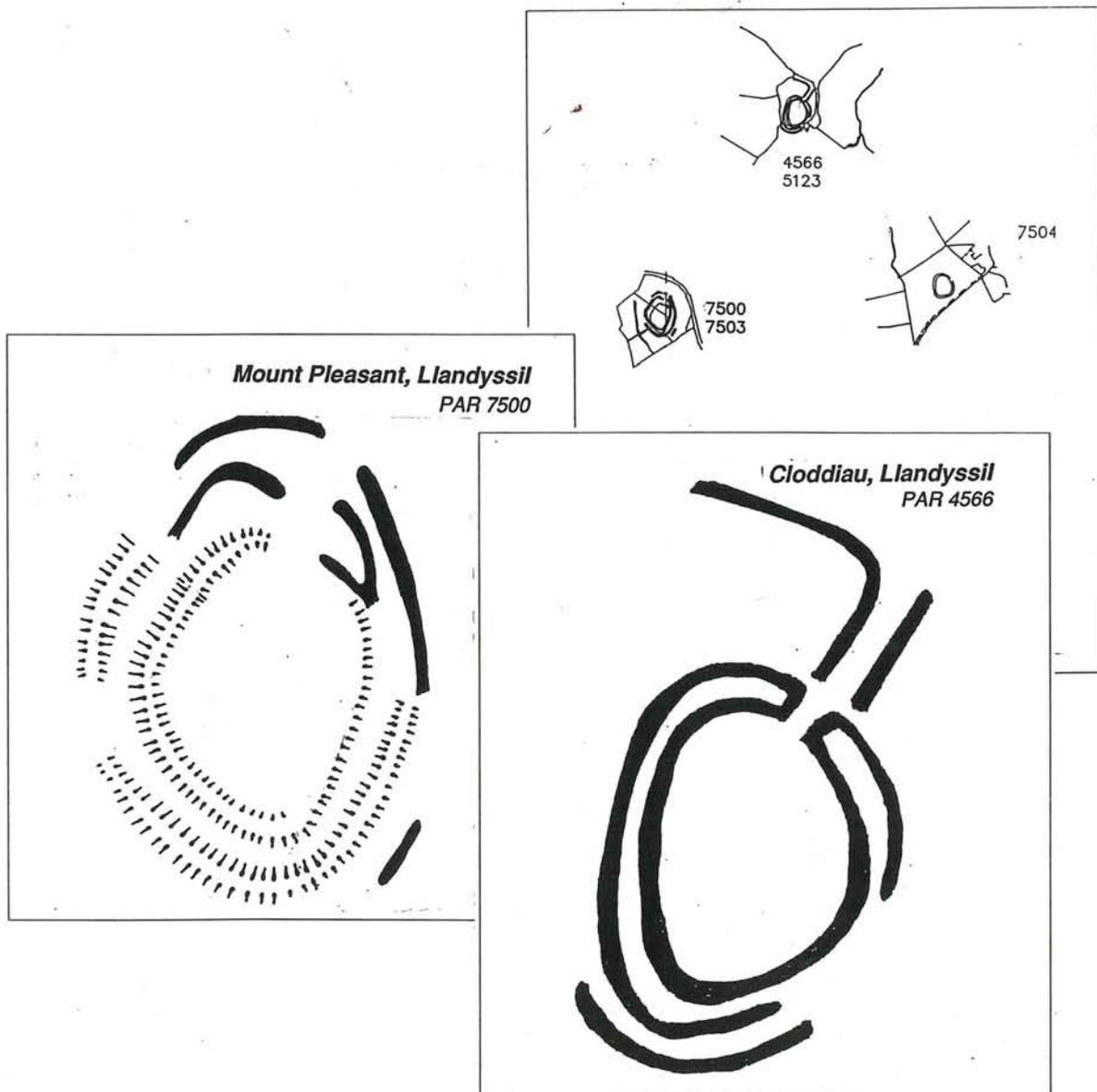


Montgomeryshire Small Enclosures Project

SUMMARY REPORT 1993

PART 1



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Montgomeryshire Small Enclosures Project

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PART 1

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1 INTRODUCTION

1.1 Background

Hillforts and smaller defended camps of Iron Age and Romano-British types have long been acknowledged as important components of the archaeology of the Upper Severn Valley in eastern Montgomeryshire and western Shropshire. Earthwork sites have been known and discussed since the 19th century but as a result of more intensive programmes of aerial photography, particularly by CR Musson, the numbers of sites has practically doubled. The newly discovered examples are largely cropmark sites in the more intensively farmed lower-lying areas on the sides and floors of valleys: little or no earthwork evidence generally survives and it is assumed that the sites have become substantially levelled and eroded by ploughing since possibly the medieval period.

Little opportunity has previously been available to undertake a systematic study of the new evidence from aerial photography in the region. This is a problem affecting other buried monument types and landscapes represented in the region. This is a widespread problem, Whimster (1989, 88) having noted that resources for 'the post-reconnaissance treatment of air photographic information are limited', and that 'in very few regions has the air photographic record been given the detailed evaluation necessary for effective archaeological management and research'.

A combined study of the earthwork and aerial photographic evidence reveals considerable variation in enclosure types, ranging from large heavily-defended hill-top enclosures at one extreme through to small and probably lightly defended enclosures at the other. Whilst a relatively small number of the larger hillforts can probably legitimately be distinguished as a separate phenomenon, the continuous variation in size, shape, complexity, scale of defence and location of the majority of sites have had a tendency to inhibit further attempts to distinguish well-defined monument types.

Limited evidence from within the region and by analogy with elsewhere in Britain suggests that this group of monuments predominantly represent a pattern of settlement and land-use originating in the later prehistoric period and continuing into the Roman period and possibly beyond. Superficially, the larger hill-top enclosures appear to represent important pre-Roman tribal centres and the smaller sites, the small enclosures that are the subject of this study, generally appear to represent defended or weakly defended farmsteads of individual families or more extended kinship groups.

Earlier studies of these sites have tended to focus upon either surviving earthwork evidence (Spurgeon 1972) or upon the more recently discovered cropmark evidence in parts of eastern Montgomeryshire and western Shropshire (Whimster 1989, 35-65), the evidence from these two strands of evidence having never been fully integrated. Attention has been drawn (Musson 1981; Whimster 1989, 65) to our superficial understanding of their dating and the social and economic systems they represent; few of the sites recently identified by aerial reconnaissance had been studied in the field and no systematic attempt had been made to ensure the long-term preservation of a representative sample of sites.

1.2 Project Design

The following stages have been identified in the project proposals, subsequently revised, submitted to Cadw in 1990/91 (CPAT 14), based partly upon earlier recommendations (Musson 1981, 5-6; Whimster 1989, 65). A seven year project was envisaged, for which it was agreed that funding would be reviewed annually, and which would be undertaken discontinuously.

The timing of completed parts of the study and the provisional timing of further aspects of the project are shown in brackets below.

Stage 1 (1990/91 — 1991/92)

Documentation

Identification of certain and possible enclosure and hillfort sites listed in the SMR. Identification of relevant aerial photographs in CPAT and CUCAP aerial photograph archives. Selection of sites for potential inclusion in category of 'small enclosure'. Provisional plotting of distribution of sites at 1:25,000. Design of site record form to record details of ownership, site description, siting, current land-use etc. Establishing ownership; contacts with landowners and tenants to agree permission for access. Rapid site visits and site recording. Fieldwalking of selected sites to recover cultural material from surface collections.

Stage 2 (1991/92)

Site selection

Selection of sites for inclusion in category of 'small enclosure' following review of documentary and aerial photographic evidence and site visits.

Database design

Design of relational databases compatible with SMR to record new fields of evidence recorded during site visits.

Review of classification schemes

Review of existing schemes of classification and their applicability to Montgomeryshire's earthwork and cropmark small enclosures.

Review of mapping deficiencies

Identification, on basis of review of documentary evidence and site visits, sites with inadequate map base, including the following: unrecorded or poorly recorded earthwork sites; cropmark sites which have not been plotted or where existing plots are considered inadequate; cropmark sites which site visits have shown to have an unrecorded earthwork component.

Stage 3 (1992/93 — 1993/94)

Mapping

Field planning and AP plotting of selected sites with inadequate existing map base. Archiving of new site records.

SMR enhancement

Entry of new fieldwork data and new or amended site entries into relational databases compatible with the SMR, incorporating references to more recent published and archival

sources, estimates of site size, and classification.

Site gazetteer

Production of site gazetteer and draft illustrations.

Preliminary report

Production of preliminary report for limited circulation, providing overview of Montgomeryshire small enclosures, recommendations for further work and management, and recommendations for a selective excavation programme to be undertaken in Stage 4.

Stage 4 (1993/94 — 1994/95)

Selective small-scale excavation of threatened or damaged sites and evaluation of sites of indeterminate archaeological preservation recommended for scheduling (see also Section 6.3).

Stage 5(1995/96)

Post-excavation work resulting from Stage 4.

Stage 6 (1996/97)

Publication of final report(s).

Project Archive

The current contents of the Project Archive are listed in Appendix 1.

1.3 Presentation of this report

The present study provides an initial report on what is anticipated with be a longer-term study (see Section 1.2). It has been prepared at the end of Stage 3 identified in the Project Design (Section 1.2) in conjunction with a shortened gazetteer of the more certain small enclosure sites included in the study (Part 2).

The present study brings together the evidence from fieldwork and aerial photography relating to Montgomeryshire's small enclosures; it provides an overview of the types of sites represented, together with recommendations for future study and management of this important archaeological resource.

The present report is not primarily intended as a synthesis of interpretation of the archaeology of the Montgomeryshire's small enclosures. It is anticipated that a more detailed synthesis of the archaeological evidence including dating evidence obtained from selective small-scale excavations (Stage 4), an analysis of site distributions and possibly a more detailed analysis of selected Area Studies (see Section 6.2) will be published in subsequent stages of the project.

1.4 Acknowledgements

Assistance with SMR interrogation and database structures and design has been provided by Chris Martin. Help with AP interpretation has been kindly provided by Chris Musson. AP plotting has been undertaken by Pat Frost, and site planning has been carried out under the supervision of David Thomas. Rowan Whimster readily gave his permission to use his original site plots in the gazetteer.

2 METHODS OF APPROACH

2.1 Initial site selection

A relational database of potential sites to be included in the study was created as an abstract from the Powys SMR. This included sites incorporating the terms 'hillfort' and/or 'enclosure' listed in the SMR.

A provisional selection was made of small enclosures of Iron Age and Romano-British types on the basis of an assessment of the SMR entries and the 1:10,000 record maps which form a component of the SMR.

A number of possible sites included in the SMR on place-name evidence alone were excluded, including for example Pen y Gaer, Berriew (PAR 146), Din Gaer, Llanwyddelan (PAR 3892) and Pen y Gaer, Llansantffraid (PAR 3971). Commonly recurring placenames attributed to hillforts and enclosures include *gaer*, *llan*, *castell* and *cloddiau*. Whilst a study of place-name evidence may well be rewarding, it was considered to be beyond the scope of the present study. The potential significance of this form of evidence is exemplified by Cloddiau, Llandyssil (PAR 4566), a site initially included in the SMR on place-name evidence alone and subsequently identified from the air in 1989 (Musson 1989).

Ring-ditches and other probable funerary and ritual monuments of earlier periods were excluded, as were Roman sites of explicitly military character, including for example a large and distinctive pentagonal enclosure at Llansantffraid-ym-Mechain (PAR 5117) which it has been suggested represent a military supply depot (Jones and Reynolds 1987). A majority of medieval moated sites, earthwork castles, church enclosures and morphologically later enclosures were also excluded, except for a small number of instances where there had been suggestions that the sites might incorporate enclosures from earlier periods, as for example in the case of Moat Castle, Llandinam (PAR 775) and Pen y Castell, Llanidloes (PAR 907).

A number of additional sites were included which were identified in the flight records of recent aerial sorties but which has not at that stage been integrated into the SMR.

There is clearly considerable overlap between those sites conventionally described as 'hillforts' and those described as 'enclosure'. Although the use of the terms in the Powys SMR are primarily descriptive — distinguishing between well-defended hill-top sites at one extreme from poorly defended lowland sites at the other — it is inevitable that the terms are often applied somewhat arbitrarily. The term 'hillfort' is now generally applied so loosely on the basis of size of internal area, the strength of the defences, or the defensive potential of the site's location, that its use would be potentially misleading in the context of this study and has therefore generally been avoided. These problems of definition are exemplified by two sites just 1.5km apart to the north of Welshpool, which are extremely similar in size, shape, and morphological complexity (Fig 1). Varchoel Lane enclosure (PAR 3595A) is a cropmark site with no existing surface traces. Crowther's Coppice (PAR 95) is a substantial earthwork enclosure, invariably classed as a hillfort (eg RCAHMW 1911, 181), with banks standing over 2m high. In the illustration the banks of this site have been removed, leaving the ditches to provide the outline. Comparable exercises with more geographically dispersed enclosures would serve to reinforce this point. Black Wood, Berriew (PAR 7525) illustrates the same point in the context of a single site. Over much of the

two ditched circuits the parchmarks recognised from the air in 1990 are barely apparent as undulations at ground level, yet in the copse on the steepest lip of the spur, where less substantial defences might be anticipated, the earthworks in fact survive to a height of several metres.

The term 'small enclosure' is therefore used descriptively in this study to cover a range of monument types in a variety of topographical locations. No upper size limit has been defined in order to avoid introducing arbitrary distinctions.

Nevertheless, a number of larger defended enclosures normally classed as hillforts were excluded from this study at an early stage on the basis that they clearly fell outside the class of small enclosures. These included Llanymynech (PAR 28), Gaer Fawr (PAR 93), Beacon Ring (PAR 134), Fridd Faldwyn (PAR 168), the Breiddin (PAR 1254) and Craig Rhiwarth (PAR 1465). These, together with other sites listed in the SMR which might be distinguished as hillforts, some of which were initially included in the fieldwork programme, are listed in Appendix 2A.

2.2 Air Photo Assessment

Oblique aerial photographs of the initial selection of sites were examined in both the CPAT and Cambridge University (CUCAP) collections. The only vertical photographs examined were a short run of high-level shots of the Welshpool area taken by CUCAP and used in Whimster's survey (Whimster 1989).

It should be noted that CPAT's aerial photographic archives were not systematically or comprehensively examined to identify new enclosures overlooked by earlier researchers, and that those obliques showing cropmarks whose significance to the current survey was equivocal have also not been taken into account. Vertical photography taken by the RAF in 1946/47, by the Ordnance Survey in more recent decades, and by JB Storey & Partners in 1984 have not been examined.

2.3 Summary of sites included in the study

A total of about 300 sites were initially included in the study of which only seven were not visited in the field because of difficulties in obtaining access. A number of sites were rejected because they failed to reveal any convincing traces of previously reported earthworks (eg Gallt y Anr, PAR 72). Other sites were rejected on the grounds that they probably (eg Todleth Hill, PAR 7118) or demonstrably (eg Crosswood Camp, PAR 1245) are post-Roman in date (see Appendix 2C).

A provisional total of 235 small enclosures are included in the gazetteer in Part 2 for which there are reasonable grounds to assume are small enclosures of Iron Age and Romano-British date (Fig 2). There are a further 23 possible sites, not listed in the gazetteer, where the available evidence is either ambiguous or inconclusive, and which are only likely to be verified by further aerial photography or excavation (see Appendix 2B). Moat Castle (PAR 775), for example may represent a motte and bailey superimposed upon a large univallate earthwork, while a second line of defence around the northern side of the bailey at Pen y Castell (PAR 907) could also indicate an earlier enclosure. Cefn Du, Guilsfield (PAR 103) which has been included in the

gazetteer is also anomalous; it may represent a motte sheltering within an earlier enclosure.

2.4 Site Visits

The location of sites included in the initial selection were plotted on a series of 1:25,000 Ordnance Survey (Pathfinder) maps preparatory to fieldwork. Site visits were arranged for every site, and with the exception of a handful of sites in woodland and on Common Land, permission for access was obtained from the landowner. Establishing ownership often proved difficult and time-consuming, except generally in the case of Scheduled Ancient Monuments.

Fairly rapid visits were made to each site location, during which an assessment was made of the siting and any surviving earthworks or other features of significance. Standardised record forms were used for fieldwork recording, to which sketch plans were appended where appropriate. Aerial photographs were used in the field to help identification, and proved very valuable in this role.

Existing SMR records of earthworks were checked and where necessary amended on the relational databases set up for the project. A number of SMR records proved to be clearly inaccurate, as for example in the case of Tan Llan (PAR 2505) and Dolbran (PAR 2506) where the existing SMR descriptions were based on Ordnance Survey record cards were wholly inadequate.

A number of additional enclosures were inevitably identified from the air after completion of the fieldwork programme, and have consequently not been visited in the field.

Although a majority of landowners or tenants were co-operative and actively interested in the archaeological sites upon their land, it is worth noting that a number were either openly hostile or only grudgingly granted permission for site visits. An overt antipathy to the heritage was encountered occasionally, most notably amongst a number of lowland arable farmers in the area between Welshpool and Montgomery. In the event, only one farmer refused access outright although several others were reluctant because of real or imagined restrictions it was felt might be imposed upon them which would interfere with normal farming practice. The withdrawal of acknowledgement payments for Scheduled Ancient Monuments and the manner in which it was handled was most frequently cited as a cause of annoyance. Such attitudes will clearly have a bearing upon future fieldwork programmes or site management proposals.

A significant proportion of sites included in the study, particularly cropmark sites, had not previously been systematically visited on the ground. The importance of undertaking fieldwork is highlighted by the example of Boxtree Farm enclosure, Guilsfield (PAR 5261). The cropmark photographs of the site as plotted by Whimster (1989, fig 28, no 15) show a large semi-circular cropmark cutting across a treble-ditched enclosure. Fieldwork clearly shows that the semi-circular cropmark is no more than a silted-up meander of a nearby stream. In many cases surviving earthworks have been identified for the first time from ground observations of cropmark sites visited as part of this study, which includes many of the sites classed as 'composite sites' in Section 3.2.

2.5 Fieldwalking

A total of 39 (c 17%) of the total number of selected sites were in a cultivated state at the time of the survey, though less than half of these were in a condition appropriate for carrying out fieldwalking for artefact recovery. Regular transects, ranging in number from 2-14 according to the size of the site and the area under cultivation, were walked on 22 (c 9%) of the sites, of which only 17 (c 7%) were in a good or ideal condition for artefact recovery.

The results were disappointing. Post-medieval debris was encountered on virtually every site, but only two enclosures yielded sherds of pottery that might be contemporary with the enclosures themselves. A single sherd of black burnished ware was found on the Middletown Farm enclosure (PAR 7012) and a small fragment of Samian was recovered from Gelli Dywyll enclosure, Llandinam (PAR 4579), a site which was under new grass that had sprouted sporadically.

Some enclosures under fallow were walked intensively, but with no success. No finds were recovered at Perthye, Kerry (PAR 7034), for instance, although clear soil marks were visible at the same time on what was probably the line of the ditch.

The scarcity of surface finds is consistent with the cultural pattern suggested by the excavation of later prehistoric and rural Romano-British sites in the region: Iron Age sites appear to be virtually aceramic, and the quantities of pottery from Roman sites is relatively slight. The study suggests that the systematic fieldwalking of enclosure sites will not provide a cost-effective means of recovering dating evidence, and that further work of this kind is only likely to be justifiable if it forms part of a more detailed study of a specific site or a group of neighbouring sites.

2.6 Site Mapping

The assessment of existing cartographic sources and subsequent field visits revealed numerous instances where the existing plans of sites were inadequate or where existing AP transcriptions were either inadequate or had not previously been attempted. A total of about 85 rectified AP plots at scales of 1:1000 and/or 1:2500 were made by digitising oblique APs by means of the Bradford University AERIAL 4.2 rectification programme. A further 33 sites with surviving earthwork evidence were planned in the field at a scale of 1:1000, the plans of which have in some instances been combined with evidence from AP transcriptions.

The results, where appropriate, are contained in the gazetteer in Part 2, with other site plans, where available, at a scale of 1:2500. There are still a number of sites where the existing plans of earthworks and cropmark sites are inadequate either because they are at too small a scale or because, in the case of cropmark sites, there are insufficient control points for successful AP rectification (see also recommendations in Section 6.2).

3 SURVIVAL, DISCOVERY AND EXCAVATION

3.1 Forms of monument

Of the total of 235 sites listed in the gazetteer, 134 (57%) are cropmark sites, 68 (29%) are earthworks, and 33 (14%) are composite sites representing a combination of the two forms. The latter sites have usually been discovered by aerial observation.

It is assumed that the majority of ditched enclosures now showing as cropmarks originally had internal banks that have either been deliberately levelled or have been eroded by ploughing over many centuries. There may, however, be enclosures where this was not the case. It is difficult to envisage how spoil from the ditches of rectangular enclosures with sharply-angled corners such as Gelli Dywyll (PAR 4579) could have been embanked satisfactorily. A timber revetment might be a solution, but alternatively an internal embankment may have been dispensed with altogether. None of the distinctly rectangular enclosure sites examined in Montgomeryshire have surviving earthwork evidence.

Earthwork sites

The majority of earthwork enclosure have been known for many years, and have been the subject of detailed survey by the Ordnance Survey. Included here is one site, Pen y Gaer, Llanidloes (PAR 1835), where the main rampart is of stone with virtually no earth component. It may be noted that Montgomeryshire is relatively rich in upstanding monuments of this type, whereas that are rare in the adjacent county of Shropshire (Whimster 1989, fig 29).

Cropmark sites

The term 'cropmark' is generally used throughout this report as a generic description covering parchmarks in grass, soilmarks and frostmarks as well as cropmarks themselves. Whilst it is not always easy and is sometimes impossible to distinguish whether a particular cropmark was photographed in a cereal crop or permanent pasture, it seems probable that new sites have most commonly been identified as cropmarks in cereal and less frequently as parchmarks in pasture.

There are nearly twice as many cropmark sites as earthwork sites and this ratio will undoubtedly increase in years to come as more sites are detected from the air. Cropmarks are generally a lowland phenomenon: they occur only rarely in the uplands, though there are exceptions, particularly on isolated uplands such as Long Mountain.

Cropmarks in cereal or other crops, whether in isolation or in conjunction with earthworks, constitute 84 (36%) of the total, with parchmarks accounting for 75. Soilmarks are rare, almost certainly a result of a combination of factors including the limited arable in the region, the infrequent winter flying in these areas, and probably significantly because of the lack of contrast between ditch fills and their surrounding soil matrix. There are nevertheless some enclosure sites such as Collfryn (PAR 3603) which have shown as soilmarks in the right conditions, though in this instance the site was first identified under crop.

Composite sites

In addition to the 33 composite sites where a combination of distinct earthworks and cropmarks co-exist, there are at least a further 20 sites where faint traces of the former defences are still just visible, though in many cases these would go unrecognised without the cropmark evidence as a guide.

That 14% of the total number of enclosures exhibit both earthwork and cropmark features is a further indication of the potentially misleading distinction between sites which show in relief and those where no surface traces are visible.

3.2 History of Discovery

The discovery of new enclosure sites is inevitably unpredictable, except in those rare cases such as Cloddiau (PAR 4566; Musson 1989) where the existence of a significant place-name or an anomaly marked by the Ordnance Survey acts as a pointer. It is instructive to examine the trends in site recognition since the 1940s with respect to each of the site forms identified in Section 3.1 (Fig 3) since this provides some indication of the sites which might still await discovery and the means by which they are most likely to be identified.

Earthwork sites

Enclosures surviving principally as earthworks have occasionally been identified for the first time in recent years, but 51 (75%) of the 68 earthwork sites included in this study were already known by 1945, the majority appearing in the Royal Commission's *Montgomeryshire Inventory* (RCAHMW 1991). Identification through fieldwork, probably as a result of local information, has added one or two sites to the list, such as Bank Hill, Berriew (PAR 4629), but aerial photography has undoubtedly been more significant in the identification of new earthwork sites. The bivallate enclosure at Pen y Coed, Castle Caereinion (PAR 4426) was recorded for the first time from the air in 1980, and is sufficiently well-preserved to merit scheduling. A less pronounced set of earthworks forming a double-ditched enclosure below Corndon Hill (PAR 7534) was first detected on vertical APs (Napier 1986) and subsequently photographed from the air by CPAT in 1992. Smaller earthwork enclosures discovered from the air include Cwmlerllan, Kerry (PAR 7090) and Pant y Ffridd, Berriew (PAR 4431).

Cropmark sites

The first cropmark enclosure at Thornbury, Forden (PAR 4256) was photographed in 1945, and a trickle of similar enclosures were identified during the 1960s as a result of flights by CUCAP. The advent of aerial reconnaissance by Chris Musson on behalf of CPAT dramatically increased the number of cropmark enclosure sites, particularly in the years 1975-77, 1979, 1983-84, and the dry summers of 1989 and 1990.

Composite sites

The numbers of composite sites have increased less markedly. These sites are normally aerial discoveries, depending in the first instance on the recognition of cropmarks; the recognition that earthworks also survive has largely been the result of a subsequent site visit. The dry summers of 1989-9, during which 8 new sites were identified, has significantly been the most rewarding period to date.

Chance discoveries of new enclosures through fieldwork will doubtless continue, but will never contribute substantially to the number of known sites. It is likely that more earthworks remain undetected in woodland, but since there is no cost-effective means of surveying these areas new sites are most likely only to come to light if reported by foresters and members of the general public before or after felling.

In broad terms, the data indicate that there is still considerable potential for the identification of

new enclosures through aerial reconnaissance and that the law of diminishing returns has clearly not yet come into play. This point was made by Whimster for the period up to 1981 (Whimster 1989, 12) and remains equally valid today. The discovery of 27 new sites, cropmarks and composites, in 1989 and 1990, was only exceeded in 1975 and 1976, in the first years of CPAT's flying programme.

The unpredictability of detecting sites from the air is demonstrated by the substantial number of enclosure sites that have been photographed no more than once (Fig 4). While there is an undeniable element of chance in spotting marks which by their nature are transient, that fact that 65 (42%) of the 154 cropmark and composite enclosures identified before 1990 are represented by only a single year's photography highlights the potential difficulties in identifying enclosures in this part of the Welsh borderland, and reinforces the desirability of continued reconnaissance.

Some qualification may be given, however. The overall percentage of sites in the cropmark and composite categories combined which appear to have been first revealed as parchmarks, almost certainly in pasture, is high, and though this is to some degree a measure of the selectivity of the aerial photographer, it is an indicator too of the fact that exceptionally dry years, when crops are under stress, are most likely to yield new information.

Whimster observed that 'the most sensitive, quantitative measure of the reliability of past reconnaissance is achieved by comparing the *annual frequency* of discovery with the *repeat photography* [of sites] first photographed in earlier seasons. Whereas a simple histogram of annual discoveries makes no allowance for variations in the intensity of reconnaissance from one year to another, standardised ratios of 'new' to 'repeat' photography provide a more uniform measure of results obtained over time' (1989, 12). He was thus able to demonstrate that during the period between 1945-81 the discovery rate in the Welsh Marches remained consistently high, in contrast to his other study area, the Trent Valley, where the rate of discovery had declined steadily since the early 1960s (Whimster 1989, figs 4, 13).

The total number of enclosures in the current survey is considerably smaller than the 679 cropmark sites of all types studied by Whimster. The equivalent histograms for Montgomeryshire's enclosure sites (Fig 5) thus tend to exaggerate exceptional period such as 1954-59 when no enclosures were photographed in the county. It shows some significant trends. The initiation of local flying in 1975 is apparent in the high percentages for the first five years, while the 3-year average percentages throughout the early 1980s confirms Whimster's belief in the continuing value of what he terms 'primary reconnaissance'. The subsequent decline in the late 1980s might suggest that the law of diminishing returns is beginning to take effect in the region. However, while this may be true for typical summers, the annual percentages for the dry summers of 1989 and 1990 indicate the continuing importance parchmark photography in the identification of previously unrecorded enclosure sites.

3.3 Excavation

It is generally assumed that the majority of cropmark and earthwork enclosures of the types considered in this study are likely to be of later prehistoric or Romano-British origin (Whimster 1989, 35). Whilst this generalisation may be acceptable when considering these enclosures in generic terms it cannot be applied unquestioningly to the numerous individual sites in Montgomeryshire that have not been excavated.

Relatively small-scale excavations were carried out in the 1930s at the New Pieces Camp earthwork site (PAR 1259) just below the Breiddin. The only datable finds are Romano-British material and a fragment of 5th-6th century glass (O'Neil 1937; Musson 1991, 194), although there is some evidence to suggest that the site may have originated in the pre-Roman Iron Age (Musson 1991, 6).

The most fully excavated site is the Collfryn enclosure (PAR 3603; Britnell 1989) which is partly earthwork and partly cropmark. The excavations at this site have been the only ones undertaken on a sufficient scale to provide a positive indication of the date of occupation and also information on the scale of the defences, the layout of the interior, and the nature of the site's economy. There is evidence that occupation began in about the 3rd century BC and continued, though not necessarily continuously, until at least the 4th century AD.

Limited rescue excavations on a double-ditched enclosure at Arddleen (PAR 4627; Britnell and Musson 1984) examined sections across the ditches, a small area of the interior containing gullies, and recovered pottery of earlier Roman date, though the possibility of pre-Roman Iron Age occupation could not be dismissed.

At Forden, a trial trench across a rectangular double-ditched enclosure (PAR 163; Blockley 1990; 22-4, Site III) produced ditch sections, and Romano-British pottery, though not in contexts stratified sufficiently tightly to be certain of the Roman origin of the site. It has been suggested that the site might have been a *temenos* or temple enclosure (Blockley 1990, 17), but no evidence in support of this interpretation was identified. A radiocarbon date of 3130±80BP (CAR-1171, unpublished) for charcoal from an additional ditch at this site might suggest a Middle Bronze Age settlement or enclosure of some form.

Trial excavations at a large and unusual causewayed enclosure at Caersws (not included in this study) has produced radiocarbon dating evidence to suggest that the site is of Iron Age date (Jones 1991; 1992).

Salvage recording has been undertaken on a number of sites. Observations during the laying of a gas pipeline passing through the Dolforwyn Hall (Brynderwen) enclosure, Abermule (PAR 148) provided some evidence of the ditch sections and also revealed two pit sections, one of which contained Neolithic pottery (Gibson and Musson 1990). The dating of the enclosure itself was not established, however, and the siting of the pit containing Neolithic pottery may be entirely coincidental.

Salvage recording on two further sites, one in Newtown (Connell 1977) and one at Llandrinio (Musson 1977) produced Romano-British pottery in association with ditches which might represent additional enclosure sites which have not been included in this study.

All in all the limited number of excavations that have been undertaken on Montgomeryshire's small enclosure sites provide too little data on which to base broader conclusions about site morphology, economy and chronology. Iron Age and Romano-British activity has predictably been confirmed at a small number of sites, and there are suggestions of possibly earlier prehistoric and early post-Roman activity in some instances.

4 SITE ANALYSIS

4.1 Site Morphology

Shape

Whimster's analyses of cropmark enclosures in the Welsh Marches enabled him to produce a morphological classification based on three broad groupings dependent on the degree to which the plan form was curvilinear, rectilinear or a hybrid of the two. Sub-divisions on the basis of whether the sites were single-ditched, double-ditched or multi-ditched, on the overall regularity or irregularity of the shape and on whether sites were elongated or not, produced fourteen groups in all (Fig 6). From the illustrated examples it is evident that a degree of subjectivity entered into the attribution of some enclosures to one group or another, a factor tacitly acknowledged by Whimster (1989, 32). Palmer's earlier classification (1989, 9) distinguishing between curvilinear, D-shaped and rectilinear enclosures, regardless of the number of ditches, is essentially simpler, but is sub-categorised on the basis of size.

The value of any system of sub-division depends on how it operates in practice. Does it enable an otherwise intractable mass of data to be broken into more useful groupings which can be tested by further work to assess their validity in social, economic or chronological terms, and allow modification where necessary? Or does it function largely as an academic exercise isolating small sub-groups on the minutiae of morphology, location and size, but offering little meaning to the researcher who is attempting to discern pattern in the evidence?

Social, economic and chronological factors may all have influenced the visible form of these enclosures, but whether in a consistent or predictive manner remains to be assessed. Only the detailed examination of a sufficiently large sample of such sites through excavation can validate the system.

An immediate test of Whimster's scheme of classification is whether in general terms the earthwork enclosures in Montgomeryshire can also be readily fitted into the scheme. The majority can be so classed, but some sit uncomfortably within the scheme because their perimeters are dictated by local topography (eg Pen y Gaer, PAR 1333), a constraint which is rarely of relevance to the cropmark enclosures analysed by Whimster. Contour-following earthworks are not uncommon, leading to a large number of irregularly shaped enclosures. Earthworks utilising natural defences on one or more sides cannot be so readily accommodated (eg Fron-haul, PAR 769; Pant y Fridd, PAR 4431). In all, about 10% of the Montgomeryshire earthwork enclosures cannot be satisfactorily accommodated within Whimster's scheme.

For the purposes of the present study it appears reasonable to adopt Whimster's scheme of classification for cropmark sites for both cropmark and earthwork sites in Montgomeryshire as an aid to description and as a basis for recommending a representative sample for preservation (see Section 6.2). It is anticipated that the chronological significance of the scheme may to some extent be tested in Stage 4 of the project (see Section 6.3).

A total of 187 (80%) of the sites included in the gazetteer are classifiable within the fourteen classes in Whimster's scheme (Fig 7).

Curvilinear and hybrid enclosures

Curvilinear and hybrid enclosure types (the latter with both straight and curved ditches) are

relatively common as both cropmarks and earthworks, and are represented by 140 (75%) out of the total of 187 classifiable sites.

Rectilinear sites

Only 47 (25%) of the 187 classifiable sites fall within Whimster's rectilinear enclosure types. Even within the category of simple univallate enclosures on 26% can be classed as rectilinear, while there are 41 (36%) in the hybrid class.

Relatively few rectilinear enclosures survive as earthworks, only 9 (c 13%) out of the total number of earthwork sites falling within Whimster's rectilinear classes. Proportionately, there are also fewer rectilinear than curvilinear cropmark enclosures — 22% of the total, as opposed to 26% for curvilinear sites, but the differential survival is best explained in terms of topography: most rectilinear enclosures are in the more intensively farmed low-lying areas of Montgomeryshire where plough erosion has been most severe. There may be some uncertainty, however, whether all the examples in this class were originally embanked (see Section 3.1).

The reasons for the lower overall number of rectilinear enclosures are probably complex, but may include a reduced level of Roman influence in comparison with areas further to the east. In a recent assessment of the Wroxeter region, the percentage of rectilinear enclosures is said to be 56% (Buteux *et al* 1993, 6). Those in Montgomeryshire tend to concentrate in the lower-lying regions in the east of the county and appear to be concentrated near Roman forts, as for example the distinctive double-ditched enclosures close to Forden Gaer (Thornbury III, PAR 163) and Caersws (Gelli Dywyll, PAR 4579).

Multiple-ditched enclosures

Multiple-ditched cropmark enclosures were comparatively rare in Whimster's Welsh Marches sample area: they represented by c 7% of all cropmark enclosure types and were said to be confined to the more remote western valleys or the upper Severn between Welshpool and Montgomery (Whimster 1989, 46).

The number of Montgomeryshire enclosures with three or more ditched circuits is now substantial, reflecting several new discoveries since 1981. Of the 187 characterised sites, 50 (27%) have double ditches for either part or the whole of their perimeter, and a further 23 (12%) have multiple ditches. Amongst the unclassified sites, 21 (30%) of 70 had more than one ditch.

The Montgomeryshire sites clearly display a considerable variety of form, ranging from close-set circuits and more widely-spaced enclosures to those where the second enclosure is effectively an annexe or is demarcated by no more than a cross-bank. Some of the more complex sites are likely to represent multi-period sites. Whimster (1989, 46) has noted that the cropmark sites belonging to this class are less amenable to classification, and similarly no further attempt has been made to classify or analyse the sites in this category as part of the present study. Virtually all of the types that are present in Montgomeryshire are familiar from Aileen Fox's study of sites in South Wales and the West Country (1952), in which analysis and interpretation were hampered by a scarcity of excavated data. Similar problems restrict our understanding of the multiple-ditched enclosures in Montgomeryshire.

It is significant that 54 (37%) of the 144 new discoveries made between 1975 and 1990 are multiple-ditched enclosures, of which about a half have a surviving earthwork element. Looked at from a different perspective, 23 (85%) of the composite (earthwork/cropmark) sites first recorded

during that period were multiple-ditched. Two significant points emerge from this, firstly that multiple-ditched enclosures are more likely to survive as earthworks, perhaps signalling more substantial defences than those of single-ditched enclosures, and secondly that the increased number being identified by aerial photography indicate that as a type they are potentially under-represented in the archaeological record.

The largest number of ditches recognised is five, as in the example of two small adjacent enclosures at Bryn y Saethau (PAR 67) and Fridd Mathrafal (PAR 73) where the complexity suggests at least two constructional phases. The development and modification of multiple-ditched enclosures may have been a common occurrence on long-lived sites but is often difficult to interpret from fieldwork and aerial photographic evidence alone.

Alterations to the pattern of enclosures were identified during the excavation of the multiple-ditched Collfryn enclosure (Britnell 1989) suggesting a gradual reduction in the enclosed area through time and superseded in the Roman period by a rectilinear enclosure set in one corner of the inner enclosure. There are hints of a similar sequence at a number of other sites, as at New Pieces Camp (PAR 1259) and Bausley Hill Camp (1702). At Fron Fraith Wood (PAR 3722), Lymore Park (PAR 5047) and perhaps Llys Farm, Llanfechain (PAR 7040) it is possible that small rectilinear enclosures were constructed within larger multiple-ditched enclosures, while at Bettws (PAR 5065) a similar small enclosure lies within a larger single-ditched curvilinear enclosure.

4.2 Other features and characteristics

Overlapping enclosures

In a number of instances there is some evidence for overlapping enclosure sites. The site at Ty Mawr, Castle Caereinion (PAR 109) appears to show a small univallate enclosure superimposed on an earlier enclosure. Cropmarks behind the Punch Bowl Inn, Llandrinio (PAR 3646) are more ambiguous but hint at overlapping double-ditched enclosures. There are possibly overlapping enclosures at Sylfaen (PAR 4942), and the small curvilinear enclosure at Hendre (PAR 5256) seems to be superimposed on cropmarks of unknown origin. Llys Farm, Llanfechain is significant in as much as a treble-ditched enclosure (PAR 7040) is demonstrably overlain by a large univallate enclosure (PAR 7053) which might conceivably be the *llys* referred to in the farm name. The later enclosure survives as a slight earthwork and is unusual in being one of the small number of sites which cropmark evidence for an internal palisade.

Adjacent enclosures

Adjacent enclosures may point to an inter-relationship or a sequence of occupation. A distance of 100m had been adopted as a yardstick for this purpose, though taking Whimster's figure of sites up to 400m apart the number of possible pairings would increase. The following sites can be noted: two small curvilinear enclosures at Castle Caereinion (PAR 105 and PAR 7060); rectilinear enclosures at Forden (PAR 163 and PAR 5035); the large ridge-end enclosure at Great Cloddiau (PAR 1050) which is accompanied by a double-ditched rectilinear enclosure (PAR 3476) and a small D-shaped enclosure (PAR 6890) less than 50m further to the south-west; less than 2km away the multiple-ditched enclosure at Pen y Gelli (PAR 3649) has a much smaller rectilinear enclosure adjacent (PAR 5126). Several other 'pairings' are known, and it seems probable that others remain to be discovered.

Falling outside the range quoted above but nevertheless of significance are the two enclosures at Bagbury, Churchstoke — a curvilinear double-ditched enclosure (PAR 229) with a fine rectilinear enclosure (PAR 4036) about 300m to the south-west. Whimster (1989, 52) has pointed out that this pairing is unusual in as much as that the two enclosures are of morphologically different types. In his view 'there is a strong tendency for members of the pair (or occasionally larger cluster) to belong to the same basic morphological class'.

Palisades

Only three sites with possible palisade or revetment slots can be cited, Gelli Dywyll near Caersws (PAR 4579) where the possible palisade may represent a narrow internal ditch, Glascoed near Newtown (PAR 3718), an otherwise reasonably typical hill-top enclosure, and the later enclosure at Llys Farm, Llanfechain (PAR 7053), noted above, of possible early medieval date. The palisade trench at the latter site is only visible along part of the perimeter, possibly being masked in areas where the internal bank is better preserved.

Internal features

Only a handful of enclosures reveal evidence of house sites either as cropmarks or, in the case of earthworks, as internal terracing that probably supported structures. Of cropmark sites, Park Cottage, Caersws (PAR 2509) stands apart because of the clarity of the ring-ditch it encloses, but similar less distinct marks have been noted at Garthgellin (PAR 5066) and a Pen y Gelli (PAR 3649). The exceptional pit circle identified inside the Lymore Park enclosure (PAR 5047) is perhaps more likely to represent an earlier timber circle of Bronze Age date (Gibson forthcoming), post-ring roundhouses of this form being unknown or later prehistoric sites in the region. Pits which appear to represent gate-posts at an entrance causeway are visible in the case of Glangwden, Trefeglwys (PAR 7532).

Only one enclosure — Thornbury I, Forden (PAR 5035) has unequivocal evidence of numerous sub-soil disturbances within its perimeter which possibly represent pits. This interpretation needs to be confirmed by excavation, not least because they are such a rare feature of the buried landscape in Montgomeryshire.

In general, it appears that small and shallow features such as gullies and postholes manifest themselves only rarely on enclosure sites in the region.

Field systems

A comparison with similar studies elsewhere in Britain suggests that the Montgomeryshire enclosures are likely to have formed just one component of a subdivided and intensively farmed landscape. Association with field systems have only rarely been identified in Montgomeryshire, however, a feature noted in Whimster's Welsh Marches study area (1989, 36). The present study, like previous studies of enclosure sites in the region, has inevitably focused on the enclosure sites themselves as a distinct and clearly definable class of monument. Possible associations with cropmark and earthwork field-systems are only likely to have been noted in this study in instances where the evidence is distinct. A more comprehensive programme of plotting and analysis of all the cropmark evidence and existing and historically-recorded land boundaries around and in areas between complexes of enclosures might considerably enhance the present relatively meagre evidence (see Area Studies, Section 6.2).

Possible associations with field-systems identified from cropmark evidence are largely limited to

lowland locations. At Lower House, Llandysilio (PAR 7065) there is some cropmark evidence of a number of former field boundaries on a similar alignment to the enclosure site. Possible evidence of contemporary field systems at Forden (PAR 164), Carreghofa (PAR 2453), Lower Main I (PAR 2494), Varchoel Lane (PAR 3595) and Punchbowl Inn, Llandrinio (PAR 3646) is more ambiguous. A rectilinear field system near Cross Gate Cottages, Guilsfield occupies ground between two enclosure sites, one curvilinear (PAR 6059) and one apparently rectangular (PAR 7101), but an association with these sites cannot be determined on the available cropmark evidence.

Possible associations with field systems surviving as earthworks are even rarer. It has been assumed that the small fields below the Breiddin may link with the New Pieces enclosure (PAR 1259; Musson 1991, 6), though this relationship has not been tested by excavation. At Neuadd Lwyd (PAR 4425) there is a faint possibility that banks adjacent to the D-shaped enclosure reflect a contemporary field system.

4.3 Enclosure Size

Enclosure sizes have been derived by calculating the areas within the innermost ditch, thus enabling direct comparison between those enclosures now showing as cropmarks and those still retaining earthworks. Only enclosures with complete circuits or those incomplete examples where the original line can be predicted with reasonable confidence have been included, 150 sites in all (Fig 8).

The drawback to this approach is that multi-ditched sites covering large areas, such as Hydan Fawr, Castle Caereinion (PAR 1337), frequently encompass much smaller inner enclosures. However, there is yet no convincing evidence that the outer enclosures were utilized for habitation, so comparisons based on the figures provided here may be reasonable.

The overall size range of internal areas is between 0.1-2ha. Although there is a wide overlap in the size of cropmark and earthwork enclosures up to 1ha in size, the smaller sites tend to be cropmark sites and the larger sites are almost invariably earthwork sites that would conventionally be classed as hillforts. Composite sites reveal a more even spread up to 0.6ha.

An interesting exception is the later enclosure at Llys Farm, Llanfechain (PAR 7053) with an internal area of nearly 1.3ha. Neither a hillfort nor an earthwork proper, its considerable size tends to strengthen the argument that the site may be of a different period to most of the enclosure sites included in this study.

4.4 Siting

The location of the great majority of sites included in the gazetteer in Part 2 was recorded and categorised in the field. While enclosures occur in virtually every type of setting with the exception of wetland and the highest moorlands, it is possible to distinguish a limited range of topographical locations. A total of 85 (c 36%) of the sites were constructed in prominent positions such as hill-tops, knolls, and ridges, reflecting some emphasis on an overt display of defence. A further 94 (39%) sites were set on hillsides and on spurs, locations suggestive of a level of natural protection but a greater concern for an unobtrusive existence. A further 9 (c 4%) may not

be dissimilar inasmuch as they were located in hollows, at the heads of valleys or on saddles. Finally, 46 (19%) were sited in valley bottoms and on river terraces where natural defence was largely non-existent. However, even in such locations, there is an evident trend towards isolated knolls rising above the general ground-level. The main enclosure at Lymore Park (PAR 5047), for example, surrounds a low hillock, as does Gwern y Go (PAR 5052).

Curvilinear and hybrid sites appear to be found in a wide variety of topographical locations, but it appears significant that 40% of the rectilinear enclosures are in valley floor locations.

Even though it is possible that sites in more prominent locations might originally have had more substantial defences, it seems probable, as might be predicted, that site location has had some influence on the present condition of sites. Thus 61% of the enclosures on hill-tops and other prominent locations survive as earthwork or composite sites, as opposed to 44% in hill-slope locations and only 6% on valley floors. The last of these figures must clearly reflect the long-term effects of agriculture in favoured localities.

4.5 Altitude

Analysis of the altitudes above Ordnance Datum of the probable and possible enclosure sites (Fig 9) confirms a general trend that might be anticipated, namely that earthwork sites become increasing prevalent at higher altitudes, and conversely that, almost without exception, sites at the lowest altitudes (ie below 150m OD) are represented by cropmarks. Cropmark sites occasionally occur at the top end of the altitudinal range, but only infrequently. Rhos enclosure (PAR 7098) on Long Mountain is the most extreme example at a height of 373m OD.

5.1 PRESENT-DAY OWNERSHIP AND LAND-USE

5.1 Ownership

The great majority of sites are in private ownership. Scheduled sites and the better-preserved earthwork sites are normally familiar to and respected by landowners and tenants, but cropmark sites and recently-discovered earthwork sites are understandably generally unknown.

A significant proportion of landowners and tenants showed some interest in the monuments on their land when the sites were visited, although a number were overtly disinterested (see also Section 2.4).

In one instance (Mount Pleasant, PAR 7500) the intention to enlarge a field by ripping out hedges fossilising enclosure banks was reversed as a result of the site visit, but this is probably an exceptional response by a particularly interested farmer. Realistically, it is considered likely that in only a small number of instances will site visits or the supply of information be likely to assist in the preservation of sites. Generally, only statutory protection is likely to play a significant role in long-term protection.

5.2 Modern land-use

For the majority of the sites examined during the survey a single form of land-use was the norm, but around 8.5% of the total number exhibited two or more (excluding areas occupied by buildings). Woodland and pasture was the most frequent combination, while arable and pasture occurred infrequently. In the following section the most prevalent vegetation type on any particular site has been adopted in the computations.

A majority of sites lie under pasture. Of the certain and possible sites included in the study, 184 (72%) were under grass when visited. Of these, 131 (71%) can be classed as cropmarks. A further 44 (17%) were under cultivation, and 14 (5%) were in woodland.

Sites in pasture and arable

A total of 39 (15%) of the certain and possible enclosure sites were under cultivation both when the site was visited during the present survey and also when they were first identified from the air, as far as this can be established from aerial photographic evidence. A further 5 enclosures under pasture when first identified were cultivated at the time of the site visit. Conversely, 32 sites which were initially recognised in growing crops were under permanent pasture when visited, a reflection perhaps of the widespread system of ploughing up pasture land on a variable rotational basis. There are obvious implications here for the identification of new sites through future aerial survey programmes.

Sites in woodland

The 14 enclosures sited in woodland all survive to a greater or lesser extent as earthworks. Some, such as Perwlywn Coppice (PAR 3960) and Bryn Coch, Llanerfyl (PAR 755) lie under permanent deciduous or coniferous cover, sufficiently open to allow access and appreciation of the earthworks. Others have been planted so densely that there are severe restrictions on access. The earthwork at Fron Derw, Kerry (PAR 1899) was the most extreme example of this kind encountered during the current survey, while the enclosure at Bryngwyn Wood (PAR 60) is

so enveloped that no detailed survey has ever been attempted. Both of these sites are scheduled. Several sites covered by deciduous woodland at the end of the last century have been replaced by conifers or have been replanted, as at Gwern Ddu, Meifod (PAR 70).

Management proposals for a small number of scheduled and unscheduled sites in woodland are included in Section 6.2.

Damage to sites

During the course of the present survey evidence emerged of recent damage to only one monument, the unscheduled enclosure at Mount Nebo (PAR 4448) which has been partially destroyed by a small quarry excavated by the tenant.

Regular or periodic ploughing and forestry undoubtedly represent the most significant threats. The scale of this problem is illustrated by the figures given above, which show that more than 30% of the sites included in the study were ploughed or under crop at the time they were first identified from the air or at the time they were visited as part of the project.

Protected sites

A total of 41 (c 17%) of the sites included in the gazetteer in Part 2 are statutorily protected as Scheduled Ancient Monuments, of which 30 are earthworks, 8 are cropmarks and 3 are composite sites.

Analysis of the sites currently scheduled shows considerable variations in the forms of protected sites. Thus 30 (44%) of the total of 68 of certain earthwork sites are scheduled, but only 8 (6%) of the total of 134 cropmark sites and only 3 (9%) of the total of 33 certain composite sites are scheduled. The scheduled earthwork sites show a reasonable balance of univallate and multivallate types, but only one of the cropmark and composite sites is univallate (Gaer Farm, Forden, PAR 164).

Recommendations for further scheduling are included in Section 6.2.

6 RECOMMENDATIONS

6.1 Introduction

The work undertaken as part of this project have proved to be both cost-effective and of considerable long-term value: it has formed the basis for describing and quantifying a distinct and recurrent form of monument which characterises the Iron Age and Romano-British archaeology of Montgomeryshire; it has provided an objective database on which more reliable decisions can be made about future management and conservation strategies; and it forms the basis for a strategic framework for future research and rescue work.

It is evident that the enclosures studied as part of the present project form one element of a more complex and extensive buried landscape in the upper Severn Valley which has otherwise been little studied except in one or two localities. A thorough assessment of the aerial photographic archive as a whole will undoubtedly be of value as a first stage to determining what further studies should be undertaken.

The methodology developed as part of the project would profitably be extended to similar sites elsewhere in Clwyd and Powys where aerial reconnaissance has been productive, as well as to the numerous sites of other periods the aerial photographic evidence of which has generally not been systematically studied.

Various specific recommendations are made in the following sections. Those concerning the continuation of the present project are included in Section 6.3.

6.2 General Recommendations

Aerial Photography

General aerial reconnaissance will undoubtedly continue to provide fresh information about enclosures and other forms of cropmarks for many years to come. Whimster (1989, 88) has stressed, however, that 'systematic methods for monitoring rates of discovery are essential if diminishing returns are to be recognised and costly air-time to be used to the best advantage'. The statistics already signal that new discoveries in normal years are declining, and that the best returns will come during dry summers when parching occurs. It is therefore important to ensure that contingency funding for aerial reconnaissance for the purposes of site identification is available, especially in dry summers.

For varying reasons, a number of cropmark enclosures have either inadequate aerial photographic records, as for example in the case of Hendre Farm (PAR 7052) photographed only once and from a distance, Lymore Park (PAR 5047) where the details of this complex site have not been fully revealed, or Moel y Garth (PAR 5144) where the available photography has insufficient control points for rectification. It will be profitable to target sites of this kind in future flying.

It is recommended that intensive aerial reconnaissance is undertaken winter and summer in one or more specific areas in order to develop as full a picture as possible of the evidence relating to enclosure sites and their contemporary landscape. One particular area which can be recommended is the area between Montgomery and Newtown bounded by the Severn on the north-west, the A489 on the south and Offa's Dyke on the east. This area of some 60 square

kilometres already has a high density of known enclosures — 45 in all — which in the area around Llandyssil reach a density of 1 per square kilometre. By building upon what is already known, this area affords considerable potential for further detailed landscape analysis (see also section on *Area Studies* below).

The present project has had to face a considerable back-log in terms of post-reconnaissance study. Every attempt should be made in future to ensure that new sites identified from the air should be systematically plotted, visited by an experienced fieldworker and entered into the SMR as soon as practicable after discovery.

Geophysical survey

Some of Montgomeryshire's small enclosures have been photographed on several occasions yet their complete circuits can still not be precisely defined. Geophysical surveys would be desirable on a sample of these sites to determine whether remote sensing techniques can be used to complement the aerial photographic record. Appropriate examples include Hydan Fawr (PAR 1337), Cuckoo Hall (PAR 1822), Cefn Llan (PAR 3645) and Coed y Wig (PAR 3717). Similarly, some earthwork sites have been degraded to such a degree that it is now impossible to determine their original layout from surface evidence alone. It can be assumed, however, that sub-surface traces of their ditches remain, and geophysical surveying could be usefully employed to complement the existing inadequate record (eg Pentre, Berriew, PAR 158).

Archive and Record enhancement

Some sites from the early years of CPAT's flying are recorded solely on colour transparencies, some of which provide a unique archaeological record. In view of concerns for the long-term stability of this medium prints should be made from the transparencies as a matter of some urgency.

There are a number of deficiencies in CPAT's holdings of prints from other AP archives. A systematic assessment should be made of a number of collections and prints obtained for the SMR where appropriate.

A relatively small number of earthwork and composite sites merit further detailed field survey in order to obtain reliable plans and profiles (eg Rhos Farm, Guilsfield, PAR 7048).

AP plots of a number of sites remain inadequate or are at too small a scale for illustration and analysis. Further rectification of oblique APs of these sites is desirable.

Area Studies

Whimster (1989, 65) has argued in the case of the Welsh Marches study area that a programme of small-scale excavations should be undertaken on enclosure sites across a broad range of topographical and environmental zones to provide dating evidence and to test the extent and quality of archaeological survival.

Whilst it is anticipated that these requirements will to some extent be met by the proposed excavation programme summarised for Stage 4, outlined in Section 6.3 below, the severe limitations of this exercise must be fully appreciated. Small-scale excavations are likely to provide spot dates for particular events and data for assessing the condition of a site, but are incapable of providing complex evidence of phasing, sequencing, land-use, environmental evidence and social structure.

Whilst it is to be anticipated that large-scale excavations will be undertaken in future in response to specific development threats, the gradual agricultural erosion of a substantial proportion of enclosure sites by agricultural erosion is a serious cause for concern.

A combination of strategic large-scale excavation and possibly small-scale excavations in response to agricultural erosion will undoubtedly be more productive if focused on restricted geographic areas, to enable direct comparisons to be made of the data recovered. Two areas with high site densities and long-term plough erosion can be identified. Firstly, the Llandyssil area noted above (where intensive aerial reconnaissance has been recommended) and secondly the Caersws hinterland which provides an opportunity for examining the Romanising influence of the fort.

Specific area studies of this kind might also profitably be preceded and combined with a detailed landscape study combining topographical and documentary research and plotting of all buried landscape evidence revealed by aerial photography. The potential of this landscape approach is well illustrated by a small area just to the south of Llandyssil (Fig 10).

Recommendations for scheduling

A total of 43 sites recommended for scheduling are listed in Appendix 3 (see distribution on Fig 10). These recommendations are made on the basis of the criteria established for assessing the national importance of Ancient Monuments as outlined in PPG 16 (Welsh Office 1991, Annex 3). Details of ownership can be made available.

Some of the sites recommended for scheduling are exceptional examples of their type, some have a high value because of their apparent relationships with other enclosure sites, and some are typical of enclosure types in Montgomeryshire that are under-represented in the current list of Scheduled Ancient Monuments.

The proposed excavation programme for Stage 4 of the project, summarised in Section 6.3, is focused on the sites recommended for scheduling.

Other management proposals

A number of earthwork sites are partially or wholly covered by trees. Clearance or thinning of the trees adversely affecting these sites is highly desirable.

Scheduled sites: Bryngwyn Wood (PAR 60), Bryn Mawr (PAR 1250), Fron Derw (PAR 1899). In the case of Black Bank (PAR 131) the vegetation is also dense in places, but more seriously a pheasant rearing enclosure has been erected over part of the enclosure.

Sites which are recommended for scheduling (Appendix 3): Bryn y Saethau (PAR 67), Fridd Mathrafal (PAR 73), Pen y Gorddyn (PAR 757), Cwmlerllan (PAR 7090).

Unscheduled sites: Gwern Ddu (PAR 70)

6.3 Outline proposals for Stage 4

Large-scale excavation of sites and the more detailed area studies in response to agricultural threats outlined in Section 6.2, though justified, are considered to fall outside the likely financial provision of the present project.

Small-scale 'key-hole' excavations carried out on a reasonable number of sites of various types is likely to provide spot dates from finds or more probably by radiocarbon dating which it is envisaged will *en masse* will be of considerable benefit to our understanding of the dating of this important group of sites. It is unlikely, however, to provide evidence of phasing or significant social or economic evidence. Small-scale excavations will also provide, however, some evidence of the quality of site preservation, and if focused on the defensive circuits of sites rather than their interiors should not be unduly destructive.

Taking the sample of sites recommended for scheduling (Appendix 3) the proposals for Stage 4 of the project include the following: selection of sites for trial excavation; preliminary approaches to landowners; notification that the site has been recommended for scheduling; negotiations over access for trial excavation; geophysical survey in advance of excavation in appropriate instances (see notes on *geophysical survey* in Section 6.2); problem-orientated small-scale trial excavation as appropriate and where possible.

It is envisaged that a rolling programme of excavation will be undertaken on as many appropriate sites as possible amongst those recommended for scheduling in the latter part of 1993/94 and in 1994/95.

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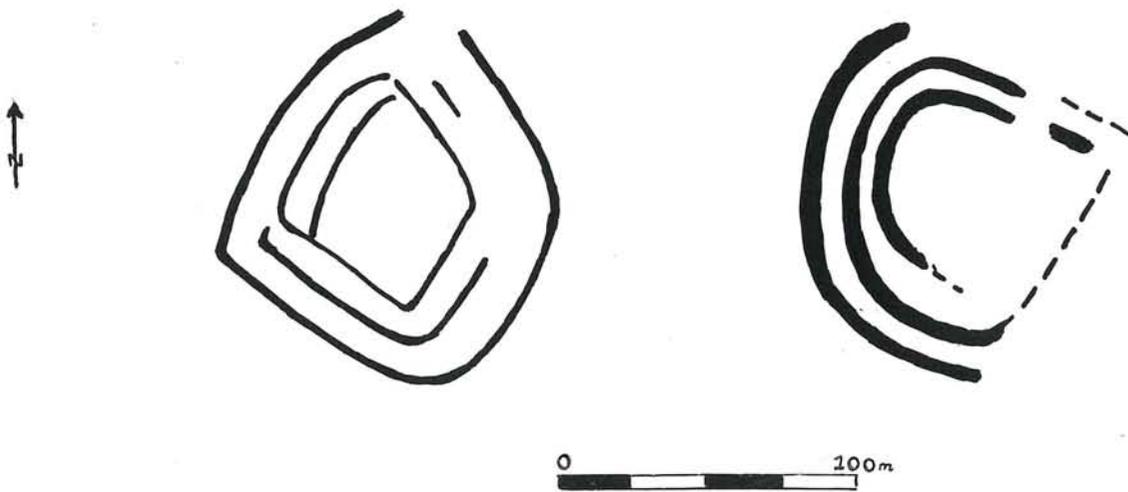


Fig 1 Comparative plans of the Varchoel Lane 'enclosure' (PAR 3595A) and Crowther's Coppice 'hillfort' (PAR 95): in the illustration of Crowther's Coppice the banks have been removed, leaving the ditches to provide the outline.

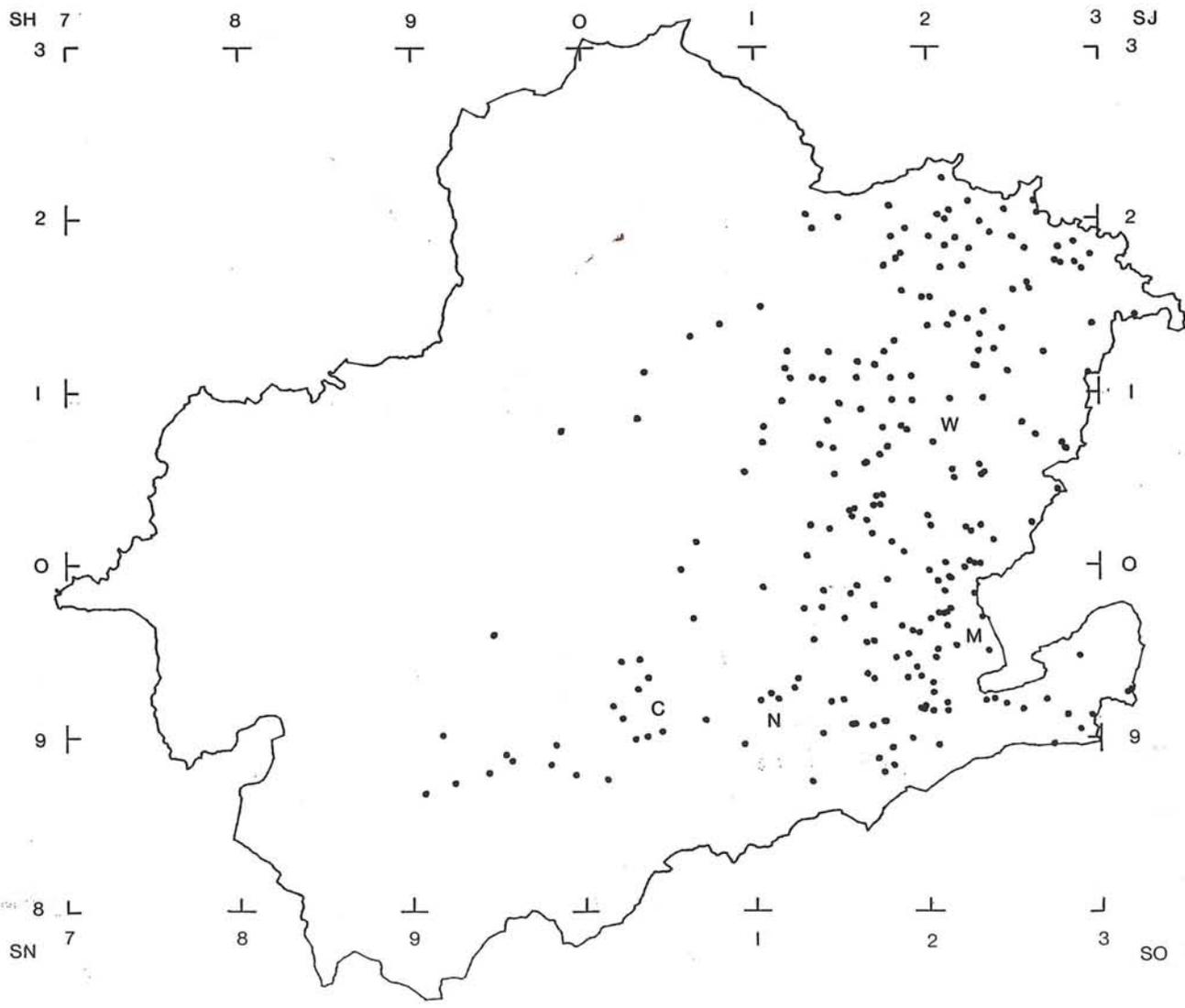


Fig 2 Distribution of Montgomeryshire small enclosures listed in the site gazetteer in Part 2

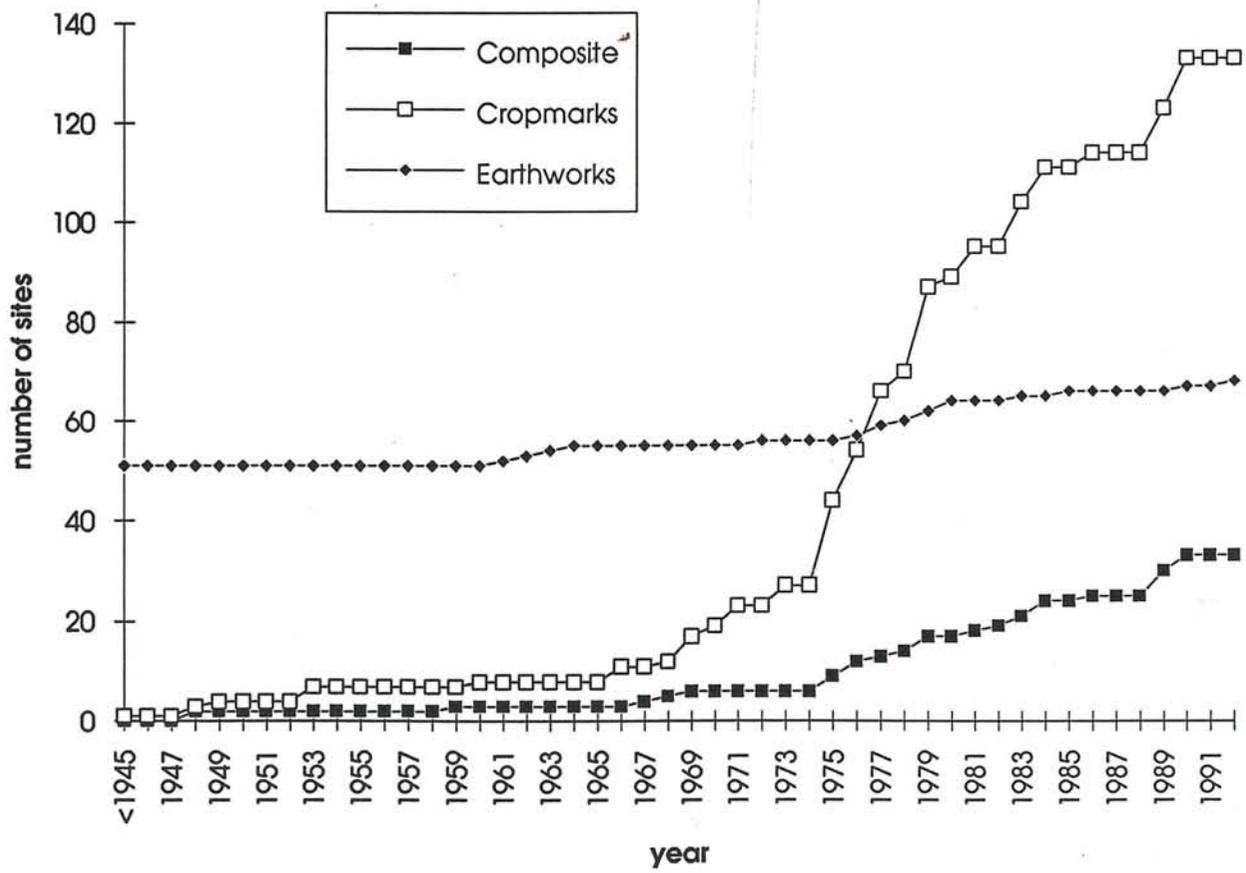


Fig 3 Cumulative graph of enclosure discoveries

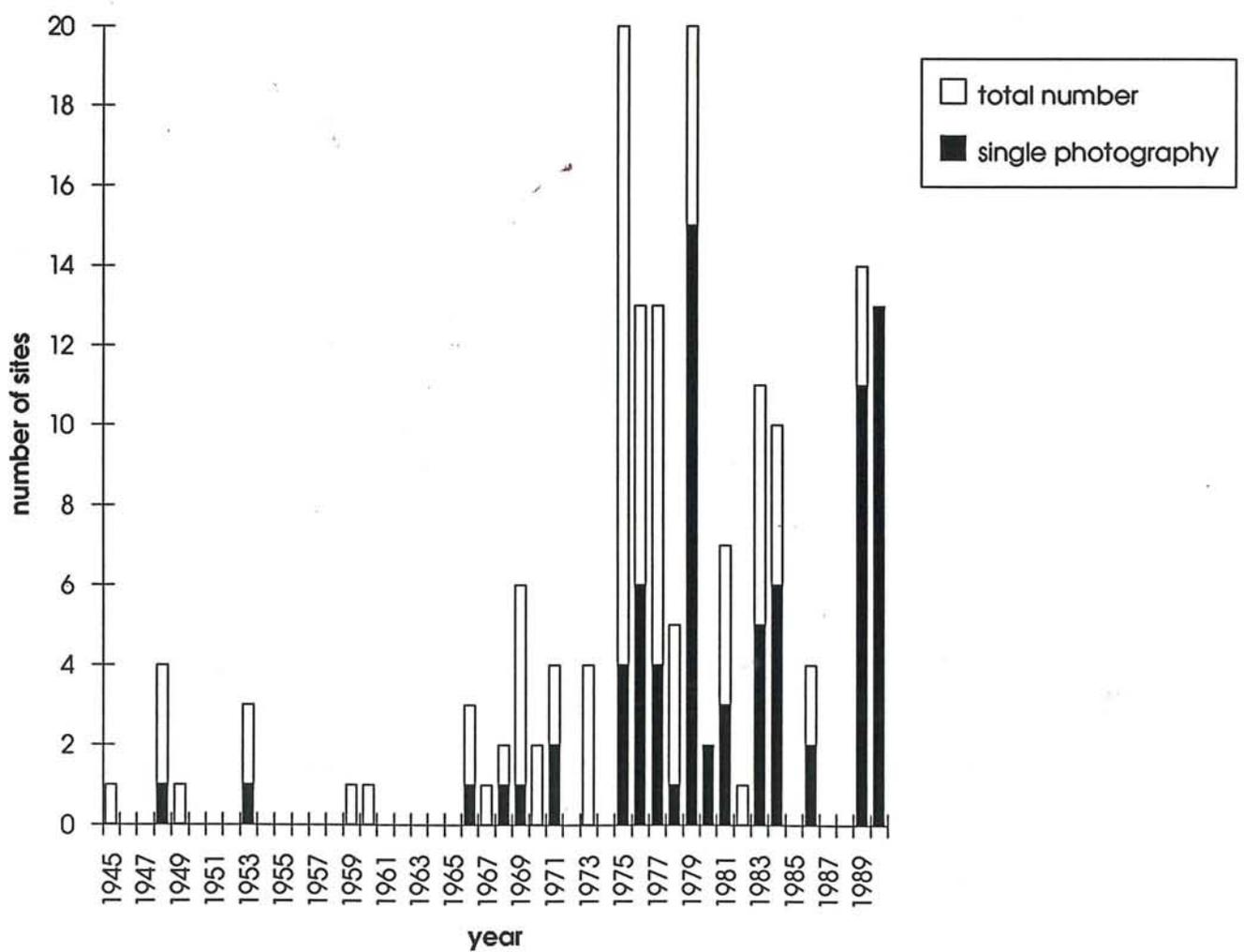


Fig 4 Total number of new cropmark and composite enclosures photographed each year; those shown in black represent sites not seen in subsequent years.

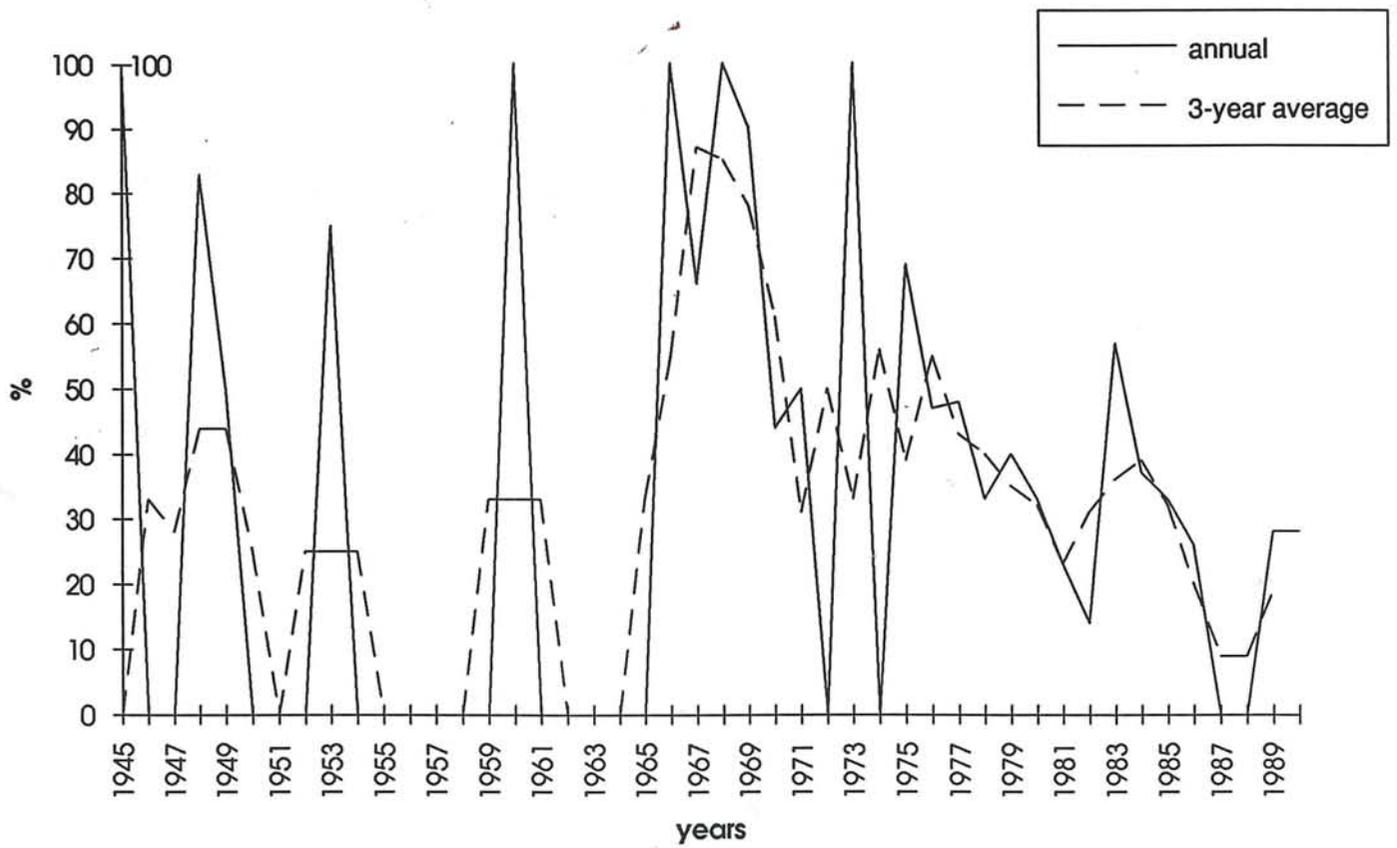


Fig 5 Annual ratio of discovery to repeat photography of previously recorded sites (1945-1990)

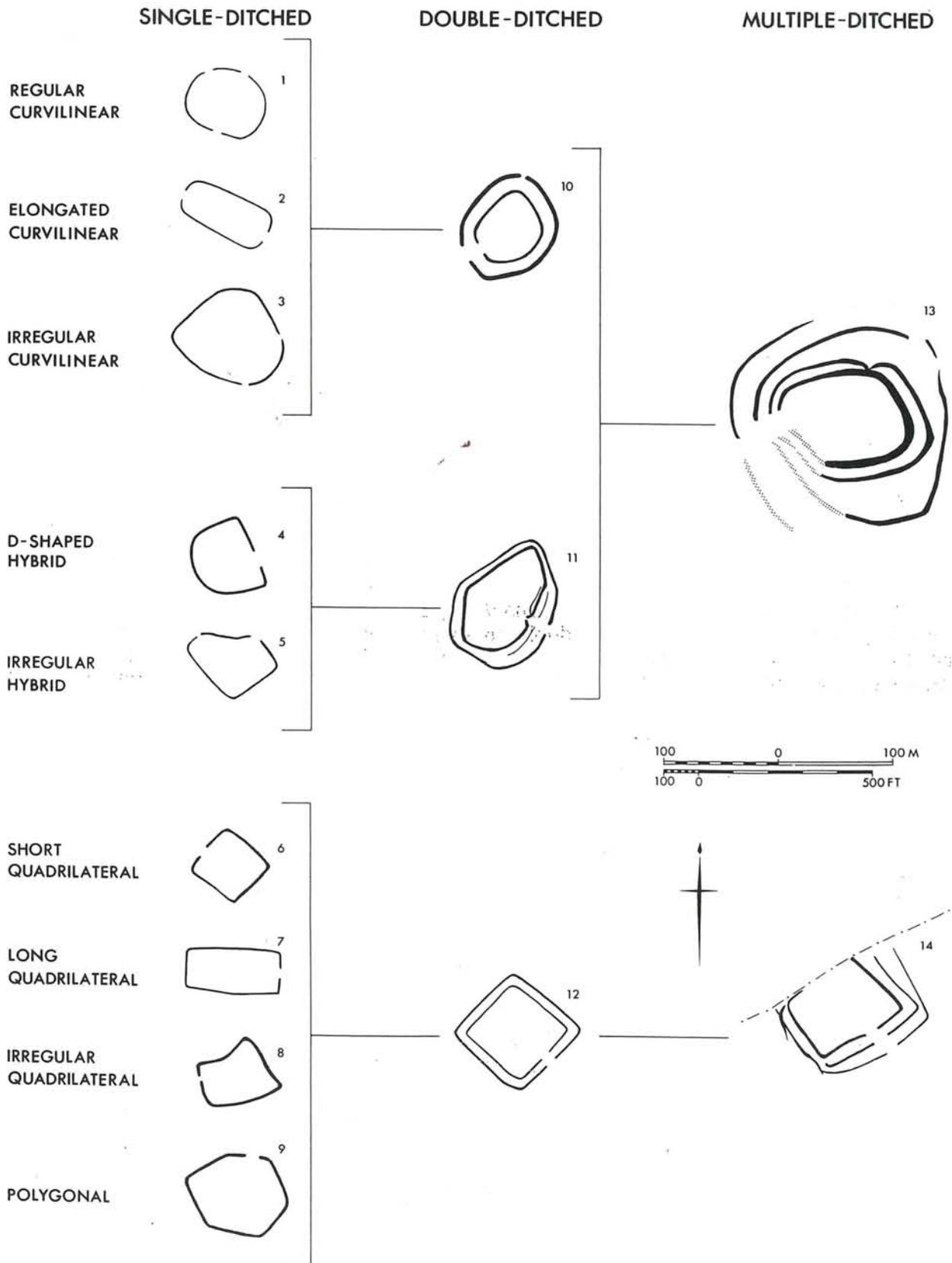


Fig 6 Classification of small enclosures (after Whimster 1989)

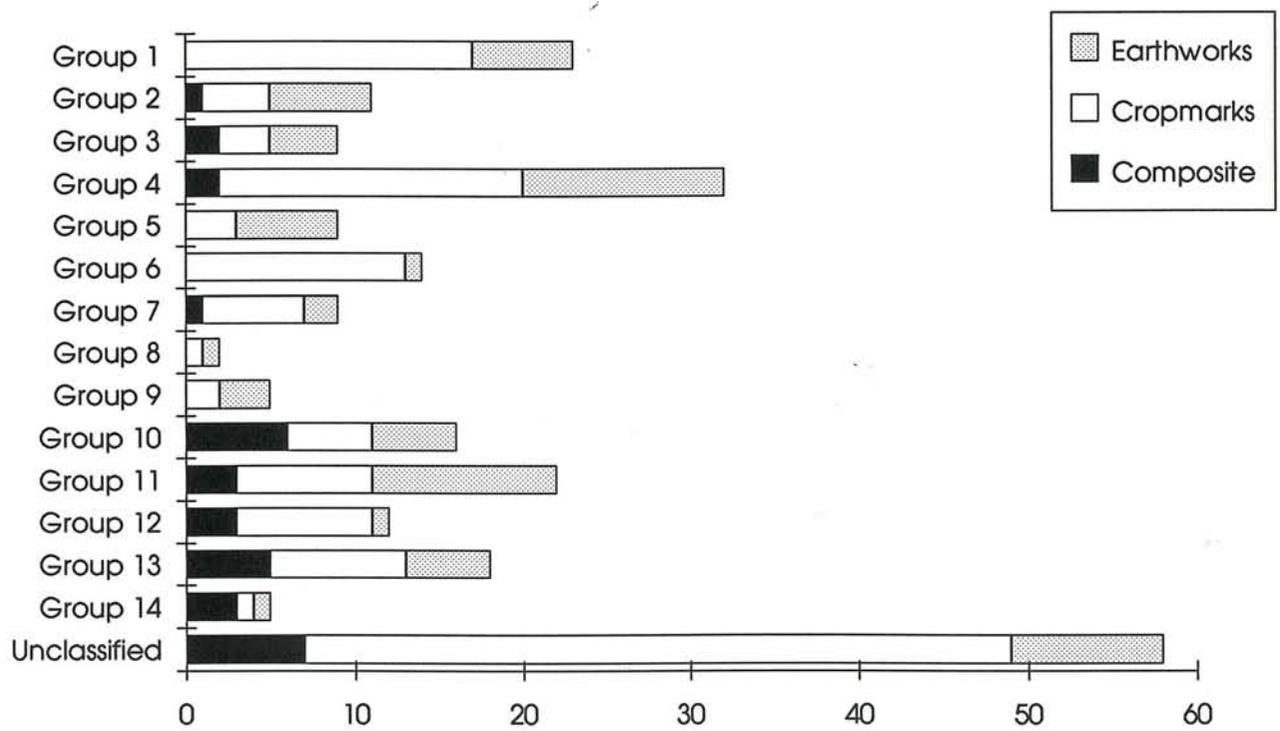


Fig 7 Number of enclosures attributed to Whimster's (1989) 14 sub-groups

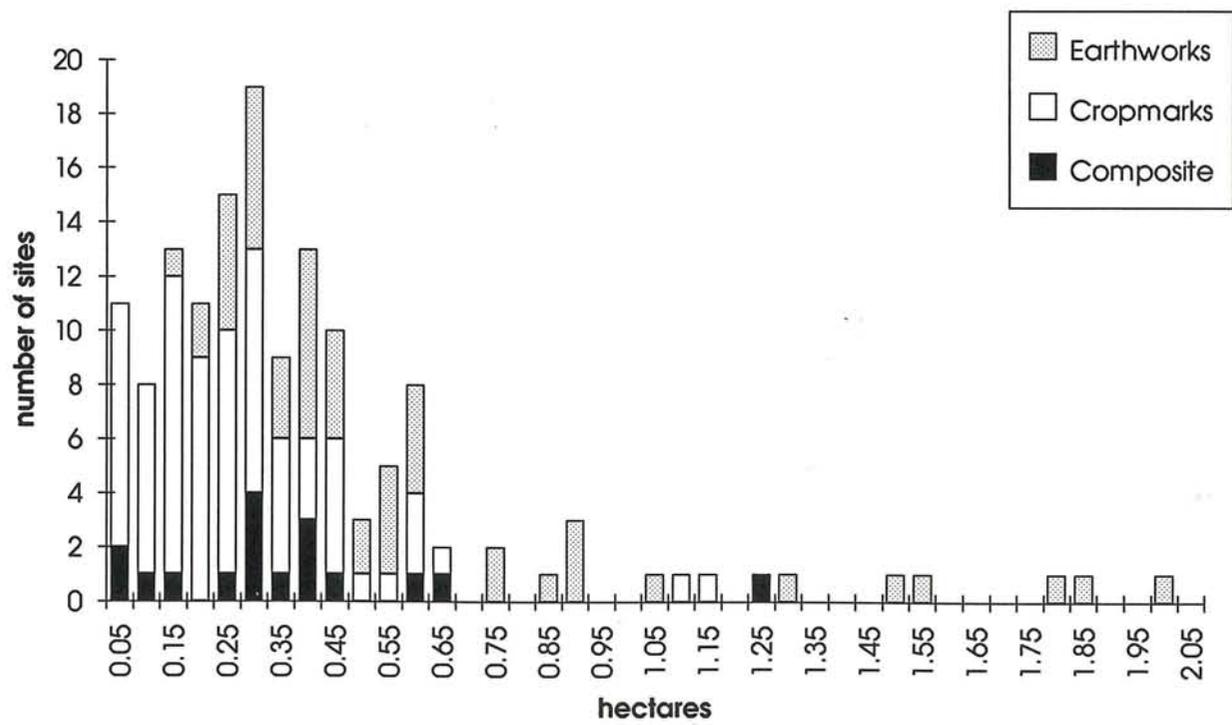


Fig 8 Internal areas of Montgomeryshire small enclosures

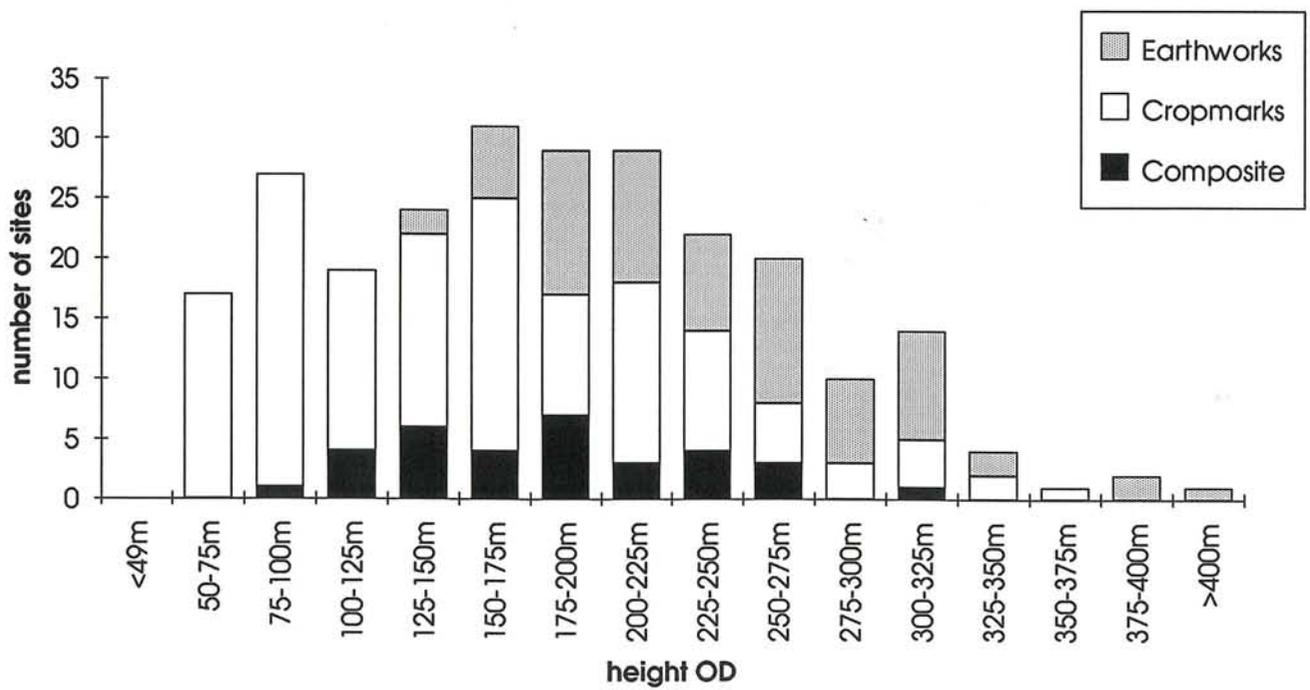
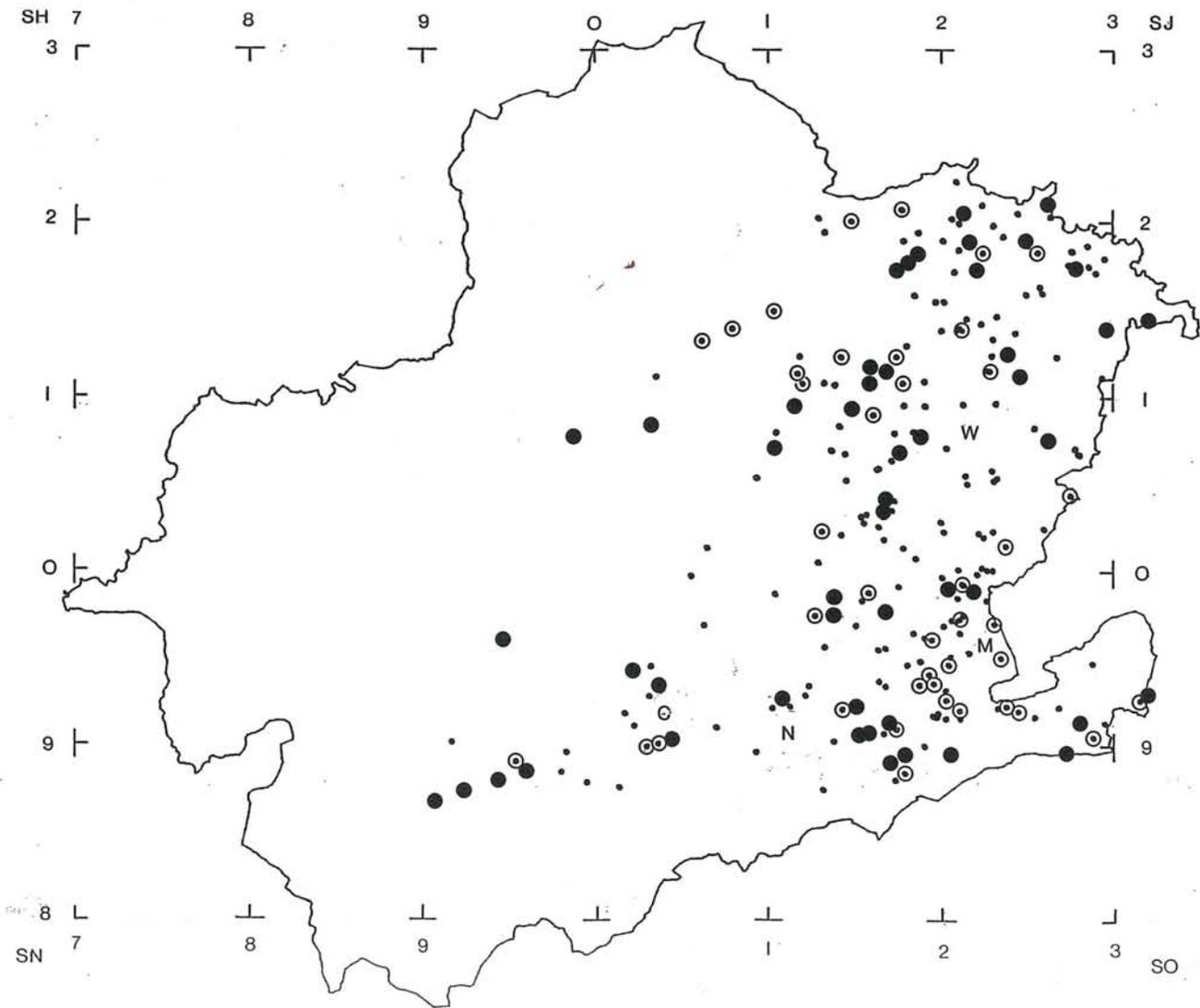


Fig 9 Heights of Montgomeryshire small enclosures above Ordnance Datum.



- Scheduled sites
 - ⊙ Sites recommended for scheduling
 - Other small enclosures listed in gazetteer
- C=Caersws; M=Montgomery; N=Newtown; W=Welshpool

Fig 9 Distribution of sites recommended for scheduling (Appendix 3).

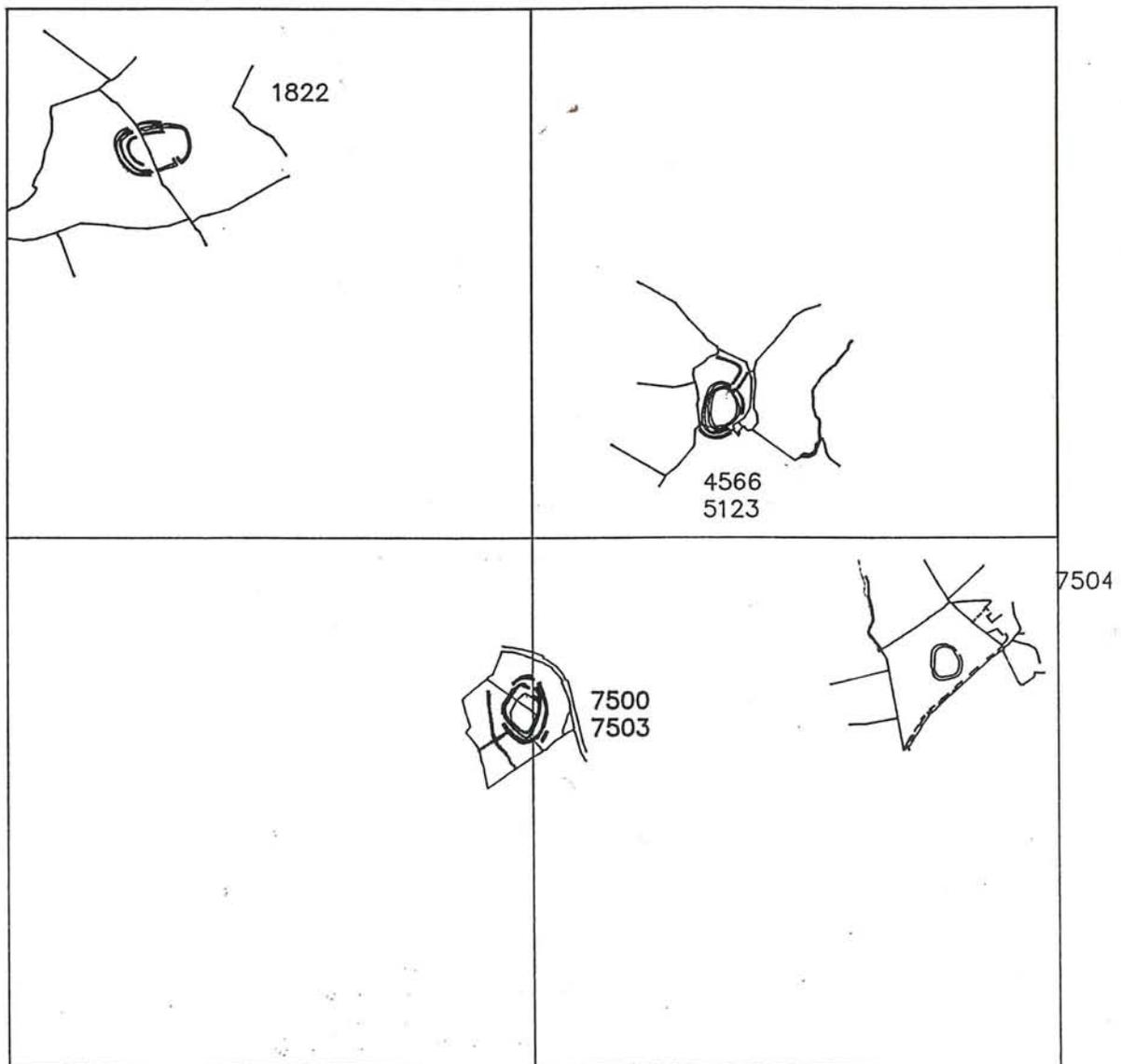


Fig 9 Small enclosures just to the south of Llandyssil (1km grid squares). Sites are shown in relation to modern field boundaries.

APPENDIX 1: PROJECT ARCHIVE

The current contents of the Project Archive are as follows:

- a Annotated 1:25,000 Ordnance Survey (Pathfinder) maps showing location of sites included in the survey.
- b Site visit forms recording fieldwork data, ownership details, observations and sketch plans where appropriate.
- c Brief notes on site visits.
- d Colour slides (c 300) taken during fieldwork.
- f Relational databases recording standardised information on sites included in the survey.
- g AP plots of selected sites at scales of 1:2500 and/or 1:1000.
- h Site surveys of selected sites at 1:1000.

APPENDIX 2: OTHER SITES

Appendix 2A: Hillforts

Certain and possible hillforts listed in the SMR and not included in the gazetteer in Part 2. Sites which were initially included within the study and were visited as part of the project are marked with an asterisk.

PAR 22	Soldier's Mount*
PAR 28	Llanymynech
PAR 93	Gaer Fawr
PAR 100	Pen y Foel
PAR 114	Cefn yr Allt*
PAR 134	Beacon Ring
PAR 168	Fridd Faldwyn
PAR 194	Roundton
PAR 498	Lymystyn
PAR 499	Gogerddan
PAR 718	Fron Goch
PAR 759	Pen y Castell*
PAR 905	Dinas
PAR 966	Cefn Carnedd
PAR 1032	Pen y Gaer*
PAR 1254	Breiddin
PAR 1330	Moel Pentyrch
PAR 1465	Craig Rhiwarth
PAR 1704	Cefn y Castell
PAR 2285	Todleth Hill I*

Appendix 2B: Possible enclosure sites

The following possible enclosure sites are not included in the gazetteer in Part 2. The available information about these sites is either ambiguous or inconclusive and is only likely to be verified by further aerial photography or excavation. In some instances the sites were only identified at a late stage in the survey. Sites visited as part of the project are marked with an asterisk.

PAR 760	Pen y Bryn, Llanfair Caereinion*
PAR 775	Moat Castle, Llandinam*
PAR 907	Pen y Castell, Llanidloes*
PAR 3929	Erw Garreg, Welshpool*
PAR 4258	Rhydwhyman, Montgomery*
PAR 4610	Tan y Fron, Meifod*
PAR 4617	Ty Coch, Meifod*
PAR 5147	Little Hem, Forden*
PAR 5250	Middle Aston, Churchstoke*
PAR 5251	Brompton Bridge, Churchstoke*
PAR 5252	Neuadd Uchaf, Llanfair Caereinion*
PAR 5262	Mill Cottage, Guilsfield*
PAR 7004	Neuadd, Llanfair Caereinion*
PAR 7036	Rhos Farm, Trewern*
PAR 7096	Trefnant Hall, Castle Caereinion*
PAR 7106	Pen y Rhos, Llanrhaeadr-ym-Mochnant*
PAR 7107	Ty Coch, Llandysilio
PAR 7506	Dolforgan, Kerry*
PAR 7514	Court Calmore, Montgomery*
PAR 7522	Upper Ucheldre, Bettws*
PAR 7524	Ty Bryn Coch, Llansantffraid*
PAR 7529	Stonehouse Farm*
PAR 7762	Blackpool Woods

Appendix 2B: Other sites

The following sites were initially included in the study but were subsequently excluded from the gazetteer either on the grounds that no convincing traces of the sites was found or because the sites are probably or certainly sites of other types of post-Roman date. Sites visited as part of the project are marked with an asterisk.

PAR 58	Allt y Gadair Hillfort, Meifod*
PAR 61	Glan Frogan Hillfort, Llanfechain*
PAR 72	Gallt yr Ancr, Meifod*
PAR 85	Dyffryn Hall Wood Ditch, Meifod
PAR 87	Plas yn Dinas Castle, Llansantffraid*
PAR 231	Old Hall Camp, Kerry*
PAR 1245	Crosswood Camp, Llandrinio*
PAR 4353	Penrhos Enclosure, Trefeglwys*
PAR 4409	Colomendy Enclosure II, Churchstoke*
PAR 4445	Pen y Gelli Enclosure II, Kerry*
PAR 4608	Lower Main Enclosure II, Meifod*
PAR 4619	Fron Fawr Wood Cropmark, Guilsfield*
PAR 4391	New House Cropmark, Welshpool*
PAR 5017	Winllan Enclosure, Llansantffraid*
PAR 5034	Llandyssil Cropmark, Llandyssil*
PAR 5064	Glyn Cropmark, Bettws*
PAR 5118	Garn Uchaf Enclosure, Llangynog*
PAR 5121	Abermule Cropmark I, Llandyssil*
PAR 5149	Collfryn Ring-Ditch, Meifod*
PAR 5247	Jamesford Enclosure II, Montgomery*
PAR 6062	Llandysilio*
PAR 7001	Trewylan House Bank, Llansantffraid Deytheur*
PAR 7003	Llanoddiau Hall Enclosure, Llanfair Caereinion*
PAR 7071	View Enclosure Complex, Forden*
PAR 7091	Tyn y Bryn Field System, Tregynon*
PAR 7093	Staylittle South Enclosure, Trefeglwys*
PAR 7099	Trewern Hall E Enclosure, Trewern*
PAR 7118	Todleth Hill Enclosure, Churchstoke*
PAR 7509	Bagbury West, Churchstoke*
PAR 7511	Trefnant Dingle, Welshpool*
PAR 7517	Ty Gwellt, Berriew*
PAR 7519	Spout House, Welshpool*

APPENDIX 3: SITES RECOMMENDED FOR SCHEDULING

<i>SMR Number</i>	<i>SMR Name</i>	<i>Community</i>	<i>Short description</i>	<i>Scheduling criteria</i>
PAR 59	Pen Llys Hillfort	Llanfihangel	Well-preserved earthwork with suggestive place-name which might point to post-Roman use	survival/condition; ?rarity
PAR 67 PAR 73	Bryn y Saethau Hillfort Fridd Mathrafal Hillfort	Llangyniew Llangyniew	Two small relatively well-preserved earthworks with multiple lines of defence suggesting at least two phases of development, rare in enclosure sites of this size; sites on adjacent spurs	survival/condition/ rarity
PAR 187	Cefn Llan Hillfort	Llandyssil	Well-preserved hill-top earthwork	survival/condition
PAR 757	Pen y Gorddyn Hillfort	Llanfihangel	Well-preserved earthwork with unusual features	survival/condition
PAR 1240	Allt Dolanog Hillfort	Llanfihangel	Well-preserved earthwork; limited damage by cultivation; marginal location	survival/condition; rarity
PAR 1844	Dolgwden Enclosure	Trefeglwys	Well-preserved small earthwork	survival/condition
PAR 2448	Trewylan Enclosure	Llansantffraid	Cropmark	period
PAR 2501	Crow Wood Cropmark	Churchstoke	Cropmark; internal features	period
PAR 2511	Bryn Dial Enclosure	Guilfield	Cropmark; internal features	period
PAR 3507	Hill Tenement Enclosure	Kerry	Well-preserved 'homestead' enclosure earthwork; one of a small group in Kerry Hills	rarity; survival/ condition; vulnerability
PAR 3597	Nantcribau Enclosure	Forden	Cropmark	period
PAR 3609	Glacoed Cropmark	Meifod	Cropmark	period
PAR 3629	Rhysnant Farm Enclosure	Llandysilio	Cropmark	period
PAR 3717	Coed y Wig Hillfort	Llandyssil	Parchmark enclosure but better preservation in places where deeper soils are presumed to exist	survival/condition
PAR 3718	Glascoed Enclosure	Llanllwchaiarn	Cropmark	period
PAR 3960	Perwlwyn Coppice Hillfort	Llanfyllin	Well-preserved earthwork with limited damage	survival/condition
PAR 4036	Bagbury Enclosure II	Churchstoke	Cropmark	period; group value

<i>SMR Number</i>	<i>SMR Name</i>	<i>Community</i>	<i>Short description</i>	<i>Scheduling criteria</i>
PAR 4446	Shepherdswhim Cropmarks	Churchstoke	Cropmark; unusual configuration	rarity
PAR 4566	Cloddiau	Llandyssil	Cropmark; unusual configuration	rarity
PAR 4579	Gelli Dywyll Enclosure	Llandinam	Cropmark	period; rarity
PAR 4618	Fron Fawr Wood Enclosure	Guilfield	Clear cropmark; limited earthwork survival; spring within enclosure	survival/condition; ?diversity
PAR 5035	Thornbury Enclosure I	Forden	Cropmark	?rarity; period; group value
PAR 5047	Lymore Park Enclosure	Churchstoke	Complex cropmark with possibly overlapping enclosures; internal pit-circle	rarity; diversity
PAR 5061	Lower Dinnant Enclosure	Berriew	Cropmark; internal features; utilises natural outcrops	?potential; ?rarity
PAR 5065	Caer Siac Enclosure	Bettws	Cropmark; internal features	period
PAR 5126	Pen y Gelli Enclosure	Kerry	Cropmark associated with larger site less than 30m to the east which is already scheduled (PAR 3649)	group value
PAR 5131	Llandinam Hall Enclosure	Llandinam	Cropmark and earthwork	survival/condition
PAR 5155	Bacheldre Cropmark	Churchstoke	Cropmark complex; minor earthwork survival; low-lying location may favour water-logging	survival/condition
PAR 5261	Boxtree Farm Enclosure	Guilfield	Cropmark; earthwork survival; low-lying site may favour water-logging	survival/condition
PAR 6059	Folly Bridge	Guilfield	Cropmark	period
PAR 6890	Great Cloddiau Enclosure II	Kerry	Small enclosure adjacent to larger scheduled enclosure (PAR 3476)	group value
PAR 7034	Perthybee Enclosure	Kerry	Cropmark	period
PAR 7040 PAR 7053	Llys Farm Enclosure I Llys Farm Enclosure II	Llanfechain Llanfechain	Two overlapping enclosures; earthwork survival; one enclosure may be post-Roman	survival/condition; rarity; group value
PAR 7054	Bank House Enclosure I	Forden	Cropmark	period
PAR 7090	Cwmerllan Enclosure	Kerry	Unfinished enclosure	rarity
PAR 7100	Fron Eithin Hillfort	Guilfield	Enclosure lies within hollow; enhanced survival	survival/condition

<i>SMR Number</i>	<i>SMR Name</i>	<i>Community</i>	<i>Short description</i>	<i>Scheduling criteria</i>
PAR 7103	Lymore Cottage Enclosure	Montgomery	Cropmark	period
PAR 7500	Mount Pleasant	Llandyssil	Cropmark and earthwork	?survival/condition
PAR 7504	Cwm Badarn	Llandyssil	Cropmark and earthwork	survival/condition
PAR 7515	Jamesford N	Montgomery	Large cropmark site	period
PAR 7525	Black Wood	Berriew	Cropmark and earthwork	survival/condition