed, but it is doubtful that this arose from coppicing. The oaks were clearly coppiced, however, and several other multiple-stemmed oaks occur on the slope above the settlement. There is also a scattering of small hazel coppice stools in the area. A single wild cherry sapling occurs near the cottages. The age of the oaks suggests that they may have been coppiced whilst the settlement was occupied. The land around the site is now lightly wooded, but is shown as open on both the 1890 and 1901 maps.

The function of the site is unknown and would merit further investigation. It appears to represent a self-contained workers' settlement. The small field plots may have allowed the occupants to produce vegetables or rear animals for their own consumption, to supplement wages from employment. The form that this employment may have taken is unclear. The early OS maps show that the site is located on a pathway running between Rhyd y Sarn and the Blaenau Ffestiniog road. The settlement may be associated with quarrying. However there was a woolen mill, drawing on the water power of the Afon Goedol and Afon Teigl, at Rhyd y Sarn in the mid nineteenth century, which may have previously served as a slate mill, and before this possibly as a timber mill (from the late eighteenth century). The settlement may have been constructed to house workers from the mill. A further possibility relates to the presence of a tannery next to Glan Llyn in Rhyd y Sarn (SH 69094229) as shown on the early OS maps. The tannery is marked as disused on the 1901 map, but not on the earlier map. If the tannery did indeed fall out of use between these dates, this would tie in well with the fact that the settlement also appears to have been abandoned within this brief period.

The site would clearly merit further work. It was not possible to study the early census records for the area (dating back to 1841) within the current project. However, these may cast some light on the occupation of the residents of the Allt settlement. It would also be useful to find out who owned the land on which the site is situated during the late eighteenth and nineteenth centuries as this may establish a link with local commercial activities such as milling or quarrying operated by the proprietor.

Management considerations and recommendations

One or two of the trees within the settlement occur on or very close to walls. The site would benefit from minor clearance around the cottages and removal of those trees interfering most with the remaining stonework.

PRN 16185 Hazel coppice

Description

An area of formerly coppiced hazel that extends along the slope above the river and eastwards towards the track leading to Cymerau Isaf farmhouse. Its density here, and the presence of relatively open-crowned oaks, suggests that it may have been an area once managed as coppice with standards, although it is quite small in extent.

Management considerations and recommendations

Although present at low density through much of the wood, hazel rarely reaches a dominant component of the understorey. Further enquiry into the wood's history may help to establish the previous level of coppicing.

There is no direct threat to the area. In terms of future management, the stools could be revitalised to some extent by restoring a cycle of harvest and regrowth. However, it is doubtful that this would produce a useful crop unless the canopy is also opened up more. Other locally available sources would also be required to attract a viable level of interest.

Cartographic sources

Ordnance survey

1" ms survey of 1818-1821

1" survey of 1839-41

25" XII 1, 2, first edition - third edition

Caernarfon Record Office

XD2A 386 Plan of Gelli Grin

387 Map of Traeth bach to Ffestiniog

388 Railway to Rhyd y Sarn, 1827

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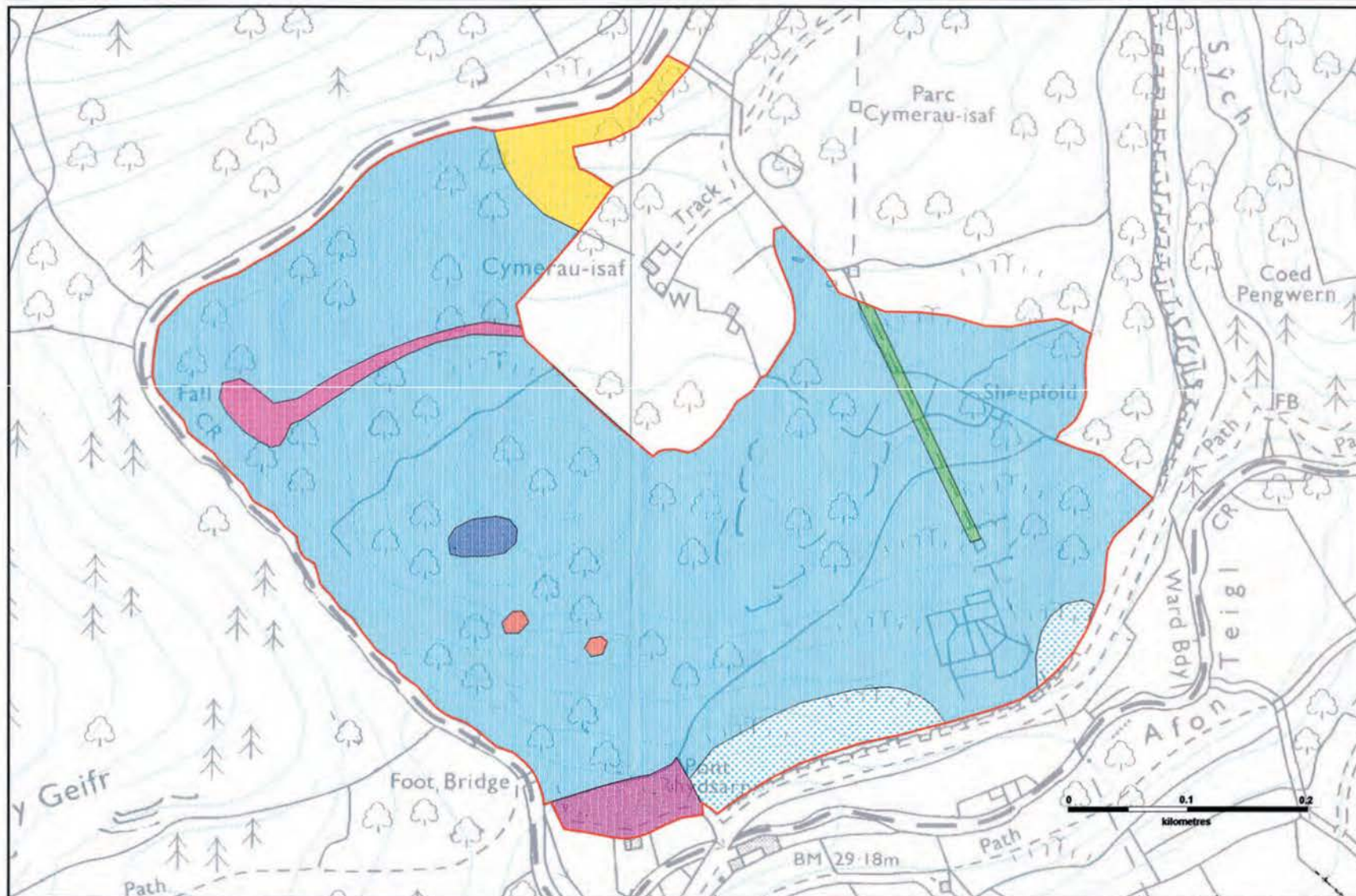


- | | | |
|--|---|---|
| Survey boundary | Sessile oak - birch - herb woodland | Open boggy area with flanking bracken |
| Open sessile oak - birch - herb woodland | Open area of bracken | Recently cut below power cables |
| Hazel coppice stools | Grassland and scrub | |
| Open boggy area with flanking bracken | | |

Figure 3

Coed Cymerau - vegetation types

Contours are shown at 10m intervals



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- Survey boundary
- 1,000 Feature, SMR number
- ▨ 1,000 Area, SMR number

- Category A
- Category B
- Category C
- Category D
- Category E

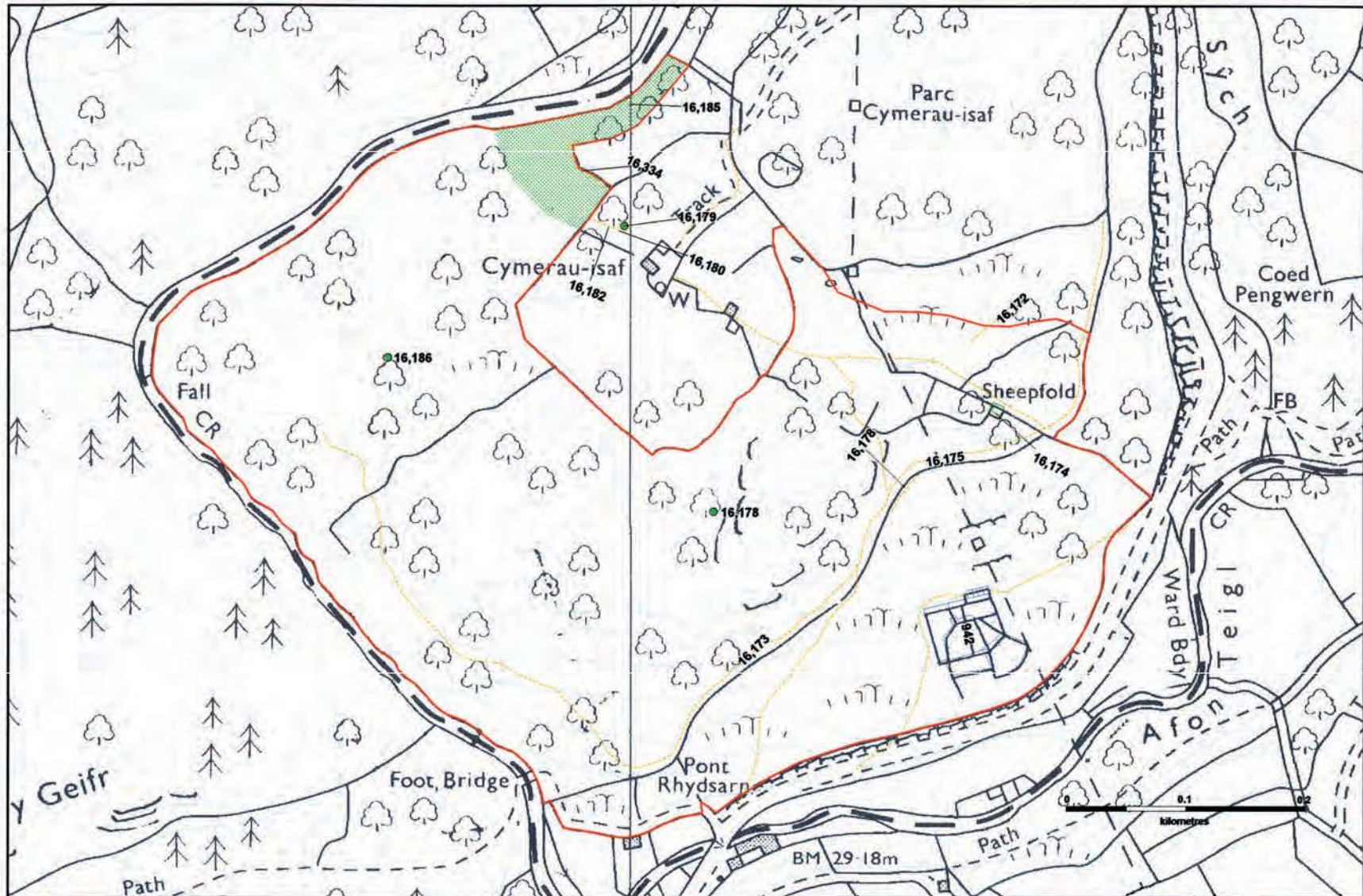


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Figure 4

Coed Cymerau - archaeological features

Contours are shown at 10m intervals



7.2 Coed Dolgarrog

7.2.1 Location

Coed Dolgarrog is situated in the community of Dolgarrog in the county of Conwy (Caernarvonshire until 1972, thereafter Gwynedd until 1996). Until 1983 Coed Dolgarrog formed part of the community of Dolgarrog, which had survived as a distinct territorial unit since the twelfth century, when it was granted to the Cistercian community of Aberconwy. At the dissolution it was made into a township, Ardda and Dar Lâs, of the parish of Llanbedr y Cennin (though divided from the remainder of the parish by the parish of Caerhun), becoming the civil parish of Dolgarrog in 1919.

7.2.2 Topography

Coed Dolgarrog is situated on the east-facing slopes of the Carneddau foothills along the Conwy valley. It is steep-sided, rising abruptly from the alluvial plain of the valley floor, and levels off at the tree-line to a landscape of farmland and sheep-pasture, which rises more gradually to form the peaks of Penardda and Moel Eilio. Coed Dolgarrog is the name given to the slope between the Afon Ddu and the Afon Porth Llwyd, both tributaries of the Conwy.

7.2.3 History

The earliest records of land use concerning the area around Coed Dolgarrog date from the period in which the area was in grant to the Cistercian foundation of Aberconwy. The original charter of the abbey uses rivers and mountain ridges as the defining boundaries, and makes no specific mention of woodlands. It is not until practically the time of the dissolution and immediately afterwards that any direct mention is made of woodlands. In 1545 the tenement ‘Tudyn Arthay Bryney Voyll’ (tyddyn ardda bryn y foel) was sold to one Thomas Irelande of Shrewsbury, and together with it a parcel known as ‘Coyde Imynoghe’ (Coed y mynach, ‘monk’s wood’) of 35 acres. Coed y mynach survived as a place name into the twentieth century but cannot now be identified.¹⁹

At much the same time John Leland noted ‘Meately good wood about Conwey Abbay’, whilst a document of the reign of Elizabeth I observes ‘There is near the saide scyte upon the lands of the saide monasterye store of greate Timber for Shippes or for the repayre of her highnes decayed castles.’²⁰

These documents, whilst they do not confirm that the woods of Coed Dolgarrog were commercially exploited either in the Cistercian period or immediately afterwards (and it is possible that both Leland and the Elizabethan document refer to the woods on the east side of the Conwy, near the abbey itself), do confirm that the potential of the immediate area had been identified. There is, however, thereafter very little information on the area until the nineteenth century, when references in the correspondence of William Elias, Lord Newborough’s estate agent, confirm that Coed Dolgarrog was being planted and commercially exploited. In 1854 a water-powered timber saw mill was established near the foot of the Afon Ddu.

Activity seems to have ceased, or not to have figured in correspondence, in the later nineteenth century, and in 1896 the whole area was sold to a business partnership

¹⁹ Pers. comm., the late Professor Rhys Gwyn.

²⁰ Rhys W. Hays, *The History of the Abbey of Aberconway 1186-1537* (Cardiff, 1963), p. 170.

named Gwalia, who in turn sold it on the Aluminium Corporation Ltd, established to set up an aluminium reduction plant at the foot of the Porth Llwyd falls, making use of its hydro-electric potential. This organisation and its successors, though they made great use of timber, especially for the production of poles to support overhead power lines, used imported Norwegian pine.²¹

7.2.4 Brief ecological descriptions of the woodland

The main vegetation types in the woodland are shown on figure 5. This site forms part of the oak woodlands extending along the relatively sheltered western side of Dyffryn Conwy, occupying some of its steepest slopes. The canopy is closed throughout and comprises elements of woodland dominated by western and pedunculate (*Quercus robur*) oaks, although there is no clear differentiation between areas dominated by these two species on the basis of soil type. The steeper slopes are dominated by western oak in the northern section and pedunculate oak in the south-eastern part. Towards the bottom of these areas, where the slope eases, beech is frequent in both communities. Ash is locally dominant along the lines of drainage. Although primarily oakwood with birch, several other species occur, including sycamore, rowan, alder and small-leaved lime, with holly a significant component of the tangled understorey. Hazel is present but nowhere frequent. Bramble is a major component of the field layer. Regeneration within the main block of woodland is locally good, although primarily of species other than oak.

The character of the woodland changes in the south-western portion, along the Afon Ddu, where oakwood gives way to a wet alder dominated woodland, with hazel becoming a more significant component of the understorey with a little holly and rowan.

7.2.5 Summary breakdown by site type and chronological period of archaeological sites known within woodland following survey

Site type	Count
Buildings	1
Coppice	2
Drumhouse	1
Farmstead	1
Incline	2
Long hut	2
Path	2
Path, trackway	2
Pipeline	1
Revetment	1
Slate quarry	1
Terraces	1
Terraces, walls, platforms	1
Trial	1
Wall	4
Total	24

²¹ E. Jones and D.R. Gwyn, *Dolgarrog: An Industrial History* (Caernarfon, 1989), pp. 23-4, p. 81 n34.

Period	Count
Medieval	2
Medieval?	2
Post-Medieval	10
Modern	2
Undetermined	8

7.2.6 Discussion of selected archaeological sites

Incline and drumhouse associated with trial cut and mining/quarry to the west of the survey area)

Description

Trial cut PRN 16333

Small trial digging (approximately 15m E-W x 7m N-S x 2m deep), with trees growing within it, lying 150m to W of Coed Dolgarrog, above incline running NNE through the wood (PRN 16227). The cut and incline are both shown on the 1887 6" OS map but the 1913 25" OS map shows the cut alone. There are numerous slate quarries and mineral workings (lead, sulphur) in the wider area, and the subject of this trial is unknown. The expense of constructing a 300m incline speculatively seems unlikely, and the trial is too small to have required the construction of a substantial haulage system. It seems likely therefore that the incline primarily serviced other mines/quarries, for example the disused lead mine, Tyddyn Wilym Mine (PRN 21499), shown on the 1887 map, less than a kilometre to the SW.

Incline PRN 16228:

Remnants of incline, shown by 1887 OS 6" map (but apparently disused by this time) to have been c. 300m long, running from drumhouse (PRN 16227) at W edge of Coed Dolgarrog NNE to Pont Dolgarrog. Much damaged and obscured by tree growth along its length; no longer possible to follow the lower half of the incline on the ground. Where masonry survives, the incline is stone revetted and is between 2m and 1.5m wide. Other sections appear to have been flush with the ground surface. Not shown on 25" 1913 OS map.

Drumhouse PRN 16227:

Remains of winding house, at head of incline PRN 16228. Not shown on 1887 6" (possibly due to small size of feature and small scale of map) or 1913 25" OS maps. Two side walls of mortared medium to large stone blocks, standing up to 2.5m high at greatest. See PRN 16333 for further comments.

Management considerations and recommendations

Although obscured by understorey scrub in many places along its length, no substantial trees were noted on the stonework sections of the incline. However, the undergrowth is more or less continuous across those sections not made up with stones, and includes hazel, holly, sycamore and bramble. The winding house just below the upper boundary of the wood is difficult of access because of tree and shrub growth. There is no great threat to the incline; the principal concern would be a gradual displacement of the stones building up its smooth gradient. However, the route is difficult to see over much of its length and the understorey would need to be cleared back for the engineering to be appreciated.

Coppice woodland PRN 16336

Description

Above the late C20th water treatment works, a small area well populated with formerly coppiced stools of hazel and some oak standards extends along the upper slope of the Afon Ddu. This then gives way to an area of alder woodland on wetter ground, also showing evidence of coppicing. This is the lower of two blocks along the valley. The alder woodland of the Afon Ddu was part of the Aberconwy Cistercian lands established in the twelfth century. High altitude alder wood is rare in Wales; Cistercian ownership until the dissolution of the monasteries may have protected both blocks from the felling that occurred elsewhere in similar valleys. Relict walls within the N part of this block suggest that its boundary has extended into a previously cleared adjacent area (PRN 16337). Several of the alders in the lower block are multi-stemmed. The diameters of these suggest an age of possibly around 50 years; in any event, of greater age than any of the uncut stems arising from hazel coppice stools here or elsewhere in the wood.

Management considerations and recommendations

There is no particular threat to the alder wood, but any proposal for active management would need special consideration of the historical and ecological backgrounds.

Ty'n y Gerddi post-medieval farmstead with associated terraced fields of potential early origin (PRNs 16339 and 16340)

Description

Ty'n y Gerddi, Post-medieval farmstead PRN 16339

Remains of a farmstead and associated fields and terraces. Located less than 80m to the E of Coed Dolgarrog survey area. The largest features are a pair of substantial stone-revetted terraces, c. 8m SW-NE by 20m SE-NW, by 1.5m high which appear to be the remains of two main buildings shown as roofed on both the 1887 6" (SH77256646). The extra detail on the 1913 25" OS maps indicates that there were three separate buildings and that by 1913 the southernmost of the three had become derelict (no roof). The buildings presumably consisted of a farmhouse and outbuildings. The site is named Ty'n y Gerddi on the early OS maps. A further (small) structure, of rough boulder and large block walling, identified in the field is depicted as unroofed on the 1913 map at (SH 77256643); dimensions c.7m N-S by 5.5m E-W. It is not shown on the 6" 1887 map, but this may be a product of its small size and the less detailed scale of the map. It is located less than 50m to the S of the larger buildings. A series of high terraces, platforms and double-walled trackways located immediately to the S of the buildings must have formed part of the layout of the post-medieval farmstead. However, they are an unusual collection of features and may have earlier origins; they are recorded until a separate PRN (16340). The site merits further investigation.

Terraces, platforms, walls and path/trackways PRN 16340

An area of small terraced fields, double-walled trackways and platforms. One of the platforms is circular, c.7m in diameter, of substantial rough boulder walling. The feature does not appear to be a hut circle, but is curious, and raises the possibility that this area of small fields, shown to be associated with Ty'n y Gerddi post-medieval farmstead (PRN 16339) on the 1887 6" OS map, has earlier origins (medieval or even prehistoric). Together with the Ty'n y Gerddi buildings, this collection of features would merit further investigation. The woodland boundary in this area is ill defined, and the woody species appear to have extended downslope and met with remnants of the hedgerows and possibly trees around the settlement and associated terracing. The woodland edge abuts an area of coppiced hazel further downslope that may have been used for small wood at the time the settlement was occupied. More

immediately around the settlement itself, hazel is no more dense than in most of the wood, but it has clearly been felt to be worthwhile coppicing here in the past.

Management considerations and recommendations

The tree cover around the settlement is patchy but quite dense in places, and poses a minor long-term threat to the stonework. There are several substantial oaks around 50+ years old on the site, which do not pose a current threat. However, it would be beneficial to clear some of the understorey in order to reduce the likelihood of damage where it is close to stonework and to give more space to the features.

Cartographic sources

Ordnance Survey

2" ms survey of 1818-1821

1" survey of 1839-41

25" XIII 4, 8 first edition - third edition

Caernarfon Record Office

XD2 (Newborough), survey of 1815.

Figure 5

Coed Dolgarrog SH769665
Main vegetation types

Contours are shown at 10m intervals

- | | | |
|---|--|--|
| Survey boundary | Sessile oak - birch - herb woodland | Pedunculate oak-bracken-bramble woodland |
| Sessile oak - birch - moss woodland | Pedunculate oak-bracken-bramble woodland | |
| Ash - rowan woodland | | |
| Alder-ash woodland | | |



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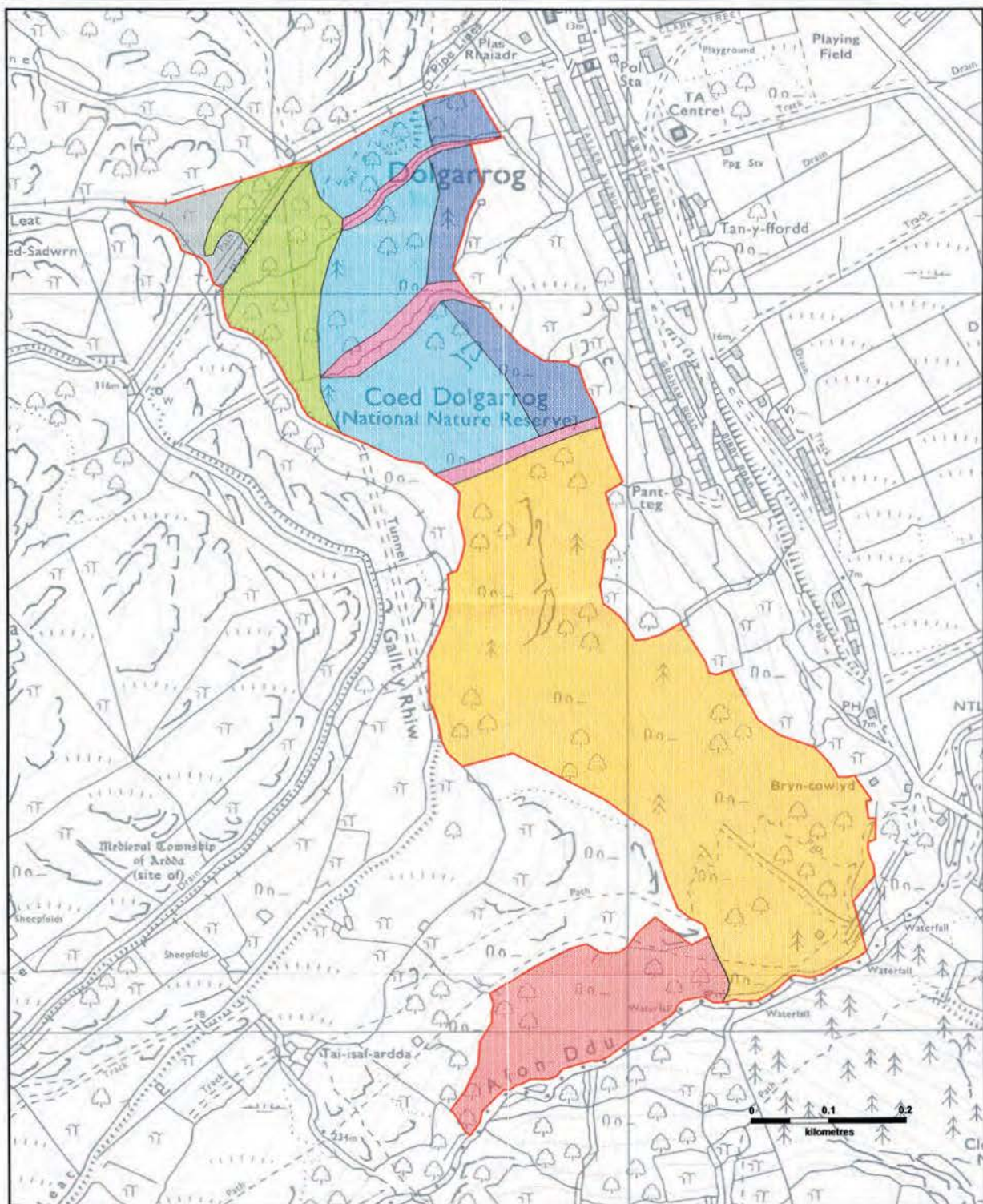


Figure 6

Coed Dolgarrog SH769665
Archaeological features

Contours are shown at 10m intervals

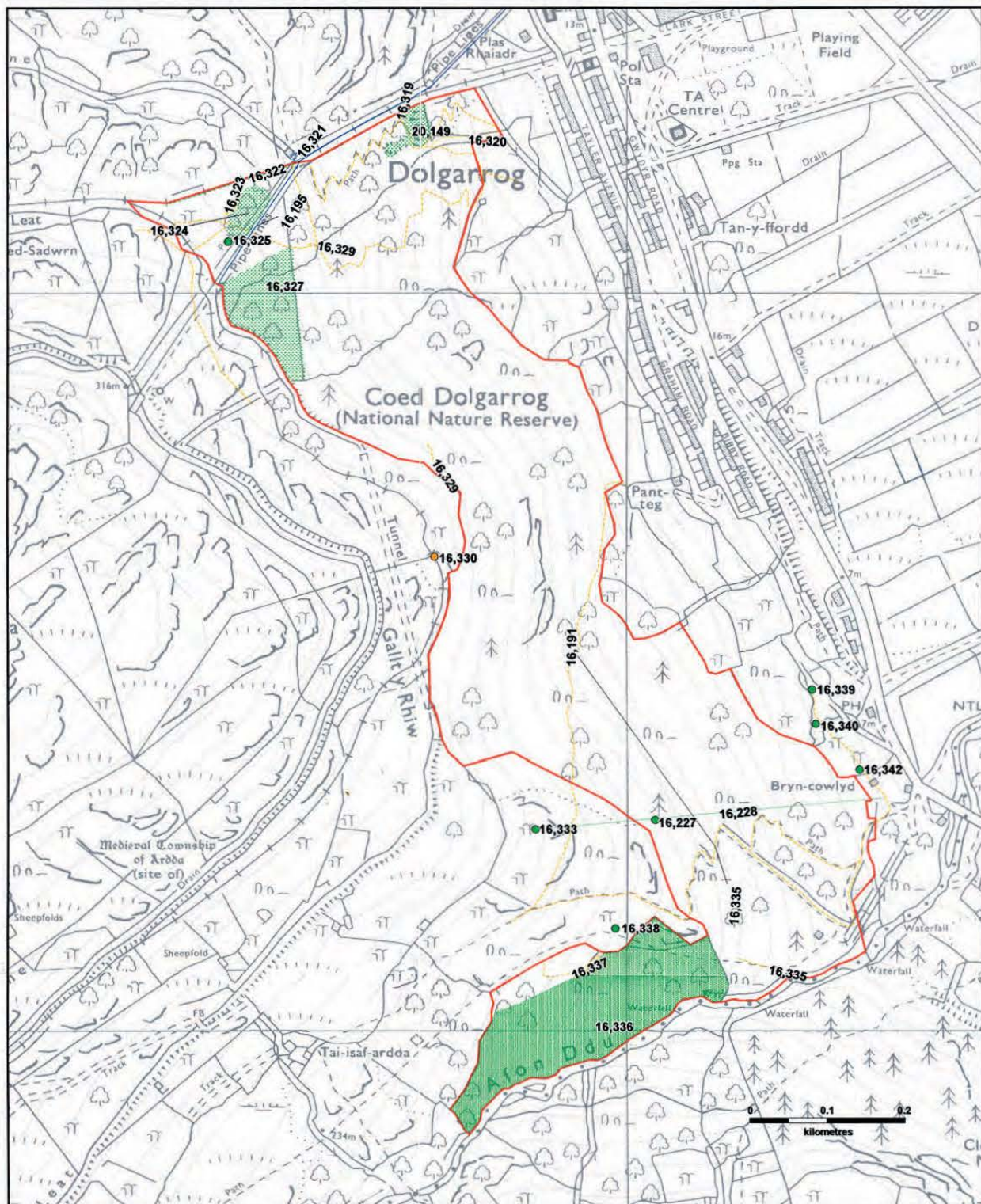
- Survey boundary
- 1,000 Feature, SMR number
- 1,000 Area, SMR number

- Category A
- Category B
- Category C
- Category D
- Category E



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7.3 Coed Llety Walter

7.3.1 Location

Coed Llety Walter is situated in the community (formerly the civil and ecclesiastical parish) of Llanbedr, in the present county of Gwynedd, formerly Merioneth, in the historic commote of Ardudwy.

7.3.2 Topography

Coed Llety Walter is situated on a south-west facing-slope overlooking Morfa Dyffryn, and is bounded on the south by the Afon Artro.

7.3.3 History

Llety Walter is first recorded as a separate tenement in 1592, when it was leased from Edward Piers, yeoman of Llanbedr, to Eigion ap Ievan ap David ap Meredudd, at a rent of two hens or pullets per annum.²² Thereafter a series of documents refers to its use and changes in ownership, over a period extending from 1597 to 1604. The parcel known as ‘y ddole’ next to Llety Walter was passed from Edward Piers to his son and heir Owen, in 1597,²³ and at the same time Piers initiated the sale of Llety Walter together with ‘Coed Gwindini’ to Griffith Vaughan of Cors y Gedol. The document, which is in Latin, is damaged but mentions ‘terras prat(as) pasturas (*lacuna*) –ubosce, aquas Turbar(ii),²⁴ a formula which is repeated in English with some variation in a document of 1604 – ‘all lands, meadows, pastures, woodde, underwoodde, waste, waters, turbaries, & comons.’²⁵ This records a payment from Piers to Vaughan of a bond of £200 in respect of Llety Walter and ‘Coed y Gwyndinie’. These are described as lying in length from the lands of or encroachments of Anthony Poole and Griffith Vaughan called Coed Llanbedr, to the lands or encroachments of John Lloyd called Coed Erw Gynfrig, and in breadth from the Afon Llanbedr to Lloyd’s lands known as ‘garth y gynadle’; and Coed Llanbedr. A quitclaim of the same year, again in indifferent Latin, mentions, ‘terr(as), prat(as), past(uras), toft(i), gardin(i), bosce, et subosce, turbarr(ii), comm(ones) vast(as) (*illeg.*) aqua(e)’ – respectively, lands, meadows, pastures, tofts, gardens, woods, underwoods, turbaries, commons, wastes ... waters’.²⁶

Whilst these documents do not make it possible to gauge the precise extent of woodland management in the sixteenth and early seventeenth centuries, the distinctions between woods and underwoods suggest the possibility of coppicing, and the various sales and exchanges suggest a period of vigorous and intensive exploitation of the natural resources of the immediate area.

Llety Walter is mentioned again in 1636, in an *Inquisitio post mortem* on the property of Richard Vaughan of Cors y Gedol.²⁷

7.4.4 Brief ecological descriptions of the woodland

The main vegetation types in the woodland are shown on figure 7. This woodland is predominantly of western oak, with birch as sub-dominant, the result of natural regeneration following extensive felling probably around the time of World War 2. Associated species in the canopy include beech and sycamore. The ground is very uneven, with small cliffs, rocky knolls and rock-strewn slopes. Small areas of wetter ground occur, mainly along drainage

²² Bangor Mostyn 3645.

²³ Bangor Mostyn 3647.

²⁴ Bangor Mostyn 3648.

²⁵ Bangor Mostyn 3651.

²⁶ Bangor Mostyn 3652.

²⁷ National Library of Wales Dolfriog Deeds and Letters 1636.

lines, favouring birch and carpets of golden saxifrage, or, in some areas, bog moss. A small, heavily silted lake occurs in the south-eastern corner, from which the drainage creates a substantial area of wet alder-dominated woodland. Bryophytes comprise the main ground flora in rocky areas, with grasses on deeper soils. The ground flora indicates some base enrichment. The woodland is currently ungrazed, and regeneration in the main body of the woodland is good.

7.3.5 Summary breakdown by site type and chronological period of archaeological sites known within woodland following survey

Site type	Count
Boathouse	1
Building	1
Cairn - field clearance	3
Cottages, enclosure	1
Enclosure	6
Fishpond, boating lake	1
Hut circle	1
Long hut	2
Paths, trackways	1
Platform, hut circle	1
Pond	1
Sheepfold	2
Shooting butt	1
Stile	1
Wall	5
Walls	1
Walls, platforms	1
	33

Period	Count
Prehistoric	8
?Prehistoric	1
Medieval	2
?Medieval, Post-Medieval	1
Post-Medieval	20
Undetermined	1

7.3.6 Discussion of selected archaeological sites

Prehistoric hilltop enclosure and associated features PRNs 16237 - 16241

Description

Hilltop enclosure and clearance carins PRNs 16237 and 16239 - 16241

Hilltop enclosure with possible hut circle and series of clearance cairns within interior. The enclosure is polygonal, c. 40m E-W by 45m N-S, of boulders and medium-sized stone rubble bank walls. Covers approximately 0.2ha. The bank is patchy in places, but where better preserved is up to 1m high (although the majority is less than 0.4m high) and spread to between 2m and 3m wide. The site overlooks Dol Gymerau former farm (named Gwern Cymmerau on the 1890 6" OS map), situated immediately to the W of the site at the foot of the low hill and improved grazing land beyond. Curiously, the bank is most difficult to detect

at this point on the top of the slope overlooking the farm. It may be that stone was robbed out from the W side of the enclosure during the construction of the farm (the hill slope between the farm and the enclosure may have been modified in the past through agricultural or horticultural activities). Some facing is visible in places throughout the banks, suggesting that it represents the remains of a much-disturbed wide wall. The bank runs between, and makes use of, a series of low bluffs to the N, and along a steep (craggy in places) drop on its W side. There is an entrance way, c. 1m wide, at the NE of the enclosure. A possible second entrance is located at the S of the enclosure. The land within the enclosure has been cleared of stone and is quite flat. Removed stone is piled against the enclosure bank in places, and in a series of clearance cairns (PRNs 16239, 16240 and 16241) piled up against large *in situ* boulders and small rock outcrops within the interior. The possible hut circle is located at the SE of the enclosure (PRN 16238). On balance, by comparison with other hilltop enclosure sites of a similar form, and given the fact that two further hilltop enclosures were discovered within 300m of this site during the current survey (PRNs 16244 and 16247), both of which can be ascribed more confidently to late prehistory, this enclosure and associated features is also considered to be late prehistoric in date. It is likely that the three enclosures were intervisible to one another, although they are now obscured from each another by tree coverage on and around the sites. The possibility that the features represent a medieval enclosure remains whilst there is doubt over whether PRN 16238 is a hut circle, or the truncated remains of a long hut or other sub-rectangular structure. The site is in an area predominantly of oak in the order of 50-60 years of age. Some of the trees here are multi-stemmed, usually with either 2 or 3 leaders. While they may have been coppiced it is possible that this arises from early damage; the bases show little evidence of regular cutting. A less likely alternative is that younger single-stemmed oaks may have become established after light coppicing of the older trees had ceased, the single stems subsequently catching up with re-growth from the stools. The understorey is relatively thin so that the outline of the site is visible. The main threats are from trees on or beside stonework whether of the settlement itself or the associated cairns.

Possible hut circle PRN 16238

Possible hut circle located within, and seemingly associated with, hilltop enclosure PRN 16237. Initially thought to be truncated remains of sub-rectangular (round-ended) long hut. The site is slightly D-shaped. It is on an E-W axis, with internal dimensions 2.5m x 3.5m internally and rough walls/banks of rounded medium to large stones 1m wide and up to 0.5m high. On closer observation, however, no traces whatsoever were found of any corner stones, wall edges or foundation stone within the area where the truncated half of the site could be expected were it a long hut. Furthermore, the spread condition of the rubble bank walls suggests that processes such as tree damage may have distorted the appearance of the feature. A more secure interpretation would help to date with more confidence the enclosure with which it is associated. The feature is tentatively ascribed to the late prehistoric period although a medieval date cannot be ruled out, as discussed in relation to enclosure PRN 16237. The site is given category A to take account of group value in association with the enclosure and cairns (PRNs 16239, 16240 and 16241).

Management considerations and recommendations

This site is in an area predominantly of oak in the order of 50-60 years of age. Some of the trees in the area are multi-stemmed, usually with either 2 or 3 leaders. Within the site, the stones have been cleared to cairns, on several of which young trees and shrubs have become established, including oak, sycamore and hazel. The understorey is relatively thin so that the outline of the site is visible. The main threats are from trees on or beside stonework whether of the settlement itself or the associated cairns.

The site is on a knoll near the SW edge of the wood, and is therefore relatively exposed. Any removal of trees will need to take into account the possible effects of increasing exposure. If

undertaken, clearance would need to be generous in order to remove direct threat to the site from the soil disruption associated with wind throw. Extensive clearance would result in scrub incursion which itself requires episodic control and clearance.

Prehistoric hilltop enclosure PRN 16244

Description

Roughly oval hilltop enclosure, measuring 20m by 10m N-S, and defined by walling of boulders and medium-sized stone running between in situ boulders and along low outcrops. Occurs in a similarly elevated position to that described for PRN 16237, but is a little more sheltered. To the N and S ends of the enclosure the ground falls away as steep crags, up to about 12m high in places. Possible entrance to the SE with a poorly defined pathway leading up to it. The walling is between 1.5m and 2.0m wide and up to 1m high where it runs between large in situ boulders or above outcrops, but otherwise generally, 0.5m high. Occasional orthostatic facing stones are visible in places throughout the length of the wall. A possible secondary bank or wall (very low and patchy) runs along the crest of a slope, 7m to W of the E side of the main enclosure wall, forming an annexe or elaborated entrance way at this side of the enclosure. The interior of the main enclosure is generally very flat and clear of stone. The enclosure and annexe together cover an area of c. 0.15ha. No definite internal features such as platforms or hut circles were detected, although the ground is now tree-covered and the vegetation of the field layer obscures the surface from view. A short detached length of possible wall footings was identified in the S part of the enclosure but its function/relation to the rest of the enclosure is unclear at this stage.

Management considerations and recommendations

The tree cover is predominantly of fairly young oak (30-40 years), with a single beech of around 40 years and one or two saplings, and one or two holly whips. The ground cover is distinctly heathy in character being partly of bilberry and heather, and partly of the more usual bryophytes with a little ivy over leaf litter. There is evidence of beech coppicing nearby. The tree cover does not appear to present any immediate threat to the stonework. Further work is required at the site to establish its archaeological value and the potential damage which may be caused by ongoing tree cover.

Prehistoric hilltop enclosure PRN 16247

Description

Ovoid hilltop enclosure, c. 50m N-S x 30m E-W, of boulders and low stone bank, with occasional orthostatic facing stones/slabs, spread up to 2m wide. In common with similar sites in the survey area (PRNs 16237 and 16244), the enclosure occupies the top of a flat-topped craggy hill, although it is slightly less elevated and so more sheltered than the other two sites. Well defined entrance at NW, c. 1m wide, with boulder jamb to the N side. Further possible entrances located to NNE (1m wide through low bank) and E (opening several metres wide). There are no identifiable internal features such as platforms/walling apart from a possible bank running along a natural spine/outcrop N-S oriented in W side of enclosure. The interior is generally very flat and has evidently been subject to stone clearance. A further wall (<0.4m high and c. 1.5m wide) possibly associated with the site runs parallel to the W side of the enclosure, c. 20m away, and may define an annexe to the main enclosure. The enclosure covers an area of 0.15ha and the enclosure and possible annexe together 0.27ha.

Management considerations and recommendations

This enclosure has a greater variety of species and ages in the woody element than PRN 16244 (the two enclosures show little similarity in terms of the detail of their current vegetation), and its ground flora is less heathy in character with a preponderance of leaf litter with some bryophytes, much more like that for the hilltop enclosure above Dol Gymerau to the SE (PRN

16237). It is slightly less elevated and more sheltered than PRN 16244. The trees include two or three oaks around 40 years old, but are mostly younger oak and birch, with 2 fairly large beech around 50 years old. There are one or two coppiced oaks with relatively young regrowth (probably around 30 years), one of which grows from within the enclosure wall itself. Regrowth on the walls of the enclosure should be monitored and restricted by felling and leaving stumps to rot *in situ* where necessary. Further work is required at the site to establish its archaeological value and the potential damage which may be caused by ongoing tree cover.

‘Cwrt’ – post medieval cottages and associated enclosures

Cottages and enclosure PRN 16254:

A pair of adjoining cottages with dry-stone walled enclosure (PRNs 16346 and 16346 also seem to be associated with the site). The site is shown, but not named, on both the 1890 6” and 19101 25” OS maps, Named ‘Cwrt’ on CCW/Woodland Trust display board map elsewhere within the wood. The function of the small settlement site is unknown, but it has the appearance of estate-built housing for workers, possibly for foresters given location in centre of wood. Alternative explanations could be that the remains are of a nursery or arboretum (although the wall systems may have been expected to be more complex) or perhaps a pheasantry or game bird rearing area. One of the paths shown on the 1890 map runs up to Cwrt and then follows a short loop of the land to the N before continuing on original line. The site may have formed a stopping point on an estate tour of the woods. It would merit further work as study of census records etc may provide evidence for occupation of residents. The site appears to have been derelict by the time of the 1890 OS map (buildings shown as unroofed), and may be late eighteenth or early nineteenth century in date.

The cottages are 6m x 12m externally on a SE to NW axis, with footings of a relict annexe to the SE, 5m x 5m. The ‘houses’ each consist of a single ground floor room with central doorway and two windows (one either side of the door). The rooms are c. 4.5m x 5m. Chimney breast/fireplace at outer gable of each cottage, fireplace c. 1.3m wide and 0.6m high. Walls stand to c. 2m high on W side. The cottages are terraced into the hillside on the E side by c. 0.5m. Roof missing, but pitch c. 45° at gables, up to 2m high. Beam holes at 1.7m level within the cottages indicates that they had croftloft bedrooms. The enclosure is c. 22m N-S x 22m E-W, with walls generally 1.5m high. Possible edge of stonework defining a raised border, c. 3m out from W wall. A pathway leads up a short flight of steps through from the enclosure onto the terrace in front of the NW cottage.

Rhomboid dry-stone enclosure PRN 16346:

The site is shown, but not named, on both the 1890 6” and 19101 25” OS maps and is probably directly associated with the cottages at Cwrt (PRN 16254 as above). It is interpreted as a game bird rearing pen or nursery. The enclosure is 26m x 13m aligned NW-SE. Walls to 1.8m high (higher than most of the walls in the wood), but 70% tumbled. There is a small hut or pen, 2m x 3m, c. 7m from the N end of the enclosure. The enclosure contains one substantial c. 120-year-old oak tree, possibly coppiced early in its life.

PRN 16255 Oval dry-stone enclosure:

A further irregularly shaped dry-stone enclosure marked as ‘sheepfold’ on the 1890 6” OS map. Likely to be associated with Cwrt to the N (as above) and used for same function.

Management considerations and recommendations

The building has no trees growing within, but is partly overhung by tree growth along the NE (back) wall. A number of Douglas fir and a large nearby pine cast a good deal of shade in the area. The immediately associated enclosures contain young trees of ash, some sycamore and

one or two beech. Some of these occur against the stonework of walls, and could result in damage some time in the future.

The rhomboid enclosure (PRN 16346) further from the dwelling contains one substantial 120 year old oak tree, possibly coppiced early in its life. Otherwise, rooted trees are few, comprising several small beech and a few young sycamore. None of these presents a current threat, although the oak is immediately beside the enclosure wall and is very likely to cause some disruption to stonework through its eventual demise. No special recommendation is made for the management of these areas (although general recommendations should be followed including routine monitoring to identify threats as they develop).

Cartographic sources

Ordnance survey

1" ms survey of 1818-1821

1" survey of 1839-41

25" XXVI, 5, 6, 9, first edition - third edition

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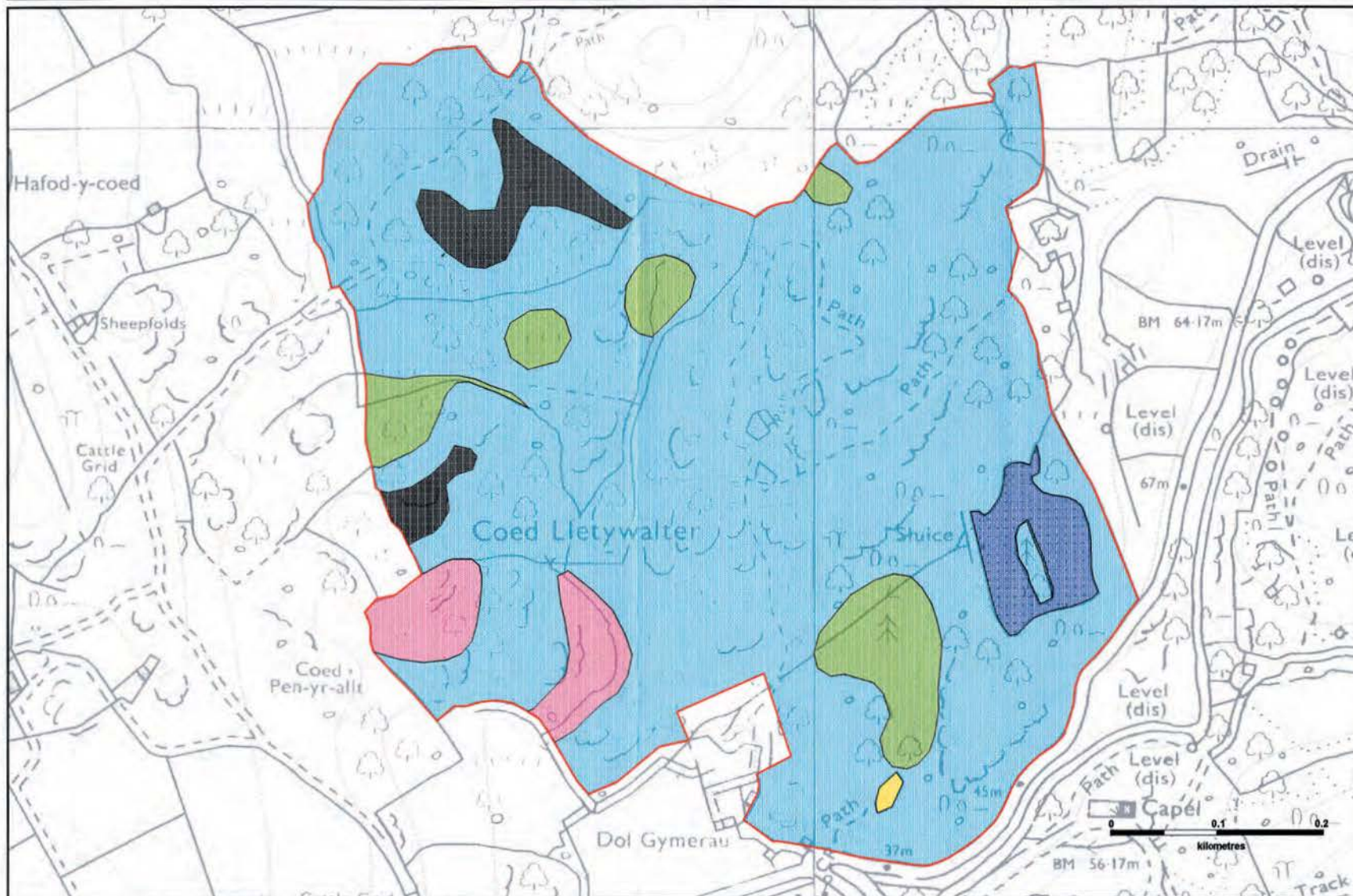
- | | |
|---|--|
| Survey boundary | Abandoned enclosure |
| Sessile oak - birch - herb woodland | Grassland |
| Birch - blue moor-grass wet woodland | |
| Ash - rowan woodland | |
| Mesotrophic silted lake | |

Figure 7

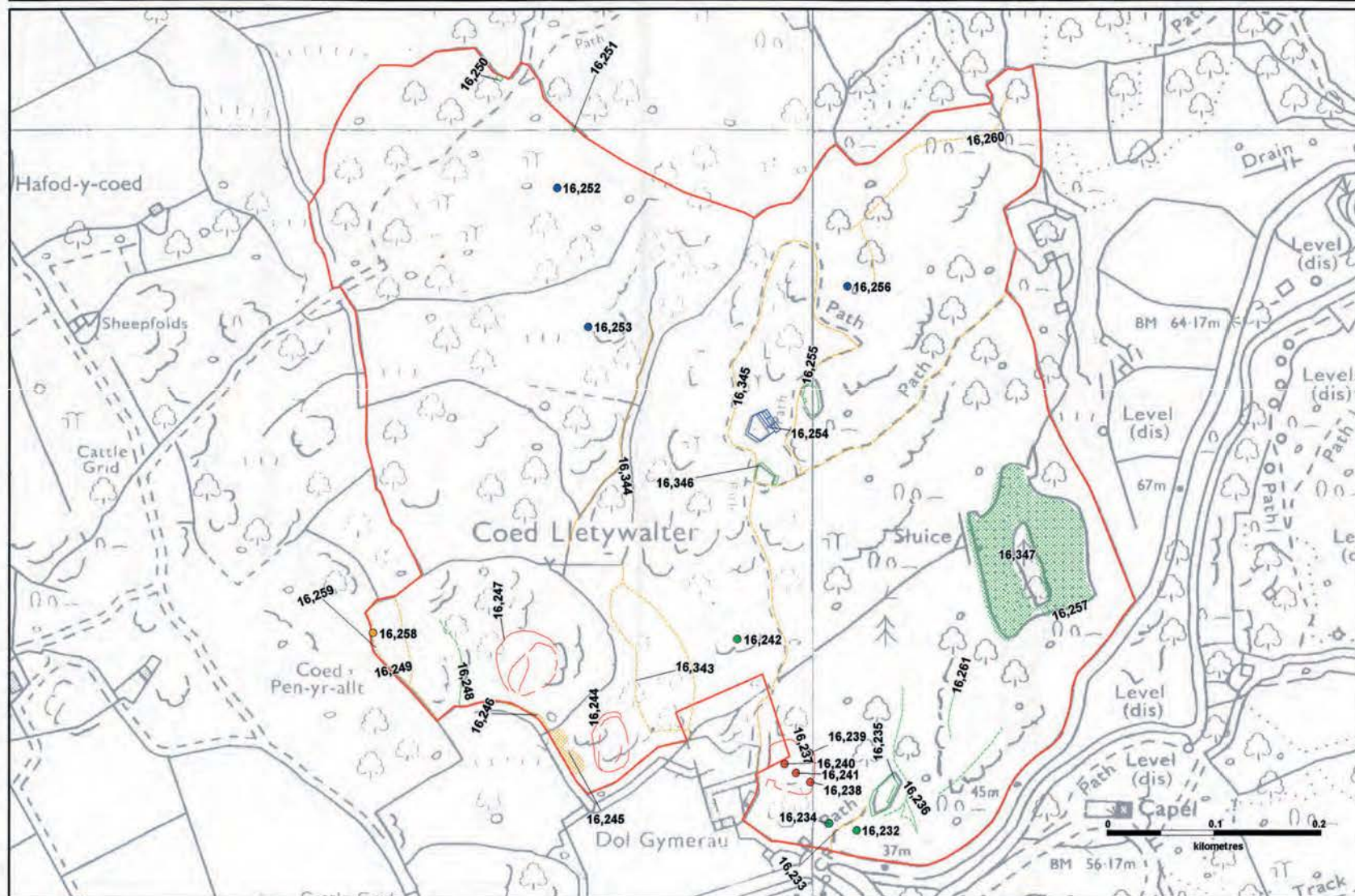
Coed Llety Walter (SH 599277)

Vegetation types

Contours are shown at 10m intervals



Contours are shown at 10m intervals



7.4 Hafod Garregog

7.4.1 Location

Hafod Garregog is situated in Nanmor Dedraeth, part of Merioneth until 1895 when it was transferred to Caernarvonshire.²⁸

7.4.2 Topography

The area forms an oval-plan eminence on what would have been the banks of the Traeth Mawr until its final enclosure by Madocks's cob in 1813, the south-western extremity of a ridge of land extending from the Moelwyn range.

7.4.3 History

Hafod Garregog was owned from the fifteenth century to the eighteenth by Rhys Goch Eryri and his descendants. John Wynn Hughes, the last of the family to hold Hafod Garregog, married an illegitimate under-age child, as a result of which the marriage was declared void and the estate went to cousins, the Priestley family of Leeds.²⁹ Hafod Garregog appears in the Land tax assessment from 1771 to 1775, and a Mr Hughes is indicated as resident in these years; thereafter the owning family is shown as receiving the parish tithes.³⁰

Information on the sale of timber is scanty. In the 1760s Drws y Coed mine paid £2 13/- for an axle for the stamp mill,³¹ implying that it was known as a source of timber, but as is often the case with comparatively small estates and freeholds, the documentary evidence does not survive. Immediately adjacent to Hafod Garregog is Tafarn Telyrni, or Talyrni, near to which, according to tradition, sailors used to land until the building of the cob.³² It is therefore an obvious location for goods to be loaded, and timber might also have been used to build small vessels.

7.4.4 Brief ecological descriptions of the woodland

The main vegetation types in the woodland are shown on figure 9. The woodland occupies low rocky hills and ridges bordering the once estuarine flats of the Afon Glaslyn. It has a canopy mainly of sessile oak with birch as sub-dominant, rowan and a few beech. The understorey is generally sparse and mainly of holly and hazel. Hollows within the area interrupt the woodland canopy with pockets of acidic wetland, the largest of these forming the substantial oligotrophic lake, Hafod y Llyn. There are historical reasons for supposing this to be an area long under continuous woodland cover; most western oakwoods of this type occur on steeper ground. Regeneration is rather weak.

Areas of acidic mire include plant communities dominated by bog myrtle and purple moor grass, with various associates. There are also soligenous flushes supporting a range of bog mosses.

²⁸ H.J. Owen, 'Alterations of Merioneth County Boundaries', *Journal of the Merionethshire Historical and Record Society* 3 (1957-60), pp. 165-6.

²⁹ *Griffith's Pedigrees of Anglesey and Caernarvonshire Families* p. 163, p. 199, Colin Gresham, *Eifionydd: A Study in Landownership from the Medieval Period to the Present Day* (Cardiff, 1973) pp. 197-9, 'Nanmor Deudraeth' in *Journal of the Merionethshire Historical and Record Society* 8 (1978), pp. 106-112.

³⁰ Caernarfon Record Office XQA/LT6/4.

³¹ Caernarfon Record Office Vaynol 5047, p. 20.

³² Caernarfon Record Office XS/21002/2.

7.4.5 Summary breakdown by site type and chronological period of archaeological sites known within woodland following survey

Site type	Count
Cottage	1
Enclosure	1
Farmstead	1
Hut circle	2
Long hut	1
Orchard	1
Path	2
Platform	2
Settlement, farmstead	1
Settlement, field system	1
Sheepfold	3
Structure	1
Structure - rectangular	1
Terraces	1
Trackway	2
Wall	1
	22

Period	Count
Prehistoric	1
Romano-British	1
Medieval	1
Medieval/Post-Medieval	3
Post-Medieval	6
Post-Medieval/Modern	1
Undetermined	9

7.4.6 Discussion of selected archaeological sites

Late medieval or early post-medieval farmstead/settlement, PRN 16192

Description

The remains of a settlement or farmstead comprising between 3 and 4 rectangular buildings and associated features (enclosure/paddock, trackway and terraces). Apparently related to the paddock/enclosure immediately to the E (PRN 16190). The settlement appears to be late medieval or early modern in date (on the basis of surface appearance alone). The site is located on ground sloping moderately from S-N.

The largest building (A), at the centre of the group is at least 12.5m by 7m on a SW to NE axis. The NE end of the building is difficult to interpret. A large boulder at the N corner may be a corner stone, but could be seen as a door jamb. What looks to be the end of the building on initial observation may be the location of cross passage, which would explain the presence of a door jamb. There are suggestions that the building extends beyond this onto a low terrace, adding 4m to its overall length. A substantial open-crowned oak, over 100 years old, is located at the N corner of the terrace. A spur of the trackway PRN 16189 runs into this settlement site and up to the end of the building to the possible cross passage from the NE.

A second large building (B) is located about 5m to the NW of A. It is located on a platform terraced on its N side. The walling of both A and B is approx. 1.5m wide and between 0.4m to 0.6m high, and incorporates many boulders. The walls of B are less well preserved than those of A and it is difficult to make out the exact ground plan and dimensions, but approximately 9m by 8.5m on a SE-NW axis.

A third building (C) is located on a slight platform 5m WNW of A, and is 7m x 4m on roughly the same axis as A (SW-NE). The walling is fragmentary, but there are a number of large blocks, over 0.3m high. A small structure, truncated remains of a building from an earlier phase, lies immediately to the SE of B, and is 3m by 4m.

To the NE of A and NNE of B is a banked and terraced enclosure/paddock, 9m x 14m on SE-NW axis. There are other features in the vicinity of the settlement including pathways, terracing and a wide platform which may have formed an activity area of some kind. The site would benefit from a detailed, measured survey.

Management considerations and recommendations

This site is dominated by a mature oak of around 120 years, growing immediately adjacent to stonework of building A. Other trees in the vicinity are predominantly oaks around 60 years old, with a few birch. The understorey is very thin, mostly of poorly grown hazel. Ground cover is predominantly leaf litter, but the general vicinity supports some fine hummocks of white fork moss. The associated paddock is predominantly grassy with a good deal of leaf litter. There is no particular threat to the site from vegetation, but removal of the smaller wood from on and around the walls would be of benefit.

Hut circle or ring cairn, PRN 5218

Description

Large stone-banked circular platform terraced out at NW by c.0.5m and slightly cut into the ground surface by about 1m to the SE. The overall diameter of the site is 12.5m. with stone rubble banks between 1.5 and 2.0m wide. There is some evidence of facing in places suggesting that the banks may originally have been more wall-like in form. The large size of the site along with the fact that no obvious entrance is visible may suggest that the feature is a ring cairn. However, the S part of the site is cut by a trackway, and it is possible that this may have obscured an entrance. Furthermore, the platform is carefully levelled, which is more consistent with a hut circle site than a ring cairn. Although the location is unusual for a hut circle, on balance this is the preferred interpretation.

Management considerations and recommendations

This feature occurs in an area devoid of understorey and with a low density of young trees. A single oak occurs within the platform, and three oaks are rooted among the stones of its circumference. All are around 25-35 years of age with no appreciable lower branches, so that visibility over the site is excellent. Given the low tree density, it is unfortunate that three should root amongst the stonework. It is inevitable that some damage will occur if they are left to maturity or beyond; felling now would much reduce the risk to the site.

Cartographic sources

Ordnance survey

1" ms survey of 1818-1821

1" survey of 1839-41

25" XXVIII 13, first edition - third edition

Figure 9

Coed Hafod Garregog (SH560346)
Main vegetation types

Contours are shown at 10m intervals

- Survey boundary
- Sessile oak - birch - herb woodland
- Open/sparse sessile oak - birch woodland (over grassland)
- Marshy grassland
- Grassland with few trees
- Oligotrophic lake

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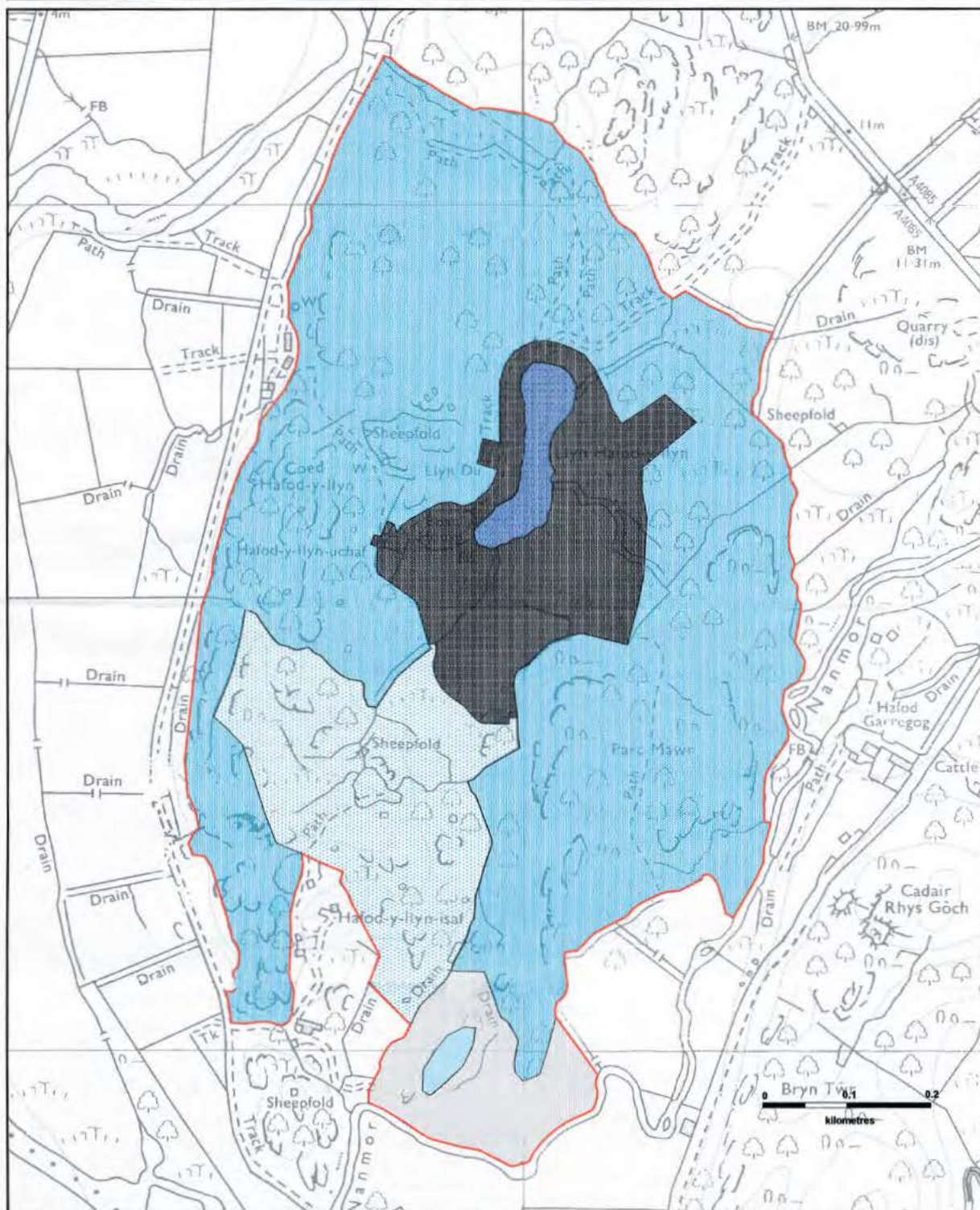


Figure 10

Coed Hafod Garregog (SH560346)
Archaeological features

Contours are shown at 10m intervals

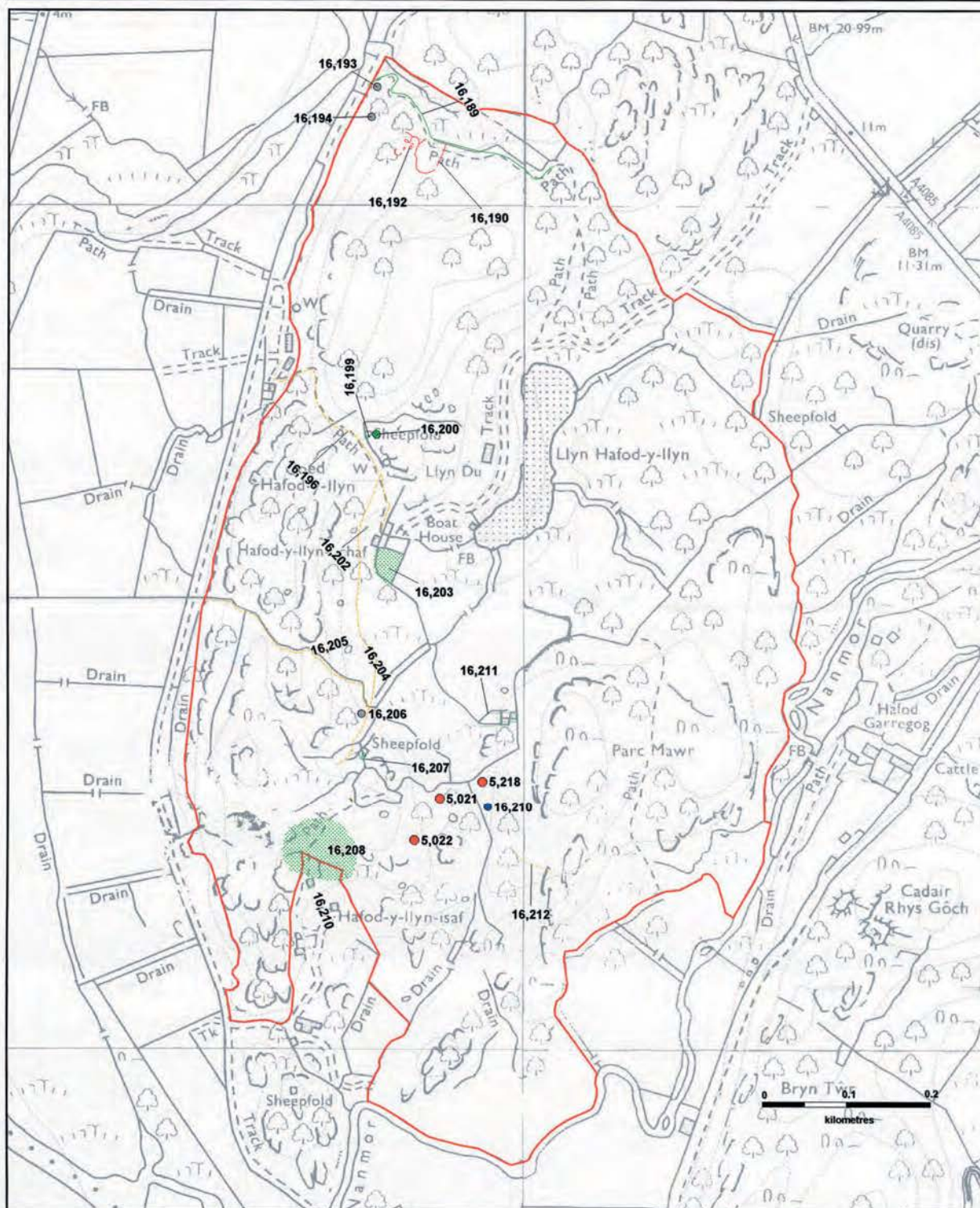
- Survey boundary
- 1,000 Feature, SMR number
- 1,000 Area, SMR number

- Category A
- Category B
- Category C
- Category D
- Category E



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7.5 Coed Dolgun

7.5.1 Location

The area lies within the commote of Tal y bont in the Cantref of Ardudwy. It is situated in the parish of Dolgellau, but since 1894 has come within the then newly-created civil parish (now community) of Brithdir ac Islaw'r Dref.

7.5.2 Topography

Coed Dolgun is situated on the southern slopes of the Wnion valley, above the meadows of the valley floor, and is bounded to the east by the Afon Clywedog, a tributary of the Wnion which flows down the valley slopes through an area known as 'Torrent walk/Llwybr y torent'.

7.5.3 History

Coed Dolgun formed part of a freehold estate based on the house Dolgun Uchaf, which is a three-bay hall house believed to have been built by either by Ednyfed ap Hywel, or by his father, Hywel ap Maredudd, in the late fifteenth or early sixteenth century.³³

Dolgun Uchaf was the home of the first effective yearly Meeting of the Welsh Quakers, when Ellis Morris 'gent' was living there, a sympathiser with, if not necessarily a member of, the Society of Friends. They 'were faign to meett out of doors under the shadie trees'³⁴ in what is now Torrent Walk when the house could not hold them. Neighbouring families such as Dolserau and Tyddyn y Garreg were active Friends. It was this connection which prompted Abraham Darby I, a Quaker ironfounder from Bristol, to establish a blast furnace at Dolgun in 1719. He had already succeeded in using coke instead of charcoal to smelt iron in his blast furnace at Coalbrookdale. The furnace was only in blast until 1733, and the last known reference comes in 1802, when mention was made of a forge powered by water, and a charcoal-fuelled furnace. Timber for charcoal was bought from neighbouring freeholds - Garthangharad, Hengwrt and Ty Gwyn. The remains survive, together with the pit for the wheel which operated the bellows.³⁵

There is evidence for management of woodland resources in the immediate area in the 1830s – for instance, in 1831, trees were sold from the nearby farms of Braichceunant, Brynbras and Garth – though it is not clear whether these were one-off sales or part of a process of long-term management.³⁶

7.5.4 Brief ecological descriptions of the woodland

The main vegetation types in the woodland are shown on figure 11. Coed Dolgun-uchaf is extensively planted with Douglas fir along the moderately steep slopes above the main road. There are residual oaks and a few beech among the conifers, but these are suffering from the effects of competition. The steepest areas of craggy slope above the road are unplanted and stunted oaks remain on these. A small area of hardwood regeneration around the disused quarry is mainly of ash and sycamore.

³³ P. Smith and R. Suggett, 'Dolgun Uchaf: A Late-Medieval Hall-House' *JMHR* XCII 2 1995 pp. 95-10.

³⁴ J. Gwynn Williams, JG: 'The Quakers of Merioneth During the Seventeenth Century' *JMHR* VIII 2-3 (1978-9).

³⁵ P. Riden, *A Gazetteer of Charcoal-fired Blast Furnaces in Great Britain in use since 1660* (Cardiff, 1993).

³⁶ National Library of Wales: Schedule of Caerynwch Documents 598, 610, 611, 621.

The area to the west of the main stream within the study site is predominantly of oak with a small amount of hazel and holly. Coed Craig-wen, immediately above Coed Dolgun is an area of open canopy pasture-woodland mostly dominated by western oak, but with local dominance of birch in the extensive areas of poorer drainage in the wetter eastern third of the wood. The understorey is sparse throughout; the field layer is of grasses on the deeper, wetter soils and of bryophytes on the low ridge tops. Regeneration of oak within the conifer block is locally strong, but is unlikely to develop; within Coed Craig-wen regeneration is poor.

7.5.5 Summary breakdown by site type and chronological period of archaeological sites known within woodland following survey

Site type	Count
Bank	1
Cairn, burial	1
Charcoal burning site	1
Drumhouse	1
Gate post	1
Incline	1
Long hut	1
Path	1
Platforms	1
Sheepfold	1
Slate quarry	1
Trackway	2
Trial	1
Wall	1
	15

Period	Count
Prehistoric	1
Medieval	1
Medieval/Post-Medieval	1
Post-Medieval	11
Undetermined	1

7.5.6 Discussion of selected archaeological sites

Possible prehistoric burial cairn, PRN 16215

Description

Possible burial cairn, 5m diameter, located on natural shelf above land falling away steeply to the N. Possible that the position would command wide views over the Vale of Dolgellau but difficult to assess with certainty as view currently blocked by dense conifer planting. Built of mix of small to medium sized stone. Some possible edging/kerbing present in places, 0.3m to 0.5m high, but a bit ambiguous. Interior appears to have been disturbed to a certain extent, possibly by forestry operations rather than through deliberate robbing. End set stone to E of centre may be cist side stone; no obvious cap stone present. The centre of the cairn varies between 0.3m and 0.5m high. The site is densely covered in leaf-litter and so is difficult to assess clearly.

Management considerations and recommendations

This feature is currently completely overshadowed by the tree canopy, predominantly of Douglas fir but with one oak on the mound itself and 2 beech nearby. In the long term, there is a danger that the oak's roots will disrupt the placement of stones. Given the proximity of the 'cliff edge', clearing the immediate area of trees and opening up the aspect would create an impressive setting for the site and afford it protection. Probably only about 30 trees need be involved. The clearance is downwind and should not significantly increase the risk of wind throw.

Long hut, PRN 16216

Description

A long hut (medieval or early post-medieval building, probably a dwelling) sited on land sloping gently S-N, at W edge of wide natural terrace on which burial cairn PRN 16215 is also located, and S of ground falling away steeply to the N. External dimensions 8.5m x 5m. Walling quite disturbed, probably as a result of forest planting operations and tree growth. The walling is easiest to follow at the S corner, SE wall and NE long wall, and is generally about 0.6m wide. Terraced out by c. 0.4m high against the hillslope at the NW end with a pile of boulders. The walling of the NW end is poorly defined; a large block located on the middle of the site has probably been displaced from the NW corner. An arrangement of boulders and stones to the SE end of the site suggests possible ancillary features, but is difficult to interpret.

Management considerations and recommendations

This feature is very close to the cairn burial site PRN 16215. The tree cover is again predominantly of conifers. The area would benefit from clearing around the immediate site and linking with the cairn burial mound for convenience of access. The clearance of conifers could usefully be extended to favour the viability of oaks remaining in the area.

Probable charcoal burning platform, PRN 16217

Description

Long terrace, c. 5m N-S by 9m E-W, roughly revetted with large stones on N side, c. 0.5m high. A ranging rod was used to probe the possible working area and charcoal deposits were found at a depth of 0.3m. The terrace seems to have been used as a platform for burning wood to make charcoal. A post-medieval blast furnace, PRN 5498, was located just over 0.5km to the north-east at Dolgun Uchaf, and it likely that charcoal was produced at Coed Dolgun for use in the furnace.

Although industries requiring charcoal existed in north-west Wales, there are few of the archaeological traces accompanying its production which are found in other areas of the British Isles, such as the Peak District and the Lake District for example. Peter Crew, Snowdonia National Park Archaeologist, has been investigating prehistoric and medieval woodland management in the Cwrcwellt (Trawsfynydd) and Coed y Brenin areas in relation to his work on iron production in these periods. A medieval bloomery site has been excavated at Llwyn Du, where a charcoal burning platform was found associated with the site. Until the discovery of the probable site at Dolgun (probably of post-medieval rather than medieval date), the Llwyn Du platform was the only charcoal burning site recorded on the SMR for the whole of north-west Wales.

The S side of the terrace is defined by a line of boulders where the terrace runs into the start of the hillslope above. The line of boulders probably results from clearance of the platform to produce a flat base. The main usable working area on the terrace was most likely a 5m length

to the E of the terrace, where the terrace itself is about 3 m wide. The portion of terrace to the W may have extended into a trackway. The platform is located within 50m of main road – well positioned for transport of products. No other platforms were identified in the vicinity, although it seems unlikely that there would have been a lone burning platform located by itself. The fact that the area is generally densely conifer planted means that the ground is much obscured.

Management considerations and recommendations

This feature occurs within the Douglas fir plantation on a moderate slope, 40 metres or so distant from the existing road. The conifers are planted in regular lines running upslope, although not directly interfering with the platform itself. Their age is in the order of 20-25 years and they are growing strongly. There are 2 oaks of 30+ years and 5 or 6 conifers in the immediate vicinity of the platform. The former will probably be gradually shaded out. Two sycamore and some ash poles slightly further upslope allow in some extra light, but these too are likely to succumb.

The most severe threat to the platform will arise from future timber harvesting. However, if the hardwoods die, decay and fall they could easily cause disruption to the fairly insubstantial arc of stones shoring up the downslope edge of the platform. Future management could be to remove the nearest conifers, and possibly the sycamore, sufficient to ensure continued health of the oaks, which would provide a sympathetic setting for the artefact and help to identify and protect the location when harvesting is in operation. However, the clearing would require periodic maintenance to keep the platform clear.

There is little likelihood that the platform would be recognised and preserved during felling unless some specific provision is made to protect it.

Cartographic sources

Ordnance survey

1" ms survey of 1818-1821

1" survey of 1839-41

25" XXXVII, 4, 8, XXXIII15, 16, first edition - third edition

Dolgellau Record Office

ZDA/234 (map of estates in Dolgellau, 1817)



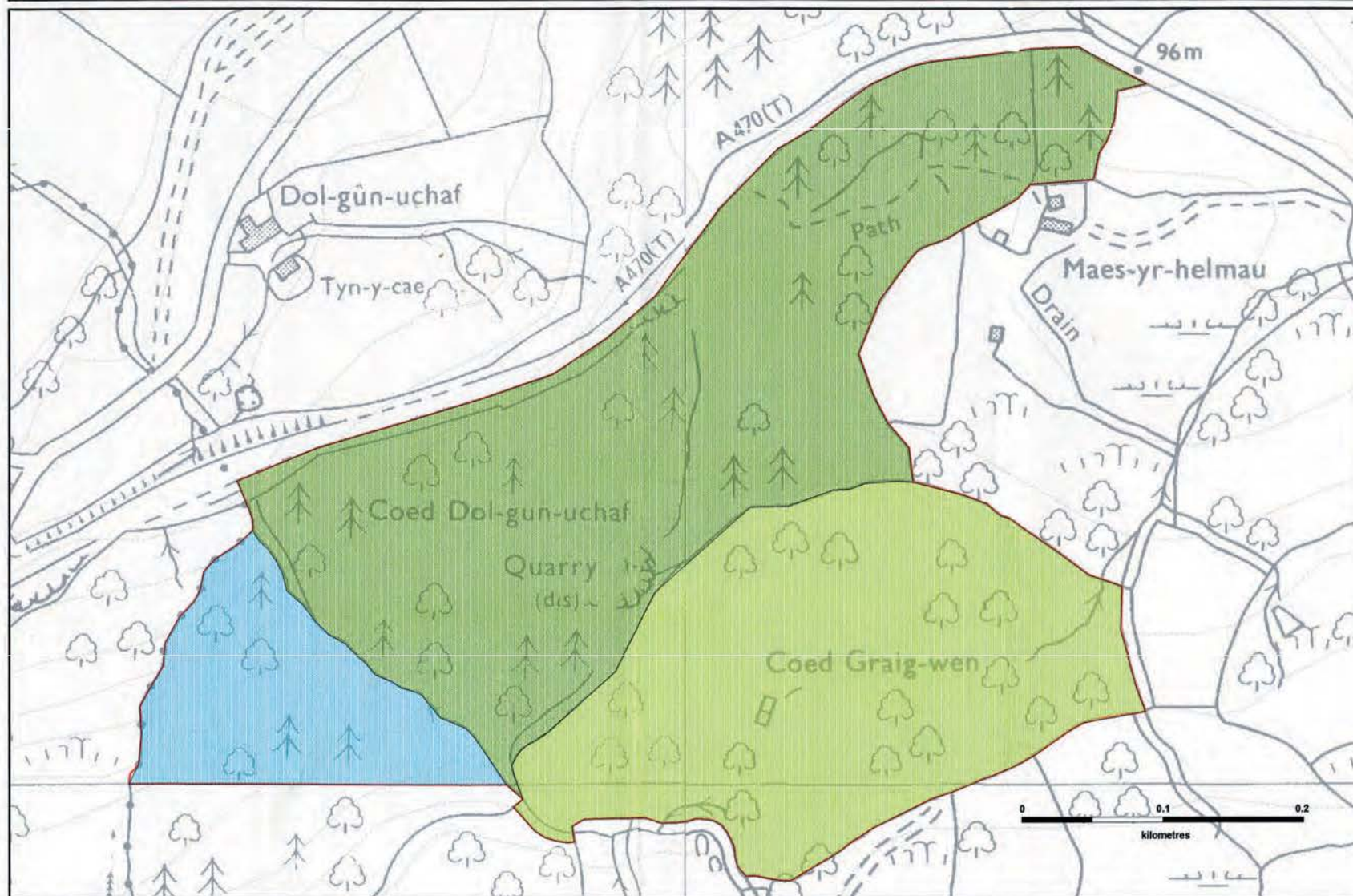
- Survey boundary
- Sessile oak - birch - herb woodland
- Sessile oak - birch - moss woodland
- Douglas fir plantation with scattered sessile oak

Figure 11

Coed Dolgun (SH750182)

Vegetation types

Contours are shown at 10m intervals



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- Survey boundary
- 1,000 Feature, SMR number
- 1,000 Area, SMR number

- Category A
- Category B
- Category C
- Category D
- Category E



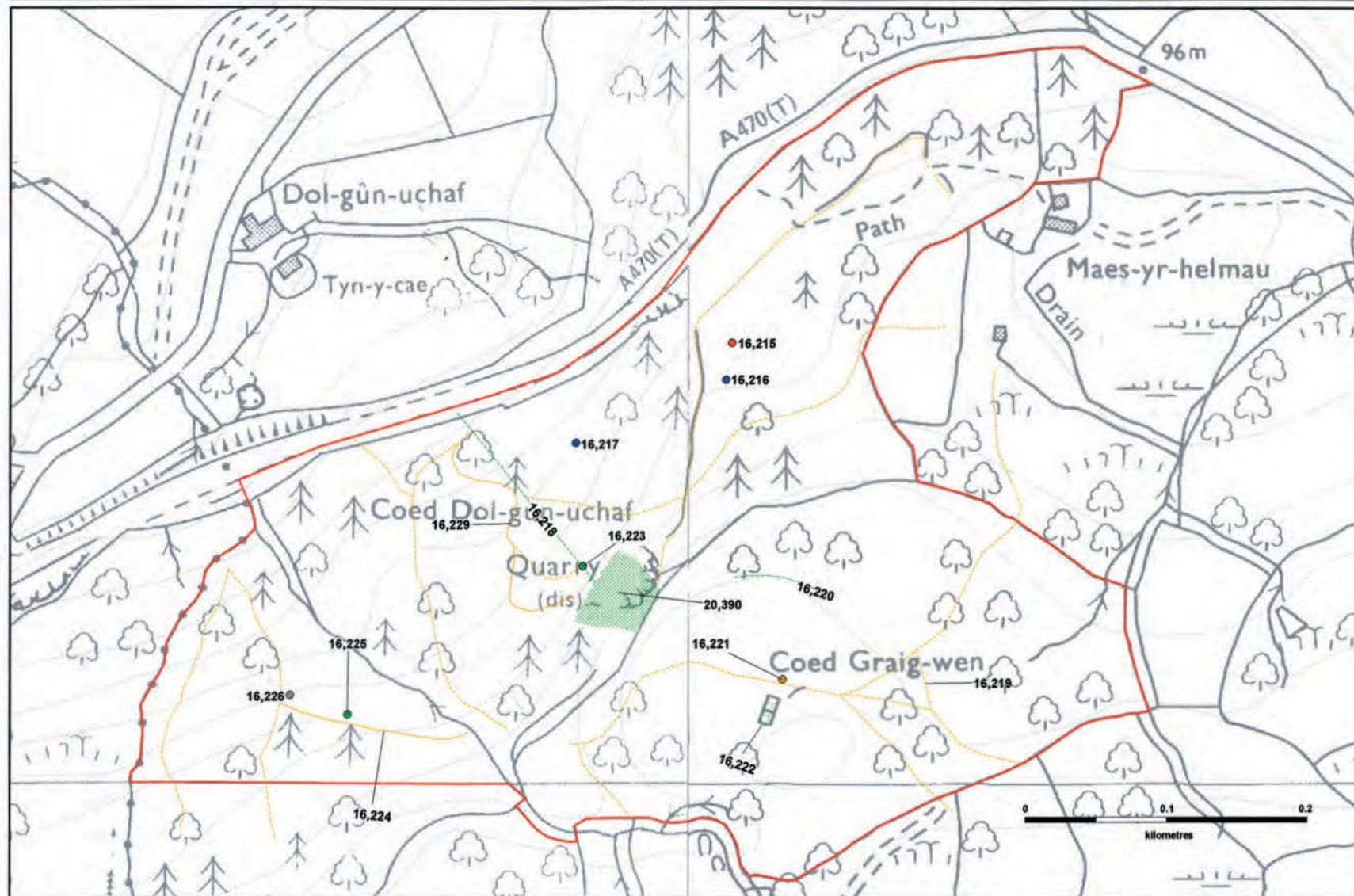
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Figure 12

Coed Dolgun (SH 750182)

Archaeological features

Contours are shown at 10m intervals



7.6 Coed Cors y Gedol

7.6.1 Location

The area lies within the commote of Tal y Bont in the Cantref of Ardudwy. It is situated between Harlech to the north and Barmouth to the south.

7.6.2 Topography

Coed Cors y Gedol is situated on a gentle south-west facing slope overlooking Cardigan Bay. The land falls away sharply to the Afon Ysgethin which defines the southern boundary of the wood.

7.6.3 History

The history of the Cors y Gedol estate and its families, the chief estate of Meirionnydd, has been written about in some detail by a number of authors, particularly Lloyd (1977 and 1978), and only a brief outline is given here.

In the medieval period, as part of the Welsh kingdom of Gwynedd, Cors y Gedol lay in the township of Llanddwye-is-y-graig in the commote of Ardudwy is Artro in the cantref of Dunoding. The beginnings of the estate are traced to the return to Wales from Ireland of Osborn Fitzgerald (Osborn Wyddel, 'the Irishman'), a descendant of one of the Norman conquerors of Ireland. Osborn was a favoured supporter of Llywelyn Fawr and married an heiress of Cors y Gedol who was a royal ward. The family later acquired the name Vychan or Vaughan. They supported the Lancastrian cause in the Wars of the Roses and prospered greatly under Henry Tudor. Cors y Gedol house has been described in detail by Smith (1956). It was entirely rebuilt in 1576 and many alterations and additions were made over succeeding centuries including a farmhouse and barn of the late 17th and early 18th century. Richard Vaughan held Cors y Gedol from 1693 to 1734 and is reported to have made many improvements to the house and the gardens, which included the straight lime avenue from the house to the church (The Vaughans of Cors y Gedol, 1875, 14). He was succeeded by his eldest son William who commissioned a survey of the house, gardens and 'home farm' of 1764 (Mostyn 8598). This survey gives an exceptionally detailed and useful record of the early gardens and of the layout and use of the rest of the property.

In 1791 succession to the estate passed through the female line to the Mostyn family and the estate became ever more prosperous. The greatest changes were made in the early 19th century and grand schemes were undertaken both in improving the agricultural lands, which included walling in and 'acquiring' common land, planting trees and in remodelling and expanding the house. However, from the estate map of 1764 it can be seen that the layout of the gardens was already achieved and at its most complex by that time, most of which can be seen or traced today.

7.6.4 Brief ecological descriptions of the woodland

The main vegetation types in the woodland are shown on figure 13. The bulk of the central area of woodland, on relatively flat even ground, is composed of young, regenerating sessile oak and birch, with smaller amounts of ash and sallow mostly around 40-50 years old with some older oaks of around 60-70 years. There is consequently a fairly well developed understorey of saplings. Ash becomes locally dominant on areas of wetter ground mainly in the north of the area. Several large beech trees (some around 150-200 years old) occur, one apparently pollarded early in its lifetime. It is likely that some of these may have seeded from early plantings within the wood, perhaps associated with the eighteenth century Cors y Gedol formal gardens. Sycamore, rowan and willow are also present. Coppiced hazel is locally frequent, particularly in the northern part. Ffordd Cors supports an avenue of lime. Bramble

and bracken tend to dominate an often sparse ground flora. A large part of the area in the north-west is fenced and used as sheltered grazing.

Mature oak woodland, with scattered birch, occurs along the Afon Ysgethin, extending up the slopes to the more level ground of the central regenerating area, where the soil is generally deeper although very stony. Regeneration is fairly good, particularly in the small, most recently cleared areas.

A big beech nearby is much older at around 150-200 years, one of several in the wood that may have seeded from the original plantings (M Giffin *pers comm*). One of the hut circles (PRN 16305) has a sycamore and small rowan on its perimeter, with young birch and oak close by and some ash coppice towards the boundary wall. The other (PRN 16306) has young ash and sycamore single-stem trees close by, with ash also locally dominant beyond. The area would self-thin over time, but there is a small risk that roots from trees approaching maturity could disrupt the existing pattern of stonework. Active management to keep the site clear of tree growth on or beside walls would help to maintain the features.

7.6.5 Summary breakdown by site type and chronological period of archaeological sites known within woodland following survey

Site type	Count
Bank	1
Building	2
Cairn - field clearance	3
Cairn, ? Burial	1
Cairns - field clearance	5
Cairns - field clearance, stone banks	1
Cleared plot	1
Enclosure	1
Enclosure, pen	1
Enclosure, stone bank	1
Garden feature	1
Gate	1
Hollowway	1
Hut circle	6
Hut circle, enclosure	1
Hut circle, long hut	1
Leat	1
Midden pit	1
Paths, trackways	1
Pen/garden feature	2
Pit	1
Stone bank	2
Stone bank, field system	4
Stone clearance pile	1
Structure - rectangular	1
Terrace	2
Trackway	1
Wall	15

Period	Count
Prehistoric	26
Prehistoric, Medieval	1
Post-Medieval	18
?Post Medieval	1
Modern	2
Undetermined	12

7.6.6 Discussion of selected archaeological sites

Prehistoric enclosure with hut circles - PRN 16272

Description

Irregularly-shaped enclosure with 2, possibly 3, hut circles built into the enclosure wall. Enclosure of rough rubble construction walling, of internal dimensions 31m NE-SW by 27m SE-NW. The walls are between 2m and 3m wide and 0.3m to 0.5m high. They take the form of spread stone rubble banks, although structured edging is detectable in places, and occasional orthostats are visible throughout, suggesting that the walls were originally more structured, but that they have been much disturbed, for example by tree growth.

The two definite hut circles are 3.5m in diameter and are integrally built into the fabric of the enclosure wall to its NE and W. A third hut circle, diameter c. 4.5m, may be located at the NW of the enclosure. However, the stonework on this part of the site is ambiguous. The enclosure walls appear to lead outwards from here suggesting that they may in fact form an extended entrance passageway. The third 'hut circle' may be the product of fortuitous patterning within this entrance arrangement, resulting from disturbance of stone.

A former track/pathway (not shown on the 1890 map) runs across the site, from SE to NW. It clearly cross the bank of the enclosure to the NW, but runs through a gap in the enclosure bank to the SE. Whether this gap is an original entrance or is a product of the trackway is unclear.

A circular pile of stone, c. 0.6m high, is located against the enclosure wall at the NE side of the point where it is bridged by the later trackway. It is difficult to interpret this pile. It may have formed through the dumping of clearance stone, for example stone displaced when the trackway was formed. However, there are hints that the pile has some structure to it, and it may be that this is the disturbed site of a further hut circle, or the site of a hut circle which has been buried under clearance stone.

A series of walls and banks to the S and SE of the enclosure (PRN 16276) may be contemporary with the site, as may areas of field clearance and of clearance cairns (PRN 16274), although there is no direct physical relationship between them. A wall to the N of the enclosure (PRN 16273), which also has no direct relationship with the site, is thought to be later in date and not contemporary with the hut circle enclosure.

Management considerations and recommendations

This site occurs on relatively damp ground beside a small stream, within the largest single area in the wood dominated by ash. The local dominance of ash in several discrete parts of the wood is reported to be associated with slightly increased base richness (M Giffin *pers comm*). Almost all the ash in these situations appears to be of roughly even age, possibly around 40 years. Several occur within the site, with no significant understorey or field layer. They could easily and usefully be removed to help retain the integrity of the site, although they do not at

present constitute a significant threat. Two or three large multi-stemmed sycamores regrown from coppice stools occur nearby.

Prehistoric hut circle settlement and associated features PRN 16305 to 16308

Description

Round house PRN 16305:

A substantial circular platform, 6m diameter, surrounded by wide, spread, stone rubble banks, 0.6m high, 2m wide, so that the overall dimension of the site is 10m diameter. Probably the remains of a substantial round house. The platform is cut into ground sloping gently from E-W and is terraced out to a height of about 0.5m at the NW, where there is a possible entrance. The bank/walling around the site is level with the ground surface to the SE. A possible sunken annexe, 10m x 5m on an E-W axis, adjoins the NW of the site.

Round house PRN 16306:

Probable remains of substantial round house. The site is 10m in external diameter, of rubble bank walling surrounding a level interior of 4m diameter. The walls, which in their current form are up to 0.7m high, appear to have been much disturbed, possibly by tree growth, and it is difficult to gain an idea of the original form of the site. For example, the internal space of the site as it currently stands is misrepresentative as it has been reduced by tumble and by stone spread from the walls. The diameter of the site taken from the peaks of the walls, which is 8m, may be more representative of its original form. Given the substantial size of the banks, it is possible that the site is not that of a dwelling such as a round house, but is a prehistoric burial or ceremonial site of some kind, such as a ring cairn or even a local henge variant. However, as against these possibilities, the presence of a possible entrance, c. 1m wide, to the NNW, and of a large stone beside it which could be interpreted as a displaced door jamb, support the possibility that the site is that of a round house.

Small oval enclosure PRN 16307:

Oval or D-shaped enclosure located c. 10m SW of probable round house PRN 16306. Overall dimensions are 20m N-S by 20m E-W. The rubble bank walls have been disturbed and are spread to a width of 2m to 3m and are less than 0.5m high.

Enclosure wall and relict field walls/banks PRN 16308:

A low rubble bank, between 1.5 and 2.5m wide, connects small enclosure PRN 16307 with the probable round house PRN 16306, possibly forming part of a large enclosure to which both were connected. There are the disturbed remains of further banks/walls, apparently field banks, running into wet stony ground to the E.

Summary of the importance of the archaeological survey findings

Coed Cors y Gedol covers an area of generally damp and stony ground. Much of the land in the vicinity must have been similar to this area prior to the undertaking of large-scale land improvement works by the estate, particularly in the nineteenth century. The woodland area may either have been woodland at this time, or have been seen as a less realistic proposition for improvement (in terms of land yielded against investment of effort required for clearance); either way, the area evidently survived the intensive improvement works which characterise much of the surrounding land.

A further area which remained unimproved lies a few hundred metres to the north-east of the Coed Cors y Gedol. This area is exceptionally rich in upstanding archaeological remains, and contains an extensive late prehistoric or Romano-British field system (field boundaries and carinfields) with associated settlements, a Neolithic burial chamber and medieval settlement and agricultural remains. It constitutes one of the best preserved archaeological landscapes in

north-west Wales, and arguably in the British Isles as a whole, representing thousands of years of human history. Much of the area is designated as a scheduled ancient monument. It seems clear that prior to the episodes of clearance carried out by the estate, a similar range and density of features spread over most of the gently sloping hillsides which rise up from the coast to the west of Cors y Gedol. Prehistoric and medieval settlement remains, and the traces of associated field systems, are scattered across this broader area, where they have survived in the corners of fields or in small areas of unimproved land.

Coed Cors y Gedol represents another large area of unimproved land. An archaeological assessment carried out recently in the northern part of the woodland revealed a number of new features, including a prehistoric/Romano-British settlement enclosure, a number of prehistoric hut circles and numerous field stone clearance cairns (also likely to be late prehistoric in date). It was suggested that the remains may form an extension of the extensive scheduled area to the north-east, and that further features were likely to be preserved in other areas of the wood. A keen local independent archaeologist, Mr Maurice Giffin, has also been carrying out survey work in the wood and has recently drawn the attention of GAT to the fact that many more features are present here than are recorded on the regional Sites and Monuments Record.

The current survey has confirmed that many, hitherto-unrecorded, archaeological features are located here, and that the area is similar in form and density of remains to the scheduled area. There are many features assumed to be late prehistoric in date, including three groups of well-defined settlement remains, numerous clearance cairns and relict fields (defined by banks, walls and terraces). The majority of the remaining features relate to the late medieval or post medieval period, and include building remains, field boundaries and trackways. Some of these imply agricultural activity early in the post-medieval period. It is likely that the area has seen many episodes of woodland clearance and regeneration through time. The estate survey map of 1764 shows that the north-east spur of the wood was an area of formal gardens in the late eighteenth century. The area is now light woodland, but a number of features which may relate to this garden layout were recorded during the current survey.

Management considerations and recommendations

The features occur in an area of fairly young regeneration, probably around 40-50 years old; predominantly single poles of birch, oak and ash, and one or two older oaks of around 60-70 years. A big beech nearby is much older at around 150-200 years, one of several in the wood that may have seeded from the original plantings (M Giffin pers comm). One of the hut circles (PRN 16305) has a sycamore and small rowan on its perimeter, with young birch and oak close by and some ash coppice towards the boundary wall. The other (PRN 16306) has young ash and sycamore single-stem trees close by, with ash also locally dominant beyond. The area would self-thin over time, but there is a small risk that roots from trees approaching maturity could disrupt the existing pattern of stonework. Active management to keep the site clear of tree growth on or beside walls would help to maintain the features.

Cartographic sources

Ordnance survey

1" ms survey of 1818-1821

1" survey of 1839-41

25" XXXVII, 1, 5, first edition - third edition

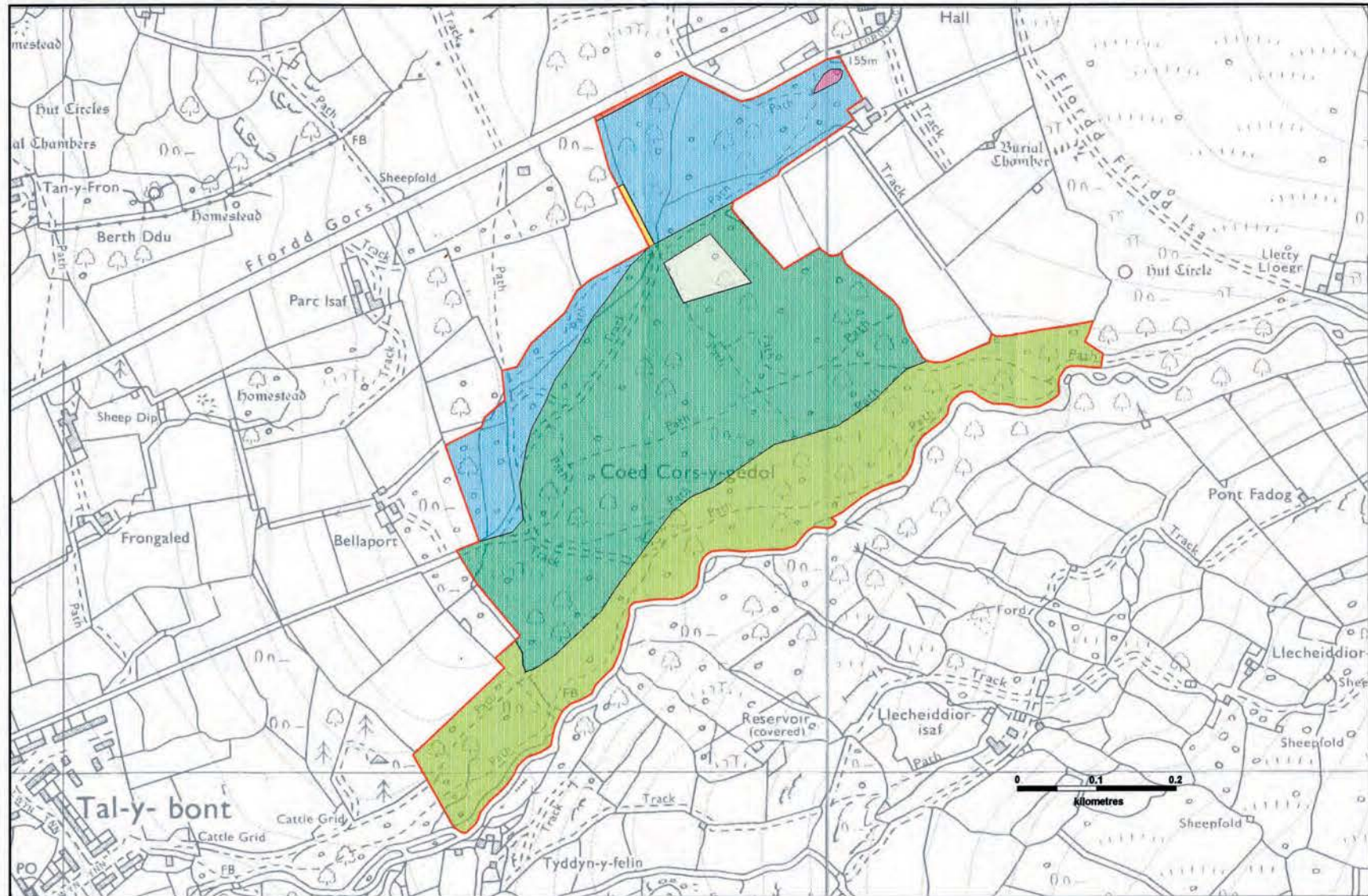
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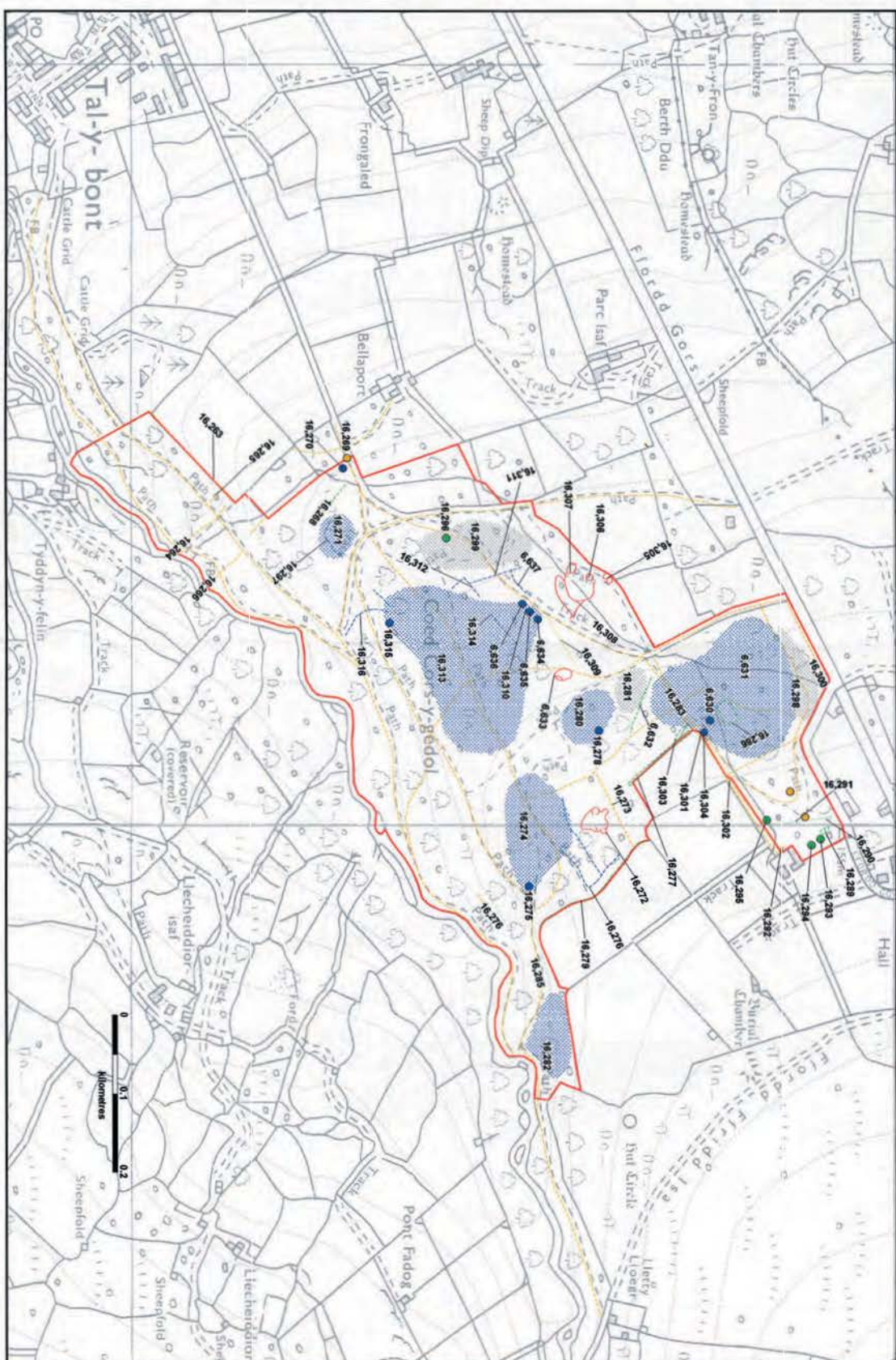
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- | | |
|---|--|
| Survey boundary | Area of recent woodland clearance and regeneration |
| Sessile oak - birch - herb woodland | Small-leaved lime avenue |
| Sessile oak - birch - moss woodland | Coppiced hazel stools beside track |
| Ash - rowan woodland | |
| Area of mixed regeneration | |

Figure 13
Coed Cors y Gedol (SH598225)
Main vegetation types
Contours are shown at 10m intervals





8 Conclusions and recommendations

8.1 Discussion of results of this project

- 8.1.1 Woods are particularly important resources for the historic environment for two principal reasons. In contrast to common perception of woods as wild places, detached from human interference, there is very little woodland which has not been managed to some extent, and therefore almost all woods will contain some record or trace of their history. In addition, because ancient woodlands have tended to avoid large-scale 'improvement' works, they have a high survival of features from periods pre-dating the actual wood, often in surprisingly good condition.
- 8.1.2 This project has demonstrated the importance of ancient woodlands as a major source of information for the historic environment, and the need for research and survey ahead of proposed management-related works in many areas.
- 8.1.3 The great increase in recorded archaeological sites and other data relating to woodland history and the historic environment in certain woodlands as a result of this project indicates that existing knowledge (often in the form of the regional Sites and Monuments Record) cannot be relied on to indicate the true archaeological potential and value of many ancient woodlands.
- 8.1.4 A statistical breakdown of the number of sites known in each of the woodland areas before and after conducting survey work is given in table 2 (overleaf). The figures should be read in conjunction with figures 15a and b.
- 8.1.5 It is clear that the survey work result in an enormous increase in the number of known archaeological sites in each of the woods surveyed. There was an overall increase in known sites across all woods from 14 to 169, more than a 1000% rise. It is interesting to note that, of the 155 new sites discovered during the survey, 104 (67%) were category A-C sites (sites of national, regional and local significance respectively). Furthermore, of these 104, 41 (26%) were category A and B (national and regional significance), which is a substantial proportion and clearly demonstrates the importance of the archaeological heritage preserved in ancient woodlands.
- 8.1.6 The results demonstrate that field survey work in areas of ancient woodland in north-west Wales, even when undertaken on a rapid basis, has great potential for the identification of important, hitherto-unrecorded, archaeological sites and landscapes.
- 8.1.7 There is clearly a need for a long-term strategy to address this potential, so that the information and advice which can be supplied to woodland managers, owners and other grant applicants through the conventional consultation mechanisms outlined below (section 8.4), matches the standard of that being developed for other land-use types. This requires the implementation of a programme of woodland surveys, with attendant funding implications.
- 8.1.8 In the short to medium term, a set of criteria is needed which can be used to indicate the likelihood of hitherto unknown archaeological features being present in any particular block of woodland. These indicators could be used to target limited resources towards those woodland areas considered to be of greatest archaeological potential. This would enable rapid survey visits to be carried out for priority areas in advance of management plans being drafted, or of proposed works being carried out. These indicators could also inform the longer-term aim of identifying priority areas for survey in advance of proposed works, as well as areas where investment in survey work is unlikely to yield much in the way of greater knowledge of the archaeology of the wood or to provide useful management information.

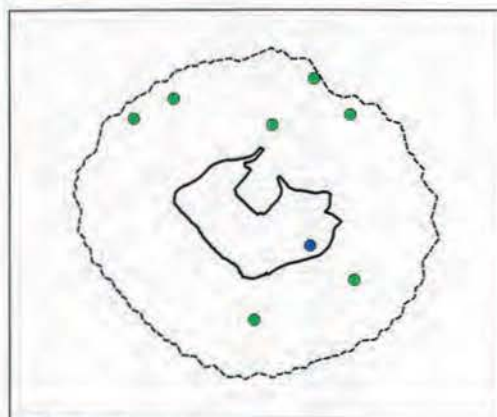


- Survey boundary
- Boundary of 500m buffer zone

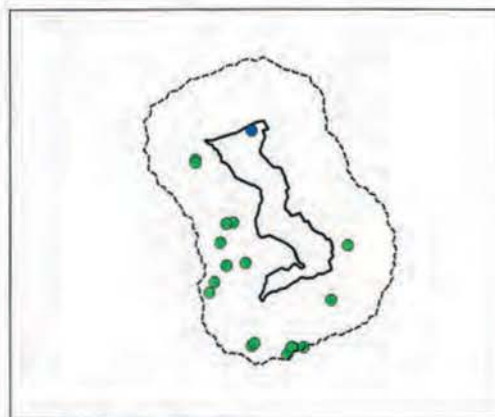
- Sites recorded on SMR within 500m buffer zone
- Sites recorded on SMR within woodland survey areas prior to undertaking field survey
- Sites within woodland areas recorded during survey (includes pre-existing SMR sites)
- Ditto - linear features
- Ditto - feature areas

Figure 15a

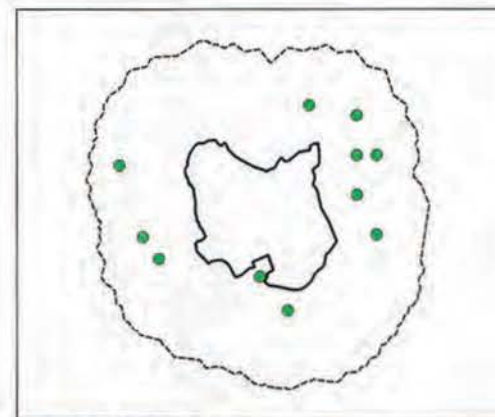
Comparison of density of sites recorded on SMR (both within woodland survey areas and within 500m buffer zones) - prior to and following field survey work



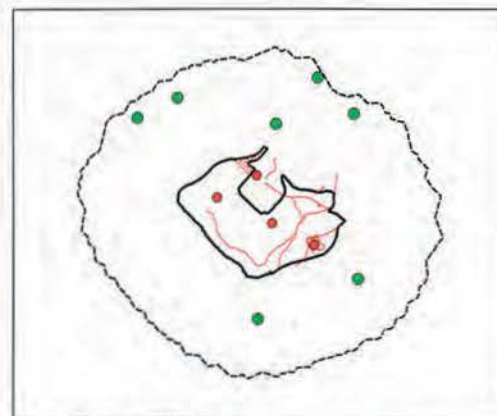
1a. Coed Cymerau - pre survey



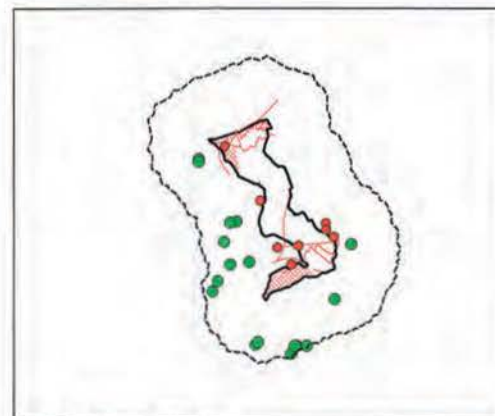
2a. Coed Dolgarrog - pre survey



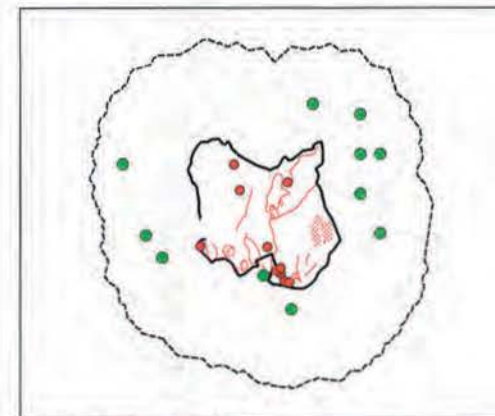
3a. Coed Llety Walter - pre survey



1b. Coed Cymerau - post survey



2b. Coed Dolgarrog - post survey



3b. Coed Llety Walter - post survey

Presented at varying scales

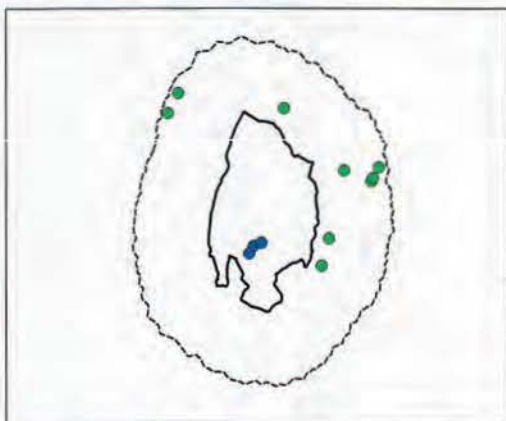


- Survey boundary
- Boundary of 500m buffer zone

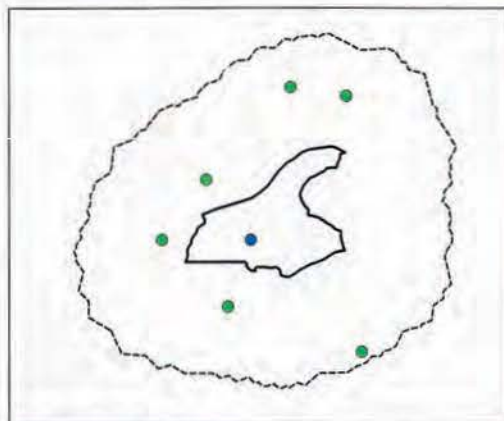
- Sites recorded on SMR within 500m buffer zone
- Sites recorded on SMR within woodland survey areas prior to undertaking field survey
- Sites within woodland areas recorded during survey (includes pre-existing SMR sites)
- Ditto - linear features
- Ditto - feature areas

Figure 15b

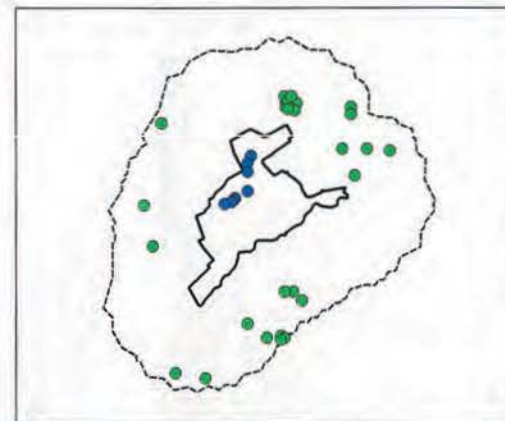
Comparison of density of sites recorded on SMR (both within woodland survey areas and within 500m buffer zones) - prior to and following field survey work



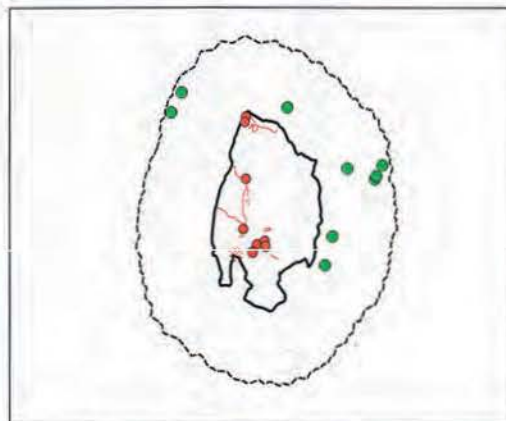
4a. Hafod Garregog - pre survey



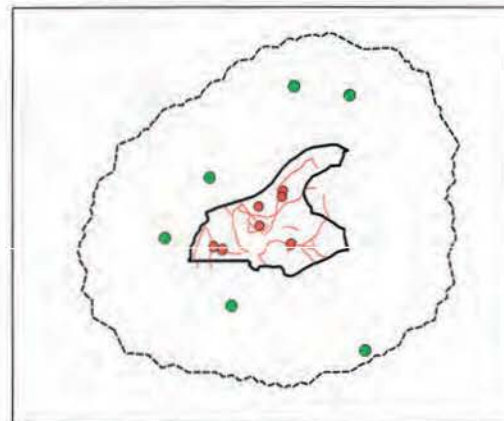
5a Coed Cors y Gedol - pre survey



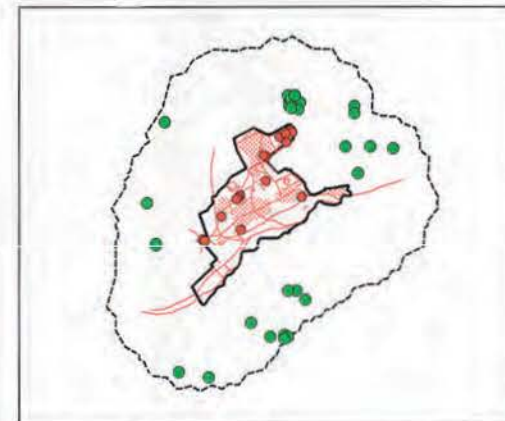
6a Coed Dolgun - pre survey



4b. Hafod Garregog - post survey



5b Coed Cors y Gedol - post survey



6b Coed Dolgun - post survey

Presented at varying scales

Wood	Total no. of sites	SMR pre-survey (without OS map sites)							New sites						
		No. of sites					Sub-total	% of total sites	No. of sites					Sub-total	% of total sites
		A	B	C	D	E			A	B	C	D	E		
Coed Cymerau	14		1				1	7%			9	4		13	93%
Coed Dolgarrog	25			1			1	4%		4	10	10		24	96%
Coed Llety Walter	33						0	0	7	4	15	7		33	100%
Hafod Garregog	22	3					3	14%	2	1	9	3	4	19	86%
Dolgun	15			1			1	7%	1	2	5	5	1	14	93%
Cors y Gedol	60	1	5	2			8	13%	5	15	15	14	3	52	87%
All woods	169	4	6	4			14	8%	15	26	63	43	8	155	92%

Table 2 Archaeological sites before and after survey; by woodland area

- 8.1.9 For example, a large proportion of the ancient and semi-natural woodland present in Gwynedd survives on precipitous valley sides, land which has not been suitable for improvement. These areas are also unlikely to have been the focus for settlements or for agriculture. The main activity likely to have taken place in such areas is industrial in nature; quarrying and mining. Early Ordnance Survey (late nineteenth century) maps are fairly reliable in depicting industrial remains dating from the mid eighteenth century and nineteenth century, and so could highlight those few areas amongst the woodlands on particularly steep ground which may warrant further attention. Within the woodland surveyed as part of the current project, fewer sites were recorded on the areas of steeper ground (for example the majority of Coed Dolgarrog and portions of Coed Dolgun) than on level ground.
- 8.1.10 All of these results are from one part of Wales. However, there are different traditions of management and exploitation in different areas of the country. For example, there is a long tradition of wood-pasture in south Wales which does not exist in the north. In the north, there was a heavy depletion of timber stock at early stage, while in the south there is a longer, more extensive history of long-term management, for example of charcoal burning on the Gower. On the ecological side, there were relatively few signs, if any, of trees that are likely to relate to periods further back than 200 or so years (an old pollarded beech in Cors y Gedol was an exception). However, the present condition of the woods directly influences their future care and maintenance, and this is especially the case where 'woodland management'-related features are not as prevalent as they may be in other areas of Wales or Britain generally.
- 8.1.11 On a practical note, the area of woodland which it is possible to survey in a single day is considerably less than that which would be possible in an open environment. Trees limit visibility, vegetation is often difficult and slow to negotiate beyond pathways, and the ground is frequently rough. It is estimated on the basis of the figures given in table 3 that the average area which it is possible to survey in a single day is 37 hectares, which would entail the recording of an average of 29 archaeological features.

Wood	Area (ha)	Area as % of total area	No. PRNs pre-survey	No. PRNs post-survey
Coed Cymerau	26.8	12		13
Coed Dolgarrog	21.2	10		25
Coed Llety Walter	38.3	17		35
Hafod Garregog	61.6	28		22
Dolgun	41.1	19		15
Cors y Gedol	31.8	15		65
All woods	220.6			175

Table 3 Woodland area compared with number of archaeological features

8.2 Criteria for establishing a requirement for survey

8.2.1 Three principal criteria can be used to indicate the type, or nature, of woodlands which should be targeted for further archaeological and ecological survey work. These can be broken down as follows:

8.2.1 *Density of known sites recorded on SMR*

8.2.1.1 The project has established that it is worth visiting areas of known high archaeological interest, based on the number of recorded archaeological sites on the regional SMR, both within the wood or in the immediately surrounding area, or which are considered to be of high potential based on the professional judgement of the archaeological curator.

8.2.1.2 Woods in which sites are already known to exist have the potential for the discovery of a greater range of features, especially as the range of features considered important by archaeologists has matured through time: so that, for example, features such as post-medieval dwellings and agricultural buildings, or industrial features, may not have been recorded by workers in the past, but may nevertheless be of local or regional importance. Similarly, woods situated in areas where archaeological sites are known from earlier work (often aerial or field survey), will be worth visiting because, in the past, it has usually been the case that fieldwork will not have been undertaken in the wood itself. Obviously, aerial survey of woods for archaeological features is almost impossible. Woods in the vicinity of known furnaces and related industries which rely on a good timber source are also a priority.

8.2.1.3 Also, it has been noted that settlement sites often exist at the boundary of woodland and improved land, and these areas are thus particularly important.

8.2.1.4 Areas where there is a long history of woodland having existed should also be targeted as a priority for field survey.

8.2.1.5 Woods which fall within areas of listed parks and gardens on the Cadw Register of Parks and Gardens (Cors y Gedol is a good example) should also be a priority.

8.2.1.6 In summary, woods which meet one or more of the following criteria should be considered as priorities for survey:

- where there are known archaeological sites in the woodland;
- where there is a strong archaeological presence in the surrounding area;
- where professional judgement suggests that features might be present;
- where woodland owners indicate features of potential interest are present;
- where there are known cultural associations, or local knowledge, of the wood.

8.2.2 *Influence of topography*

8.2.2.1 The survey work has demonstrated that the following topographical areas have the highest potential for recording sites of archaeological/historical interest:

- Terraces, level plateaux, any flat areas (especially on hill slopes) and gently-sloping ground (these have been consistently been used for settlements and agriculture in the past);
- River and stream corridors (where the surrounding land is not too steep - access to water is a factor in the siting of settlements);
- Interfaces and transitional zones (for example Coed Llety Walter);
- Axes of communication (whether natural, such as passes, or human, such as trackways);
- Fringes and margins of woodland (shifting boundaries and woodland expansion often results in incorporation of features into woodland areas; for example Coed Dolgarrog and Coed Hafod Garregog);
- Ground which has been open in the past (episodes of woodland coverage increases the likelihood of settlement and agriculture, leading to creation of features; for example Coed Cors y Gedol);
- Hill tops, spurs and knolls (typical locations for prehistoric burial sites);
- Steeper ground generally has fewer sites (however, there are exceptions for particular types of sites such as industrial remains, which are often recorded on early OS maps).

8.2.2.2 Therefore any woodlands which have a relatively high proportion of land which meets one or more of these criteria should be considered as a priority for survey.

8.2.3 *Influence of woodland vegetation categories*

8.2.3.1 Table 4 (overleaf) shows the number of archaeological sites recorded in different types of woodland, before and after survey.

8.2.3.2 Most archaeological sites were found in 'sessile oak – birch – herb' woodland (46% of all sites recorded). This vegetation type is dominant in ancient woodland in north-west Wales, and formed 58% of the woodland area surveyed. It tends to occupy 'softer' topographic areas which are more likely to be suitable locations for settlement and agriculture in the past. Less than 10% of all archaeological features were found in the 'sessile oak – birch – moss' variety of woodland, a 'harder' type which tends to occupy areas which would generally be topographically unsuitable for past settlement and agriculture. It should be borne in mind however, that the latter type of woodland formed a much smaller portion of the total areas surveyed (less than 10%).

8.2.3.3 It is also interesting that, in proportional terms, a high number of features was found in areas of mixed regeneration. It could be expected that where an area can be demonstrated to have experienced episodic woodland cover historically, there is a strong chance that remnant features relating to phases of agriculture and settlement will be present. The results of the current project for survey at Coed Cors y Gedol demonstrate this most clearly.

8.2.3.4 The possibility that the figures given in table 4 could provide a crude index to the likelihood of archaeological sites being present in an area of ancient woodland requires further investigation. Where detailed vegetation survey data (ie to NVC phase II) standard is available, it may be possible to use vegetation type alongside other criteria (see above) as a measure of the potential presence of hitherto unrecorded archaeological features.

Woodland survey category / vegetation type	Area (ha)	% of total woodland area surveyed	No of sites on SMR pre-survey	No of sites on SMR post-survey	% of total number of sites
Birch – purple-moor grass woodland	2.5	1%	0	None	0
Alder – ash woodland	4.5	2%	0	2	1%
Ash – rowan woodland	2.9	1%	0	4	2%
Pedunculate oak – bracken – bramble woodland	20.7	10%	0	5	3%
Sessile oak – birch – herb woodland	125.9	58%	7	77	46%
Sessile oak – birch – moss woodland	20.3	9%	0	15	9%
Grassland and bracken	15.1	7%	0	3	2%
Area of mixed regeneration/recent regeneration	15.3	7%	6	33	19%
Douglas fir plantation (with scattered sessile oak)	11.2	5%	1	7	4%
Other areas (including sites recorded during the survey but lying just outside woodland blocks/survey areas)	-	-	0	23	14%
Totals	218.4	-	14	169	-

Table 4 Archaeological sites by woodland/vegetation type

8.3 Towards an integrated survey methodology

8.3.1 General considerations

8.3.1.1 The authors are not aware of any other woodland projects which have been jointly undertaken by an ecologist and an archaeologist working in tandem in the field. One of the aims of this project was to assess the value and efficacy of such an approach. The experience has proved very useful and it is possible to make a series of observations and recommendations to be taken into consideration when undertaking work of a similar nature in future, as well as to comment on the extent to which an integrated approach enhances the study of the historic environment of woodlands.

8.3.1.2 A number of recommendations can be made for future surveys as follows:

8.3.1.3 It is essential that the archaeologist and ecologist work as a team from the outset, and that the joint aims of the work and the project are agreed and established in advance.

8.3.1.4 Work will be needed prior to the actual survey, and this needs to be agreed. Documentary and archive searches are probably best done by the archaeologist/historian, who should be aware of the sort of information required by the ecologist (photocopies of early Ordnance Survey and estate maps are essential as most of the sites and features recorded on these will be found during the survey), but examination of aerial photographs might be a joint undertaking as,

while it is useful for providing information for ecological survey, woodland cover obscures most individual archaeological sites.

- 8.3.1.5 Surveys should preferably be carried out in winter or early spring months before the canopy vegetation has developed (although it should be borne in mind that daylight hours are short at this time of year and in light of this, it is essential to estimate a realistic area for coverage in a single day).
- 8.3.1.6 There are Health and Safety issues to consider (woods can be dangerous places especially to those not familiar with the terrain), but these are better met with a two-person team than by working alone. Risk assessments will be essential prior to any woodland survey.
- 8.3.1.7 It is preferable for the archaeologist and the ecologist to survey the wood at the same time, so that ideas and findings can be shared to maximise the results of the work. However, they tend to survey, map and record at different 'scales', so allowance should be made for working separately within the same overall context. Ecologists tend to work from the larger landscape inwards, dealing with habitats as mappable units; whilst archaeologists tend to record individual features and move from these to the wider landscape context.
- 8.3.1.8 It is important that the field annotations of archaeologist and ecologist can be dovetailed reliably at the stage of compilation. The two approaches necessarily diverge to some extent, and doubts as to correspondence of information can easily arise. The use of GPS references by both is highly recommended as a means of helping to reduce these.
- 8.3.1.9 The archaeologist will generate a unique reference code for each recorded feature. It is recommended that this is relayed to the ecologist with its GPS location, either at the time of recording, or when the two next meet. The ecologist should then make appropriate records at this location, either at the same time or later, having relocated the site.
- 8.3.1.10 The use of photography should be carefully considered: fixed-point photography will be required for monitoring purposes, and thus good vantage points will need to be established and recorded (and be retrievable). The use of digital cameras should also be carefully considered.
- 8.3.1.11 Successfully integrated archaeological and ecological survey provides indications of a much broader range of features and habitat information relating to previous human influence over the development of the woodland than would single-subject survey. Knowledge of both disciplines is essential to understanding the full history of the development of the wood, and thus influencing its subsequent successful future management. Integrated survey is able to consider the historic environment as a whole, and in terms of management considerations will lead to practical suggestions and mutually acceptable solutions: such an approach will overcome any potential conflict of interest, protecting the archaeology whilst not being detrimental to ecology.

8.3.2 *Specific archaeological survey*

- 8.3.2.1 It will be necessary to record a consistent series of archaeological site information during the survey: this will include a site's location, dimensions, orientation, condition and so on; notes should also be made of any perceived potential threats, and there will be a need to assess a site's management needs and make recommendations for any works required. Where possible, a brief discussion of the site's interpretation and function should also be made.

8.3.2.2 A large proportion of recorded sites will be boundary features: some boundaries will need to be given individual PRNs (*e.g.* those which are considered rare, early or unusual), and it may be possible in small woods to record any such features individually. However, in most case it will not be possible (or even necessary) to record in this manner, and an approach based on 'characterisation' will be more appropriate (*i.e.* a single PRN give to the boundaries in the wood should summarise a general impression of their type, condition, constructional form *etc.*).

8.3.2.3 On a practical note, the presence of bramble in the understorey has implications for survey in terms of visibility and penetrability (and ease of working). Other vegetation types, as well as the density of planting, also have an impact on survey methodology and success, especially conifers, alder, hazel and younger growth. Mature woods are easier to work in as the trees tend to be more widely spaced and there is less in the way of impenetrable understorey growth.

8.3.3 *Specific ecological survey*

8.3.3.1 It is useful to refine the boundary of interest and identify features of possible relevance within the woodland using aerial photographs, at around 1:10000 scale, prior to the field visit. In particular, the following should be considered and any features potentially significant for archaeological/historical associations indicated on the base map for use in the field:

- Canopy homogeneity – distinguish areas of obvious difference, based on the following characters in so far as they permit the identification and use of mappable units:
 - Crown spacing – use simple categories based on canopy spacing, eg:
 - Closed canopy - crowns more or less touching or overlapping
 - Open canopy - crowns mostly not separated by more than their mean diameter
 - Sparse canopy - crowns mostly separated by more than their mean diameter (normally indicative of severe ecological limitation or of agricultural use, eg. parkland)
 - Texture (usually correlated with crown size):
 - Smooth (usually closely spaced small crowns that are barely distinguishable, often indicative of relatively young regeneration/plantation)
 - Regularly textured (often indicative of even aged stands, and possibly single species dominance)
 - Irregularly textured (often indicative of uneven aged stands, and possibly mixed species composition)
 - Tonal range – even or mixed, taking possible aspect and terrain irregularities into account. Differences often indicate that the woodland is of mixed species composition (or possibly of markedly uneven age)
- Discontinuities – note the location, size and shape of obvious irregularities within or between otherwise more or less homogeneous units:
 - Linear features, eg:
 - Crown alignment – probable evidence of planting when not beside a boundary
 - Simple lines in the canopy, with no associated differences in canopy tone or texture, usually caused by tracks, paths, etc

- Compound lines, showing differences in tone and/or texture, often caused by drainage features, but may be associated with a former woodland margin (different species or different growth forms), or possibly with planting
- Areal features, eg:
 - Clearings, glades
 - Outcrops, quarries
 - Buildings, installations
 - Ponds, lakes

8.3.3.2 It is recommended that an ecological record for mappable units within woodland should be made from among the following:

- Structure:
 - Closed canopy, open canopy or scattered trees
 - Dense, open, sparse or no understorey of shrubs
 - Estimated mean height and dbh of tree component
 - Homogeneity: high, moderate, or low
- Composition:
 - Dominant, co-dominant and sub-dominant species of canopy and understorey
 - Dominant types of ground cover (see list below)
 - Homogeneity: high, moderate, or low
- Presence, and possibly level (high, moderate or low) of land management features:
 - Agriculture
 - Turbary
 - Tree planting
 - Coppicing
 - Pollarding
 - Charcoal burning
 - Other
- Woodland management condition
 - Recently planted
 - Young regeneration
 - Maturing/mature – potentially harvestable condition now or in the near future
 - Overmature/unmanaged – unlikely to be harvested
 - Other

8.3.3.3 It is recommended that an ecological record for archaeological sites within woodland should be made from among the following:

- Canopy (tree) cover (rooted within or outside the site limits)
 - Complete, partial or none
 - Dense, moderate, light
 - Species involved
 - Estimated mean dbh
 - Estimated mean height
- Understorey (shrub) cover (rooted within or outside the site limits)
 - Complete, partial or none

- Dense, moderate, light
- Species involved
- Estimated mean height
- Field (ground) cover - proportion within the site of:
 - Bramble
 - Bracken
 - Herbs/Ferns
 - Graminoid species (grasses, rushes or sedges)
 - Bryophytes
 - Leaf litter/Bare ground
 - Open water
- For each woody plant rooted within a relatively small site:
 - Species
 - Estimated dbh for trees only (cms) - <10, 10-20, 20-30, 30-40, 40-50, 50 – 75, 75 – 100, >100
 - Estimated height (m) – Individually 1 to 5, 5-10, >10
 - Rooted:
 - Among stones comprising the feature
 - Beside stones comprising the feature
 - Clear of stones comprising the feature
- Evidence of land management inherent in or around the site:
 - Woodland boundary
 - Agriculture
 - Tree planting
 - Pollarding
 - Coppicing
 - Charcoal burning
 - Other
- Potential damage to the site from ecological features - high, moderate or low for:
 - Disruption from windthrow
 - Disturbance to stones from the roots of woody plants
 - Damage to low walls by grazing animals
 - Disruption from future forestry operations
 - Obscurity of the site because of vegetation
 - Other
- Recommended management (expand where appropriate):
 - Removal of woody elements from within the site
 - Removal of woody elements from within and around the site
 - Management of woody elements around the site (eg. coppicing)
 - Management of water features (eg. realignment of drainage)
 - Management of access (eg. re-routing or creating paths)
 - Reduction/removal of obscuring ground vegetation (eg. cutting or grazing)
 - Other

8.3.3.4 Photography is one of the most useful ways of recording a baseline and subsequent change. It is recommended that in addition to photographs of specific features taken from the most appropriate viewpoints, one or more relocatable positions should be chosen from which to take shots of the general condition of the feature and its surroundings. A photograph and GPS

reading should be taken of each point from which these have been taken so that someone else can return the same spots and repeat the coverage.

- 8.3.3.5 Digital photography may prove adequate and convenient for this purpose, but performance in poor weather conditions under tree canopy should be assessed for any medium beforehand.

8.4 Current consultation procedures

- 8.4.1 The project has demonstrated that there is a need for continued (and improved) consultation with archaeologists (and ecologists) over proposals to undertake work in woodland. Current curatorial actions relating to woodland interests in north-west Wales, carried out by Gwynedd Archaeological Trust, include:

- Weekly monitoring of the Register of Felling and New Planting (prepared by the Forestry Commission (FC));
- Consultation on Woodland Grant Scheme Applications (FC);
- Forest Design Plans (Forest Enterprise);
- Forest Plans (private owners/commercial forestry organisations with the support of the FC);
- Responses to the Countryside Council for Wales for all farms entering the Tir Gofal agri-environmental scheme. Many of the applications have a woodland dimension, and in some cases applicants will be considering undertaking management or planting works through farm-specific woodland grant schemes offered by FC; and
- Direct consultations from Coed Cymru personnel, usually in connection with advice they are giving to clients who are applying to the Woodland Grant Scheme or other similar initiatives.

- 8.4.2 These reflect, more or less, the national picture across Wales.

- 8.4.3 Whilst these procedures work well mechanically, the information and advice provided by archaeological curators is (with few exceptions) entirely desk-based, relying predominantly on the SMR and on individuals' knowledge and experience, as a source of information.

8.5 Management considerations

- 8.5.1 General guidelines for management and good practice are already published in Forestry and Archaeology Guidelines: there are also guidelines for Designed Landscapes. The recommendations made during this survey followed those guidelines, and the suggested management recommendations generally related simply to control of regrowth, removal of trees, preventative surgery and so on. It was not a part of this project to advance the nature of management recommendations, although the fact that a joint archaeological/ecological survey was carried out would enable more holistic recommendations to be proposed.

- 8.5.2 Other suites of more-detailed management recommendations exist (such as those drawn up by this Trust to inform Tir Gofal and other initiatives, and by the National Trust) which contain references to woodland and tree management, and the drawing together of these might be something which should be considered by a future project.

- 8.5.3 In general, rooted woody plants present a threat to archaeological features because:

- growing roots damage and destroy buried archaeological deposits;
- growing roots loosen stones that are then more likely to become displaced;
- falling limbs cause the displacement of stones and create conditions for further deterioration; and
- wind throw causes disturbance through soil upheaval and direct impact.

8.5.4 General recommendations to reduce the risk to archaeological features in woodland and to help avoid further deterioration where woody plants grow on or adjacent to stonework important to their fabric are:

- early removal of all easily managed woody plants in these situations
- sympathetic handling of older trees when the time comes for either harvesting or surgery/removal following decay
- periodic monitoring of the site to check condition

8.5.5 Note that while trees are often destructive, archaeological remains may paradoxically be preserved in woodland areas where they would otherwise have been destroyed by land improvement in surrounding agricultural land.

8.6 The cultural importance of woods

8.6.1 Woodlands have a particular cultural importance in Wales. From Giraldus Cambrensis describing the Welsh people living in slight huts in woods in the twelfth century, to the poem of Waldo Williams describing the spread of forestry plantations in the twentieth, with references in the Mabinigion and the works of Dafydd ap Gwilym and folk tales in between, woods have held a particular place in the literary heritage of Wales.

8.6.2 Local knowledge of woodlands, habitual visits, and different patterns and perceptions of ownership and access to woods is an important part of people's relationship with, and appreciation of, the countryside in Wales. There are hundreds of woodland workers who have unique knowledge of the woods in which they have worked, as well as farming families with knowledge or memories of previous generations working in woodlands. There is widespread local knowledge of the extent of first and second world war felling (and of the species taken), for example of the felling of the wood on the massive hillfort of Garn Boduan in Llŷn.

8.6.3 Visitors to Wales since the eighteenth century have commented on the place of woods and trees (or lack of them) in the Welsh landscape, and the so-called 'wild woods' were part of the attraction of the Romantic movement to Wales at the beginning of the nineteenth century when access to the continent was effectively curtailed.

8.6.4 There are customs and traditions connected with woodlands such as rights to gathering firewood, as well as a significant oral history relating mainly to a long involvement in rural woodland industries (lichens and dyeing, milling, charcoal-burning and so on).

8.7 Suggestions for further research

8.7.1 This project has clearly demonstrated the importance of woodlands to the historic environment, the cultural life and the landscapes of Wales, but much more work could be done to allow the history of woodlands and their management to play a full role in the lives and landscapes of the Wales of the future.

- 8.7.2 For example, detailed work needs to be undertaken on nineteenth-century features in woodland, such as settlements and enclosures, game-related activities (breeding birds, game keepers), timber management (labourers' cottages) and so on, all of which have traces in woods which are little understood. Estate papers relating to woodlands remain a largely untapped resource.
- 8.7.3 The extensive rural industries related to woodland management appear to have left behind surprisingly few features in north-west Wales, and yet we know that they were flourishing at times in the past. It may be that many of the activities left no major traces in the woods, or that subsequent felling, replanting and management have destroyed features associated with these activities. However, it may also be that survey work has not yet been sufficiently extensive in woodland areas, certainly in north-west Wales, to have identified and recorded features of this kind. It is also possible that in some cases we are not entirely sure what to look for or what to expect in terms of such associated features. The current survey has contributed to these issues, with the secure addition of a charcoal burning platform (in Coed Dolgun) to the regional SMR (the only other example being that revealed by Peter Crew's excavations at Llwyn Du, Coed y Brenin). A number of terraces and platforms of unknown function were recorded in the woodland areas surveyed. It is important that this impetus is now maintained and that a programme of work aimed at a better understanding of the history of Welsh woodlands is established.

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APPENDICES

APPENDIX I

Archaeological sites recorded on the regional SMR in areas of ancient woodland in north-west Wales (analysis made for areas of ancient and semi-natural and ancient replanted woodland respectively)

Site gazetteers are followed by summary tables of site type and chronological period data

i Ancient and semi-natural woodland

Site gazetteer

Total of 136 sites including 7 scheduled ancient monuments and 2 listed buildings

PRN	NGR	SITENAME	SITETYPE	PERIOD
338	SH66957162	HUT CIRCLE & FIELD SYSTEM, NR. CYDGOED	HUT CIRCLE, FIELD SYSTEM	UNDETERMINED
397	SH80707680A	BRONZE TOOL - FINDSPOT, BRYN EISTEDDFOD	FINDSPOT	PREHISTORIC
1074	SH59102277	HUT GROUP, BERTH DDU	HUT CIRCLE SETTLEMENT	PREHISTORIC
1261	SH33404365	CARREG Y LLAM HILLFORT - SITE OF, PISTYLL	HILLFORT	EARLY MEDIEVAL
1289	SH56203783	HUT GROUP (ENCLOSED), PARC Y BORTH WOOD	HUT CIRCLE SETTLEMENT	ROMANO BRITISH
1354	SH56434077	ROUND HUT, Y GLOG	HUT CIRCLE	ROMANO BRITISH
1382	SH56574069	CIST BURIAL - SITE OF, CRAIG PANTIFAN	CIST BURIAL	PREHISTORIC
2180	SH55007100A	STONE AXE - FINDSPOT, MENAI BRIDGE	FINDSPOT	PREHISTORIC
2184	SH55007100A	STONE AXES - FINDSPOT, MENAI BRIDGE	FINDSPOT	PREHISTORIC
2301	SH58597224	CASTLE, BANGOR	NON-ANTIQUITY	UNDETERMINED
2450	SH58606060C	VIVIAN SLATE QUARRY, LLANBERIS	QUARRY	POST MEDIEVAL
2473	SH75927087	SETTLEMENT, CEFNYDD TAI UCHAF, DYFFRYN CONWY	SETTLEMENT	ROMANO BRITISH
2596	SH56008000A	FINDS, VARIOUS PERIODS - FINDSPOT, WERN, LLANDDONA	FINDSPOT	UNDETERMINED
2763	SH41404800A	BRONZE AGE SWORD - FINDSPOT, CWM GWARED	FINDSPOT	PREHISTORIC
2812	SH59207150A	BRONZE PALSTAVE - FINDSPOT, MAESGIRCHEN	FINDSPOT	PREHISTORIC
2873	SH71007600A	BRONZE AGE POTS, PENMAENMAWR	FINDSPOT	PREHISTORIC
2878	SH71007600A	COPPER CAKE - FINDSPOT, PENMAENMAWR	FINDSPOT	ROMANO BRITISH
2981	SH62990556	BUILDING REMAINS, EGLYWS Y GWYDDELOD, DYSYNNI	CHAPEL	UNDETERMINED
3356	SH58804615	ROUND HUT, AFON GOCH	HUT CIRCLE SETTLEMENT	ROMANO BRITISH
3386	SH59454615	PERFORATED STONE - FINDSPOT, PASS OF ABERGLASLYN	FINDSPOT	PREHISTORIC
3673	SH60606940A	PEBBLE MACEHEAD, LLANDYGAI	FINDSPOT	PREHISTORIC
3787	SH62005000A	BRONZE TOOL (AXE) - FINDSPOT, NR. DINAS LAKE	FINDSPOT	PREHISTORIC
3812	SH64893096	"ROMAN STEPS" - MEDIEVAL PAVED CAUSEWAY	TRACKWAY	MEDIEVAL
3861	SH77306630A	SITE OF FULLING MILL, ARDDA	FULLING MILL	MEDIEVAL
3903	SH66004000A	BRONZE TOOL (PALSTAVE) - FINDSPOT, NR. MAENTWROG	FINDSPOT	PREHISTORIC
3906	SH97743607	BRONZE TOOL (PALSTAVE) - FINDSPOT, FRONHEULOG	FINDSPOT	PREHISTORIC
3913	SH97743607	BRONZE SPEARHEAD - FINDSPOT, FRONHEULOG	FINDSPOT	PREHISTORIC
3915	SH59453207	BRONZE MIRROR - FINDSPOT, N. OF HARLECH	FINDSPOT	?PREHISTORIC
4357	SH54904104	CAIRNS, N. OF PENMORFA	CAIRN	PREHISTORIC
4401	SH59707650C	BARON HILL PARK, ANGLESEY	GARDEN	POST MEDIEVAL
4426	SH23702830	PLAS-YN-RHIW GARDEN, NR. ABERDARON	GARDEN	POST MEDIEVAL
4427	SH65504050C	PLAS TAN-Y-BWLCH GARDENS, MAENTWROG	GARDEN	POST MEDIEVAL
4444	SH60007730C	HENLLYS GARDEN, LLANFAES	GARDEN	MEDIEVAL
4458	SH56007300	CRAIG Y DON GARDEN, MENAI BRIDGE	GARDEN	POST MEDIEVAL
4459	SH56007300	BRYN TIRION GARDEN, MENAI BRIDGE	GARDEN	POST MEDIEVAL
4524	SH65515244C	HUT CIRCLES, HAFOD LWYFROG	HUT CIRCLE SETTLEMENT	PREHISTORIC
4549	SH80028092	HUT GROUP (UNENCLOSED), COED GAER	HUT CIRCLE SETTLEMENT	PREHISTORIC

4550	SH80008092	PROBABLE QUARRY - COED GAER	QUARRY	UNDETERMINED
4573	SH77006600A	STONE AXE - FINDSPOT,	FINDSPOT	PREHISTORIC
4609	SH76086882	MINE, POSSIBLY ROMAN, AFON DULYN	MINE	ROMANO BRITISH
4610	SH76036875	MINE, AFON DULYN	MINE	POST MEDIEVAL
4613	SH76266896	RELIGIOUS HOUSE (SITE OF)	HOUSE	MEDIEVAL
4616	SH79046579	FISH POND	FISHPOND	MEDIEVAL
4652	SH82785243	PONT RHYD-LLANFAIR BRIDGE	BRIDGE	POST MEDIEVAL
4735	SH60354417	ROCK CHAIR (SITE OF), CADAIR RHYS GOCH	STONE ALIGNMENT	UNDETERMINED
4760	SH72701188	HOARD-LA TENE BRONZE	FINDSPOT	PREHISTORIC
4881	SH63001300A	UNLOOPED BRONZE AXE	FINDSPOT	PREHISTORIC
5021	SH59904430	SETTLEMENT+FIELD SYSTEM, NE. OF HAFOD Y LLYN ISAF	SETTLEMENT, FIELD SYSTEM	UNDETERMINED
5134	SH41304815C	MILL (POSS) - REMAINS OF - CWM GWARED	MILL	POST MEDIEVAL
5218	SH59954432	HUT CIRCLE, POSS. - HAFOD Y LLYN ISAF	HUT CIRCLE	ROMANO BRITISH
5334	SH60903369	CIRCULAR ENCLOSURE, COED PENMAEN	ENCLOSURE	UNDETERMINED
5717	SH61256775	CERRIG CANNAN, BRYNBELLA CROSSROADS	CANNON STONE	POST MEDIEVAL
5740	SH61256775	CERRIG CANNAN, BRYNBELLA CROSSROADS	BOULDER	POST MEDIEVAL
5742	SH60816873	STONE LINES LEAT, TREGARTH	LEAT	POST MEDIEVAL
5744	SH61306815	POSS. HUT GROUP, E OF TREGARTH	HUT CIRCLE SETTLEMENT	PREHISTORIC
5745	SH61306796	POSS. HUT GROUP, N PARC Y MOCH	HUT CIRCLE SETTLEMENT	PREHISTORIC
5746	SH61206790	POSS STONE STRUCTURE, PARC Y MOCH	STRUCTURE	UNDETERMINED
6109	SH69954475	ROUND HUTS/CAIRNS, CERRIG CRYNION	HUT CIRCLE, CAIRN	PREHISTORIC
6202	SH72452333	PLATFORM, BERTH LWYD	PLATFORM	UNDETERMINED
6459	SH66004000	OLD CO-OP SHOP, MAENTWROG	BUILDING	UNDETERMINED
7130	SH66807223	ENCLOSURE	ENCLOSURE	UNDETERMINED
7223	SH54137118	WINCH, COED MOR	NON-ANTIQUITY	POST MEDIEVAL
8227	SH72000310	CAE DEINTYR PANDY	PLACENAME	UNKNOWN
8413	SH83113206	PEAT STACKS, CRAIG Y TAN	PEAT STACK	POST MEDIEVAL
8414	SH83103222	ENCLOSURE	ENCLOSURE	POST MEDIEVAL
8415	SH83063213	RUINED BUILDING, CRAIG Y TAN	BUILDING	POST MEDIEVAL
8796	SH78066011	HAFNA PROCESSING MILL	MILL	POST MEDIEVAL
8901	SH66527221	MOEL Y GAER SHEEPFOLD	SHEEPFOLD	POST MEDIEVAL
9045	SH77976008	HAFNA SHAFTS	SHAFT	POST MEDIEVAL
9046	SH77946009	HAFNA MINE BUILDINGS	BUILDING	POST MEDIEVAL
9370	SH58006100	BRONZE AGE SPEARHEAD, TAL Y BONT	FINDSPOT	PREHISTORIC
9543	SH89663293	NURSE CAE-SEREN	ROAD	ROMANO BRITISH
10197	SH84004013C	WALL E OF FFRIDD BWLCH-LLWYNI	WALL	POST MEDIEVAL
10511	SH82893211	FIELD SYSTEM AND ENCLOSURE	FIELD SYSTEM, ENCLOSURE	UNDETERMINED
10780	SH77326587	LONG HUT PLATFORM	LONG HUT	MEDIEVAL
11090	SH62464018	GELLI GWIAIL, RHIW GOCH	COTTAGE	POST MEDIEVAL
11246	SH55007100	VICTORIA HOTEL	BUILDING	POST MEDIEVAL
11497	SH58947246	TAN-Y-COED	BUILDING	POST MEDIEVAL
11529	SH75465758	TY-HYLL;(THE) UGLY HOUSE	BUILDING	POST MEDIEVAL
11666	SH59727632	BARON HILL BRIDGE	BRIDGE	POST MEDIEVAL
11739	SH69094307	PONT CYMMERAU	BRIDGE	POST MEDIEVAL
12292	SH66004000	ARGRAIG	BUILDING	POST MEDIEVAL
12326	SH66004000	CARTREF MAENTWROG	BUILDING	POST MEDIEVAL
12330	SH66004000	COOPERATIVE SHOP	BUILDING	POST MEDIEVAL
12370	SH66004000	GLANDWYRYD;AND NEUADD LLEWELYN MAENTWROG	BUILDING	POST MEDIEVAL
12436	SH66004000	PEN-Y-BRYN	BUILDING	POST MEDIEVAL
12458	SH66004000	POST OFFICE AND BRON Y WERN	BUILDING	POST MEDIEVAL
12556	SH79807900	BODYSGALLEN HALL WALLS	BUILDING	POST MEDIEVAL
20077	SH57206060	GOODMANS	SLATE QUARRY	POST MEDIEVAL
20115	SH73606040	COED Y FRON	SLATE QUARRY	POST MEDIEVAL
20140	SH75705970	TAL Y LLYN	SLATE QUARRY	POST MEDIEVAL
20141	SH75706830	ROWLYN	SLATE QUARRY	POST MEDIEVAL
20142	SH75706930	PEN Y GAER	SLATE QUARRY	POST MEDIEVAL
20146	SH76006880	PENLAN	SLATE QUARRY	POST MEDIEVAL
20149	SH76706720	PORTHLLWYD	SLATE QUARRY	POST MEDIEVAL
20245	SH58004200	VRON	SLATE QUARRY	POST MEDIEVAL

20246	SH58204200	ABERDEUNANT	SLATE QUARRY	POST MEDIEVAL
20322	SH68104080	CAE'N Y COED	SLATE QUARRY	POST MEDIEVAL
20329	SH72904140	BRON GORONWY	SLATE QUARRY	POST MEDIEVAL
20352	SH92103710	TYN Y COED	SLATE QUARRY	POST MEDIEVAL
20390	SH74901810	COED DOLGUN UCHAF	SLATE QUARRY	POST MEDIEVAL
20408	SH63000550	PERFEDDNUANT	SLATE QUARRY	POST MEDIEVAL
20415	SH66400620	TAI NEWYDDION	SLATE QUARRY	POST MEDIEVAL
20420	SH67100970	PENNANT	SLATE QUARRY	POST MEDIEVAL
20425	SH68200120	RHAEADR	SLATE QUARRY	POST MEDIEVAL
20469	SH74800780	BRAICH GOCH	SLATE QUARRY	POST MEDIEVAL
20528	SH59404620	COPPER MINE, ABERGLASLYN	COPPER MINE	POST MEDIEVAL
20582	SH61301620	MANGANESE MINE, BARMOUTH	MANGANESE MINE	POST MEDIEVAL
20596	SH66701890	GOLD TRIAL, BONTDDU	GOLD TRIAL	POST MEDIEVAL
20600	SH67501770	QUARRY, ABERGWYNANT	QUARRY	POST MEDIEVAL
20621	SH62102910	MANGANESE MINE, CRAFTNANT	MANGANESE MINE	POST MEDIEVAL
20624	SH64502660	MANGANESE MINE, GRAIG UCHAF	MANGANESE MINE	POST MEDIEVAL
20658	SH64303680	MINE, HENDRE GERRIG	MINE	POST MEDIEVAL
20688	SH78106010	LEAD MINE, HAFNA	LEAD MINE	POST MEDIEVAL
20692	SH78306190	LEAD MINE, PANT Y CARW	LEAD MINE	POST MEDIEVAL
20777	SH67104170	COPPER MINE, CEUNANT COCH	COPPER MINE	POST MEDIEVAL
20783	SH65204040	QUARRY, COED Y PLAS	QUARRY	POST MEDIEVAL
20784	SH65204040	SLATE QUAY, CEI CEMLYN	QUAY	POST MEDIEVAL
20796	SH62505030	LEVEL, BRYN DINAS	LEVEL	POST MEDIEVAL
20812	SH61106790	MINE, LEFELYDD PONT COETMOR, TREGARTH	MINE	POST MEDIEVAL
20819	SH61306840	QUARRY, TAN Y BRYN, TREGARTH	QUARRY	POST MEDIEVAL
20844	SH74700300	LEAD MINE, FOEL Y FFRIDD, MACHYNLLETH	MINE	POST MEDIEVAL
21014	SH78306190	GRANITE QUARRY, PANT Y CARW	GRANITE QUARRY	POST MEDIEVAL
21075	SH80302370	LEAD/ZINC/COPPER MINE, ALLT Y BENGLOG	MINE	POST MEDIEVAL
21115	SH80805760	LEAD SHAFT, COED HAFOD	SHAFT	POST MEDIEVAL
21125	SH91203230	QUARRY, PANT YR ONNEN	QUARRY	POST MEDIEVAL
21173	SH56663966	BODAWEN LODGE, TREMADOG	HOUSE	MODERN
21517	SH55704040	LLIDIART YSBYTTY MINE	IRON MINE	POST MEDIEVAL
21556	SH75235763	GLYN LLUGWY MINE	LEAD MINE	POST MEDIEVAL
21680	SH78106010	RHAFNA MINE	LEAD MINE	POST MEDIEVAL
21706	SH64303680	ABERDAUNANT AND HENDREGERYG MI	COPPER MINE	POST MEDIEVAL
21730	SH64204040	BRYNMAWR MINE	LEAD MINE	POST MEDIEVAL
21761	SH67104170	CWM AFON MINE	COPPER MINE	POST MEDIEVAL
21775	SH67204160	DDUALLT MINE	LEAD MINE	POST MEDIEVAL
21788	SH65703940	FELENRHYD FACH/PENPONT FELENRHYD	GOLD MINE	POST MEDIEVAL
21844	SH67001860	MAWDDACH ALLUVIAL GOLD WORKS	GOLD MINE	POST MEDIEVAL

Summary by site type

Site type	Count
Boulder	1
Bridge	3
Building	13
Cairn	1
Cannon stone	1
Chapel	1
Cist burial	1
Copper mine	4
Cottage	1
Enclosure	3
Field system, enclosure	1
Findspot	19
Fishpond	1
Fulling mill	1
Garden	6
Gold mine	2
Gold trial	1
Granite quarry	1
Hillfort	1
House	2
Hut circle	2
Hut circle settlement	7
Hut circle, cairn	1
Hut circle, field system	1
Iron mine	1
Lead mine	6
Leat	1
Level	1
Long hut	1
Manganese mine	3
Mill	2
Mine	6
Non-antiquity	2
Peat stack	1
Placename	1
Platform	1
Quarry	6
Quay	1
Road	1
Settlement	1
Settlement, field system	1
Shaft	2
Sheepfold	1
Slate quarry	18
Stone alignment	1
Structure	1
Trackway	1
Wall	1

Summary by chronological period

Site type	Count
Prehistoric	25
Romano British	8
Early medieval	1
Medieval	6
Modern	1
Post medieval	81
Undetermined	14

ii Ancient replanted woodland

Site gazetteer

Total of 169 sites, including 3 SAMs

PRN	NGR	SITENAME	SITETYPE	PERIOD
223	SH61006805	PENDINAS HILLFORT, LLANDEGAI	HILLFORT	PREHISTORIC
978	SH72052700	CIRCULAR STONE STRUCTURE, DOL GEFELIAU	STRUCTURE	MODERN
990	SH62904040	SHEEPFOLD, COED CAE FALI	SHEEPFOLD	POST MEDIEVAL
991	SH63104030	PATH AND STEPS, OAKELEY	PARK	POST MEDIEVAL
992	SH63384034	BARN, TY MAIL	BARN	POST MEDIEVAL
993	SH63794032	SHEEPFOLD, TRWYN Y GARNEDD	SHEEPFOLD	POST MEDIEVAL
1379	SH59034488	ROUND HUTS, COED OERDDWR	HUT CIRCLE SETTLEMENT	ROMANO BRITISH
2859	SH74307590A	5 ROUND HUTS N.OF BISHOP'S STONE (MAEN ESGOB)	HUT CIRCLE SETTLEMENT	ROMANO BRITISH
3257	SH95503200A	STONE AXE FRAGMENT - FINDSPOT, CWM HIRNANT	FINDSPOT	PREHISTORIC
4927	SH73802280	FLINT BLADE, FINDSPOT, AFON WEN	FINDSPOT	PREHISTORIC
5141	SH73852275	HUT CIRCLE - REMAINS OF, BRYN PRYDYDD	HUT CIRCLE	PREHISTORIC
5238	SH71692869	BLOOMERY, GELLI GOCH C	BLOOMERY	MEDIEVAL
5514	SH71942715	BLOOMERY MOUND - SITE OF - DOL GYFELIAU	BLOOMERY	MEDIEVAL
6186	SH71682877	BLOOMERY, GELLI GOCH B	BLOOMERY	MEDIEVAL
6630	SH59812277	POSS. HUT CIRCLE, COED CORS-Y-GEDOL	HUT CIRCLE	UNDETERMINED
6631	SH59792273C	AREA OF CLEARANCE CAIRNS, COED CORS-Y-GEDOL	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
6632	SH59792268C	FIELD BANK, COED CORS-Y-GEDOL	BANK	?POST MEDIEVAL
6633	SH59792257	ENCLOSED HUT CIRCLE/LONG HUT SETTLEMENT, CORSYGEDOL	HUT CIRCLE, LONG HUT	PREHISTORIC, MEDIEVAL
6634	SH59722253	CAIRN, COED CORS-Y-GEDOL	CAIRN	UNDETERMINED
6635	SH59712252	POSS. HUT CIRCLE, COED CORS-Y-GEDOL	HUT CIRCLE	PREHISTORIC
6636	SH59702251	POSS. HUT CIRCLE, COED CORS-Y-GEDOL	HUT CIRCLE	PREHISTORIC
6637	SH59662250C	FIELD BANKS, COED CORS-Y-GEDOL	FIELD SYSTEM	UNDETERMINED
6855	SH69554347	FIELD BARN, LLWYN CRAI	BARN	POST MEDIEVAL
7909	SH70251965	PRINCE OF WALES SHAFT	SHAFT	MODERN
7919	SH69484312	PENGWERN WOOD STEPPING STONES	STEPPING STONES	UNKNOWN
7976	SH67041753	COED Y GARTH LIME KILN	LIME KILN	POST MEDIEVAL
8159	SH75220665	BRYN LLWYD MAWR BUILDING	AGRICULTURAL BUILDING	POST MEDIEVAL
8160	SH74930639	COEDWIG SLATE QUARRY	QUARRY	MODERN
8161	SH75050637	COEDWIG LEVELS	TRIAL LEVEL	MODERN
8162	SH75270703	BRYN LLWYD BACH LEVEL	TRIAL LEVEL	MODERN
8163	SH75250707	BRYN LLWYD BACH	BUILDING	POST MEDIEVAL
8182	SH74710532	PANTPERTHOG QUARRY	QUARRY	MODERN
8252	SH81611228	CAE-BODRAIN	BUILDING	POST MEDIEVAL
8532	SH66321699	COED Y GARTH STRUCTURE II	STRUCTURE	POST MEDIEVAL
8537	SH69551959	GALLT YR HEDDWCH LEVEL	LEVEL	POST MEDIEVAL
8538	SH70101954	HAFOD Y MORFA (PRINCE OF WALES) SHAFT I	SHAFT	UNKNOWN
8539	SH70111956	HAFOD Y MORFA (PRINCE OF WALES) AIR SHAFT II	SHAFT	MODERN
8540	SH70061953	HAFOD Y MORFA (PRINCE OF WALES) LEVEL III	LEVEL	MODERN
8541	SH69961947	HAFOD Y MORFA LEVEL IV	LEVEL	POST MEDIEVAL
8542	SH70201962	HAFOD Y MORFA STRUCTURE	STRUCTURE	POST MEDIEVAL
8550	SH70341968	PRINCE OF WALES LEVEL	LEVEL	MODERN
8563	SH73612209	GLASDIR LEVEL I	LEVEL	POST MEDIEVAL
8564	SH73692233	GLASDIR TANK	TANK	POST MEDIEVAL
8565	SH73742233	GLASDIR WINDING DRUM	WINDING DRUM	POST MEDIEVAL
8566	SH73822242	GLASDIR TRAMWAY	TRAMWAY	POST MEDIEVAL
8567	SH73722227	GLASTIR AQUEDUCT	AQUEDUCT	POST MEDIEVAL
8569	SH73782246	GLASDIR MINE STRUCTURE I	STRUCTURE	POST MEDIEVAL
8570	SH74112255	GLASDIR MINE RESERVOIR	RESERVOIR	POST MEDIEVAL
8571	SH74092254	GLASDIR MINE LEVEL	LEVEL	POST MEDIEVAL
8573	SH74162265	GLASDIR LEVEL III	LEVEL	POST MEDIEVAL

8594	SH72132678	DOLGYFEILIAU MILESTONE	MILESTONE	POST MEDIEVAL
8615	SH72632808	AFON GAIN LEVEL	LEVEL	POST MEDIEVAL
8616	SH72532799	LLWYN DU SHEEPFOLD	SHEEPFOLD	POST MEDIEVAL
8617	SH72692818	AFON GAIN BUILDING	BUILDING	POST MEDIEVAL
8620	SH72732590	CEFN-DEUDDWR SHEEPFOLD	SHEEPFOLD	POST MEDIEVAL
8621	SH73102680	CEFN DEUDDWR CLEARANCE CAIRN I	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8622	SH73202680	CEFN DEUDDWR CLEARANCE CAIRN II	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8623	SH73222684	CEFN DEUDDWR CLEARANCE CAIRN III	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8624	SH73222684	CEFN DEUDDWR SHEEPFOLD	SHEEPFOLD	POST MEDIEVAL
8625	SH73102678	CEFN DEUDDWR CLEARANCE CAIRN IV	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8626	SH73102670	CEFN DEUDDWR CLEARANCE CAIRN V	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8627	SH73102669	CEFN DEUDDWR CLEARANCE CAIRN VI	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8628	SH73222754	PISTYLL Y CAIN	BUILDING	POST MEDIEVAL
8629	SH73542695	COED TYDDYN GWLADYS LEVEL II	LEVEL	POST MEDIEVAL
8630	SH73522695	COED TYDDYN GWLADYS LEVEL I	LEVEL	POST MEDIEVAL
8631	SH73512695	COED TYDDYN GWLADYS LEVEL III	LEVEL	POST MEDIEVAL
8632	SH73562694	COED TYDDYN GWLADYS TRIAL LEVEL	LEVEL	POST MEDIEVAL
8633	SH73552695	COED TYDDYN GWLADYS LEVEL IV	LEVEL	POST MEDIEVAL
8634	SH73632712	COED TYDDYN GWLADYS LEAT	LEAT	POST MEDIEVAL
8640	SH73072431	PEN RHOS CLEARANCE CAIRN I	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8641	SH73092431	PEN RHOS CLEARANCE CAIRN II	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8642	SH73072429	PEN RHOS CLEARANCE CAIRN III	CAIRN - FIELD CLEARANCE	POST MEDIEVAL
8653	SH70201963	LLANELLYD MINE	MINE	POST MEDIEVAL
8658	SH73982255	GLASDIR TRAMWAY	TRAMWAY	POST MEDIEVAL
8660	SH74092258	GLASDIR MINE STRUCTURE III	STRUCTURE	POST MEDIEVAL
8661	SH74092257	GLASDIR MINE STRUCTURE IV	STRUCTURE	POST MEDIEVAL
8662	SH74072256	GLASDIR MINE STRUCTURE V	STRUCTURE	POST MEDIEVAL
8666	SH73132175	HAFOD Y FEDW LEVEL I	LEVEL	POST MEDIEVAL
8667	SH73152220	HAFOD Y FEDW LEVEL II	LEVEL	POST MEDIEVAL
8669	SH74822454	CEUNANT HYLL LEVEL	LEVEL	POST MEDIEVAL
8671	SH74772446	CEUNANT HYLL LEVEL	LEVEL	POST MEDIEVAL
8672	SH74782506	GALLT DOLFRWYN OG SHAFT	SHAFT	POST MEDIEVAL
8673	SH74752496	GALLT DOLFRWYN OG SHAFT	SHAFT	POST MEDIEVAL
8674	SH74842506	AFON WEN BUILDING	BUILDING	POST MEDIEVAL
8707	SH73562658	CWM HEISIAN LEVEL	LEVEL	POST MEDIEVAL
8708	SH73642665	CWM HEISIAN LEVEL	LEVEL	POST MEDIEVAL
8709	SH73602663	CWM HEISIAN SHAFT	SHAFT	POST MEDIEVAL
8711	SH73612745	COED CWM HEISIAN LEVEL	LEVEL	POST MEDIEVAL
8712	SH73282661	TYDDYN GWLADYS LEVEL I	LEVEL	POST MEDIEVAL
8713	SH73362677	TYDDYN GWLADYS LEVEL II	LEVEL	POST MEDIEVAL
8744	SH73722774	CWM HEISIAN (WEST) SHAFT	SHAFT	POST MEDIEVAL
8745	SH74062814	CWM HEISIAN (EAST) LEVEL	LEVEL	POST MEDIEVAL
8746	SH73652763	PONT GILRHEDD BUILDING	BUILDING	POST MEDIEVAL
8747	SH72002700	DOLGYFEILIAU STONE STRUCTURE	STRUCTURE	UNKNOWN
8752	SH71462494	HAFOD-LAS BUILDING II	BUILDING	POST MEDIEVAL
8765	SH72532618	CEFN-DEUDDWR LANDSCAPE	LANDSCAPE	MULTI PERIOD
8774	SH73502452	PENRHOS LANDSCAPE	LANDSCAPE	MULTI PERIOD
8795	SH77565756	DIOSGYDD UCHAF ENCLOSURES	ENCLOSURE	POST MEDIEVAL
8817	SH78406070	RHAIDYRWST MINE	LEAD MINE	POST MEDIEVAL
8822	SH78746117	COED FFRITH SIAN SHAFTS AND LEVELS	LEAD MINE	POST MEDIEVAL
8835	SH77185764	COED MAWR POOL AFON LLUGWY MILL	MILL	MODERN
8860	SH77185767	COED MAWR POOL AFON LLUGWY BRIDGE PIERS	PIER, BRIDGE	MODERN
8862	SH78126010	HAFNA MILL WORKSHOPS/STORES/MINE OFFICE	BUILDING	MODERN
8970	SH74336077	PARC Y HENDRE SHEEPFOLD I	SHEEPFOLD	POST MEDIEVAL
8979	SH76345828	COED PENCRAIG SHEEPFOLD I	SHEEPFOLD	POST MEDIEVAL
8998	SH71645736	BRYN ENGAN	FARMSTEAD	POST MEDIEVAL
9043	SH78626130	LLETTY TRIAL LEVEL	LEVEL	POST MEDIEVAL
9044	SH78736075	FFRIDD SIAN TRIAL LEVEL	LEVEL	POST MEDIEVAL

9536	SH84713112	WENALLT	CAIRN	PREHISTORIC
9544	SH89703300	COED CERRIG HWDION	QUARRY	UNKNOWN
9556	SH93883758	CEUNAN MORGAN FOOTBRIDGE	FOOT BRIDGE	UNKNOWN
9560	SH92023928	COED FFRIDD-WEN	WALL	UNKNOWN
9561	SH92003934	COED FFRIDD-WEN	WALL	UNKNOWN
9562	SH92053933	COED FFRIDD-WEN	WALL	UNKNOWN
9610	SH84852917	CWM MAES-GWYN	SHEEPFOLD	UNKNOWN
9745	SH63385034	CROSSLY	BUILDING	UNKNOWN
9824	SH60563390	COED PENMAEN BUILDING 2	BUILDING	UNKNOWN
11228	SH45265481	BUILDING FOUNDATIONS, GLYNLLIFON	BUILDING	UNDETERMINED
11334	SH78956097	NANT-ISAF	BUILDING	POST MEDIEVAL
11849	SH64843964	FELINRHYDFAWR, FORGE ETC.	BUILDING	POST MEDIEVAL
12205	SH78515635	HENDRE RHYS GETHIN	BUILDING	POST MEDIEVAL
13046	SH76636323	WALL	WALL	UNDETERMINED
13150	SH75636227	WALL	WALL	UNDETERMINED
13151	SH75586228	WALL	WALL	UNDETERMINED
13154	SH75676224	WALL	WALL	UNDETERMINED
20155	SH77905330	CHWAREL GLYN LLEDR	SLATE QUARRY	POST MEDIEVAL
20160	SH78806100	GWYDIR	SLATE QUARRY	POST MEDIEVAL
20350	SH89703300	COED CERRIG HWDION	SLATE QUARRY	POST MEDIEVAL
20379	SH70201840	FFRIDD ISAF	SLATE QUARRY	POST MEDIEVAL
20432	SH70000890	MAES Y PANDY	SLATE QUARRY	POST MEDIEVAL
20470	SH74900290	AFON DULAIS	SLATE QUARRY	POST MEDIEVAL
20630	SH68502070	GOLD MINE, CAE MAB SIFION 1	GOLD MINE	POST MEDIEVAL
20674	SH69504330	GOLD LEVEL, CYMERAU UCHAF	GOLD LEVEL	POST MEDIEVAL
20691	SH78706080	LEAD MINE, FFRIDD SIAN	LEAD MINE	POST MEDIEVAL
20756	SH65503910	LEVEL, COED CAE'N Y COED	LEVEL	POST MEDIEVAL
20768	SH63004040	LEAD TRIAL, AFON CAE FALI	TRIAL	POST MEDIEVAL
20849	SH72900120	QUARRY/LEVEL, COED Y MARCHLYN, MACHYNLLETH	QUARRY	POST MEDIEVAL
20859	SH70101960	PRINCE OF WALES GOLD MINE, LLANELLYD	GOLD MINE	POST MEDIEVAL
20871	SH73902250	COPPER/GOLD MINE, GLASDIR	MINE	POST MEDIEVAL
20878	SH74602440	GOLD MINE, FFRIDD GOCH	GOLD MINE	POST MEDIEVAL
20883	SH73202230	GOLD TRIAL, GELLI GEMLYN	LEVEL	POST MEDIEVAL
20885	SH73902290	GOLD TRIAL, BRYN PRYDYDD	TRIAL	POST MEDIEVAL
20897	SH74202260	LEVEL, GLASDIR	LEVEL	POST MEDIEVAL
20898	SH74702460	LEVEL, ALLT PEN Y BRYN	LEVEL	POST MEDIEVAL
20900	SH73102170	LEVEL, FFRIDD GELLI GEMLYN	LEVEL	POST MEDIEVAL
20903	SH73702770	GOLD/COPPER MINE, CWM HEISIAN WEST	MINE	POST MEDIEVAL
20905	SH73602670	GOLD MINE TYDDYN GWLADYS	GOLD MINE	POST MEDIEVAL
20906	SH72502820	GOLD/COPPER MINE, BWLCH Y FFRDD	MINE	POST MEDIEVAL
20908	SH73502630	GOLD MINE, CEFN DEUDDWR	GOLD MINE	POST MEDIEVAL
20910	SH74102820	GOLD MINE, CWM HEISIAN EAST	GOLD MINE	POST MEDIEVAL
20913	SH73502500	GOLD TRIAL, CAE'N Y COED	TRIAL	POST MEDIEVAL
20921	SH74802540	SULPHUR SHAFTS, COED DOLFRWYNOG	SHAFT	POST MEDIEVAL
21028	SH78206240	QUARRY, HAFOD PLANTATION	QUARRY	POST MEDIEVAL
21042	SH77107310	QUARRY, TY HWNT IR FFRWD	QUARRY	POST MEDIEVAL
21109	SH80505720	LEAD MINE, FFRIDD RHEDYN	LEAD MINE	POST MEDIEVAL
21113	SH80605660	LEAD SHAFT, RHYD Y CREUA PLANTATION	SHAFT	POST MEDIEVAL
21114	SH80405680	LEAD SHAFT, TALFRYN	SHAFT	POST MEDIEVAL
21181	SH73602710	GUNPOWDER MILL, TYDDYN GWLADYS NR DOLGELLAU	MILL	MODERN
21568	SH78406070	CLOGWYN GWLYB MINE	LEAD MINE	POST MEDIEVAL
21591	SH79006110	FELIN BLWM	LEAD MILL	POST MEDIEVAL
21611	SH78306160	GREAT D'ERESBY MINE	LEAD MINE	POST MEDIEVAL
21628	SH78506150	LETTY MINE	LEAD MINE	POST MEDIEVAL
21681	SH78406070	RHAIDRWST MINE	LEAD MINE	POST MEDIEVAL
21753	SH74852449	CEUNANT HYLL MINE	GOLD MINE	POST MEDIEVAL
21754	SH70101960	CHAMPION REEFS MINE	GOLD MINE	POST MEDIEVAL
21767	SH74102820	CWM Y SWM MINE	GOLD MINE	POST MEDIEVAL
21770	SH73802770	CWM HEISIAN WEST MINE	LEAD MINE, GOLD MINE	POST MEDIEVAL
21822	SH69901960	HAFOD Y MORFA WEST MINE	MINE	POST MEDIEVAL
21912	SH74102820	FOEL GWYNFYNYDD MINE	GOLD MINE	POST MEDIEVAL

Summary by site type

Site type	Count
Agricultural building	1
Aqueduct	1
Bank	1
Barn	2
Bloomery	3
Building	14
Cairn	2
Cairn - field clearance	10
Enclosure	1
Farmstead	1
Field system	1
Findspot	2
Foot bridge	1
Gold level	1
Gold mine	10
Hillfort	1
Hut circle	4
Hut circle settlement	2
Hut circle, long hut	1
Landscape	2
Lead mill	1
Lead mine	8
Lead mine, gold mine	1
Leat	1
Level	30
Lime kiln	1
Milestone	1
Mill	2
Mine	5
Park	1
Pier, bridge	1
Quarry	6
Reservoir	1
Shaft	10
Sheepfold	8
Slate quarry	6
Stepping stones	1
Structure	8
Tank	1
Tramway	2
Trial	3
Trial level	2
Wall	7
Winding drum	1

Summary by chronological period

Period	Count
Prehistoric	8
Romano-British	2
Medieval	3
Post-Medieval	121
?Post-Medieval	1
Modern	13
Multi-period	2
Undetermined	19

APPENDIX II

Species nomenclature

alder (*Alnus glutinosa*)
ash (*Fraxinus excelsior*)
beech (*Fagus sylvatica*)
bilberry (*Vaccinium myrtillus*)
birch (*Betula pubescens*)
bog moss (*Sphagnum* sp)
bog myrtle (*Myrica gale*)
bracken (*Pteridium aquilinum*)
bramble (*Rubus fruticosus*)
cherry (*Prunus* sp)
dog's mercury (*Mercurialis perennis*)
Douglas fir (*Pseudotsuga menziesii*)
golden saxifrage (*Chrysosplenium oppositifolium*)
greater fork moss (*Dicranum majus*)
hazel (*Corylus avellana*)
heather (*Calluna vulgaris*)
holly (*Ilex aquifolium*)
ivy (*Hedera helix*)
lime, small-leaved (*Tilia cordata*)
pedunculate or common oak (*Quercus robur*)
purple moor grass (*Molinia caerulea*)
rowan (*Sorbus aucuparia*)
sessile or western oak (*Quercus petraea*)
sycamore (*Acer pseudoplatanus*)
white fork moss (*Leucobryum glaucum*)
willow (*Salix* sp)
wood sorrel (*Oxalis acetosella*)
yellow pimpernel (*Lysimachia nemorum*)

APPENDIX III

Gazetteers of sites within the woodland survey areas

i. Coed Cymerau Isaf

PRN	Site name	Site type	Period	Site category
942	Terrace of derelict cottages and associated field system	Cottages, field system	Post Medieval	B
16171	Relict walling / possible former enclosure	Wall, terrace	Undetermined	C
16172	Terraced trackway	Trackway	Post Medieval	D
16173	Footpaths and trackways	Paths, trackways	Post Medieval	D
16174	Rectangular sheepfold	Sheepfold	Post Medieval	C
16175	Trackway	Trackway	Post Medieval	C
16178	Small shelter / shooting butt	Shooting butt	Post Medieval	C
16179	Small stand of hazels, apparently coppiced	Coppice	Post Medieval	C
16180	Field clearance / possible relict enclosure	Enclosure, wall	Undetermined	C
16182	Relict wall and terraced field plot	Terrace	Undetermined	D
16184	Linear field clearance piles	Caim - field clearance	Undetermined	C
16185	Hazel coppice	Coppice	Post Medieval	
16186	Irregular-shaped fold	Pen	Medieval/Post Medieval	C
16187	Tumbled wall	Wall	Post Medieval	D

ii. Coed Dolgarrog

PRN	Site name	Site type	Period	Site category
16191	Paths and trackways	Paths, trackways	Post Medieval	D
16195	Iron pipelines – Dolgarrog hydro-electric plant	Pipeline	Modern	B
16227	Incline	Incline	Post Medieval	C
16228	Winding house	Drumhouse	Post Medieval	C
16319	Zig-zag path	Path	Undetermined	D
16320	Steep pathway	Path	Undetermined	D
16321	Hydro-electricity works buildings	Buildings	Modern	B
16322	Incline	Incline	Post Medieval	B
16323	Relict wall	Wall	Medieval?	D
16324	Series of slight terraces	Terraces	Medieval?	C
16325	Possible long hut	Long hut	Medieval	C
16327	Coppiced hazel stools	Coppice	Post Medieval	C
16328	Possible relict wall	Wall	Undetermined	D
16329	Length of relict dry-stone walling	Wall	Undetermined	D
16330	Iron gate, 'estate' style	Gate	Post Medieval	D
16333	Small trial (mineral or slate)	Trial	Post Medieval	C
16334	Boulder revetting	Revetment	Undetermined	D
16335	Overgrown path / trackway	Path, trackway	Undetermined	D
16336	Alder coppice	Coppice	Post Medieval	C
16337	Relict walls	Wall	Undetermined	D
16338	Possible long hut	Long hut	Medieval	C
16339	Ty'n y Gerddi, Post medieval farmstead	Farmstead	Post Medieval	C
16340	Terraces, platforms, walls and path / trackways	Terraces, walls, platforms	Undetermined	C
16342	Relict building and terraces	Structure – rectangular, terraces	Medieval/Post Medieval	B
20149	Porthllwyd slate quarry	Slate quarry	Post Medieval	C

iii. Coed Llety Walter

PRN	Site name	Site type	Period	Site category
16232	Building footings	Building	Post Medieval	C
16233	Pathway	Path	Post Medieval	D
16234	Walling / possible platforms	Walls, platforms	Undetermined	C
16235	Polygonal enclosure of dry-stone walling	Enclosure	Post Medieval	C
16236	Network of paths / trackways	Paths, trackways	Post Medieval	C
16237	Hilltop enclosure	Enclosure	Prehistoric	A
16238	Possible hut circle	Hut circle	Prehistoric	A
16239	Clearance cairns	Cairn - field clearance	Prehistoric	A
16240	Clearance cairn	Cairn - field clearance	Prehistoric	A
16241	Clearance cairn	Cairn - field clearance	Prehistoric	A
16242	Possible shooting butts	Shooting butt	Post Medieval	C
16244	Hilltop enclosure	Enclosure	Prehistoric	A
16245	Former pond	Pond	Post Medieval	C
16246	'Estate' wall	Wall	Post Medieval	C
16247	Hill top enclosure	Enclosure	Prehistoric	A
16248	Revetted trackway	Trackway	Post Medieval	D
16249	Low stone bank, probable relict wall	Wall	Post Medieval	D
16250	Dry-stone fold built against dry-stone wall	Sheepfold	Post Medieval	C
16251	Dry-stone fold built against dry-stone wall	Sheepfold	Post Medieval	C
16252	Small platform, possible hut circle?	Platform, hut circle	Prehistoric	B
16253	Possible long hut	Long hut	Medieval	B
16254	'Cwrt' - post medieval cottages and enclosure	Cottages, enclosure	Post Medieval	B
16255	Oval dry-stone enclosure	Enclosure	Post Medieval	C
16256	Long hut	Long hut	Medieval	B
16257	Boathouse	Boathouse	Post Medieval	C
16258	Step stile in dry-stone wall	Stile	Post Medieval	D
16259	Dry-stone wall	Wall	Post Medieval	D
16260	Relict walls	Walls	?Medieval, post medieval	C
16261	Traces of walling	Wall	?Prehistoric	C
16262	Fish pond / boating lake	Fishpond, boating lake	Post Medieval	C
16343	Tracks / pathways	Paths, trackways	Post Medieval	D
16344	'Estate' wall	Wall	Post Medieval	D
16346	Rhomboid dry-stone enclosure	Enclosure	Post Medieval	C

iv. Coed Hafod Garregog

PRN	Site name	Site type	Period	Site category
5021	Settlement and field system	Settlement, field system	Undetermined	A
5022	Hut circle	Hut circle	Prehistoric	A
5218	Hut circle or ring cairn	Hut circle	Romano British	A
16189	Trackway	Trackway	Undetermined	C
16190	Relict wall, cleared enclosure	Enclosure	Medieval/Post Medieval	A
16192	Settlement / farmstead	Settlement, farmstead	Medieval/Post Medieval	A
16193	Possible building remains	Structure – rectangular	Medieval/Post Medieval	E
16194	Pair of small platforms	Platform	Undetermined	E
16196	Revetted track	Trackway	Undetermined	C
16199	Dry-stone fold	Sheepfold	Post Medieval	C
16200	Building remains / clearance pile	Structure	Undetermined	C
16202	Dry-stone fold	Sheepfold	Post Medieval	C
16203	Orchard	Orchard	Post Medieval/Modern	C
16204	Revetted path	Path	Undetermined	D
16205	Dry-stone wall	Wall	Post Medieval	D
16206	Platform	Platform	Undetermined	E
16207	Dry-stone fold	Sheepfold	Post Medieval	C
16208	Area of possible terraces	Terraces	Undetermined	E
16209	Ruinous cottage	Cottage	Post Medieval	C
16210	Long hut	Long hut	Medieval	B
16211	Derelict post medieval farmstead	Farmstead	Post Medieval	C
16212	Terraced pathway	Path	Undetermined	D

v. Coed Dolgun

PRN	Site name	Site type	Period	Site category
16214	Relict dry-stone wall	Wall	Medieval/Post Medieval	D
16215	Possible burial cairn	Cairn, burial	Prehistoric	A
16216	?long hut	Long hut	Medieval	B
16217	Charcoal burning platform	Charcoal burning site		B
16218	Incline	Incline		C
16219	Trackways	Track		D
16220	Lyncheted bank with series of field stone clearance	Bank		D
16221	Stone pillar - probable gatepost	Gate post	Post Medieval	D
16222	Dry-stone fold	Sheepfold	Post Medieval	C
16223	Winding house	Drumhouse	Post Medieval	C
16224	Pathway	Path	Post Medieval	D
16225	Quarry trial	Trial	Post Medieval	C
16226	Platforms, possibly natural	Platforms	Undetermined	E
16229	Quarry trackway	Trackway	Post Medieval	C
20390	Dolgun Quarry	Slate quarry	Post Medieval	C

vi. Coed Cors y Gedol

PRN	Site name	Site type	Period	Site category
6630	Circular feature / possible hut circle	Hut circle	Undetermined	B
6631	Area of clearance cairns	Cairn - field clearance	Post Medieval	?B/
6632	Possible stone bank	Bank	?Post Medieval	C
6633	Enclosed hut circle / long hut settlement	Hut circle, long hut	Prehistoric, Medieval	A
6634	Area of clearance cairns	Cairn - field clearance	Prehistoric	C
6635	Possible hut circle	Hut circle	Prehistoric	B
6636	Possible hut circle	Hut circle	Prehistoric	B
6637	Field? banks	Stone banks, field system	Prehistoric	B
16263	Robbed out dry-stone wall (consumption wall)	Wall	Post Medieval	D
16264	Relict drystone wall	Wall	Post Medieval	D
16265	Relict wall footings	Wall	Undetermined	D
16266	Relict wall footings	Wall	Post Medieval	D
16267	Relict field boundaries	Stone banks, field system	Prehistoric	B
16268	Low stone bank	Stone bank	Prehistoric	C
16269	Iron 'estate style' gate	Gate	Post Medieval	D
16270	Midden pit	Midden pit	Post Medieval	C
16271	Area of cairns and possible field banks	Cairns - field clearance, stone banks	Prehistoric	B
16272	Enclosure with 2 hut circles	Hut circle, enclosure	Prehistoric	A
16273	Relict dry-stone wall	Wall	Post Medieval	D
16274	Area of clearance cairns	Cairns - field clearance	Prehistoric	B
16275	Possible hut circle	Hut circle	Prehistoric	B
16276	Removed wall	Wall	Post Medieval	D
16277	Dry-stone wall (consumption wall)	Wall	Post Medieval	C
16278	Clearance cairn / possible hut circle	Cairns - field clearance	Prehistoric	B
16279	Dry-stone wall (consumption wall)	Wall	Post Medieval	C
16280	Area of clearance cairns	Cairns - field clearance	Prehistoric	?B/
16281	Possible cairns / clearance piles	Cairns - field clearance	Prehistoric	E
16282	Area of cairns and possible relict wall lines	Cairns - field clearance	Prehistoric	B
16283	Tumbled dry-stone wall	Wall	Undetermined	D
16284	Irregular shaped clearance pile	Stone clearance pile	Undetermined	C
16285	Paths and tracks	Paths, trackways	Post Medieval	
16286	Cleared patch of ground / plot	Cleared plot	Undetermined	C
16289	Rectangular building footings	Structure - rectangular	Undetermined	C
16290	Electricity turbo generator house	Building	Modern	C
16291	Leat	Leat	Modern	C
16292	Terrace	Terrace	Undetermined	D
16293	Goose pen or garden feature	Pen / garden feature		C

16294	Goose pen or garden feature	Pen / garden feature		C
16295	Circular structure - possible garden feature	Garden feature	Post Medieval	C
16296	Small topsoil / surface stone quarry	Pit	Post Medieval	
16297	Field? Terrace	Terrace	Prehistoric	B
16298	Area of possible features - traces of walling	Wall	Undetermined	E
16299	Area of possible terraces and relict walls	Wall	Undetermined	E
16300	Substantial 'estate style' wall	Wall	Post Medieval	C
16301	Possible relict wall	Wall	Undetermined	D
16302	Walled drove track	Trackway	Post Medieval	D
16303	Dry-stone walled enclosure	Enclosure, pen	Post Medieval	C
16304	Building remains	Building	Undetermined	C
16305	Hut circle	Hut circle	Prehistoric	A
16306	Hut circle	Hut circle	Prehistoric	A
16307	Small oval enclosure	Enclosure	Prehistoric	?A
16308	Enclosure wall and relict	Enclosure, stone bank	Prehistoric	?A
16309	Slight hollowayed trackway	Holloway	Undetermined	D
16310	Rubble bank	Stone bank	Prehistoric	B
16311	Field? banks	Stone bank, field system	Prehistoric	B
16312	Field? banks	Stone bank, field system	Prehistoric	B
16313	Area of clearance cairns	Cairn - field clearance	Prehistoric	B
16314	Relict wall	Wall	Prehistoric	B
16315	Clearance cairn / possible burial cairn	Cairn, ? Burial	Prehistoric	B
16316	Possible relict walls	Wall	Prehistoric	B