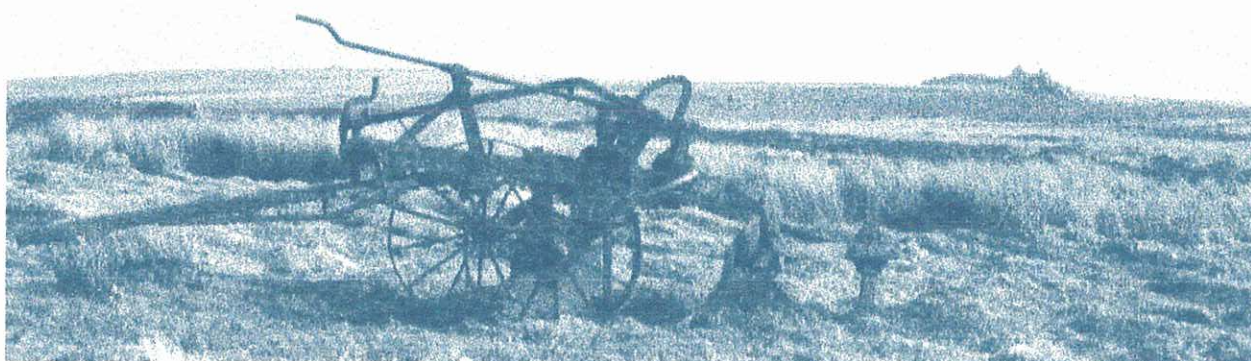


DYFED ARCHAEOLOGICAL TRUST

01/12/99

REVIEW OF UPLAND ARCHAEOLOGY IN DYFED: 1989-1999



Commissioned by
RCAHMW

Written by:
PAUL SAMBROOK
and
D. Benson, J. Hall
and H Wilson

ACA Report No. PRN 39406
December 1999



A R C H A E O L O G
CAMBRIA
A R C H A E O L O G Y

CONTENTS

1. Introduction	2
2. Upland Projects 1989-99	3
2.1 RCAHMW Funded Projects: The Uplands Initiative	
2.2 Projects Exclusively or Principally Grant-Aided by Cadw	
2.3 Projects Exclusively or Principally Grant-Aided by Other Sources	
2.4 Forest Enterprise and other forest/woodland related projects	
2.5 Other Field Projects Relevant to Upland Archaeology in Dyfed	
2.6 Environmental Analyses	
2.7 Aerial Photography	
2.8 Other Funded Ground Surveys	
3. The Changing Context of Upland Archaeology 1989-99	25
3.1 The Development of Archaeological Practices	
3.2 Upland archaeology and the regional SMR in 1999	
3.3 Analysis of SMR by Period	
3.4 SAMs	
3.5 Threats to upland archaeology	
3.6 Conservation	
3.7 Communicating Upland Archaeology	
4. Conclusions	57
4.1. The Past Decade 1989-1999	
4.2. Needs and Opportunities in the Next Decade	
5. Statistical Analysis Of Archaeological Investigations 1989-99	62
5.1 Sources	
5.2 Gazetteers	
5.3 Statistical breakdown of Gazetteer A	
5.4 Statistical breakdown of Gazetteer B	
APPENDIX 1: GAZETTEER A	72
APPENDIX 2: GAZETTEER B	86
BIBLIOGRAPHY	91

1. INTRODUCTION

In 1984, the Countryside Commission produced a report of the uplands in England and Wales: *A Better Future for the Uplands*, which led to the 1986 CBA/RCAHME report: *The Archaeology of the Uplands: a Rapid Assessment of Archaeological Knowledge and Practice*, accompanied by a shorter and more popular report *Upland Archaeology: what future for the past?*

Following this example, Cadw: Wales Historic Monuments launched its own 'Uplands Initiative' in 1987. Assessment reports on the work required on upland archaeology were commissioned from each of the 4 regional Welsh Archaeological Trusts, and a pan-Wales summary produced. In 1989, the Dyfed Archaeological Trust (henceforth DAT) produced its own report *Upland Archaeology in Dyfed: A Preliminary Assessment* as a part of this programme.

Subsequently, in 1992, the responsibility for direction, funding and administration of the 'Uplands Initiative' was transferred from Cadw to the RCAHMS. A newsletter on the initiative was produced and an 'Upland Forum' established¹. Thereafter, emphasis was given to rapid survey projects and in 1993, the RCAHMS devised a number of appropriate criteria for grant-aid. These resulted in identification of priority areas on a definitive map produced in its Annual Report for 1994-5.

During the last decade, in addition to projects directly funded by the RCAHMS, a whole range of other survey and recording work has taken place, under the auspices of a variety of agencies, as well as through the continuing efforts of private individuals. At a meeting of the Upland Forum in January 1998, there were several calls for overall update and review of work in the uplands. This present survey is therefore aimed at reviewing the current position of upland archaeology in Dyfed. Throughout this review, the starting point for comparative purposes is the DAT's 1989 publication.

Though Dyfed as a county unit has disappeared following the reorganisation of local government in Wales during the late 1990s, the Dyfed name has been retained for the purposes of this report and is used to describe the regional area comprising the present unitary authorities of Carmarthenshire, Ceredigion and Pembrokeshire.

¹ Browne, DM, 1992, *The Uplands Initiative: A Strategy for Archaeology in the Uplands of Wales*, CBA Wales Newsletter No.3 pp 1-4

2. UPLAND PROJECTS 1989-99

The following section provides an overview of the projects identified by this synthesis as having been carried out in the region's uplands during the period 1989-99. It includes Trust and non-Trust work.

A series of 11 maps are provided to show the geographical location of these projects. The projects discussed in the following text and represented on the accompanying maps are also listed in the gazetteers in section 5 of this report.

In the following text, each project is identified by its Primary Record Number (PRN).

2.1 RCAHMW Funded Projects (Maps 1 & 2)

RCAHMW grant-aided projects carried out as part of the Uplands Initiative comprised a series of rapid blanket surveys, defined as the rapid ground search of defined geographical areas, systematically transecting all ground within the area, involving the mapping of individual monuments of all periods and types at a 1:10000 scale, supported where appropriate by site sketch surveys. Up to 1989, only one project had been undertaken which could be considered to fall into this category (P. Drewitt's Preseli Survey).

As a major original objective of the Uplands Initiative and one aimed at identifying the basic content of the Uplands' archaeological resource, the number of projects of this type carried out in Dyfed since 1989 is disappointingly few;

Only two self-contained projects fall strictly into this category, DAT's 1994-95 **Llyn Brianne Survey** (PRN29800), Ceredigion and their 1995-96 **Mynydd Mallaen Survey** (PRN 37752), Carmarthenshire.

To these may be added areas in the Rheidol, Castell and upper Ystwyth valleys in Ceredigion which were systematically searched by DAT and CPAT as RCAHMW grant-aided elements within the broader based **Mynydd y Ffynnon Project**. The RCAHMW element of the project was carried out as three separate pieces of work;

- Mynydd y Ffynnon Field Survey (1996) (PRN 34440)
- Castell/Rheidol Upland Survey (1997) (PRN 34854)
- Cwmystwyth Survey (1997) (PRN 35184)

An allied project was the **Blaencaron Survey** (PRN 14800), the fieldwork of which was actually undertaken prior to the formulation of the rapid survey programme but for which RCAHMW grant-aid, as part of the Uplands Initiative, was awarded to DAT for the production of the survey report. This project identified a remarkable number of new sites and was a significant contribution in keeping with the Initiative's objectives.

The only other Upland Initiative grant for ground survey work was to the Brecon Beacons National Park as a contribution to a survey of the **Garn Goch** complex near Llangadog, Carmarthenshire (PRN 34709). A management plan was produced through a combination of field survey and AP based observations.

The **Ceredigion Metal Mines Assessment** (PRN 39008) was an RCAHMW grant-aided project through the Upland Initiative but not a project in the mainstream of the Upland Initiative's objectives. At the time, it was a response to the developing pressures on metal mine sites. These pressures were driven in particular by the Dyfed County Council's Cambrian Mountains Metal Mines Project. The Council's project, supported by the WDA, aimed at providing a variety of solutions to the perceived problems represented

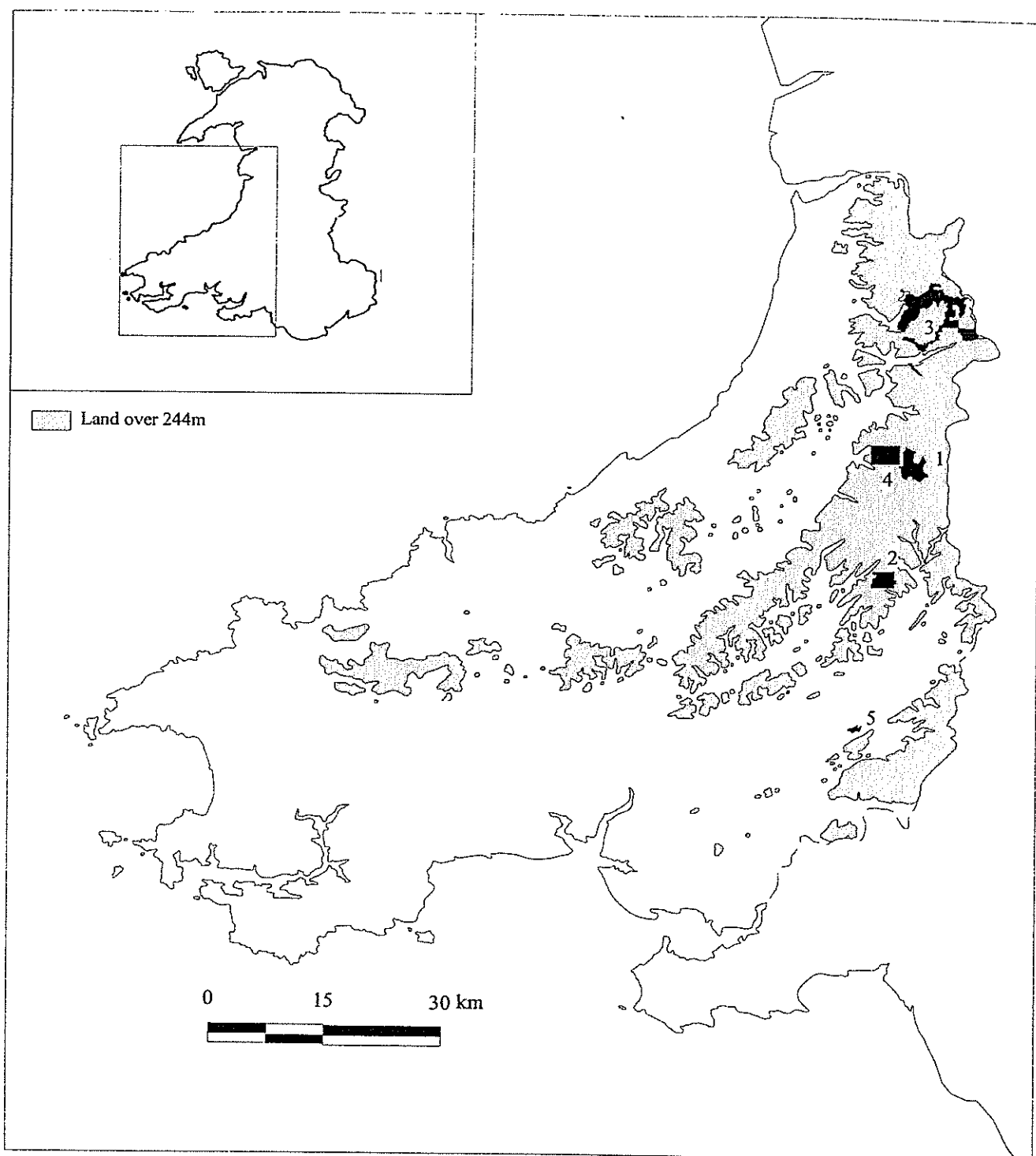
by derelict metal mines in the Cambrian Mountain area: many of these 'solutions' seriously threatened the historical and archaeological integrity of individual sites. The RCAHMW-funded project was designed to provide an up-to-date gazetteer of Ceredigion metal mines, utilising the work of the National Museum of Wales, and in particular, the knowledge and expertise of R. Protheroe-Jones. Over 200 metal mine sites were included in the assessment, enabling the Trust to ensure that more detailed survey and recording, and in some cases, archaeological evaluation by excavation, took place. (See Map 2).

Table 1. Details of RCAHMW funded Rapid Blanket Survey Projects 1989-99

Survey	PRN	Area km ²	Sites known	New Sites
Llyn Brianne	29800	9.5	11	50
Mynydd Mallaen	37752	6	8	232
Mynydd y Ffynnon (Part 1)	34440	6	5	29
Mynydd y Ffynnon (Castell/Rheidol)	34854	11	10	91
Mynydd y Ffynnon (Cwmystwyth)	35184	3*	2	30
Garn Goch	34709	1	8	25
Blaencaron	14800	2.5	33	307
Total km²		39	77	764

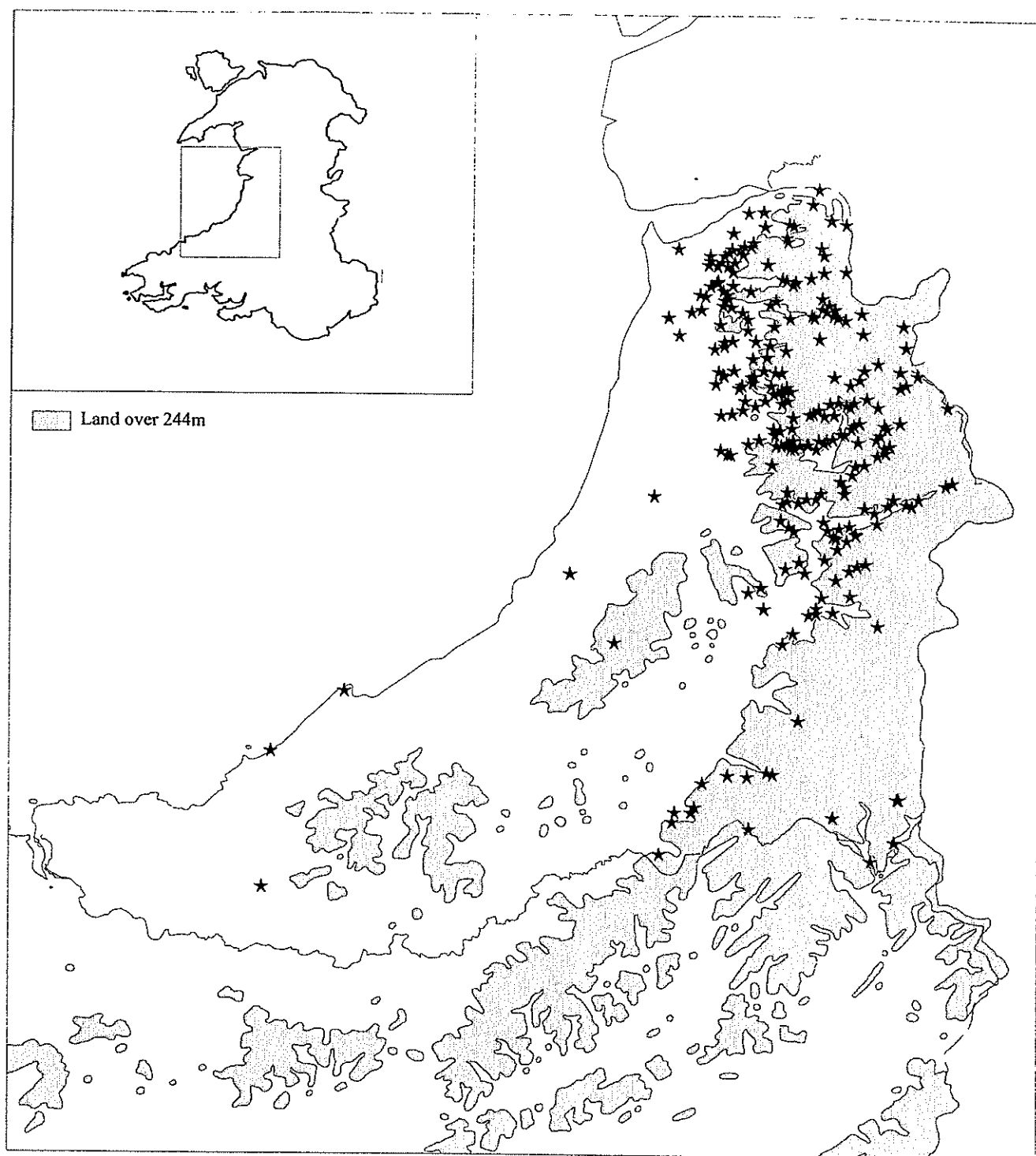
**Within Dyfed. More land was surveyed on the Powys side of the county border*

In summary, c.39km of upland has been covered by Uplands Initiative funded projects (or related projects in the case of the Blaencaron survey). The number of archaeological sites within that territory has increased from 77 to 764, almost a 1000% increase.



RCAHMW Funded Upland Initiative Projects

- 1 - Llyn Brianne 1994/5
- 2 - Mynydd Mallaen 1995/6
- 3 - Mynydd-y-Ffynnon (part)
- 4 - Blaencarron
- 5 - Carn Goch Survey 1995



Ceredigion Metal Mines Assessment

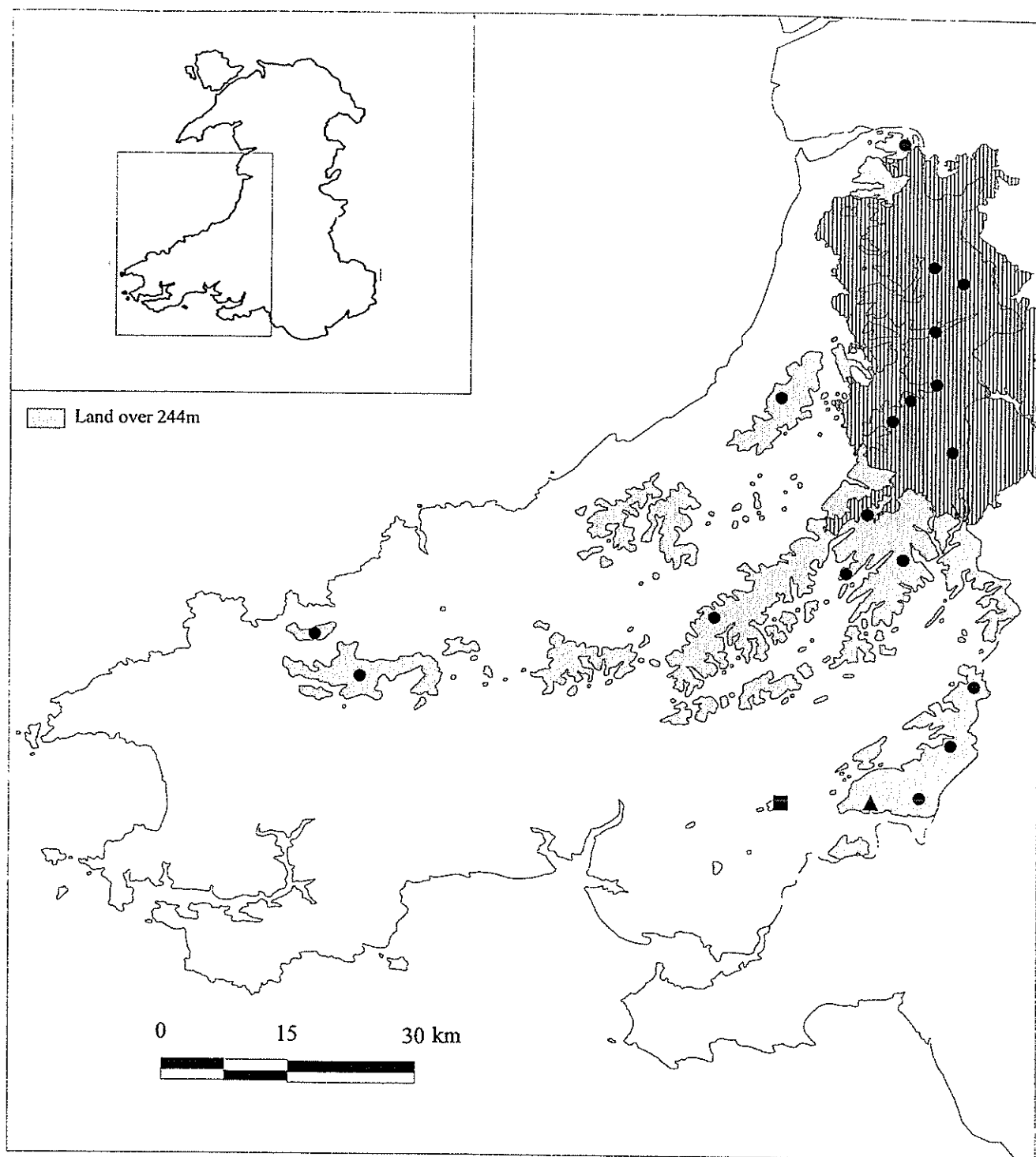
- ★ Metal mines recorded by R Protheroe-Jones through the Uplands Initiative

2.2 Projects Exclusively or Principally Grant-Aided by Cadw (Maps 3 & 4)

Projects involving Cadw grants directly to DAT were;

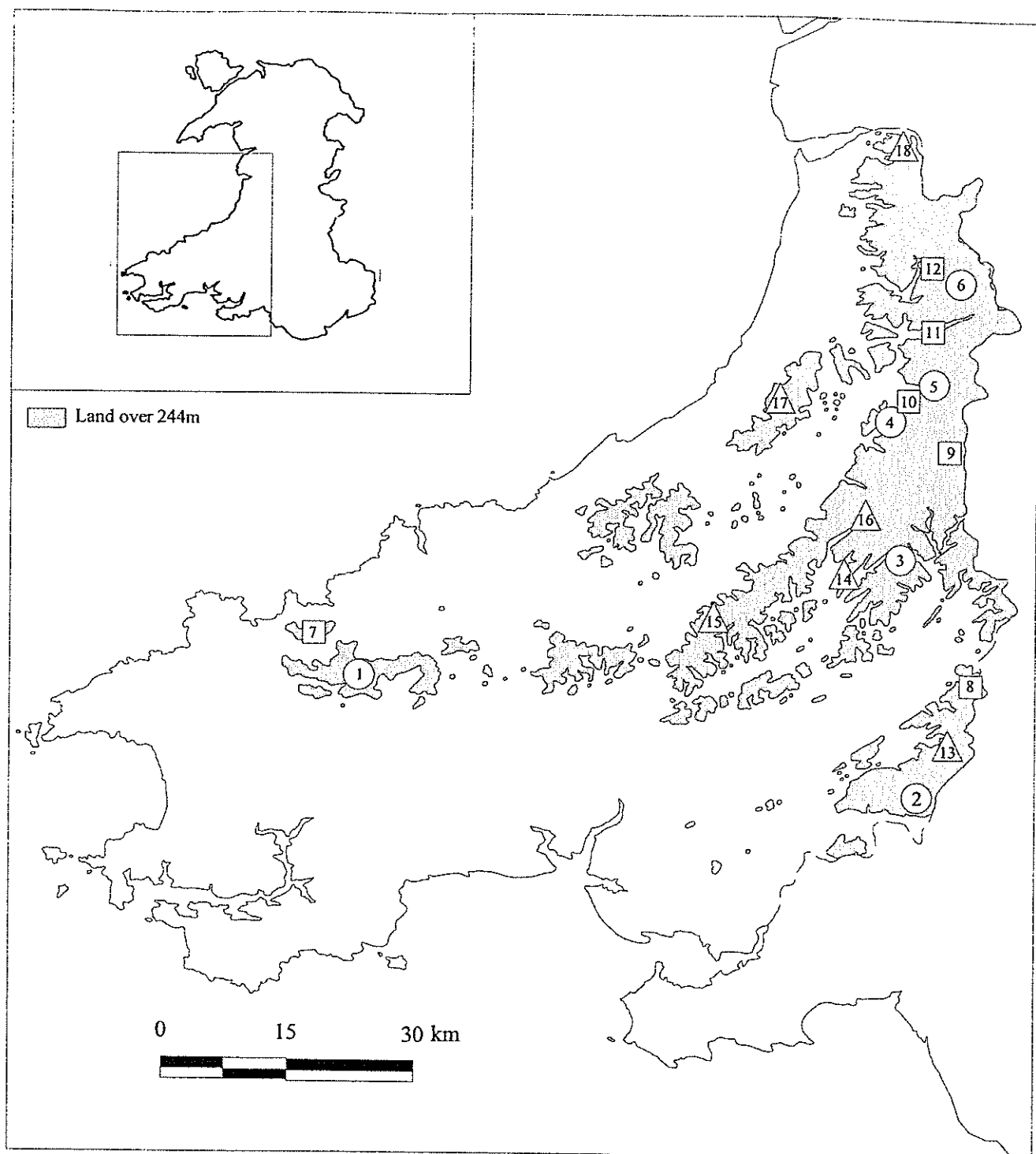
- **The Deserted Rural Settlements Projects**, (PRNs 32844; 35605; 35966) carried out between 1996-99, were of considerable impact. Three successive years of fieldwork, analysed the archaeological evidence for settlement in 6 study areas per year, all of which were in upland contexts or had an upland component. The studies carried out in each area used the SMR as a starting point. They did not employ systematic transect survey, but through the use of cartographic and documentary sources identified and visited over 400 new deserted settlement sites in addition to 374 previously known, records for which have generally been enhanced. The extensive use of documentary sources, historical territorial analysis, oral evidence and place-name analysis has meant that the project has contributed significantly to the understanding of the origins and development of deserted rural settlements in the uplands. This followed the emphasis given to these aspects in the Trust's 1989 upland report². (See Maps 3 & 4).
- **Historic Landscape Characterisation** (PRN 37149) was inaugurated in 1998 as a pan-Wales programme and focused on the Historic Landscape Register areas identified by Cadw and ICOMOS. The first Dyfed study was carried out by DAT in Upland Ceredigion. 132 separate character areas were identified and described. (See Map 3).
- **Tro'r Derlwyn** (PRN 35896), an uncompleted excavation carried out by DAT on a deserted settlement site on the south western side of the Carmarthenshire Black Mountain.
- **Alltygarn Cairn** (PRN 39122) Carmel, Carmarthenshire - a bronze age cairn threatened by quarrying, excavated by DAT
- **The Burnt Mounds Survey** - which was a project designed to validate and enhance the regional SMR and of only marginal relevance as no more than a dozen of the sites included were in the uplands (not included in gazetteer nor shown on Map 4).

² Benson D, 1989, *Upland Archaeology in Dyfed*. DAT, Abergwili.



Major Cadw-funded projects

- Deserted Rural Settlements Projects
- ▨ Upland Ceredigion Historic Landscape Characterisation
- ▲ Tro'r Derlwyn Excavation
- Alltygarn Excavation



Deserted Rural Settlements Project Survey Areas 1996/99

○ Year 1996/7

- 1 - Preseli Mountains
- 2 - Quarter Bach
- 3 - Mynydd Mallaen
- 4 - Caron-is-clawdd
- 5 - Cwmystwyth
- 6 - Perfedd 1

□ Year 1997/8

- 7 - Carningli
- 8 - Myddfai Common
- 9 - Caron-uwch-clawdd
- 10 - Gwnnws
- 11 - Llanfihangel y Creuddyn
- 12 - Perfedd 2

△ Year 1998/9

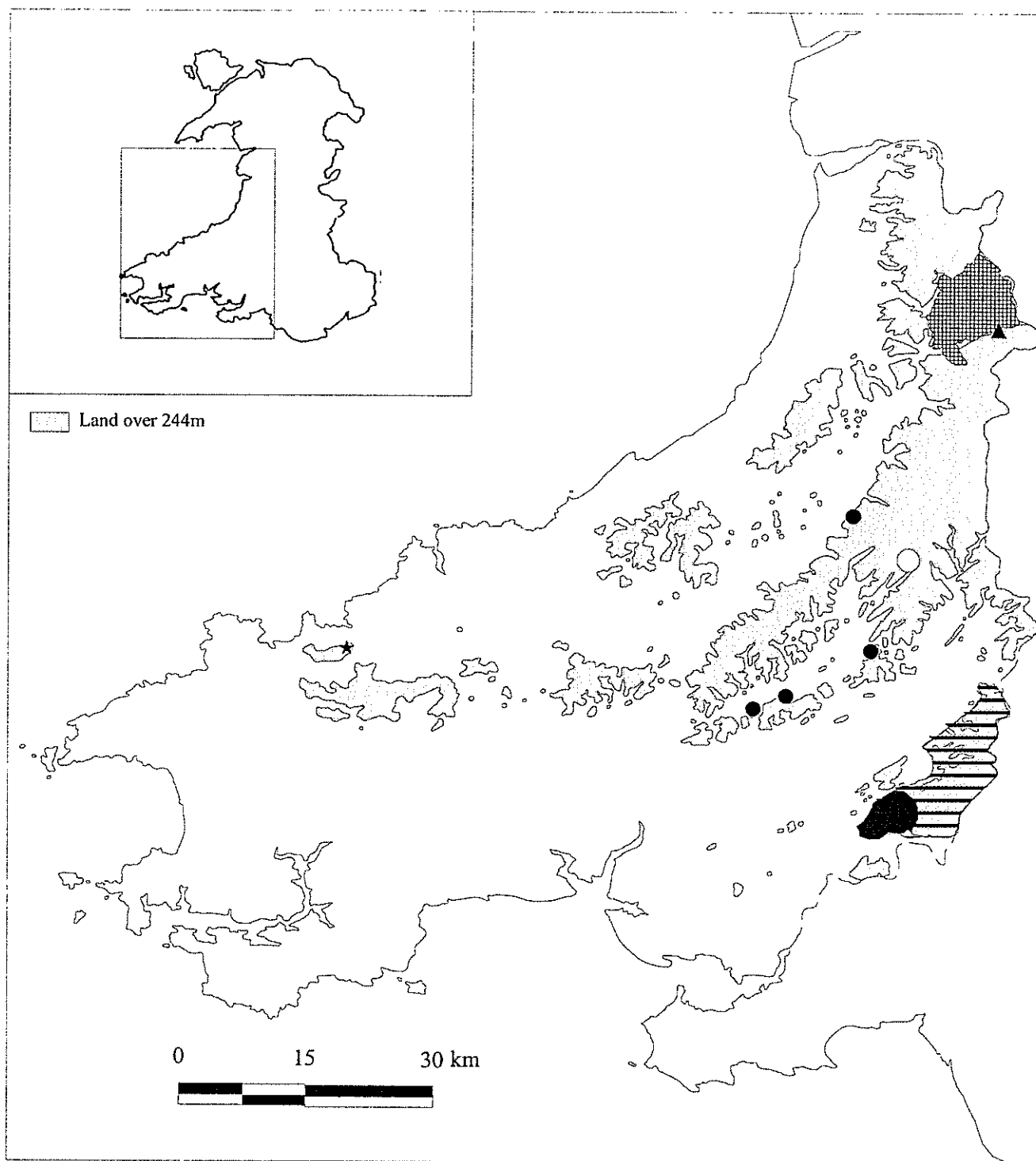
- 13 - Llanddeusant
- 14 - Cynwyl Gaeo
- 15 - Llanllwni
- 16 - Llanddewi Brefi
- 17 - Mynydd Bach
- 18 - Ysgubor y Coed

2.3 Projects Exclusively or Principally Grant-Aided by Other Sources (Map 5)







- **The Mynydd y Ffynnon Project** (PRNs 34854; 34440; 35184; 35247; 35915; 36950; 37102). This project was carried out jointly by DAT and CPAT, commissioned by ADAS and FE with European Funding under the Leader II programme, with an element of RCAHMW grant-aid to the Trusts under the Uplands Initiative). The project was focused on a large block of upland in north-east Ceredigion (and a smaller area on the Powys side of the border in Llangurig parish), defined by the four river valleys of the Rheidol, Castell, Wye and Ystwyth. It was conceived and presented as a pioneering project designed to restore the upland environment, and recognised the importance of the archaeological aspects of landscape studies. Ultimately the project developed into five stages, and the work was reported in seven reports, including a management document prepared for ADAS/FE and an FE funded Mynydd y Ffynnon Welsh Historic Assets report covering the FE owned areas. A large geographical area was covered by the archaeological survey, with adequate time allocated to carry out a series of rapid blanket surveys of unafforested land. Site specific surveys were also made of known features within afforested blocks and some prospecting for new archaeological sites within the forests was also possible and met with some notable successes. (See Maps 6 & 7 also).
- **The Meithrin Mynydd Project** (PRN 37755) was funded by the Brecon Beacons National Park Authority and the Countryside Commission for Wales with EC European LIFE funding. The RCAHMW provided a core data set of work in the survey area, which along with similar information from the regional SMRs, was fundamental to the archaeological component of the project. This was a three-year research and demonstration project 'to nurture the mountain' as an exemplar for common land management in upland Wales and throughout Europe. The project was centered on 15,000 hectares of the Black Mountain registered common land within the BBNP. The greater part of the area lies in Dyfed with a small portion in Powys. The project involved a variety of research programmes, including archaeological aspects and a rapid blanket survey was carried out by DAT of select areas within the Carmarthenshire portion of the National Park.
- **The Tir Cymen Project** (PRN 34654) was carried out by DAT and commissioned by the Countryside Commission for Wales. It was a pilot scheme focused on 12 farm holdings in the former Dinefwr District, Carmarthenshire. 4 of these holdings were in an upland or part-upland situations (Buarth yr Oen, Ffarmers; Galltylan, Llanfynydd; Maes Ifan, Llanfynydd; Troed y Rhiw, Cynwyl Gaeo). Comprehensive field inspection of each farm holding took place. As a result, for the upland portions, some 17 new sites were recorded, compared to 5 previously known. The new discoveries were mainly of post-mediaeval origin, but also included some possibly mediaeval settlement sites. Desk-top analysis included AP examination, extensive historic

cartographic analysis and limited documentary research. Reports included an analysis of the historical development of each holding.

- The continuing work by **Anthony Ward** (of the University of Kent) on the Carmarthenshire Black Mountain. Initially, his survey work concentrated on the western end of the area, involving recording of sites of all periods, but excluding industrial sites. During the 1990's his fieldwork has been focused on deserted settlements in the former commote of Perfedd and culminated in a synthesis of his findings published in 1997 (see PRN37754).
- A long term programme of field survey and excavation has been carried out at **Copa Hill, Cwmystwyth** mostly by Simon Timberlake and the Early Mines Research Group. During the 1990s, this work has of course provided valuable evidence of the early mining history of the district with implications for the history of metal mining across Wales (details are found in Gazetteer B and 2.8 below)
- Private fieldwork has been undertaken by **Heather James & Terry James** in the southern area of the Cambrian Mountains, focusing on the survey of settlement and agricultural activity within the area of the mediaeval estate of the Lord Bishop of St Davids within the parish of Llanddewi Brefi, southern Ceredigion. This work is undoubtedly a significant survey and for that reason deserves mention here. However, as it is an ongoing project and as yet unpublished it is not included in the gazetteer appended to this report.
- **Pearson, Carter & Gallmeier** carried out a pioneering mapping exercise in 1994 which showed how tithe information can be input into a GIS to enhance landscape studies. The test area was the parish of Newport, Pembrokeshire, which includes the upland block of Carn Ingli common.



Projects grant-aided by non-RCAHMW/Cadw sources

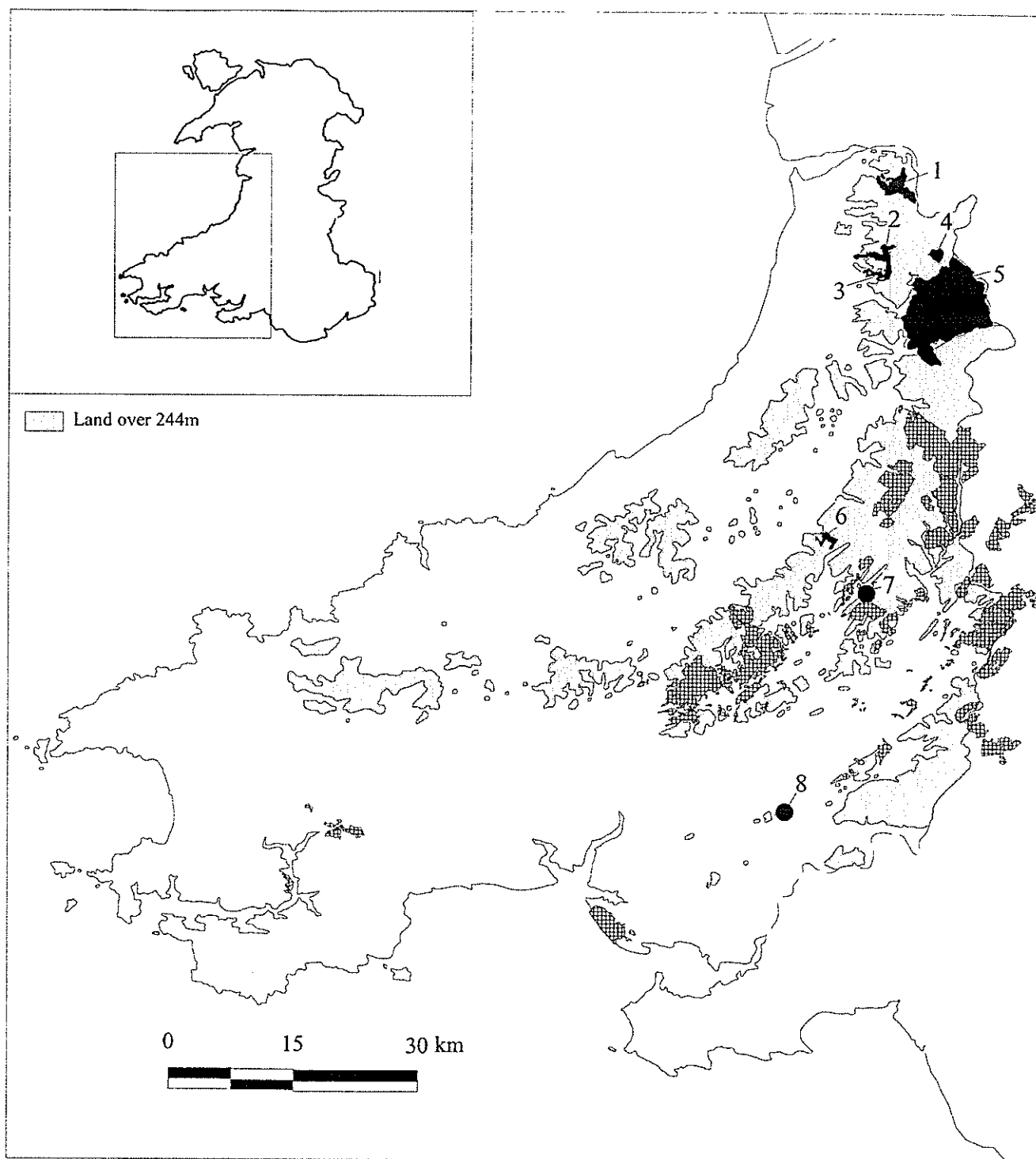
- | | |
|---|---|
|  Mynydd-y-Ffynnon |  Tir Cymen Farm Surveys |
|  Meithrin Mynydd |  James' (Bishop's Forests) |
|  Ward (Black Mountain) |  Copa Hill Excavation |
| |  Carningli Common Pearson 1994 |

2.4 Forest Enterprise and other forest/woodland related projects (Maps 6 & 7)

- **Forest Enterprise Welsh Historic Assets Survey (PRN 36950).** A Lottery Fund award enabled FE to embark upon a wholesale survey of its holdings in Wales. This was a major project, but largely a desk-based mapping exercise, positioning and cataloguing sites and features of historical and archaeological significance. Only a very limited amount of reconnaissance and recording within existing forests was involved. The project was divided into separate contracts for separate geographical areas and subject to competitive tendering. Three contracts were carried out within the boundaries of the old county of Dyfed during 1998: Brechfa Forest (DAT); North Tywi (Cambrian Archaeological Projects); South Tywi (Cambrian Archaeological Projects) - see Project Gazetteer for details. A fourth contract came in the form of extra funding to DAT and CPAT to enhance the Mynydd y Ffynnon Project Record and carry out further archaeological survey within the forests of the project survey area. (See Map 7).
- **The Hafod Archaeological Database (PRN 33670)** was created in 1996 as the result of consultation between the Hafod Trust and Forest Enterprise (as two of the chief landowners in the area of the Hafod Estate near Cwmystwyth, Ceredigion) and the RCAHMW and DAT. Fieldwork and database creation was carried out by DAT (see Gazetteer A, PRN 33670). (See Map 7).
- **A series of Forest Design Plans** were drawn up during the early 1990s by FE and DAT to cover the Ceredigion forest areas of Pendam (PRN 26588), Goginan (PRN 27931), Cwmeion (PRN 28204), Blaen Peithnant (PRN 28217) and Clywedog (PRN 36950). (See Map 6).

Two smaller areas related to forest or woodland surveyed by DAT were those of;

- **Coed Maes yr Haidd (PRN 35510)**, Carmarthenshire, where a proposal to afforest a small area had implications for a Roman leat associated with the Dolaucothi Gold Mine. (See Map 6).
- **Carmel Woods (PRN 16913)**, where a proposal to extend quarrying operations had implications for an ancient woodland and archaeological features contained therein. (See Map 6).



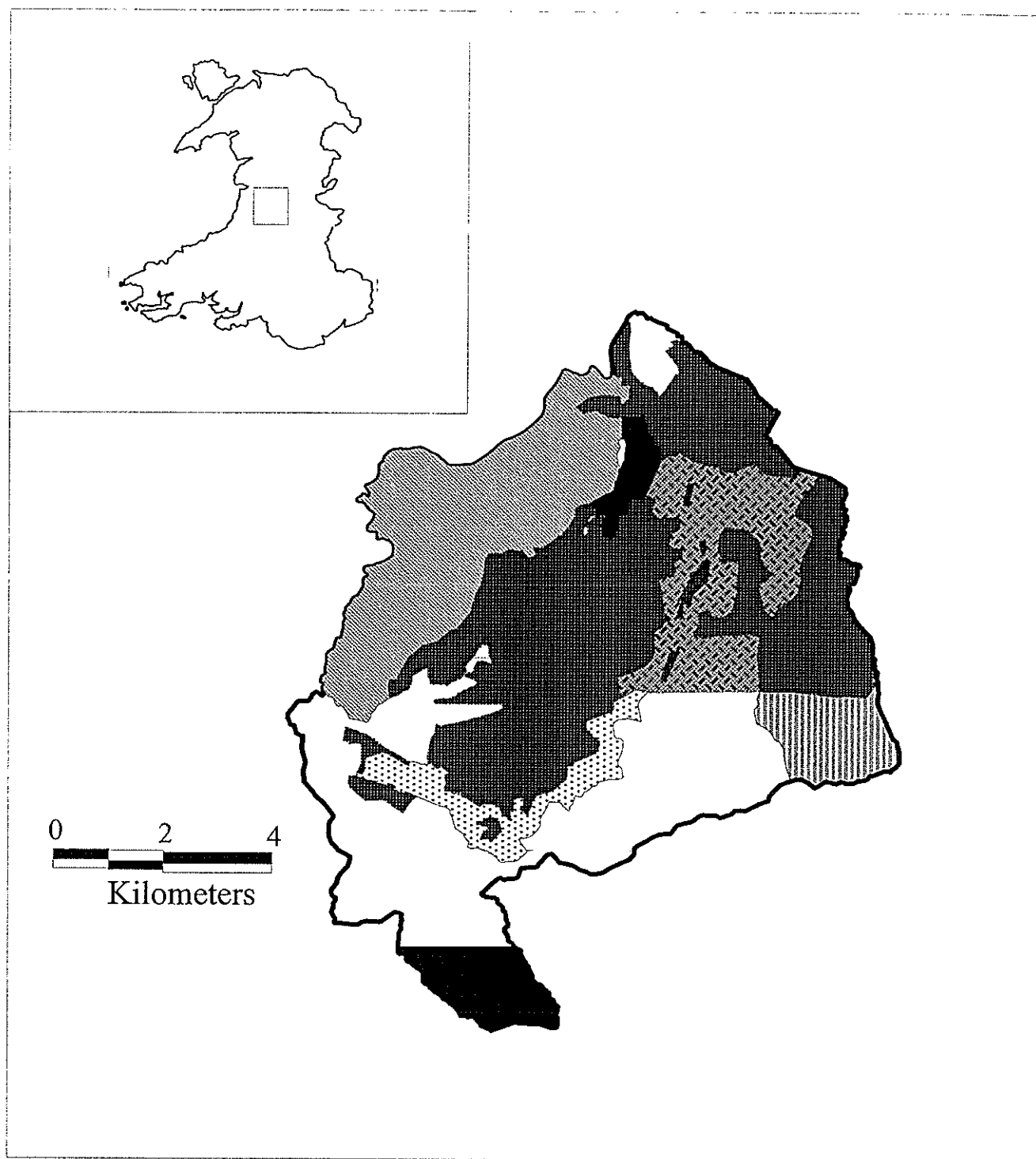
Forest/Woodland related projects



Forest Enterprise Welsh Heritage Assets Surveys

- 1 - Cwmeinion Forest Design Plan
- 2 - Pendam Forest Design Plan
- 3 - Goginan Forest Design Plan
- 4 - Blaen Peithnant

- 5 - Mynydd y Ffynnon including Hafod
- 6 - Clywedog Forest
- 7 - Coed Maes yr Haidd/Bryn Teg
- 8 - Carmel Woods



Mynydd y Ffynnon Survey Areas 1996-99



Map 7

2.5 Developer funded field work (Map 8)

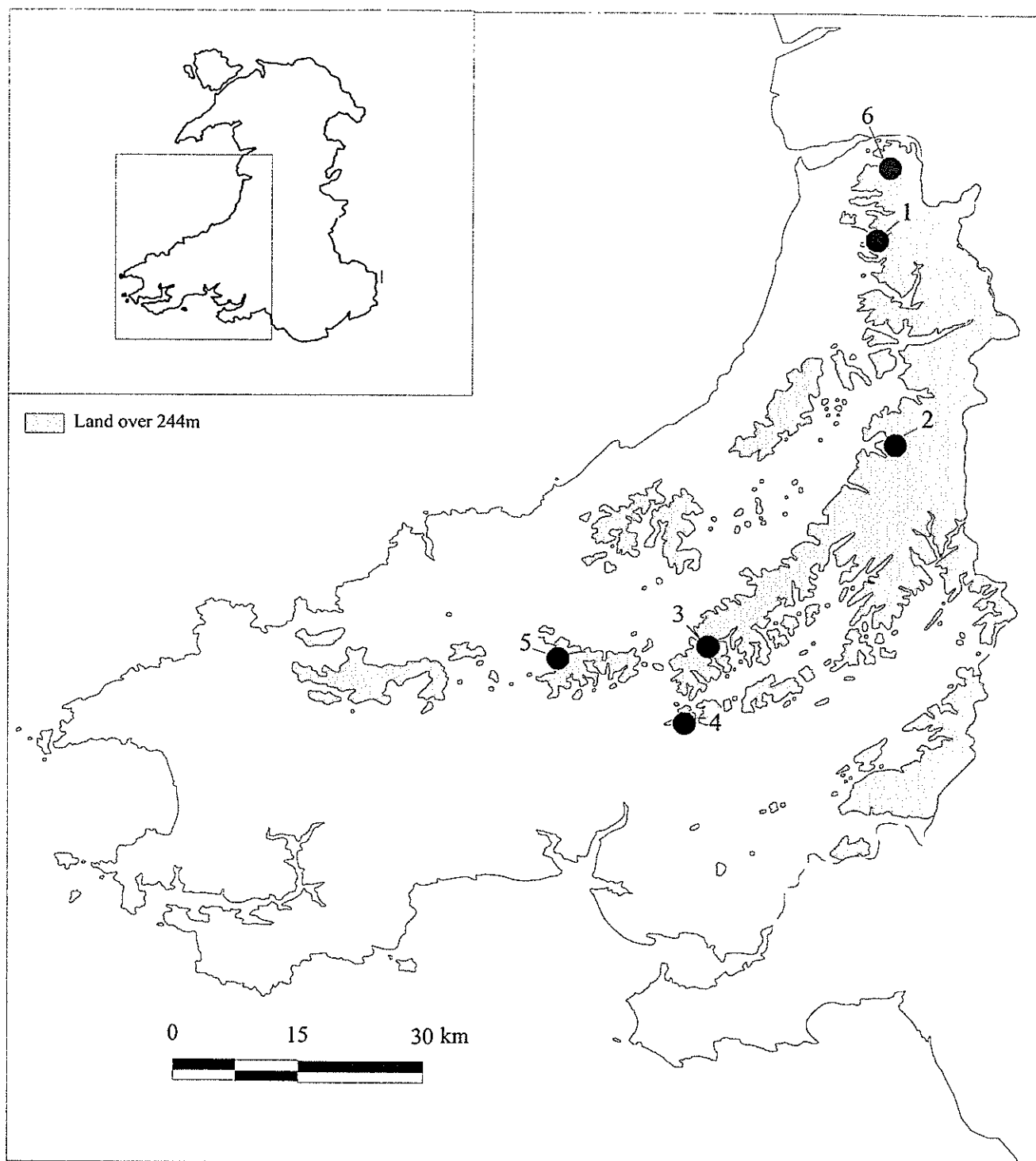
Both gazetteers appended to this report record a significant number of what may be described as minor projects which have been carried out in the region between 1989-99. These include;

- developer funded surveys undertaken in advance of construction or quarrying projects (primarily Dwr Cymru funded work associated with pipeline developments)
- watching briefs (also primarily Dwr Cymru funded work)

There were undoubted benefits accrued from undertaking preliminary surveys of land affected by water pipeline developments and the watching briefs that accompanied the work at;

- Brechfa Mountain (PRN 28242)
- Banc Mynydd Gorddu/Bontgoch (PRN 29586)
- Capel Iwan (PRN 29798)
- Llyn Craig y Pistyll/Bontgoch (PRN 30684)
- Ysbytty (PRN 32487)

It was striking that bronze age burnt mounds and funerary cairns were identified at the developments at Banc Mynydd Gorddu, Capel Iwan and Ysbytty. In the latter two examples, the presence of archaeologists enabled safeguards to be placed to protect the integrity of known bronze age cairns which lay close to the corridor of development.



Developer Funded Field Work

- 1 - Bontgoch Storage Reservoir Assessment and Watching Briefs
- 2 - Hendre Quarry Evaluation
- 3 - Brechfa Mountain Water Main supply Assessment
- 4 - Ysbytty Reservoir-Pengoyallt Watermain Watching Brief
- 5 - Capel Iwan/Crugygorllwyn/Five Roads Assessment and Watching Brief
- 6 - Ystrad Einion Lead Mine Archaeological Recording

2.6 Environmental Analyses (Map 9)

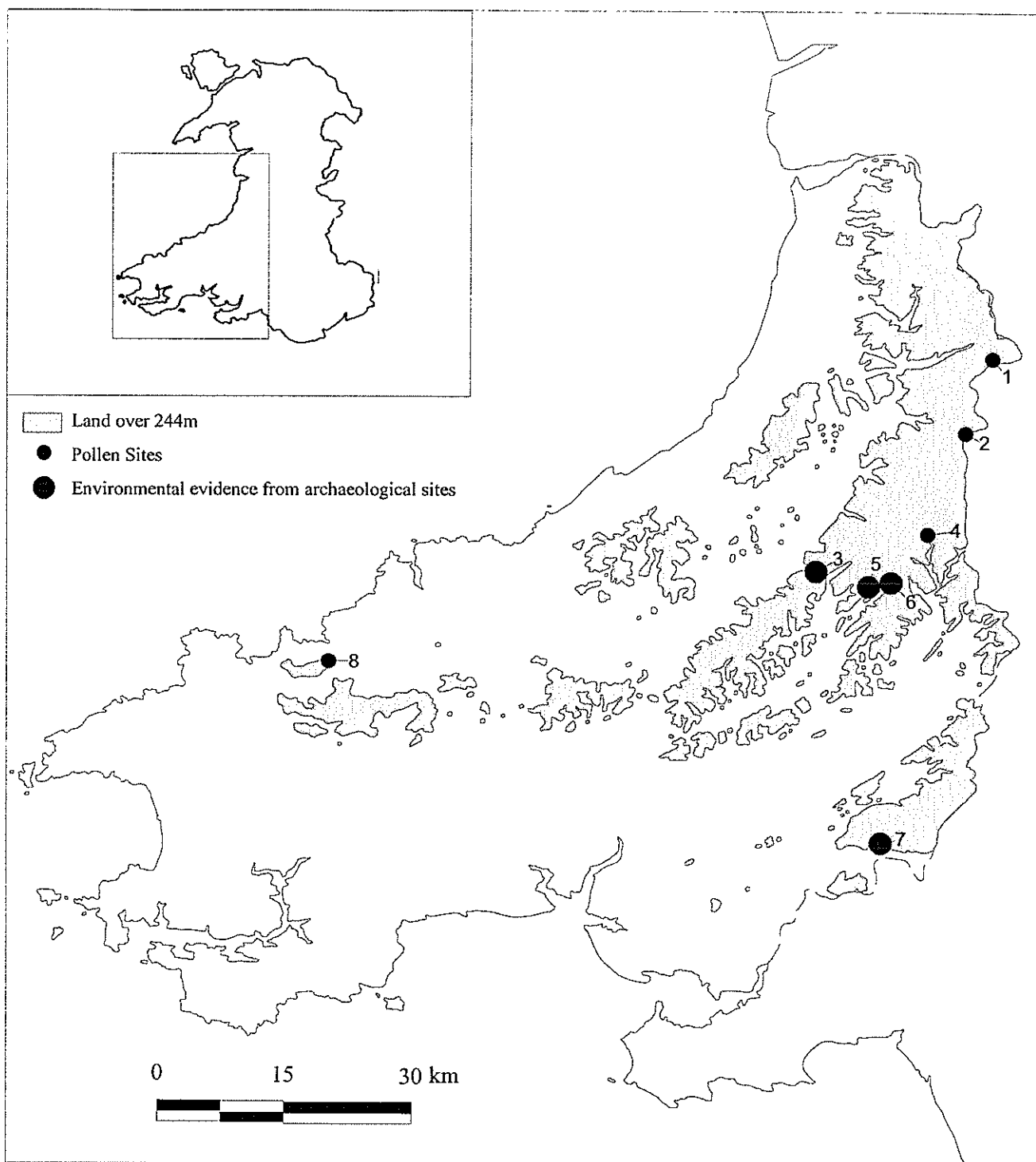
The 1989 report emphasised the importance of these investigations to the understanding of the upland environment.

Map 9 shows the location of those archaeological sites where pollen samples or other evidence have been obtained and reported in Astrid Castledine's forthcoming update of *Environmental Archaeology in Wales*, the most important synthesis of environmental data in Wales published during the last 10 years.

However, other syntheses make use of and reference to environmental data obtained within South West Wales. The most notably of these is Volume 1 of the Cardiganshire County History, which includes chapters outlining the prehistory of the county and includes to some environmental evidence produced by UCW Aberystwyth (apparently the results of work undertaken before 1989). However, details of this evidence was not sufficient to allow them to be mapped here.

In most respects, the inability to provide more than sketchy comments on environmental archaeology is disappointing. Palaeo-environmental analysis must be one of the branches of the discipline which has most to offer in terms of arriving at an understanding of the landscape history of the South-west Wales uplands. This importance is amplified many times over in an age when great store is placed on the understanding and conservation of the modern upland environment.

On a practical note, the role of environmental archaeology in informing our understanding of settlement and agricultural history is substantial in a region where documentary sources for upland areas are generally poor and the opportunities for the excavation of archaeological sites currently limited. There is a great need for sites of environmental archaeological potential to be identified and recorded in the regional SMR. It should, arguably, be incumbent on fieldworkers to be aware of the need to identify land which has such potential where it occurs in relation with any archaeological type of site recorded by a field survey. Very often small pockets of upland bog survive which would rarely be seen as being individually significant from an environmental perspective as they are too small to be defined as manageable habitats, yet their importance could be immensely significant from a palaeo-environmental perspective as they may well encapsulate vital evidence pertaining to the history of the adjacent landscape.



Environmental Analyses

- | | |
|-----------------------|-------------------|
| 1 - Bryn Mawr | 5 - Gwenlais I |
| 2 - Bryniau Pica | 6 - Gwenlais II |
| 3 - Caer Cadwgan | 7 - Tro'r Derlwyn |
| 4 - Figyn Blaen-Brefi | 8 - Carn Ingli |

2.7 Aerial Photography (Map 10)

AP Mapping Programme.

In 1995, RCAHMW, through a new staff appointment, instituted a significant new programme of AP mapping. This was aimed at enhancing the existing record of sites and monuments throughout Wales, from both existing vertical and oblique APs. The mapping programme was mainly effected 'in-house.' The programme was also developed to allow grant-aiding to the Welsh Archaeological Trusts to undertake some AP Mapping projects, but this has regrettably been discontinued.

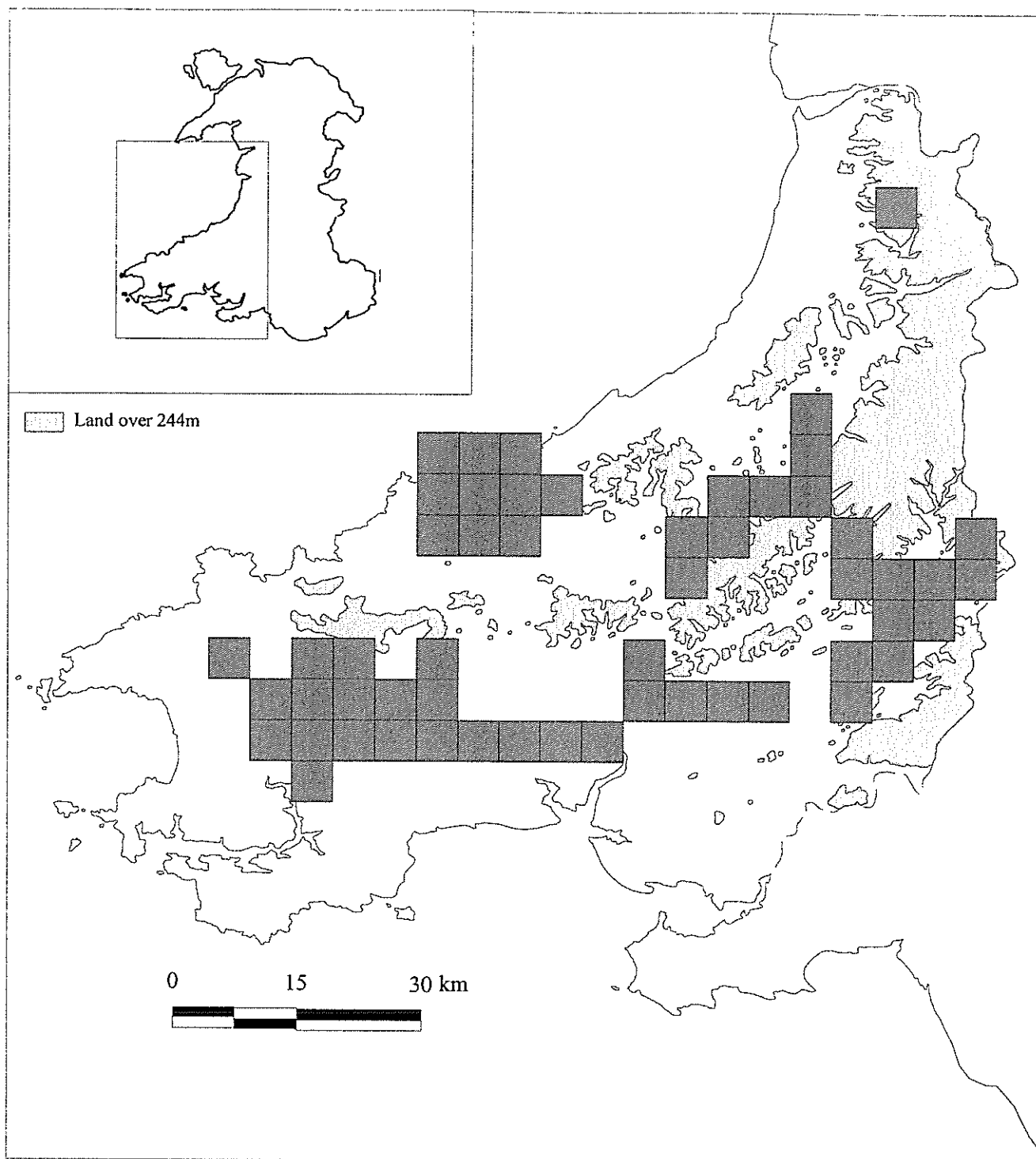
Of the RCAHMW's internal and grant-aided mapping programme since 1995, the impact upon the Dyfed Uplands has been peripheral. A 1997 RCAHMW grant-aided programme of Roman Road mapping was almost wholly focused on lowland areas and of marginal relevance to the region's uplands. Of more direct relevance to upland archaeology in Dyfed was the 1998/9 grant-aided mapping project carried out by DAT in the Ponterwyd region (see PRN 37150).

Purpose-flown Oblique Air Photography

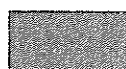
Since 1989, there has been continuous addition to the range of oblique photographic record of archaeological sites in the Dyfed Uplands. This has included flights by RCAHMW, concentrating on photography of Scheduled Ancient Monuments, and a limited amount of exploratory reconnaissance in the Preseli upland area and northern Ceredigion.

A single reference to an event of this type is listed in the gazetteer appended to this report, related to the discovery of a Roman marching camp on Mynydd Myddfai, Carmarthenshire (Gazetteer B No.22).

DAT has no comprehensive list of the results of aerial photographic reconnaissance in Dyfed between 1989-99 and therefore only a small number of references to Aerial Photography are reported in the appended gazetteers.



Aerial Photography



Selective Air Photo Mapping (rapid survey), RCAHMW funded based on information supplied by the RCAHMW

2.8 Other Funded Surveys & Excavations (Map 11)

The numbering shown on Map 11 relates directly to that in Gazetteer B at the end of this report. Gazetteer B records published or unpublished reports which are relevant to upland archaeology in Dyfed since 1989, but which as yet have not been sourced in the regional SMR.

2.8.1 Surveys

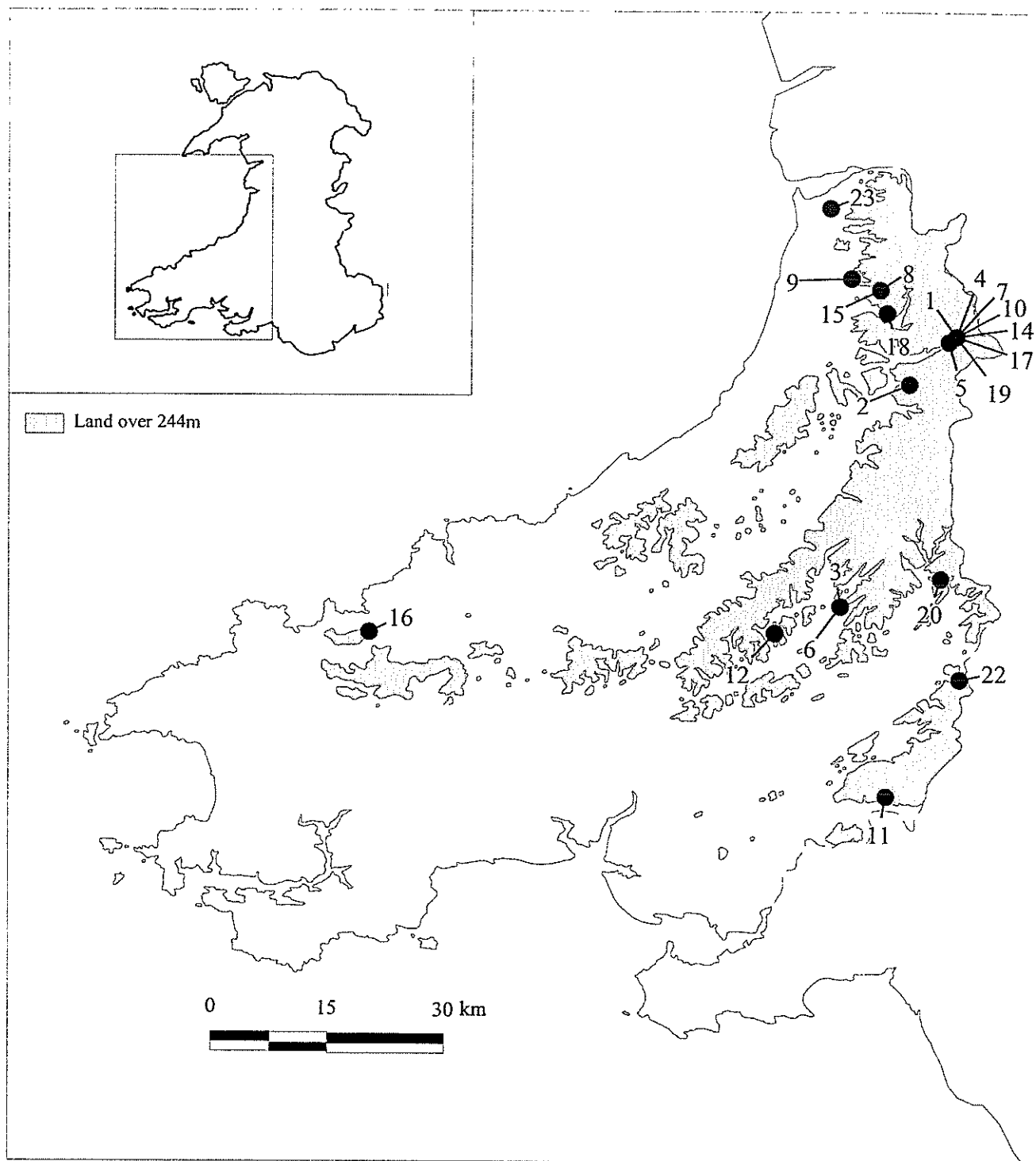
In DAT's 1989 report, a variety of other ground surveys were listed - some 17 projects since the beginning of the 20th century, including thematic surveys (involving sites of a particular period or type) and 'non-intensive' area surveys. To these were added 10 recorded examples of 'site-specific' surveys. What essentially distinguished these projects from the later rapid blanket surveys promoted through the Upland Initiative was the lack of combination of completely systematic ground coverage combined with the objective of recording all types of monuments within a specific geographical area.

To a certain extent this type of work has continued during the 1990s and is largely the product of academically or privately funded studies of specific sites, although it is important to note that examples of general historical and archaeological research are also included in Gazetteer B.

2.8.2 Excavations

The 1989 survey listed 16 excavations on upland sites in Dyfed over a period of more than 100 years. During the 10-year period under consideration by this report, only a small number of excavations have been identified, mostly by the Early Mines Research Group at metal mining sites. These too are shown on Map 11 and described in the gazetteer, and comprise;

- a series of excavations carried out at Copa Hill, Cwmystwyth, during the early 1990s (reported in Archaeology in Wales - see Gazetteer B Nos. 1,4,10,14 & 17)
- minor excavations at Llancynfelin Mine, Ceredigion (see Gazetteer B Nos. 9 & 17)
- minor excavations at Nantyrarian Mine, Ceredigion (see Gazetteer B Nos. 8 & 15)
- minor excavations at Ty'n y Fron Mine, Ceredigion (see Gazetteer B No. 18)
- minor excavations at Pen Cerrig Mwyn, Nantymwyn, Carmarthen (see Gazetteer B No. 20)
- minor excavation at the entrance to Daren Hillfort, Ceredigion (see Gazetteer B No. 21)



Location of work reported in Gazetteer B

3. THE CHANGING CONTEXT OF UPLAND ARCHAEOLOGY 1989-99

This section addresses some of the more important issues raised by the 1989 DAT report on Upland Archaeology in the light of the trends and developments of the past decade. It discusses threats and conservation opportunities and points to the advances in our knowledge and understanding of the upland archaeological resource in Dyfed gained since 1989, including an overview of how the Regional Sites and Monuments Record (SMR) of 1999 compares with that of 1989.

There has been little advance in the principal research issues identified in the 1989 report. The increasing grant-aided obligations to standardise classifications and terminology, laudable and essential tasks for consistency in retrieval of information about the past in Dyfed or Wales as a whole, represent one element in the furtherance of understanding. In terms of interpreting and understanding the uplands of the region, its overall historical environmental, social and cultural, and economic significance has not been satisfactorily progressed, except in limited studies, notably the Welsh Archaeological Trusts contribution to the pan-Wales Deserted Rural Settlements project.

3.1 The Development of Archaeological Practices

The extent of archaeological survey and investigation in Dyfed between 1989-1999 is dealt with in Section 3 of this report. Likewise, the input and use of resources in the region is dealt with in Section 4.

3.1.1 Validity of survey methodology

Field recording

The field recording elements of those projects carried out by DAT which were funded directly as part of the Uplands Initiative were undertaken according to the established guidelines of the Initiative i.e.

- fieldwork was carried out by a minimum of a two-man team walking the land in transects 30m apart.
- rapid recording of sites and features was made, with measurements and written descriptions recorded on SMR or project specific record forms and sketch plans and photographic records made where appropriate or feasible.

During the past decade the way that field records have entered the Regional SMR has undergone a huge shift and the process of change is far from finished. New technologies now open the way for site records to incorporate digital, video and audio components and in 1999 it is difficult to envisage what effect this may have on the SMR of the year 2004, let alone 2009.

It is only possible at this time to note a few of the techniques which have been used by DAT field workers to enhance fieldwork;

- the use of hand held tape-recorders has been found to be beneficial in some circumstances, especially in poor weather conditions, to enable a rapid and comprehensive description of features to be recorded. This has not been widely employed, and issues surrounding the archiving of audio records would need addressing if the practice was more widespread. Yet it is a significant issue bearing in mind the technological possibilities of including audio material within individual site records in the regional SMR.
- the use of Ground Positioning Systems (GPS) has increased in fixing the national grid reference points of sites in upland environments. GPS is ideally suited to upland work and an obvious boon in moorland landscapes where landmarks are relatively few and far between. The experience of DAT fieldworkers, has been that the early GPS models used were slow and gave an unsatisfactory grid reference (with margins of error of 30m-50m). By 1999 lighter, faster and more accurate GPS models are available and their general use in the uplands should be encouraged.

The Regional SMR

DAT maintains a computer database as part of the regional SMR, with Trust projects now using project-specific databases based on the main SMR. During the past decade, systems have been devised, through experience, which have allowed the enhancement and upgrading of the SMR to become a central feature of most of the projects undertaken by the Trust. The SMR is, and should be, the start and end point for field and desktop projects. The DAT perspective is very much that the maintenance and development of a well-informed and accessible database record as an essential tool for general project management and satisfying the enquiries of outside bodies and the general public. (see 3.2, 3.3 and 3.4 below for greater detail regarding the Regional SMR).

3.2 Upland archaeology and the regional SMR in 1999

This section presents a general statement on the position of upland archaeology in Dyfed in 1999 as reflected in the regional SMR, with reference to the advances made during the past decade and therefore some comparison with the position reported in 1989.

As of March 31st, 1999 there were a total of 33751 Primary Record Numbers in use in the regional SMR maintained by the Trust. This includes all records, e.g. project records, place-names, documents etc. Of these, 5154 sites (15%) are classified as upland sites.

These figures include a large number of sites which are either recorded from unconfirmed documentary records or as place-name records. 8057 PRNs fall into these categories. Removing these sites from the calculation leaves a total of 25694 sites, of which 4644 (18%) are located in the uplands. These are confirmed archaeological sites and the slightly higher proportion of this group which are located in the uplands reflects the increased tendency for upland records to be based on field survey, rather than map observation.

The comparison with the equivalent figures recorded in 1989 is interesting. At the time of the compilation of DAT's 1989 Upland Synthesis there were a total 14980 sites recorded in the SMR of which 1834 (12%) were in upland contexts (both of these figures excluded "*placename and many lesser sites*").

These figures show clearly that there has been a significant increase, from 12% to 18% in the proportion of SMR records which relate to upland sites. This may in part be seen as a result of the role of the Upland Initiative in focusing attention on the uplands. However, it is also true to say that there have been other factors at work, such as the selection of 18 essentially upland areas as study areas for the Cadw-funded Deserted Rural Settlement projects between 1996-99, which led to the recording of over 400 new features.

There has also been a tendency during the past five years for field workers in the uplands to subdivide complex sites and attribute PRNs to component features. Whereas in 1989 an upland deserted settlement would probably have been awarded a single PRN, by 1999 it would be awarded an overall site PRN and separate PRNs for the dwelling and any associated features, such as shelters, enclosures or storage clamps.

This trend is a necessary one, but does make the comparison of the 1989 and 1999 SMR data rather less meaningful than appears at first sight. The refinement of such recording techniques should make the comparison between the 1999 and 2009 figures somewhat more meaningful 10 years hence.

3.3 Analysis of SMR by Period

In order to maintain something of the structure of the 1989 uplands report, and to present information which conforms to the 'traditional' structure of publications such as Archaeology in Wales, this brief section updates the developments in upland archaeology in Dyfed between 1989 and 1999 according to archaeological period.

The following table shows how fieldwork carried out in the uplands during the past decade is reflected in the regional SMR.

Table 2: Sites recorded in the regional SMR by period - 1989 and 1999 compared.

PERIOD	No. of Sites 1989	% of total 1989	No. of Sites 1999	% of total 1999	Numerical change	Percentage change
PREHISTORIC	26	1.5%	201	4.5%	175	+673%
MESOLITHIC	2	0.1%	2	0.05%	-	-
NEOLITHIC	36	2.0%	21	0.5%	-15	-42%
BRONZE AGE	680	38%	1029	22%	349	+51%
IRON AGE	54	3.0%	56	1.2%	2	+4%
ROMAN	28	1.5%	24	0.5%	-4	-17%
POST ROMAN	-	-	2	0.05%	2	-
DARK AGE	6	0.3%	10	0.05%	4	+67%
GENERAL	-	-	28	0.5%	28	-
MEDIAEVAL	38	2.1%	81	1.8%	1850*	+125%*
MED;POST MED	-	-	777	17%		
POST MED	784	43%	1814	39%		
MODERN	-	-	11	0.05%	11	-
UNKNOWN	180	10%	588	12.5%	408	+227%
Total number	1834	101.5	4644	99.7	2810	+153%

*Mediaeval, Med;Post Med and Post Mediaeval categories are combined here in order to demonstrate the numerical and percentage increase of sites attributed to these periods. There has been a significant redefining of the dates of many sites recorded under these period in the regional SMR in light of the findings of projects carried out since 1989, particularly in relation to settlement sites.

Table 2 highlights some of the main trends in upland archaeological survey during the 1990's. These include;

- a more honest interpretation of the dates of many sites - the increasing use of the term "unknown" and the appearance of the term "Med;Post Med" (mediaeval or post mediaeval) indicates a willingness to be open minded and less committal about the dates of sites and features about which the observation of surface evidence is in itself not conclusive.

- a significant increase in the numbers of post-mediaeval (and Med;Post Med) sites. This shows that field workers are now taking a very holistic view of archaeological survey and are recording recent structures and features in a more deliberate fashion. Projects such as the Deserted Rural Settlement surveys and the Ceredigion Metal Mines survey have certainly made significant contributions in this direction.
- as more attention has been given to more recent features, it can be clearly seen that prehistoric field monuments have reduced greatly as a percentage of the total number of sites recorded in the uplands. Whereas the numbers of recorded sites for some prehistoric periods have been reduced by reappraisals of the site records, the significant increase in the number of bronze age sites indicates that the increased awareness of post-mediaeval features has not meant a decline in interest and awareness of the prehistoric.

In addressing the SMR evidence by period, there is in general very little new to say in 1999 in terms of how the main characteristics of each archaeological period are interpreted. This is with the possible exception of some aspects of post-mediaeval archaeology, where a variety of recent surveys have allowed a greater appreciation of the nature and extent of settlement in the uplands during the past 500 years.

3.3.1 Mesolithic and earlier

The relevance of upland archaeology to the mesolithic period was demonstrated in the 1989 Upland Synthesis, although there have been no radical advances in our knowledge during the last decade.

Our understanding of the mesolithic impact on the landscape is very much tied to the undertaking and publication of environmental archaeological research. In this respect, it is fortunate that environmental archaeologists, geographers and geologists (based in the relevant departments of the university colleges of Lampeter and Aberystwyth) have undertaken some fieldwork in the region during the decade in question.

A useful statement on the environmental history of the Cambrian Mountains has appeared in a series of chapters in Volume I of the Cardiganshire county history (Davies JL & Kirby DP, 1994). In anticipation of the publication of the second edition of Astrid Casteldine's *Environmental Archaeology in Wales*, little further can be added to the comments made in 1989.

3.3.2 Neolithic

Our record of neolithic activity in the uplands of the region remains minimal and largely confined to lithic finds.

One observation, which supports a view presented in the 1989 DAT upland report, is that the 1996-97 Cadw-funded Deserted Rural Settlements survey³ included a section of the

³ Sambrook P, 1989, *Deserted Rural Settlements in Mid & West Wales - Pilot Study*. ACA

Preseli commons as one of its study areas. It was evident during fieldwork on the Preselis that the high number of archaeological features present there pose considerable problems of survey, recording and interpretation, let alone dating. In the absence of dependable excavation results for structures on the Preseli commons, there is a possibility that some of the 'long hut' and 'enclosure' type features in this landscape could belong to any period - from the neolithic to post-mediaeval.

A challenge to future researchers may be to make sense of this complex landscape in a way as yet not attempted, and this may indeed have implications for our understanding of the neolithic archaeology of the region.

3.3.3 Bronze Age

There has been a significant rise in the number of bronze age monuments recorded (almost doubling from 680 to 1029).

This large number of new sites recorded during the last decade comprise funerary monuments, burnt mounds and possible prehistoric boundary banks. The increase has come partly as the result of direct attempts to examine landscapes which were expected to contain unrecorded bronze age features (which included the survey of the Carmarthenshire Millstone Grit ridge carried out as part of DAT's South East Dyfed Mineral Project⁴). There have also been a significant number of cairns and some burnt mounds recorded by field workers engaged in more general surveys.

Unfortunately, we are seemingly no closer to understanding the nature of bronze age settlement than we were in 1989. Indeed, significant numbers of sites currently recorded as bronze age features in the regional SMR are felt to be unlikely to belong to that period.

For example, during 1996-97, DAT's Deserted Rural Settlement survey team examined a series of long huts on Mynydd Du, Carmarthenshire⁵. It was noted that many of the features which combined there to make up what was originally described as a bronze age relict landscape ('hut circles' and boundary walls) are arguably associated with mediaeval or early post-mediaeval activity on the mountain pastures. The rectilinear buildings are invariably associated with sub-circular pens - recorded by early surveys as 'hut circles' but almost certainly too small (at 3 - 4m diameter) to be huts. They are, however, of the right shape and dimensions to be explained as circular goose pens. Local oral sources testify that large numbers of geese were depastured on Mynydd Du and the tradition of circular fowl and pig-sties is well known in this part of Carmarthenshire. The 'prehistoric' field boundaries have the appearance rather of being ribbons of stones cleared from natural terraces on the mountain pasture, presumably to allow the opportunistic harvesting of crops of hay from the mountain grass. Areas of hill pasture from where hay was cut in this manner are sometimes marked on 18th and 19th century cartographic sources elsewhere in the region.

⁴ Sambrook P & James H, 1995, SE Dyfed Mineral Project: The SE Dyfed Anthracite Coalfield. ACA

⁵ Sambrook P, 1989, Deserted Rural Settlements in Mid & West Wales - Pilot Study. ACA

An particularly important field of study which reached fruition during the 1990's is the investigation into early mining activity at Copa Hill, Cwmystwyth, led by Simon Timberlake and the Early Mines Research Group. A series of excavations during the first half of the decade proved beyond reasonable doubt that metal mining was being carried out at Copa hill from as early as the early bronze age. This study has been extended by Timberlake and the EMRG to several other metal mine sites in Ceredigion and indicate that there is a possibility that prehistoric lead and copper mining was more widespread in the Ceredigion ore-field that had been previously thought (see Gazetteer B).

3.3.4 Iron Age

The relatively low number of iron age sites above the 244m contour (54 in 1989, 56 in 1999) has not changed and there is nothing of substance to be added to the account of Later Bronze Age/Iron Age archaeology presented by DAT in 1989.

Suffice to say that even in 1999, new sites are being infrequently discovered, such as a hillfort of presumed iron age date near Gilfachydwn Fawr, Pontrhydfendigaid⁶ (SN7364), which in terms of their location and character reinforce the picture presented in 1989 of iron age settlement reaching the margins of the upland block, but with hillforts being positioned to appear as dominant landscape features from the lowland side. The land use of the upland bloc is still unknown, but may reasonably be said to have been largely pastoral.

3.3.5 Roman

Although considerable advances have been made in the understanding of the Roman period in the south-west as a result of the discovery of a Roman road west of Carmarthen, leading into the heart of Pembrokeshire, such advances are at present of minimal relevance to upland archaeology in Dyfed in general.

A programme of aerial photographic survey funded by the RCAHMS related to the study of Roman roads in Dyfed, although informative in improving our knowledge of Roman influence in the region, has yet to significantly affect upland areas.

However, two instances of upland projects which were of direct relevance to the Roman period were the discovery of a second Roman Marching camp on Mynydd Myddfai through oblique aerial photography, and a series of surveys (with some excavation) carried out on the Roman leats associated with the gold mines at Dolaucothi, Carmarthenshire.

3.3.6 Mediaeval

There has been a numerical increase in upland sites of mediaeval date recorded in the regional SMR, which now includes 91 sites of reported mediaeval or dark age date as opposed to 44 in 1989. This figure seems low, as we can be certain that the majority of the region's uplands were managed and exploited throughout the mediaeval period. It is

⁶ Murphy K, 1999, Historic Landscape Characterisation: Ceredigion. ACA Llandeilo

necessary therefore to keep in mind the 777 sites attributed to the 'Med;Post Med' period in the regional SMR, as these are likely to represent a significant number of sites, particularly settlement sites, which are likely to be mediaeval in origin but also in use during the post-mediaeval period.

The experience of the Cadw funded Deserted Rural Settlements project surveys has thrown some additional light on the history of settlement in the regional uplands. It has long been known that the regional uplands have served as the summer pastures of lowland communities for many centuries, a relationship formalised and still mostly described in terms of the mediaeval definition of the hafod/hendre system, enshrined in Welsh law texts.

The hafod/hendre system is, however, strictly speaking a theoretical model and its application from locality to locality must have included many variations. The fact that *hafod* place names occur well away from the upland core shows clearly that any marginal or uncultivated land could be used for summer pasture, not just the high pastures of the hills and mountains, therefore unravelling the intricacies of *hafod* and *hendre* must not be seen as an exclusively upland problem.

The hafod/hendre system had probably begun to break down before Welsh law was abolished by the Act of Union in 1536 and the economic changes of the Tudor period certainly must have meant that the detail of agrarian organisation was altered. This did not however undo the need for lowland farms to have access to summer pasturelands, away from arable land, and pastoral activity undoubtedly continued, often on the same mountain pastures.

The picture of upland activity was confused as post-mediaeval settlement and enclosure expanded onto the upland margins and took in more and more former mountain ground. Some traditional *hafodydd* may well have become permanent farmsteads and stayed in occupation until the present day, engulfed by the enclosure and cultivation of former mountain pasture and therefore no longer as obvious as those *hafodydd* of the higher slopes which were eventually abandoned. But new settlements, the cottages of shepherds (*lluestau*), peat cutters, metal miners and landless labourers also appeared in the uplands. From a modern perspective, this palimpsest of settlement and enclosure, complicated by subsequent abandonment, leaves a confusing picture from which it is difficult to confidently draw out those sites which are of genuine mediaeval origin.

It has become more apparent that the division between the mediaeval period and post-mediaeval period, in terms of the upland archaeological record, is difficult to define. There is no question that there are many instances of mediaeval upland settlements continuing in use into the post-mediaeval period.

The results of a series of large scale field survey projects, especially the Deserted Rural Settlements surveys and the Mynydd y Ffynnon Project (which both had resources allocated to allow for a reasonable component of desktop research to be carried out), have

shown clearly that there are sites which can through documentary sources be pinpointed as being occupied in the early 16th century. This is particularly true in association with the estates of the monastic house of Strata Florida, Ceredigion. Through the Deserted Rural Settlements surveys and the Mynydd y Ffynnon Project it has been possible to identify upland farmsteads which were being rented out by the abbey as early as the decades around 1510-20AD and also to identify their remains in the field. The observation that sites such as these have probable mediaeval origins but then continue in occupation throughout the Tudor period and up until the 19th century is significant and should guide our studies and expectations when studying settlements across the regions uplands.

Clearly field survey cannot fully resolve the issues surrounding the dating of upland settlement sites, and documentary research has its limitations also. Future excavation of sites, or a more determined and structured use of sampling for palaeo-environmental evidence may help resolve some of the problems of understanding how much of an impact mediaeval settlement and agrarian organisation actually had on the regional uplands.

3.3.7 Post Mediaeval

The 1989 DAT Upland Synthesis made only a short reference to post-mediaeval archaeology and only observed that pastoral farming, lead mining and settlement were the prime fields of interest to archaeologists when considering post-mediaeval activity in the uplands. Although this is largely still true in 1999, it is possible to report that there is a greater awareness as to why these site types are of interest and to note that there has been more than a 100% increase in the numbers of post-mediaeval sites recorded in the Dyfed uplands.

This is a figure of considerable significance - for in 1989 there was a clear bias in the record towards non post-mediaeval archaeology. The last decade has seen growing recognition of the need to record and interpret features which represent the past 500 years of human activity in the uplands. As this recognition of the importance of the post-mediaeval has grown, so has the realisation of the complexity of fields of study such as;

- the archaeological implications of the transition from mediaeval to post-mediaeval settlement patterns and agrarian/pastoral organisation
- the spread and retreat of settlement into the regional uplands
- the industries of the uplands - lead and coal mining, peat cutting, quarrying
- the road and track networks of the uplands
- the value of post-mediaeval documentary and cartographic sources which often have implications for our understanding of late mediaeval history and archaeology as well as the post-mediaeval
- the cultural and social aspects of life in the uplands, particularly during the better documented 18th, 19th and 20th centuries (the value of oral evidence included)

The post-mediaeval period is the one period in which we can truly appreciate the endeavours of people living and working in the uplands and for that reason alone is deserving of our careful attention.

One of the most significant advances in our understanding of the post-mediaeval archaeology of the regional uplands has come directly through Cadw's Deserted Rural Settlements surveys and the research undertaken in association with the Mynydd y Ffynnon Project. A wealth of documentary and cartographic evidence was found to be available to demonstrate the presence of a significant and permanent population in the uplands well into the 19th century. This evidence dispels any idea that upland settlements are 'hafodydd' and therefore mediaeval (a presumption that still colours the perception of many who visit and discuss deserted upland settlements).

The dynamics and details of these upland communities are far from being understood, as are the reasons for the gradual retreat from upland settlements from the mid-18th century onwards. Considerable field and documentary research on specific localities might be one way of attempting to gain a better insight into these issues and there are sources which may be of particular help in this direction.

One of the most outstanding historic sources available is a case in point - namely the 1744 survey of the commons of the Manor of Perfedd (the Pumlumon region) undertaken by the Deputy Crown Steward of the Manor, Lewis Morris. Morris named over 50 upland settlements, most of which were then permanently occupied as shepherding stations. One tantalising observation made by Morris was that these settlements were originally ('before the memory of living men') seasonally occupied. This observation opens the possibility that post-mediaeval shepherding cottages may have been located on the sites of mediaeval or early-post mediaeval 'hafodydd' and neatly demonstrates the difficulty in addressing with certainty the issue of date and function with regard to many upland settlement sites.

One thing that is certain about deserted rural settlements in the Dyfed uplands is that they occur in large numbers and have in very many areas yet to be recorded and, generally, have still not been properly evaluated and understood. As foci of human activity and habitation, they arguably represent one of the most significant monument types in the region's uplands.

The Ceredigion Metal Mines survey carried out by Robert Protheroe Jones during the early 1990s was a very different contribution to our understanding of post-mediaeval archaeology. Over 200 mine sites were evaluated, most of which are in upland situations, and the metal mine firmly established as an important and complex site type. The identification of areas and features of historic importance has enabled DAT to respond much more efficiently to opportunities to study mine sites and also to provide sound advice relating to the management and conservation of mining features.

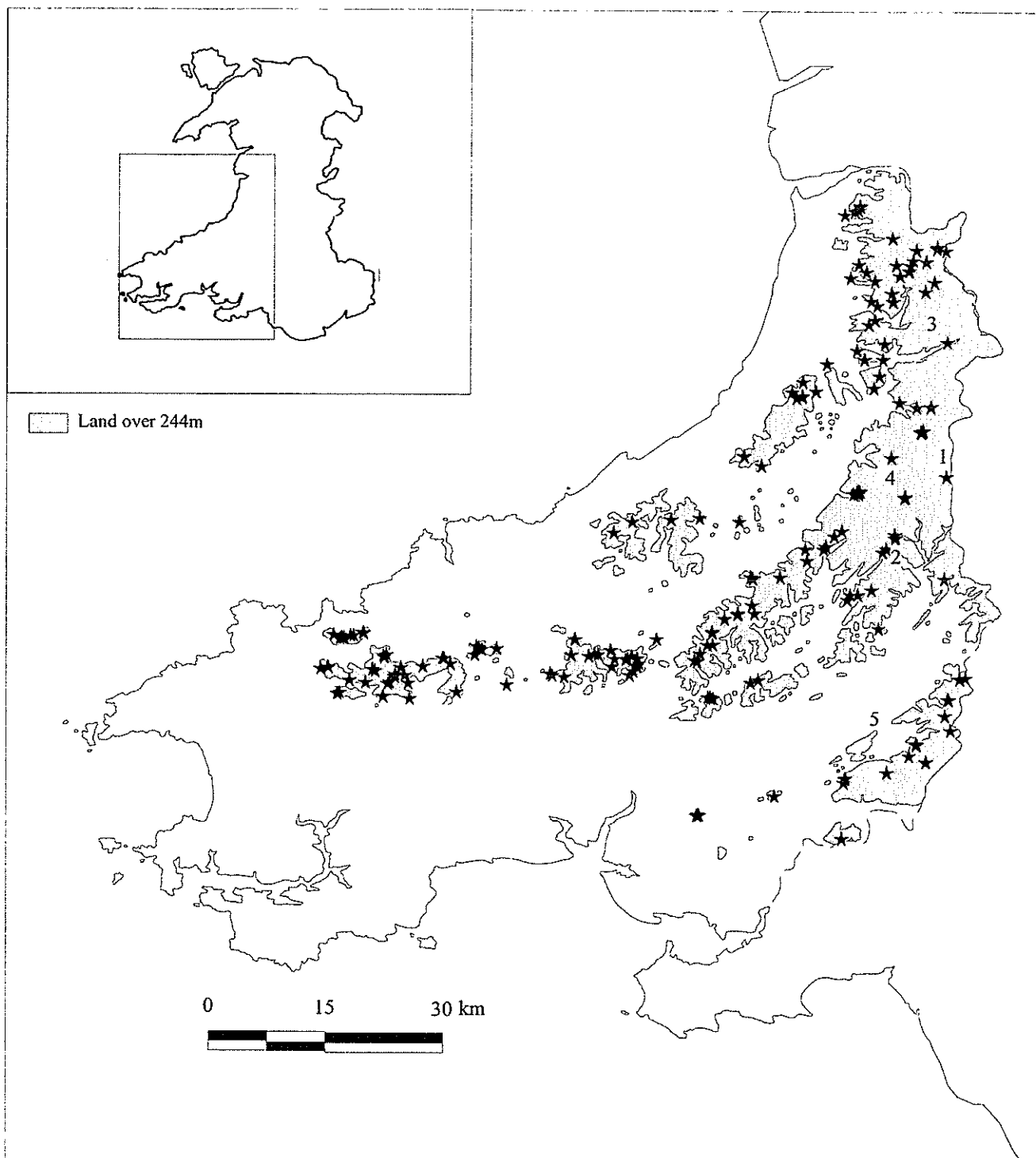
3.4 Scheduled Ancient Monuments

At the start of the 1999-2000 financial year, there were 242 archaeological sites in the regional uplands which were protected by Scheduled Ancient Monument status.

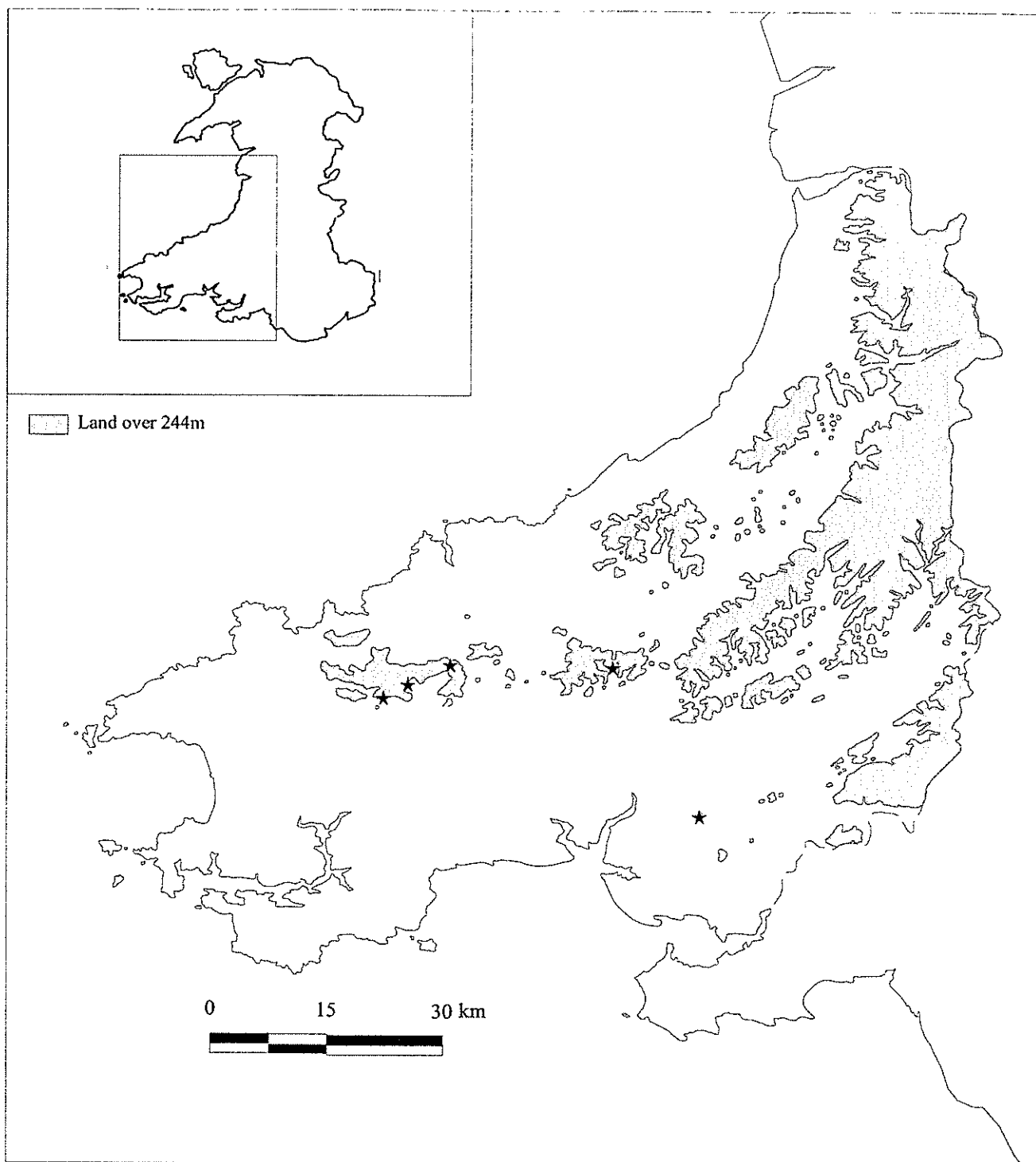
The following series of maps illustrate the distribution of SAMs by period and note should be taken of the bias towards the scheduling of prehistoric sites. Almost 60% of the sites recorded in the regional SMR in 1999 are of mediaeval or later date, but only a small proportion are scheduled (22 or 9% of 242). The recent scheduling of deserted rural settlement sites accounts for several of these, and as of March, 1999 a further group of approximately a dozen settlement sites had been recommended for scheduling as a result of both the Deserted Rural Settlements 1998-99 project and the conclusion of the Mynydd y Ffynnon project. Some of these sites are likely to be added to the list of mediaeval or later SAMs.

Table 3: Upland SAMs by period in 1999

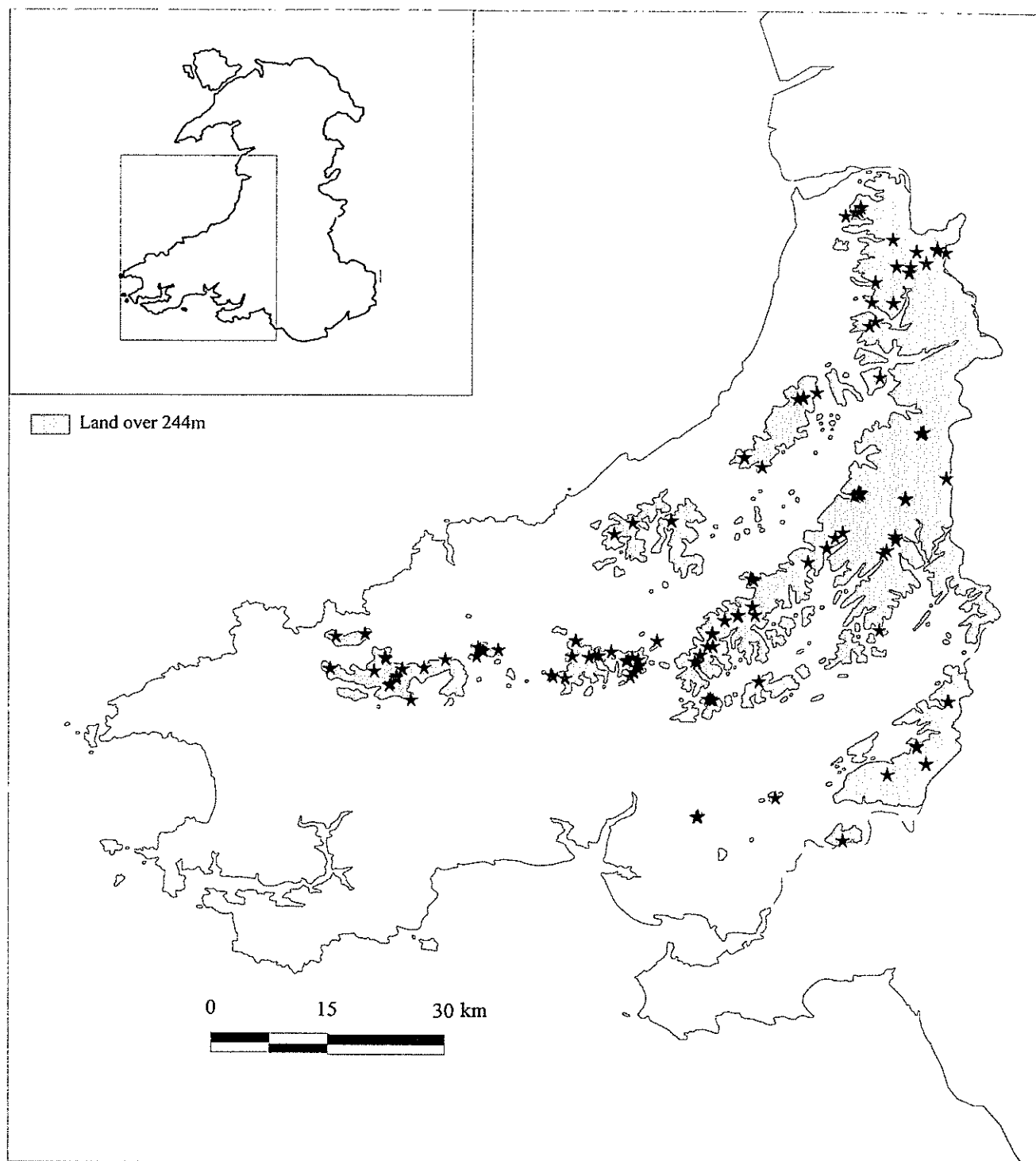
Prehistoric (undefined)	9
Neolithic	8
Bronze Age	162
Iron Age/Roman	34
Dark Age	2
Mediaeval	4
Med/Post Med	10
Post Med	8
Unknown	5



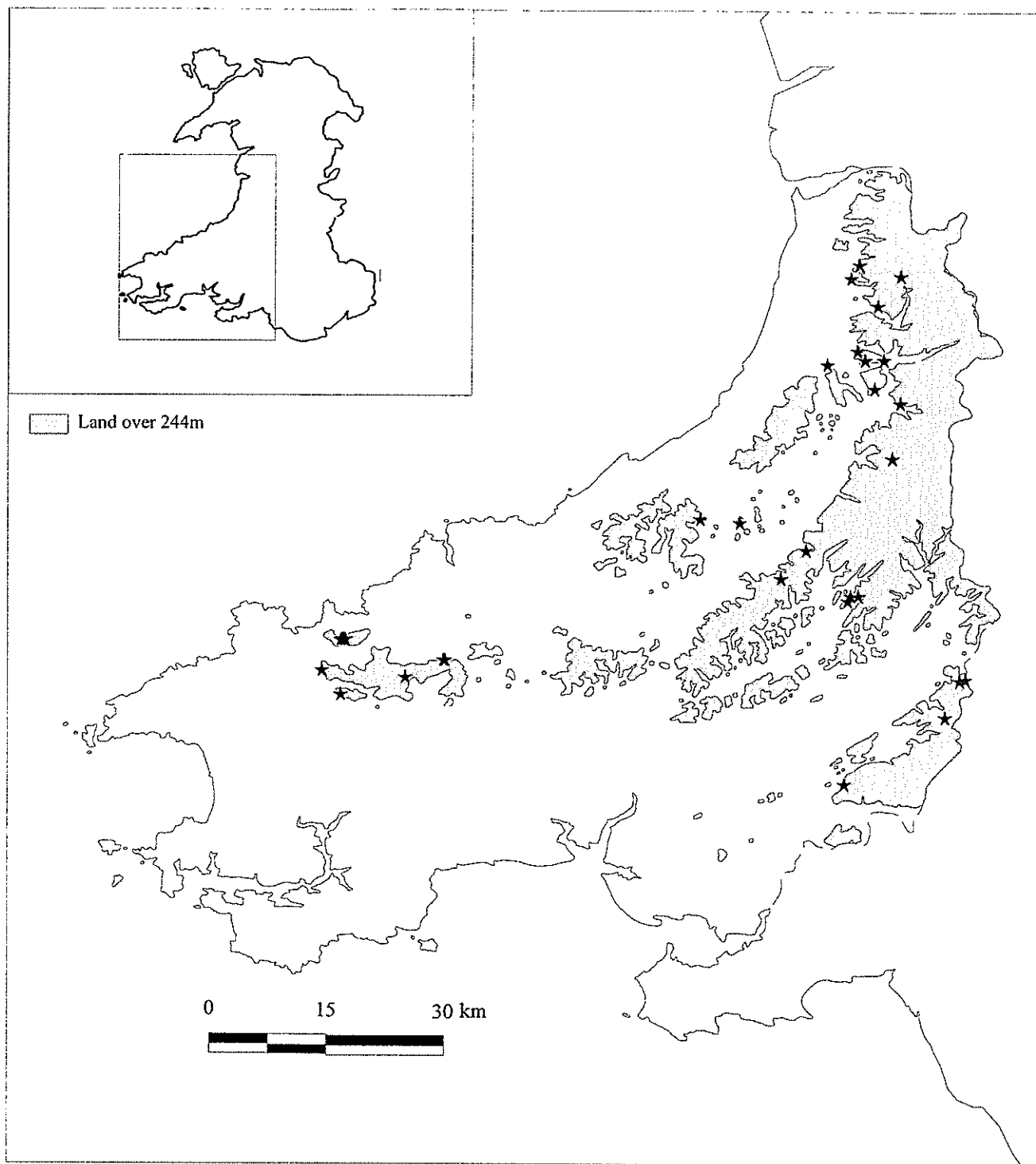
Scheduled sites above 244m



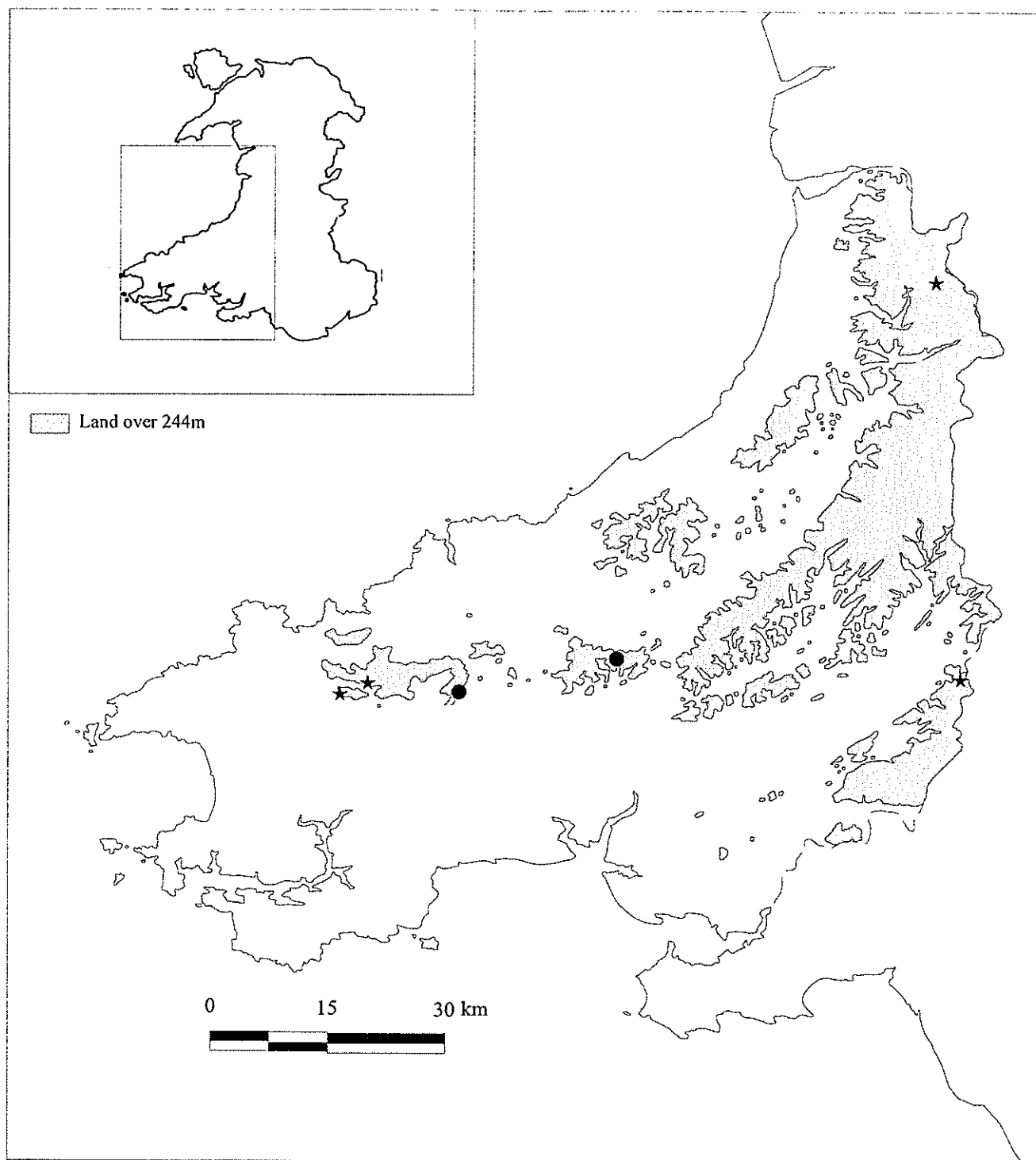
Neolithic scheduled sites above 244m



Bronze Age scheduled sites above 244m

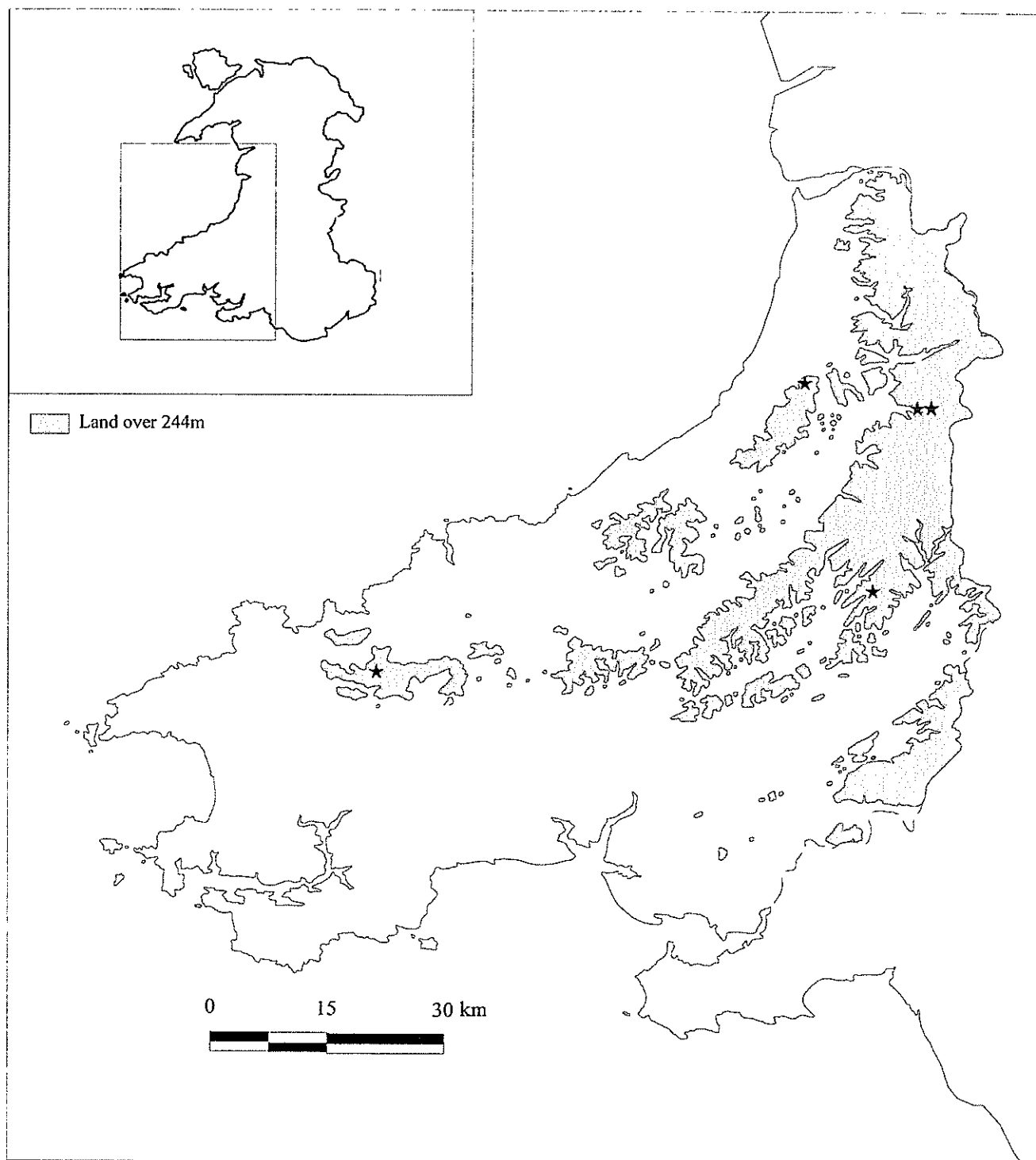


Iron Age and Roman scheduled sites above 244m

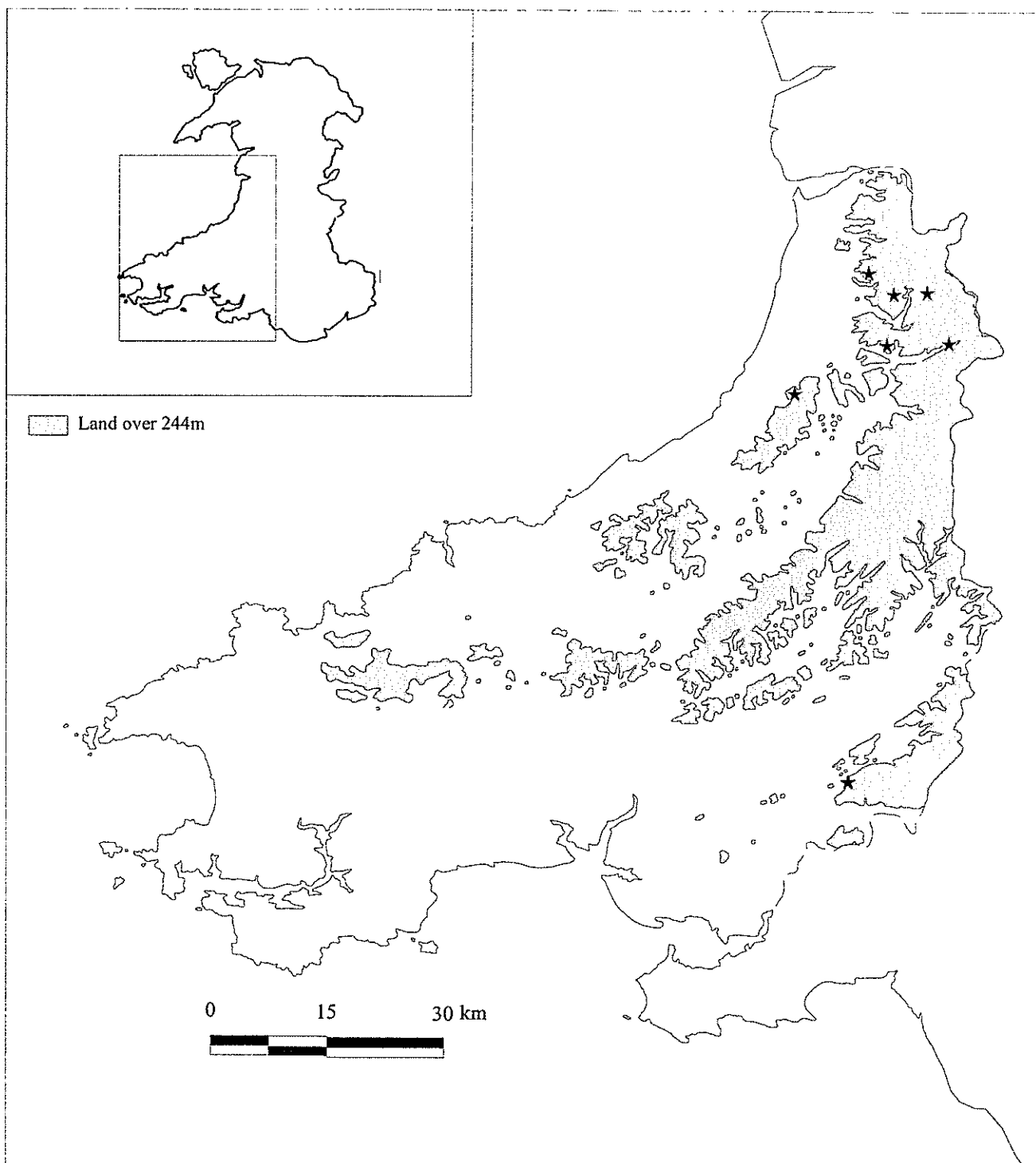


● - Dark Age scheduled sites above 244m

★ - Mediaeval scheduled sites above 244m



Med/Post Med scheduled sites above 244m



Post Med scheduled sites above 244m

3.5 Threats to upland archaeology

The 1989 Upland Synthesis produced by DAT listed the following sources of threat to the upland archaeological resource;

- Forestry (all aspects, planting, thinning and felling)
- Agriculture (with concern expressed over both grant-aided and unregulated land improvement)
- Peat extraction (which was considered to be future rather than a current threat in 1989)
- Quarrying and mineral exploration (little upland quarrying was ongoing, but outstanding planning permission existed at a number of locations)
- Reclamation Projects (the Dyfed County Council survey of derelict metal mines was the main item of concern here)
- Public Utilities (with reference to reservoirs and future pipeline or wind farm developments)

With the exception of peat extraction, it has transpired that issues related to each of the threats identified in 1989 did indeed occur during the 1990s. It is now possible to expand further on the detail of these threats, and some others which were less obvious perhaps in 1989, as well as the archaeological response which has followed..

There has been a sufficient cultural shift during the 1990s for it to be said that the negative use of the term 'threats' is perhaps now less appropriate. With the underpinning of planning legislation and the improvement of links between the Trust, planning authorities and developers, very often it has been possible for the Trust and other archaeological bodies to play an advisory role which has meant that the 'threat' can become an 'opportunity' to both enhance knowledge of the archaeological resource and avoid unnecessary damage to archaeological features. The significant number of forest design plans, watching briefs and archaeological assessments listed in the appended gazetteer bear witness to this reality.

This should not however be a prompt for the Trust or any other archaeological body to become complacent as there are pressures on the archaeological resource from many directions;

3.5.1 Wind farms.

This is potentially one of the most significant issues facing the Dyfed uplands in the future. As part of normal development control activity, DAT undertook several archaeological assessments of land affected by wind farms during the 1990s, in advance of development.

A number of wind-farm developments have occurred in South-west Wales, both below and above the 244m contour. This is particularly true of central and northern Ceredigion,

where wind farms at Banc Bwa Drain (Llywernog), Banc Mynydd Gorddu and Llangwryfyon are now prominent upland landscape features. In 1999, three further wind-farm proposals are being considered in Ceredigion, two of which are in the upland zone - namely at Cefn Croes (SN81 79) and Tregaron (SN75 59). There are also areas of Carmarthenshire and the Preseli Hills in Pembrokeshire which have been considered for the development of wind farms, that at Mynydd Cilciffeth in Pembrokeshire including land above the 244m contour.

Concerns about landscape intrusion have, more than anything else, made many of the proposals controversial and as a result relatively few developments have occurred outside Ceredigion. But there is no doubt that the interest to develop alternative energy sources will increase during the next decade and it is predictable that some upland landscapes in Dyfed will be considered for the siting of wind farms.

The over-riding need for archaeological survey of such areas in advance of any further development is apparent. Although each of the wind turbines themselves in practice take up only a small area of ground they, along with the supporting network of access roads and power cables, will inevitably impinge on the archaeological resource unless thorough archaeological surveys are possible in advance of construction.

3.5.2 Farming techniques and farm management.

One of the unexpected features of the present rural crisis is that there is probably an increased likelihood that farmers will in future carry out land improvement work such as stone clearance, land drainage and pasture improvement. This stems from the necessity of landowners maximising the return on their land at a time when the value of their produce is low. This author is able to testify to specific examples of this occurring in each of the three counties of Dyfed, but the evidence is mostly anecdotal and, at present unquantifiable.

It is a feature of the management agreements undertaken by farmers who enter environmental schemes such as ESA and Tir Gofal that, hand in hand with the preservation and enhancement of fragile ecologies and landscapes, goes the alternative management of 'less sensitive' land. This may include the clearance of vegetation or scrub and does carry a potential threat to archaeological features.

The need for a wider archaeological input into the management prescriptions of such agri-environmental schemes is worth highlighting. It should be realised that archaeological site visits are not made of properties entering into ESA agreements and that only 20% of Tir Gofal farms are expected to be subject to archaeological field assessment. The question has to be asked if agri-environmental management agreements adequately protect the archaeological resource.

3.5.3 Over Grazing.

Over grazing has been acknowledged as a threat to the upland environment. In 1999, there is pressure to reduce the numbers of grazing animals of the upland pastures with

regard to the management strategies of the National Parks in the Brecon Beacons and Pembrokeshire, the ESAs and land subject to Tir Gofal management prescriptions. Indeed, an integral feature of the Brecon Beacons National Park's Meithrin Mynydd scheme was to negotiate lower stocking rates with graziers using the mountain pastures of the Brecon Beacons and Carmarthen Fans.

Alongside the drive to reduce sheep numbers in the uplands, is an awareness that for botanical reasons an increase in mixed grazing is desirable, and schemes such as the Mynydd y Ffynnon Project in Ceredigion have made efforts to re-introduce traditional cattle breeds onto the hill pastures. Whereas sheep usually have relatively little impact on archaeological features, heavier cattle can have a more obvious effect, including churning up the land surface and bodily pushing against monoliths and stone walls.

However, the ever present threat associated with upland grazing of any kind is the role played by man, rather than animals. Many fieldworkers familiar with the uplands will testify to the fact that the tracks worn by four wheeled motorbikes and tractors can lead to significant erosional problems. Of more obvious threat to specific types of archaeological monument can be listed the continuing tendency to use stone - natural or from man-made structures such as cairns or deserted settlements - to build rough animal shelters. This threat is of particular relevance to deserted settlements, which tend to be located in sheltered locations and to include a leveled area such as a building platform. It is not uncommon for such sites to be used to locate round feeders, around which stock congregate. This practice can be particularly damaging to the surface features of long hut type sites. Each of these practices are avoidable and the situation could be greatly improved by simply consulting with landowners

3.5.4 Lack of recognition of upland sites.

The continued shortcomings of the archaeological 'community' in clearly explaining to a wider audience the nature and value of the archaeological resource in the uplands, as elsewhere, continues to lead to the mis-management (or non-management) of our archaeological heritage.

There is still room to improve in techniques of informing the general public and those most closely associated with land management (particularly farmers), of the character and significance of the components of the archaeological resource. It is the experience of DAT workers that colleagues in associated environmental agencies are much more proactive in publicly promoting their field of interest and have far greater resources to do so.

It is evident that the involvement of archaeological interest groups and bodies at a community level is one of the most effective tools available for raising the profile of archaeology in the wider community.

3.5.5 Land reclamation schemes

This refers principally to the detoxification and land-reclamation of upland industrial sites for landscaping or safety reasons - particularly metal mine sites in Ceredigion and North Carmarthenshire, but also old quarry and coal mine sites in the Amman Valley district of Carmarthenshire. DAT's 1989 upland report was not able to draw on the conclusions of a then forthcoming report commissioned by Dyfed County Council on "Derelict Metal Mines in the Cambrian Mountains".⁷ This report proved significant in determining the approach of local government in addressing the problems of managing derelict mine sites which were, for obvious reasons, perceived as being dangerous and unsightly, but which also held a tremendous historical and archaeological interest.

During the 1990's there have been a number of examples of metal mine sites, in Ceredigion in particular, which have been subject to major landscaping projects. From an archaeological perspective it is apparent that damage has been done to historic buildings and mining features in many cases, although where it has been possible to fully record the surface features of mine sites in advance of landscaping, this loss is less comprehensive and at least quantifiable.

An example of one such mine in the uplands being affected was the Cwmerfyn mine, which was subject to the Cwmerfyn and Bwlch Metal Mine Reclamation Scheme of the first half of the 1990s. A reasonable (although by no means complete) knowledge of surface features was recorded and interpreted in a series of reports. It became apparent that many surface features, including dressing floors and buddle pits survived at the mine, often obscured by stone and silt washing across parts of the mine site. Unfortunately these features were either removed or reburied and the site now displays very little to indicate that a mine ever existed there.

A more recent example is the nearby Cwmbrwyno lead mine which is subject to a similar process of landscaping during 1999, although it may be a significant that the project includes an element of enhancing public access and understanding through footpaths and interpretative panels and the retention of some mine features. This is a more positive scenario and reflects the fact that there is some educational and tourism potential relating to the metal mining traditions of the region. It is encouraging to note that some mine management schemes in the region have included efforts to enhance and explain features as permanent and accessible monuments to the history of the region, such as at Ystrad Einon, Ceredigion.

3.5.6 Increased leisure access.

The educational and tourism potential mentioned in 2.1.5 above can be extended to most of the archaeological resource and is indeed a more potent factor in the region's uplands

⁷ Brian Clouston & Partners, 1989, "Derelict Metal Mines in the Cambrian Mountains".

due to the added value of the attractive and remote landscapes which are to be found, from Pumlumon to Preseli and across to the Brecon Beacons National Park.

The 20th century has seen a steady withdrawal of human communities and interests from these landscapes, with the exception of that of agriculture, but as 2000 approaches even the agricultural presence is less certain in the future. What is apparent is that there is an increased and increasing interest in leisure access to the Welsh uplands, and interest which is in 1999 being politically encouraged by the present government's 'Right to Roam' bill being passed into law.

The fundamental principle of 'Right to Roam' is an attractive and democratic one, namely that the beautiful landscapes of Britain should be enjoyed by the many, not the preserve of the few. However, from an historical, archaeological and practical point of view, 'Right to Roam' presents potential threats which archaeologists must actively highlight.

Fundamentally, it must be argued that unmanaged public access to any landscape presents problems, both in the effect that the public has on the landscape and the effect that the landscape has on the public - it must be remembered that many upland areas include hazardous features ranging from abandoned industrial sites to natural traps such as shake holes and bogs. Archaeologists, who have a unique perspective as to how and why the upland landscape has developed to its present form, are duty bound to play a proactive role in informing the 'Right to Roam' debate, warning politicians and public alike that tremendous hazards await the unsuspecting visitor. No code of practice can be complete without drawing attention to the fact that the intricate footpath and trackway network of the uplands has developed because centuries of local understanding and knowledge have guided travelers to use the safest routes.

That said, the threat to the archaeological resource is thereafter doubly compounded, for these trackways invariably connect the places most intimately associated with human activity - from bronze age cairns on hilltops, to settlement sites, mine sites and features associated with the depasturing of animals on the hills (sheepfolds, sheep dips, pens and shelters etc.). The likelihood that deserted settlements or cairns may be turned into bonfire sites and temporary wind breaks has serious implications if there is a significant increase in visitors to upland landscapes. From personal experience, most archaeological fieldworkers will be able to point to examples of structures which have been turned into campsites and stones rearranged to form temporary hearths. It would be foolish to argue that man should be prevented from interacting with the landscape and features within the landscape - but there is a clear need for an archaeological element to be written into any code of conduct which informs the public that archaeological sites are all of value and that unnecessary interference with such sites is to be avoided.

A slightly different problem from that of 'Right to Roam' is the increased interest in off-road driving in 4x4 vehicles. Again, through personal experience, many fieldworkers will encounter examples of roads or trackways in the uplands which are used for this activity

and be aware of the erosion and damage that can result. It is believed that the off-road driving fraternity have a code of practice and it is important that contact is maintained with them to ensure that they are aware of the possible impact on archaeological features.

Whether it is on foot, on horse or in a motorised vehicle, it is vital that all who interact with the upland landscape have clear guidelines to the existence and value of the archaeological resource. Means of publicising and informing debate with regard to this aspect of threats to upland archaeology should be explored as soon as possible.

3.5.7 Forestry.

Forestry was certainly perceived to be one of the major threats to the upland archaeological resource in 1989. During previous decades large scale planting had seen the transformation of many upland areas and the damage inflicted on the archaeological resource thought to be immense.

Since 1989 the Forestry Commission (FC) has been reformed and a new arm, Forest Enterprise (FE), has taken responsibility for the management of the forests and woodlands of the old FC. During the mid- and late-1990s, FE have disposed of many of the smaller often deciduous, woodlands and concentrated their attention on the profitable management of the larger coniferous plantations which dominate so much of the region's upland landscape. FE have made praiseworthy advances in their management of sensitive landscapes and taken proactive steps to identify, evaluate and manage many of the archaeological features which are located within their estates. The appearance of an accord⁸ between the Forestry Commission, the RCAHMS, Cadw and the Welsh Archaeological Trusts in 1999 points to a continuation of this trend.

Most of the major forestry plantations in the South-west Wales uplands occurred before 1989. Some smaller scale planting is still being carried out and present a continued pressure on the archaeological resource, particularly via Woodland Grant Schemes. Whereas there were only 60 applications were reported as being made for Woodland Grant Schemes between 1985 and 1989 (in the DAT 1989 upland report), the figures for the period 1996-99 indicate a substantial increase in interest;

1996-97	=	151
1997-98	=	106
1998-99	=	103

These applications were made for a range of purposes, including planting, thinning, felling, provision of access and also, in some cases, Bracken Challenge evaluations.

In 1999, we have the benefit of several projects which involved archaeological field survey in afforested areas and can now say with some confidence that the process of

⁸ Forestry Commission, 1999, *Archeoleg a Choedwigaeth yng Nghymru/Archaeology & Forestry in Wales*

afforestation was not always as thoroughly destructive as had once been presumed - although some blocks of landscape have indeed been seriously degraded by deep ploughing.

The Forest Enterprise funded Welsh Heritage Assets surveys have provided opportunities to search for known archaeological sites located within modern forests, using historic maps and aerial photographs to identify areas or sites of interest. To a lesser extent, the Mynydd y Ffynnon project also allowed for some prospecting for new sites within afforested parcels.

These projects have shown clearly that, in general, few sites can be said to have been wholly removed as a result of forestry operations. Where this has occurred it has mostly been due to either road building activities within the forest or from deep ploughing carried out before planting (especially in those areas planted during the mid or late 1950s). The majority of surviving sites were found to remain in relatively good condition. It is certainly also true to say that in some cases the protection that forest cover provides from wind, rain and agricultural land improvement has enhanced the survival of some fragile archaeological features.

Despite the positive events of the past decade, the concern remains that a great deal of archaeology remains unrecognised within forest blocks. The type of archaeological prospecting which formed such an important part of the Mynydd y Ffynnon project showed clearly that it is possible to discover new sites within all types of forest environment. It should be a point of concern that prospecting was not carried out within those forests included in the WHA projects, where only a selection of previously recorded sites were visited. It can be said with some certainty that a considerable archaeological resource remains hidden in the region's forests.

Forestry operations such as thinning and harvesting continue to pose threats to archaeological features, and this is particularly true of those features which are unrecorded and therefore not covered by FE conservation procedures. Although it should be pointed out that FE rangers and environmental officers are often very adept at recognising and protecting archaeological features, the absence of ongoing archaeological input into the study of the archaeological potential of the forests is a shortcoming.

The archaeological survey of huge blocks of forestry may be problematic from the perspectives of safety and funding, but this problem may be addressed through the rapid archaeological assessment of forest compartments before harvesting is undertaken. Felling is usually carried out by forest compartment (discrete blocks of, usually, mature trees), which can be entered and surveyed.

3.5.8 Abandonment of sites.

The crisis which is affecting rural communities in 1999 poses a long term threat to much of the built heritage of the South-west Wales countryside, including the uplands. It is

evident that there are pressures driving people to leave the land and abandon or convert buildings (cottages, farmsteads and farm buildings) and features which have been fundamental to the rural way of life for generations.

Quantification of the impact that the abandonment or modernisation is having on farm buildings and associated structures is problematical, but the anecdotal evidence is present to suggest that major changes are afoot. The comment of one farmer to a Trust fieldworker, in relation to the Cadw-funded Deserted Rural Settlements Project, stands as a sobering reminder of the processes currently affecting rural Wales. 'Don't put your books away yet, there'll be plenty more (deserted settlements) in a few years time.

Anecdotal evidence also tells us that as many of the traditions of rural Wales are threatened, there is a steady reduction in the number of people who can interpret features in the upland landscape from their own experience of living and working in that landscape. The steady loss of the working farming population from the uplands is as much of a disaster for our understanding of the landscape and its archaeological resource as any other single factor. A major programme aimed at recording oral evidence pertaining to the management and working of the land in the regional uplands is perhaps the only method available to prevent the loss of much valuable evidence. It is also possible that an audit of existing archives of recorded oral evidence (such as those held by the National Museum of Wales at St Ffagans and the Welsh Department at UCW Lampeter) may however identify extant recordings of great interest to the upland archaeologist.

3.5.9 Quarrying

During the period 1989-99 relatively few major quarrying proposals arose and the safety net of normal development control measures practiced by DAT allowed for archaeological concerns to be fed into the planning process. A single example is recorded of an extension being granted to workings at a large quarry, at Hendre, Ystrad Meurig. This development was preceded by an archaeological field survey of the affected land. More controversially, plans to extend the working limestone quarry of Carmel, Llandybie, which would extend into an archaeologically significant area of early limeburning activity, were rejected at public enquiry.

The threat from quarrying will quite possibly remain indefinitely, and periodically arise in specific localities in the uplands. The areas where the pressure seems most likely to arise are on Carmarthenshire parallel limestone and millstone grit belts, where a large number of Interim Development Orders (IDOs), permitting the future expansion or reopening of quarries, were granted in the mid-20th century. Parts of the limestone/millstone grit belt reach altitudes of over 244m and are therefore technically upland areas, although detached from the main Cambrian Mountain bloc.

During the 1990s, it became necessary for IDOs to be re-registered. Some were not taken up and in many cases those that were had new conditions attached which recognised the potential effect of future quarrying on the environment. Account was taken of the

archaeological impact. Those quarries which are still subject to IDOs would be dealt with under the planning process if an application was made to extend workings and DAT's normal development control procedures should adequately deal with any such developments.

There is possibly a developing need for small scale and localised quarrying to be undertaken in order to provide the types of local building stone increasingly required to renovate and rebuild structures, as a response to a variety of management prescriptions, from Tir Gofal to the restoration of Listed Buildings. Unless freshly quarried, appropriate stone is available, there is a danger that other structures might become quarry sources for restoration work, thus unintentionally creating a new threat to the built heritage of the nation. This is a potentially a serious problem which will need to be addressed as schemes such as Tir Gofal develop.

3.5.10 Mineral exploration

There have been no significant developments in terms of applications for mining activity in the Ceredigion ore-field during the 1990s. The only pressure on the Dyfed landscape has come from the coal-mining industry and therefore confined to the Carmarthenshire anthracite coalfield in the South-east of the region. Only along the northern and southern sides of the Amman Valley do the Coal Measures extend into land which lies above 244m.

Mining activity in this area is now minimal, but the Cadw-funded South-east Dyfed Mineral Project⁹ (see Gazetteer A) identified a handful of working drift mines on Mynydd y Betws. By their nature, drift mines are not particularly intrusive in the landscape, apart from the accumulation of spoil tips at the drift mouth, but in small private mines these tend not to be extensive.

A more significant landscape impact is caused by Opencast Mining of course. It is apparent that some opencasting had been carried out on the lower slopes of Mynydd y Betws, in the Amman Valley before 1989, but this land had been reinstated before or during the 1990s. There are no known proposals to carry out opencast mining in this area in the future.

⁹ Sambrook P & James H, 1995, SE Dyfed Mineral Project: The SE Dyfed Anthracite Coalfield. ACA

3.6 Conservation

The 1989 report (Section 3, *Restraints and Conservation*) focused on ways and means through which other environmental designations and restraints could be utilised to advantage in protecting and investigating the historic environment in the Dyfed uplands. Over the last ten years, the situation has changed dramatically, especially following the introduction in the early 1990s of Policy Planning Guidance (PPG)16 (now PPW).

(PPG)16 firmly established archaeology as a material consideration in the planning process, far beyond the obligations imposed by ancient monuments and historic buildings legislation. This has also had a major, positive, effect on the attitudes and responses of the whole range of (now largely privatised) agencies whose activities, then and now, impact upon the upland archaeological resource. The 1989 report, sought to utilise 'restraints' as a vehicle for archaeological purposes. Since then, there has been a substantial shift in ground, leading towards a greater awareness generally, of environmental issues and, as a part of this process, a greater acceptance to take on board responsibilities for aspects of the historic environment.

Increased emphasis on management of the resource, and production of management prescriptions have been a feature of the second half of the decade under review. In 1989 there were relatively few options open which allowed for archaeological sites to be brought into protection through either statutory prescriptions or other forms of management agreement. Scheduled Ancient Monument or Listed status were the most common methods of achieving site protection.

The 1990's has however seen significant areas of upland taken into land management schemes by organisations such as National Parks, Forest Enterprise and ADAS. To these should be added the agri-environmental management schemes initiated by the UK government (and from 1999, the National Assembly of Wales), such as the Tir Cymen and Tir Gofal schemes.

The recognition of the value of archaeology and historic landscape features by such bodies and schemes marks a major advance and means that listing and scheduling are, in 1999, not the only management options available to protect the archaeological resource. However, it is common for agri-environmental schemes to have fixed-period management agreements (of 10 years for example) beyond which there is no guarantee of the conservation of features. Therefore statutory measures are still the only long term options available to ensure the protection of most monuments of national importance.

A major new element has also been the completion of the advisory, non-statutory Register of Landscapes of Outstanding Historic Interest in Wales (Cadw/ICOMOS/CCW 1998). Of the nine designations in Dyfed, five include upland or part-upland landscapes: Preseli, Tywi Valley, Black Mountain and Mynydd Myddfai, Dolaucothi, and Upland Ceredigion. As noted above, all Register designations in Wales are the subject of an on-going Cadw

programme of Historic Landscape Characterisation, through grant-aid to the Welsh Archaeological Trusts.

3.6.1 CCW Landmap programme.

Landmap has been developed by the Countryside Council for Wales (CCW) in association with the Wales Landscape Partnership Group. It is defined as 'a landscape and decision making process' and 'a multi-purpose approach to supporting landscape decisions'. Local Authorities are being urged to carry out such assessments to inform and support their Unitary Development Plans and CCW sees it as a means of implementing the broad landscape policies presented in its 1997 policy document *The Welsh Landscape*.

Landmap is compiled and used as a GIS database, built up of a number of layers or 'aspects'. The 'history' aspect is the principle platform for archaeological and historic landscape interests and involves the definition of 'character areas' on the basis of the historical processes which have produced physical manifestations (field and settlement patterns, land use, archaeological site types and vernacular buildings) which distinguish one area from another. The methodology is identical to that being used to define 'Historic Landscape Character Areas' within the broad-brush identification of Historic Landscapes of Outstanding Historic Interest in Wales in part 2.1 of the CCW/Cadw/ICOMOS 1998 *Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales* and 'Landscapes of Special Historic Interest' in the forthcoming Part 2.2. These studies are being funded by Cadw and carried out by the Welsh Archaeological Trusts to fulfil a number of purposes, one of which is to help make management recommendations in forthcoming *Tir Gofal* whole farm schemes.

In Dyfed, a characterisation of the largest Register Landscape, Upland Ceredigion' has covered parts of the Cambrian Mountains. It both complements and extends previous and current upland surveys.

3.6.2 Tir Cymen

This was an important agri-environmental pilot scheme undertaken by CCW in several areas of Wales, including the area of the former Dinefwr District Council in north-eastern Carmarthenshire. DAT was commissioned by CCW in 1996 to undertake the survey of 12 holdings which had entered the scheme.

The recording of archaeological, historical, and cultural features by an archaeological trust was intended to inform the individual farm management plans drawn up by CCW for each landowner. The objective, from an archaeological perspective, was to put in place management recommendations which could help to avoid damaging such features where agricultural improvements or other land management decisions were being made. Tir Cymen was very much a fore-runner for the all-Wales Tir Gofal scheme.

3.6.3 Tir Gofal

This all-Wales agri-environmental scheme was scheduled to come into operation during the financial year 1999-2000. The nature of the scheme is likely to offer opportunities for

the Welsh Archaeological Trusts to undertake whole farm surveys in both upland and lowland contexts.

However, the high number of farms which have already entered into management agreements under the auspices of the Cambrian Mountain ESA may well mean that the uptake of Tir Gofal may be of comparatively limited significance in many upland areas. Tir Gofal may prove to be more significant to those upland areas of Ceredigion and Carmarthenshire which lie outside the Cambrian Mountain ESA and also the upland area within the Preseli ESA, where there has been a markedly lower uptake of ESA management agreements by local farmers.

The long term effect of the Tir Gofal scheme on strategies for the management of the archaeological resource may be significant, but is impossible to predict. The inclusion of archaeology as an integral element in the criteria upon which holdings are assessed for acceptance into the scheme is a positive sign for the future, although it may be that archaeology is relatively undervalued in this process in comparison with environmental and ecological factors.

Tir Gofal is obviously not archaeology-led, despite the fundamental role that human activity has played in determining the character of the modern landscape - upland and lowland. It is to be hoped that as Tir Gofal evolves, archaeological considerations will be seen as being of greater and greater significance.

3.7. Communicating Upland Archaeology

3.7.1 Thanks to various developments as outlined above, archaeology and the historic environment have established a more effective profile in conservation strategies in the uplands than existed ten years ago. Nevertheless, the fundamental role that past human activity and the resultant archaeological resource has played in the development of the upland landscape, is still poorly appreciated. Archaeological bodies are often seen as secondary in importance to those involved in protecting and conserving wildlife and other 'natural' habitats. As a result, the role of the archaeologist in the development of management and conservation of the Welsh Uplands needs to be better projected, both to professionals and non-archaeological organisations involved in the Uplands.

3.7.2 In addition, both the information and perspective that existing upland communities can offer to the understanding of past landuse, through knowledge of localities and farming practises, has not been fully appreciated or utilised by archaeologists.

3.7.3 The growth of community-based rural economic initiatives in the mainly lowland areas of the region has been a feature of the last decade. DAT has contributed substantially to such initiatives, (through, for example, SPARC, ACTT, Menter Preseli), demonstrating the value that heritage assets can play in the regional economy. Apart from Menter Preseli, there has been no promotion of awareness of heritage assets in upland community areas of the region.

4. CONCLUSIONS

4.1. The Past Decade 1989-1999

4.1.1. There have been some significant developments for upland archaeology in Dyfed during the last decade. These include:

- a significant increase in the number and nature of upland interventions('events')
- a widening of the range of survey projects undertaken
- increased activity directed towards conservation issues
- a corresponding willingness on the part of non-archaeological organisations to include archaeology and historic environment as important elements in conservation strategies
- a corresponding increase in the resources applied to management of the historic upland environment
- the development and application of new mapping and land characterisation methods and techniques
- significant addition to knowledge of mainly post-medieval deserted settlements

4.1.2. There have also been a number of disappointing aspects:

- large areas of the Dyfed Uplands still remain archaeologically unmapped - over the last ten years, less than 40 sq.km were subject to rapid multiperiod survey
- resources allocated to rapid survey of Upland Dyfed through the Royal Commission's Upland Initiative totaled £30,100 over the decade, some 15% of the total estimated grant aided resources applied in the region through a variety of organisations
- there has been little advance in our knowledge and understanding of the Dyfed uplands in the Prehistoric, Roman, Early Medieval and much of the Mediaeval periods
- investigation of upland sites through archaeological excavation has been minimal
- little attention has been paid to identification and mapping of sites of environmental potential
- upland archaeology and the 'Upland Initiative' has had a very low publicity profile
- little attempt has been made to inform or involve local upland communities

4.2. Needs and Opportunities in the Next Decade

4.2.1. New approaches are required to address some of the aspects listed above. In particular, the over-riding need from 1999 onwards is the creation of a more dynamic Upland Initiative with its objectives and practical methods being simply and widely communicated to the archaeological and wider community. This may require a possible renaming and redefining of the Initiative and a keen awareness of the potential that a more dynamic approach could have in the public sphere in terms of enhancing the image of archaeology in general and the specific role that archaeology has to offer in understanding and interpreting the upland landscape at all levels.

4.2.2. The interchange of ideas: democratising the Uplands Initiative

4.2.2.1. There is a need for a more structured and pro-active approach to the interchange of ideas and developments of relevance to upland archaeology in Wales. This is not only at the level of the Uplands Forum and the proposed steering committee, but also at the level of the practitioners and fieldworkers, who are very often not in regular contact with the developments reported to the Forum. It should not be assumed that everyone working in upland archaeology is fully aware of the techniques and approaches which are constantly being developed and refined by colleagues working in other organisations.

4.2.2.2. There is a need for regular meetings (including field days) of those professionals involved in fieldwork and research to discuss and refine work practices and ideas. The model of the Deserted Rural Settlements (DRS) working group formed by Cadw, is perhaps a model worth replicating. This group meets every 6 months and includes representatives from Cadw, the RCAHMW and those closest involved with managing DRS projects within each of the four archaeological trusts. Visiting a selection of DRS sites in the field, discussing progress and experiences and scrutinising ideas is an integral part of the purpose of the meeting and has developed a sense of common purpose amongst the team of workers involved.

4.2.3. Improving Data Structure and record keeping

4.2.3.1. An RCAHMW-funded project designed to compile a glossary of terms employed in Upland archaeology to be undertaken during 1999-2000 is a positive sign that the move towards consistency is underway. With the pan-Wales strategy being followed by Cadw as a funding body beginning to address issues such as terminology (such as in relation to the Deserted Rural Settlements projects), the expectation is that within a relatively short time a comprehensive glossary of archaeological and associated terms will be available for Wales. For the Glossary to succeed, it is vital that this is monitored and maintained by the RCAHMW, but also fully implemented by those practitioners working in Upland Archaeology and fully implemented by the NMR and regional SMRs.

4.2.3.2. It is also noteworthy that, during 1999 the University of Wales have published an English-Welsh glossary of archaeological terms during 1999. This will allow for a consistency of terminology in both languages in the future and should greatly improve the standard of translation from one language to the other.

4.2.4. Facing New Opportunities

4.2.4.1. During the next decade, approaches to upland archaeology will be obliged to deal with a very different political framework and the continuing development of new concepts in land management. It is likely that the role of European Union directives and priorities will be central to the way that most aspects of upland land management will develop - with reference to a wide range of economic, environmental and cultural factors. The Mynydd y Ffynnon Project undertaken in Ceredigion between 1996-99 is a clear pointer to the type of multi-disciplinary work that may be required more frequently after 1999. Certainly, funding requirements aim to bring together a wide range of expertise to ensure that land management and environmental restoration or protection schemes are well informed and all-embracing in their nature.

4.2.4.2. The role of the National Assembly for Wales will also undoubtedly develop and influence the way in which EU policies are carried out. The increased scrutiny of the Welsh Block grant and political pressure to gain the greatest benefit from restricted resources may impinge on the funding of archaeological activity. It is imperative that the vision and purpose of those working in the field of archaeology has a clarity that is comprehended and commended by a wider audience than ever before. In terms of the uplands, the role to be played by archaeology in informing and enriching the understanding of how the landscape has developed, and the role of man in its development, is fundamental.

4.2.4.3. The challenge is to face this future with vision, imagination and flexibility. New funding sources are already becoming available to practitioners and commissioning bodies alike, whether through Heritage Lottery Funding, European Union Structural Funding sources (including Objective 1 and 2 status, Leader+ and other rural initiatives). Other resources available through the Academic and Educational Sectors are also of relevance to the future of the Upland Initiative.

4.2.4.4. Many of these sources may well be open directly to practitioners, but the likelihood is that the best opportunities will occur by Uplands Initiative partners working in conjunction with allied interests. The ground-breaking Mynydd y Ffynnon Project in Ceredigion/Powys exemplifies this point. Mynydd y Ffynnon included the co-operation and involvement of a number of archaeological bodies as commissioning bodies and practitioners (RCAHMW, DAT, CPAT) as well as agricultural interests (ADAS), Forest Enterprise and included some input from the academic sector (UCW Lampeter). From an archaeological fieldwork viewpoint, the project was well resourced and thorough investigation was possible both in terms of desktop and field survey. This resulted in a series of archaeological reports which informed the land and forest management

requirements of the commissioning bodies, enhanced the regional SMRs and greatly improved our knowledge of the archaeological resource of a significant upland area.

4.2.4.5. In an age of greater scrutiny of the use of public resources, part of the challenge which will face the Uplands Initiative during the next decade will be being seen to provide an end-product which is meaningful and useful to the public, in terms of tourism and education in particular. This too offers a new opportunity for the archaeological community to popularise and diversify its practices. The great need for outreach work and the crucial need to record oral evidence in or relating to all parts of the Welsh uplands, provides a chance for a much more public face to be given to the Upland Initiative.

4.2.4.6. The role of the Uplands Forum and the proposed steering committee is crucial to promoting a public face for upland archaeology. Ways of achieving this might be;

- renaming the Uplands Initiative to present a more definite identity (names such as Cadw or Tir Gofal demonstrate that an appellation can become widely understood and readily identifiable with a specific field of interest if carefully chosen)
- the creation of a modern and dynamic house style (including logo) which present the Initiative in a popular light and the use and promotion of these in popular publication style leaflets, booklets, web-pages and field events

5. STATISTICAL ANALYSIS OF ARCHAEOLOGICAL INVESTIGATIONS IN DYFED 1989-99

5.1 Sources

For the purposes of this synthesis a survey of all available pertinent sources was carried out to identify the archaeological work which has been carried out in the uplands of Ceredigion, Carmarthenshire and Pembrokeshire since the appearance of the Dyfed Archaeological Trust's *Upland Archaeology in Dyfed: A Preliminary Assessment* in 1989.

The sources consulted for this exercise were;

- reports generated by the RCAHMW
- RCAHMW work reported in the Commission's Annual Reports
- reports generated by Archaeoleg Cambria Archaeology
- reports generated by other Welsh Archaeological Trusts
- reports generated by other archaeological contractors
- reports generated by academic workers
- reports generated by private researchers
- work reported in *Archaeology in Wales*
- work reported in *Archaeologia Cambrensis*
- work reported in regional historical journals
(*Carmarthenshire Antiquary*, *Ceredigion*, *Pembrokeshire Historian*)
- other work archived in the regional SMR

5.2 Gazetteers

Details of the above sources are included in the gazetteers at the end of this section. For the purposes of this study, it was necessary to create a gazetteer in two parts;

- Gazetteer A - lists events involving work in the uplands that have already been recorded in the regional SMR. It includes a comprehensive list of projects carried out by DAT in the uplands and some non-Trust projects
- Gazetteer B - published or unpublished reports dating to the period 1989-99 which are relevant to upland archaeology in Dyfed but have not yet been recorded as events in the regional SMR.

It is not claimed that these gazetteers give a fully comprehensive account of all archaeological reports relating to upland work in Dyfed between 1989-99

Recording event data is a relatively new concept and DAT are only at the start of the process of collating information pertaining to a wide range of non-Trust archaeological research and survey undertaken in Dyfed. Creating event data is an ongoing process at a formative stage and two gazetteers were therefore felt to be needed to reflect the fact that not all event data has as yet been recorded in the regional SMR.

Maintaining such a database will provide a valuable source of information and will greatly enhance DATs ability to produce reviews of work carried out within the region in the future.

The gazetteers identify the following information pertaining to each event;

- Primary Reference Number (as recorded in regional SMR) or gazetteer number
- Author
- Year
- Title
- Summary of nature of work
- Event Type
- Commissioning Body
- Practitioner

The latter three of these categories are discussed further below (5.2, 5.3 & 5.4) as they provide an interesting indication of what type of archaeological work was undertaken during the period 1989-99 and by whom. The information also enables comment to be passed on the sources of funding contributing to upland archaeology.

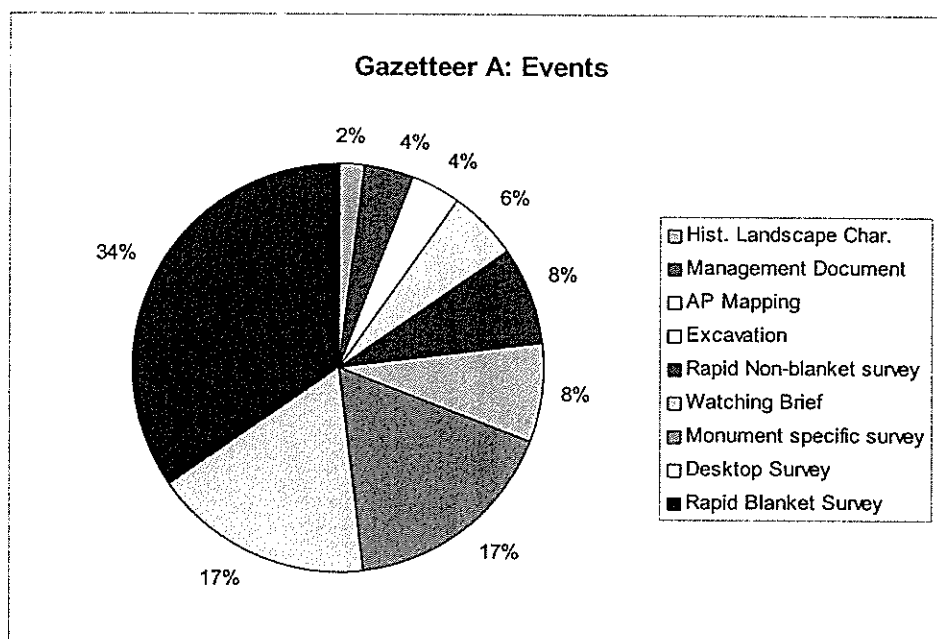
5.3 Statistical breakdown of Gazetteer A

The tables and pie charts below are derived from the information contained in Gazetteer A. They provide a statistical breakdown of that information in relation to event types, commissioning bodies and practitioners.

5.2.1 Event Types

The categories used in the following table were used to describe the event types identified from the sources consulted for this synthesis;

EVENT TYPE	FREQUENCY
Historic Landscape Characterisation	1
AP Mapping	2
Management Document	2
Excavation	3
Watching Brief	4
Rapid Non-blanket survey	4
Monument specific survey	9
Desktop Survey	9
Rapid Blanket Survey	18

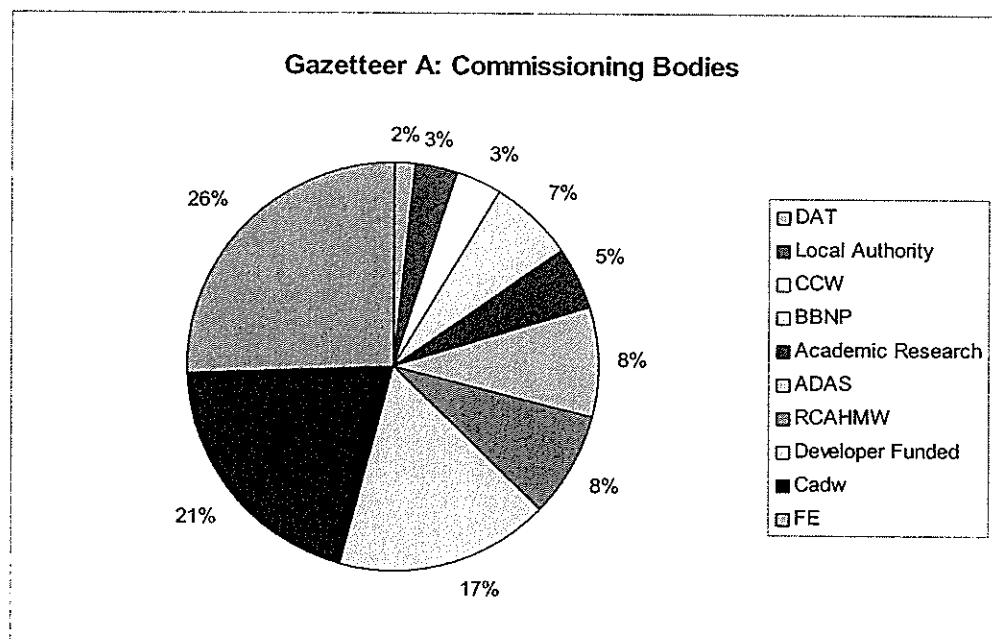


5.2.2 Commissioning Bodies

The breakdown of commissioning bodies responsible for funding the archaeological work identified for this synthesis gives an interesting insight into the priorities of non-archaeological, major land owning organisations in Dyfed. It also reflects the increasing awareness of archaeology and the need to recognise the archaeological resource in management strategies. It does appear that the efforts of archaeological bodies to improve awareness of such issues did begin to bear fruit during the 1990's in Dyfed.

Gazetteer A: Commissioning bodies

COMMISSIONING BODIES	FREQUENCY
DAT	1
Local Authority	2
CCW	2
Academic Research	3
BBNP	4
RCAHMW	5
ADAS	5
Developer Funded	10
Cadw	12
FE	15



5.2.3 Practitioners

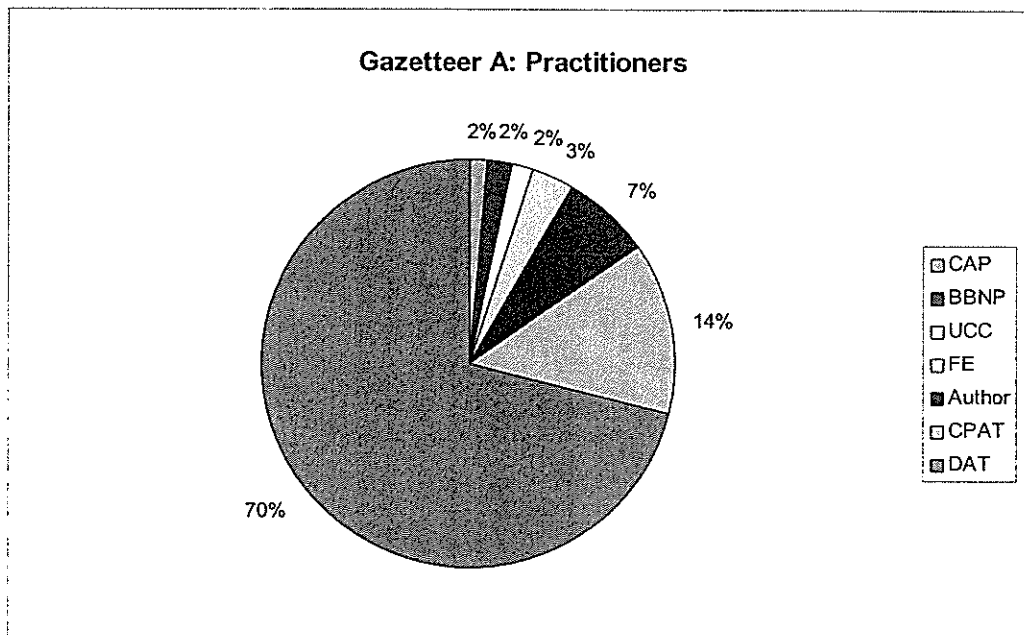
The table and diagram cover the organisations or individuals identified as having carried out upland projects during the last decade in the region. The sources consulted to identify archaeological work in the uplands do not appear to do full justice to the level of work undertaken by the RCAHMW, who have of course been responsible for important survey work in the region's uplands between 1989-99, such as the completion of The Southern Uplands Survey in the Mynydd Du (Black Mountain) area of Carmarthenshire and the oblique air mapping of select areas.

The Commission's annual reports do not in general carry sufficient detail of the location and nature of a range of archaeological events for which its own staff were responsible (from site surveys to aerial photography) to enable the information to be meaningfully incorporated into this report and present a full picture of the important role the Commission has as an active participant in upland archaeological work.

The list of practitioners who have been involved in upland archaeology since 1989 demonstrates quite clearly the important role of the Welsh Archaeological Trusts during the period in question. As an increasingly competitive element has developed in more recent years with RCAHMW, Cadw and other funds being sought by other archaeological contracting companies (the involvement of Cambrian Archaeological Projects in the FE's Welsh Historic Assets Projects during 1998-99 is the best example of this). With this widening of the base of practitioners tendering to undertake upland archaeological work, it is becoming apparent that there is a need for bodies such as the RCAHMW and Cadw to ensure that a greater consistency of methodology and end product.

Gazetteer A: Practitioners

PRACTITIONERS	FREQUENCY
Cambrian Arch. Projects	1
Brecon Beacons NP	1
UC Cardiff	1
FE	2
Author	4
CPAT	8
DAT	42



5.4 Statistical breakdown of Gazetteer B

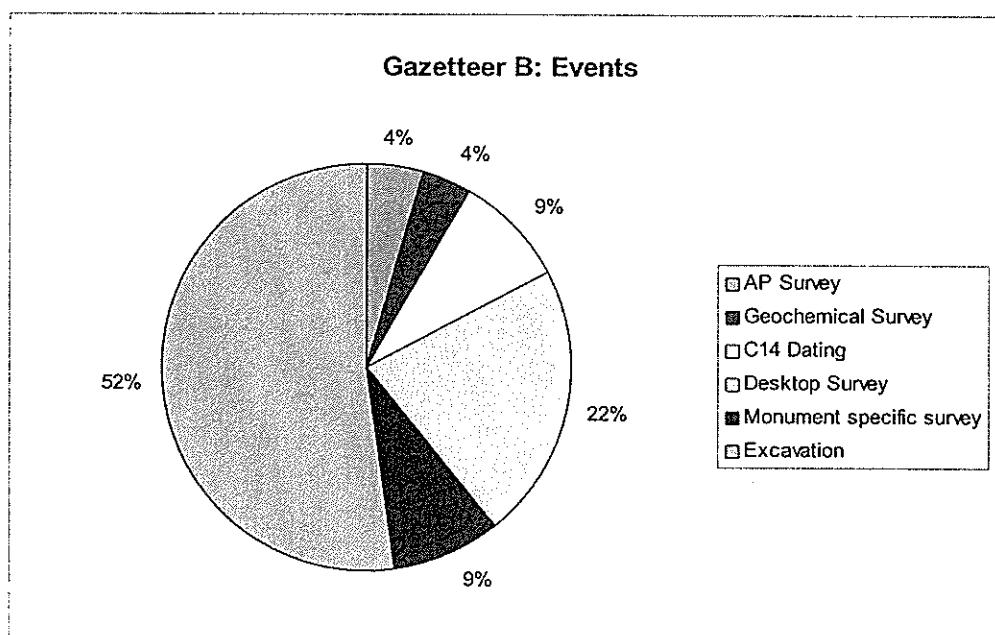
The tables and pie charts below are derived from the information contained in Gazetteer B. They provide a statistical breakdown of that information in relation to event types, commissioning bodies and practitioners. The sample base is relatively small (23) but some interesting trends can be picked out.

5.3.1 Event types

A notable difference in the event types included in Gazetteer B as compared with Gazetteer A is the higher number of excavations which have occurred, largely as a result of the use of academic funding sources. These excavations were mostly relatively minor projects carried out by the Early Mines Research Group, although the series of excavations carried out at Copa Hill, Ceredigion during the 1990s are as a body a significant contribution.

Gazetteer B: Event types

EVENT TYPE	FREQUENCY
AP Survey	1
Geochemical Survey	1
C14 Dating	2
Desktop Survey	5
Monument specific survey	2
Excavation	12



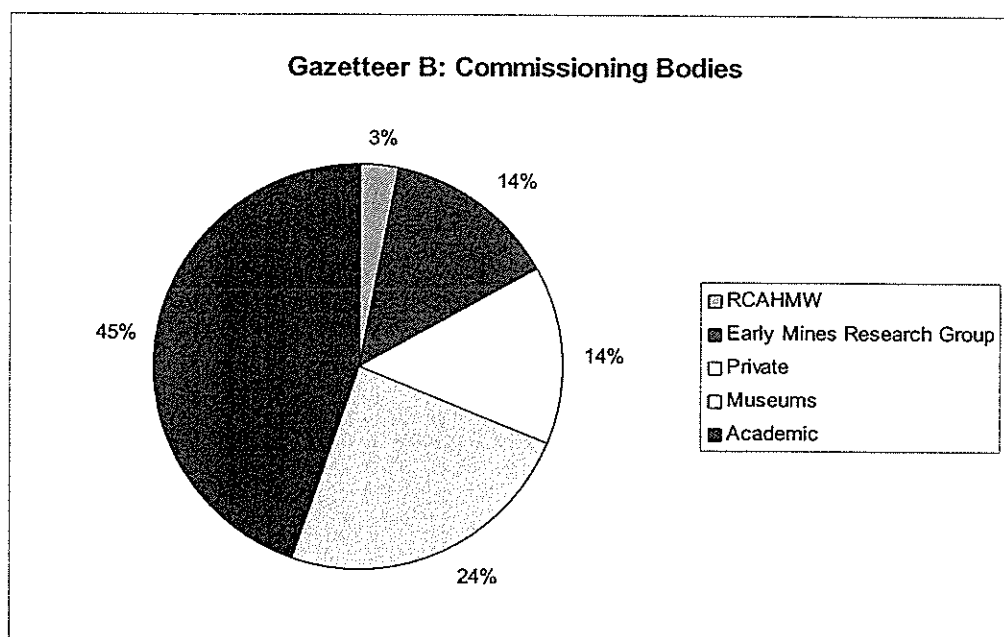
5.3.2 Commissioning bodies

The point made in 5.3.1 about the input of academic resources is demonstrated here, and indeed emphasised by the number of events funded by museums or private sources.

Comparison with Gazetteer A indicates that non-Trust work is generally being funded by very different sources.

Gazetteer B: Commissioning bodies

COMMISSIONING BODIES	FREQUENCY
RCAHMW	2
Early Mines Research Group	4
Private	4
Museums	7
Academic	13

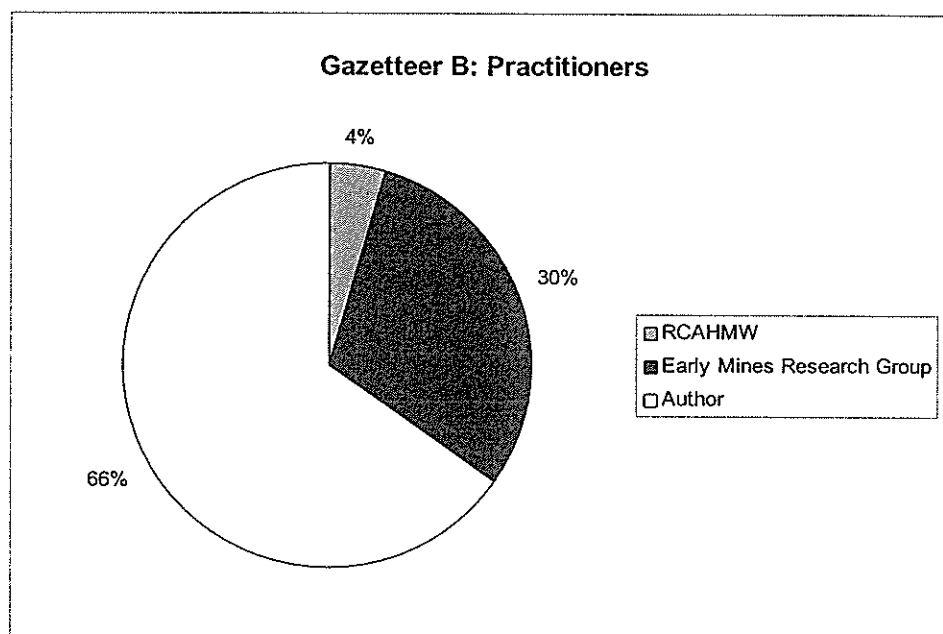


5.3.3 Practitioners

The majority of the events reported in Gazetteer B are associated with relatively minor projects. The reporting of these events is therefore mostly undertaken by the researcher commissioned or funded to undertake the work and presents a very different picture to that in the equivalent table in Gazetteer A.

Gazetteer B: Practitioners

PRACTITIONERS	FREQUENCY
RCAHMW	1
Early Mines Research Group	7
Author	17



GAZETTEER

PART A

Upland research events recorded in the regional SMR (1989-99)

PRN	14800	EVENT TYPE	Rapid Blanket Survey
FOR	Cadw/Academic Research	YEAR	1992
PERIOD	Med:Post Med		
TITLE	An Archaeological Survey of the Groes Fawr Valley, Blaencaron, Caron Is Clawdd, Mid Wales		
BY	Muckle PT & Williams GH, DAT & Univ. Coll. Cardiff		

This survey was carried out in 1989-90 as part of the Uplands Initiative. George Williams of the Dyfed Archaeological Trust collaborated with JG Evans and PT Muckle of the School of History & Archaeology, University College of Wales, Cardiff. A team of undergraduate fieldworkers carried out a blanket survey of the Groes Fawr valley, east of Tregaron. A range of archaeological sites were encountered, from prehistoric funerary monuments to post-mediaeval deserted settlement sites. The RCAHMW funded the archiving and reporting of the project in 1993.

PRN	16913	EVENT TYPE	Desktop Survey
FOR	CCW	YEAR	1993
PERIOD	General		
TITLE	Past Land Use at Carmel Woods, near Llandybie, Dyfed		
BY	Murphy K & James H, DAT		

This survey was commissioned by the Countryside Council for Wales in April 1992. It researched aspects of past land-use at Carmel Woods SSSI, near Llandybie, Carmarthenshire. It included the examination of documentary and cartographic sources and limited fieldwork.

PRN	26588	EVENT TYPE	Desktop Survey
FOR	FE	YEAR	1994
PERIOD	General		
TITLE	Pendam Forest Design Plan		
BY	Wigfall S, FE		

A desktop assessment of the archaeological resource of the relevant forest area.

PRN	27931	EVENT TYPE	Desktop Survey
FOR	FE	YEAR	1994
PERIOD	General		
TITLE	Goginan Forest Design Plan		
BY	Morgan DE, DAT		

A desktop assessment of the archaeological resource of the relevant forest area.

PRN	28204	EVENT TYPE	Desktop Survey
FOR	FE	YEAR	1994
PERIOD	General		
TITLE	Cwmeinion Forest Design Plan		
BY	Morgan DE, DAT		

A desktop assessment of the archaeological resource of the relevant forest area.

PRN	28217	EVENT TYPE	Desktop Survey
FOR	FE	YEAR	1994
PERIOD	General		

TITLE **Blaen Peithnant: Summary of Observations**

BY Wigfall S, FE

A desktop assessment of the archaeological resource of the relevant forest area.

PRN	28242	EVENT TYPE	Rapid Blanket Survey
FOR	Developer Funded	YEAR	1994
PERIOD	General		

TITLE **Report on the Archaeological Implications of the Proposed Main Supply Scheme at Brechfa Mountain Carmarthenshire.**

BY Ludlow N, DAT

Desktop and field analysis of the possible implications of a Dwr Cymru pipeline development.

PRN	29586	EVENT TYPE	Rapid Blanket Survey
FOR	Developer Funded	YEAR	1992
PERIOD	General		

TITLE **Archaeological Assessment for Dwr Cymru: Bontgoch Storage Reservoir Scheme**

BY DAT Curatorial Section, DAT

Desktop and field analysis of the possible implications of a Dwr Cymru pipeline development on Mynydd Gorddu, near Bow Street, Aberystwyth, which contained a number of important sites spanning periods from the bronze age up to the late 19th century, including the Mynydd Gorddu lead mine.

PRN	29800	EVENT TYPE	Rapid Blanket Survey
FOR	RCAHMW	YEAR	1995
PERIOD	General		

TITLE **Llyn Brianne Uplands Survey 1995**

BY Crane P, DAT

A rapid field survey undertaken on 9.5 sq. km of upland during January and February 1995. 50 new sites were recorded including prehistoric funerary monuments, deserted rural settlements and turbaries.

PRN	29559	EVENT TYPE	Desktop Survey
FOR	ACA Development Control	YEAR	1994
PERIOD	General		

TITLE **Llandovery to Llyn Brianne: Proposed 33kv Wood Pole Line**

BY Morgan DE, DAT

Desktop assessment carried out by ACA of the impact of the proposed development of an overland electricity pole line in north Carmarthenshire.

PRN 29586 EVENT TYPE Watching Brief
 FOR Developer Funded YEAR 1994
 PERIOD General
 TITLE **Report on the Archaeological Watching Brief on the Bontgoch Storage Reservoir Scheme**
 BY Murphy K Sambrook P & Ludlow N, DAT
 Watching brief carried out during work on a Dwr Cymru pipeline development on Mynydd Gorddu, near Bow Street, Aberystwyth (see also PRN 29586).

PRN 29798 EVENT TYPE Rapid Blanket Survey
 FOR Developer Funded YEAR 1994
 PERIOD General
 TITLE **Report on the Archaeological impact of the Proposed Watermain Renewal Scheme - Capel Iwan/Crugygorllwyn/Five Roads**
 BY Murphy K & Sambrook P, DAT
 A desk-top assessment along the line of a proposed water main renewal from Capel Iwan to Five Roads, Carmarthenshire

PRN 29798 EVENT TYPE Watching Brief
 FOR Developer Funded YEAR 1995
 PERIOD General
 TITLE **Capel Iwan-Crugygorllwyn-Five Roads Watermain Renewal Scheme**
 BY Page N, DAT
 A watching brief along the line of a proposed water main renewal from Capel Iwan to Five Roads, Carmarthenshire.

PRN 29900 EVENT TYPE Excavation
 FOR Cadw YEAR 1994
 PERIOD General
 TITLE **Daren Lead Mine Banc-y-Daren Near Aberystwyth**
 BY Murphy K, DAT
 Three trenches were excavated and an earthwork survey and contour survey undertaken. All the earthworks in the assessment area a small paddock were found to be spoil heaps.

PRN 30171 EVENT TYPE Rapid Blanket Survey
 FOR Cadw YEAR 1994
 PERIOD General
 TITLE **South East Dyfed Minerals: A Survey of the Archaeological Resource Threatened by Mineral Extraction.**
 BY Murphy K & Sambrook P, DAT
 A desktop survey of the general history of the extractive industries of Carmarthenshire accompanied by blanket field survey concentrating on the limestone and millstone grit belts which run across the county at the northern edge of the Carmarthenshire Anthracite coal field. A large number of post mediaeval quarries and limekilns and associated features were recorded. Some prehistoric sites were recorded on the millstone grit belt.

PRN	30684	EVENT TYPE	Watching Brief
FOR	Developer Funded	YEAR	1994
PERIOD	General		
TITLE	Report on the Archaeological Watching Brief on the Llyn Craig-y-Pistyll to Bontgoch Water Supply System		
BY	Ludlow N, DAT		

A watching brief on the water pipeline through two slime pits at Llawr-y-Cwm-Bach mine PRN 5497 with a rapid desk top assessment of the archaeology along the rest of the route.

PRN	30870	EVENT TYPE	Monument specific survey
FOR	Cadw	YEAR	1995
PERIOD	Med:Post Med		
TITLE	South East Dyfed Mineral Project: The South East Dyfed Anthracite Coalfield		
BY	Sambrook P & James H, DAT		

The third in a series of Reports commissioned by Cadw looking at aspects of the historic industries of South-East Dyfed. The area of concern for this report was the perceived threat from open cast extraction to the industrial heritage of the Carmarthenshire anthracite coalfield. The report includes focuses on the coal mining industry, but also includes some appraisal of ancillary industries and the associated transport network. It touches on the upland collieries and tramways of Mynydd y Betws, south of the Amman Valley, Carmarthenshire.

PRN	32487	EVENT TYPE	Watching Brief
FOR	Developer Funded	YEAR	1994
PERIOD	General		
TITLE	Report on the Archaeological Watching Brief on the Ysbytty Reservoir-Pengoyallt Watermain		
BY	Murphy K Sambrook P & Ramsey R, DAT		

Watching brief carried out during work on a Dwr Cymru pipeline and supply reservoir development close to recorded bronze age round barrows.

PRN	32485	EVENT TYPE	Monument specific survey
FOR	Developer Funded	YEAR	1993
PERIOD	General		
TITLE	Hendre Quarries: Ystrad Meurig Quarry - Report on Archaeological Evaluation		
BY	Benson DG & Phillips DG, DAT		

Archaeological assessment of land owned by Hendre Quarries and subject to an application to extend the boundaries of an extant quarry operation.

PRN	32844	EVENT TYPE	Rapid Blanket Survey
FOR	Cadw	YEAR	1997
PERIOD	Med;Post Med		

TITLE Mediaeval or Later Deserted Rural Settlements in Mid & West Wales - Pilot Study

BY Sambrook P, DAT

The report of the first phase of ACA's Deserted Rural Settlement Project. The pilot study was carried out during the autumn and winter of 1996-97. It involved considerable desktop research and a series of rapid field surveys within study areas in the uplands of Ceredigion, Carmarthenshire and Pembrokeshire. Over 130 previously recorded sites were visited and reassessed.

PRN	34854	EVENT TYPE	Rapid Blanket Survey
FOR	RCAHMW	YEAR	1997
PERIOD	General		

TITLE The Mynydd y Ffynnon Project - Castell/Rheidol Upland Survey

BY Sambrook P & Darke I, DAT

A blanket field survey was carried out by Cambria Archaeology in May and June 1997 as part of the Mynydd y Ffynnon project, PRN 34440. The area surveyed was c.11 square kilometres and was defined on the north and west by the rivers Castell and Rheidol. The survey stopped along the edge of the forestry to the east. Nearly 100 new sites were recorded, predominantly related to the settlement and industrial history of the area.

PRN	34440	EVENT TYPE	Rapid Blanket survey
FOR	ADAS/FE	YEAR	1997
PERIOD	General		

TITLE The Mynydd y Ffynnon Archaeological and Historic Landscape Survey: Desktop Assessment and Field Survey

BY Sambrook P & Silvester RJ, DAT & CPAT

This is the report of Phase 1 of the Mynydd y Ffynnon project. It was focused on an Archaeological Survey Area on ADAS owned land in the centre of the Mynydd y Ffynnon uplands. Field work was undertaken during July and August 1996 and produced 29 new sites in an area c.6 sq. km. A detailed desk-top survey of the landscape history of the wider Landscape Study Area was carried out at the same time and is also included in this report.

PRN	34654	EVENT TYPE	Rapid Blanket Survey
FOR	CCW	YEAR	1997
PERIOD	General		

TITLE Archaeological & Historic Assessment of Farms in the Tir Cymen Scheme - Dinefwr

BY Sambrook P & James H, DAT

As part of the pilot scheme in the former Dinefwr District, ACA was commissioned to carry out detailed surveys of 12 individual farm holdings, 4 of which were in an upland or part-upland situation. In total, 2.0 sq.kms of upland were involved. Whilst transect survey was not employed, comprehensive field inspection of each farm holding took place. As a result, for the upland portions, some 17 new sites were recorded, compared to 5 previously known. The new discoveries were mainly of post-mediaeval origin, but also included some possibly mediaeval settlement sites. Desk-top analysis included AP examination, extensive historic cartographic analysis and limited documentary research.

PRN	34709	EVENT TYPE	Rapid Blanket Survey
FOR	BBNP	YEAR	1995
PERIOD	General		

TITLE Garn Goch Archaeological Survey 1994-5

BY Evans M & Dorling P, BBNP

The common of Garn Goch was selected for survey in 1994/5 by the Brecon Beacons National Park as part of the implementation of a proactive management plan. The National Park's APs were examined, a set of vertical colour prints at 1:7000 and stereo pairs of the flight at 1:20000. The 1:10000 map cover was also consulted. The fieldwork element consisted of fieldwalking at 30-50m intervals depending on the vegetation and topography.

PRN	35184	EVENT TYPE	Rapid Blanket Survey
FOR	ADAS/FE	YEAR	1997
PERIOD	General		

TITLE Mynydd y Ffynnon Project II: Cwmystwyth

BY Silvester RJ, CPAT

During May and June 1997 CPAT undertook a field survey of the northern side of the upper Ystwyth valley which covered areas in both Powys and Ceredigion. This was part of the overall Mynydd y Ffynnon project PRN 34440.

PRN	35243	EVENT TYPE	Desktop Survey
FOR	FE	YEAR	1997
PERIOD	General		

TITLE Clywedog Forest: Notes bibliography and annotated maps

BY Morgan DE, DAT

Study of part of Clywedog plantation near Llanfair Clydogau in response to clear felling proposal. The original intention was to look at cost implications of targeted felling to conserve the early 19th century landscape. Therefore the study was largely based on analysis of 19th century maps.

PRN	35247	EVENT TYPE	Rapid Non-Blanket Survey
FOR	ADAS/FE	YEAR	1997
PERIOD	General		

TITLE The Mynydd y Ffynnon Project - Forest Archaeological Survey

BY Sambrook P & Hankinson R, DAT & CPAT

The survey area considered by this study includes all Forest Enterprise owned land within the wider Landscape Study Area. Fieldwork was carried out by two persons (one CPAT and one ACA staff member) during late September and early October, 1997. The primary objective of the field survey was to locate and assess all those sites within the survey area which were already recorded on the regional Sites and Monuments Records. New sites recorded represented a 100% increase in the number of known archaeological sites in the survey area (from 36 to 71).

PRN	35380	EVENT TYPE	Desktop Survey
FOR	Local Authority: Carm CC	YEAR	1997
PERIOD	General		

TITLE Brechfa-Byrgwm Forest Walk & Banc y Daren Walk

BY James H, DAT

Desktop research for a footpath leaflet commissioned by Carmarthenshire County Council.

PRN	35465	EVENT TYPE	Monument specific survey
FOR	BBNP	YEAR	1998
PERIOD	Med;Post Med		

TITLE An Archaeological Survey of Cwmllywd Sheepfold

BY Murphy K, DAT

The Black Mountain Graziers Association wished to repair and reuse the ruins of Cwmllywd sheepfold on the northern fringes of the Black Mountain, Llangadog, Carm. The work was undertaken through the agency of the Meithrin Mynydd project. A brief for the archaeological recording of the fold was written by the curatorial section of Archaeoleg Cambria Archaeology, who were commissioned to undertake the recording of the fold. Documentary and cartographic sources were consulted and oral evidence recorded. The structure and its surroundings were recorded as an EDM survey and a watching brief was kept as the reconstruction work progressed.

PRN	35510	EVENT TYPE	Rapid Blanket Survey
FOR	Developer Funded	YEAR	1997
PERIOD	General		

TITLE Coed Maes yr Haidd/Bryn Teg Archaeological Survey

BY Page N & Scott S, DAT

Desktop and field assessment of a parcel of land designated for woodland planting. A section of a scheduled leat which may have supplied water to the Roman Goldmines at Dolaucothi ran across the area and was the main concern of the survey.

PRN	35605	EVENT TYPE	Monument specific survey
FOR	Cadw	YEAR	1998
PERIOD	Med;Post Med		

TITLE Mediaeval or Later Deserted Rural Settlements in Mid & West Wales - 1997-1998 Survey

BY Sambrook P & Ramsey R, DAT

The report of the second phase of ACA's Deserted Rural Settlement Project. The study was carried out during the autumn and winter of 1997-98. It involved considerable desktop research and a series of rapid field surveys within study areas in the uplands of Ceredigion, Carmarthenshire and Pembrokeshire. Over 200 settlement sites were visited or reassessed and existing SMR records enhanced.

PRN	35915	EVENT TYPE	Rapid Blanket Survey
FOR	ADAS/FE	YEAR	1999
PERIOD	General		

TITLE The Mynydd y Ffynnon Project Phase IV - 1998 Survey

BY Sambrook P, DAT & CPAT

During the spring of 1998 the fourth phase of Mynydd y Ffynnon Project fieldwork was carried out on ADAS owned land outside the Phase I survey area. It included limited prospecting for new archaeological sites in select areas of Forest Enterprise owned land, focusing on afforested areas where few or no recorded sites were previously known. Fieldwork was carried out by two persons (one CPAT and one ACA staff member) during May and June.

PRN	35966	EVENT TYPE	Monument specific survey
FOR	Cadw	YEAR	1999
PERIOD	Med;Post Med		

TITLE Mediaeval or Later Deserted Rural Settlements in Mid & West Wales - 1998-1999 Survey

BY Sambrook P & Ramsey R, DAT

The fieldwork element of this third year's study was carried out during the summer and autumn of 1998 in six study areas with upland components. A selection of sites which were recorded on the SMR and located within the six pilot study areas were chosen for rapid field visits and re-evaluation, one week being spent in the field in each study area. In all some 260 sites and associated features have been visited, evaluated and are included in this report. 150 of these were recorded for the first time.

PRN	36083	EVENT TYPE	Rapid Non-Blanket Survey
FOR	FE	YEAR	1998
PERIOD	General		

TITLE Forest Enterprise Welsh Heritage Assets Project -South Tywi/Irfon/Crychan/Glasfynydd Archaeological Assessment

BY Thomas D, CPAT

Project carried out by CPAT as part of the Forest Enterprise Welsh Heritage Assets Project. 9153 acres were covered by the survey which involved map and desktop research and select site specific visits. The survey area covered land in Ceredigion and Carmarthenshire, which included 42 known archaeological sites - to which a further 17 new sites were added - but most of the land included was in Powys.

PRN	36436	EVENT TYPE	Rapid Non-Blanket Survey
FOR	FE	YEAR	1999
PERIOD	General		

TITLE Forest Enterprise Welsh Heritage Assets Project - Brechfa/Caeo/Coed Deufor/Coed Preseli

BY Page N & Ramsey R, DAT

Report deals with the survey of dispersed forestry holdings in south-west Wales carried out by ACA during the winter of 1998-99 including those in upland areas around Brechfa and Caeo in Carmarthenshire. The overall survey dealt with 210 sites, 41 of which were newly discovered.

PRN	36730	EVENT TYPE	Rapid Non-Blanket Survey
FOR	FE	YEAR	1998
PERIOD	General		

TITLE Forest Enterprise Welsh Heritage Assets Project - North Tywi.

BY Cambrian Archaeological Projects, CAP Ltd

Contract carried out by Cambrian Archaeological Projects Ltd as part of the FE Welsh Heritage Assets Project during October-December 1998, covering 5731ha. A total of 158 sites were catalogued and mapped, only 31 of which were previously recorded in the regional SMR.

PRN	36877	EVENT TYPE	Desktop Survey
FOR	Cadw	YEAR	1999
PERIOD	General		

TITLE Llangendeirne Parish Survey

BY Breen E, DAT

Survey of Llangendeirne Parish based on the above sources comprising 278 records. Due to pressure of time and the volume of previously unrecorded sites in this parish it was felt necessary to restrict the survey to farmsteads, industrial buildings and cottages, with a few exceptions.

PRN	33670	EVENT TYPE	Rapid Blanket Survey
FOR	FE/Hafod Trust	YEAR	1996
PERIOD	Post Med		

TITLE Hafod Archaeological Database

BY Murphy K, DAT

Commissioned by the Hafod Trust and Forest Enterprise in consultation with ACA and the RCAHMS. The Hafod archaeological database was created in FoxPro and linked to a GIS working through FastMap. The core of the database was created from extant regional SMR records and new records were added, identified from historic documentary and cartographic sources. Each site was visited and assessed and many new sites were also recorded by field survey. Most of the area concerned was below the 244m contour, but an area above this altitude was included around Bwlchgwallter, at the southern edge of the survey area.

PRN	36950	EVENT TYPE	Management document
FOR	FE	YEAR	1998
PERIOD	General		

TITLE The Mynydd y Ffynnon Welsh Heritage Assets Project

BY Hall J, Sambrook P & Thomas D, DAT & CPAT

This project was FE funded and involved the reassessment of Mynydd y Ffynnon project data relevant to the afforested portions of the overall Mynydd y Ffynnon survey area. 171 records of individual sites were either created or updated as part of the Mynydd y Ffynnon Project, 157 in Ceredigion, 14 in Powys. Of these 31 were existing records and 140 new records. The sites were recorded within an area estimated to be 42 square km.

PRN	37102	EVENT TYPE	Management document
FOR	ADAS/FE	YEAR	1999
PERIOD	General		

TITLE **The Mynydd y Ffynnon Project Phase V - Site Management Report**

BY Sambrook P, DAT & CPAT

This report was produced to conclude the Mynydd y Ffynnon Project. It provides management prescriptions for all archaeological sites and features located on the ADAS and FE owned land within the Mynydd y Ffynnon Survey area.

PRN	37149	EVENT TYPE	Historic Landscape Characteri
FOR	Cadw	YEAR	1999
PERIOD	General		

TITLE **Upland Ceredigion Historic Landscape Characterisation**

BY Murphy K, DAT

A historic landscape characterisation undertaken by ACA of Upland Ceredigion which divided the study area of 932 sq. km into 132 historic landscape character areas.

PRN	37150	EVENT TYPE	AP Mapping
FOR	RCAHMW	YEAR	1999
PERIOD	General		

TITLE **AP Mapping and Record Creation 1998-99: Upland Ceredigion**

BY Page N, DAT

This project was carried out by ACA and concentrated on mapping a section of upland Ceredigion centred on OS grid square SN78SW. The study area was a complex multi-period landscape and the mapping added a number of new sites to the SMR as well as recording in detail some of the previously known sites and features. The archaeology of the mapped area can be defined in three very broad categories - ritual sites, agricultural settlement and industry - dating from the Bronze Age to the early 20th century. A range of themes were recognized that are central to any understanding of the region. Specifically, it has begun to unravel some of the intricacies of the remains of the lead mining industry as well as identifying remains of agricultural settlement patterns which may have their origins in the medieval period. It also identified a previously unknown Iron Age hillfort.

PRN	37754	EVENT TYPE	Monument specific survey
FOR	Academic Research	YEAR	1997
PERIOD	Med;Post Med		

TITLE **Transhumance And Settlement on the Welsh Uplands: A view from the Black Mountain in Landscape and Settlement in Mediaeval Wales ed. Nancy Edwards. Oxbow Monograph 81.**

BY Ward AJ, Author

Synthesis of Anthony Ward's survey results following a decade of deserted settlement based field survey in the Mynydd Du (Black Mountain) area of the Carmarthenshire uplands.

PRN	37752	EVENT TYPE	Rapid Blanket Survey
FOR	RCAHMW	YEAR	1996
PERIOD	General		

TITLE Mynydd Mallaen Survey 1995

BY Williams G & Darke I, DAT

Carried out during the summer of 1995, as part of the Welsh Uplands Initiative, funded by Cadw and administered by the RCAHMW. 6 sq. km of common land were surveyed by walking transects 30m apart. 266 sites were recorded, only 8 of which were previously recorded in the regional SMR. The sites dealt with were mostly bronze age ritual sites or mediaeval/post mediaeval settlements with ancillary features, although sections of what is believed to be a Roman leat, which supplied water to the Dolaucothi gold mine also crosses the common.

PRN	37753	EVENT TYPE	Monument specific survey
FOR	Academic Research	YEAR	1999
PERIOD	Med;Post Med		

TITLE A study into transhumance on Mynydd Betws Carmarthenshire

BY Jones R, Author

A BA dissertation carried out by a student at Trinity College, Carmarthen. The report focuses on evidence for mediaeval/post mediaeval settlement on Mynydd y Betws believed to be associated with transhumance use of the upland pasture.

PRN	37755	EVENT TYPE	Rapid Blanket Survey
FOR	RCAHMW/BBNP	YEAR	1997-1998
PERIOD	General		

TITLE Meithrin Mynydd Project

BY DAT, DAT

The Meithrin Mynydd Project was a three-year research and demonstration project ('to nurture the mountain') funded by the Brecon Beacons National Park Authority with EU (European LIFE funding) as an exemplar for common land management in upland Wales and throughout Europe. The project was centred on 15, 000 hectares of the Black Mountain registered common land within the National Park. ACA and CPAT jointly undertook this rapid survey within the Carmarthenshire section of the National Park,

PRN	39008	EVENT TYPE	Monument specific survey
FOR	Cadw	YEAR	1993
PERIOD	Med;Post Med		

TITLE Ceredigion Metal Mines Project

BY Protheroe-Jones R, Author

RCAHMW grant-aided project developed as a response to the pressures on metal mine sites. The project provided an up-to-date gazetteer of over 200 metal mine sites in Ceredigion, utilising the knowledge and expertise of Robert Protheroe-Jones of the National Museum of Wales. ACA staff were involved in an element of desktop research associated with the project which led to a significant enhancement of metal mine records in the regional SMR.

PRN	39009	EVENT TYPE	AP Mapping
FOR	Academic Research	YEAR	1990
PERIOD	General		

TITLE **Bernards Well Mountain Survey**

BY Pearson A, Author

Air mapping of the Bernards Well Mountain in North Pembrokeshire led to the identification of earthwork features and crop marks showing enclosures and possible settlements of mediaeval or prehistoric date.

PRN	35896	EVENT TYPE	Excavation
FOR	Cadw	YEAR	1998
PERIOD	Med;Post Med		

TITLE **Tro'r Derlwyn, Quarter Bach**

BY Benson DG & Crane P, DAT

A report on six weeks of fieldwork during May-June 1998 which included the partial excavation of a deserted settlement site and a topographical survey of the immediate area with some geophysical survey (report appeared after March 1999).

PRN	39122	EVENT TYPE	Excavation
FOR	Cadw	YEAR	1994
PERIOD	Bronze Age		

TITLE **Alltygarn Cairn, Llanfihangel Aberbythych**

BY Murphy K, DAT

This prominent bronze age cairn was excavated during the early summer of 1994. It lay within the consent area of Alltygarn Quarry and quarrying operations had moved closer to the site. It was found to have been raised over a fissured bedrock outcrop and a single cremation accompanied by an urn was discovered.

PRN	39419	EVENT TYPE	Monument Specific Survey
FOR	Dyfed County Council	YEAR	1994
PERIOD	Post Mediaeval		

TITLE **Ystrad Einion Lead Mine, Ceredigion: Report by Dyfed Archaeological Trust during a Derelict Land Reclamation Scheme**

BY James H, Morgan DE & Phillips DG, DAT

A report on archaeological recording of surface features at the disused Ystrad Einion lead mine. A considerable range of surviving features were present and planned for this report. An extensive photographic record was made of the site and some colour photographs are reproduced in the report.

PRN	35310	EVENT TYPE	Rapid Blanket Survey
FOR	Brecon Beacons National Park	YEAR	1997
PERIOD	General		
TITLE	Archaeological element of the Meithrin Mynydd Project: Report on Year 2, 1996-1997		
BY	DAT/CPAT, DAT/CPAT		

Report on the 1996-97 work undertaken jointly by DAT and CPAT in the Carmarthenshire portion of the Brecon Beacons National Park as part of the Meithrin Mynydd Project. The report includes a landscape characterisation, report on a sample field survey, an assessment of the palaeo-environmental potential of peat areas and condition reports on SAMs in the area.

GAZETTEER

PART B

Upland projects not recorded as events in the regional SMR 1989-99

NUMBER 1
 FOR NMW & British Academy
 PERIOD General

EVENT TYPE Excavation
 YEAR 1990

Timberlake S, Excavations at an Early Mining Site on Copa Hill Cwmystwyth Dyfed 1989 and 1990 p.7-13 Archaeology in Wales, Vol. 30

Report on two seasons of fieldwork at Copa Hill Mine (August 1989 and August 1990) which included excavation of some mining features and an EDM survey of the moorland area around the mine to distinguish between different phases of mining activity. The project was sponsored by the National Museum of Wales, British Museum, Society of Antiquaries of London, Board of Celtic Studies, Cambrian Archaeological Association, Historical Metallurgy Association and the British Academy. Staff of the RCAHMW's National Archaeological Survey carried out the EDM survey.

NUMBER 2
 FOR Private
 PERIOD General

EVENT TYPE Monument Specific Survey
 YEAR 1990

Bick D, Further evidence of Hushing in Mid Wales p.33-34 (Esgairmwyn) Archaeology in Wales, Vol. 30

Report on fieldwork which identified evidence of hushing channels, ponds and leats at Esgairmwyn Lead Mine, Ceredigion.

NUMBER 3
 FOR Academic Research
 PERIOD Roman

EVENT TYPE Excavation
 YEAR 1990

Burnham B & H, Anell and Gwenlais Leats p.55 Archaeology in Wales, Vol. 30

Report on a small-scale excavations undertaken by the authors on two Roman leats to the north-east of the Dolaucothi gold mine in Carmarthenshire during July 1990.

NUMBER 4
 FOR Early Mines Research Group
 PERIOD General

EVENT TYPE Excavation
 YEAR 1991

Timberlake S, Copa Hill p.17 Archaeology in Wales, Vol. 31

Report on a short season of excavation work carried out in an infilled opencast working at the mine carried out by members of the Early Mines Research Group.

NUMBER 5
 FOR Private
 PERIOD Post Med

EVENT TYPE Desktop Survey
 YEAR 1991

Macve J, The Search for Zinc Blende in Mid-Cardiganshire During World War II Ceredigion Vol.9, No.3

Research article regarding the efforts of WG Tarrant of the British Geological Survey to search for minerals in the Cardiganshire ore-field during the Second World War.

NUMBER 6
 FOR Academic Research
 PERIOD Roman

EVENT TYPE Excavation
 YEAR 1992

Burnham B & H Walker MJC, Excavations across the Anell and Gwenlais Leats near Dolaucothi in 1990 p.2-8 Archaeology in Wales, Vol. 32

Full report on the small-scale excavations undertaken by the authors on two Roman leats to the north-east of the Dolaucothi gold mine in Carmarthenshire during July 1990.

NUMBER 7 EVENT TYPE Desktop survey
 FOR NMW & British Academy YEAR 1992
 PERIOD General
Timberlake S & Mighall T, Historic and prehistoric mining on Copa Hill Cwmystwyth p38-44
Archaeology in Wales, Vol. 32
 An updated summary of the previous four year's archaeological work carried out by the Early Mines Research Group at Copa Hill and a discussion of the palaeo-environmental evidence derived from the site.

NUMBER 8 EVENT TYPE Excavation
 FOR NMW YEAR 1992
 PERIOD General
Timberlake S, Nantyrarian Mine Melindwr p.91 Archaeology in Wales, Vol. 32
 Report on survey and minor excavations carried out at the mine by members of the Early Mines Research Group.

NUMBER 9 EVENT TYPE Excavation
 FOR Early Mines Research Group YEAR 1992
 PERIOD General
Timberlake S, Llancynfelin Mine, p. 91-91 Archaeology in Wales, Vol. 32
 Report on a field survey of the historical workings and the associated mining landscape at the mine carried out by members of the Early Mines Research Group. Some minor excavations were also carried out.

NUMBER 10 EVENT TYPE Excavation
 FOR NMW, Soc. Ant., Prehist. Soc. YEAR 1993
 PERIOD General
Timberlake S, Copa Hill p.54-55 Archaeology in Wales, Vol. 33
 Report on excavation work carried out on an infilled opencast working at the mine by members of the Early Mines Research Group.

NUMBER 11 EVENT TYPE Monument Specific Survey
 FOR Academic Research YEAR 1994
 PERIOD Med;Post med
Ward AJ, An Incipient Upland Farmstead at Tro'r Derlwyn? Carmarthenshire Antiquary 31
 Published report on the recording and interpretation of a series of deserted settlement sites in the Nant Garw valley, Mynydd Du, Carmarthenshire.

NUMBER 12 EVENT TYPE Desktop Survey
 FOR Private YEAR 1994
 PERIOD Med;Post Med
Rees D, The Forest of Glyncothi Carmarthenshire Antiquary 31
 Article tracing the history of the forest of Glyncothi, which covered much of northern Carmarthenshire during the early mediaeval period, but which was progressively deforested from the later mediaeval period onwards, virtually disappearing by the 20th century.

NUMBER	13	EVENT TYPE	Desktop Survey
FOR	Academic Research	YEAR	1994
PERIOD	General		

Pearson A et al, The application of digital mapping techniques to the tithe map of the Parish of Newport Pembrokeshire. Cartographic Journal Vol. 31

A paper which illustrates how tithe maps and apportionments can be input into a GIS and aid the study of the mediaeval and post-mediaeval landscape.

NUMBER	14	EVENT TYPE	Excavation
FOR	NMW & British Academy	YEAR	1995
PERIOD	General		

Timberlake S, Copa Hill p.40-43 Archaeology in Wales, Vol. 35

Report on further excavation of a rock cut trench or entrance area of the mine which had previously produced material which had C14 dates to the early bronze age. Excavation grants had been provided by the National Museum of Wales, the Cambrian Archaeological Association and the Royal Archaeological Institute.

NUMBER	15	EVENT TYPE	Dating
FOR	Board of Celtic Studies	YEAR	1995
PERIOD	Bronze Age		

Timberlake S, Nantyrarian Mine Melindwr p.43-44 Archaeology in Wales, Vol. 35

Additional note on dating results on charcoal samples taken during survey work and excavation carried out at the mine in September 1992 by members of the Early Mines Research Group. Dating costs were funded by the Board of Celtic Studies.

NUMBER	16	EVENT TYPE	Dating
FOR	British Museum, Bd.Celt.Stud.	YEAR	1995
PERIOD	Bronze Age		

Timberlake S, Llancynfelin Mine, p. 43 Archaeology in Wales, Vol. 35

Report outlining dating results from excavation work carried out on the mine in 1992 by members of the Early Mines Research Group. Dating work was funded by the British Museum and the Board of Celtic Studies.

NUMBER	17	EVENT TYPE	Excavation
FOR	NMW & British Academy	YEAR	1996
PERIOD	General		

Timberlake S, Copa Hill p.60-61 Archaeology in Wales, Vol. 36

Report on the excavation of early mining sediment in a prehistoric opencast working at Copa Hill. Financial support was derived from a number of sources, including the Leverhulme trust, National Museum of Wales, Cambrian Archaeological Association and the Board of Celtic Studies.

NUMBER	18	EVENT TYPE	Excavation
FOR	Academic Research/Leverhulme	YEAR	1996
PERIOD	General		

Timberlake S, Ty'n y Fron Mine Cwm Rheidol p.61 Archaeology in Wales, Vol. 36

Report on a full EDM survey of all surface working of the mine as well as the recording of sections through an eroded early mine spoil heap.

NUMBER 19 EVENT TYPE Geochemical Survey
 FOR Early Mines Research Group YEAR 1996
 PERIOD General
Timberlake S, Copa Hill Cwmystwyth p.84 Archaeology in Wales, Vol. 36
 Short report of a geochemical survey carried out at Copa Hill on a suspected lead smelting site.

NUMBER 20 EVENT TYPE Excavation
 FOR Academic Research Leverhulme YEAR 1996
 PERIOD General
Timberlake S, Pen Cerrig-mwyn Nantymwyn Mine Llandovery p.104-05 Archaeology in Wales, Vol. 36
 Report of an EDM survey carried out on a series of early lead mine workings on Pen Cerrig-mwyn ridge by members of the Early Mines Research Group.

NUMBER 21 EVENT TYPE Excavation
 FOR Private YEAR 1996
 PERIOD Iron Age
Driver T, Darren Hillfort, p.61 Archaeology in Wales, Vol. 36
 A short section of exposed stone walling at the entrance of the hillfort was cleaned back and recorded by Toby Driver with the permission of Cadw. A copy of the report was deposited at Ceredigion Museum.

NUMBER 22 EVENT TYPE AP Survey
 FOR RCAHMW YEAR 1997
 PERIOD General
Driver T, Allt yr Hafod Fawr Myddfai p.68 Archaeology in Wales, Vol. 37
 Note on the identification of a second, later Roman practice camp overlying the known practice camp at Allt yr Hafod Fawr, Myddfai, Carmarthenshire thorough RCAHMW air-mapping work.

NUMBER 23 EVENT TYPE Desktop
 FOR Early Mines Research Group YEAR 1998
 PERIOD Bronze Age
Timberlake S, Survey of Early Metal Mines within the Welsh Uplands Archaeology in Wales, Vol. 38
 Short synthesis and discussion of C14 dates obtained from early mines sites in Wales 1988-97, including several in Ceredigion and Carmarthenshire (Copa Hill, Nantyreira, Nantyrarian, Llancynfelin, Pen Cerrig y Mwyn).

Bibliography

- | | | | |
|----------------------------------|-------------|---|---------------------------------|
| Benson DG & Crane P | 1998 | <i>Tro'r Derlwyn, Quarter Bach</i>
DAT | SMR Project Record Number 35896 |
| Benson DG & Phillips DG | 1993 | <i>Hendre Quarries: Ystrad Meurig Quarry - Report on Archaeological Evaluation</i>
DAT | SMR Project Record Number 32485 |
| Bick D | 1990 | <i>Further evidence of Hushing in Mid Wales p.33-34 (Esgairmwyn)</i>
Author | Gazetteer Part B Number 2 |
| Breen E | 1999 | <i>Llangendeirne Parish Survey</i>
DAT | SMR Project Record Number 36877 |
| Burnham B & H Walker MJC | 1992 | <i>Excavations across the Anell and Gwenlais Leats near Dolaucothi in 1990 p.2-8</i>
Author | Gazetteer Part B Number 6 |
| Burnham B & H | 1990 | <i>Anell and Gwenlais Leats p.55</i>
Author | Gazetteer Part B Number 3 |
| Cambrian Archaeological Projects | 1998 | <i>Forest Enterprise Welsh Heritage Assets Project - North Tywi.</i>
CAP Ltd | SMR Project Record Number 36730 |
| Castledine A | forthcoming | <i>Environmental Archaeology in Wales, 2nd ed.</i>
UCW Lampeter | |
| Crane P | 1995 | <i>Llyn Brianne Uplands Survey 1995</i>
DAT | SMR Project Record Number 29800 |
| DAT | 1997-1998 | <i>Meithrin Mynydd Project</i>
DAT | SMR Project Record Number 37755 |
| DAT Curatorial Section | 1992 | <i>Archaeological Assessment for Dwr Cymru: Bontgoch Storage Reservoir Scheme</i>
DAT | SMR Project Record Number 29586 |
| DAT/CPAT | 1997 | <i>Archaeological element of the Meithrin Mynydd Project: Report on Year 2, 1996-1997</i>
DAT/CPAT | SMR Project Record Number 35310 |
| Davies JL & Kirby DP | 1994 | <i>Cardiganshire County History Vol 1: From the Earliest Times to the Coming of the Normans.</i>
Cardiganshire Antiquarian Society | |
| Driver T | 1997 | <i>Allt yr Hafod Fawr Myddfai p.68</i>
RCAHMW | Gazetteer Part B Number 22 |
| Driver T | 1996 | <i>Darren Hillfort, p.61</i>
Author | Gazetteer Part B Number 21 |
| Evans M & Dorling P | 1995 | <i>Garn Goch Archaeological Survey 1994-5</i>
BBNP | SMR Project Record Number 34709 |
| Hall J, Sambrook P & Thomas D | 1998 | <i>The Mynydd y Ffynnon Welsh Heritage Assets Project</i>
DAT & CPAT | SMR Project Record Number 36950 |
| James H | 1997 | <i>Brechfa-Byrgwm Forest Walk & Banc y Daren Walk</i>
DAT | SMR Project Record Number 35380 |
| James H, Morgan DE & Phillips DG | 1994 | <i>Ystrad Einion Lead Mine, Ceredigion: Report by Dyfed Archaeological Trust during a Derelict Land Reclamation Scheme</i>
DAT | SMR Project Record Number 39419 |
| Jenkins GH & Jones IG | 1998 | <i>Cardiganshire County History Vol 3: Cardiganshire in Modern Times.</i>
Cardiganshire Antiquarian Society | |
| Jones R | 1999 | <i>A study into transhumance on Mynydd Betws Carmarthenshire</i>
Author | SMR Project Record Number 37753 |
| Leighton DK | 1997 | <i>Mynydd Ddu & Fforest Fawr : The Evolution of an Upland</i>
RCAHMW | |

- | | | |
|---------------------------------|------|--|
| Ludlow N | 1994 | <i>Report on the Archaeological Implications of the Proposed Main Supply Scheme at Brechfa Mountain Carmarthenshire.</i>
DAT SMR Project Record Number 28242 |
| Ludlow N | 1994 | <i>Report on the Archaeological Watching Brief on the Llyn Craig-y-Pistyll to Bontgoch Water Supply System</i>
DAT SMR Project Record Number 30684 |
| Macve J | 1991 | <i>The Search for Zinc Blende in Mid-Cardiganshire During World War II</i>
Author Gazetteer Part B Number 5 |
| Morgan DE | 1994 | <i>Goginan Forest Design Plan</i>
DAT SMR Project Record Number 27931 |
| Morgan DE | 1994 | <i>Cwmeion Forest Design Plan</i>
DAT SMR Project Record Number 28204 |
| Morgan DE | 1994 | <i>Llandovery to Llyn Brianne: Proposed 33kv Wood Pole Line</i>
DAT SMR Project Record Number 29559 |
| Morgan DE | 1997 | <i>Clywedog Forest: Notes bibliography and annotated maps</i>
DAT SMR Project Record Number 35243 |
| Muckle PT & Williams GH | 1992 | <i>An Archaeological Survey of the Groes Fawr Valley, Blaencaron, Caron Is Clawdd, Mid Wales</i>
DAT & Univ. Coll. Cardiff SMR Project Record Number 14800 |
| Murphy K | 1994 | <i>Daren Lead Mine Banc-y-Daren Near Aberystwyth</i>
DAT SMR Project Record Number 29900 |
| Murphy K | 1998 | <i>An Archaeological Survey of Cwmllywd Sheepfold</i>
DAT SMR Project Record Number 35465 |
| Murphy K | 1996 | <i>Hafod Archaeological Database</i>
DAT SMR Project Record Number 33670 |
| Murphy K | 1999 | <i>Upland Ceredigion Historic Landscape Characterisation</i>
DAT SMR Project Record Number 37149 |
| Murphy K | 1994 | <i>Alltygarn Cairn, Llanfihangel Aberbythych</i>
DAT SMR Project Record Number 39122 |
| Murphy K & James H | 1993 | <i>Past Land Use at Carmel Woods, near Llandybie, Dyfed</i>
DAT SMR Project Record Number 16913 |
| Murphy K & Sambrook P | 1994 | <i>Report on the Archaeological impact of the Proposed Watermain Renewal Scheme - Capel Iwan/Crugygorllwyn/Five Roads</i>
DAT SMR Project Record Number 29798 |
| Murphy K & Sambrook P | 1994 | <i>South East Dyfed Minerals: A Survey of the Archaeological Resource Threatened by Mineral Extraction.</i>
DAT SMR Project Record Number 30171 |
| Murphy K, Sambrook P & Ludlow N | 1994 | <i>Report on the Archaeological Watching Brief on the Bontgoch Storage Reservoir Scheme</i>
DAT SMR Project Record Number 29586 |
| Murphy K, Sambrook P & Ramsey | 1994 | <i>Report on the Archaeological Watching Brief on the Ysbytty Reservoir-Pengoyallt Watermain</i>
DAT SMR Project Record Number 32487 |
| Musson C | 1995 | <i>Wales from the Air: Patterns of Past and Present</i>
RCAHMW |
| Page N | 1995 | <i>Capel Iwan-Crugygorllwyn-Five Roads Watermain Renewal Scheme</i>
DAT SMR Project Record Number 29798 |
| Page N | 1999 | <i>AP Mapping and Record Creation 1998-99: Upland Ceredigion</i>
DAT SMR Project Record Number 37150 |
| Page N & Ramsey R | 1999 | <i>Forest Enterprise Welsh Heritage Assets Project - Brechfa/Caeo/Coed Deufor/Coed Preseli</i>
DAT SMR Project Record Number 36436 |

- | | | | |
|---------------------------|------|---|---------------------------------|
| Page N & Scott S | 1997 | <i>Coed Maes yr Haidd/Bryn Teg Archaeological Survey</i>
DAT | SMR Project Record Number 35510 |
| Pearson A | 1990 | <i>Bernards Well Mountain Survey</i>
Author | SMR Project Record Number 39009 |
| Pearson A et al | 1994 | <i>The application of digital mapping techniques to the tithe map of the Parish of Newport Pembrokeshire.</i>
Author | Gazetteer Part B Number 13 |
| Protheroe-Jones R | 1993 | <i>Ceredigion Metal Mines Project</i>
Author | SMR Project Record Number 39008 |
| Rees D | 1994 | <i>The Forest of Glyncothi</i>
Author | Gazetteer Part B Number 12 |
| Rees S | 1992 | <i>Dyfed. Cadw</i>
Cadw | |
| Sambrook P | 1997 | <i>Mediaeval or Later Deserted Rural Settlements in Mid & West Wales - Pilot Study</i>
DAT | SMR Project Record Number 32844 |
| Sambrook P | 1999 | <i>The Mynydd y Ffynnon Project Phase IV - 1998 Survey</i>
DAT & CPAT | SMR Project Record Number 35915 |
| Sambrook P | 1999 | <i>The Mynydd y Ffynnon Project Phase V - Site Management Report</i>
DAT & CPAT | SMR Project Record Number 37102 |
| Sambrook P & Darke I | 1997 | <i>The Mynydd y Ffynnon Project - Castell/Rheidol Upland Survey</i>
DAT | SMR Project Record Number 34854 |
| Sambrook P & Hankinson R | 1997 | <i>The Mynydd y Ffynnon Project - Forest Archaeological Survey</i>
DAT & CPAT | SMR Project Record Number 35247 |
| Sambrook P & James H | 1995 | <i>South East Dyfed Mineral Project: The South East Dyfed Anthracite Coalfield</i>
DAT | SMR Project Record Number 30870 |
| Sambrook P & James H | 1997 | <i>Archaeological & Historic Assessment of Farms in the Tir Cymen Scheme - Dinefwr</i>
DAT | SMR Project Record Number 34654 |
| Sambrook P & Ramsey R | 1998 | <i>Mediaeval or Later Deserted Rural Settlements in Mid & West Wales - 1997-1998 Survey</i>
DAT | SMR Project Record Number 35605 |
| Sambrook P & Ramsey R | 1999 | <i>Mediaeval or Later Deserted Rural Settlements in Mid & West Wales - 1998-1999 Survey</i>
DAT | SMR Project Record Number 35966 |
| Sambrook P & Silvester RJ | 1997 | <i>The Mynydd y Ffynnon Archaeological and Historic Landscape Survey: Desktop Assessment and Field Survey</i>
DAT & CPAT | SMR Project Record Number 34440 |
| Silvester RJ | 1997 | <i>Mynydd y Ffynnon Project II: Cwmystwyth</i>
CPAT | SMR Project Record Number 35184 |
| Thomas D | 1998 | <i>Forest Enterprise Welsh Heritage Assets Project -South Tywi/Irfon/Crychan/Glasfynydd Archaeological Assessment</i>
CPAT | SMR Project Record Number 36083 |
| Timberlake S | 1990 | <i>Excavations at an Early Mining Site on Copa Hill Cwmystwyth Dyfed 1989 and 1990 p.7-13</i>
Author | Gazetteer Part B Number 1 |
| Timberlake S | 1991 | <i>Copa Hill p.17</i>
Early Mines Research Group | Gazetteer Part B Number 4 |
| Timberlake S | 1992 | <i>Nantyrarian Mine Melindwr p.91</i>
Author | Gazetteer Part B Number 8 |

- | | | | |
|-----------------------------|------|--|-----------------------------------|
| Timberlake S | 1993 | <i>Copa Hill p.54-55</i>
Author | Gazetteer Part B Number 10 |
| Timberlake S | 1995 | <i>Copa Hill p.40-43</i>
Early Mines Research Group | Gazetteer Part B Number 14 |
| Timberlake S | 1995 | <i>Nantyrarian Mine Melindwr p.43-44</i>
Early Mines Research Group | Gazetteer Part B Number 15 |
| Timberlake S | 1996 | <i>Copa Hill p.60-61</i>
Author | Gazetteer Part B Number 17 |
| Timberlake S | 1996 | <i>Ty'n y Fron Mine Cwm Rheidol p.61</i>
Author | Gazetteer Part B Number 18 |
| Timberlake S | 1996 | <i>Copa Hill Cwmystwyth p.84</i>
Early Mines Research Group | Gazetteer Part B Number 19 |
| Timberlake S | 1996 | <i>Pen Cerrig-mwyn Nantymwyn Mine Llandovery p.104-05</i>
Author | Gazetteer Part B Number 20 |
| Timberlake S | 1995 | <i>Llancynfelin Mine, p. 43</i>
Early Mines Research Group | Gazetteer Part B Number 16 |
| Timberlake S | 1992 | <i>Llancynfelin Mine, p. 91-91</i>
Early Mines Research Group | Gazetteer Part B Number 9 |
| Timberlake S | 1998 | <i>Survey of Early Metal Mines within the Welsh Uplands</i>
Early Mines Research Group | Gazetteer Part B Number 23 |
| Timberlake S & Mighall
T | 1992 | <i>Historic and prehistoric mining on Copa Hill Cwmystwyth p38-44</i>

Author |

Gazetteer Part B Number 7 |
| Ward AJ | 1997 | <i>Transhumance And Settlement on the Welsh Uplands: A view from the Black Mountain</i>
Landscape and Settlement in
Mediaeval Wales ed. Nancy
Edwards. Oxbow Monograph 81. | SMR Project Record Number 37754 |
| Ward AJ | 1994 | <i>An Incipient Upland Farmstead at Tro'r Derlwyn?</i>
Author | Gazetteer Part B Number 11 |
| Ward AJ | 1991 | <i>Transhumance or Permanent Settlement: Linear House Foundations along the Afon Clydach on the Black Mountain</i>
Sir Gar ed. Heather James.
Carmarthenshire Antiquarian
Society | |
| Ward AJ | 1997 | <i>Transhumance And Settlement on the Welsh Uplands: A view from the Black Mountain</i>
Landscape and Settlement in
Mediaeval Wales ed. Nancy
Edwards, Oxbow Monograph 81. | |
| Wigfall S | 1994 | <i>Pendam Forest Design Plan</i>
FE | SMR Project Record Number 26588 |
| Wigfall S | 1994 | <i>Blaen Peithnant: Summary of Observations</i>
FE | SMR Project Record Number 28217 |
| Williams G & Darke I | 1996 | <i>Mynydd Mallaen Survey 1995</i>
DAT | SMR Project Record Number 37752 |

