THE THAMES VALLEY PROJECT

A REPORT FOR THE NATIONAL MAPPING PROGRAMME

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Crop marks, earthworks and gravel extraction, Standlake, Oxfordshire. NMR 4609132, taken 3rd July 1990. © RCHME Crown Copyright.

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SUMMARY

The Royal Commission's Thames Valley mapping project was one of four pilot projects for the National Mapping Programme. The project area covered 1450 km2 of the Thames Valley, following the course of the river from just east of its source to the western outskirts of London.

Although much archaeological work has been done in the Thames Valley, it is twenty years since the publication of "The Upper Thames Valley: an Archaeological Survey of the River Gravels" by Benson and Miles (1974). There has been further reconnaissance in the intervening period, and the Sites and Monuments Records for each of the six counties falling within the study area have continued to record aerial photographic data in a variety of ways. The RCHME's survey is the first major synthesis to be undertaken since the 1970s. The survey simultaneously re-interpreted the earlier work, brought all the transcriptions up to a common standard and included the new information from reconnaissance in the last twenty years.

All available oblique and vertical photography was used to produce 1: 10,000 overlays to the fifty-eight quarter sheets in the project area. For the first time in the Thames Valley, earthworks (with the exception of ridge and furrow) were systematically recorded from aerial photographs. Vertical photography from the 1940s was particularly valuable in this respect.

All sites transcribed were recorded using the MORPH2 program developed by the RCHME; the resulting database contained 11,252 sites at the end of the recording phase of the project. This report represents the results of the first stage of analysis using a combination of Bradford University's AERIAL program and the R&R Report Writer program.

ACKNOWLEDGEMENTS

Thanks are due to a great many people, without whose help the Thames Valley project would not have been completed. Cambridge University Collection of Air Photography are to be thanked for allowing the Air Photography Unit to borrow numerous photographs for examination in Swindon. Similarly everyone in the National Monuments Record Air Photographs section who helped with loaning photographs and copying illustrations for the report deserve thanks. Gloucestershire, Wiltshire, Oxfordshire, Buckinghamshire and Berkshire County Councils each kindly provided copies of their transcriptions from aerial photographs, and allowed access to data from their Sites and Monuments Records. Oxford Archaeological Unit are to be thanked for allowing access to information relating to many of their unpublished excavations and evaluations.

Thanks are due to the project team who worked on the Thames Valley; individual contributions are detailed in section 2.6.1. This report incorporates comments made by Dr Bob Bewley on the first and final draft, and comments from others as a result of the consultation exercise. Those received from Gordon Maxwell were particularly valuable as were the comments received from Bill Startin. Finally, thanks are due to all Commission colleagues who proffered advice and contributed to discussions throughout the project, and to others outside the Commission who gave time to discuss some of the ideas. They are acknowledged at appropriate points in the text.

2 INTRODUCTION

2.1 BACKGROUND TO THE PROJECT

The Thames Valley project is one of the four joint Royal Commission on the Historical Monuments of England (RCHME) and English Heritage (EH) crop-mark classification projects, the other three being Kent, Hertfordshire and the Yorkshire Dales National Park. All four projects were undertaken by the RCHME Air Photography Unit (APU), with funding from EH. The corresponding reports for each of the other projects are available from the APU, giving a summary of the results obtained in each case and a good perspective on the developing methodologies (Edis 1989; Fenner 1992; Yorkshire Dales -forthcoming). The four crop-mark classification projects together formed the pilot studies for the RCHME's National Mapping Programme (NMP). NMP projects are currently underway in Cornwall, Essex, Lincolnshire, the Marches Uplands, the National Forest area, Northamptonshire and Nottinghamshire, according to standard NMP Guidelines (RCHME 1994). Fig. 1 illustrates these areas, where NMP projects have been completed or are ongoing.

One of the purposes of the pilot projects was to develop and test methodologies for mapping and recording at a scale of 1: 10,000. Accordingly for the Thames Valley two separate phases, with different staff and differing objectives, can be identified (see section 2.4 and 2.6 below). Phase 2 built upon the achievements of Phase 1, resulting in the methodologies and results discussed here. Principle differences included consulting photographs from a wider range of sources, and expanding the project area (see below). The area covered by the project is illustrated in Fig. 2; it consists of 58 1: 10,000 quarter sheets centred on the course of the River Thames from its source to the western outskirts of London, in the vicinity of Windsor and Slough. The total project area is 1450 km2; including parts of Wiltshire, Gloucestershire, Oxfordshire, Buckinghamshire, Berkshire and Surrey (the area of Surrey within the boundaries of the project covers less than one complete quarter sheet). In Phase 1 of the project transcription was confined to the gravel terraces but during Phase 2 this area was expanded to ensure that entire quarter sheets were completed. Small areas of the limestone Corallian ridge and the chalk downlands of Berkshire thus provide a contrast with the gravel terraces.

2.2 OBJECTIVES

The objective of the Thames Valley project was to plot all the archaeological information on both oblique and vertical aerial photographs from early prehistory to the Post Medieval period at a scale of 1:10,000. Military remains dating to the Second World War were excluded from the transcriptions, as were standing buildings and ridge and furrow. After transcription onto film overlays to the 1: 10,000 Ordnance Survey (OS) base maps, the archaeology was recorded using a computerised system developed by the APU between 1987 -1989, known as MORPH (Edis et al1989). After transcription and recording, and a period of editing and report-writing, it is intended that the data generated will be put to many uses at both local and national levels. The results will be incorporated into RCHME's National Monuments Record (NMR) and will be made available to the relevant county Sites and Monuments Records (SMRs), primarily for development control purposes. They will be fed into national programmes of preservation and protection via the MPP and will also further the APU's own study of morphological recording and analysis.

For fuller details of the objectives and the archaeological scope of Phase 2 of the project, see Soffe (1992).

2.3 SOURCES

All available oblique and easily available vertical photographs were consulted for the purposes of the project. Their principle sources were the RCHME's NMR Air Photographs (formerly the National Library of Air Photographs) and the Cambridge University Collection of Air Photographs (CUCAP). Additionally small numbers of aerial photographs were examined, where appropriate, at each of the six SMRs concerned. Given the time span of the project it was not possible to undertake a systematic search of recent vertical cover, taken for planning, census or highways purposes, within the County Councils concerned.

The aerial photographic information was supplemented by information from the NMR (both the former National Archaeological Record and the Excavations Index) and the six SMRs. Information from the NMR was available on-line to the APU, accompanied by copies of the most up-to-date record maps. Information from the SMRs was supplied as hard copy, in the form of paper print-outs by quarter sheet; the exception to this was Oxfordshire SMR, which has yet to be computerised. In this case paper copies of the county-held transcriptions were supplied and the SMR index cards were consulted in Oxford (see note below). Some of the other SMRs also supplied paper or film copies of their transcriptions, at scales of 1: 10,000 or 1: 10,560. The Excavations Index provided a paper copy of the records held for the project area. Fig. 3 illustrates the sources of information for all the sites recorded, including those that have been excavated on either a large or small scale, and those which have been subject to non-destructive investigation.

For five of the six SMRs concerned, the records for all sites transcribed were referred to during transcription and recording. Records held by the Oxfordshire SMR were again the exception. Owing to their sheer numbers, and the fact that the record cards could only be consulted in Oxford, a decision was made early on in Phase 2 of the project to check the SMR entry only when crop marks observed on the copies of the county-held transcriptions did not correspond to or had been omitted from the transcriptions produced by the APU. Otherwise there was no detailed cross-referencing with the SMR; it would have been logistically impossible within the other constraints of the project.
Full details of the individual sources consulted are given in Appendices 8.1 and 8.2 at the end of the report. Sites were cross-referenced to the NMR and the relevant SMRs throughout the project. Fig. 4 shows how many of them were already recorded in the existing national and/or local records.

2.4 METHODOLOGY

2.4.1 Mapping methods

For each quarter sheet all the available oblique and vertical photographs were assembled prior to transcription and were examined simultaneously whilst plotting, where possible. If photographs had not been loaned from CUCAP for examination in Swindon, pencil transcriptions made from the material held by NMR Air Photographs were taken to Cambridge to incorporate detail on CUCAP photographs for which there were no copies available in Swindon. The SMR's transcriptions from aerial photographs were also referred to during plotting and the pencil transcriptions also

taken to the SMR offices so that any additional information could be incorporated. A final inked overlay was produced from each pencil one.

The transcriptions were produced at a scale of 1: 10,000 using manual plotting methods supplemented with plotting using the AERIAL program, developed by the Department of Mathematics at the University of Bradford. The use of AERIAL in some of areas was deemed necessary to increase the accuracy of the plotting and speed the transcription process.

During the transcription process a paper record was kept. Site Record Forms (SRFs) were completed based upon arbitrary parcels of land that could be identified on the 1: 10,000 OS base map and that bounded the crop marks or earthworks showing on aerial photographs. Each parcel of land containing crop marks or earthworks was recorded on a copy of the

1: 10,000 base map, with a single identifying number (a central grid reference) relating it to its SRF. The forms have been retained and may be consulted at the National Monuments Record Centre (NMRC) in Swindon. In addition to keeping SRFs, a Map Note Sheet (MNS) was completed for each quarter sheet. The MNSs form an essential part of the project archive and can be consulted at the NMRC; an example of the MNS designed for the Thames Valley project can be found in Appendix 7 of the project specification (Soffe 1992).

For convenience the fifty-eight quarter sheets within the project area were divided into six Blocks of between eight and twelve sheets (see Fig. 5). Different Blocks were transcribed, recorded and supervised by different members of the project team (see section 2.6.1 below); it is inevitable that different individuals will have had particular biases. Every attempt was made to overcome this, and to ensure that recording was undertaken by the same individual responsible for interpretation and transcription. The Blocks were not mapped in any particular order; according to the availability of the project staff, several different Blocks were mapped simultaneously.

2.4.2 Conventions

A set of conventions was devised for the project enabling banks, ditches and a variety of other features to be depicted in different ways and thus identified from the transcribed 1: 10,000 overlays. Appendix 8.6 illustrates the conventions used.

It should be noted that alluvial deposits masking crop or soil marks were not routinely plotted, although in the initial phases of transcription this was done experimentally; some of the overlays to maps at the western end of the project area bear witness to this experimentation, the convention used being a chained line. In the project specification for Phase 2 it was stated that "mapping this phenomenon (of crop and soil marks disappearing under alluvium) in the present project is impracticable" (Soffe 1992, 5); plotting alluvium where it masked archaeological crop or soil marks ceased.

2.4.3 Databases

Once each sheet had been transcribed, all archaeological features plotted were recorded (wherever possible by the initial interpreter) on a computerised database using the MORPH2 program. MORPH2 allows the systematic recording of archaeological features derived from aerial photographs in such a way that for the purposes of analysis the features can then be compared with one another. A standardised morphological description is produced for each site which aids the development of classification schemes.

The MORPH program was developed in the APU between 1987 -1989 and continues to develop today, the latest version being MORPH2. Its modus operandi and the theory behind its development are briefly detailed in Edis, Macleod and Bewley (1989). Further intonation may be found in the guidelines for the NMP (RCHME 1994) and in the MORPH2 Users Guide (RCHME 1993). For those not familiar with its design and operation one of these three sources is recommended for a correct understanding of the definitions of SITE, GROUP, COMPLEX, ENCLOSURE, LINEAR SYSTEM, LINEAR FEATURE, MACULA AND INDUSTRIAL COMPLEX.

The order in which sites were recorded reflects the order in which maps were completed. Appendix 8.3 lists each of the final databases, with the number of records each holds.

2.5 ARCHIVING AND PUBLICATION DETAILS

The archive for the Thames Valley project may be consulted at the NMRC in Swindon. A detailed list of its contents can be found in Appendix 8.3.
This report is an internal RCHME report but it is intended to disseminate the results of the project further through selected publication at a later date.

2.6 PROJECT DETAILS

2.6.1 Project team structure

At a senior management level the project was the overall responsibility of the Head of the Air Photography Unit, Dr. Rowan Whimster, from its start until July 1992, when it became the responsibility of the Head of the National Mapping Programme, Dr Bob Bewley.

The project specification gives a summary of the work carried out in Phase 1 of the project (1988 -1989), its review (1991) and the subsequent decision made to alter the methodology to that used in Phase 2 (Soffe 1992, 2). Most of the transcription in Phase 1 was carried out by Jonathan Edis (the project co-ordinator), assisted by Dave Macleod during 1988.

In 1991 the work done in Phase 1 was reviewed by Jo Elsworth and Victoria Fenner, in order to assess the methodology in the light of work in progress elsewhere within the APU. As a result of the review, it was decided to make some changes to working practices; these included consulting photography from a wider range of sources than in Phase 1, including vertical photographs. The project area was also expanded and Phase 2, the re-transcription of all the quarter sheets to take into account methodological changes, began in January 1992.

Grahame Soffe acted as project co-ordinator from 1992 -1993, training and supervising a project team of three air photo interpreters: Moraig Brown, Carolyn Dyer and Fiona Small (all of whom joined the APU at intervals between January and August 1992). In September 1992 both Cathy Stoertz and Victoria Fenner joined the team, assisting in the training of the new members of staff and supervision of the transcription (and in Cathy Stoertz's case, also contributing to transcription itself. Additionally Victoria Fenner was given responsibility for supervising data entry to the MORPH2 database and training all members of the project team in its use. From January 1993 the team was also joined by Simon Crutchley, contributing to transcription and recording when other project commitments permitted. From April 1993 to completion Victoria Fenner was the co-ordinator for the project.

This report was written by Victoria Fenner, with assistance from Carolyn Dyer who wrote and researched sections 4.2.1 -4.2.4 inclusive, produced appendices 8.1 -8.6 and helped with the final preparation of the text. The illustrations (including both those drawn by hand and those computer-generated) are a team effort, done by Carolyn Dyer, Victoria Fenner and Fiona Small. Moraig Brown undertook the initial digitising for the project area, for the drainage, drift geology and urban areas maps.

2.6.2 Timetable

As mentioned in 2.1 and 2.6.1 above the Thames Valley project was a pilot study and as such it was appropriate to test different methodologies to ensure that the right one was found. Phase 1 of the project therefore ran between 1988 -1989, and a review of the methodology took place in 1991. Phase 2 commenced in January 1992; transcription and recording were completed by the end of April 1993.
The project will not finally be finished until the MORPH data have been incorporated into the NMR's MONARCH system; the timetable and methodology for this has yet to be agreed.

2.6.3 Funding

As one of the four Monuments Protection Programme (MPP) crop-mark classification projects, the Thames Valley survey was partially funded by EH from 1988 to 1991. Their contribution paid for project staff on a contract basis. Since 1991 the entire costs of the project have been borne by RCHME.

2.7 Scope of the Report

This report is for internal RCHME and EH use, and is designed as a guide to the archaeology of the Thames Valley for MPP and other purposes. The report is not intended to be a definitive statement about the archaeology of the Thames Valley. It is intended as the foundation for further research, from the point of view of both aerial photographic work and other forms of investigation e.g. documentary research, fieldwalking, field survey and environmental work. The latter in particular has yielded such important results in the Thames Valley in recent years, allowing the archaeology to be interpreted in the context of its landscape. It is recognised (and indeed stressed) that fuller understanding of the archaeology will result only from a combination of all archaeological techniques.

The report should be used in conjunction with the fifty-eight updated 1: 10,000 transcriptions for the project area which are housed, with other project information, within the NMRC in Swindon (see Appendix 8.3). Copies of the transcriptions are also held in their appropriate county SMRs.

The format adopted for this report results from discussions between the York and Swindon offices of the APU during 1994, and follows on from those developed for the Kent and Hertfordshire projects (Edis 1989; Fenner 1992). A departure from the earlier reports is a total split between a thematic section and the morphological analyses. The former considers all sites in terms of their interpretations, grouped for convenience in section 4. 1 within their Thesaurus classes (RCHME and EH 1992). Both group interpretations and site interpretations are considered. All sites are then reconsidered solely in terms of their morphological site types, in section 4.2. Unnumbered illustrative examples have been inserted in the text only where they are required to illuminate particular points. All are at a scale of 1: 10,000 unless specifically stated, with North towards the top of the page.

The site numbers mentioned throughout are from the Thames Valley MORPH2 database, and as such should universally be pre-fixed by the letters 'TG' for the purposes of further enquiry or research. The archaeology is discussed in terms of both SITES and GROUPS, in the MORPH2 sense, and every attempt has been made to ensure that it is explicit in each instance the level to which discussion refers. Throughout the report the term 'crop mark' should automatically be taken to be inclusive of soil marks as well as crop marks. Although different information can be gained from both types of mark and as aerial photography takes place at different times during the year, they each reflect sub-surface archaeology showing as a result of agricultural activity. 'Crop mark' should also be taken to include other vegetation marks.

At various points in the text reference is made to the 'source' recorded on the MORPH2 database for any given site. These sources may be summarised as follows:

Source 0 – unconfirmed overlay (i.e. photographs not seen)
Source 1 - poor quality photography (i.e. not taken for archaeological purposes, usually meaning verticals)
Source 2 – good quality photography (i.e. archaeological aerial photography, usually meaning obliques)
Source 3 - non-destructive fieldwork (includes fieldwalking, geophysical survey and documentary research, both cartographic and textual)
Source 4 - small-scale archaeological excavation (including evaluation and trial trenching)
Source 5 - large-scale archaeological excavation.

3 BACKGROUND TO THE ARCHAEOLOGY

3.1 PREVIOUS WORK

3.1.1 NAR record

Programmes of primary recording by the NAR have been completed on the counties within the project area. Primary recording included elimination of the backlog of OS mini cards and bibliographic search of national and local journals and some other limited literature search. Much recently published material has not been included (for example if a county was completed in 1993 it may already have been two or more years out of date, depending on the degree of backlog and the last date on which information was added to that backlog). The programme of primary recording was independent of the Thames Valley Project and was completed for each county concerned as shown below.

Gloucestershire 1993
Oxfordshire 1993
Wiltshire 1992
Berkshire 1991
Buckinghamshire 1992

Surrey was not consulted, as no relevant sites have been recorded by the NAR on the small section of quarter sheet within the project area.

3.1.2 SMR records

Gloucestershire, Oxfordshire, Wiltshire, Berkshire and Buckinghamshire all supplied copies of their transcriptions from aerial photographs at a variety of scales; some were film copies to overlay to OS base maps, others were drawn directly onto the map sheets, and they were of varying quality. The transcriptions were accompanied by paper copies of the SMR records for all counties except Oxfordshire. As the latter is not computerised, index cards had to be consulted in Oxford.

3.1.3 Aerial photography

3.1.3.1 Archaeological aerial survey

The Thames Valley has a long history of archaeological aerial survey. The first aerial photographs were taken in the 1920s and in 1927 the Big Rings henge monument at Dorchester was published by OGS Crawford, having been recognised by RAF flyers (Crawford 1927). Crawford subsequently made further important archaeological discoveries from RAF photography.

In the 1930s a series of intensive aerial surveys were undertaken in the Upper Thames Valley by Major Allen. These took place between 1932 and 1939 and many major sites were recorded for the first time. Much of this aerial survey work was followed up by ground investigation, in some cases by excavation; Allen's study of the Highworth Circles is discussed in this context in section 4.2.1 below.

DN Riley, in liaison with others, continued the work in the 1940s, re-photographing many of the sites first recorded by Major Allen between 1941 -1943. He also made further discoveries in the Kempsford -Lechlade -Langford area but sadly many of these are recorded in written form only. JKS St Joseph began taking aerial photographs from 1945 onwards, his work in due course giving rise to the Cambridge

University Collection of Air Photographs. CUCAP continued reconnaissance for archaeological purposes until the 1980s, the photography taken by St. Joseph in the 1950s in particular recording many new sites.

A Baker began taking aerial photographs of the Thames Valley from 1957 onwards. These formed part of the original core collection of the library of aerial photographs that is now a key component of the NMR, as do the photographs taken by IN Hampton from the time of the formation of the RCHME Air Photographs Unit in 1967. J Pickering started taking aerial photographs in the area from 1970 onwards.

Aerial photography in the Thames Valley continues today. Following publication of 'The Upper Thames Valley: an Archaeological Survey of the River Gravels' (Benson and Miles 1974) the Oxford Archaeological Unit has periodically undertaken its own campaign of aerial reconnaissance, much of it done by RA Chambers. C Stanley has also photographed many of the sites in the project area but this collection was not available for consultation during the lifespan of the project. The RCHME's APU still undertakes reconnaissance in the Thames Valley, which in the recent dry summers has yielded significant new discoveries and important new information about known sites.

3.1.3.2 Non-archaeological aerial survey

RAF verticals from the 1920s were the first non-specialist aerial photographs to be taken in the survey area, although they yielded some significant archaeological discoveries (they are now part of the Crawford Collection). The RAF were again active during the Second World War as was the United States Air Force. The Luftwaffe may also have taken some aerial photographs of the Thames Valley, but it was not possible to seek out any prints that are still in existence as they are held in the United States of America.

The RAF continued to photograph the project area, in part or in its entirety, after the Second World War and at intervals thereafter. All available cover was consulted. The OS took vertical photographs of the Thames Valley, not all of which were available for consultation, from 1970 onwards, whilst Meridian Air Maps periodically flew parts of the project area between 1969 and 1982. Some of this cover is not held by the NMR and so was not available for study as part of the project.

Various other agencies have undertaken reconnaissance on occasion in the Thames Valley. All six county councils have taken vertical photographs for planning or highways purposes. A number of the utility companies have also commissioned work for commercial purposes. The former photographs were consulted where they were easily available, but those held in other sections of the county councils or by other companies were not consulted.

3.1.4 Other archaeological work

The archaeology of the Thames Valley has long been the focus of much attention. Crop marks have been recognised on the gravel terraces for nearly one hundred and fifty years. Stone observed, plotted and excavated crop-mark sites in the 1850s (e.g. Akerman and Stone 1857); surveyed plans and/or descriptions of crop marks of various sites, including Dorchester, were published by Haverfield just before the turn of the century (Haverfield 1899). Crawford's work on the Big Rings henge was published in 1927 (Crawford 1927). There is no doubt that all these early publications provided the impetus for much later work.

There have been many excavations in the project area by numerous individuals and organisations. These include the excavations by R J C Atkinson at Dorchester, by A H Cocks at Hambleden and ET Leed's work on round barrows and ring ditches in Berkshire and Oxfordshire, to name but a few. In more recent years as the threat from gravel extraction has increased, there have been large-scale rescue excavations at such diverse sites as Roughground Farm and Berinsfield.

With a change of emphasis to developer-funding since the arrival of PPGI6, few large excavations have taken place in the last five years. Instead there have been numerous evaluations on a wide range of sites. The Oxford Archaeological Unit has been active in the area since its formation in 1973 (it was preceded by the Oxford Excavation Committee). More recently other Archaeological Units such as the Cotswold Archaeological Trust and Wessex Archaeology have also evaluated and excavated in the project area. Numerous local societies have been active over a very long time and have contributed much to our understanding of the archaeology. They include both the Oxford University Archaeological Society and the Abingdon and District Archaeological Society. Many of the excavations and surveys have been published, but there is still a large backlog of unpublished work which has not found its way into the wider public domain.

The Thames Valley is however fortunate in that there have been a large number of archaeological syntheses published. The first major synthesis of the archaeology of the Upper Thames appeared in the Victoria County History for Oxfordshire (Volume 1) (VCH 1939). This used much of Major Allen's work. In 1960 The Royal Commission published ‘A Matter of Time: an Archaeological Survey of The River Gravels of England' (RCHME 1960). This covered not only the gravels in Oxfordshire but also those in other counties. Then in 1974 Benson and Miles (with Balkwill & Clayton) published 'The Upper Thames Valley: an Archaeological Survey of River Gravels' (Benson. and Miles 1974). This published maps compiled from aerial photographs against an OS map background, accompanied by a Gazetteer and some case studies. It was followed by 'The Middle Thames Valley: an Archaeological Survey of the River Gravels' by Gates (Gates 1975) and then in 1977 'The Upper Thames Valley in Gloucestershire and Wiltshire; an Archaeological Survey of the River Gravels' was published (Leech 1977). The latter four volumes relied heavily on aerial photographs and developed the concept of accompanying text with maps compiled from transcriptions. This series of publications also helped to highlight the threat to the archaeological resource posed by gravel extraction, first raised by the RCHME in 'A Matter of Time'.

3.2 LANDSCAPE

3.2.1 Geology

The Upper Thames Valley lies between the oolitic limestone of the Cotswold Hills in the north and the mixed sand and clay strata capped by limestone that constitute the Corallian Ridge to the south of the river. The dipslope of the Cotswolds gives way to Oxford Clay and thence to extensive gravel terraces overlying the Oxford Clay. Commonly there are up to four gravel terraces in the Upper Thames area although the first and second are by far the widest. Similarly, to the south of the river the scarp slope of the Corallian Ridge gives way to the Oxford Clay, but the gravel terraces are much narrower than those on the opposite side of the water, if they exist at all.

To the west of Oxford the river swings around the base of the Corallian Ridge where it outcrops at Wytham and Cumnor Hills. On the top of the ridge a plateau slopes gently away to the south. At Cumnor Hurst and Boars Hill, south-west of Oxford, the

limestone strata are capped with Kimmeridge Clay and Lower Greensand, with glacial drift capping them in turn. South of the Corallian Ridge is the Clay Vale, consisting largely of Kimmeridge and Gault Clays. The Clay Vale continues in a north-easterly direction, to the east of the river and beyond the limits of the project area. The Thames passes through this vale in the Abingdon area before it reaches the scarp slope of the Berkshire Downs and the Chilterns. It flows between and separates the two via the narrow gap at Goring. The chalk downland behind the scarp slope is capped in places by Clay-with-flints, and there are Combe Deposits in some of the dry valleys.

At the Goring Gap the river turns again, and flows once more in an easterly direction across the Tertiary Clays of the Middle Thames Valley towards the north-west part of the London Basin syncline. A second series of gravel terraces, unrelated to the first, lie adjacent to the present day course of the Thames. Up to eight terraces have been recognised in places, the fifth to eighth ones lying considerably above the modern valley floor. Eocene London Clay and Reading Beds flank the gravel terraces, and there are deposits of plateau gravel in some places e.g. between the rivers Kennet and Loddon and their respective confluences with the Thames to the east of Reading. The high ground both north and south of the river is Cretaceous Upper Chalk, sometimes capped by Clay-with-flints. Watercourses draining south from the Chilterns have given rise to series of steep-sided valleys cutting down to the Middle Chalk in the Henley-on-Thames area. South of the river from Bray to Windsor, the gravel terraces are narrow, and the extensive Reading Beds gradually give way to Bagshot and Bracklesham Beds, with further small patches of plateau gravel.

In most of the Thames Valley from its source to the eastern boundary of the project area, the gravel terraces are covered by or overlap with calcareous alluvium on the valley floor of the river. The width of the alluvial deposits varies considerably; they are widest in places such as the Bampton area, and at their narrowest immediately to the south of Oxford, and from Goring to Reading. The alluvium is on the floodplain of the River Thames and still liable to flooding today.

Figs. 6, 7 and 8 show the drift geology within the project area (plus those areas where gravel extraction has taken place or is planned).

3.2.2 Geomorphology

The River Thames rises 5 km to the south-west of Cirencester, on the edge of the Cotswolds. It flows eastwards from its source with two sharp changes in direction, the first as it flows around the outcrop of the Corallian Ridge at Wytham Hill to the west of Oxford, and the second where it turns east again at the Goring Gap passing between the chalk of the Berkshire Downs and the Chilterns. Once outside the area studied it flows through central London, between the Essex and Kent brickearth coastal plains and gravel terraces and on into the English Channel. The drop in height from its source to the eastern boundary of the project area is c. 90 m (see below).

Many rivers drain into the Upper and Middle Thames, the largest number draining southwards from the Cotswolds in the Upper Thames Valley. The junction of the Oxford Clay and the limestone strata of the Corallian Ridge forms a spring line from which many smaller streams also rise, to flow northwards into the Thames. Further downstream rivers rising as far afield as Avebury in Wiltshire (the Kennet) and Basingstoke in Hampshire (the Loddon) also flow into the Thames. Fig. 9 illustrates the drainage pattern within the project area.

The Thames rises at a height of c. 110 m OD, and when it leaves the project area west of London it has dropped to a height of less than 20 m OD. It flows through a corridor flanked by higher land for much of its length, particularly to the north of the river downstream from Reading. The Cotswold Hills only impinge slightly on the study area, rising to a maximum height of 140 m OD to the north-west of Fairford; the highest points, however, are further downstream. The summit of the outcrop of the Corallian Ridge at Wytham Hill near Oxford is 164 m OD, whilst the field system lying in the western end of Unhill Wood, Streatley Warren, is at a height of 180 m OD. On the opposite side of the river the chalk of the Chilterns rises to 164 m OD where it overlooks the Goring Gap, but as with the Cotswolds, the Chilterns only impinge slightly on the project area. Behind Hambleden the land rises to a maximum of 190 m OD, the highest point in the project area.

3.2.3 Soils

There is considerable variation in the soil types from one end of the project area to the other and also differences between the soils north and south of the River Thames, largely corresponding to variations in geology and topography. A thin band of pelo-calcareous alluvial gley soil (soil type 814a [Thames]) runs almost the entire length of the valley floor over alluvial deposits. Its width varies considerably, being narrowest between Goring and Reading. Thin bands of pelo-calcareous alluvial gley soils of the same type and association are also found in many of the river valleys draining into the Thames such as the Windrush and the Ray.

North of the Thames from its source to the Witney area the soils are influenced by the limestone of the Cotswolds. North of Fairford, Lechlade and Bampton brown rendzinas (type 343a [Elmton]) are dominant, whilst typical brown calcareous earths (type 511h [Badsey]) cover the gravel terraces further south. Calcaro-cambic gley soils (type 832 [Kelmscott]) are found in a series of parallel streambeds draining to the south-east off the Cotswold slopes into the Thames; small areas of pelo-stagnogley soils (type 712b [Denchworth]) have also been recorded. On the opposite bank of the river the influence of the limestone Corallian Ridge is equally strong with successive bands of different soils running in a south-west north- east direction parallel to the course of the river. Brown rendzinas (type 343a [Elmton]) are found at the southern edge of the project area on the higher ground, with a band of typical argillic brown earths (type 571g [Fyfield 4]) nearer the Thames, then of pelostagnogley soils (type 712b [Denchworth]), and lastly of calcaro-cambic gley soils (type 832 [Kelmscott]) closest to the river.

To the west of Oxford brown rendzinas (type 343a [Elmton 1]) cap the top of Wytham Hill, with large areas of pelo-stagnogley soils (type 712b [Denchworth]) on the lower ground towards the river. West of the river running southwards from Oxford to Cholsey typical argillic brown earths (types 571e,i,u and v [Fyfield 2, Harwell, Sutton 1 and 2]) become the predominant soil type, with small patches of grey rendzinas (type 342c [Wantage 1]), pelostagnogley soils (type 712b [Denchworth]) and pelo-alluvial gley soils (type 813b [Fladbury 1]). To the west of Cholsey a large area of pelo-calcareous alluvial gley soils occur (type 814a [Thames]), linked by a narrow band to the alluvial gley soils on the valley floor of the Thames.

In the Goring -Reading area, stagnogleyic paleo-argillic brown earths (types 582b,c [Hornbeam 1 and 2]) are dominant on the higher ground of the Berkshire Downs and the Chilterns with grey rendzinas (type 342a [Upton 1] and typical brown calcareous earths (type 511g [Coombe 2]) on the slopes down to the valley floor. Similarly on the north side of the river from Reading to Marlow stagnogleyic paleo-argillic brown earths (types 582a,b [Batcombe, Hornbeam] are common on the higher ground with

typical paleo-argillic brown earths (581b [Sonning 1]) and typical argillic brown earths (571u,v [Sutton 1 and 2]) on the land closer to the river. Typical argillic brown earths (571j,u,v [Frilsham, Sutton 1 and 2]) are the commonest soils south of the Thames from Reading eastwards too, although there is a small area of pelo-stagnogley soils (712c [Windsor]) on the top of Knowle Hill and in the Windsor area typical stagnogley soils (711h [Wickham 4]) are commonest. There are small areas of stagnogley-podzols (type 643a [Holidays Hill]) in Windsor Great Park.

The band of pelo-calcareous alluvial gley soils (814a [Thames]) on either side of the present course of the river is extremely narrow from Goring to Reading, after which point it widens considerably. Pelo-calcareous alluvial gley soils are also found in the valley of the River Pang, with pelo-alluvial gley soils (813d [Fladbury 3]) on the floor of the valley of the Loddon.

For more detailed information about variation in soil type at a local level the 1:250,000 Soil Map and accompanying legend published by the Soil Survey of England and Wales should be consulted (Soil Survey of England and Wales 1983).

3.2.4 Land use

Along much of the Thames Valley low-lying floodplain, which is still subject to periodic flooding, has been used as pasture for grazing and as meadowland. The lighter soils above the gravel terraces are well-drained and eminently suited to cereal cultivation. Much land on the heavier clay soils at the western end of the project area has been given over to pasture; the soils are prone to waterlogging and are not free-draining. Woodland and coppicing can be found on the higher ground overlooking the valley.

Large parts of the project area have been engulfed by urban development. From Oxford downstream in particular, the towns along the river valley have spread to occupy much of the flatter ground and lighter soils. The density of urban areas increases as the river nears London. Fig. 10 shows the major towns and urban areas within the project area.

The expanse of gravel terraces along the river valley has meant that there has been largescale gravel extraction in many places, and more is planned. The Cotswold Water Park is one of the most completely quarried areas, as is the Standlake - Stanton Harcourt area. Figs. 6 -8 show those areas where gravel extraction has already taken place, and those where planning permissions have been granted (against the background of the drift geology).

The only large area of parkland within the project area is Windsor Great Park, on the western outskirts of London.

3.3 THE DISTRIBUTION OF ARCHAEOLOGICAL EARTHWORKS AND CROP MARKS

10,522 of the total 11 ,252 sites recorded are crop marks and only 645 earthworks (83 are combination sites and 2 further sites are stoneworks). The distributions are largely mutually exclusive, crop marks and earthworks being found in close proximity at few locations. Both distributions reflect the topography, the soil variations, land use and the underlying geology. In addition, proximity to Heathrow Airport has considerably restricted reconnaissance at the east end of the project area in the post-war period.

Most of the earthworks are found at the western end of the project area, on clayey soils that are subject to a degree of water logging (stagnogleys and pelo-stagnogleys). The earthworks survive where land on these soils has not yet been brought into arable cultivation. A cluster of earthworks occurs on the Corallian Ridge, particularly where it outcrops to the west of Oxford. On the other side of the river, in the Eynsham area and further upstream, a small number of earthworks have also been recorded largely on permanent grassland on calcarocambic gley soils on the flat land of the valley floor. Further downstream on the Berkshire Downs and the Chilterns earthwork sites in the Streatley and Goring area exist, as well as at isolated points to the north of the river between Reading and Windsor. Further earthworks have been recorded on the clayey stagnogleys to the south of Windsor.

From the source of the Thames to Oxford crop marks are almost entirely restricted to the northern bank of the river. They are commonest on the well-drained typical brown calcareous earths that are so suitable for cereal cultivation; persistent reconnaissance has also yielded results on some of the gley soils on the valley floor and the brown rendzinas of the Corallian Ridge. Downstream, from Oxford to Goring, numerous crop marks have been recorded on the fine and well-drained typical argillic brown earths that flank the river, and on the deposits of equally productive typical brown calcareous earths. East of Goring, the number and density of crop marks drops dramatically. The extensive urban areas restrict the potential for recovery via the medium of aerial photography, as do some of the more clayey soils, such as the stagnogleyic paleo-argillic brown earths north of Reading. Clusters of crop marks occur above plateau gravel where cereals are grown, and on the typical argillic brown earths over the gravel terraces. It is surprising that more crop marks have not been recorded south of the river between Wargrave and Maidenhead, given the suitability of the soils for cereal production. A programme of reconnaissance may well address this balance but could be hampered by proximity to the Heathrow Air Traffic Zone.

Along the length of the river valley alluvial deposits on the valley floor have restricted the formation of crop marks. In some places the masking effect of the alluvium can clearly be seen, as sites showing as crop marks appear to continue under alluvium. Figs. 11 and 12 show the distribution of crop marks and earthworks respectively.

3.4 LIMITATIONS OF THE RECORD

The MORPH2 database has been designed to record archaeology from all parts of the country in a standard way, including the location of sites within their physical environment. The location field in particular is a relative term and certain arbitrary decisions have to be made for each individual project. For the Thames Valley, the location was recorded as 'flat' if the contours on the 1: 10,000 base map were more than 200 m apart and as 'valley floor' from the river to the first contour on the base map.

At many points in the text sites are referred to as being 'still in existence'. This does not however imply positive action to determine whether the site is still there. The check is a passive one only, indicating that according to latest photography and in the absence of evidence to the contrary on 1: 10,000 base map the site is still there. One of the new features of the MORPH2 database is the addition of a group database, to allow for a separate interpretation and period to be recorded for whole groups, and an optional free text field. The group interpretation has been used for 4345 sites (38.6% of the total). A good example would be a site such as the Bronze Age linear cemetery at Barrow Hills, Radley. The individual barrows would be recorded separately, as each has its own particular morphological characteristics. However, together the individual sites are part of a larger entity, the barrow cemetery,

and this interpretation would be given as the group interpretation for all of the sites. Group interpretations will almost always be different from those of the individual sites within the group, to avoid double recording. There are however some notable exceptions to this concerning sites which have been recorded as linear systems. In these cases the use of the same interpretation at both site and group level is unavoidable. An example would be a field system, made up of a number of constituent elements including field boundaries, lynchets, a hollow way, ditches and a number of complete fields at its core laid out with regularity and order; these latter would be recorded as a linear system. At the time of recording 'field' was not a permitted interpretation code, therefore the only alternative was field system. Yet the field system in total consists of a whole range of other elements in addition to the linear system, hence the interpretation code would be duplicated. The other cases in which duplication commonly occurs are settlements, and shrunken and deserted villages of Medieval date. Throughout the text where the same interpretation occurs at both group and site level, it has been made as explicit as possible to which level of interpretation reference is being made. Additionally the short lists at the head of each of the thematic classes clearly illustrate where the same interpretation can be found at both group and site level, and this should be borne in mind when reading the text.

In a rapid survey such as this the interpretations are to a large extent reliant on the quality and completeness of information in the sources consulted, particularly the quality and currency of data held by the NMR and the county SMRs. There was little time to go back to primary sources such as excavation reports or other published material. Those sites for which some basic research and reference to a more detailed level of information were essential tended to be of prehistoric or Roman date, reflecting the key role which aerial photography has to play in recovering sites from these periods. The need for selective excavation information to illuminate relationships between certain features and to provide the temporal depth to support the aerial photographic breadth for prehistoric and Roman sites in particular is also emphasised in this report.

All distributions considered here take into account only the data from aerial photographic sources. There has been no systematic search of other records that may complement or alter the distributions unless specifically stated.

3.4.1 Unknown Prehistoric and Unknown Medieval

At many points in the text the dates 'Unknown Prehistoric' and 'Unknown Medieval' have been used. They have two very specific meanings which must be fully understood in the context of the report.

(i) 'Unknown Prehistoric' encompasses sites of uncertain date that are thought to be Prehistoric or Roman, and 'Unknown Medieval' those of uncertain date that are thought to be Early Medieval or later.

(ii) Alternatively a site may have been proven to be multiperiod. Within the MORPH2 database there is not the option for recording more than one period per site, so one of the two 'general' dates would be used. For example, a site dating from the Bronze Age to the Roman period would be recorded as 'Unknown Prehistoric' if the individual elements belonging to each of the periods could not be identified from aerial photographs. Many of the sites which have been dated 'Unknown Prehistoric' are those associated with settlements that are either Iron Age or Roman in date (or both).

3.4.2 Percentages

If they are not whole numbers, percentages have been rounded to one decimal place in the thematic section of the report (section 4.1), and to two decimal places in the morphological report (section 4.2) and the period summaries (section 4.3).

4 RESULTS

4.1 THEMATIC REPORT

4.1.1 Agriculture and subsistence

Code	Interpretation	No. of records
BAR	Barn	2
CNDR	Corn drying oven	1
FBDY	Field boundary	1292
FMS	Farmstead	14
FSYS	Field system	224
GARD	Garden*	1
HEAD	Headland	4
LYNT	Lynchet	33
PLMD	Pillow mound	3
RFLB	Ridge and furrow	7
STEN	Stock enclosure	2
VILL	Villa*	2
WATM	Water meadow	2
TOTAL		1587

Code	Group interpretation	No. of records
FMS	Farmstead	93
FSYS	Field system	47
GARD	Garden*	1
ANR	Manor	2
VILL	Villa*	9
WATM	Water meadow	1
TOTAL 153		

* Interpretations garden and villa occur in more than one Thesaurus class. For the purposes of this report gardens are discussed under 'Gardens and Parks' (see section 4.1.4 below) whilst villas are discussed here, under 'Agriculture and Subsistence'.

4.1.1.1 Barns and corn drying ovens

Only two records (363.5.5 and 363.5.6) have been given the interpretation barn, and one that of corn-drying oven (378.1.12). Both barns are part of the villa complex at Hambleden in Buckinghamshire excavated between 1912 and 1914 by A H Cocks (Cocks 1920). In each case, excavation has led to the specific interpretation of barn; on the basis of aerial photographic information alone they would have been interpreted as buildings. Both barns have been recorded as enclosures of Roman date.

378.1.12 is a macula within the crop-mark complex at Long Wittenham (Oxfordshire). It has been dated to the Roman period by association, but no excavation of the feature itself has taken place. Aerial photographs reveal a macula with a particularly distinctive shape, which led to the tentative interpretation of corn-drying oven. It is unlikely that many other such sites will be identified from aerial photographs; the

photographs on which it was seen are close-up shots of exceptionally fine crop marks. Such detail is difficult to depict at a scale of 1: 10,000 and the transcription cannot do justice to the crop mark seen on photographs. Re-examination at a larger scale is recommended.
Provisional total: 3 Roman sites. 2 sites with both NAR and SMR numbers, 1 site with NAR number only.

4.1.1.2 Farmsteads

640 separate sites have been recorded within 93 groups with the interpretation farmstead. In 10 of the 640 instances the interpretation farmstead has also been used at site level; a further 4 separate sites have also been interpreted as farmsteads (one within a group with the interpretation settlement). Most of the farmsteads are crop marks (98 %), only one site (85.32.1) being recorded as a combination of crop marks and earthworks. Twelve are earthworks, the sites being divided equally between two groups. 571.4.1 -571.4.6 have been dated Unknown Medieval whilst 125.27.1 -125.27.6 are undated.

Most of the sites recorded are known from aerial photographic sources only so farmsteads have been distinguished from settlements largely on the basis of size. Smaller groups of isolated enclosures have on the whole been given the interpretation farmstead: only fifteen of the groups have more than ten constituent sites, and only four have more than fifteen. Although a different economic basis may be implied from the use of the different terms, for most sites this can be only be assumed in the absence of information from fieldwork and excavation. Additionally as Hingley states, "some of the settlements with multiple enclosures were made up of a number of farms" (Hingley 1989, 56). The distinction between domestic and agricultural classes in this context is thus entirely artificial. Settlements are discussed below (section 4.1.3.6) and all monuments for any particular period are considered in the period summaries in section 4.3.

The number of farmsteads investigated using techniques to complement aerial photography follows the general trend for all sites recorded during the project, irrespective of their interpretation: few have been excavated (10.4%) and even fewer (0.6%) have been subjected to fieldwalking or other forms of non-destructive investigation.

The farmsteads have been recorded with a wide range of dates, from Iron Age to Early Medieval (the latter on the basis of excavation information). Most however are Roman or earlier (including Unknown Prehistoric), seventy-three of the groups and three of the individual sites having these dates. On this basis it is probable that many of the 158 sites (in 18 groups) that are undated are also likely to be Roman or earlier. In each of the undated groups there are no hut circles. Hut circles have been taken to be a universal indicator of a Roman or earlier date for any particular group of features, hence the large number of sites confidently dated Unknown Prehistoric in the absence of information from excavation or fieldwalking. Given the known long period of currency of the round house or hut circle, on the basis of aerial photographic evidence alone it is impossible to be more precise about dating the farmsteads of which they are elements. Hingley discusses round houses surviving into the 3rd and 4th centuries AD in southern Britain (Hingley 1989, 33) and other excavated examples have been attributed to the Bronze Age (see section 4.1.3.3 below). Farmsteads with hut circles may have a similarly wide date range.

From the small number of farmsteads recorded with an Iron Age or Roman date, it would appear their distributions are mutually exclusive. At no sites have they been

recorded together in close proximity. When their distributions are viewed against that of Unknown Prehistoric farmsteads, at one or two locations there is coincidence between specifically dated sites, and those with the more general Unknown Prehistoric date. For example, on Port Meadow to the west of Oxford a farmstead dated by excavation to the Iron Age (588.37.1 588.37.6) is close to a group of features interpreted, in the absence of excavation information, as a farmstead of Unknown Prehistoric date (588.24.1 -588.24.8). It is therefore probable that the latter group may also be Iron Age in date.

The distribution of Roman or earlier sites, considered as a group together in Fig. 13, illustrates clustering of farmsteads in three areas in particular: (i) the Standlake - Stanton Harcourt -Northmoor area; (ii) close to the line of River Thames to the west of Oxford; and (iii) in the Abingdon to Dorchester area (Iron Age, Roman and Unknown Prehistoric farmsteads being found together in these wider areas). There are relatively few sites downstream from Wallingford, probably largely as a result of non-archaeological factors biasing the distribution. The small cluster of sites on plateau gravels between the Rivers Kennet and Loddon and their respective confluences with the Thames shows that farmsteads of these dates can be recorded further downstream in favourable conditions. Similarly, at the opposite end of the project area, from Lechlade westwards, there is a dispersed distribution of farmsteads. The lack of sites south of the river in Blocks 1 and 2 is also likely to reflect the influence of non-archaeological factors on the distribution. What is surprising, however, is the relatively few farmsteads recorded to the north of the Thames between Lechlade and Standlake, on the extensive gravel terraces. Here numerous other features have been identified from crop marks but few have been given the interpretation farmstead.

Ninety-three groups containing 640 separate sites have the group interpretation farmstead, and there are a further four individual sites interpreted as farmsteads. Nine groups containing fifty-six sites have been dated to the Iron Age and six groups containing twenty-nine sites to the Roman period. Forty-one of the Iron Age sites are enclosures as are eleven of the Roman sites. These fifty-two enclosures were examined morphologically.

For the Iron Age twenty-eight of the forty-one enclosures are curvilinear in shape and thirteen are rectilinear, ten of which have angled corners and three curved.

For the Roman period eight of the eleven enclosures are rectilinear (seven with angled corners and one with curved) and three are curvilinear (hut circles).

In total there are twenty-one rectilinear enclosures dated to both the Iron Age (thirteen) and Roman periods (eight). The range of their internal areas was analysed. They range from 80 m2 to 8400 m2; over half (eleven) are less than 1000 m2 in area. Below 1000 m2 the enclosures are predominantly Iron Age (nine of the eleven). Most of the larger enclosures are Roman; only four of the remaining ten are Iron Age.

It may be possible to use a combination of morphological characteristics to distinguish between sites dating to one or other of these two periods. Iron Age farmsteads appear to have a higher proportion of curvilinear enclosures than Roman ones, whilst the rectilinear enclosures of Roman farmsteads appear to be larger. Angularity of corners does not help distinguish between sites of the two periods, angled corners being predominant in both cases.

It would be unwise to make too much of these figures given the extremely small sample size available (fifty-two dated enclosures in total) but on the grounds of the

rapid research here it does appear that it may be possible to differentiate between Iron Age and Roman farmsteads using the morphological characteristics of their enclosures as a guide. A much more detailed analysis using a larger sample size is needed.
Provisional total: 644 sites. (Iron Age -56 sites, Roman -29 sites, Early Medieval -2 sites, Unknown Prehistoric -392 sites, Unknown Medieval -6 sites, Unknown -159 sites.) 194 new sites, 182 sites with both NAR and SMR numbers, 84 sites with NAR number only and 184 sites with SMR number only.

Iron Age farmsteads

44.26.1-5

588.37.1-6

Roman farmsteads

520.1.1-4

556.1.1-4

Unknown Prehistoric farmsteads

75.15.1-5

307.33.1-4

325.1.1-4

4.1.1.3 Field systems, field boundaries and lynchets

Within the Thames Valley project area a total of 224 individual sites have been recorded as field systems, 1292 as field boundaries and 33 as lynchets. 367 of the sites have a group interpretation, which in forty-seven cases is also field system. The forty-seven groups interpreted as field systems contain 206 individual sites between them (see below). Dates for all three site types vary from Iron Age to Modem (although every attempt was made to filter out the latter at the transcription and recording stage), but many have the general dates Unknown Prehistoric or Unknown Medieval. 955 of the sites are undated, in the absence of any information that might provide a clue. The vast majority of field systems, field boundaries and lynchets are crop marks, although some earthworks, and crop-mark-and earthwork sites have been recorded. There are sites belonging to at least one of the three types, field boundaries, field systems and lynchets, in every block of the project area.

Eighty-nine of the field systems (site interpretation rather than group) have morphologically been recorded as linear systems, whilst 135 are sufficiently fragmented and incomplete to warrant recording as linear features only. Most of the

field systems recorded are crop marks (170); 53 are earthworks. Most of the earthwork sites are dated Medieval, Post Medieval or Unknown Medieval, although a now-destroyed earthwork field system thought to be of Roman date was transcribed from aerial photographs during the course of the project (70.3.6, Cleveland Farm - see section 4.2.2 for further discussion of the group of features). A few earthwork field systems of Unknown Prehistoric date have also been recorded, in the main on the chalk of the Berkshire Downs where it falls within the project area in Block 4, near Moulsford and Goring. The field system at Streatley Warren falls into this latter category; its date has been confirmed by excavation. For only thirty-nine of the 224 field systems has the specific date Iron Age, Roman, Medieval or Post Medieval been recorded. 35.3% of the field systems have general dates (Unknown Prehistoric or Unknown Medieval) and 47.3 % are undated.

The forty-seven groups that have been interpreted as field systems contain 206 separate sites. Some of these are field boundaries, lynchets or field systems (see section 3.4 above for an explanation concerning the use of the same interpretation at both group and site level). Others include trackways and hollow ways, banks, boundaries and ditches. Eighteen of the groups have not been dated, but the remainder are Medieval, Post Medieval, Modem, Unknown Prehistoric or Unknown Medieval. Only four groups have been dated Roman, three on the basis of excavation (118.7.1 -118.7.8, 118.18.1 -118.18.5 and 590.5.1 -590.5.3). The fourth is part of the Claydon Pike complex near Lechlade, and is assumed to be Roman although it was not possible to determine if any of the individual features within the field system had themselves been excavated.

All of the 1292 field boundaries transcribed have been recorded as linear features, although 558 have been flagged as likely to be part of linear systems. 1164 are crop marks, 109 earthworks and 19 a combination of crop marks and earthworks. Only 123 of the field boundaries have been given specific dates, either Iron Age, Roman, Medieval, Post Medieval or Modem, whilst 328 (25.4 %) have been given the general dates Unknown Prehistoric or Unknown Medieval. A higher proportion of the field boundaries rather than the field systems are undated, 65.1 %. This is not surprising, given that the interpretation field boundary implies features that are present in insufficient numbers, or lacking enough order to warrant being called a field system. Given the continual re-occurrence of the same basic shape of individual field boundaries over time, isolated or fragmented examples are far more difficult to date. When field systems are complete enough to be recorded as linear systems, there are more clues available which may suggest a possible date, including the area of each of the constituent units within the linear system (see section 4.2.2 below).

With one exception all of the thirty-three linear features interpreted as lynchets have been recorded as earthworks; only one (377.9.1) is a crop mark. None of them have been given specific dates, but most (75.8%) have been generally dated as being either Unknown Prehistoric or Unknown Medieval (three of the latter as a result of non-destructive further investigation).Only24.2%areundated. One of the lynchets,40.14.3, is part of the Streatley Warren field system (see below, and section 4.2.2 below) and has been dated as a result of small-scale excavation. Most of the others are known from poor quality photography (i.e. they have been transcribed and recorded from vertical aerial photographs).

Only 4.5% of the sites with the individual interpretation field system have been dated as a result of either small-or large-scale excavation, and only thirteen sites (6.3%) within groups interpreted as field systems have been excavated. Almost all of these are in groups relating to settlement features; very few field systems have been excavated in their own right. One rare exception is the field system as Streatley

Warren in Berkshire, (40.14.1 -40.14.3). Small-scale excavations were carried out by A Mills of Reading University in 1948-49 (see Rhodes 1950, 14-15). The group lies on the Berkshire Downs, to the west of Streatley and Goring. It was only possible to transcribe and record the field system by examining the whole range of photography available. Photographs taken by Major AIlen in the 1930s in particular show the extensive earthworks extremely well. Unfortunately more recent photography has recorded the gradual destruction of the field system by ploughing, so much so that only small sections now survive as earthworks. Limited ground investigation by the Thames Valley project team did however suggest that further earthworks were still surviving in woodland, which were not transcribed from aerial photographs as they were masked by trees. Further air and ground surveys are recommended for this area.

Even fewer field boundaries have been subject to further investigation than field systems. Only 1.7% (twenty-two) of those recorded have been excavated, nearly half of which are part of groups given a settlement-related interpretation. Other sites that have been given a specific date are associated with features that have been subject to further investigation of some kind.

Most information on securely-dated field systems, field boundaries and lynchets of Iron Age or Roman date results from excavations on settlement sites, and their distribution is thus related to that of the excavated settlements. Unknown Prehistoric sites (many of which are less securely dated) suggest a much wider range of activity in the prehistoric or Roman periods (Fig. 14 shows the distribution of Roman or earlier sites). The Iron Age field systems and field boundaries are concentrated at Port Meadow, Oxford, in the Eynsham-Standlake area, and as part of the Claydon Pike complex close to Lechlade. There are also many Roman field systems and field boundaries at Claydon Pike and along the River Thames from Abingdon to Dorchester; a small cluster occurs as part of the Hambleden villa and settlement. The concentration of Roman sites at the western end of the project area, all north of the River Thames is likely to be a reflection of proximity to Roman Corinium. The Unknown Prehistoric field systems, field boundaries and lynchets to a certain extent complement these distributions, filling in some of the gaps. Their numbers are greatest too at the western end of the project area, on the extensive gravel terraces to the north of the river but even here the distribution is by no means even. Noticeable clustering can be observed, for example in the Standlake -Northmoor area. Scattered examples of Unknown Prehistoric date occur in all other blocks eastwards as well, with the cluster of sites on the Berkshire Downs indicating intense prehistoric agricultural activity on the chalk as well as the gravels.

The distribution of field systems, field boundaries and lynchets, of Medieval, Post Medieval and Unknown Medieval date illustrates a number of differences to that of earlier sites (Fig. 15 shows the distribution of Medieval or later sites). Although in terms of numbers there are slightly fewer sites dating to these later periods, they are much more widespread throughout the project area. Unknown Medieval field systems, field boundaries and lynchets are found in all blocks, and over all underlying geologies. They are present in fewer numbers than Unknown Prehistoric sites on the gravel terraces north of the Thames from Lechlade to Northmoor, but are more plentiful elsewhere, particularly following the line of the river from Dorchester eastwards. With one exception all the Medieval sites are found in Blocks 1 and 2, many on the Corallian Ridge south of the Thames. Some clustering can be seen, representing the agricultural activity in the vicinity of settlements but on the whole the distribution is relatively open and even. In the absence of extensive recording of ridge and furrow field systems (see 4.1.1.6 below) it is not possible to make any further

observations about Medieval agricultural activity in the Thames Valley west of London.

Clearly some non-archaeological factors have influenced the distribution of sites of all dates. In particular underlying geology, drift geology, land use and the location of urban areas have each influenced the patterns that can be observed, sometimes indirectly by affecting the areas targeted for reconnaissance. Further work on the Corallian Ridge may well expand some of the distributions observed here.

In summary:

(i) The distributions of Roman or earlier sites and Medieval or later ones are largely mutually exclusive.

(ii) The Medieval or later sites are found in a much wider range of locations and are distributed much more evenly throughout the project area than Roman or earlier sites.

(iii) Although prehistoric or Roman sites cluster noticeably on the gravel terraces the number of sites recorded on the Berkshire Downs clearly suggests intense agricultural activity during these periods to complement that in the river valley.

(iv) It might perhaps be expected that there would similarly be prehistoric or Roman sites on the higher ground south of the Thames in Blocks 1 and 2, and in the loop of the river in Block 3. The fact that these have not been recorded may reflect the lower level of attention to which these areas have been subject in terms of reconnaissance, although it is surprising that more field systems, field boundaries and lynchets were not recorded from the vertical photographs examined.

Sections 4.2.2 and 4.2.3 below consider all of the site types discussed here in terms of their morphological characteristics, and should be read in conjunction with this section. Illustrations of a whole range of different types of field system are illustrated in these sections, and are not therefore repeated here.

Provisional total: 1549 sites. (Iron Age -14 sites, Roman -80 sites, Medieval -43 sites, Post Medieval -22 sites, Modem -3 sites, Unknown Prehistoric -224 sites, Unknown Medieval -208 sites, Unknown -955 sites.) 824 new sites, 238 sites with both NAR and SMR numbers, 151 sites with NAR number only and 336 sites with SMR number only.

4.1.1.4 Manors

Two groups have the group interpretation manor, containing eight sites between them, all of which are earthworks. Documentary evidence has provided the information leading to the specific interpretation of each group. 72.25.1 -72.25.2 represent the site of a manor at Driffield in Gloucestershire, first mentioned in Domesday. The manor later became the country residence of the Abbots of Cirencester. The second manor recorded is at Bayworth in Oxfordshire, in the parish of Sunningwell (565.4.1 -565.4.6); it fell into decay in the early eighteenth century. Both groups of sites are still in existence.

Provisional total: 8 sites. (Medieval -2 sites, Unknown Medieval -6 sites). All with both NAR and SMR numbers.

4.1.1.5 Pillow mounds and water meadows

Three individual sites have been interpreted as pillow mounds. 82.3.1 is north of Minety in Wiltshire; it is a single oblong earthwork that has been recorded as a

macula from poor quality aerial photography. The interpretation of pillow mound is very tentative.

The other two sites are completely different morphologically but the interpretation is equally tentative for different reasons. 39.23.1 and 39.23.2 both lie on an east-facing slope, to the west of Moulsford in Oxfordshire. They are crop-mark linear features, each consisting of two parallel straight ditches, 10 m in length and more than 2 m apart (in recording linear features 2 m is the cut-off point between those recorded as narrow and those recorded as wide). As such they are identical to a number of sites recorded during the survey of crop marks in Hertfordshire completed by RCHME in 1992. In the course of the latter survey forty-six similar sites were recorded on a chalk ridge in the north of the county. They were interpreted as pillow mounds in the absence of any other possibilities but reservations were expressed (Fenner 1992, 34). In the Thames Valley the same interpretation has been given to morphologically identical sites but similar reservations apply. Given that the bulk of the project area is on low-lying gravel terraces with free-draining soils it would not be expected to find a large number of pillow mounds defined by their drainage ditches.

Two individual sites have been recorded as water meadows; both are linear systems and as such are discussed briefly in section 4.2.2 below. Additionally, a further group of three features has been given the group interpretation water meadow, with individual interpretations of drainage system and ditch. All three sites within the group are linear features. The two linear systems are both earthworks, recorded from poor quality photography whilst the linear features with the group interpretation water meadow are crop marks. All five sites are still in existence and are concentrated at the western end of the project area, on the gravel terraces of either Gloucestershire or Wiltshire.
Provisional total: 8 sites. (Post Medieval -1 site, Unknown Medieval -7 sites). 5 new sites, 3 sites with SMR number only.

4.1.1.6 Plough headlands and ridge and furrow

Ridge and furrow was transcribed in only seven cases, and plough headlands transcribed in only four. All are Medieval in date, and have been recorded as linear features. Owing to constraints on the project timetable, ridge and furrow was not routinely recorded although it was observed on many of the photographs, particularly the RAF verticals taken immediately after World War 11. In some instances ridge and furrow observed on early vertical photographs has been ploughed out and later photography of the same area reveals the crop and soil marks that were beneath the earthworks. In other cases, dense crop marks assumed to be prehistoric or Roman in date cease abruptly where blocks of upstanding ridge and furrow still survive. Crop marks to the north of Fullamoor Plantation near Culham (Oxfordshire) show this phenomenon well.

As well as a subject worthy of study in its own right, and in relation to Medieval settlement patterns, ridge and furrow deserves attention to determine the exact nature of its relationship with earlier sites recorded as crop marks, and its effect on their distributions. See recommendations in section 5.3 below.

Provisional total: 11 Medieval sites. 8 new sites, 1 site with both NAR and SMR numbers, 2 sites with SMR number only.

4.1.1.7 Stock enclosures

Two sites have been interpreted as stock enclosures: 71.3.3 and 590.2.1. The former is part of a small complex of crop marks to the south-east of Ashton Keynes in

Wiltshire, and the latter lies to the south of Yarnton (Oxfordshire). Morphologically, both sites have been recorded as enclosures. 590.2.1 has been excavated by the Oxford Archaeological Unit, as a result of which it was thought to be an Early Roman stock enclosure. 71.3.3 is known only from an unconfirmed overlay, and has a correspondingly low validity.

Although both were recorded as enclosures each site is very different from the other, 71.3.3 being rectangular and 590.2.1 circular. Neither of them have a particularly characteristic morphological 'signature' which would automatically lead to the interpretation of stock enclosure. (In fact during the first stage of the project, before all available information from excavations was incorporated, 590.2.1 was recorded as a round barrow; it was only later the interpretation was changed as a result of the excavation information.)

It is certain that many more of the 3317 sites recorded with the interpretation enclosure during the project are likely to be related to stock management and compounding of animals. From aerial photographic information alone it is not possible to identify these sites with confidence, without additional information from other sources.

Provisional total: 2 sites. (Roman -1 site, Unknown -1 site). 1 new site, 1 site with SMR number only.

4.1.1.8 Villas

Nine separate groups of crop marks have been given the interpretation villa, one of which also contains an individual site interpreted as a villa. (The latter is a linear system; see section 3.4 above for a fuller explanation). One further enclosure has been recorded as a villa at site level (with no group interpretation). Within the nine groups interpreted as villas there are ninety-four separate sites. Only 381.24.3 is a linear system, the remainder being enclosures, linear features and maculae. Individual interpretations include enclosure, building, pit, road, track, barn, field boundary and field system.

There has been excavation of some kind at seven of the nine groups. These include 58.25.1 58.25.15, Roughground Farm, Lechlade, excavated on several occasions: between 1957 and 1965 by Margaret Jones, in 1981-2 and again in 1990 by Tim Allen (Allen et al 1993). 351.35.1 -351.35.8 represent another villa at which there has been extensive excavation; Barton Court Farm investigated between 1972 and 1976 (Miles 1986a). Three villas have been recorded from good quality aerial photography alone. In these latter cases the nature of the crop marks and their morphological characteristics have led to the specific interpretation as a villa. In some cases buildings with diagnostic shapes have led to the interpretation given (e.g. 306.10.1 - 306.10.5) and there is no crop-mark evidence to suggest a larger enclosing compound. In others (e.g. 381.24.1 -381.24.25) only the larger villa enclosure can be seen. Such surrounding enclosures are always rectilinear, often double ditched; the sample from the project area shows that most of them are more than 1500 m2 in internal area. Over half of the constituent elements within the nine groups are enclosures (fifty-three out of ninety-four) as is 118.16.1 (the single site interpreted as a villa); the enclosures are predominantly rectilinear (96.2%), most (96.1 %) with angled corners.

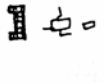
Six of the groups are still entirely in existence according to the latest aerial photography, as is 118.16.1, the single site with the interpretation villa at site level (118.16.1). In each of the other groups some or all of the elements have been

destroyed. Roughground Farm is included in the latter group, having been entirely destroyed as a result of gravel extraction. Barton Court Farm too has also been entirely destroyed, with the exception of a single field boundary in the group that has not been excavated.

The villa distribution (see Fig. 16) exhibits clustering in certain areas, and it is possible to make some preliminary observations despite the small size of the sample. One cluster of villas can be found in the Lechlade area, whilst a second noticeable cluster lies near the Roman town at Dorchester. The third cluster includes the villa at Hambleden in Buckinghamshire and near neighbours. In 1986 Young stated that "the gravel terraces of the t Thames and its tributaries, despite their dense occupation, are markedly lacking in villas, except for the area between Dorchester and Abingdon and to the west of Abingdon up the Ock Valley" (Young 1986, 60). The lack of comparable sites in certain areas, notably on the gravel terraces between Lechlade and Oxford was attributed by Allen, following on from the work of Hingley (1984, 83-86), "to a pre-existing dense and socially complex settlement pattern which was not affected by official reorganisation as was settlement further upstream" (Allen et a11993, 197). To this can be added settlement downstream too; at both Dorchester and Hambleden the effects of official reorganisation can also be seen.

For a fuller study of villas in the Thames Valley, the results from other sources need to be combined with those from aerial photography. Sites such as the probable villas at Great Lemhill Farm, close to Roughground Farm, and at Bowling Green Farm near Stanford-in-the-Vale both lie within the project area but have not been transcribed from aerial photographs (see Allen et a11993, 196-197 and Chambers 1989,54-55). These sites may 'fill in' some of the blank areas of the distribution map but there is nevertheless a lack of recognisable villas throughout large sections of the project area.

Provisional total: 95 Roman sites. 32 new sites, 28 sites with both NAR and SMR numbers, 9 sites with NAR number only, 26 sites with SMR number only.



116.9.1-4

306.10.1-5

381.23.1-2

385.4.1-2
(with other groups of features)

4.1.2 Defence

Code	Interpretation	No. of records
BAIL	Bailey*	2
HLFT	Hillfort	6
MOTT	Motte	3
RAMP	Rampart	1
RBUT	Rifle butts*	1
TOTAL		13

Code	Group interpretation	No. of records
FWOK	Fieldwork	1
MTBL	Motte and bailey*	1
OPDA	Oppida*	1
RIBA	Ringwork and bailey*	1
TOTAL		4

* All these interpretations can also be found in other Thesaurus class lists. For the purposes of this report baileys, mottes, motte and baileys, and ringwork and baileys are all discussed here under 'Defence'; oppida are discussed under the class 'Domestic' (see section 4.1. 3 below), whilst rifle butts are discussed under 'Recreational' (see section 4.1.7 below).

4.1.2.1 Fieldwork

One group of five features on Port Meadow, Oxford, have been given the group interpretation fieldwork. All are crop marks on the valley floor, with the interpretation ditch for each of the five individual sites. The group represents modem military features, including timber slots for huts and probable latrine pits.

Provisional total: 5 Modern sites, all with no NAR or SMR numbers.

4.1.2.2 Hillforts and other Iron Age defended sites

A total of six hillforts have been recorded in the project area. All are still in existence but at 67.1.1 (Bury Hill, between Minety and Purton in Wiltshire) it is clear from the aerial photography available that the earthworks have been considerably reduced by ploughing. As would be expected, all of the hillforts are earthworks with the exception of that just mentioned, which has both earthwork and crop-mark elements.

There is excavation information available for only one of the hillforts, 13.1.1 (Cherbury Camp, Oxfordshire) but not as a result of extensive excavation using modem techniques. On the basis of work interrupted by the onset of World War 11, Bradford (1940) suggested one main construction phase for Cherbury Camp. However, in the light of more recent work concerning sites just outside the project area, such as Blewburton Hill (Harding 1972, 1976), it is likely that further investigation at Cherbury Camp would reveal a multi-phase site occupied over a considerable length of time. The precise nature of its relationship to the Iron Age settlement lying to the west at Charney Bassett (Hingley 1983a) would also be determined by further work (sites 16.31.1 -16.31.19, see 4.1.3.7 below under Iron Age settlement). At 377.1.1 (Castle Hill, Wittenham Clumps) there has been no excavation of the hillfort itself but in common with Cherbury Camp it too has a settlement to the west. Excavations in 1947 and 1970 have identified occupation from the Late Bronze Age to the Roman period (Hingley 1983b) but the exact relationship between the settlement and the hillfort has yet to be established. A comparison of unstratified pottery from the ramparts of the hillfort and pottery from the excavations has suggested that the two may in part be contemporary.

One hillfort (312.4.1) has been recorded as a linear feature, with only a short length of the defensive perimeter (a single bank) visible. It lies to the north-east of Whitchurch in Oxfordshire, overlooking the River Thames; the entire enclosure is not visible from aerial photographs as the western end of the site is masked by woodland. The other five hillforts are all enclosures, four being curvilinear in overall plan and one (86.3.1 -Castle Hill, northeast of Broad Blunsdon in Wiltshire) being rectilinear. Only 13.1.1 (Cherbury Camp) is multivallate with two ditches and three banks. The others each have one ditch, the number of banks visible ranging from none (503.1.1, immediately to the north of Medmenham in Buckinghamshire) to two (86.3.1, Castle Hill, Broad Blunsdon). There is tremendous variation in the dimensions of the hillforts recorded as enclosures. The smallest enclosure is the univallate 67.1.1 (Bury Hill) with internal dimensions of 180 m by 135 m, whilst the largest is 13.1.1 (Cherbury Camp) with dimensions of 380 m by 260 m.

It is noticeable that some of the hillforts recorded are not necessarily in the most defensive position within their immediate landscapes. 67.1.1 (Bury Hill) and 377.1.1 (Castle Hill, Wittenham Clumps) occupy traditional hilltop locations, whilst 86.3.1 (Castle Hill, Broad Blunsdon), 312.4.1 (north-east of Whitchurch) and 503.1.1 (north of Medmenham) all occupy positions that are at least in part on slopes. 13.1.1 (Cherbury Camp) lies on flat ground on a low promontory on the northern edge of the Vale of the White Horse, and at the foot of the dip-slope of the Corallian Ridge. Its defensive capability was, however, probably increased by surrounding marshland (Harding 1972, 52).

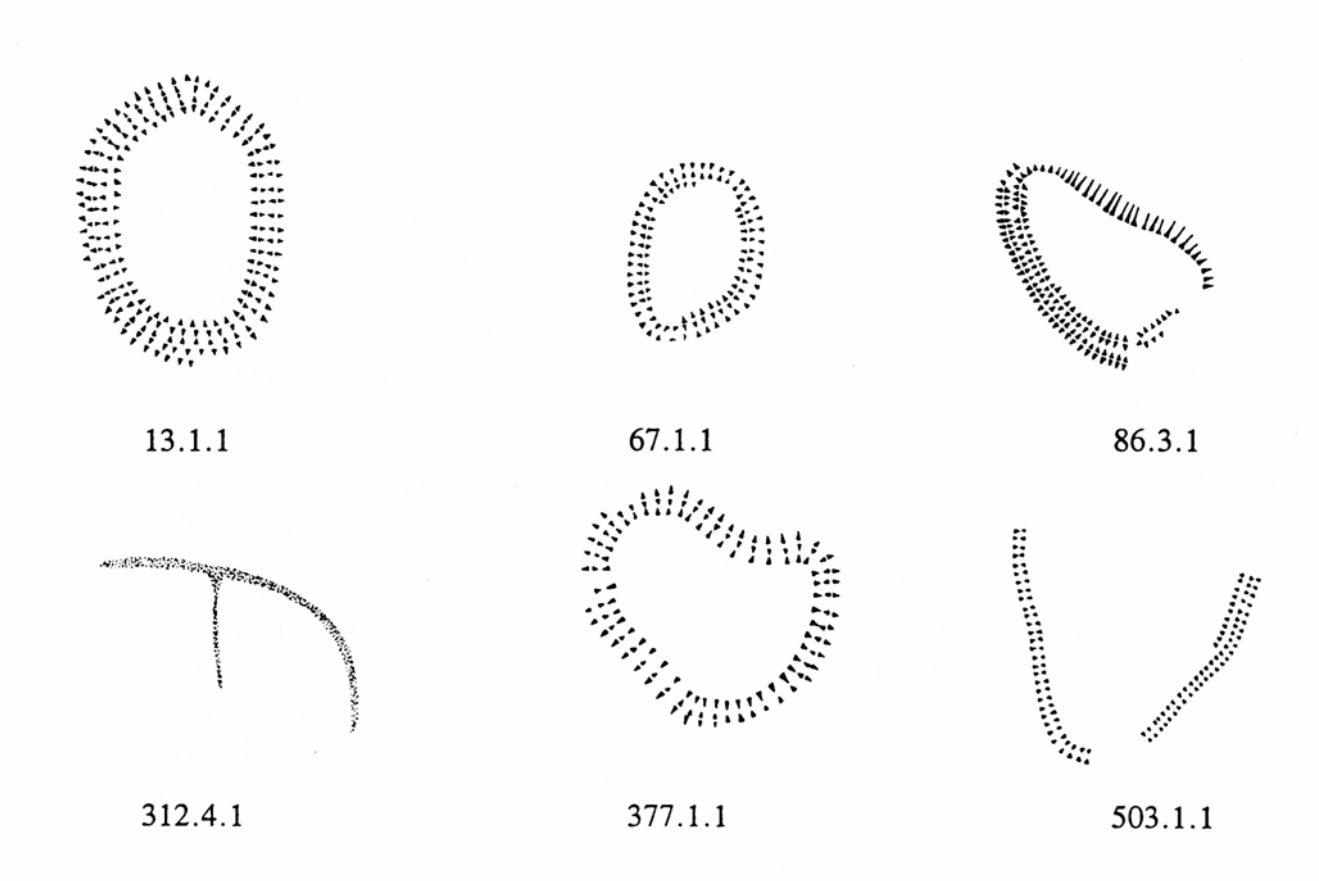
In three of the six cases there is a clear relationship between the hillforts and the River Thames, which has obviously affected the initial choice of site. 312.4.1 (north-east of Whitchurch), 377.1.1 (Castle Hill, Wittenham Clumps) and 503.1.1 (north of Medmenham) are all sited on high ground immediately overlooking the course of the Thames. All three are in the eastern half of the project area, between Dorchester and London. There is no demonstrable relationship between the three hillforts further west and the River Thames (as the crow flies 13.1.1, Cherbury Camp, is closer to the River Ock than the Thames). In these latter cases it is likely that factors in the local environment, other than proximity to the River Thames, affected their siting.

Fig. 17 shows the distribution of the six hillforts. Just under 16 km separates 377.1.1 (Castle Hill, Wittenham Clumps) from 312.4.1 (Whitchurch) which in turn is just over 17.5 km from the hillfort at Medmenham. It is probable that each of the three sites played a role in the control of communications and trade along the River Thames; in the absence of detailed excavation evidence to prove or disprove contemporaneity, and to illuminate other relationships between the three hillforts, it is however difficult to propose territorial boundaries. At the western end of the project area the distribution is more difficult to interpret. Not only is there no demonstrable relationship between each of the sites and the Thames, but also a number of other hillforts lying only just outside the project boundary (for example Kingsbury Camp, south-west of Purton in Wiltshire) would need to be taken into consideration for any discussion of territories and relationships to be meaningful.

In the wider perspective the hillforts along the edge of the Berkshire Downs (for example Uffington Castle and Blewburton Hill) and those along the Cotswold Edge, (for example Chastleton on the slopes of the Oxfordshire Cotswolds) would need to be included in any detailed study of hillforts. Information from other sources, in particular from excavation, is needed; work in progress at Uffington Castle (by Oxford Archaeological Unit) may well provide data to shed light on other Iron Age defensive sites in the Thames Valley. From the evidence currently available the spatial

relationship between 312.4.1, 377.1.1 and 503.1.1, and their proximity to the River Thames (discussed above) is highly suggestive and worthy of further research.

Provisional total: 6 Iron Age sites. 5 sites with both NAR and SMR numbers, 1 site with NAR number only.



Other Iron Age defended sites

A number of other Iron Age defended sites have been recorded with interpretations other than hillfort; some are briefly discussed below whilst the large defended settlement at Dyke Hills is discussed under oppida in section 4.1.3.5. All Iron Age sites are considered together in the period summary in section 4.3.5.

The valley fortification at Burroway, Clanfield (see Benson and Miles 1974, Map 11) and the defended enclosure at Cassington Mill have both been recorded simply as Iron Age enclosures, whilst morphological analysis suggests that 513.1.1, a large enclosure of unknown date, may also be Iron Age (see section 4.2.1). 581.1.1 is the large defended enclosure at Cassington Mill, Oxfordshire, now largely destroyed by gravel extraction. Excavation has shown that the enclosure was clearly defensive although it has been suggested that the earthwork was never completed (Startin, 1982). The exact nature of the site is somewhat uncertain: Harding, in his summary of Iron Age fortifications in the Upper Thames Valley stated of Cassington that "unlike those of the Dyke Hills settlement, however, none of the internal features recorded from the air could be assigned to a contemporary occupation" (Harding 1972, 56). Most of the dating evidence comes from the enclosure ditch itself, suggesting Late Iron Age origins for the large enclosure succeeded by occupation into the Roman period, until the 4th century (Case et at 1982). However, features and finds dating from the Neolithic to the Anglo-Saxon period were found within the area of the

enclosure. It is unlikely that the small area of the enclosure still in existence would yield further enlightening information on excavation, so the sequence of activity at the site, and the way in which it fits in to the Iron Age landscape of the Thames Valley can only be postulated (see section 4.3.5 below).

The large valley-floor defended site 53.15.1, at Burroway Clanfield has also simply been recorded as an enclosure of Iron Age date. The site is still in existence although the earthworks have been severely damaged, presumably by agricultural activity; so much so that whilst the earthworks were recorded as being up to 1 m high in the early 1980s (Lambrick 1984, 104) on aerial photographs taken in 1989 and 1990 they appear now to have been almost totally flattened. For this reason the enclosure has been recorded as a crop mark. The Iron Age date of the enclosure has been confirmed by pot sherds from a very small-scale excavation in the 1963 by the Clanfield Historical Society, and by augering and two small sample trenches in the 1980s (Lambrick 1984). It is thought to be Early or Middle Iron Age (G Lambrick pers. comm.).

513 .1.1 may be another large Iron Age enclosure, on the grounds of its morphological similarity to other large Iron Age enclosures (see 4.2.1 below). It lies on a slope to the south of Holyport in Berkshire, and was recorded from poor quality aerial photographs. It appears that its northern and eastern sides both utilise the natural landscape; the northern arc follows the line of the 30 m contour whilst the eastern side follows the line of the Bourne stream. The site was originally recorded as an enclosure of unknown date, and it was only during the morphological analyses that its similarity to other large Iron Age enclosures was noted. The original interpretation has not been altered, but these observations suggest that further work is needed to determine whether the similarity to other Iron Age sites is anything other than superficial.

53.15.1,513.1.1 and 581.1.1 are all illustrated under section 4.2.1 below, on page 95.

4.1.2.3 Motte and baileys and ringwork and baileys

One motte and bailey (two sites) and one ringwork and bailey (two sites) have been recorded. Two further sites have been interpreted as mottes, but there is no group interpretation in either case.

All the sites recorded are earthworks; the mottes are maculae, the other sites are enclosures. All are still in existence and in each case interpretation has been aided by either documentary research or by small-scale excavation. The ringwork and bailey, 85.23.1 -85.23.2, is in the village of Ashton Keynes in north Wiltshire and was excavated by G M Knocker in 1959 for the Cricklade Historical Society (Knocker 1959). It was dated to the 12th -13th centuries. The motte and bailey, 105.1.1 - 105.1.2, are the remains of Wallingford Castle, and 544.1.1 is the motte of Windsor Castle (recorded without its buildings as these are outside the scope of the current survey).

Provisional total: 6 Medieval sites. 2 new sites, 4 sites with both NAR and SMR numbers.

85.23.1-2

105.1.1-2

4.1.2.4 Ramparts

The only rampart recorded during the project is that on the northern side of Dyke Hills, Dorchester, Oxfordshire (376.28.1). It is an extant earthwork, but it is known that some sections were damaged and almost levelled during the nineteenth century. The rampart consists of two broad banks and an intervening ditch; the original dimensions of the earthworks are not known. Nor is it known whether the rampart represents a single phase of construction, or if it is the culmination of a long and complex sequence. Observations by Colonel Lane-Fox of "lines of successive deposits" when a cutting was put across the outer bank may suggest the latter is the case (Lane-Fox 1870, 412-415). There have been no other excavations at Dyke Hills, which is discussed more fully below in section 4.1.3.5.

Provisional total: 1 Iron Age site with both NAR and SMR numbers.

4.1.3 Domestic

Code	Interpretation	No. of records
BAIL	Bailey*	2
DV	Deserted village	14
GRUB	Grubenhäus	18
HTCL	Hut circle	1164
MOAT	Moat	27
SET	Settlement	55
SHVL	Shrunken village	9
TOFT	Toft	15
VILL	Villa*	2
TOTAL		1306

Code	Group Interpretation	No. of records
DV	Deserted village	7
MTBL	Motte and bailey*	1
OPDA	Oppidum*	1
RIBA	Ringwork and bailey*	1
SET	Settlement	191
SHVL	Shrunken village	17
TOWN	Town*	1
VILL	Villa*	9
TOTAL		228

* All interpretations marked with an asterisk can be found in more than one Thesaurus class. For the purposes of this report baileys, motte and baileys and ringwork and baileys are discussed under 'Defence' (section 4.1.2), whilst villas are discussed under 'Agriculture and Subsistence' (see section 4.1.1 above). Oppida and towns are discussed here under 'Domestic' .

4.1.3.1 Deserted and shrunken villages and tofts

For both deserted and shrunken villages the same interpretation has been used at site and group level in some cases. Where this has happened the site being described is a linear system; section 3.4 above further explains the use of the same interpretation at both levels in relation to linear systems. The discussion below concerns group levels of interpretation unless otherwise stated.

Seven groups of sites have been interpreted as deserted villages, with thirty-nine individual elements between them, one of which also has the site interpretation deserted village. Individual sites within the groups include tofts, hollow ways, headlands, moats, field boundaries and field systems. Additionally a further thirteen sites have the individual interpretation deserted village, with no accompanying group interpretation (they are all linear systems). Two of the deserted villages have been excavated, including that at Seacourt (571.9.1 -571.9.3) excavated between 1937 - 1939 (Bruce Mitford 1940). There has been non-destructive fieldwork or documentary work at four further sites: two interpreted as deserted villages at group level (3.7.1 - 3.7.2 and 5.1.1 -5.1.5) and two with the interpretation at site level (65.3.4 and 565.3.1). Such research yields a higher level of information to support the initial interpretation of deserted village. For example 5.1.1 -5.1.5 constitute the site of the village of Eaton Hastings, which began as a Domesday manor held by the Hastings family between AD 1086 -1278. It had expanded to thirty-nine households by AD 1333 and was completely deserted by AD 1540 (NMR record SU 29 NE/11).

The remaining deserted villages are known only from aerial photographic sources, from both poor and good quality photographs. Most have been dated Medieval but some have been dated Unknown Medieval if less is known about their origins and the date of desertion, or if it is known they spanned both the Medieval and Post Medieval periods (see section 3.4 above for a fuller explanation). Only two sites have been recorded as being of unknown date. One is 46.28.1, a linear system that was partially plotted by Benson and Miles (1974, map 4). The accompanying text suggests that "this is probably the site of the village of Puttes" (Benson and Miles 1974, 33). The lack of certainty is further reflected by the original reference to the site; Aston is of the opinion that the crop marks represent "a completely ploughed-out deserted medieval village although there is some indication of Iron Age occupation as well" (Aston 1973, 34). Discussing known settlements in the parish of Clanfield in the Medieval period, he goes on to say in the same note "the site of Puttes is completely unknown. Although it was suggested that it may lie in the S or SW part of the parish, it is possible that this site in the W of the parish could be Puttes hamlet". The presumed deserted village is therefore undated and may have earlier origins on account of similarities with other linear systems (see section 4.2.2 below, under settlements with unit defined trackways). The second deserted village of unknown date is 54.25.1. This was interpreted by Benson and Miles as a possible deserted village (Benson and Miles 1974, Map 11) but similar arguments apply to this group of sites as to 46.28; they are morphologically similar.

Seventeen groups have been interpreted as shrunken villages, with sixty-eight individual sites recorded between them. The site interpretations include toft, field system, field boundary, enclosure, building, and trackway, and in five cases shrunken village. A further four sites (two linear systems and two linear features) have the individual interpretation of shrunken village, but no group interpretation. None of the shrunken villages have been excavated but three of them have been investigated further by either non-destructive fieldwork or documentary search. With only one

exception the rest have been recorded from poor quality aerial photographs. Most have been dated to the Medieval period, but as with deserted villages some were recorded as Unknown Medieval in date.

Fifteen sites have been given the interpretation toft, six of which are within larger groups with interpretations of deserted village or shrunken village; a further three are part of groups with interpretations manor or settlement. Four of those within these groups have been subject to further non-destructive investigation, but only two of the other six sites have been subject to similar treatment. Most of the others were transcribed from vertical aerial photographs only. Dates recorded include Medieval and Unknown Medieval.

The vast majority of shrunken and deserted villages and tofts have been recorded as earthworks. Only one crop-mark-and-earthwork site was recorded and a few had already been reduced to crop marks by the date of the most recent photography. As most sites were transcribed from RAF verticals taken in the years immediately after World War 11, it is probable that many more of the earthworks have now been reduced to crop marks or completely destroyed.

The majority of sites within the categories being discussed here are concentrated at the western end of the project area; this is partly a result of the geology and topography as well as other factors affecting the survival of sites. The deserted villages show a wider distribution than shrunken ones. It is likely that fieldwork or examination of vertical photographs taken in the last three or four years would show that most of the villages on the gravel terraces to the north of the Thames between Lechlade and Oxford are no longer earthworks, if not entirely destroyed already. See Fig. 18, the distribution of shrunken and deserted villages.

There is a need to incorporate documentary research and the study of surviving buildings with the aerial photographic information to gain a fuller picture of Medieval settlement. The many settlements with Medieval origins still thriving in the Thames Valley today also need to be taken into account. The distribution presented here may largely illustrate the pattern of desertion and shrinkage, but it is not possible to view it in its context without further research in other areas.

The deserted and shrunken villages and tofts recorded as linear systems are further discussed in terms of their morphological characteristics under section 4.2.2 below where a number of them are also illustrated.

Provisional total: 133 sites. (Medieval -95 sites, Unknown Medieval -36 sites, Unknown 2 sites). 44 new sites, 19 sites with both NAR and SMR numbers, 4 sites with NAR number only, 66 sites with SMR number only.

4.1.3.2 Grubenhäuser

Eighteen records have been given the interpretation Early Medieval grubenhäus, representing a total of 172 possible individual grubenhäuser. In two cases the numbers of grubenhäuser present have prompted the group interpretation settlement. All sites recorded are maculae, and their morphological characteristics are discussed in section 4.2.4 below. Excavation has taken place at only three of the eighteen sites, 563.10.1 and 563.11.1 near Eynsham and 330.9.1, at Corporation Farm, Abingdon (Parrington and Henderson 1974); all but three sites are still in existence.

The distribution of grubenhäuser as identified (Fig. 19) shows a concentration in the Abingdon -Dorchester area, but scattered examples are found farther east and west. Although the distribution may highlight the known high level of Saxon activity in the Abingdon -Dorchester area, it is extremely unlikely to represent the full distribution of these sites. Grubenhäuser are not easy to identify with confidence from crop marks, particularly if they occur as isolated examples or in small numbers. Morphologically they are similar to other pits, and transcription and recording from aerial photographs at 1: 10,000 scale makes their identification difficult (see section 4.2.4 below).

Provisional total: 18 sites. (Early Medieval -18 sites). 11 new sites, 3 sites with both NAR and SMR numbers, 3 sites with NAR number only, 1 site with SMR number only.

4.1.3.3 Hut circles

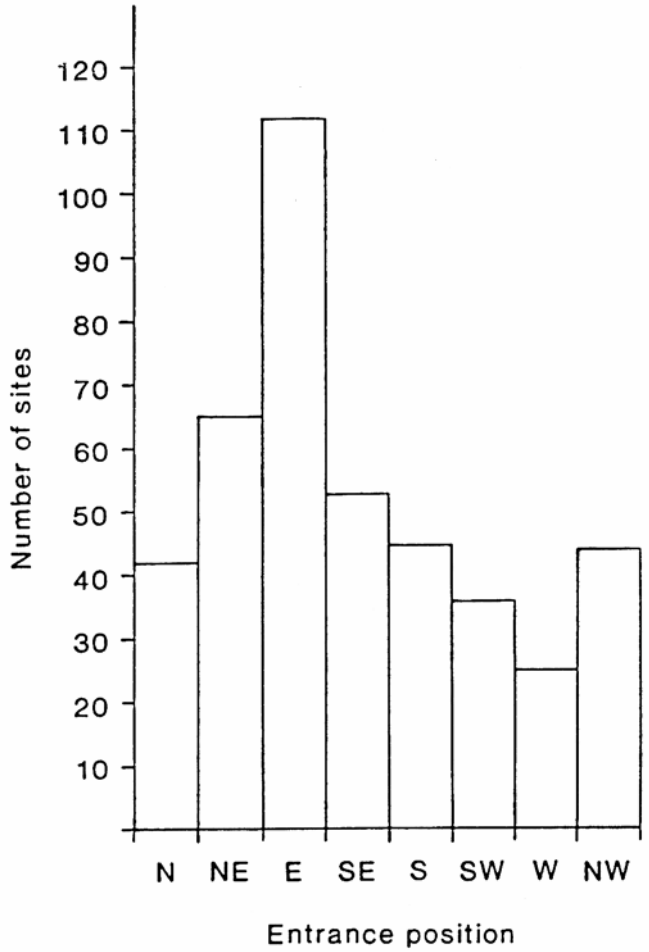
A total of 1164 hut circles have been recorded in the section of the Thames Valley surveyed: 1139 are enclosures, 12 are linear features and 13 are maculae. In addition to thematic discussions here, they are also discussed under the relevant morphological sections (see 4.2.1,4.2.3 and 4.2.4 below).

As the interpretation suggests, all but three of the enclosures are curvilinear in shape. (All linear features interpreted as hut circles are also curvilinear in overall plan, and each of the thirteen sites recorded as maculae are round.) Within the curvilinear group the vast majority (1122) of the enclosures are symmetric, 1097 of which are circular or sub circular in shape; their diameters range from 3 m to 30 m. Although 30 m represents the top end of the range most of the hut circles are considerably smaller, 94% having diameters less than or equal to 15 m. For some of the regular curvilinear enclosures, and all of the oval hut circles length and breadth measurements were more appropriate than a single diameter. These ranged from 8 m by 6 m to 20 m by 15 m, but again the maximum dimension was 15 m or less in all but five cases. Section 4.2.1 considers the range of dimensions of hut circles in more detail, particularly with respect to overlap with other classes of monument.

Two of the three 'hut circles' recorded as rectilinear are symmetric enclosures (one rectangular, one square) with curved corners; the third is an asymmetric enclosure of polygonal shape with three sides. Their range of dimensions is similar to those for the curvilinear hut circles, the smallest being 12 m by 10 m and the largest 18 m by 8 m. Although it is a contradiction to have rectilinear 'hut circles', each site is within larger settlements of Unknown Prehistoric date which suggests that the overall functional interpretation as small domestic enclosures is correct. 32.1.22, the asymmetric polygonal enclosure with three sides is part of the much larger settlement at Standlake. It has a number of parallels elsewhere in the project area, which are neither curvilinear nor symmetric in their characteristics. They are principally defined by three sides, most have been interpreted simply as enclosures and they are commonly associated with prehistoric or Roman settlement. They may possibly be viewed as a new class of monument. See sections 4.2.1 and 4.2.6 below.

For all enclosures interpreted as hut circles, irrespective of their shape, the maximum dimension was more than 15 m in only sixty-three cases (5.5%), and greater than 10 m in 386 cases (33.9%) stressing the predominantly small size of those sites with this interpretation. 422 of the 1139 enclosures have entrances, most (417) being terminally defined. Other entrance forms observed are antenna/funnel entrances (four hut circles) and structurally-defined entrances (one hut circle). Although entrances have been recorded aligned on each of the cardinal and intermediate points, it is noticeable that the commonest entrance position is that facing east (112

of the hut circles). The entrance position for over half of those sites for which entrances have been recorded (230 out of 422 or 54.5%) lies between north-east and south-east. West-facing entrances are the least common (twenty-five hut circles only). The bar chart below illustrates this clearly. These results can be compared with those from elsewhere in the Thames Valley, from Oxford Archaeological Unit's excavations at Reading Business Park. In area 5, where doorways could be identified they predominantly fell between north-east and south-east; in only three cases were other positions noted (Moore and Jennings 1992, 19).



Of the 1164 hut circles all but forty-two were interpreted from aerial photographic evidence alone. Thirty-eight have been excavated on either a large or small scale and four have been subject to non-destructive investigation. These are the only sites which have been dated directly. Many others however have been dated as a result of work that has been done on other sites with which they are grouped Le. they have been indirectly dated by association. 881 of the hut circles are within groups which have warranted separate group interpretations. These include: settlement (694), farmstead (119), oppidum (67) and villa (1). Only 166 hut circles have been recorded with specific dates as a result of direct or indirect dating, and all are Roman or earlier, (2 Bronze Age, 160 Iron Age and 4 Roman). The remaining 998 sites are likely to be Roman or earlier too (985 have been dated Unknown Prehistoric, and 13 Unknown.) It is impossible on the grounds of morphology alone to distinguish between those sites that are Iron Age and those that are Roman: "Round houses were very common throughout lowland Britain during the first and second centuries AD these are often surrounded by a drainage gully and there is very little to distinguish houses of this type from Iron Age examples in southern Britain" (Hingley 1989, 33-33). Many may well have continued in use over a long period of time, as evidenced in some cases by

re-cutting of the encircling ditch. It is likely that the thirteen macula sites interpreted as hut circles were also in use for some time, resulting in an overall hollowing or lowering of the internal area leading to their appearance as area features when seen as crop marks.

There are noticeable concentrations of hut circles on the extensive gravel deposits to the north of the Thames in the Upper Thames Valley, particularly to the north-east of Lechlade, and in the Standlake area (see Fig. 20). Numerous hut circles have also been recorded in the Abingdon -Dorchester area, with a large number concentrated in a small area at Dyke Hills to the south of Dorchester. The relatively few sites in the two most easterly blocks may reflect a genuine archaeological distribution but this is likely to have been greatly influenced by non-archaeological factors (topography, geomorphology, land use and urban expansion). No account has been taken of hut circles and other forms of prehistoric settlement not seen on aerial photographs when considering this distribution.

Provisional total: 1164 sites. (Bronze Age -2 sites, Iron Age -160 sites, Roman -4 sites, Unknown Prehistoric -985 sites, Unknown -13 sites). 448 new sites, 261 sites with both NAR and SMR numbers, 184 sites with NAR number only, 271 sites with SMR number only.

4.1.3.4 Moats

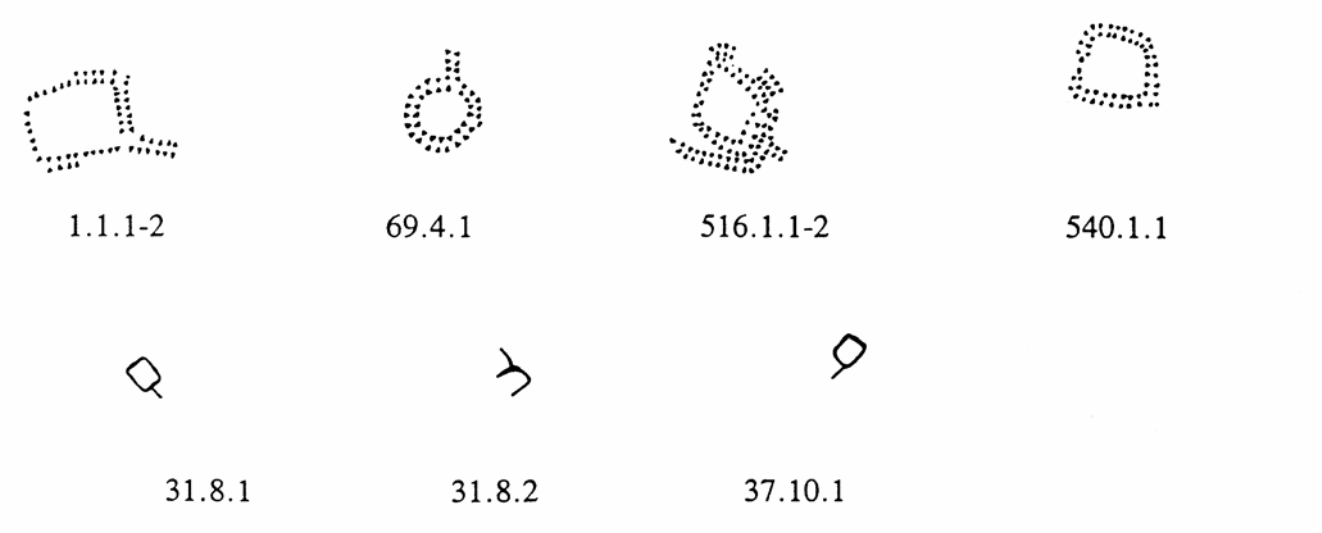
Twenty-seven moats were recorded, twenty-five as earthworks, one as a crop mark and one with both earthwork and crop-mark elements. The Monuments Protection Programme single class description suggests 'moats range in size from less than 50 m by 30 m to over 200 m by 150 m with commensurate variations in area' (English Heritage 1988d, 5). Those moats where both dimensions could be recorded fell largely within this size range, but the smallest was considerably less than 50 m by 30 m in size (37.10.1 -32 m by 28 m).

Of the twenty-four enclosures, four (16.7%) are curvilinear and the remaining twenty (83.3%) are rectilinear in shape. Twenty-two were seen on the photographs as earthworks; one was a crop mark and one a crop mark and earthwork combined. Nine of the sites are simple isolated moats; the others are all more complex in form or have a number of other closely-related features. All three linear features are part of rectilinear moats, and all three are earthworks. For various reasons the full extent of the site was not visible from aerial photographs.

As several classifications have been suggested for moats (Roberts 1962; RCHME 1968; Le Patourel 1972), and there are known to be other moats within each of the counties within the project area, no definitive classification has been attempted here. Of the twenty-seven sites, twenty-four were recorded as being still in existence. All twenty seven moats are sited on flat ground or on the Thames Valley floor. Their distribution runs from one end of the project area to the other, but there are two notable clusters and some blank areas worthy of comment (see Fig. 21). The two greatest concentrations are in the eastern half of the project area, in the Wallingford - Cholsey area, and in the vicinity of Maidenhead, Slough and Windsor. The total absence of sites in the area between Cholsey and Maidenhead can partly be explained in terms of topography, and partly in terms of the fact that where the floodplain is reasonably wide, urban areas (e.g. Reading, Henley and Marlow) have expanded to occupy much of the flat ground (no systematic search of other records has been undertaken to identify sites noted and destroyed during urban expansion). North and west of Wallingford some of the blank areas in the distribution may also be explained in these terms. It might however be expected that there would be a greater

number of moats in areas such as that between Lechlade and Cricklade where the floodplain is wide and there is much flat land. It is likely that some moats were not recorded owing to lack of suitable aerial photographic cover, despite the fact that a great number of sites have been recorded as crop marks at this western end of the project area. Documentary research and detailed examination of the OS First Edition map may reveal a greater number of moats between Lechlade and Cricklade than recorded from aerial photography to date, and would be necessary to either confirm or disprove the bias in concentration towards the east that seems to be revealed here.

Provisional total: 27 sites. (Medieval -25 sites, Post Medieval -2 sites). 5 new sites, 18 sites with both NAR and SMR numbers, 3 sites with NAR number only, 1 site with SMR number only.



4.1.3.5 Oppida

Dyke Hills

Despite the fact that there has been only one small nineteenth century excavation at the site, with a report of limited use to the modern archaeologist (Lane-Fox 1870) Dyke Hills, near Dorchester (Oxfordshire) is regarded by many as an oppidum of Late Iron Age date (see Miles 1986b, 51). For the purposes of consistency with other records it is so described here, although with reservations as noted below. No other oppida have been recorded from aerial photography elsewhere within the project area but recent excavations at The Vineyard in Abingdon have revealed another possible oppidum. With the exception of the rampart which is an earthwork (discussed briefly under 4.1.2.4 above), all other features recorded at Dyke Hills are crop marks.

Ninety-five separate elements have been recorded for Dyke Hills (376.28.1 - 376.28.95). Most of the features inside the ramparts are hut circles, but there are also a number of other enclosures, pits and ditches visible. The large ditches to the south of the settlement between the hut circles and enclosures and the River Thames may represent some form of flood control that mayor may not be contemporary with the settlement itself. There were suggestions of more hut circles within the ramparts, which were just too indeterminate to plot with confidence from the photography available. Their presence was confirmed during the summer of 1994, when crop marks clearly revealed more hut circles; after accessioning the new detail will be added to the existing transcriptions in due course. The morphological

types represented include enclosure, linear feature and macula. The absence of linear systems is significant in two ways.

Firstly, many of the enclosures present within the area defined by the rampart are not conjoined enclosures laid out as a coherent whole that could be recorded as a linear system. Although some of the internal features cut others and therefore cannot be directly contemporary, on the whole most of the elements respect each other. This could suggest that they are all of roughly the same phase, or alternatively that within the area defined by the ramparts successive occupations moved from one part of the site to another without needing to re-build on top of earlier features.

Secondly, there are no obvious crop marks that could be interpreted as the field systems that one would expect to be associated with such a large concentration of population. Harding (1972, 55) has speculated on their presence on the opposite bank of the River Thames, but although there are crop marks on the opposite bank, there is little, save one undated pit alignment, that is suggestive of a planned agricultural landscape that could or could not be contemporary with the site at Dyke Hills. In the excavation report for the Iron Age and Roman site at Farmoor the authors noted, when discussing large blank areas, "in the pre Belgic Iron Age there are only scanty lengths of ditch, shallow gullies, possible palisades, and the odd pit alignment to divide up the land ... " (Lambrick and Robinson 1979, 139). The method of land division associated with the settlement at Dyke Hills may well have been similar, leaving few traces.

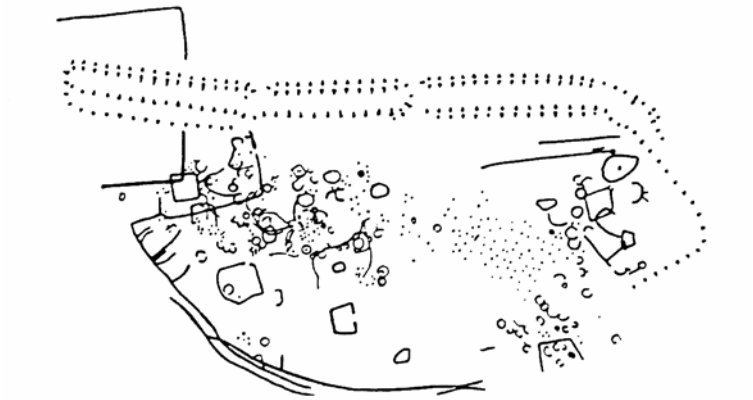
In its particular form and interpretation, Dyke Hills is unique in the Thames Valley. However, as a low-lying Iron Age defended enclosure recorded from the air it is not: two other examples are known, 351.1.1 at Cassington (Oxfordshire) and 53.15.1 at Burroway, Clanfield (Oxfordshire). These are discussed more fully in section 4.1.2.2 above, and all Iron Age monuments are discussed in the period summary (section 4.3.5). Throughout this discussion Dyke Hills has been described as a Late Iron Age oppidum, but the following points are worth noting. If one considers all the elements of the site, with the exception of the defensive rampart, there are a number of other sites along the length of the Thames Valley which show similarities. These similarities are not in terms of the extent of the site, or the number of elements, but concern the morphological characteristics of the constituent elements and their layout within the area of the site. At Dyke Hills the vast majority (seventy-five) of the enclosures are curvilinear in their basic plan, with only eleven rectilinear enclosures. There are no conjoined rectilinear enclosures dividing up the space within the ramparts into smaller units. Some of the other settlements within the project area that are very similar have been dated Iron Age on the basis of excavation or fieldwalking, others have simply been recorded as Unknown Prehistoric as they are known from aerial photographic sources alone.

The small settlement (117.35.1 -117.35.28) on a hilltop north-east of Kempsford is one example of a similar site; it is thought to be Early or Middle Iron Age in date. Its layout is largely open with predominantly free-standing enclosures, most of which are curvilinear (see Riley 1944, 16 for an illustration, and RCHME 1976, 69 for a plan). The Bushy Barn settlement (16.31.1 -16.31.19) to the west of the hillfort at Cherbury Camp is a second example with certain features in common, particularly the large scatters of pits and freestanding enclosures. It has been suggested by Hingley that it, too, may be Early or Middle Iron Age in date (Hingley 1983a).

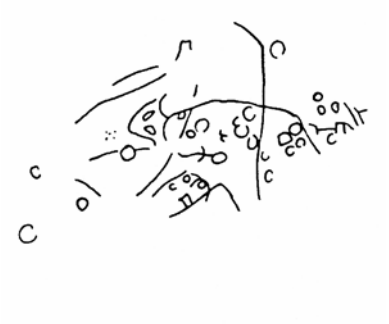
On the basis of these comparisons, and taking into account the comments made above concerning pre-Belgic land division, it may be possible that the settlement at Dyke Hills is earlier in date than generally assumed. There is little evidence for field

systems at other morphologically-similar sites either, perhaps suggesting a method of enclosure, such as hedging, which does not leave a trace in the archaeological record as derived from aerial photographs. The rampart at Dyke Hills may have been added later; there was certainly later Iron Age activity in the vicinity, as witnessed by the concentration of coins from the area and the amount of Late Iron Age metalwork recovered from that particular stretch of the Thames (Allen 1961, Haselgrove 1978 and 1984). This apparent contradiction between intense Late Iron Age activity and what appears to be, morphologically, an earlier settlement form can only be resolved by further work, particularly excavation.

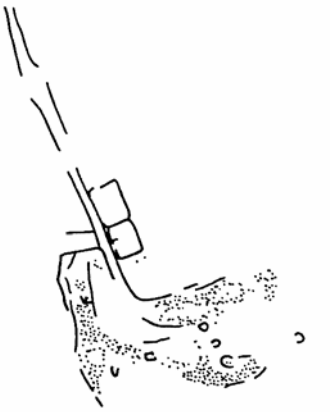
Provisional total: 95 Iron Age sites with both NAR and SMR numbers.



376.28.1 - 376.28.95



117.35.1 - 117.35.28



16.31.1 - 16.31.19

4.1.3.6 Settlements

2858 sites, either with the individual interpretation settlement or within groups interpreted as settlements, have been recorded. 25.4% of the records on the Thames Valley database therefore relate to monuments interpreted as settlements (excluding those with other more specific interpretations such as farmstead, villa, deserted village). In common with other classes of monument discussed in this report the interpretation settlement has been used at . both site and group level, sometimes within the same group. This commonly occurs when the group contains a linear system as well as sites of other types, and is more fully explained in section 3.4 above.

For ease of discussion, settlements (at both group and site level) are considered below in terms of their date. Some settlements have been dated by association, although none of the features plotted from aerial photographs have themselves been securely dated. One of the .. problems encountered in this area concerns the dating of settlements grouped with, and constructed against, trackways. Some trackways were clearly in use for a considerable length of time, as evidenced by the number of re-cuts that can be seen as crop marks or that have .. been recorded during excavation. The re-use of the same routes of communication is especially relevant from the Iron Age onwards. For these reasons where some sections of a particular trackway (or one of the settlements associated with it) have been securely dated, • caution has been used in dating other sites along its length by association.

Iron Age settlements

A total of 246 individual Iron Age sites have been recorded as 16 separate groups, each with the interpretation settlement. Two of the groups have been recorded as Unknown Prehistoric • at group level, as they each have elements from more than one period, including the Iron Age (see below). The remaining groups are Iron Age. Individual interpretations include: enclosure, annex, building, hut circle, pit, pit alignment, settlement, field boundary and field • system. All of the morphological site types are found within Iron Age settlements except industrial complex.

Eleven of the sixteen settlements have been dated to the Iron Age as a result of either small or large-scale excavation of all or some of the component elements of the group. One group has been dated through fieldwalking, one as a result of research by R. Hingley (Hingley 1983a) and three groups are known only from aerial photography. (Recent trial-trenching during evaluation has confirmed an Iron Age date for some elements of one of the three latter groups, 76.13. 1 -76. 13.17 to the west of Latton.) Three of the Iron Age settlements have been completely destroyed: 70.5.1 -70.5.5 at Cleveland Farm, east of Ashton Keynes; 129.13.1 -129.13.3 at Standlake and 385.19.1 -385.19.6 at Appleford. Some elements of the other settlements are still in existence.

192 enclosures have been recorded within Iron Age settlements; ninety-three are curvilinear in overall plan and ninety-nine are rectilinear. More of the rectilinear enclosures have angled corners (fifty-nine) rather than curved (forty).

There are a number of points concerning the layout of Iron Age settlement. In only one case (570.8.1) has an Iron Age settlement of a totally unenclosed nature been identified from a scatter of pits; it was excavated in the 1950s and 1960s (Case et al 1964/65). There is one other isolated Iron Age enclosure (570.7.1) close to 570.8.1, and a number of small circular enclosures, most of which have been interpreted as being the remains of ploughed-out Bronze Age round barrows. Some have been excavated and a Bronze Age dated confirmed; it is however possible that some of the smaller unexcavated enclosures (for example 570.4.1 570.4.3, and 570.5.1) could actually represent the remains of round houses too. Even if this should prove to be so, the Iron Age settlement thus represented would still be unenclosed. (Although it is possible the enclosing elements were hedged boundaries, which would leave no trace in the archaeological record if unaccompanied by a ditch.) Two other Iron Age settlements are similar. The southern end of the settlement at Bushy Barn (16.31.1 16.31.19) also has a large number of pits and some small enclosures, whilst the group 129.13.1 -129.13.3 is a scatter of pits which have been dated to the Iron Age by excavation. The latter are close to many other settlement features which have been given the date Unknown Prehistoric in the absence of confirming information from excavation; they could on further investigation prove to be part of the same large settlement.

Each of the other Iron Age settlements varies in terms of its degree of complexity, and layout. It can be suggested that both 50.64.1 -50.64.21 and 117.35.1 -117.35.28 represent unenclosed settlements; although they are close to other crop marks there is nothing to directly suggest larger enclosures surrounding the many smaller enclosures and hut circles. 57.17.1 -57.17.26 appear to have a very ordered and planned layout, although re-cutting of some of the features may suggest a relatively prolonged period of activity, and more than one phase of occupation. The whole range of sites grouped together as 588.53.1 -588.53.32, (on Port Meadow, Oxford) also appear to be part of a planned and coherent landscape, the majority of features respecting each other.

Even with the evidence from excavation, in all cases other than those mentioned above it is more difficult to comment on the layout of the Iron Age settlements in isolation of other features. For example, 125.32.20 represents a small individual site that has been dated to the Iron Age by excavation, lying within a much larger and more extensive settlement of Unknown Prehistoric date at Northmoor, little of which has been excavated. Roman pottery has been found over much of the crop-mark area. There is clearly more than one phase within the settlement; the separate groups, each of Unknown Prehistoric date, represent an attempt to phase the site from crop-mark evidence but further investigation is clearly needed. The layout of the 'Iron Age settlement' cannot be discussed further with the evidence currently available.

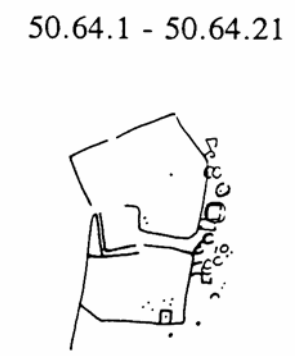
It is noticeable that only one of the Iron Age settlements (588.53.1 -588.53.32) has associated field boundaries and field systems recorded although some of the enclosures and ditches at Bushey Barn (16.31.1 -16.31.19) may represent land division for agricultural purposes. At each of the other settlements the 'domestic' elements only have been identified. However, comments made above about multi-period settlements apply here also; it may be that some of the agricultural elements in the vicinity of, but not immediately adjacent to, these settlements relate to the Iron Age phase of activity. Alternatively, as already discussed, the method of enclosure may have left no visible trace in the archaeological record. The use of hedging or hurdles has been convincingly argued at Mingies Ditch (Allen and Robinson 1993, 91) and is also suggested for the settlement at Watkins Farm (Allen 1990, 75). Both are thought to be Middle Iron Age sites.

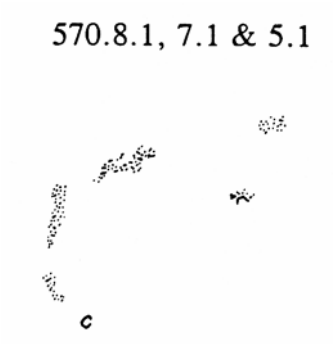
It is difficult to separate Early or Middle Iron Age settlement from that of the Late Iron Age from an aerial photographic point of view. The excavations at Gravelly Guy revealed Middle Iron Age settlement consisting largely of curvilinear enclosures in an open landscape. The Late Iron Age/Early Roman settlement is on a different part of the site, and is different in its layout and the nature of its constituent elements. Most of the enclosures are rectilinear and the landscape has the appearance of being much more planned. The Middle Iron Age settlement at Claydon Pike is also similar to that at Gravelly Guy, consisting of curvilinear enclosures in an open landscape. It is suggested that, in the absence of excavation information, the linearity of the enclosures is the best criterion for distinguishing between Early/Middle Iron Age settlement, and Late Iron Age settlement. Rectilinear enclosures appear to become more common in the Late Iron Age, with curvilinear enclosures (most of which are hut circles) commonest before then. In the Upper Thames Valley round houses or hut circles later than the Middle Iron Age are rare (D. Jennings pers. comm.).

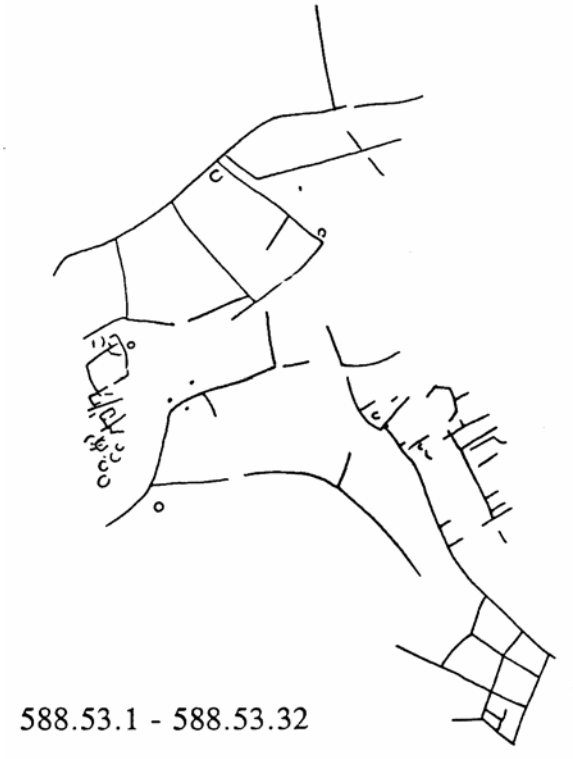
The distribution of Iron Age settlements is greater in the west, with most of the sites situated between Cirencester and Oxford (Fig. 22); there are clearly a number of separate Iron Age settlements in the area of Lechlade, on the gravel terraces to the

north of the River Thames. The settlement at Appleford (585.19.1 -585.19.6) is the only proven Iron Age settlement to the south and east of Block 3, no others having been identified from aerial photographic sources. The reasons for this may partly be biased by archaeological discovery methods, but it is likely that topographic and geomorphological factors also influence the distribution considerably. Many of the settlements that have been given the date Unknown Prehistoric, in the absence of excavation information, may also be Iron Age (see a possible list below).

Provisional total: 246 sites. 29 new sites, 98 sites with both NAR and SMR numbers, 93 sites with NAR number only, 26 sites with SMR number only.







Roman settlements

A total of 191 individual Roman sites have been recorded as 17 separate groups, each with the interpretation settlement. One of the groups (125.32) has the overall date of Unknown Prehistoric, and the problems of dating this multi-period settlement have already been discussed under the Iron Age above. Individual interpretations include: track, settlement, enclosure, pit, building, field system, field boundary, road, ditch, temple and corn drying oven. Enclosures, linear systems, linear features and maculae are all found within Roman settlements.

Twelve of the seventeen groups have been dated as a result of either large-or small-scale excavation, and one has been dated as a result of fieldwalking. The others have all been dated by association with other excavated features (representing in many cases different phases of the same Roman site). In one case only (107.4.1 - 107.4.14) has the group been given the interpretation Roman settlement on morphological grounds alone. Four of the seventeen groups have been completely destroyed, and many individual sites within a further three are also no longer in existence.

Ninety-six of the 191 individual sites within the settlement groups are enclosures. In contrast to those within Iron Age settlements, which are evenly divided between curvilinear and rectilinear enclosures, within Roman settlements there is an overwhelming predominance of rectilinear enclosures. Only five of the ninety-six (5.2%) are curvilinear, the remainder being rectilinear. Seventy-four of the rectilinear enclosures have angled corners, and seventeen have curved ones.

Roman settlements tend to be more closely associated with roads and trackways than Iron Age ones. In only five of the seventeen groups are there no associated trackways. In some cases, where different groups represent slightly different phases of the same settlement it may be that earlier trackways continued in use. This is well illustrated with some of the multi-period settlement sites, such as that at Northmoor (125.32.1 -125.32.28); trackways thought to be Roman are close to the Iron Age elements within the settlement and may therefore have had earlier origins. It is probable that many trackways were re-used, beginning in the Iron Age and continuing into the Roman period; settlements along their length may belong to either period, and information from excavation is an important means of distinguishing between the two.

None of the Roman settlements are unenclosed; Hingley (1989, 55) states that "a minority of Romano-British settlements appear to have been open, with no obvious enclosing boundary". Some, such as that at Cleveland Farm (70.3.1 -70.3.34) seem to be laid-out on the principle of a large enclosure within which are many smaller enclosures (many of which are very similar to those in Iron Age settlements). The plan is coherent and seems to represent a small self-contained settlement, or perhaps hamlet. (It is however worth noting that the simplicity and coherence of the plan of the site at Cleveland Farm may primarily be a reflection of the fact that it was transcribed from earthworks; crop marks might perhaps have revealed a much more complex sequence of events.) The small settlement to the northwest of Ashton Keynes (85.12.1 -85.12.7) is similar: both are at the western end of the project area and are illustrated with other settlement-related linear systems in section 4.2.2 below. The small settlement at Appleford (385.21.1 -385.21.14) (see illustration on page 51), whilst different in its layout, also has the appearance of having been laid out to a plan. It is probable that the settlement was around a 'village green'. This phenomenon of 'a blank area' in the centre of the settlement or closely related to it has also been observed at the Roman villa site at Roughground Farm 58.25.1 - 58.25.15 (AIlen et aI1993). The Unknown Prehistoric settlement 35.65.1 -35.65.55 also has the appearance of being built around a 'green' or open area, but the character of the individual enclosures making up the settlement is somewhat different (see Unknown Prehistoric settlements below).

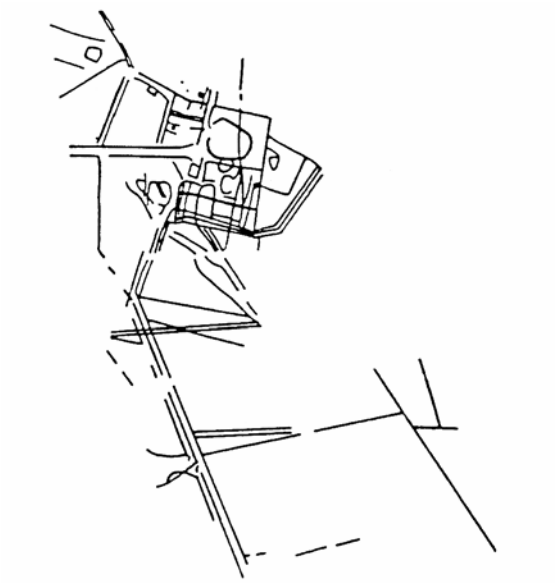
Other settlements such as Claydon Pike seem to represent the other end of the spectrum, a large settlement within a larger planned and divided landscape. The same is true of the multiperiod settlement at Northmoor mentioned above, but the method and scale of division are very different. The re-cutting of some of the ditches

at Northmoor and the different crosscutting alignments of the crop marks suggests different phases of activity; this in turn suggests that Northmoor was occupied over a considerable length of time. If the origins of the settlement were in the Iron Age then the pre-existing features could have affected the layout of later settlements, particularly if they were aligned on roads and trackways. Therefore the layout of the Roman settlement may have been largely pre-determined by the pre-existing Iron Age settlement. Northmoor appears to be part of an extensive village.

Claydon Pike and Northmoor are the largest Roman settlements, closely followed by Hambleden with which they contrast in terms of settlement layout. The latter represents a type of land division and layout not seen clearly in any of the other settlements known to be Roman (although some phases of Claydon Pike appear to have elements in common). Although the crop marks reveal some different phases of activity there is very much the impression that most of the site was laid out in a single phase. The differences between Claydon Pike, Northmoor and Hambleden may reflect different dates, different occupation histories at each site, or a difference in status between the settlements. It may be the site of a Roman (as opposed to Romano-British) settlement that has grown around the villa. It is the only Roman settlement in the project area at which a possible temple has been identified (although the presence of a shrine has been suggested at Claydon Pike). Elements of the site at Hambleden are illustrated on page 120.

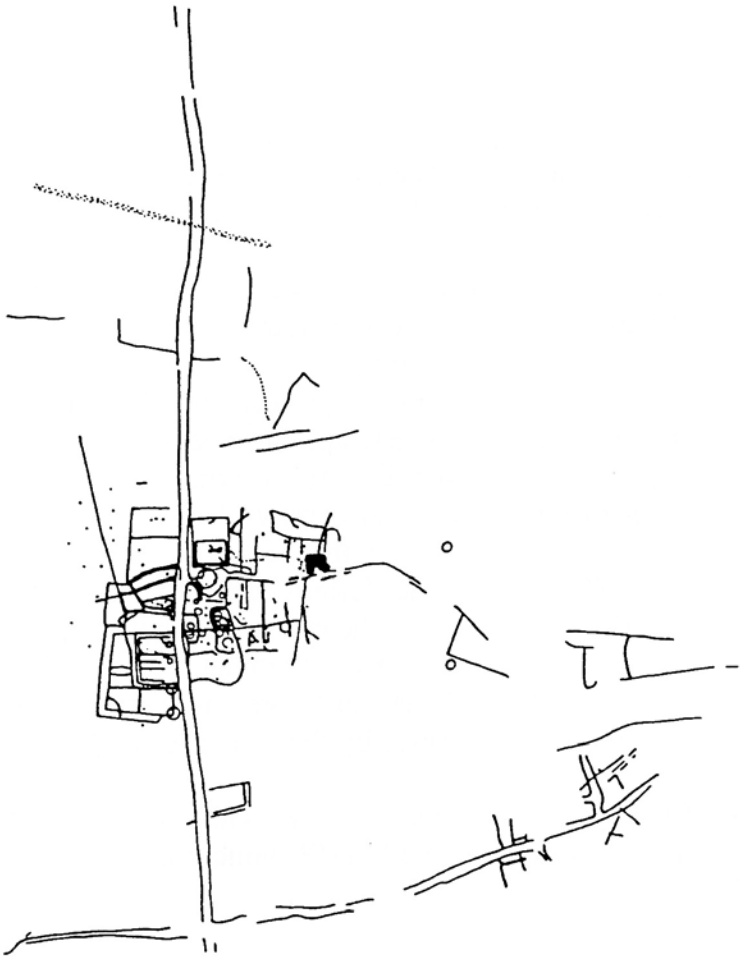
Whilst the Roman settlements are numerically concentrated at the western end of the project area, particularly in Blocks 1 and 2, they can be found in every Block except 6 (see Fig. 22). Hambleden is the most easterly Roman settlement. Claydon Pike is the most closely similar site to Hambleden at the western end of the project area, both in terms of its extent and morphological characteristics, although there appear to be more phases at Claydon Pike. The dearth of other similar sites on the extensive gravel terraces north of the river in Blocks 1, 2 and 3 may be a result of the number and density of other pre-existing settlements. Few villas have been identified in this area, with a concentration of sites in the vicinity of Lechlade only (see 4.1.1.8 above). At the western end of the Thames Valley the large villas and small towns of the Cotswolds may be the closest parallels to the site at Hambleden, as non-villa settlement dominates the gravel terraces within the project area. Hingley's statement "non-villa settlements clearly formed the most common settlement type in the province" (Hingley 1989, 23) seems to be confirmed by the evidence from this project.

Provisional total: 191 sites. 39 new sites, 77 sites with both NAR and SMR numbers, 63 sites with NAR number only, 12 sites with SMR number only.

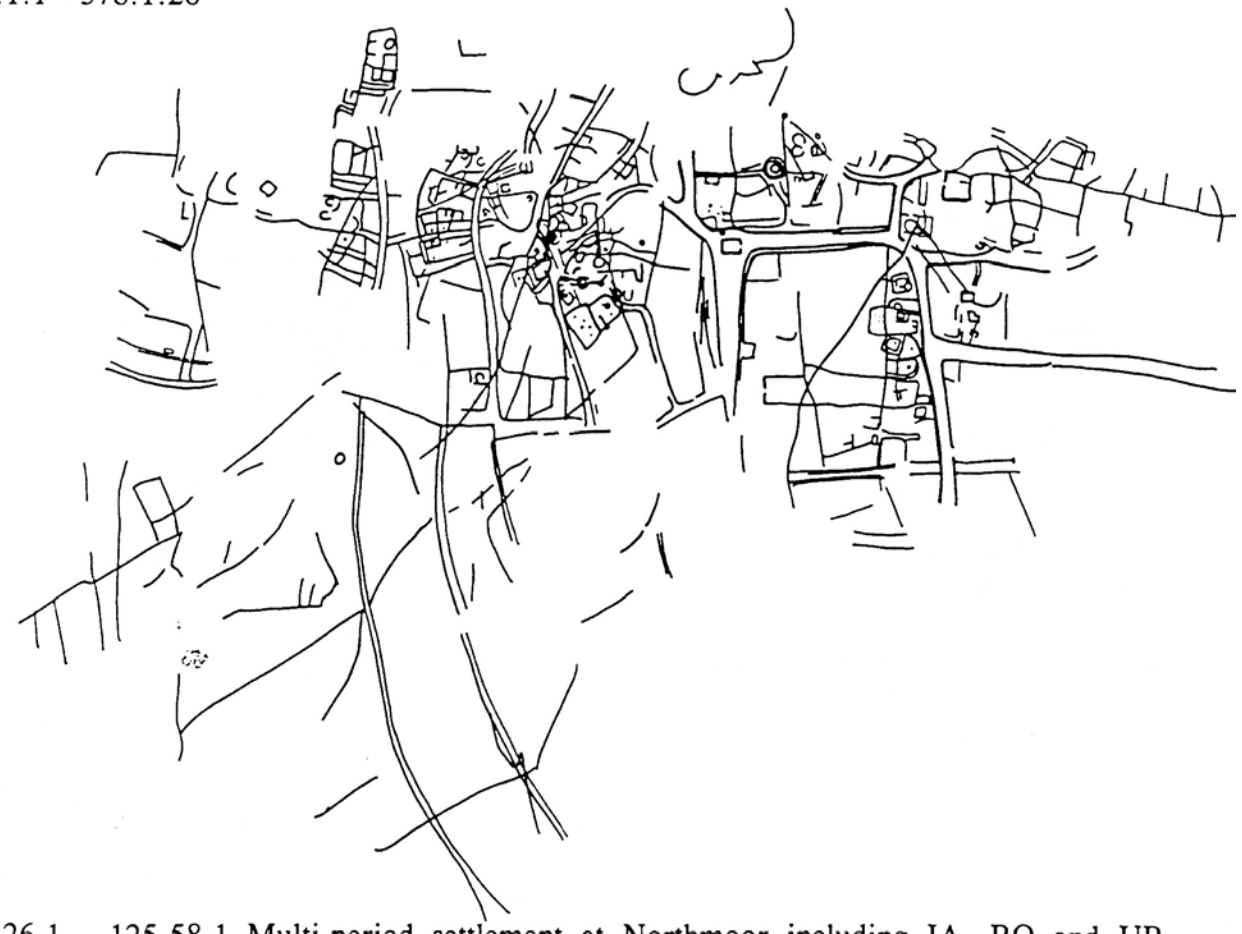


121.4.1-13, 121.33.1-4 & 121.34.1-16

385.21.1 - 14



378.1.1 - 378.1.26



125.26.1 - 125.58.1 Multi-period settlement at Northmoor including IA, RO and UP elements

Unknown Prehistoric settlements

There are a total of 2186 individual sites within 131 groups interpreted as settlements of Unknown Prehistoric date. Additionally there are a further seven sites with the interpretation settlement at site level but not at group level. Of the total 2193 sites recorded, most (1564) are enclosures; there are 441 linear features, 138 maculae and only 50 linear systems. The low number of linear systems may partly be explained by the fact that many of the settlements are thought to be Middle Iron Age or earlier in date, with little aerial photographic evidence for associated field systems (see comments above under Iron Age settlement). Alternatively it may be that many of the field systems and field boundaries of Unknown Prehistoric or Unknown date recorded during the project may be contemporary with the settlements being discussed here. If there is no close spatial relationship then they would have been recorded as separate groups.

Some groups interpreted as settlements and recorded with a date of Unknown Prehistoric have already been referred to above (for example complex 125 at Northmoor, which has both Iron Age and Roman elements and those which could be either). Most of the other groups and sites with the date Unknown Prehistoric, and the interpretation settlement, have not been excavated and it is therefore not possible to date them on the grounds of aerial photographic evidence alone. In some rare cases these settlements have been subject to small-scale excavation which did not confirm their date. However, work done on enclosures, linear systems and farmsteads as part of this project suggests that morphological analysis may help narrow the possible date range for some groups of features (see below).

A rapid visual scan of all settlements with an Unknown Prehistoric date identified some sites very similar to other securely-dated settlements. The group of sites 125.7.1 -125.7.24 is similar to the Middle Iron Age sites at both Mingies Ditch (Allen and Robinson 1993) and Watkins Farm, Northmoor (Allen 1990). See Allen (1990, 74) for comparative plans of both sites; 125.7.1 -125.7.24 is illustrated below. The settlement 35.65.1 -35.65.55 has the appearance of being built around a 'green' or open area, in the manner observed at both the Roman settlement at Appleford (see above) and the villa at Roughground Farm (see 4.1.1.8 above). However the character of the individual enclosures within the group is different to those at Appleford and Roughground Farm, in that there are more small enclosures and more curvilinear enclosures in the settlement 35.65.1 -35.65.55 than in either of the others. It is illustrated on page 105 below.

It may be possible to use a combination of characteristics to help narrow the possible date range for some Unknown Prehistoric settlement sites. The characteristics which appear to be important are the area of the enclosures (whether recorded individually or as part of a linear system), and the number of rectilinear versus curvilinear enclosures in the group. Whether or not the rectilinear enclosures are symmetric or whether their corners are angled or curved also appears to be important.

The number of securely-dated and excavated sites on which this is based is small but it appears that, morphologically, Late Iron Age and Roman sites are similar in appearance and are different to Early and Middle Iron Age sites. From a range of excavations it is thought that "abandonment or settlement shift at the end of the later Middle Iron Age is common to many settlements in the Upper Thames Valley" (Allen 1990, 79). It would be expected that this change would be accompanied by a corresponding change in the nature and plan of the sites themselves and this appears to be borne out by the small sample of crop-mark sites that have been

excavated. Iron Age groups of sites as a whole appear to contain a much higher proportion of curvilinear enclosures than rectilinear ones, but no distinction between Early, Middle or Late Iron Age dates can be recorded in the MORPH2 database. Some of the Iron Age groups clearly consist of predominantly curvilinear enclosures, whilst in others the enclosures are predominantly rectilinear. It is suggested on the basis of excavation at sites such as Gravelly Guy that those Iron Age settlements with proportionally more curvilinear enclosures are Early or Middle Iron Age in date. Hut circles or round houses later in date than the Middle Iron Age appear to be rare in the Upper Thames Valley (D. Jennings pers. comm.). Visually these settlements are often relatively 'open', with little evidence from the aerial photographic record of associated field systems and trackways, or other large-scale forms of land division and enclosure. They are often accompanied by pits. In contrast it is suggested that groups of features with enclosures that are predominantly rectilinear, with associated field systems and trackways are Late Iron Age or Roman in date.

A higher percentage of Iron Age enclosures appear to be asymmetric than Roman enclosures, and although in both periods angled corners are numerically the most common, a higher percentage of Iron Age enclosures have curved corners. The range of internal areas of all the enclosures within a particular group is also important, with evidence to suggest that more Iron Age enclosures have a smaller internal area than Roman ones. From the extremely small sample available it also appears that the unit areas of Iron Age linear systems are smaller than Roman ones, and restricted to a much narrower size band. It is not known whether these characteristics apply equally to Early, Middle and Late Iron Age sites, or if Early/Middle Iron Age sites differ to Late Iron Age/Early Roman settlements in these respects too. Sections 4.2.1 -4.2.4 explain how some of these morphological results were obtained, and should be consulted for further information.

Further work is clearly needed. It is recommended a separate research project be undertaken based upon a wider sample of securely-dated sites (not necessarily those recorded from aerial photographs). On the basis of a visual scan it is suggested that the Unknown Prehistoric sites listed below may be more likely to be Early or Middle Iron Age rather the Late Iron Age/Early Roman in date, primarily as a result of the proportions of curvilinear and rectilinear enclosures within each group. (However, given that two hut circles have been excavated and found to be Bronze Age, it should be borne in mind that those settlements consisting largely of small curvilinear enclosures that have been interpreted as hut circles could also represent Late Bronze Age settlement. Therefore Middle Iron Age or earlier is perhaps the most appropriate suggestion for their date.)

Sites thought to be Middle Iron Age or earlier (a number of these are illustrated below):

34.1.1 - 34.1.99
35.63.1 - 35.63.17
45.19.1 - 45.19.8
46.21.1 - 46.21.22
46.22.1 - 46.22.45
48.12.1 - 48.12.10
49.17.1 - 49.17.16
50.49.1 - 50.49.20
53.16.1 - 53.16.20
54.20.1 - 54.20.27
54.22.1 - 54.22.7
56.13.1 -56.13.35

58 1.1 -58.1.5
58.7.1 -58.7.25
59.33.1 - 59.33.47
120.2.1 - 120.2.11
128.54.1 - 128.54.9
574.58.1 - 574.58.8
575.11.1 - 575.11.4

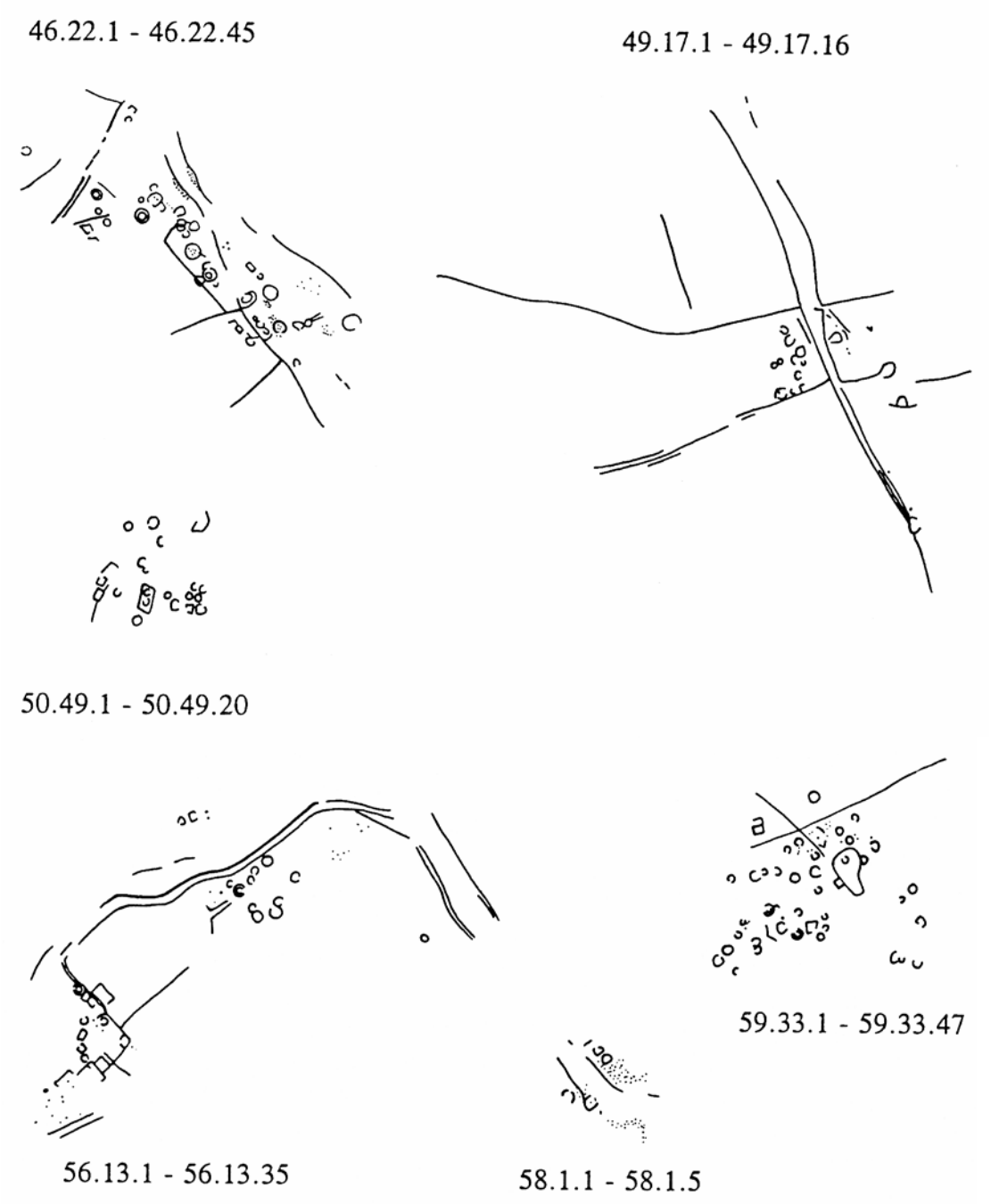
The distribution of Unknown Prehistoric settlements shows a concentration of sites on the gravel terraces to the north of the River Thames between Lechlade and Witney, with lower numbers of sites in the Abingdon -Dorchester area (see Fig. 23). There are also isolated sites on the plateau gravels between the rivers Kennet and Loddon, and on the gravel terraces at Domey (evaluations at one site, 555.13.1 - 555.13.7, suggest that the settlement may date to the Bronze Age). This distribution is complementary to that of securely-dated Iron Age and Roman sites, filling in many of the blank areas. Given the high density of Roman settlements near Dorchester, some (but not all) of the Unknown Prehistoric settlements in the vicinity may also be Roman. For the gravel terraces it has been stated that "in the Roman period the Coin Valley in the Cotswolds was dominated by villa estates and the Thames Valley by native communities" (Miles and Palmer 1982, 5). The low density of Roman villas and other settlements recorded from aerial photography in the Upper Thames Valley suggests that most of the settlements under discussion here are likely to be Iron Age (or earlier), or Romano-British (native communities). The paucity of sites similar to Hambleden and Claydon Pike, with the scale and nature of their accompanying land division, has already been noted under Roman settlements above.

Comparing the morphological characteristics of sites across a relatively large area for the purposes of dating can be questioned. It is by no means certain that like is being compared to like in terms of status and function. A modem analogy would be comparing a hamlet with a small town -they may both be of the same date but in overall appearance they are completely different. However, to carry the same analogy further, their constituent elements may yield more information suggesting contemporaneity, if measured against each other. This approach has been adopted here, and appears to yield results as shown above.

Provisional total: 2193 sites. 817 new sites, 463 sites with both NAR and SMR numbers, 438 sites with NAR number only, 475 sites with SMR number only.

The site similar to Mingies Ditch and Watkins Farm -125.7.1 -125.7.24

Possible Early/Middle Iron Age settlements



Early Medieval settlements

Two groups of Early Medieval sites have been given the group interpretation settlement: one (107.18.1 -107.18.2) is defined by a large number of grubenhäuser, the other (386.23.1 386.23.3) by buildings. Their distribution is not representative of the distribution of Saxon settlement in the Thames Valley west of London; the problems associated with identifying grubenhäuser are discussed above (section 4.1.3.3). Other elements representative of Saxon settlement such as find spots and standing buildings were outside the archaeological scope of the project.

Provisional total: 5 sites. 2 new sites, 3 sites with SMR number only.

Medieval settlements

There is only one group of sites of Medieval date with the group interpretation settlement: two enclosures, a toft and a hollow way (85.30.1 -85.30.4). They are known only from good quality aerial photography and are still in existence. Medieval settlement in the Thames Valley west of London is discussed more fully in section 4.1.3.1 above.

Provisional total: 4 sites with SMR number only.

Unknown Medieval settlements

Only one group of sites of Unknown Medieval date has been recorded with the group interpretation settlement, consisting of two enclosures and a section of ditch (300.16.1 ı300.16.3). They are earthworks recorded from good quality aerial photography and are still in existence.

Provisional total: 3 new sites.

Settlements of unknown date

One individual site has been interpreted as a settlement of unknown date. Twenty-five further groups have the same interpretation with 171 individual elements between them. The individual interpretations include settlement, enclosure, pit, track, ditch, field boundary, field system and pit alignment, and all morphological types except industrial complex are represented. At none of the settlements are hut circles visible, which could at least give some suggestion of date.

As discussed under Unknown Prehistoric settlements above, analysis has suggested that a combination of morphological characteristics may be used to narrow the possible date range for any given group of features. The absence of hut circles will make it more difficult to suggest a possible date range but further research regarding enclosures and linear systems may still suggest possible dates for some groups of sites

Provisional total: 172 sites. 87 new sites, 28 sites with both NAR and SMR numbers, 19ı sites with NAR number only, 38 sites with SMR number only

4.1.3.7 Town

The single town recorded from aerial photographs in the project area is the Roman small town of Dorchester where there have been several excavations, (see for example Bradley 1979 and Frere 1964). Nine individual sites have been recorded from aerial photographs including an enclosure, a trackway, pits, ditches, a field system and field boundaries; the interpretation for the whole group is that of town. All are crop marks and most have now been destroyed

Prior to the development of a small town and administrative centre at Dorchester it is probable a fort was established (Rowley 1975, 117-118). At its maximum the area within the town defences was c. 5 ha, with good communications via road north and south, and communications with a wider world via the Thames. Dorchester clearly played a major role within the Thames Valley, and is unique amongst Roman settlements within the project area.

Provisional total: 9 Roman sites, all with both NAR and SMR numbers.

4.1.4 Gardens and parks

Code	Interpretation	No. of records

GARD	Garden*	1
TRNC	Tree enclosure ring	1
Total		2

Code	Group Interpretation	No. of records
GARD	Garden*	1
Total		2

* The interpretation garden can be found under both the 'Agriculture and Subsistence' and 'Gardens and Parks' Thesaurus class lists. For the purposes of this report, gardens are discussed here, under 'Gardens and Parks'.

4.1.4.1 Gardens

One site (303.7. 1) and one group of three sites (561. 1.1 -561.1. 3) have been interpreted as being garden remains of Post Medieval date. Both have been identified with the aid of information from sources other than aerial photography, and are earthwork sites. The enclosure 303.7.1 lies to the south-west of Whistley Green, close to the original site of Whistley Court Mansion (known from documentary sources); it was trial trenched in advance of gravel extraction further to the north.

The three sites that have been given the group interpretation garden have the individual interpretations fishpond, enclosure and ditch. They are on the site of the Benedictine monastic grange of Abingdon Abbey, at Cumnor and are thought to be the remains of a 16th century garden. It has however been suggested that excavation may prove some of the features are Medieval rather than Post Medieval in date (Dr E Impey, pers. comm.).

Provisional total: 4 sites. (Post Medieval -4 sites.) 3 new sites, 1 site with SMR number only.

4.1.4.2 Tree enclosure rings ..

The one recorded tree enclosure ring in the project area (351.20.1) is immediately to the east of Abingdon, at the south-west end of the Barrow Hills Bronze Age linear barrow cemetery. Its position in relation to the latter led to the site being excavated in the early 1980s by Reading University Department of Archaeology. On the aerial photographs a crop mark of a pit-defined enclosure, 12 m in diameter, was assumed to be a pit circle of prehistoric date. Excavation led to its re-interpretation as a late Victorian landscape feature (Bradley 1984). With hindsight an avenue of trees to the north of the enclosure, visible on aerial photographs, reinforces this interpretation.
There are two similar incomplete pit-defined enclosures (351.25.1 and 351.25.2) 400 m to the north-east. These have been interpreted as pit circles, but their proximity to the known tree enclosure ring suggests the interpretation should be treated with caution for "it is known that a large number of trees were planted near to Wick Hall in about 1890 and several circular plantations still exist in the surrounding area today" (Bradley 1984, 116-117). (See section 4.1.8.11 below.)

4.1.5 Industrial

Code	Interpretation	No. of records
EXTP	Extractive pit	3
GRA	Gravel pit	330
QRRY	Quarry	27
Total		360

4.1.5.1 Extractive pits

Three sites have been interpreted as extractive pits. All are in Block 1 and two (112.1.1 and 128.15.2) are thought to be Roman and associated with road construction.

Provisional total: 3 sites. (Roman -2 sites, Unknown Medieval -1 site). 3 new sites.

4.1.5.2 Gravel pits and quarries

There are a total of 330 gravel pits and 27 quarries. As would be expected the majority are concentrated in Blocks 1 -4, where the gravel deposits are most extensive. No gravel pits or quarries were recorded in Block 6. The distribution suggests that not all gravel deposits have been exploited and in some areas, noticeably in the southern half of Block 2, small surface areas of gravel deposits not recorded by the Geological Survey of Great Britain (England and Wales) have been utilised. 357 (98.3 %) of the gravel pits and quarries are maculae; 4 (1.1 %) are linear features and 2 (0.6 %) are enclosures.
Large modem gravel pits, and all others shown on the O.S. 1:10,000 map have not be transferred to the overlays, or recorded.
Provisional total: 357 sites. (Unknown Prehistoric -3 sites, Medieval -2 sites, Post Medieval -17 sites, Modem -1 site, Unknown Medieval -259 sites, unknown -75 sites). 276 new sites, 11 sites with both NAR and SMR numbers, 30 sites with NAR number only and 40 sites with SMR number only.

4.1.6 Maritime

The project area is entirely landlocked; therefore there are no maritime sites.

4.1.7 Recreation

Code	Interpretation	No. of records
RBUT	Rifle butts*	1
TOTAL		1

* Rifle butts can also be found listed under the Thesaurus Class 'Defence'; for the purposes of this report however they are discussed here under 'Recreation'.

There is only one site (571.2.2) which falls within this Thesaurus Class. The rifle butts are on Radbrook Common, to the west of Oxford and have been recorded from vertical aerial photographs. Whether they were constructed for recreational or military purposes cannot be determined from aerial photographs alone but the fact that there are few associated features (they are grouped with one ditch only) might suggest they are a recreational feature. Further investigation however might prove that they were built for military purposes.

The site consists of two parallel earthwork banks, approximately 15 m in length and is assumed to be modem in date.

Provisional total: 1 new site (Modern).

4.1.8 Religious, ritual and funerary

Code	Interpretation	No. of records
BKBW	Bank barrow	3
BRW	Barrow	4

BOBR	Bowl barrow	6
CENC	Causewayed enclosure	12
CSRD	Causewayed ring ditch	5
CURS	Cursus	16
HNFM	Hengiform enclosure	5
HNGE	Henge	4
IHUM	Inhumation	1
INCM	Inhumation cemetery	2
LOBW	Long barrow	15
MORT	Mortuary enclosure	16
PCIR	Pit circle	5
POBO	Pond barrow	4
RDBW	Round barrow	919
SQBW	Square barrow	2
STCL	Stone circle	1
TCIC	Timber circle	1
TEMP	Temple	1
TOTAL		1022

Code	Group Interpretation	No. of records
ABBY	Abbey	1
BCEM	Barrow cemetery	30
GRGE	Grange	3
INCM	Inhumation cemetery	1
TOTAL		35

4.1.8.1 Abbeys and granges

Only one group of earthworks recorded from aerial photographs has been interpreted as an Abbey; the earthworks are known to be the remains of Godstow nunnery as a result of both excavation and documentary research (Linington 1960; Ganz 1972). The abbey of St. Mary the Virgin and St. John the Baptist was founded in AD 1133. The earthworks remaining today include a possible moat, a fishpond, miscellaneous ditches and enclosures, and a field boundary. Morphologically the eight sites within the group have been recorded as enclosures, linear features and a macula. Godstow nunnery has been recorded in both local and national records.

Three groups of sites (with a total of thirty-one separate records) have been given the interpretation grange. They represent three different phases of the same site, the Grange at Wyke, lying to the north of the modem town of Faringdon, in the parish of Great Faringdon. Following crop-mark transcription a combination of documentary research, field survey, fieldwalking, and limited excavation revealed the full extent and importance of the site. In AD 1203 a Cistercian Abbey was founded by King John on the ancient royal estate of Faringdon, but in AD 1204 the abbey moved south to Beaulieu in the New Forest; Beaulieu Abbey then administered the Faringdon lands as granges. The crop marks, first photographed in 1990, reveal several phases of construction and demolition which have been reflected in the recording of the site. Documentary research by G Soffe confirmed that the crop marks represent the site of Wyke's curia, and ground survey of the site produced a range of artifacts including high quality 13th-century decorated glazed floor tiles. Limited excavation of the site was carried out by the Oxford Archaeological Society during the summer of 1992.

Aerial photographs taken by the United States Air Force during the Second World War show the extent of the site at Wyke that existed as earthworks prior to post-war agricultural activity. Field survey in 1991 revealed some broad earthwork elements still extant in the eastern half of the site, but the crop-mark transcriptions provided much more detail. Within the three groups the range of elements recorded as enclosures, linear features and maculae includes buildings, walls, fishponds and hollow ways.

Provisional total: 39 sites. (Medieval -39 sites). 8 sites with both NAR and SMR numbers (Godstow nunnery), and 31 sites with NAR number only (Wyke grange).

4.1.8.2 Bank barrows

Three sites have been interpreted as bank barrows. They are located at different points along the Thames Valley: at Clanfield (51.5.1), North Stoke (107.10.1) and Warborough (373.2.1). The sites at Warborough and North Stoke are just over 9 km apart. All have been recorded as crop-mark linear features, each with two ditches and with overall lengths ranging from 82 m (Clanfield) to 570 m (Warborough). It was Case (1986, 25) who first suggested that the ditches at Warborough may represent a bank barrow; if further investigation supports this hypothesis, then it will be the longest recorded site of its type (the bank barrow at Maiden Castle, Dorset is 545 m in length). Alternatively the Oxford SMR has suggested that the site is either a cursus or a Roman trackway; later re-use of the side ditches, possibly for a trackway, is certainly suggested by the crop-mark evidence. The two ditches defining the monument at Warborough are c. 20 m apart, and so would come within the range of widths for cursus monuments suggested by Topping (1982), but would fall outside that suggested by Wilson (1982) (see section 4.1.8.6 below). For these reasons Case's interpretation as a bank barrow has been accepted, but it is clear that further work is needed on this class of monument and the Warborough site in particular.

Only one of the bank barrows has been excavated: site 107.10.1 at North Stoke was partially excavated by Case et al at intervals between 1950 and 1952. In the excavation report (Case 1982, 69) it is argued that "the evidence at North Stoke suggests more consistently than otherwise that the up cast from the ditches was indeed placed between them" i.e. that there was a central bank between the linear ditches, hence the interpretation of the site as a bank barrow. There is no evidence from aerial photographs to suggest remnants of a bank or other internal features at any of the three sites, but that does not mean a bank did not originally exist.

There is no common orientation for the three sites: Clanfield is aligned east -west, North Stoke north-north-east -south-south-west and Warborough north-west -south-east. The linear ditches at Clanfield have no other features at either their western or eastern ends, but the opposite is true at both of the other sites. The bank barrow at North Stoke has other monuments, which show clearly as crop marks, at each end. At its southern extremity a three-sided enclosure (open at its eastern end) has been interpreted as a mortuary enclosure, thought to pre-date the bank barrow (Case 1982, 68). Crop marks at the northern end of the barrow have been interpreted as being suggestive of two phases of activity, one of which appears also to predate the bank barrow (Case 1982,69). The relationship between the bank barrow (373.2.1) at Warborough and the large presumed Neolithic enclosure to the south (site 373.1.1) can similarly only be guessed from the aerial-photographic evidence as no further investigation has taken place. The function of 373.1.1, the large enclosure, is also uncertain; it has variously been interpreted as an aberrant form of cursus and an unusually large mortuary enclosure. It has cautiously been interpreted simply as a Neolithic enclosure for this project.

North Stoke and Warborough both appear to be part of complexes that originated in the Neolithic and continued to be a focus for Bronze Age activity as well. Neolithic, Late Beaker and Bronze Age sites in close proximity to the bank barrow have been excavated at North Stoke (Case 1982; Catling 1954 or 1959; Leeds 1936). At Warborough a site interpreted as a mortuary enclosure (373.1.4) lies less than 50 m from the line of the bank barrow, which itself abuts 373.1.1, the large Neolithic enclosure mentioned above. The nearest Bronze Age barrow is 500 m away whilst the southernmost elements of the Neolithic and Bronze Age complex at Dorchester lies less than 1 km to the north-west on the other side of the River Thames. Perhaps significantly at neither site are large numbers of Iron Age, Roman or later sites found in very close proximity. At Clanfield too, other Neolithic and Bronze Age monuments have been recorded from aerial photographs, but rather further from the bank barrow than comparable sites at North Stoke and Warborough. The causewayed enclosure at Broadwell (46.25.1) lies less than 800 m to the north-west, whilst several assumed Bronze Age round barrows are all less than 700 m away. Extensive remains of later settlement are within a 600 m radius of the bank barrow, which may have destroyed any Neolithic or Bronze Age sites closer to the bank barrow.

See Fig. 24 -the distribution of bank barrows, long barrows and mortuary enclosures. Provisional total: 3 sites. (Neolithic -3 sites). 1 new site, 2 sites with both NAR and SMR numbers.

4.1.8.3 Barrows (including bowl, pond and round barrows)

There are a total of 933 barrows, bowl barrows, pond barrows, and round barrows in the project area; some are clearly the constituent elements of barrow cemeteries.

Barrow cemeteries

There are 251 round barrows, 4 bowl barrows, 4 enclosures, 2 barrows (so called because their shapes do not allow them to be described as one of the other barrow types) and 2 miscellaneous clusters of pits which are thought to have been part of thirty separate barrow cemeteries. In order to be described as a cemetery, five or more barrows (round, bowl or simply barrow) had to be in an observable relationship. There were two exceptions to this; a group of four round barrows at Dorney (558.1.1 -558.1.4) and a group of three round barrows and a barrow at Eynsham (587.58.1 - 587.58.4). In the former case work by the Oxford Archaeological Unit suggested the presence of a fifth barrow, whilst in the latter the relationship between the four sites is so close (they are all touching) they were interpreted as a barrow cemetery. One cemetery at Standlake consists of two separate groups (29.1.1 29.1.16 and 29.2.1 - 29.2.5), one Bronze Age and the other possibly Neolithic (Beaker -see comment below about dating of Beaker sites). All the cemeteries fall into one of two distinctive morphological types: (i) those that are essentially linear in plan or have a linear element and (ii) those consisting of barrows clustered in either widely-spaced or close-knit groups. 50% of the barrow cemeteries are linear ones, 50% are nucleated (Le. there are -fifteen of each type).

With two exceptions all the cemeteries are located on the valley floor or on flat ground. At twelve of the thirty cemeteries excavation to a greater or lesser degree has taken place; twenty-two are still in existence whilst all or some sites in the other eight have been -destroyed. All, with the exception of Cookham (see below) are crop-mark sites. All the cemeteries have been given the overall group period of Bronze Age although four cemeteries also include barrows which have been described as Neolithic. This is because the eight round barrows concerned all contained Beaker material. If excavation records clearly stated that the Beaker material found was 'late

Beaker' then the site was recorded as Bronze Age; anything less diagnostic was recorded as Neolithic because of the transitional nature of monuments containing Beaker material. The less securely dated Beaker round barrows are thus immediately distinguishable from the mass of Bronze Age barrows.

Although fifteen of the barrow cemeteries are linear in overall plan, there is some variation in the relationship between the individual sites within the overall linear category. Some linear cemeteries are laid out predominantly on a single straight axis (e.g. 573.13.1 -573.13.6), whilst others are more curving in nature (e.g. Goring, 309.6.1 -309.6.8). Some but not all have one or two outlying barrows which are to one or other side of the predominant alignment. The cemeteries at Standlake (twenty round barrows), Barrows Hills, Radley (nineteen barrows and an enclosure), Eynsham (twelve round barrows) and Stanton Harcourt (ten round barrows) are the largest linear cemeteries. The other cemeteries have less than ten barrows each, most (60%) with five to eight barrows. All four enclosures associated with barrow cemeteries can be found in those that are linear. Each encloses more than one individual round barrow, although all the internal sites are not necessarily visible as cropmarks. The Barrow Hills cemetery is unique within the project area in being a double linear cemetery, which is reflected by the range of finds discovered during excavation (A. Barclay, pers. comm.). The nearest parallel for such a barrow cemetery is Wessex.

Four of the fifteen linear cemeteries are aligned on the cardinal points of the compass; all of the others are aligned on intermediate points, with eight aligned north-east -south-west or north-north-east -south-south-west and three aligned north-west -south-east or north-north-west -south-south-east.

The other fifteen barrow cemeteries are composed of clusters of round barrows; one at Cookham (528.1.1 -528.1.5) includes extant earthwork barrows (bowl barrows) in addition to crop marks and is unique in the Thames Valley. As with linear cemeteries, within the broader group there are variations in individual plans; some are very tightly clustered (e.g. Long Wittenham, 364.14.1 -364.14.7) others are more open in their overall layout (e.g. Abingdon, 338.1.1 -338.1.5). Within two of the cemeteries of the nucleated type, there are small linear elements.

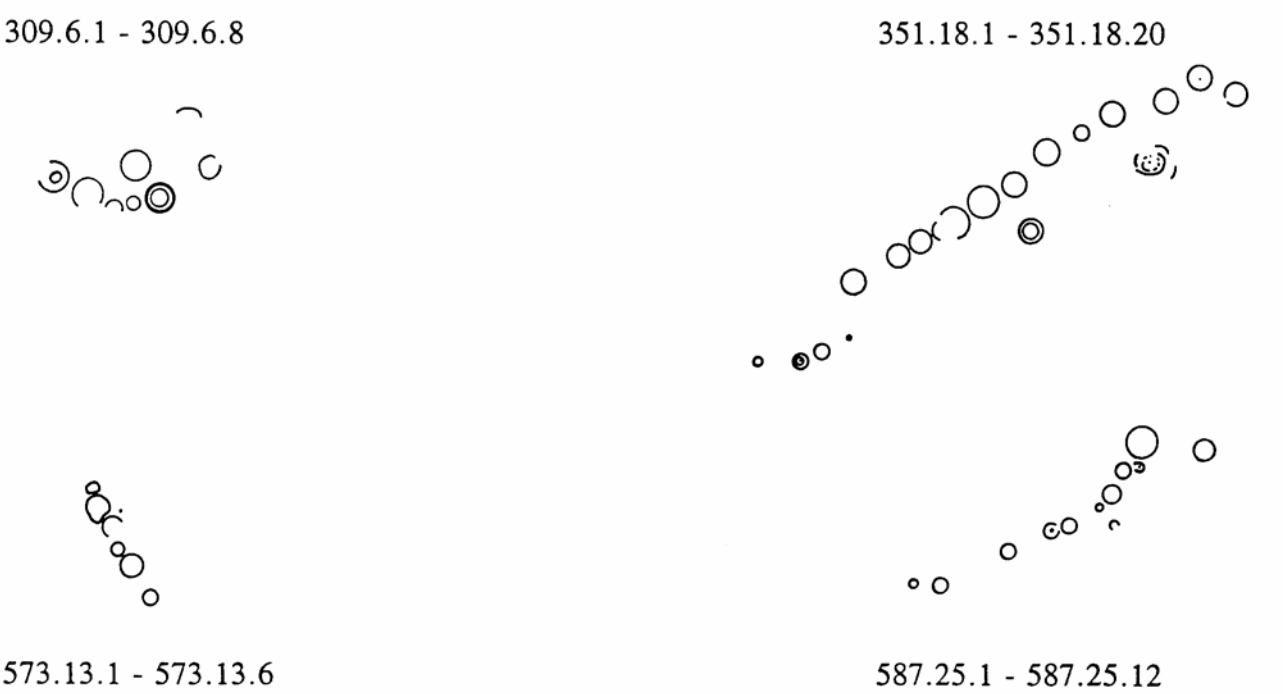
Although the distributions of the two types of barrow cemeteries have some features in common, there are also some differences which could be archaeologically significant. Cemeteries of one or other type can be found in all blocks of the project area, but the distribution is not an even one. They do not occur in all areas where there are extensive crop • marks. Linear barrow cemeteries are found in Blocks 2 -5 inclusive, but have not been recorded to date from aerial photographs in either Block 1 or Block 6. Contrastingly, nucleated cemeteries have been recorded in all six blocks, from south of Fairford in the west to south of Slough in the east. The distribution of both types of cemetery is essentially riverine, the majority (66 %) lying no more than c. 500 m from the present day course of the Thames or its tributaries. Only the nucleated cemetery at Milton (329.3.1 -329.3.7) and the three linear cemeteries at Eynsham (587.25.1 -587.25.12,587.50.1 -587.50.6 and 587.58.1 -587.58.4) are more than c. 2.2 km from water. Although barrows have been recorded as crop marks in other areas further from water, none are found in close enough proximity to merit the group interpretation of barrow cemetery.

On the whole the nucleated cemeteries exhibit a more even distribution, whilst linear cemeteries themselves cluster in some areas, noticeably in the vicinity of Standlake, Stanton Harcourt and Eynsham. It is only here and in the Lechlade area that both types of barrow cemetery have been recorded in close proximity to each other. In

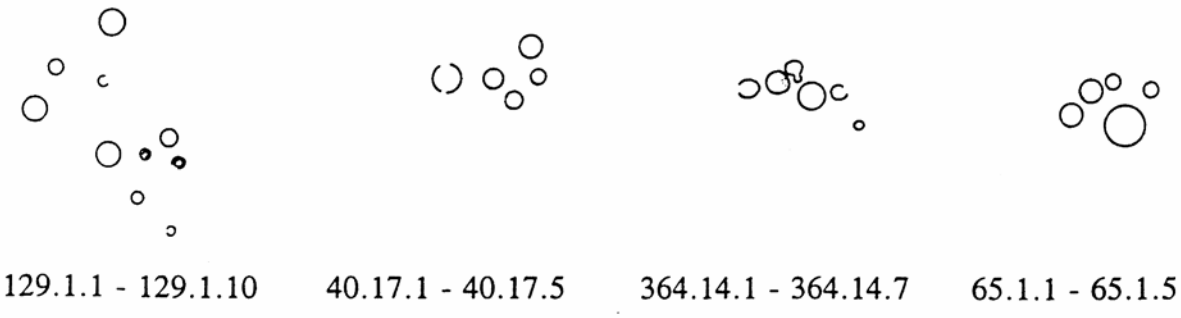
eleven cases the distance between individual cemeteries is in the range 3.9 km -4.9 km. Whether this is a significant distance, perhaps indicative of different territories for the barrow builders, remains to be seen. Further work, including detailed examination of existing excavation records, is needed.

Fig. 25 shows the distribution of barrow cemeteries.

Sample illustrations of linear barrow cemeteries



Sample illustrations of nucleated barrow cemeteries



Barrows not in cemeteries

The total number of barrows, bowl barrows, pond barrows, and round barrows not in barrow cemeteries is 676. These can be broken down by interpretation as follows: 2 barrows, 2 bowl barrows, 4 pond barrows and 668 round barrows. Their distribution is essentially complementary to that of the barrow cemeteries with sites throughout the project area. The vast majority can be found on the gravel terraces, and the lack of sites in the Bampton area (Block 2) can be explained by the presence of alluvial deposits. Urban areas, particularly in Blocks 3 (Oxford), 5 (Reading) and 6 (Maidenhead and Windsor) also clearly influence the distribution, although it would be expected that early (pre-urban expansion) photography would have located some

of the sites now destroyed. Fig. 26 illustrates the distribution of barrows not in cemeteries.

All barrows considered together

5 of the total 933 sites are earthworks (all have been described as maculae) and 927 are cropmarks. Only one round barrow (100.23.1) has been recorded with both crop-mark and earthwork elements. 907 crop-mark sites are enclosures (ring ditches), and 12 are linear features (where an insufficient segment of the enclosure ditch was present for a diameter to be estimated) and 8 are maculae.

The crop-mark enclosures (ring ditches)

These are considered below in terms of their date.

Neolithic

Provisional total: 13 sites

single ring ditches with internal features: 2 sites
single ring ditches without internal features: 10 sites
concentric ring ditches with internal features: 1 site

9 sites with both NAR and SMR numbers, 3 sites with NAR number only, 1 sites with SMR number only.

Bronze Age •

Provisional total: 852 sites

single ring ditches with internal features: 144 sites
single ring ditches without internal features: 663 sites
concentric ring ditches with internal features: 15 sites
concentric ring ditches without internal features: 30 sites

232 new sites, 298 sites with both NAR and SMR numbers, 75 sites with NAR number only, 247 sites with SMR number only

Unknown Prehistoric

Provisional total: 39 sites

single ring ditches with internal features: 7 sites
single ring ditches without internal features: 29 sites
concentric ring ditches with internal features: 2 sites
concentric ring ditches without internal features: 1 site

21 new sites, 8 sites with both NAR and SMR numbers, 8 sites with NAR number only, 2 sites with SMR number only.

Early Medieval

The two ring ditches (54.37.1, 54.37.3) with internal features are particularly interesting as each has a small rectangular enclosure inside the ditch circuit. They are both sited on the north bank of the Thames, between Aston and Buckland. Dr J. Blair (pers. comm.) has suggested that they may be the remains of Anglo-Saxon burial mounds; no excavation has been carried out to further substantiate the suggestion but a publication is in preparation to further discuss the sites (both of which are already scheduled).

Provisional total: 3 sites

single ring ditches with internal features: 2 sites
single ring ditches without internal features: 1 site

1 new site, 2 sites with both NAR and SMR numbers.

The crop-mark linear features

Provisional total: 12 sites. (Bronze Age -12 sites). 8 new sites, 4 sites with both NAR and SMR numbers.

The crop-mark maculae

Three of the crop-mark maculae have been interpreted as round barrows, four as pond barrows and one as a barrow. Pond barrows are unusual in the project area.
Provisional total: 8 sites. (Bronze Age -8 sites.) 2 new sites, 4 sites with both NAR and SMR numbers, 2 sites with NAR number only.

The earthworks

All five earthwork sites are bowl barrows; the four at Cookham (528.1.1 -528.1.4, see above, under barrow cemeteries) have been excavated (Cocks and Napier 1887-9).
Provisional total: 5 sites. (Bronze Age -5 sites.) 4 sites with both NAR and SMR numbers, 1 site with NAR number only.

4.1.8.4 Causewayed enclosures

A total of twelve sites have been interpreted as causewayed enclosures; eight were recorded as enclosures and four as linear features flagged as enclosures. Some, such as the site at Buckland (27.33.1) have been discovered as a result of recent reconnaissance in the Thames Valley.

Seven of the eight sites which are enclosures are curvilinear in shape, four being asymmetric and three being sub-circular. 369.9.1 is anomalous in being the only causewayed enclosure to be rectilinear. It obviously does not fit in with the rest of the class in terms of its shape, but has very distinctive interruptions in the ditch circuit. For this purpose it has been interpreted as a causewayed enclosure but further investigation is necessary. Although a minimum diameter of 74 m (suggested by Palmer 1976, 175) holds true for seven of the enclosures the diameter of 352.8.1 is only 60 m. This suggests a need for a general re-examination of the morphological criteria of this class of monuments. The number of ditch circuits enclosing each of the eight monuments ranges from one to four. Evidence from the most recent aerial photography and/or the 1: 10,000 base map suggests that all eight enclosures are still in existence; all are crop marks.

The four linear features which were interpreted as causewayed enclosures are all crop marks and one of the four (351. 9.1) is known to have been destroyed; the remainder are still in existence. All four would, if complete, form curvilinear enclosures. One has a single interrupted ditch, the other three each have two ditches.

All twelve sites are either on the valley floor or on flat ground and are found from the north of Cricklade in the west to the Slough and Maidenhead area in the east. There is some patterning in the distribution but it is difficult to tell if this is the result of bias in the recovery of sites or if it is a genuine archaeological distribution (see Fig. 27). There are relatively few sites in Blocks 5 and 6 but this may be the result of the

narrowness of the flood plain in parts of this area, or the extent of urban development. A noticeable blank area in the distribution is a complete lack of sites in Block 3 (the area of the Thames Valley from the east of Witney to the north of Abingdon). Case (1986, 19) states that "... segmented ditches on Port Meadow, Oxford are generally interpreted as a former water course .... ". It may however be worth reinterpreting these features in the light of the distribution of causewayed enclosures; further investigation is needed.

27.33.1

46.25.1

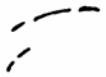
54.32.1

57.19.1

59.32.1

122.28.1

307.6.1

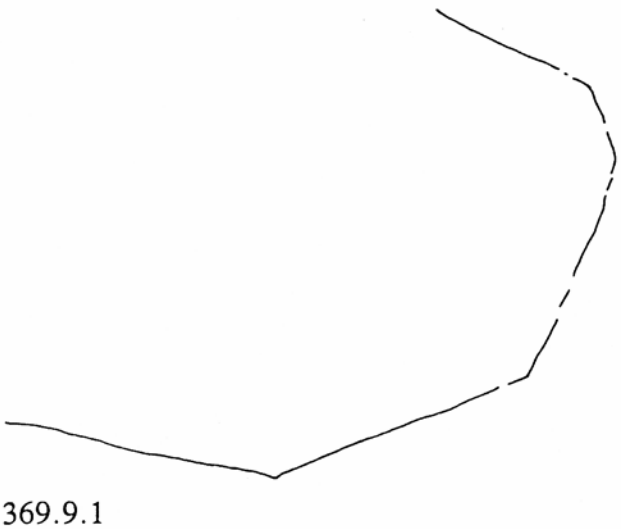


351.9.1

352.8.1

545.1.1

555.1.1



369.9.1

Preliminary examination of the distribution suggested that eight of the sites fall naturally into four roughly equidistant pairs. Further examination of the 1: 10,000 plots to eliminate bias as a result of the scale of the distribution (1 :440,000) did seem to support the regular spacing between enclosures within each pairing. Two pairs of sites (27.33.1-54.32.1 and 35.9.1352.8.1) are 2.7 km apart whilst a third pair (555.1.1-545.1.1) are 3.2 km apart. The fourth pair however were found to be further apart at 5.55 km (59.32.1-47.25.1). It is worth noting that the distance between the causewayed enclosure at Windmill Hill and the possible site on the southern flank of Overton Hill is 3 km; Malone (1989, 48-49) suggested that "... the existence of two such large (causewayed enclosure) sites in close proximity promises to be unique in Britain." The apparent pairing of sites within the same monument class in the project area suggests that such close proximity is no longer unique. The study of causewayed enclosures in the Thames Valley can only be taken further by fieldwork and excavation.

It should be noted that 307.6.1 was trial trenched by the Oxford Archaeological Unit in 1974,ı the results of which cast doubt upon the validity of its interpretation as a causewayed enclosure. It was included in Palmer (1976), and is included here, with this reservation recorded.

Provisional total: 12 sites, (Neolithic -12 sites). 3 new sites, 5 sites with both NAR and SMR numbers, and 4 sites with SMR number only.

4.1.8.5 Causewayed ring ditches

Five curvilinear enclosures have been interpreted as causewayed ring ditches; all are circular or sub-circular in shape and have causeways in the enclosing ditch circuits which are clearly visible on aerial photographs. There are internal features in the form of pits inside three of the enclosures. All but one enclosure (371.22.1) is defmed by a single enclosing circuit, the diameters of which range from 7 m to 20 m. Only two of the five sites have been excavated, 351.19.1 at Radley (Bradley 1984), and 371.22.1, Dorchester 11 (Atkinson, Piggott and Sandars 1951), confirming a likely Neolithic date in each case. The other three sites are known only from good quality aerial photographs and it is impossible to be more specific than that they are prehistoric in date. Similarity to excavated causewayed ring ditches and other closely-related types of site suggests the monuments are more likely to be Neolithic in date rather than Early Bronze Age, but excavation is needed to confirm this. In each case, the ring ditches are in close proximity to other monuments of ritual or funerary character of Neolithic and/or Bronze Age date. Their distribution within the project area is limited solely to Blocks 4 and 5, between Abingdon and North Stoke.

The excavation results from the causewayed ring ditch at Radley seem "to be consistent with the presence of a round barrow rather than an embanked enclosure" (Bradley 1984, 116); there was no evidence for a central burial but as this was, by analogy, likely to have been at ground level its absence could be explained by later agricultural activity at the site. Dorchester 2 may also have begun as a low mound (Bradley and Chambers 1988, 282); excavation revealed three structural phases during the third of which a number of cremationswere deposited. It may therefore be that during its last phase functionally it was more closely akin to hengiform monuments despite the fact that its bank appears to have been internal rather than external. The morphological overlap with hengiform monuments is obvious and is discussed fully below (section 4.1. 8. 7). For the unexcavated sites it is impossible to say whether they originally possessed an external bank and represent hengiform monuments or if they were capped by a mound, and are round barrows with

causewayed ditches. It may perhaps be expected that the three causewayed ring ditches with evidence for a central pit represent the latter but as with hengiform monuments excavation is needed for a definitive answer.

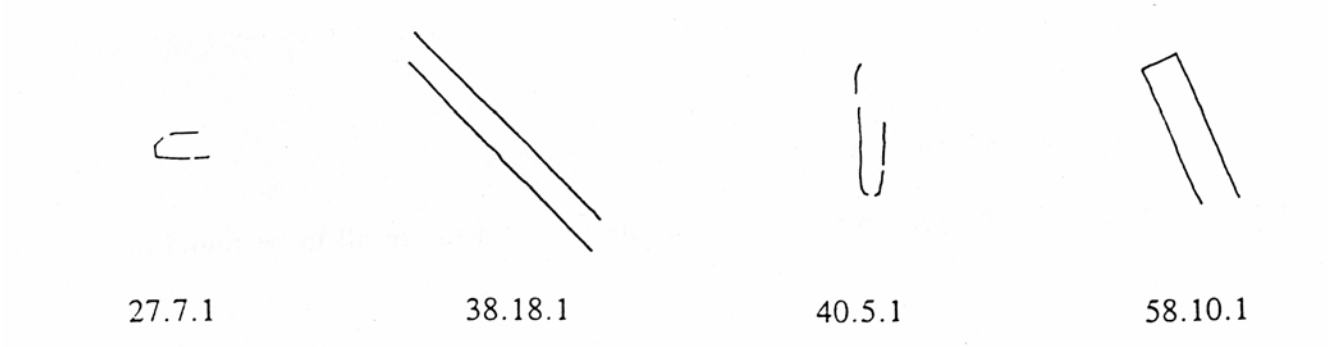
Provisional total: 5 sites. (Neolithic -2 sites, Unknown Prehistoric -3 sites.) 2 new sites, 1 site with NAR number only, 2 sites with SMR number only.

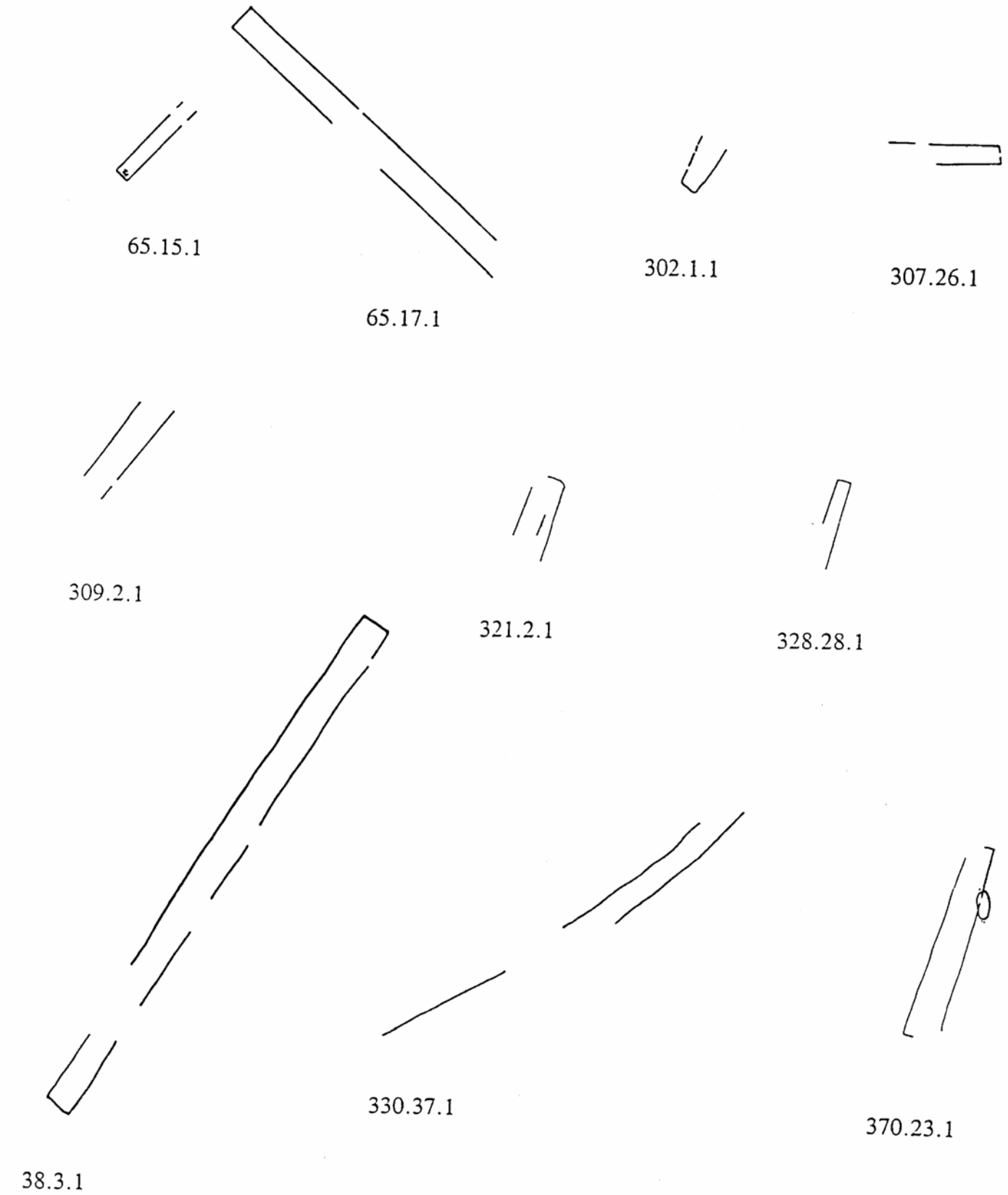
4.1.8.6 Cursus monuments

There is a total of sixteen cursus monuments; twelve have been recorded as enclosures and four as linear features. All are crop marks and twelve are still in existence. There have been a number of definitions of cursus monuments. For example, Case has defined them as "more or less parallel linear ditches sometimes with terminals forming complete enclosures" (1986, 26). Wilson (1982) suggested that the ditches of cursus monuments are between 30 m and 120 m apart whilst Topping (1982) has suggested widths between 10.9 m and 128 m.

None of the sites recorded as enclosures have been subject to large-scale excavation but four have been investigated by small-scale excavations. The widths between the two side ditches of each site ranges from 25 m to 78 m, fitting well within the range suggested by Topping (1982). The lengths of the monuments as plotted range between 70 m and 1,665 m but there is firm evidence for both terminals at only three sites: Benson, 38.3.1, Drayton, 328.1.1 and Stadhampton, 370.23.1. The remaining enclosures have evidence to date for only one terminal. It is therefore unlikely that the range of lengths is representative of the full range. Six of the cursus monuments have interruptions in their side ditches which have been interpreted as entrances. The ditches at the remaining sites are either continuous, or it is impossible to tell whether the interruptions present are original or not.

Morphologically most of the monuments are very similar in overall appearance. With two exceptions they are all rectilinear with straight ditches and square terminals (where present). The exceptions suggest that both sites may possibly be best considered for inclusion in a different monument class. 27.7.1 (Buckland) is unusual in that one of the side ditches appears to deviate at an angle just before the return of the terminal. It is however rectilinear in its overall plan. In contrast 40.5.1 (Moulsford) is curvilinear in overall appearance, with straight side ditches but curving terminals. Neither Moulsford nor Buckland have been subject to ground investigation. (It should be noted that the 'cursus' at Warborough, mentioned by Case (1986, 26) was not interpreted as such owing to its great difference morphologically to other cursus monuments; it has been excluded from these discussions.)





Four sites interpreted as cursus monuments have been recorded as linear features because they do not have terminals. Included in this group is the cursus at Dorchester but it has been suggested that the separate and earlier elongated

enclosure, 374.6.1, "came to serve as the south-east terminal of the cursus" (Whittle et al 1992, 153). Of the linear features only the cursus at Dorchester has been excavated. Each monument is defined by a pair of long linear ditches running in parallel, the width between them ranging from 40 m to 70 m. Their lengths (representing only the minimum possible length) are in the range 205 m to 1,520 m. None of the ditches have interruptions which have been interpreted as entrances.

When the distribution of all sixteen sites is examined it is far from an even one (see Fig. 28). There are no cursus monuments in Blocks 1, 3 or 6. There is a small cluster of three monuments in the vicinity of the junction of the Rivers Thames, Cole and Leach at Lechlade, two further sites near Goring and another three near Reading. The remaining eight sites are all in the Abingdon -Drayton -Dorchester area. At both Drayton and Buscot two cursus monuments, one smaller than the other, are very close to each other. In the blocks where none have been recorded to date there are areas where the floodplain is wide, there is relatively little urban development and there are gravel terraces which have been subject to aerial reconnaissance over a number of years. New sites may in due course be discovered, in Blocks 1 and 3 in particular, but until then the concentration of cursus monuments in Block 4 has been interpreted as being of archaeological significance.

Provisional total: 16 sites. (Neolithic -16 sites). 6 new sites, 6 sites with both NAR and SMR numbers, 1 site with NAR number only and 3 sites with SMR number only.

4.1.8.7 Henges and hengiform monuments

The four henges and five hengiform monuments in the project area are all to be found in Blocks 2, 3 and 4, from south of Lechlade to Dorchester. All nine are curvilinear enclosures.

Henges

Of the four henges recorded, two are circular in shape and two sub-circular. The diameters (measured from the inner edge of the innermost enclosing ditch circuit) range from 40 m to 115 m. Each henge has two opposing entrances. Those of the two smaller sites, 65.14.1 (to the south of Lechlade) and 352.6.1 (to the north-east of Abingdon) face north-east and southwest. Both 65.14.1 and 352.6.1 are defined by a single narrow ditch, and there is no evidence from aerial photography to suggest the presence (or survival) of an external bank at either. In contrast the two largest henges, Devil's Quoits at Stanton Harcourt (129.46.1) and The Big Rings (Site XIII at Dorchester -371.7.1) have entrances aligned roughly east west and north-north-west -south-south-east respectively. Crop marks of the Big Rings clearly show two broad enclosing ditch circuits, whilst at the Devil's Quoits a single broad enclosing ditch circuit is clearly visible, in addition to possible faint traces of the encircling bank. At the northern end of the site an indistinct short section of narrow ditch mayor may not represent a second enclosing circuit.

At both the Devil's Quoits and The Big Rings there has been extensive excavation whilst 65.14.1 and 352.6.1 are known only from aerial photographic sources. All sites have been interpreted as being Neolithic, but for the Big Rings henge this date is based upon the suggestion that the Beaker pottery found in primary positions in the inner ditch represents both Middle and Late styles, and the fact that the barbed and tanged points come from the upper part of the inner ditch (Whittle et al 1992, 190). At Devil's Quoits there is evidence from excavation to suggest that the stone circle inside the henge (site no. 129.47.1) may have been erected after the main

monument had been in use for some time, in the Early Bronze Age (see section 4.1.8.11 below).

One henge (352.6.1) lies 300 m south of a possible causewayed enclosure (353.8.1) but otherwise is relatively isolated from other Neolithic monuments. Contrastingly each of the other sites are part of crop-mark "ritual" landscapes, containing a variety of elements. Both 371.7.1 (The Big Rings) and 65.14.1 are near cursus monuments, the latter lying close to the south-west terminal of the smaller of the Buscot cursus monuments (65.15.1). The Big Rings has been totally destroyed, and Devil's Quoits has been partially destroyed as a result of gravel extraction. Both other henges are still in existence according to the most recent aerial photography.

Some henges mentioned by others have been excluded. Both Case (1986) and Holgate (1988) list sites at Eynsham and Clanfield respectively. Benson and Miles (1974, 44) and Harding and Lee (1987, 238-239) suggest the former is a natural feature; this survey of the aerial photographic evidence concurs with this view. The site at Clanfield is also thought to be natural in origin.

Hengiform monuments

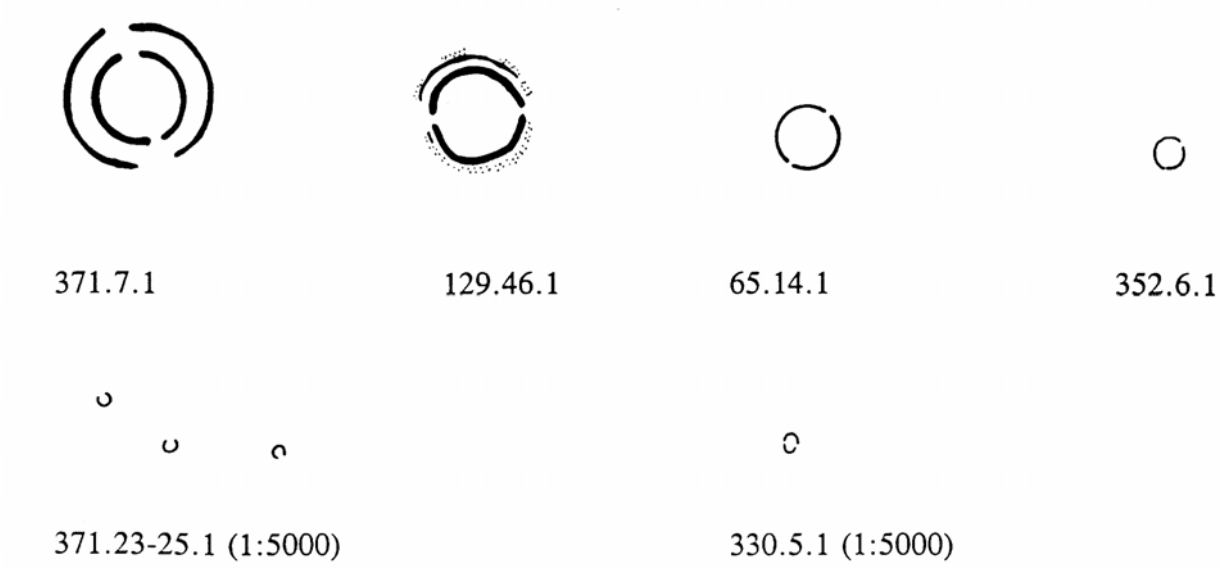
A number of other enclosures were initially interpreted as henges, including 330.5.1, the site at Corporation Farm, Oxfordshire. Some of the same sites are also listed as 'mini-henges' by Harding and Lee (1987), whilst Whittle et al (1992, 198) noted "sites IV, V and VI (at Dorchester) have to be linked in some way to the diversity of enclosure forms that fit inadequately under the umbrella term of henge". Morphologically this diversity was immediately apparent, there being a clear sub-set within the main group of enclosures interpreted as henges. From an aerial photographic point of view the principal distinction was the size of the enclosures, with a natural break occurring between those sites 12 m in diameter and those 40 m in diameter. This difference, in conjunction with excavation evidence, led to re-interpretation of all five smaller enclosures as hengiform monuments. Four are part of the Dorchester complex, one conforming to Type A and three to Type B as suggested in English Heritage's Single Monument Class Description (English Heritage 1989a). The fifth hengiform monument is that mentioned above, 330.5.1, the excavated and now-destroyed enclosure at Corporation Farm, Oxfordshire. Its plan suggests that it conforms to Type C hengiform monuments (English Heritage 1989a). The diameters of the five sites recorded range from 8 to 12 m, and all but the largest are sub-circular in shape. None are still in existence.

In all cases excavation has provided the confirming evidence for the interpretation of hengiform monument; morphologically the similarity to other site types, especially causewayed ring ditches, is striking. In this light it is impossible to confidently interpret any sites as hengiform monuments in the absence of supporting evidence from excavation. Some of the causewayed ring ditches recorded (see section 4.1.8.5 above) could therefore also prove to be hengiform monuments on excavation, especially given their common coincidence with other ceremonial or ritual sites of Neolithic and Bronze Age date.

Some sites previously interpreted by others as hengiform monuments do not fulfil all the criteria for the site type; they have been excluded from these discussions and given other interpretations.

See Fig. 29 -the distribution of henges and hengiform monuments

Provisional total: 9 sites. (Neolithic -9 sites.) 1 new site, 3 sites with both NAR and SMR numbers, 4 sites with NAR number only, 1 site with SMR number only.



4.1.8.8 Inhumations and inhumation cemeteries

Three inhumation cemeteries have been recorded from aerial photographs in the Thames Valley.

1. Priest's Moor. Priest's Moor was excavated by Oxford Archaeological Unit in 1975. The enclosed cemetery is associated with the Roman small town of Dorchester. Its full extent can be seen from crop marks, which suggest that the cemetery was extended to the south; some burials spill over what appears to be the main enclosure ditch, and are enclosed by another, narrower, ditch. All the inhumations visible as crop marks appear to be aligned east-southeast -west-north-west, and are laid out in an orderly manner. All have been recorded as maculae. The group interpretation is inhumation cemetery, the individual maculae having been recorded as inhumations.

2. Radley. The small cemetery at Radley (351.22.1) was excavated in the early 1980s by Reading University Department of Archaeology (Chambers 1984; Chambers and Halpin 1985, 1986). The excavation results suggested a small discrete cemetery, consisting of both inhumations and cremations; burial may have begun as early as the 1st century AD and continued to the 4th or early 5th centuries. Many of the forty-seven inhumations show clearly as crop marks.

3. Latton. This possible inhumation cemetery (76.12.1) lies to the west of Latton, Wiltshire and consists of a small number of negative rectangular maculae, scattered randomly in close proximity to other crop marks of Iron Age and prehistoric settlement features. None of the inhumations have been excavated.

No attempt is made here to discuss the distributions of inhumations and inhumation -cemeteries. In the cases of both Priest's Moor and Radley, it was the large number and orderly layout of the graves that aided recognition from aerial photographs; it is possible that some of the numerous randomly scattered pits recorded may, on excavation, prove also to be inhumations. Any discussions about density and distributions of inhumation cemeteries in the Thames Valley would need to take into consideration the information from other sources. For example excavations by

Atkinson in 1945 c. 200 m to the north of the cemetery at Radley revealed a second small Roman inhumation cemetery, displaying similar qualities (Atkinson 1952-53).

Provisional total: 3 sites. (Roman -2 sites, Unknown Prehistoric -1 site). 1 site with both NAR and SMR numbers, 2 sites with NAR number only.

4.1.8.9 Long barrows

There are a total of fifteen long barrows in the project area; all have been recorded from aerial photographs as crop marks. Only one of the fifteen sites, 351.23.1, has been excavated; it lies between the western end of the Barrow Hills Bronze Age linear barrow cemetery and the site of the causewayed enclosure at Abingdon. Excavation has revealed r several phases of activity at 351.23.1; the ditch deposits of one phase match those of the inner ditch of the causewayed enclosure suggesting contemporaneity. It was fully investigated in 1983-84 in advance of destruction by a housing development (Bradley 1992). Although published as 'an oval barrow', the site 351.23.1 has simultaneously been described as a long barrow elsewhere (Whittle 1992).

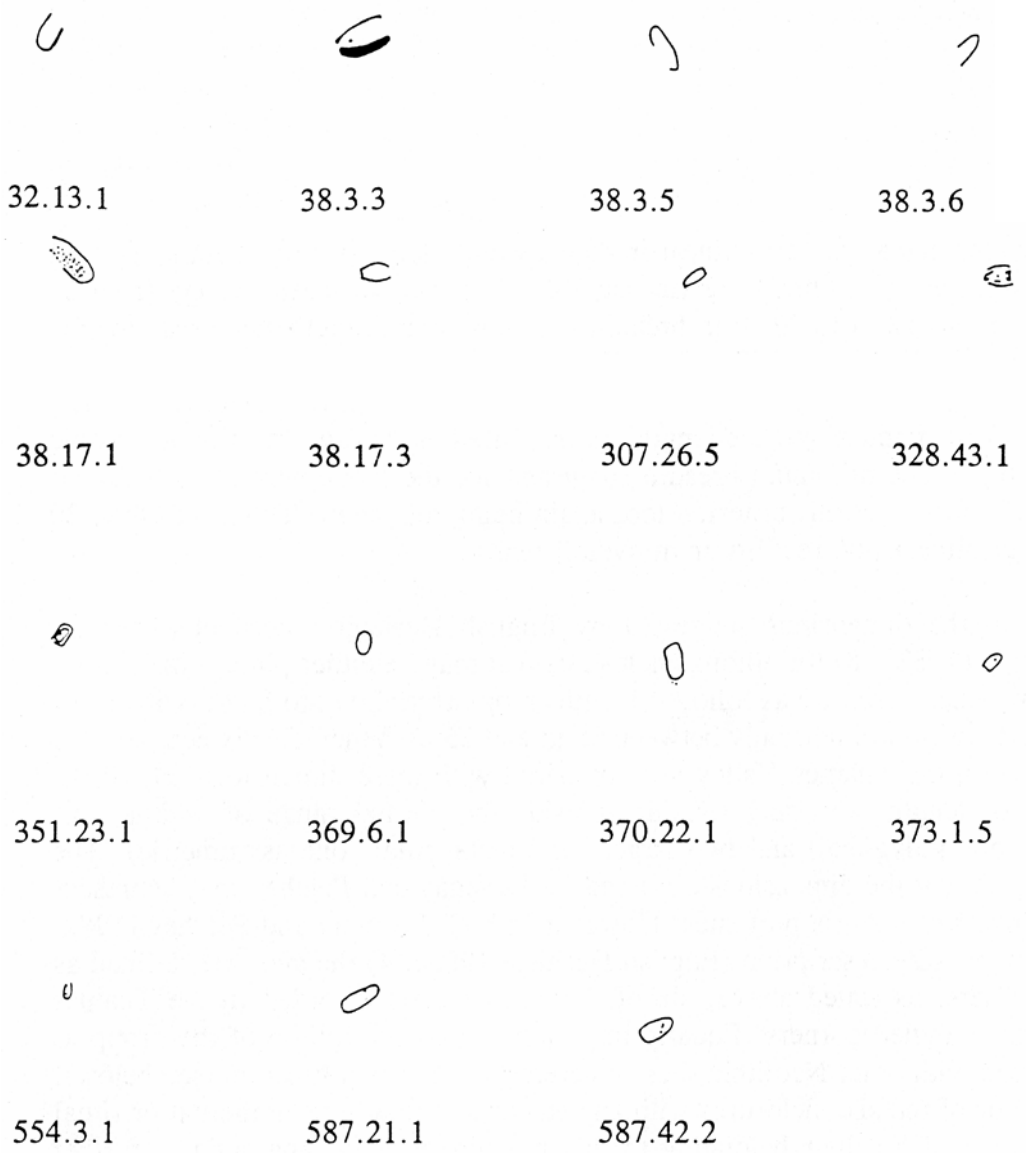
One other long barrow has been destroyed, 554.3.1, at Dorney Reach; the remainder are still in existence. Thirteen of the fifteen sites have been recorded as enclosures, eleven of which are curvilinear enclosures of oval shape. Only two of the long barrows recorded as enclosures, one at Sonning (307.26.5) and the site excavated at Radley (351.23.1) are rectangular in shape; both have curved rather than angled corners. The lengths of the enclosures (where they could be detennined) range from 18 rn to 75 rn, with corresponding breadths ranging from 8 rn to 25 rn. The long barrow with the largest dimension for both length and breadth (38.17.1 -75 m x 25 m) lies to the south of Warborough and to the northwest of the village of Benson.

In addition to the thirteen enclosures there are two long barrows that can morphologically be described as linear features. Both are close to cursus monuments, and crop marks reveal large curving ditches which presumably once flanked an original mound at each monument. The site at Drayton (328.43.1) lies 750 m west of the north end of the Drayton cursus, and has internal features in the form of narrow ditches. These may possibly represent the remains of an enclosure within the area between the quarry ditches. The second site (38.3.3) is 110 m to the north-west of the Benson cursus; its south-eastern quarry ditch is particularly massive.

When all the long barrows are considered as a group, there is no overwhelmingly predominant alignment but it is noticeable that eight of the fifteen sites (53.3 %) are aligned north-east -south-west. Their distribution within the project area also appears to show a degree of patterning, with a concentration of sites in the Abingdon-Dorchester-Wallingford area. There are surprisingly few long barrows further west, where there are extensive gravel terraces on which crop marks have been recorded on numerous occasions. Only four of the long barrows are not in close proximity to monuments of other classes proven or assumed to be Neolithic and/or Bronze Age in date; these four include the largest enclosure mentioned above (38.17.1), which is itself less than 200 m from a second possible long barrow (38.17.3). All the others are within or close to complexes of Neolithic or Bronze Age date. The juxtapositioning of elements within some of these complexes is intriguing, for example the relationship between the long barrow 370.22.1 and the Stadhampton cursus, 370.23.1, is reminiscent of Site VIII at Dorchester (see the illustration of both sites on page 72).

See Fig. 24 -the distribution of bank barrows, long barrows and mortuary enclosures.

Provisional total: 15 sites. (Neolithic -15 sites.) 7 new sites, 5 sites with both NAR and SMR numbers, 1 site with NAR number only, 2 sites with SMR number only.



4.1.8.10 Mortuary enclosures

All of the sixteen mortuary enclosures recorded are crop marks and all but three are still in existence. Two of those destroyed have been excavated: 107.9.1 at the southern end of the North Stoke bank barrow (see section 4.1.8.2 above and Case 1982); and 371.17.1, Dorchester VIII. It was the excavation of Dorchester VIII in 1948 which first led to the definition of mortuary enclosures as a class of monument (see Atkinson 1951, 58; Atkinson, Piggott and Sandars 1951, 60; Whittle et at 1992). The third site destroyed, 538.1.1, lies to the north of Dorney Reach and was not subject to ground investigation prior to destruction. It should be noted that Holgate (1988, 359) lists a second mortuary enclosure near Dorney Reach, taken from Carstairs (1986, 165). This site has been recorded (554.3.1), but as a long barrow. As Carstairs' original interpretation was based on aerial photographic evidence alone, and not supplemented by ground investigation, the interpretation of long barrow is valid although the degree of overlap between long barrows and mortuary enclosures on morphological grounds is acknowledged (see below, this section and 4.2.1).

At only one site (316.11.1) is an entrance in the perimeter ditch visible, whilst eight of the sixteen enclosures have internal features that mayor may not be contemporary. Banks, either .. internal or external, are not visible at any of the recorded sites. Nine of the mortuary enclosures are rectilinear, five being rectangular and four polygonal; only one of the rectangular enclosures has curved corners, those of the other four being angled. In contrast two of the polygonal enclosures have curved corners and two have angled corners. The remaining seven enclosures are all curvilinear in their overall plan, six being symmetric and oval, the seventh asymmetric. Dimensions (measurable in all but two cases) range from 25 m to 70 m in length and 12 m to 32 m in breadth. The minimum length suggested for the monument class (English Heritage 1988c, 5) is 50 m; all but one site (368.7.1) recorded in the Thames Valley is less than 50 m long (it should be noted that 371.17.1, Dorchester VIII, has been recorded as incomplete and the length not measured as its full extent is not visible on aerial photographs). The minimum breadth suggested for the monument class is 20 m; nine of the sixteen fail to meet this criterion too, again being too small. Those less than 20 m wide are both curvilinear and rectilinear in overall plan.

As an alternative to the dimensions suggested by English Heritage, those observed by Loveday and Petchey (1982, 18) for oblong enclosures that may be either plough-razed long barrows or mortuary enclosures are as follows: lengths range from 20 m to 80 m (with a few up to 140 m), whilst widths are normally between 15 m and 25 m. When the sixteen possible mortuary enclosures in the Thames Valley are compared with these dimensions, all fit the criterion in terms of length, and only four are outside the normal range of widths, two smaller (one oval, one polygonal) and two larger (one rectangular, one asymmetric). The data therefore suggest that the dimensions observed by Loveday and Petchey may represent a more realistic range for this group of sites. However in both Loveday and Petchey (1982, 23) and the monument class description (English Heritage 1988c, 4) the sites are defined as having rounded corners; as stated above, six of the sixteen sites recorded in the Thames Valley appear to have angled corners. Equally important for the definition of the group as a whole is association with other Neolithic sites of ceremonial or ritual function (see below). The proximity of four of the six enclosures with angled corners to other ceremonial or ritual sites would seem to confirm their belonging to this monument class, and suggest further revision of some of the criteria may be needed.
The orientation of the long axes of seven of th~ mortuary enclosures (43.8%) is approximately north-east -south-west, whilst eight others are oriented roughly north-west south- east (50%). Only one of the enclosures lies in an east -west direction. This accords well with observations by others: "the orientation of long mortuary enclosures is variable although most have their long axes aligned within 45 degrees of an east -west alignment" (English Heritage 1988c, 5). There are also interesting parallels with those sites described as long barrows, 53 % of which are also aligned approximately north-east -south-west (see section 4.1. 8. 9 above).

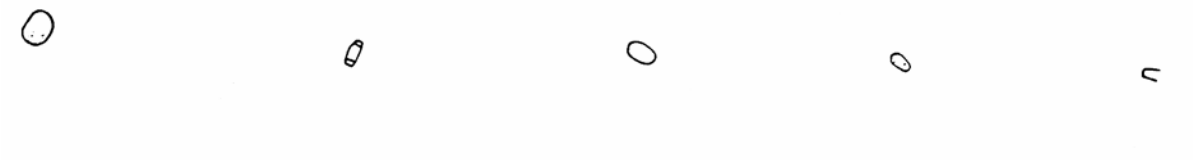
The distribution of mortuary enclosures is biased towards the eastern end of the project area, with no recorded sites in Blocks 1, 2 or 3. Clustering is noticeable particularly in the section of the valley running from Dorchester to Benson and North Stoke. There are three possible mortuary enclosures at the latter site (107.8.1, 107.9.1 and 107.11.1) and two in fairly close proximity to the east of Pangbourne (316.11.1, 316.12.1). Only five of the sites are relatively isolated; the remainder are all spatially associated with varying numbers of assumed contemporary and later monuments, including cursus monuments, long, bank and round barrows, and in the case of Dorchester VIII, a henge monument. However, even two of the five more isolated sites are less than 40 m from at least one round barrow. In addition to such well-known Neolithic/Bronze Age complexes as Dorchester, Benson and North Stoke, at Sonning in Berkshire a possible mortuary enclosure lies to the east of the

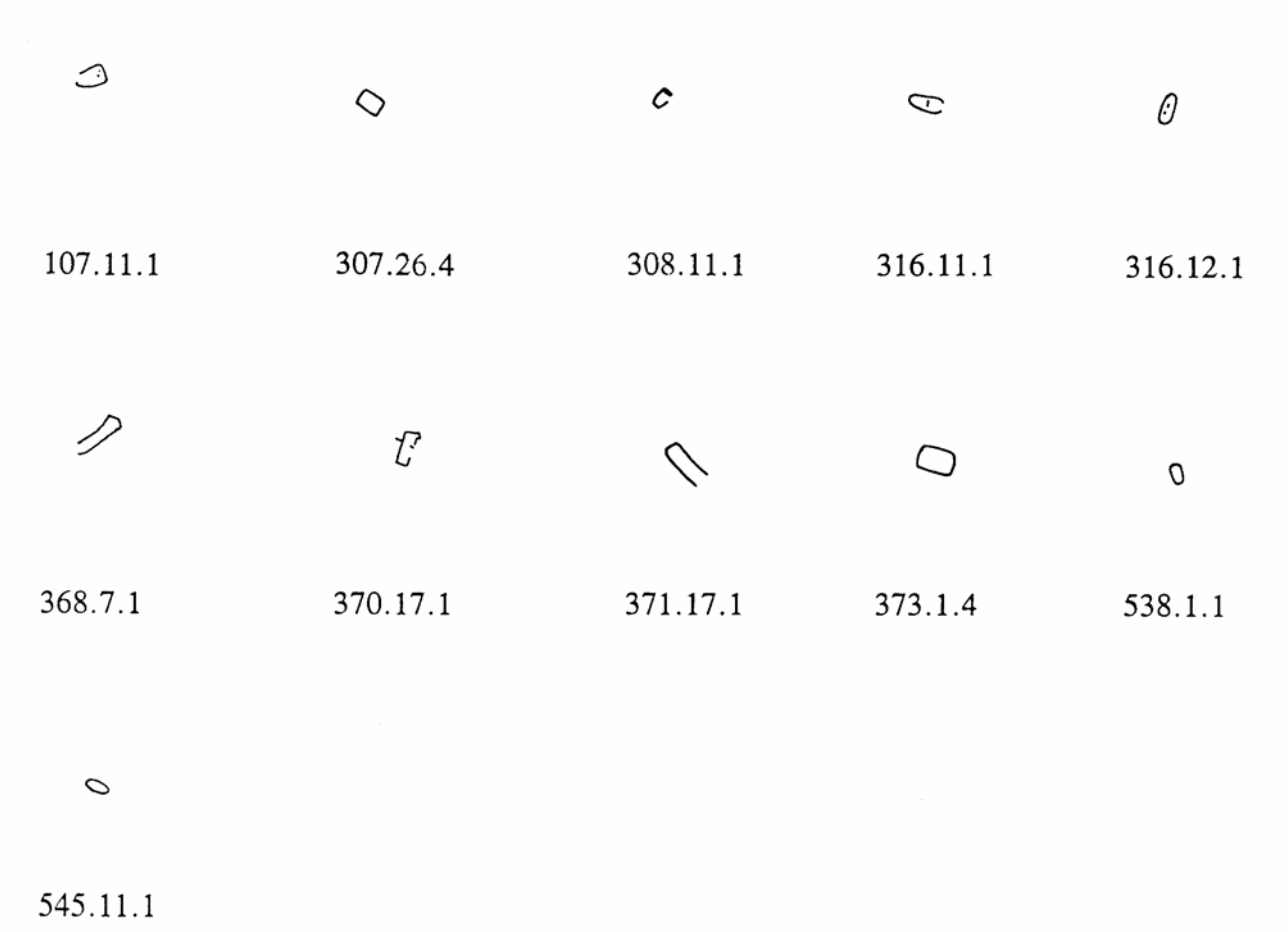
cursus, close to an assumed Neolithic round barrow (307.26.3), and to the excavated rectilinear enclosure (307.26.2) that may have close parallels to Dorchester I (Slade 1964).

There is a high degree of overlap between sites recorded as long barrows and mortuary enclosures. Both types of site share some common alignments, and are more often than not within complexes containing other types of Neolithic and/or Bronze Age monuments. The distributions of the two monument classes are also very similar, with the greatest numbers of sites in the Dorchester-Wallipgford-Bensol1 area. The distribution of long barrows however continues further westwards than that of mortuary enclosures, with a few sites in Block 3, and on the eastern edge of Block 2, in the Standlake-Eynsham area. Similarly there is considerable overlap in the size ranges of both types of monuments, although both the narrowest enclosure and the largest enclosure are long barrows (the latter is 75 m by 25 m as opposed to the 70 m by 17 m of the largest mortuary enclosure). In terms of shape, too, there are common forms. Eleven of the long barrows are oval in plan, in common with six of the mortuary enclosures. There is however a smooth gradation between rectilinear sites with parallel sides and rounded corners, and curvilinear enclosures that are oval or elliptical in plan with straight sides, which can perhaps be regarded as part of the same continuum. Loveday and Petchey (1982, 17-18) recognised the overlap between 'ovate', 'trapeziform' and 'oblong' enclosures, "basic forms vary(ing) from oval to rectangular". They suggested that "fuller analysis in particular of 'terminal' forms, may establish the extent of common ground between them". The Thames Valley data confirms the need for further work in this area. In addition to overlap between mortuary enclosures and long barrows, other sites with which there is overlap from a morphological point of view include oval barrows and Celtic - sanctuary enclosures of oblong plan, c.f Caldecotte in Buckinghamshire (Loveday and Petchey 1982, 22). It is the former in particular that can be confusing from an aerial photographic point of view, if no distinguishing mound has been recorded; this degree of -confusion has been stressed elsewhere (English Heritage 1988c). Oval barrows tend to be up to 45 m in length, and at their broadest point, half as wide as their width; "the more ellipsoid plan and smaller size of oval barrows provide the main means of differentiation (from long barrows and mortuary enclosures)" (English Heritage 1988e, 4). It is therefore possible that - some of the smaller, broader sites listed as either mortuary enclosures or long barrows may, on further investigation prove to be oval barrows, a type site not recognised at the initial interpretation stage of the project. However, from the point of view of studies based almost - entirely on aerial photographic evidence, the distinction between oval and long barrows, and mortuary enclosures, is by no means clear.

See Fig. 24 -the distribution of bank barrows, long barrows and mortuary enclosures.

Provisional total: 16 sites. (Neolithic -16 sites.) 6 new sites, 7 sites with both NAR and SMR numbers, 1 site with NAR number only, 2 sites with SMR number only.





4.1.8.11 Pit circles, timber circles and stone circles

There are a total of five pit circles in the project area; all are crop marks and all are known from good quality aerial photographs. The single timber circle recorded (371.21.1) is the excavated and now-destroyed site 3 at Dorchester. With one exception each of the pits of site 3 had post pipes in section and there was evidence that "several and perhaps all of its timber uprights had been burnt in situ" (Whittle et al 1992, 169). It is probable that all five pit circles also represent the sites of timber circles, but this needs to be confirmed by excavation.

All six sites are circular or sub-circular enclosures defined by a single circuit of pits, with diameters ranging from 10 m to 28 m. These diameters fall well within the range of the timber circles of Great Britain and Ireland listed by Gibson (forthcoming); the range extends from 2.25 m (Circle D, Phase 1, Durrington Walls) to 71.4 m (Ring F, Balfarg, Fife).

All five pit circles and the timber circle lie within complexes of prehistoric ceremonial monuments: 107.16.1-16.2 are within the North Stoke complex, 351.25.1-25.2 are immediately to the south of the Bronze Age linear barrow cemetery at Radley, 371.21.1 (Dorchester 3) lies within the cursus and 587.41.1 is part of the Foxley Farm complex at Eynsham.

Four other curvilinear enclosures on the MORPH2 database are defined by circuits of pits:

two are hut circles, one is the tree enclosure ring discussed above (see section 4.1.4.2), and the fourth is an odd incomplete semi-circular enclosure to the west of Clanfield. The latter has an associated section of pit alignment but the relationship between the two is not such that it suggests a pit circle with an avenue; it has therefore been recorded simply as an enclosure. However, it is less than 400 m from the bank barrow at Clanfield so further reconnaissance or investigation may yield more information to suggest a relationship between the two.

Only one stone circle has been recorded, that inside the Devil's Quoits henge at Stanton Harcourt. Six of the many pits inside the henge which can be seen from aerial photographs appear to correspond with the positions of the stone settings found during excavation; morphologically they have been recorded as maculae. It has been suggested by Oxford Archaeological Unit that the stones may have been erected after the main monument had been in use for some time, in the Early Bronze Age (Oxford Archaeological Unit 1993). The nearest comparable stone circle is the Rollright Stones, also in Oxfordshire but outside the Thames Valley project area.

See Fig. 30 -the distribution of Pit and Timber Circles

Provisional total: 7 sites. (Neolithic -1 site, Bronze Age -1 site, Unknown Prehistoric - 5 sites). 5 new sites, 2 sites with both NAR and SMR numbers.

4.1.8.12 Square barrows

Two sites, 329.14.1 and 329.26.1, have been interpreted as possible Iron Age square barrows; both are crop marks, are still in existence, and neither has been excavated. 329.26.1 appears to have a central pit, but it should be noted that the crop mark is showing in a playing field, and is not very clear (see NMR aerial photograph SU4992/24, taken 3rd July 1990). It is also less than 100 m to the north of the currently-known outer limit of an area of prehistoric settlement. The enclosure, 329.14.1 is 12 m by 12 m whilst 329.26.1 10 m by 10 m; as such they are outside the size range for the site type proposed by Whimster (up to 21 m2, 1981, 339-344) but at the top end of the range suggested in the MPP Monument Class Description (English Heritage, 1989b, 5).

Although the major concentration of monuments of this class lies in North Yorkshire and Humberside, increasing numbers of examples are being located by means of aerial photography elsewhere in Britain, particularly in the major river valleys of the Midlands (English Heritage 1989b). It may be that the two suggested here are indeed isolated square barrows; alternatively they could on further investigation prove to be related to prehistoric settlement. There are forty-eight other square enclosures with dimensions of less than 15 m., all of which can be grouped together morphologically; most are within areas of prehistoric or Roman settlement characterised by small enclosures.

Provisional total: 2 sites. (Iron Age -2 sites). 1 new site, 1 site with SMR number only.

4.1.8.13 Temples

One site (363.12.17) has been identified as a possible Roman temple. It lies in the midst of the settlement at Hambleden in Buckinghamshire, part of which was excavated between 1912 and 1914. The temple itself has not been excavated but the interpretation has been made on the basis of its morphological characteristics: it is a symmetric polygonal enclosure with angled corners, 12 m in diameter and defmed by a single ditch. This interpretation is reinforced by its location. The excavations by A.H. Cocks located a complex of Roman buildings, associated with a number of

other features including furnaces and an unusually high proportion of infant burials within a small area (ninety-seven in all). One of the rectangular buildings close to the main house was interpreted by the excavators as being a small shrine (Cocks 1920, 143), but this would not preclude the existence nearby of a larger I temple to serve the wider community. Recent aerial reconnaissance has since extended the overall limits of the site and suggests a complex and extensive settlement, in the midst of which it would not be unexpected to fmd a temple. There has been no evidence to date for an associated temenos.

One further site, 381.17.3, may also be a temple. It is a polygonal enclosure with angled corners, slightly larger than the enclosure at Hambleden with a diameter of 20 m. It is currently described in the database as an Unknown Prehistoric (Roman or earlier) enclosure, close to the large villa complex to the south-east of Appleford and a number of other circular enclosures, interpreted as the remains of Bronze Age or Unknown Prehistoric round barrows.

Provisional total: 1 site. (Roman -1 site). 1 new site.

4.1.9 Transport

Code	Interpretation	No. of records
DRRD	Drove road	11
HOLO	Hollow way	18
ROAD	Road	31
TRCK	Trackway	803
TOTAL		**863**

4.1.9.1 Drove Roads

Only eleven drove roads have been identified and recorded. Their dates range from Iron Age to Medieval, but just over half of the sites (six) are Roman or earlier (including Unknown Prehistoric). All eleven sites are linear features, and the distinguishing criterion is that they are each very wide. In those cases where there has been no excavation this appears to be the factor that has led to the interpretation drove road. For example the width between the ditches of 121.9.1, part of the Claydon Pike complex, is nearly 30 m. However, given that the dividing line between narrow and wide linear features is only 2 m on the database, it is probable that drove roads have not been consistently recorded. There is no way of using the computer to group linear features on the basis of the widths between elements, and within the timescale of the project it was not practical to visually scan all the trackways recorded. In order to overcome the problem in future projects it is recommended that the width criterion of the linear features database is altered to a series of ranges.

Four drove roads have been subject to small-scale excavation, including 583.4.1, part of the Roman settlement at Farmoor excavated between 1974 and 1976 by Oxford Archaeological Unit and Oxford University Archaeological Society (Lambrick and Robinson 1979). The remainder have been recorded from good or poor quality aerial photography only. They are noticeably concentrated at the western end of the project area, particularly north of the River Thames in the vicinity of Lechlade. None have been identified to date downstream from Oxford.

Provisional total: 11 sites. (Iron Age -1 site, Roman -2 sites, Unknown Prehistoric -3 sites, Medieval -2 sites, Unknown -3 sites). 4 new sites, 3 sites with both NAR and SMR numbers, 4 sites with SMR number only.

4.1.9.2 Hollow ways

A total of eighteen sites have been recorded as hollow ways; six are crop marks and the remaining twelve are earthworks. As would be expected, most (fifteen) are Medieval or later in date, the only prehistoric site recorded (40.14.2) being part of the Streatley Warren field system (see section 4.1.1.3 above). Some of the sites are integral parts of deserted Medieval villages, settlements or field systems and at eight of the eighteen sites excavation or non-destructive fieldwork (including documentary research) has taken place. For example, 571.9.2 is part of the deserted Medieval village of Seacourt, excavated in 1937-9 (Bruce Mitford 1940). Morphologically, all are linear features, some defined by the central hollow, others by two banks or two ditches on either side, and some by combinations of these (see section 4.2.3 below). The distribution of the sites throughout the project area reveals that although hollow ways are present in all but Block 6 at the easternmost end of the study area, they are commonest in Blocks 1 and 2, south of the River Thames. To a large extent this reflects the overall distribution of earthworks which are concentrated either on the Corallian Ridge south of the River or on the higher ground of the Berkshire Downs or the edges of the Chilterns (see section 3.3 above).

Provisional total: 18 sites. (Unknown Prehistoric -1 site, Medieval -8 sites, Unknown Medieval -7 sites, Unknown -2 sites). 6 new sites, 7 sites with both NAR and SMR numbers, 2 sites with NAR number only, 3 sites with SMR number only.

4.1.9.3 Roads

A total of thirty-one roads have been recorded, twenty-seven of which are Roman; one has been recorded as Medieval, one as Unknown Medieval and the remaining two are undated. Fig. 31 shows their distribution throughout the project area. Where sites have been recorded in close proximity, for example to the west of Lechlade near Claydon Pike and Thornhill Farm, they may represent sections of the same road. Four of the Roman roads have been dated by excavation, as has 86.8.1, the road recorded as Unknown Medieval in date. Many of the other sections of Roman road have been dated by association: twenty-six are grouped with other features, twelve of which have group interpretations such as villa and settlement. All roads recorded are wide linear features, and in most cases it is the extreme straightness and precision of their side ditches that has led to the interpretation road rather than trackway. It is, however, inevitable that there will be a degree of overlap between minor and/or unmetalled roads and trackways if all that can be seen are the crop marks of the side ditches. 323.1.1 is a new section of Roman road near Reading seen as extant ditches on vertical photographs taken in 1947; by 1961 it had been destroyed by gravel extraction. It is highly likely that it represents the course of the road linking Calleva with Verulamium; recent fieldwork outside the project area has traced other probable sections of the same road (e.g. at Amner's Farm, SU 682 692).

There are known to be several other major Roman roads traversing the survey area; these include that running through Frilford linking Cunetio and Alchester, plus the major road running from Calleva to Dorchester, then on to AIchester. Akeman Street is outside the project area but the section of Ermin Street linking Wanborough and Corinium passes through the western end, crossing the Thames at Cricklade. However, it is likely that many of the Roman villas, farmsteads and other settlements were linked by means of local trackways rather than major Roman roads. The

problems of dating these trackways have been discussed elsewhere (see section 4.1.9.4 below). An additional factor is the relative importance of water transport. It is not known with certainty how far upstream the Thames was navigable in the Roman period, but is has been suggested that the villas on the valley floor near Lechlade, such as Roughground Farm, may indicate communication and trade in the area via water, rather than by road (AIlen et a11993, 197).

Provisional total: 31 sites. (Roman -27 sites, Medieval -1 site, Unknown Medieval -1 site, Unknown -2 sites). 14 new sites, 10 sites with both NAR and SMR numbers, 1 site with NAR number only, 6 sites with SMR number only.

4.1.9.4 Trackways

A total of 803 sites have been interpreted as trackways. No groups have been given this interpretation but many trackways are within larger groups with interpretations such as settlement, field system, farmstead, villa and deserted village. As would be expected all the trackways are linear features and most (762) are crop marks; only 7 have been recorded as crop marks and earthworks, and 34 as earthworks. There is a wide range in the dates to which different tracks have been assigned, from Iron Age to Modern. Relatively few have been securely dated to specific periods, either directly or by association; many have more general dates such as Unknown Prehistoric or Unknown Medieval, and a high proportion are undated (457, or 56.9%). Given the recurring form of trackways through the ages, there is little in their morphological characteristics to suggest particular dates: the exception to this is those of Roman date, generally characterised by their exceptional straightness. Where this has been observed, however, the tendency has been to interpret the site as a Roman road rather than a trackway. As noted in 4.1.9.1 above, the distinction between trackways and drove roads may also have become blurred. The one factor which limited evidence suggests distinguishes them from each other, width between the side ditches, was not recorded by MORPH2 in a form amenable to analysis (more work is needed anyway, to determine if this is indeed a real difference).

Re-use of trackways over substantial lengths of time has been shown by excavation (for example, at Roughground Farm, Gloucestershire and Farmoor, Oxfordshire) and crop-mark sites frequently reveal evidence of re-cutting and re-definition of the side ditches. For these reasons the settlements along a trackway can only give a terminus ante quem. Only a small number of trackways have been positively dated by excavation, thirty-one in all, with a further eight sites dated by non-destructive investigation. In most cases those sites excavated are associated with settlements, farmsteads or villas. Few have been studied in their own right.

It is likely that many of the elements within the Roman communications network had earlier origins. As Miles has noted "it is likely that the whole landscape was criss-crossed with lanes in the Late Iron Age and even earlier" (Miles 1986a, 43). The distribution of Roman or earlier trackways shows a high frequency of sites in some areas. They are particularly common in the Cricklade -Lechlade, Standlake -Stanton Harcourt and Abingdon Dorchester areas, suggesting close links between settlements in these three localities. In some instances, several sites represent different sections of the same long-distance trackway, or intersecting trackways that form part of the same network. Large sections of west -east trackway running between Appleford and Long Wittenham clearly link with north -south trackways, and were part of a wider network of communications. Trackways have been recorded in all six blocks studied during the project; (see Fig. 32).

The River Thames was and still is an important communications route. The extent to which the Thames was navigable in different periods is not known, but both Cricklade and Lechlade have been suggested in different hypotheses as the furthest points upstream to which water craft could ply their trade in the Roman period (Allen et al 1993, 197). For these reasons it may be that some of the trackways running directly towards the River downstream from Cricklade or Lechlade (for example at Long Wittenham) were not running to crossing points, but to unloading or ferrying points. The absence of corresponding sections of trackway on the opposite bank may further support this hypothesis.

Provisional total: 803 sites. (Iron Age -8 sites, Roman -39 sites, Medieval -9 sites, Post Medieval -4 sites, Modem -1 site, Unknown Prehistoric -256 sites, Unknown Medieval 29 sites, Unknown -457 sites). 368 new sites, 133 sites with both NAR and SMR numbers, 76 sites with NAR number only, 226 sites with SMR number only.

4.1.10 Water and drainage

Code	Interpretation	No, of records
DRAN	Drain	55
DSYS	Drainage system	25
TOTAL		80

Code	Group Interpretation	No. of records
DSYS	Drainage system	2
TOTAL		2

Twenty-five records have been given the interpretation drainage system, and seven sites recorded individually as drains or ditches have been given the group interpretation drainage system. Forty-nine further drains have been recorded. Most are groups in their own right but some are elements within larger groups of sites with interpretations other than drain or drainage system (e.g. settlement).

As would be expected, most of the drains and drainage systems are relatively recent in date (67.5 % are either Medieval, Post Medieval, Modern or Unknown Medieval). Some however are unknown in date, and one drainage system (8.42.2) has been recorded with the date of Unknown Prehistoric. The latter lies to the east of the village of Kelmscott, and was transcribed and recorded from vertical aerial photographs. It is part of a larger crop-mark complex, and has been grouped with other crop marks interpreted as enclosures, hut circles, trackways and ditches, all thought to be Unknown Prehistoric in date. A further group of sites interpreted as a Post Medieval drainage system (73.3.1 -73.3.4), lying in the parish of Down Ampney near Latton in Wiltshire, may also be prove to be earlier in date on further investigation. The group is part of a small complex; all are now crop marks, but vertical photography from the 1970s showed the major elements as earthworks (some are even marked on the OS 1: 10,560 map as drainage). The drainage system was therefore assumed to be Post Medieval in date, but the whole complex has the appearance of a Romano-British settlement site. This may, therefore, be a site where pre-Medieval earthworks were existing until relatively recently.
I
The majority (93.8%) of the drains and drainage systems recorded are linear features, most being single, perpendicular or parallel in pattern. Five sites (6.2%) are linear systems; all are ordered rectilinear systems. See sections 4.2.2 and 4.2.3 below for a fuller discussion of linear features and linear systems.

Fifty (62.5%) of the drains and drainage systems are crop marks, twenty-six (32.5%) are earthworks and four (6.3 %) are both crop marks and earthworks. Most (92.5 %) are still in existence; only six sites are known to have been destroyed. As would be expected in a project based upon a major river valley, drains and drainage systems can be found throughout the project area, most lying close to the present course of the River Thames or one of its tributaries.

Provisional total: 80 sites. (Medieval -4 sites, Post Medieval -11 sites, Modern -1 site, Unknown Prehistoric -1 site, Unknown Medieval -38 sites, Unknown -25 sites). 50 new sites, 7 sites with both NAR and SMR numbers, 5 sites with NAR number only, 18 sites with SMR number only.

4.1.11 Unassigned, Civil, Commemorative and Commercial

Code	Interpretation	No. of records
ANNX	Annex	21
BANK	Bank	48
BDRY	Boundary	9
BLD	Building	71
BYD	Boundary ditch	33
DITC	Ditch	1753
ENC	Enclosure	3318
GEOM	Geological marks	9
NATF	Natural feature	3
PIT	Pit	679
PITA	Pit alignment	32
PITC	Pit cluster	11
PLAT	Platform	2
TOWR	Tower	1
UNKNO	Unknown	10
WAL	Wall	4
WCE	Watercourse	2
WDBY	Woodland boundary	3
TOTAL		**6009**

Code	Group interpretation	No. of records
TOWN	Town*	1
TOTAL		**1**

* The interpretations 'unknown' and 'woodland boundary' are not Thesaurus terms, but for convenience have been included here; town can be found in both this class and under 'Domestic', but for the purposes of this report it is discussed in section 4.1.3.7 above.

Owing to the undiagnostic nature of most of the interpretations within this thematic group, only those types of sites about which there is something meaningful to be said, which is not said elsewhere in the report, are discussed. More information about sites not discussed here can be gained by referring to the morphological report below, or alternatively by reference to the MORPH2 database held by RCHME.

4.1.11.1 Buildings

A total of seventy-one sites have been given the interpretation building; fifty-five of them are in groups with interpretations such as grange, settlement, farmstead, villa, shrunken village or manor. The interpretation 'building' was used when a more

specific interpretation was inappropriate. Thus if a Roman building is known, as a result of excavation, to have been a barn then it would have been recorded as such; if no more diagnostic information was available then the term building would have been used. Most buildings have been recorded as enclosures (sixty-five), but a number are linear features (five) and one is a macula. Sixty eight of the sites are crop marks and three earthworks.

The buildings recorded cover a wide range of dates, from Iron Age to Post Medieval; Roman buildings are commonest, closely followed by those dated to the Early Medieval period. The only Iron Age building recorded is 50.58.2, part of the scheduled settlement between Clanfield and Black Bourton in Oxfordshire. Morphologically it is pit-defined and rectangular, 10 m long by 4 m wide. (It should be noted that 29.16.32 is a second possible Iron Age building, recorded as a pit-defined enclosure. It may represent a 'four post' structure, and is discussed further in section 4.2.1 below.)

Eleven of the buildings have been excavated; they are all Roman with the exception of 6.2.8, one of the buildings of the grange at Wyke (see section 4.1.8.1 above). The Roman villas excavated include Roughground Farm, Barton Court Farm and Hambleden (for references see villas in section 4.1.1.8). There has been non-destructive investigation, mainly in the form of documentary research, at thirteen of the sites.

Morphologically, within the group of buildings recorded as enclosures there are some variations in terms of shape and size. Most of the Roman buildings are rectangular, but seven are square and four polygonal. All of the Early Medieval buildings are rectangular. In terms of size there is a high degree of overlap between the buildings of the two periods, although no Early Medieval buildings are over 270 m2 in internal area, whilst several Roman ones are considerably larger (up to 1034 m2).

Provisional total: 71 sites. (Iron Age -1 site, Roman -38 sites, Early Medieval -13 sites, Medieval -11 sites, Post Medieval -1 site, Unknown Prehistoric -3 sites, Unknown Medieval -2 sites, Unknown -2 sites). 18 new sites, 12 sites with both NAR and SMR numbers, 34 sites with NAR number only, 7 sites with SMR number only.

4.1.11.2 Enclosures

There are a total of 3318 sites with the interpretation enclosure, representing 29.5% of the total database. Morphologically 3104 of them have been recorded as enclosures, 210 as linear features and 4 as maculae. 1765 of the sites are part of larger groups, with a wide range of interpretations; 1711 of the enclosures are within groups with settlement-related interpretations such as farmstead, villa and settlement. This very much reflects the nature of the archaeology in the project area, with few isolated enclosures and extensive settlement evidence for periods from the Iron Age onwards.

The enclosures recorded span a wide range of periods, from the Neolithic to the twentieth century. The number recorded for each period is summarised below. Only 202 (6.1 %) of the enclosures have been excavated, again spanning a wide range of periods and interests (from the Neolithic to the Medieval period, including all periods in between). A further thirty-four enclosures have been investigated by non-destructive means. As would be expected in an area with such a long history of arable land use, most of the sites interpreted as enclosures are crop marks (3133); only 149 are earthworks and 36 a combination of earthworks and crop marks.

The fact that so many sites have been given the interpretation enclosure means that it is not possible to determine their function from aerial photographic sources alone. The only way in which they can then be studied in this context is on the basis of their morphology; 623 of the sites interpreted and recorded as enclosures are curvilinear, and 2481 are rectilinear. It may be possible to use morphological similarity to other sites to suggest possible functions and/or dates for some of the enclosures. Section 4.2.1 below considers all enclosures in this manner.

Provisional total: 3318 sites. (Neolithic -9 sites, Bronze Age -15 sites, Iron Age -184 sites, Roman -164 sites, Early Medieval -4 sites, Medieval -42 sites, Post Medieval -4 sites, Modem -2 sites, Unknown Prehistoric -1634 sites, Unknown Medieval-63 sites, Unknown -1197 sites). 1257 new sites, 761 sites with both NAR and SMR numbers, 502 sites with NAR number only, 798 sites with SMR number only.

4.2 MORPHOLOGICAL REPORT

For the purposes of morphological analysis, each archaeological feature classified as one of four site types: enclosures, linear systems, linear features and maculae. The histogram in Fig. 33 shows the relative numbers of these site types occurring in the Thames Valley database.

4.2.1 Enclosures

Introduction

Enclosures are defined as "single or multiple linear crop or soil marks, earthworks or stoneworks, which clearly define and surround an area, which mayor may not include internal features" (RCHME 1993). This includes buildings where the wall lines are visible. There are 5360 sites described as enclosures in the Thames Valley database.

Morphological analysis

Pattern and shape

SHAPE	No.	%
Circular	802	14.96
N/App	219	4.08 I
Oval	107	2.00
Polygonal	1287	24.01
Rectangular	1101	20.54
Regular	113	2.11
Square	155	2.89
Sub-circular	1486	27.72
Triangular	90	1.68
TOTAL	5360	

The enclosures were divided into the above nine groups based on shape, and the spread of different monument types and periods across these groups studied. For the majority of these groups there was no recognisable patterning of sites, however, the following observations were made.

1. 841 (96.67%) of the 870 enclosures, dated to the Bronze Age are either circular or sub-circular in shape. This constitutes 36.76% of the total 2288 enclosures which are circular and sub-circular in shape and in the main are barrow sites.

2. 170 (48.99%) of the 347 Iron Age enclosures are sub-circular in shape, the majority of which are hut circles. The second most common enclosure shape for the Iron Age period is polygonal, comprising 71 sites, (20.46%), all of which are interpreted as enclosures of indeterminate function.

3. 119 (62.30%) of the 191 Roman enclosures are rectangular or square in shape, i.e. they have four sides and right angled corners.

4. Seventeen of the twenty enclosures dated Early Medieval are rectangular in shape. Of these, thirteen are buildings.

5. Of the seventy-eight Medieval enclosures in the database, thirty-seven (47.44%) are polygonal and thirty-four (43.59%) are rectangular. In total, seventy-two (92.30%) sites are rectilinear.

6. 939 (63.19%) of the 1486 sub-circular enclosures were interpreted as hut circles, the majority of which are dated Unknown Prehistoric.

7. The eighty-two Neolithic sites do not tend towards one specific enclosure shape. There appears to be much more variety than in the other periods; with sixteen (19.51 %) circular enclosures; eighteen (21.95 %) oval enclosures, nineteen (23.17%) rectangular enclosures and fourteen (17.07 %) sub-circular enclosures.

In general however, most prehistoric enclosures are curvilinear whereas most Roman or later enclosures are rectilinear.

Curvilinear enclosures

Oval Enclosures

90 (84.11 %) of the 107 oval enclosures are prehistoric in date. In addition, there is one of Unknown Medieval date and sixteen of Unknown date.

By sorting oval enclosures by area, one can see a clear division between sites of domestic and ritual function. Thirty-six (76.60%) of the forty-seven sites with areas less than 200 nr are hut circles or unassigned enclosures related to settlements or farmsteads. Fifteen (57.69%) of the twenty-six sites larger than 500 m2 however, are barrows, mortuary enclosures or enclosures grouped with other ritual enclosures.

Circular and sub-circular enclosures

There are 2727 enclosures which were described as curvilinear, of which, 2288 (83.90%) are circular or sub-circular in shape. 1983 of the 2288 circular and sub-circular enclosures are hut circles and barrows with 278 enclosures of indeterminate function. The remaining twenty-seven sites include causewayed ring ditches and enclosures; hengiform monuments and henges; pit and timber circles; a tree enclosure ring; a moat; a stock enclosure and an annexe.

These 2288 sites were sorted by diameter and the following observations made.

1. The diameters range from 2 to 170 m.

2. There is a cluster of 729 sites with diameters of 7 to 10 m. Of these, 539 (73.94%) are hut circles, 115 (15.78%) are round barrows and 66 (9.05%) are of indeterminate function.

3. 2124 (92.83 %) of these circular and sub-circular enclosures are 30 m or smaller in diameter and 1842 (80.51 %) are 20 m or smaller. Hut circles account for 1089 (59.12%) of the enclosures with diameters of 20 m or less and barrows for 542 (29.42%).

4. All five hengiform monuments are between 8 and 12 m in diameter.

5. All four henges are between 40 and 115 m in diameter.

6. The five causewayed ring ditches are between 7 and 15 m in diameter.

7. There are six pit and timber circles, five of which are between 16 and 28 m in diameter. The sixth site is 10 m in size.

Hut circles and round barrows.

1983 circular and sub-circular enclosures have interpretations of hut circle, round barrow and bowl barrow. There is a large overlap between these two types of site in terms of diameter sizes; hut circles ranging from 3 to 30 m and barrows from 2 to 52 m. However, as the two histograms show (Fig A and B), the spread of sites across these size ranges varies considerably between hut circles and barrows.

Hut circle diameters cluster mainly between 4 and 15 m, with the highest concentration between 8 and 12 m. Barrow diameters on the other hand, do not cluster around a single size range but show a broader span of diameters, peaking at several different size ranges. The majority of barrows fall between 10 and 32 m, with peaks at 20, 30 and 40 m. These peaks coincide with the stencil sizes used to ink the overlays and there is likely to be a one or two metre error on either side of these given diameters.

In addition to the 1983 circular and sub-circular sites, there were sixty-one hut circles and round and bowl barrows which are asymmetric or regular or oval in shape. In order to study all 2044 sites, area calculations were made and the results compared. As Figs. A and B show, hut circles generally have areas less than 250 m2 and peak very quickly, whereas barrows show much more of a spread of areas, between 100 and 1500 m2 • As has already been mentioned, there are artificial peaks in the recorded diameters, which relate to the stencils sizes used. By showing the information as a cumulative curve, these peaks can be flattened out and any possible minor errors compensated for. The red line in Fig. C, therefore shows barrows to have a much wider spread of sizes than hut circles, with a less extreme peak between 100 and 800 m2

Isolated curvilinear enclosures will always be problematic and cannot be interpreted with confidence from aerial photographic evidence alone. Small circular enclosures which were in close association with other settlement features were often interpreted as hut circles even when their size was within the overlap for barrows.

Fig. A

HUT CIRCLE DIAMETERS

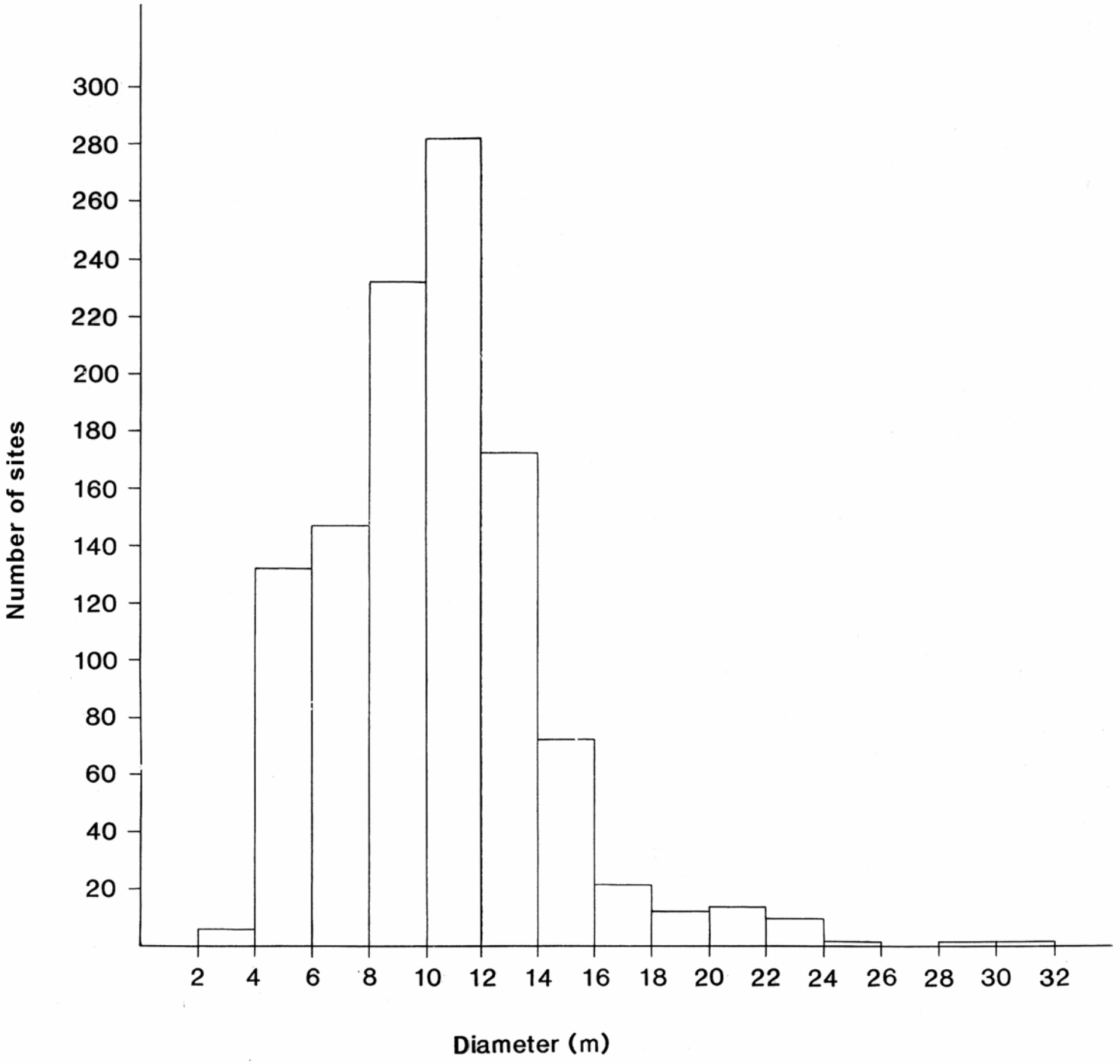
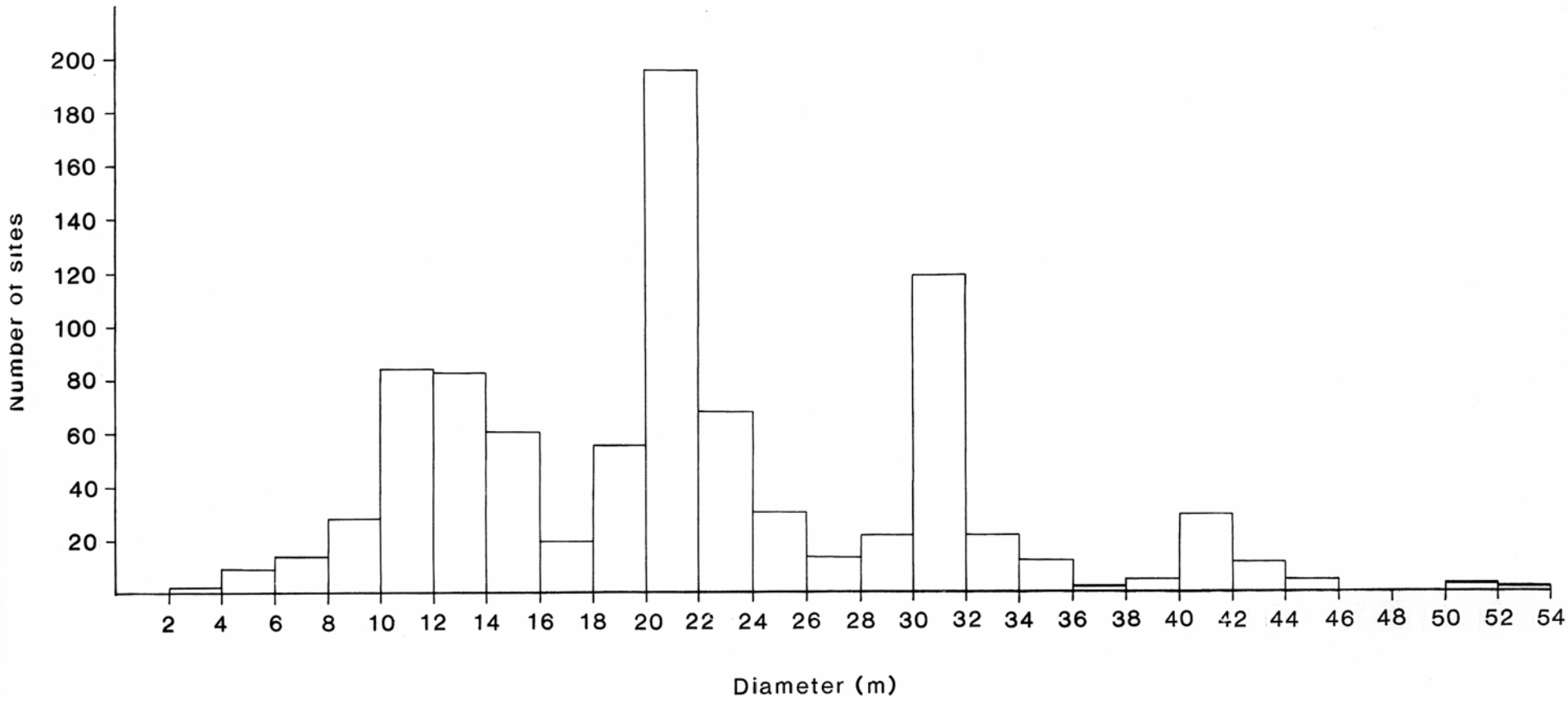
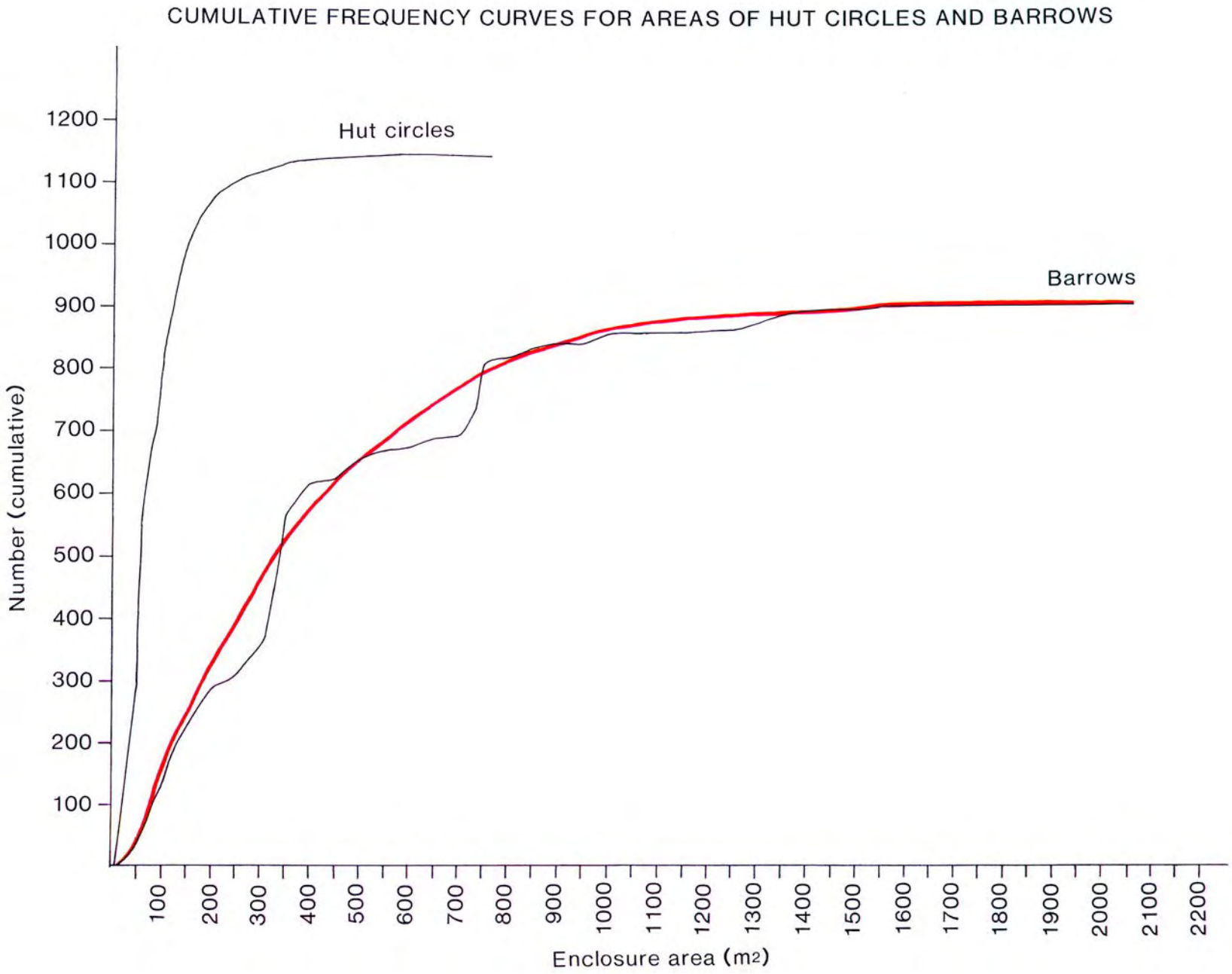


Fig.B

ROUND BARROW DIAMETERS




CUMULATIVE FREQUENCY CURVES FOR AREAS OF HUT CIRCLES AND BARROWS
Hut circles
Barrows
Number (cumulative)
1200
1100
1000
900
800
700
600
500
400
300
200
100
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
Enclosure area (m2)

Highworth circles.

There are forty-one curvilinear enclosures which have become known as Highworth Circles. They were first investigated by Allen and Passmore (1937) but have remained little understood. They are sub-circular enclosures between 40 and 90 m in diameter, usually with a bank and internal ditch and no apparent entrance.

There are two opposing schools of thought concerning their likely date and function. i) Banks with internal ditches are generally associated with prehistoric ceremonial sites such as henge monuments. This has led to the suggestion that the Highworth Circles could also be hengiform enclosures of prehistoric date. ii) Their sheer numbers and general confmement to the Hundred of Highworth however, has led others to suggest that they are Medieval in origin, relating to a local custom or agricultural practice such as stock management, (Gingell and Gingell 1981, p 67). The limited fieldwork undertaken to date has proved inconclusive and as yet, no example has been securely dated as a result of excavation.

Allen and Passmore list forty-two sites which they consider to be a related group of monuments, (Allen and Passmore 1937). In addition, another site lies at Stratton St. Margaret, near Swindon and was excavated by C J and J H Gingell in 1975 (Gingell and Gingell 1981).

During the course of the Thames Valley project, all but seven of these circles were plotted. Two of the unplotted sites are part of the Ashmead Break group, and were either not seen on the aerial photographs (Allen No. 5) or the marks on the photographs were considered to be of natural origin (Allen No. 3). A further four sites plotted by Allen and Passmore (Allen No.s 25 -28) and the site at Stratton St. Margaret, were not plotted since they are outside the project area.

The aerial photographs showed earthwork features to be present in the vicinity of Allen No. 41. These were plotted but were not considered to relate to an enclosure and were instead interpreted and plotted as a curvilinear field boundary of probable Medieval date.

In addition to those recorded by Allen and Passmore, a further three probable circles were plotted during the course of the project; one (114.5.9) in the North Leaze Farm complex, SU193954, and two (86.11.1 and 4) in the complex north of Oxleaze Farm, SU169917. Three sites were also plotted at SU218960 (4.1.1-3), north west of Faringdon.

In total, forty-one sites of the type known as Highworth Circles were plotted during the project. Of these, four sites were grouped together as an enclosure complex (91.2.1) which has been described elsewhere in this report and will not be included in this morphological analysis, (see page 104). All of the other thirty-seven sites were described as enclosures and had the following characteristics:

1. All thirty-seven sites are curvilinear enclosures. Thirty-four are symmetric enclosures including thirty-three sub-circular in shape and one regular. Three are asymmetric enclosures.

2. Thirty-five sites have diameters which range from 28 to 90 m. The two sites which have length and breadth measurements are 78 x 70 m and 80 x 70 m in dimensions.

Twenty-seven (72.97 %) have diameters between 63 and 83 m, with nineteen, Le more than half of the total, being between 70 and 80 m in diameter.

3. Twenty-three (62.16%) of the thirty-seven have at least one bank and one ditch; the other fourteen sites have one ditch only.

4. Fifteen sites still survive as earthworks, eighteen are a mixture of crop marks and earthworks and four are crop-mark sites only. 89.19 % of the sites therefore incorporate earthwork elements.

5. None of the sites had entrances.

Using these characteristics, a search was made of the enclosures database for other similar sites within the project area. The search criteria included all enclosures with: a) diameters of 40-90 m or length and breadth measurements between 70 and 80 m, b) symmetric with sub-circular or regular shape, or asymmetric, c) no entrances, d) interpretation codes enclosure or round barrow. Moats and causewayed enclosures were not included. The search criteria generated a list of sixty-three sites which was reduced to fifty-one after a visual check of the plots. See Appendix 8.4 for a list of these sites.

The distribution of the fifty-one sites can be seen in Fig. 34. The map clearly shows that the majority, forty-four, of these sites (86.27%) lie within 8 km of the modem town of Highworth.

There are four enclosures in the Thames Valley which were recorded as henges. All four sites have entrances unlike the Highworth circles, and only one matches the other search criteria used. Two of the henges are over 100 m in diameter and two are circular not subcircular in shape.

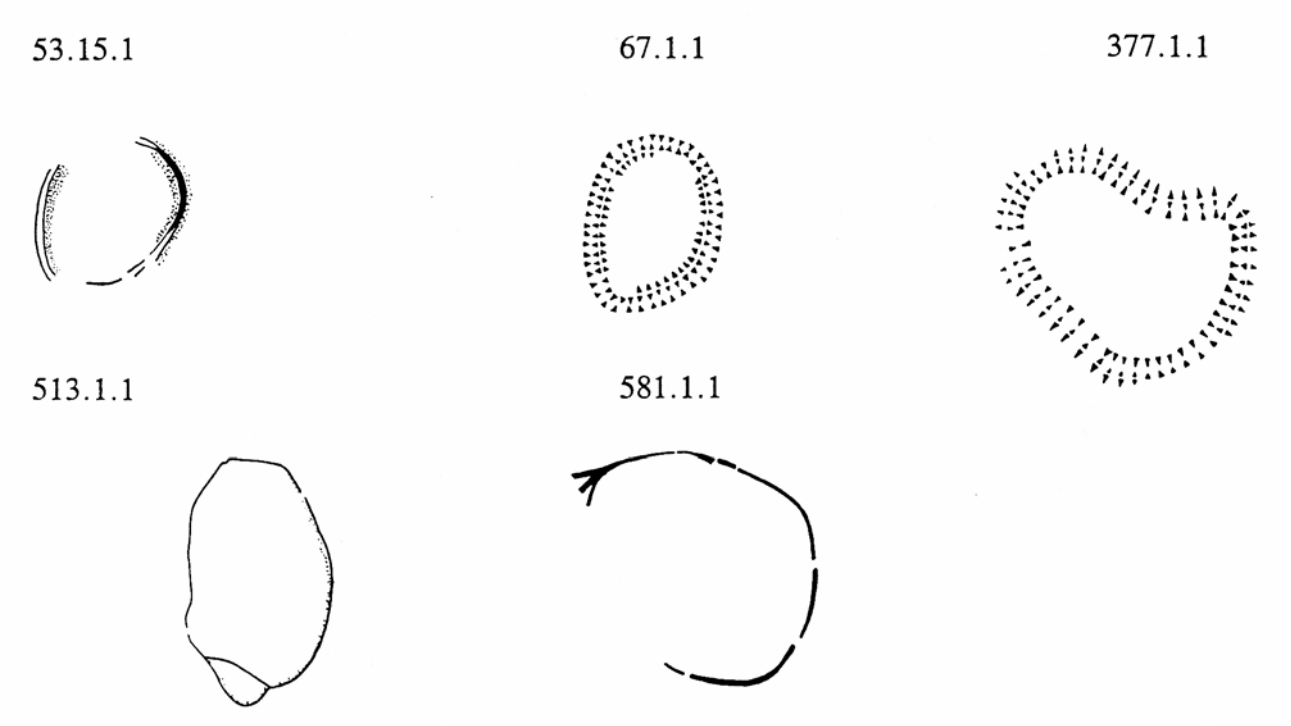
Morphological differences may therefore indicate that prehistoric henges and so called Highworth circles are not related classes of monument. The proximity of many of the sites within the Medieval Hundred of Highworth on the other hand, may be significant and indicate a Medieval origin. A more extensive programme of fieldwork is required.

Asymmetric Curvilinear Enclosures

There are 219 curvilinear enclosures which are asymmetric and therefore have no definable shape. These include three of Medieval date and sixty-three undated sites. All of the remaining 153 sites (69.86% of the total 219) are Roman or earlier in date.

The majority (84.93%) of these sites have no interpretation other than enclosure, the remaining 15.07% are enclosures of known monument classes including causewayed enclosures, hillforts, hut circles, mortuary enclosures and round barrows.

There are five sites which have areas greater than 15,000 m^2 , of which four (80%) were dated to the Iron Age. These include the Cassington enclosure (581.1.1), Bury Hillfort (67.1.1) and Sinodun Hill (377.1.1). When looking at all five sites together, one can compare these Iron Age sites to the undated enclosure (513.1.1). It seems very likely that this enclosure is also of Iron Age date.



Regular Enclosures

Regular in MORPH2, is defined as "The shape of a curvilinear enclosure which is symmetric but not circular, sub-circular or oval." (RCHME 1993). There are 113 regular enclosures in the Thames Valley database. As would be expected, the majority of these sites are enclosures of indeterminate function. Other monument types with a regular shape include fifteen hut circles, five round barrows, three enclosure annexes, a hillfort and a cursus monument.

Rectilinear enclosures

Square Enclosures

There are 2633 sites which were morphologically described as rectilinear enclosures, of which, 155 sites are square. Within MORPH2, square is defined as a four sided, right angled enclosure, with all four sides being the same length. Generally, all four sides are straight, although sides can be slightly concave or convex. There are only two such cases in the Thames Valley, both of which are Unknown Prehistoric in date, one with a convex side is interpreted as a settlement enclosure, and one with a concave side, an enclosure annexe.

There is one case (29.16.32) of a square enclosure with no sides. This is because it is pit defined, with four post holes in each corner. This four-post structure is part of a prehistoric settlement to the north of Brighthampton, Standlake, Oxon.

There are 149 square enclosures with four straight sides. These include eleven Roman sites, seven of which are buildings and five are unassigned enclosures. 100 (67.11 %) of the 149 sites are 250 m^2 or smaller in area and the largest, a villa enclosure, is 5625 m^2 All eleven square Roman enclosures have angled corners.

There are ten square enclosures of Iron Age date, including one annexe and two possible square barrows. Enclosure areas range from 49 to 1024 m^2 with five sites

being between 100 and 150 m^2 50% of these square Iron Age sites have curved corners.

55.48% of the 155 square sites are grouped to domestic sites such as fannsteads, settlements and villas. 135 (87.10%) have no specific functional interpretation.

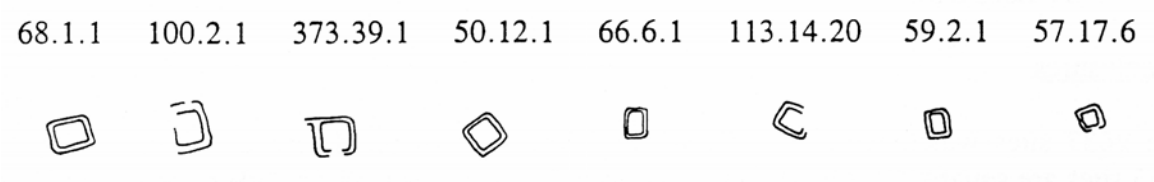
Rectangular Enclosures

There are 1201 rectangular enclosures which include 48 buildings, 9 cursus monuments, 11 moats and 5 mortuary enclosures. The majority of sites, 1013 (84.35%), are of indetenninate function. 640 (53.29%) are Roman or earlier in date, and only 85 (7.08%) Early Medieval or later.

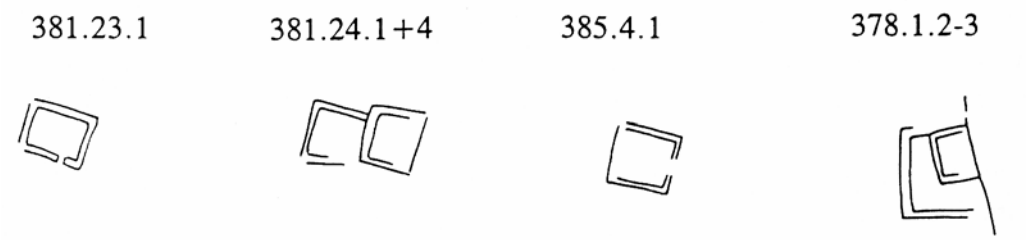
Rectangular and square enclosures

These were sorted by area as a single group. Areas ranged from 16 to 129,870 m^2, the two largest sites both being Neolithic cursus monuments. 364 (41.27%) of the square and rectangular enclosures have areas below 200 m^2 with 235 (26.64%) sites between 50 and 150 m^2

The database was searched for all enclosures with square or rectangular shape and two ditches. In all, sixty-one sites were listed. Forty-two of these enclosures are sufficiently complete to allow area calculations to be made. When sorted by area, these sites fell neatly into two groups; those smaller than 1500 m^2 and those larger. There are twenty-five enclosures smaller than 1500 m^2, seventeen (68 %) of which have curved corners. Fifteen (60 %) are prehistoric in date and eleven are associated with larger prehistoric settlement complexes.



The second group consisted of seventeen sites with areas larger than 1500 m^2, of which, thirteen (76.47%) had angled corners. Seven sites are Roman in date, five of which, are enclosures associated with villa complexes.

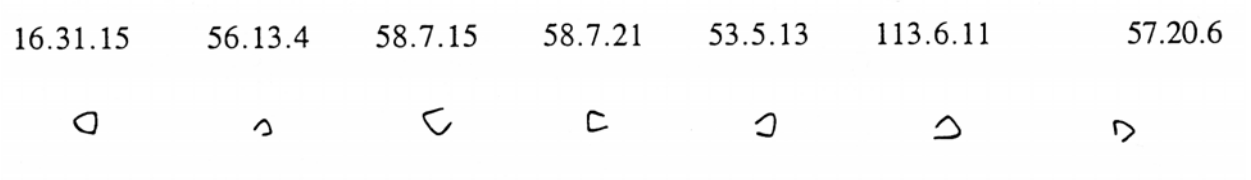


For additional illustrations of enclosures within both of these groups, see the Leaze Farm report (Fenner 1994).

Triangular Enclosures

There are ninety rectilinear enclosures with three sides which were described as triangular in shape. These include one Iron Age hillfort and eighty-nine enclosures of unknown function. Fifteen of the enclosures have not been assigned dates, but the remaining seventy five sites are all Roman or earlier in date. Seventy sites (77.78%) are within groups relating to settlements or farmsteads.

Forty-three sites (50%) of the eighty-six enclosures with breadth and length measurements, have calculated areas of less than 100 m^2 Of these, thirty-three (76.74 %) are related to prehistoric or Roman settlements. These small triangular enclosures may therefore best be viewed as a specific class of prehistoric settlement enclosure, a number of examples of which are illustrated below, (all are illustrated at 1:5000 scale).

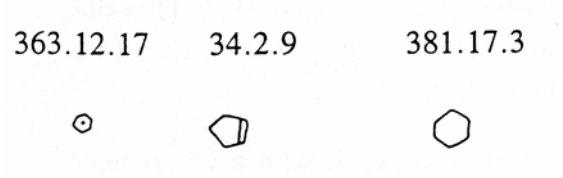


Polygonal Enclosures

794 (61.69%) of the 1287 enclosures with a polygonal shape are Roman or earlier in date. Iron Age sites form the largest group of enclosures which were dated to a specific period. There is no recognisable morphological patterning in terms of function, with 1239 (96.27 %) of these polygonal enclosures having no functional interpretation.

There are 195 sites which have more than four sides, 104 (53.33%) of which are larger than 1000 m^2 in area. Of the total 1287 polygonal enclosures, 30.85% are larger than 1000 m^2, and therefore, sites with five or more sides tend to be larger than average.

There are twenty one sites which are symmetric with five or more sides, these include the Roman temple site at Hambleden, Buckinghamshire, 363.12.17, (see section 4.1.8.15). The plots of the remaining twenty sites were studied and a further two possible temple sites identified on morphological grounds, 34.2.9 and 381.17.3. Both sites are currently recorded as Unknown Prehistoric enclosures. (Sites drawn below are at 1:5000 scale).



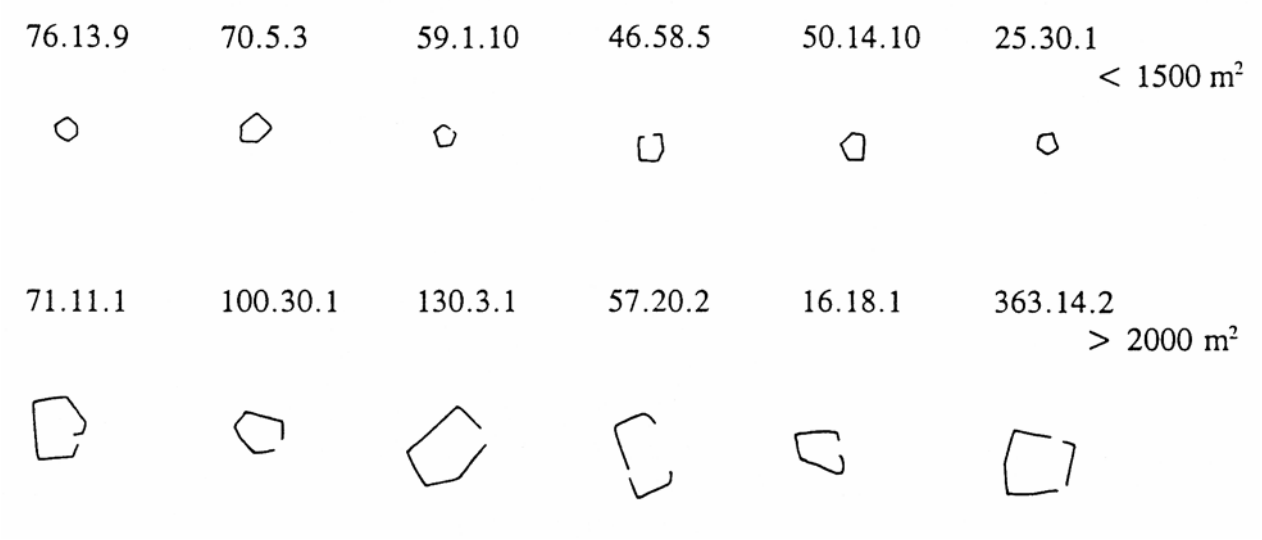
The database was searched for five sided polygonal enclosures, and the plots, visually checked in order to see if they formed a recognisable group of enclosures which might relate to a specific date or function.

The resulting list contained 121 sites, of which, only 8 (6.61 %) are Medieval or later and 39 (32.23 %) are undated. Unknown Prehistoric sites form the largest group of enclosures, with fifty-eight (47.93 %) sites. The plots of all 113 Roman or earlier and undated sites were looked at and two possible groups of similar sites identified.

The first group comprises twenty-three sites which, in the main, have angled corners and areas between 200 and 1500 m^2. Of these, twelve are dated Unknown Prehistoric, three Iron Age and eight are undated.

The second group are all larger than 2000 m^2 in area with curved and angled corners occurring at about the same frequency. None of the eleven sites recognised were

specifically dated, seven being Unknown Prehistoric and four undated. A selection of these sites are illustrated below.



Proposed Bronze Age Settlement enclosures

Whilst there are over 850 barrows, dated to the Bronze age period, there are very few domestic settlement remains for this period. The enclosure database contains only sixteen Bronze Age enclosures other than barrows, two of which are hut circles and fourteen enclosures of unknown function.

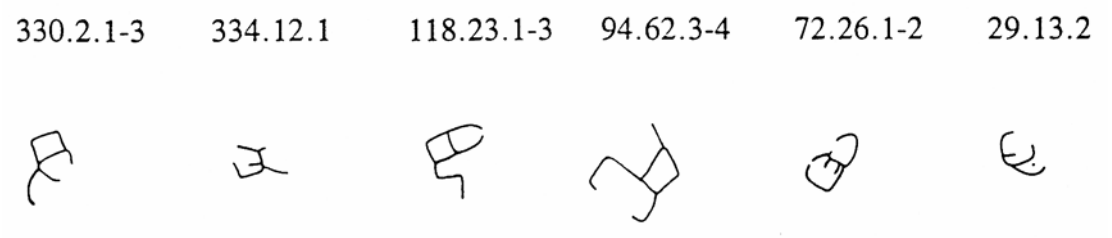
There is only one excavated Deverel-Rimbury settlement in the Thames Valley, that of Corporation Farm, Abingdon (330.2.1-3), (Barrett and Bradley 1980,251 and 258). This site has not been fully published and access to the excavation report was not possible, therefore the site has been recorded as Unknown Prehistoric in the database.

The Corporation Farm site consists of three conjoined enclosures, each with a completely different morphology. The two most complete of these enclosures are both rectilinear, with dimensions between 25 and 45 m. 330.2.1 is a symmetric, rectangular enclosure with angled corners and 330.2.2, an asymmetric, polygonal enclosure with curved corners.

It is possible that many of the sites which were recorded as Unknown Prehistoric or even Iron Age, are actually of Bronze Age date. The enclosure database was therefore searched for other sites with similar morphological characteristics to the Corporation Fann enclosures, and the resulting list of sites visually checked. It was hoped that by doing this, further possible Bronze Age enclosures could be identified.

The search of the database (which did not take into account corner shape) was carried out, and a list of 282 sites produced, all of which were visually checked. Because the search criteria was fairly broad, the sites showed a fairly wide range of shapes and sizes. There are however a small group of sites which are closely similar to the Corporation Fann enclosures, some of which are illustrated below.

It is therefore likely that a number of Bronze Age settlement sites were plotted throughout the Thames Valley. They have not, however, been recognised as such and therefore this is an area where more work is needed.



Iron Age and Roman Rectilinear enclosures

Iron Age and Roman enclosures can very broadly be distinguished from each other by their overall linearity , 60.81 % of Iron Age enclosures being curvilinear as apposed to only 6.81 % of Roman enclosures. Roman sites are therefore predominantly rectilinear, with 119 (62.30%) of the total 191 Roman enclosures being square or rectangular. There is however some morphological overlap, between enclosures of these two periods with 136 (39.19 %) of Iron Age sites also being rectilinear.

The problem therefore is whether it is possible to distinguish between these rectilinear sites of Iron Age and Roman date on specific morphological characteristics. The enclosure database was therefore queried according to several different morphological attributes and the following observations made:

1. 20.46 % of Iron Age enclosures are polygonal in shape as opposed to the slightly higher figure of 29.84% for Roman enclosures. Thirteen (61.90%) of the twenty-one sites with more than four sides are Iron Age, however the four sites with eight or more sides are all Roman aisled villa buildings.

2. The most apparent difference between enclosures of these two periods is symmetry. 56.62% of Iron Age enclosures are symmetric and 43.38% asymmetric, whereas, only 20.79% of Roman enclosures are asymmetric and 79.21 % are symmetric.

3. Of the 178 Roman rectilinear enclosures with corners, 150 (84.27%) are angled and 28 (15.73%) are curved. When one looks at Iron Age enclosures however, eighty-five (62.5%) have corners which are angled and fifty-one (37.5%) are curved. For both periods, angled corners are dominant, however, curved corners are more common in Iron Age enclosures than Roman.

4. Iron Age sites show a distinct peak in sizes, with forty-nine (36.03%) sites occurring between 50 and 200 m^2 This clustering does not occur in Roman enclosures where there is a generally even spread of sites across the range 16 to 350 m^2.

Iron Age enclosures in the Thames Valley show roughly a 50:50 split between asymmetric and symmetric enclosures, whereas 79.21 % of Roman enclosures are symmetric. 73.48% of Unknown Prehistoric rectilinear enclosures are also symmetric and this may indicate that a large proportion of these are more likely to be Roman rather than Iron Age in date.

Long barrows and mortuary enclosures.

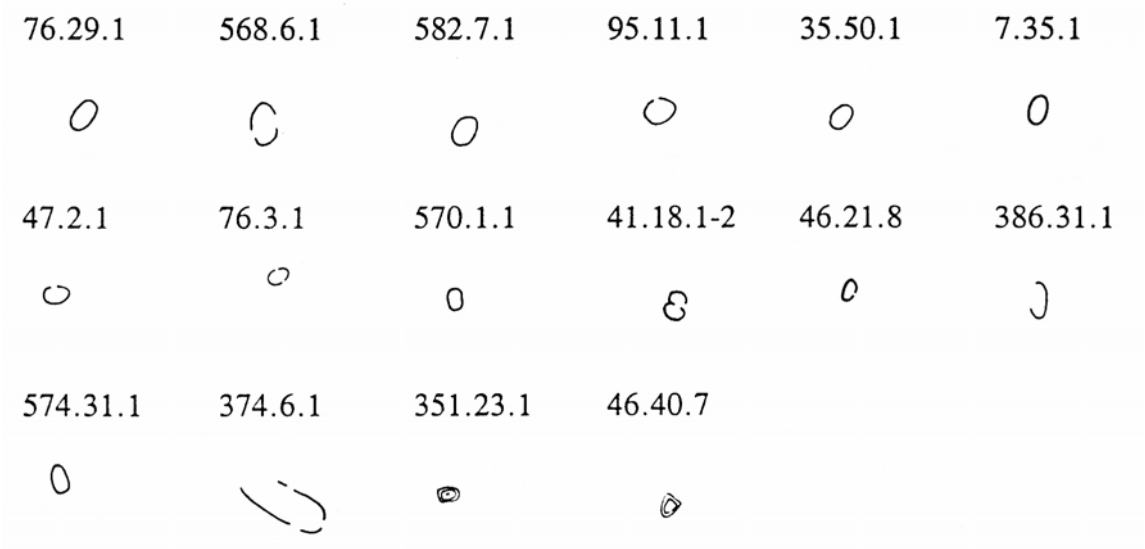
There are twenty-nine sites in the enclosure database which were interpreted either as long barrows or mortuary enclosures, all of which are illustrated in sections 4.1.8.9 and 4.1.8.10. Their morphological characteristics are:

There are sixteen mortuary enclosures, six of which are rectilinear with angled corners; five are rectilinear with curved corners and seven are curvilinear. The rectilinear sites include five rectangular and four polygonal enclosures. Six of the seven curvilinear sites are oval. Dimensions range from 18 to 75 m in length and 12 to 32 m in breadth; overall areas of mortuary enclosures range from 301 to 1440 m^2, with eight sites being elongated.

Eleven of the thirteen long barrows recorded in the Thames Valley are oval in shape and two are rectangular. Both rectilinear barrows have curved corners. Recorded dimensions range from 18 to 75 m in length, 8 to 25 m in breadth and 113 to 1472 m^2 in area. Nine (69.23%) of the long barrows are elongated.

There is therefore a large morphological overlap between these two groups of site. Only three sites have been positively identified through excavation, one long barrow (351. 23.1) and two mortuary enclosures, (371.17.1 and 107.9.1). In terms of morphology therefore, these two types of enclosure seem to form one single morphological group best described as Neolithic ritual enclosures, seventeen (58.62%) of which are oval and seventeen (58.62%) are elongated.

The database was searched for other enclosures with similar characteristics in order to see if it was possible to identify any other sites which may be Neolithic ritual enclosures. Oval enclosures were looked at, since seventeen (58.62%) of the twenty-nine known sites are oval in shape. As has already been stated (page 91), fifteen of the twenty-six oval sites over 500 m^2 are barrows, mortuary enclosures or enclosures related to ritual sites.



In total there are twenty-three 'ritual enclosures' with an oval shape, of which nineteen are over 325 m^2. A visual search of the plots of the other nineteen sites over 325 m^2 was carried out and a further thirteen possible 'ritual enclosure' sites identified. These are illustrated below. These oval sites seem to form a distinct group of sites which may best be described as oval barrows, (also see illustrations of

587.42.2 and 106.2.1, sections 4.1.8.9 and 4.1.8.10), included in this group would also be 76.29.1, currently interpreted as an Unknown Prehistoric barrow.

Site 574.31.1 has been described in the database as an undated enclosure, however its relationship with the pit alignment and the rectilinear enclosure to the south, makes it likely to be a long barrow, with perhaps a mortuary enclosure to the south.

Long barrows or mortuary enclosures which have straight sides or are rectilinear, rectangular or polygonal in shapel, are distinct from oval barrows. The diversity in size, elongation and corner shape of the remaining twelve rectangular and polygonal long barrows and mortuary enclosures meant that it was not possible to make an exhaustive search the database further for comparable sites. The similarities between the excavated Neolithic long barrow at Radley (351.23.1) and the triangular enclosure at Langford (46.40.7) was however noted.

Conclusions

1. In very general terms, one can distinguish between groups of prehistoric and Roman enclosures and Medieval and later enclosures on morphological grounds. Medieval and later sites are predominantly rectilinear, 93.14 %; whereas the majority, 60.48 %, of prehistoric and Roman enclosures are curvilinear.

2. There is a marked overlap, in terms of morphological characteristics, between Iron Age and Roman enclosures, which makes it impossible to date individual sites on morphological grounds alone. It is however, possible to differentiate between enclosures of these two periods by studying them as groups of sites rather than individually.

3. Further work is needed in the area of barrows and mortuary enclosures as there is considerable morphological overlap between mortuary enclosures and long barrows. There is also a small overlap between round and long barrows and a distinct group of sites has been identified, which may best be described as oval barrows.

4. Hut circles and round barrows overlap in terms of size, however hut circles form a more discrete group of sites, the majority which have diameters ranging between 4 and 16 m. Hut circles and round barrows can most easily be distinguished in terms of shape, 66.96% of barrows being circular as opposed to only 13.87% of hut circles.

Provisional total. 5360 sites. (Neolithic -82 sites; Bronze Age -870 sites; Iron Age -347 sites; Roman -191 sites; Unknown Prehistoric -2571 sites; Early Medieval -20 sites; Medieval -78 sites; Post Medieval-9 sites; Unknown Medieval-66 sites; Modem -2 sites and Unknown -1124 sites).

4.2.2 Linear systems

Introduction

Linear systems are defined as: "an extensive network of linear features that relate to each other to form a coherent whole" (RCHME 1993). For this project, a minimum of two conjoined units were needed to describe a feature as a linear system.

It must be noted that there is an overlap between linear systems and linear features and sites with the same interpretation code appear in both tables. This is due to the morphological characteristics of each individual site, for example, a field system may be too fragmented to be classed as a linear system and will be input instead as a linear feature or features. These sites will be considered in the relevant linear feature section, (Section 4.2.3.) as well as the thematic report and period summaries.

There are 197 sites classed as linear systems in the Thames Valley database, of which, 82 are enclosure complexes. These are further defined as "conjoined formations of similar enclosures", (RCHME 1993). There must be a high degree of uniformity between the conjoined enclosures for a site to qualify as an enclosure complex. Field systems were not recorded as enclosure complexes, no matter how similar the individual fields were. Of the eighty-two enclosure complexes, eighty are settlement features and two are of unknown interpretation.

The 197 linear systems can be broadly divided into three main types.

a) Settlement-related linear systems Le those sites interpreted as farmsteads, settlements, villas and medieval deserted or shrunken villages.

b) Agriculture-related linear systems i.e. those sites interpreted as field systems, drainage systems and water meadows.

c) Linear systems of unknown interpretation.

Sites were only dated to specific periods such as Iron Age or Medieval, if they had been positively dated by archaeological fieldwork, documentary evidence or by association with other dated sites. Only ten sites are dated by specific archaeological investigation, a further seven by documentary evidence and thirty-two by association. The majority are recorded as Unknown Prehistoric, Unknown Medieval or of Unknown date. In order to analyze and compare the data therefore, the following period classes were used:

Roman or earlier. This includes sites dated Bronze Age, Iron Age, Roman and Unknown Prehistoric.

Medieval or later. This includes sites dated Medieval, Post Medieval and Unknown Medieval. None of the linear systems have been dated to the Early Medieval period.

Most of the morphological analyses undertaken were based on the average unit areas of each linear system. This is not the area of the entire system, but that of a single enclosed unit. These were calculated on the basis of the average length and breadth measurements which were recorded in the MORPH database. Where only one dimensional measurement was given, (or in some limited cases, none), unit area could not be calculated and therefore the site could not be included in all of the

analyses. Throughout this report, this calculated measurement is referred to (IS unit area or average unit area.

Morphological analysis

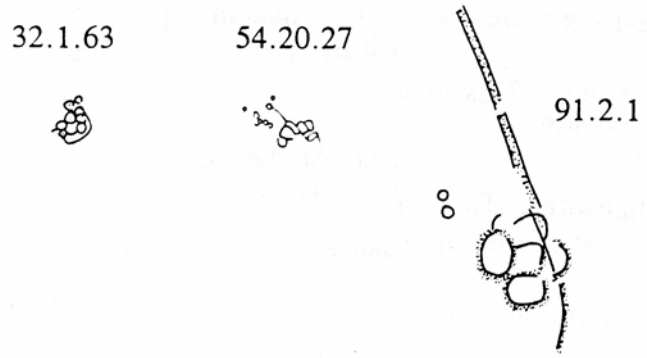
Each site was sorted into six groups based on pattern and shape. These were:

No.
a) Accreted curvilinear 3
b) Accreted rectilinear 12
c) Accreted mixed 3
d) Random rectilinear 3
e) Ordered mixed 2
f) Ordered rectilinear 174
Total 197

It must be noted that there is a degree of overlap between ordered and accreted rectilinear linear systems and a number of sites are borderline cases.

a) Accreted curvilinear

There are only three sites in this category, of which, two are thought to be Roman or earlier in date on the basis of morphological characteristics. Both have unit areas of less than 700 m^2 and are interpreted as settlements. The third site, (91.2.1), has unit areas averaging 1680 m^2. It is of unknown date and function but has been associated in the past with Highworth Circles (see Enclosures, section 4.2.1).



b) Accreted rectilinear

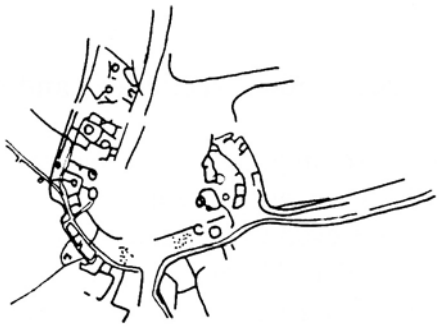
There are twelve sites in this category, six of which are Roman or earlier, five Medieval or later and one undated. None of these sites have been excavated and all are dated on morphological grounds or by association with other sites. The Roman or earlier sites are, without exception, settlements or fa;msteads; five (83.33 %) of which have unit areas of less than 650 m2• All of the Medieval or later sites, on the other hand, have unit areas larger than 1800 m2 and four (80%) out of the five sites are deserted villages or tofts.

Of the total number of sites in this category, ten (83.33 %) are related to settlements and only two (16.67%) to field systems.

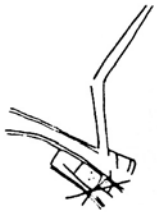
Prehistoric accreted rectilinear systems

46.13.1

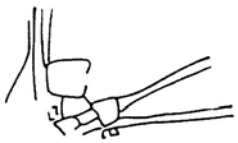
35.65.34



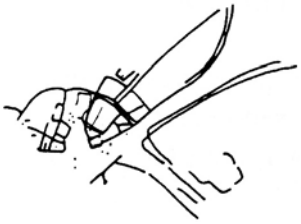
59.35.2-5



115.19.4

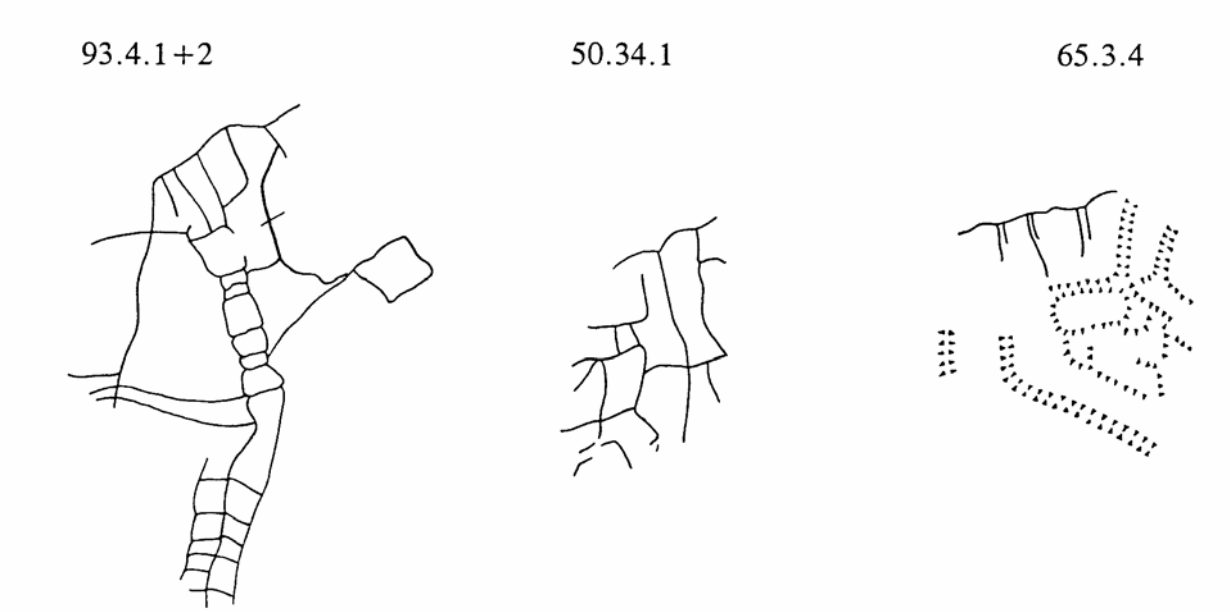


34.26.8



There are marked morphological similarities between 115.19.4 and 34.26.8, both of which were recorded as Unknown Prehistoric in date. Some archaeological investigation has been undertaken at site 34.26.8 by the Oxford Archaeological Unit, the results of which were not available at the time of writing this report. A third site (59.35.2-5) is also similar being a small rectilinear settlement at the meeting point of a number of trackways. This site was recorded as a number of separate records, in the linear feature and enclosure tables since morphologically it was insufficiently extensive or coherent to qualify as a linear system.

Medieval accreted rectilinear systems



c)-e) Accreted mixed, random rectilinear and ordered mixed

Categories c) to e) have only eight sites in total. The sample for each type of linear system is therefore too small to identify any meaningful pattern, in date or function. The associated dates for these sites are evenly spread with three Unknown Prehistoric, one Medieval, three Unknown Medieval and one Unknown. None of these sites have been dated by archaeological investigation; the Medieval site however, has associated documentary evidence.

Interpretations range from settlements and deserted villages to field systems and water meadows. All three accreted mixed sites, however, are settlement-related systems.

f) Ordered rectilinear

This is by far the largest morphological group with a total of 174 sites. Of these, eighty (45.98%) are settlement systems; ninety-two (52.87%) are field systems and two (1.15%) are of unknown interpretation. Breadth and length measurements were available for 147 of these sites, allowing average unit areas to be calculated.

Area (m2)	**No.**	**%**
below 500	30	20.41
500-999	37	25.17
1000-1499	21	14.29
1500-1999	15	10.20
2000-2499	11	7.48
2500-3499	11	7.48
3500-4499	8	5.44
Over 4500	14	9.52
Total	**147**	

It is possible to broadly distinguish between settlement sites and field systems on grounds of unit area, for those sites at the two extremes of the unit area range. Forty-

eight (71.64%) of the sixty-seven sites smaller than 999 m2 were interpreted as settlements, whereas twenty (90.9%) of the twenty-two over 3500 m2 are field systems.

The fifty-eight sites which fall between 1000 m2 and 3499 m2 are evenly divided with twenty eight (48.28%) settlements and thirty (51.72%) field systems.

The total sample of 174 ordered rectilinear sites can be broken into period groups as follows:

PERIOD	**No.**	**%**
Iron Age	3	1.72
Roman	16	9.20
U. Prehistoric	58	33.33
Medieval	16	9.20
Post Medieval	5	2.87
U. Medieval	23	13.22
Unknown	53	30.46
TOTAL	**174**	

Iron Age. Two of the three sites are settlements, with unit areas of 80 m2 and 195 m2. The third site was interpreted as a field system, and as one would expect, is much larger than the other two with an average unit area of 2400 m2

It should be pointed out that these three sites are the only linear systems classified as Iron Age in the project area and there are no others in any of the other morphological groups. The linear systems themselves have not been excavated, but were dated by association with other excavated sites in the same group.

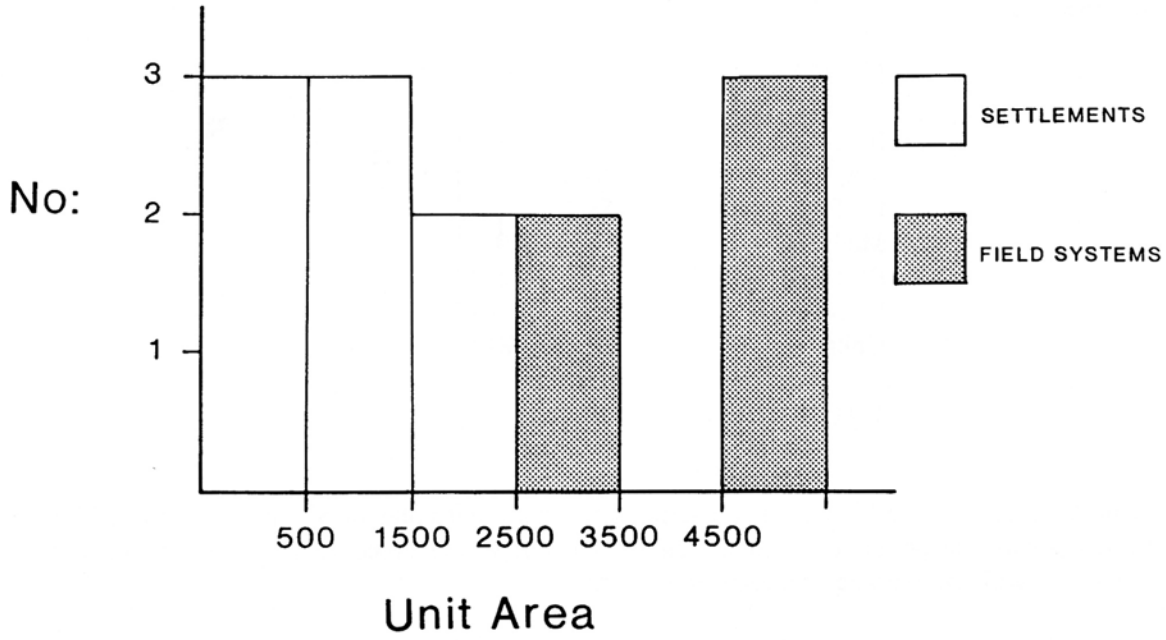
Roman. All of the sixteen sites were dated directly or indirectly by archaeological investigation. Seven have been excavated, one field walked and the remaining eight were dated by association with other excavated features.

Thirteen of the sixteen Roman sites were sufficiently complete for length and breadth measurements to be recorded, enabling area calculations to be made. Of these, eight are classified as settlement features and five as field systems. There is a clear separation of these two groups by size, all the settlements having unit areas of less than 2500 m2 and the field systems 2500 m2 or larger, (see Histogram, Fig D). As was the case with the Iron Age group, all Roman linear systems were morphologically recorded as ordered rectilinear.

Medieval. Seven of the sixteen sites had been recorded as Medieval on morphological grounds only, seven had associated documentary evidence and two associated excavation evidence.

Average unit areas have were calculated for thirteen sites. These range in unit size from 560 m2 to 4875 m2 • There is no major distinction between settlements and field systems by size, the former ranging in area from 560 m2 to 4875 m2 and the later from 1400 m2 to 3150 m2 • This overlap in unit size appears to be true for all Medieval sites and is not restricted to those that are morphologically ordered rectilinear.

Fig D Roman linear systems by area



Post Medieval. All five sites recorded as Post Medieval ordered rectilinear systems were interpreted as field systems. There is a large range of unit sizes, varying from 280 nr to 6750 m2.

Roman and earlier. The number of sites from each individual period is small, but by considering Iron Age, Roman and Unknown Prehistoric sites together, one can assess the characteristics of prehistoric sites in general. Of the seventy-two sites for which areas could be calculated, fifty-seven (79.17 %) are smaller than 2500 m2 and only fifteen (20.83 %) greater than 2500 m2.

Forty-six (80.70%) of the fifty-seven sites with unit areas less than 2500 m2 were interpreted as settlements. Conversely, fourteen (93.33 %) of fifteen sites with areas greater than 2500 m2 are recorded as field systems. This suggests that the apparent separation of settlements and field systems by area in the Roman period (see above) is a real one and that many of these undated prehistoric sites are likely to be Roman or earlier on the basis of their size.

Medieval and later. Post Medieval and Unknown Medieval sites can also be studied as a group together with Medieval sites. In all there are forty-four ordered rectilinear systems dated to these periods, of which thirty-one sites have average unit area data.

As was the case with Medieval sites, it is clear that there is a considerable overlap in terms of unit size between field systems and settlements. Field systems range from 280 m2 to 6750 m2, and settlements from 560 m2 to 4875 m2.

The tendency for unit areas of settlements to be smaller than those of field systems as seen in the Roman and earlier sites, however, appears to be reversed for this later group of sites. Of the seventeen systems with unit areas less than 1500 m2, only seven (41.18%) are settlements and ten (58.82 %) are field systems. Conversely, nine (64.29 %) of the fourteen systems greater than 1500 m2 are settlements and five (35.71 %) are field systems.

Unknown. It was possible to calculate average unit areas for forty-four of the fifty-three ordered rectilinear systems of unknown date. The distribution of settlements

and field systems by size within this group is more similar to that of the Roman and earlier systems than those of Medieval and later date.

Settlement sites comprised twelve (52.17%) of the twenty-three sites with areas less than 1500 m2 but only three (14.29%) of those greater than 1500 m2• Eighteen (85.71 %) of the twenty-one sites greater than 1500 m2, however, are field systems.

Settlement-related linear systems
Ninety-seven linear systems were classed as settlements, with the following interpretations: settlement; farmstead; deserted village; shrunken village; toft and villa. In general, linear systems were only classed as settlements if they were associated with other features indicative of domestic sites such as pits, small encl6sures and hut circles. Eighty-two of the ninety-seven are enclosure complexes.

Of these ninety-seven sites, fifteen were recorded as undated. The remaining eighty-two sites had been assigned dates, seven as a result of archaeological fieldwork, three by documentary evidence and seventy-two by association with other datable sites or by general morphological characteristics.

Sixty-one (62.89%) of the ninety seven sites were recorded as Roman or earlier in date and only twenty-one (21.65 %) as Medieval or later. This disproportionately high number of Roman and pre-Roman sites may in part be due to the nature of the archaeology in the project area and the scope of the survey. There are many Medieval settlements in the Thames Valley; there is not a long history of desertion and shrinkage and the majority are still inhabited. Most Medieval settlements therefore would not have been plotted. Eighteen of the nineteen sites still standing either partially or totally as earthworks are of Medieval or Unknown Medieval date.

Six sites were recorded as being totally destroyed, including one Medieval deserted village, one Unknown Prehistoric settlement and four Roman settlements. The Roman settlement at Cleveland Farm, Ashton Keynes (70.3.1), which was the only recorded pre-Medieval earthwork settlement in the Thames Valley, is included in this list.

General morphology
Eighty-one (83.51 %) of the ninety-seven settlement systems have an ordered pattern; fifteen (15.46%) are accreted and one (1.03%) is random. Ninety-one (93.81 %) are rectilinear in shape; two sites (2.06%) are curvilinear and four (4.12 %) mixed. Both of the curvilinear sites have an accreted pattern and are illustrated on page 103.

The majority, seventy-nine (81.44 %), of settlement-related linear systems in the Thames Valley therefore have a rectilinear shape and ordered pattern. Where dimensions had been measured and recorded, approximate-unit areas were· calculated comparisons made between each period.

Iron Age. There are two sites dated to this period which had average unit areas of 80 m2 and 195 m2

Roman. There are nine settlement systems classed as Roman, five of which have been dated as a result of archaeological excavation. The average unit areas were calculated for eight of these sites:

AREA (m2)	No	%
below 500	3	37.50
500-999	1	12.50
1000-1499	2	25.00
1500-1999	0	0
2000-2499	2	25.00
TOTAL	**8**	

50% of Roman settlement-related systems therefore, have unit areas less than 1000 m2. There are no sites with unit areas larger than 2500 m2.

Unknown Prehistoric. There are fifty settlement-related systems of Unknown Prehistoric date in the Thames Valley and unit areas could be calculated for forty-nine of these. They are concentrated at the lower end of the area range:

AREA (m^2)	No:	%
Below 500	22	44.90
500-999	16	32.65
1000-1499	5	10.20
1500-1999	2	4.08
2000-2499	2	4.08
Over 2500	2	4.08
TOTAL	**49**	

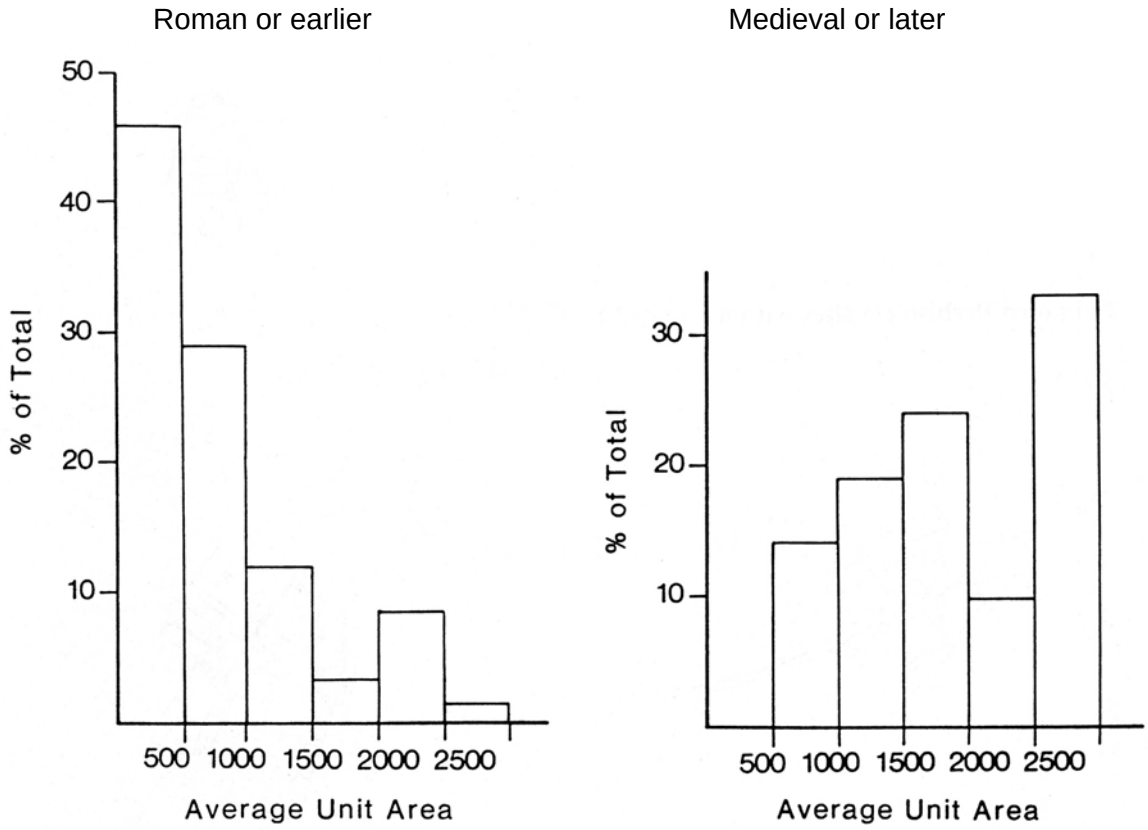
Medieval. There are fourteen settlement sites dated to this period and although the overall range in unit area was similar to that of the prehistoric groups, more sites had unit areas over 1500 m2•

AREA (m^2)	No:	%
500-999	2	14.29
1000-1499	2	14.29
1500-1999	4	28.57
2000-2499	1	7.14
Over 2500	5	35.71
TOTAL	**14**	

Since there are very few sites specifically dated to each individual period, two categories of Roman or earlier and Medieval or later were used. Comparisons were made between percentages of sites within each size range, rather than absolute site numbers.

The bar charts in Fig E clearly show that settlement systems of Roman and pre-Roman date are typically smaller than post-Roman sites. Forty-four (74.58 %) of the fifty-nine Roman and pre-Roman sites with unit area information are smaller than 1000 m2, and twenty-seven (45.76%) are smaller than 500 m2 • There are no Medieval or later sites with areas less than 500 m2 and fourteen (66.67%) of the total twenty-one, are over 1500 m2.

Fig E
Settlement-related linear systems

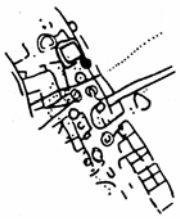


Examples of settlement-related linear systems

All the examples shown here were morphologically recorded as ordered rectilinear systems. The illustrations do not just show the linear systems themselves, but also other closely associated features.

Iron Age

57.17.4



Roman

85.12.2

Unknown Prehistoric

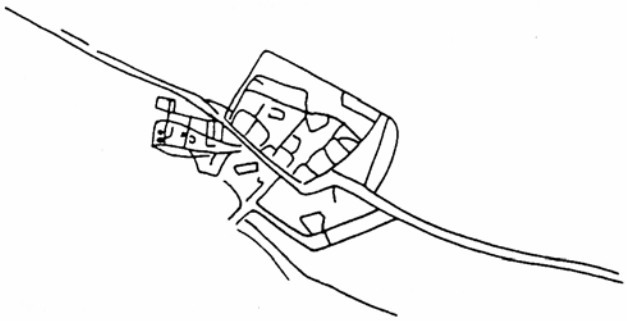
591.8.1

348.4.1

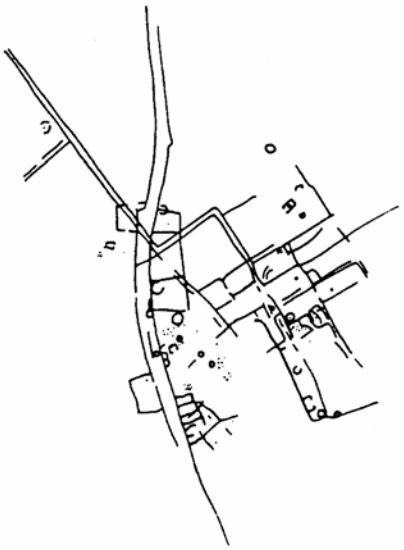
381.21.6

Unknown Prehistoric sites with associated trackways

99.58.4

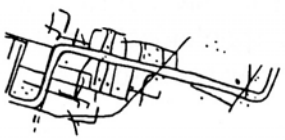


364.18.2 and 364.15.4-5



383.4.11

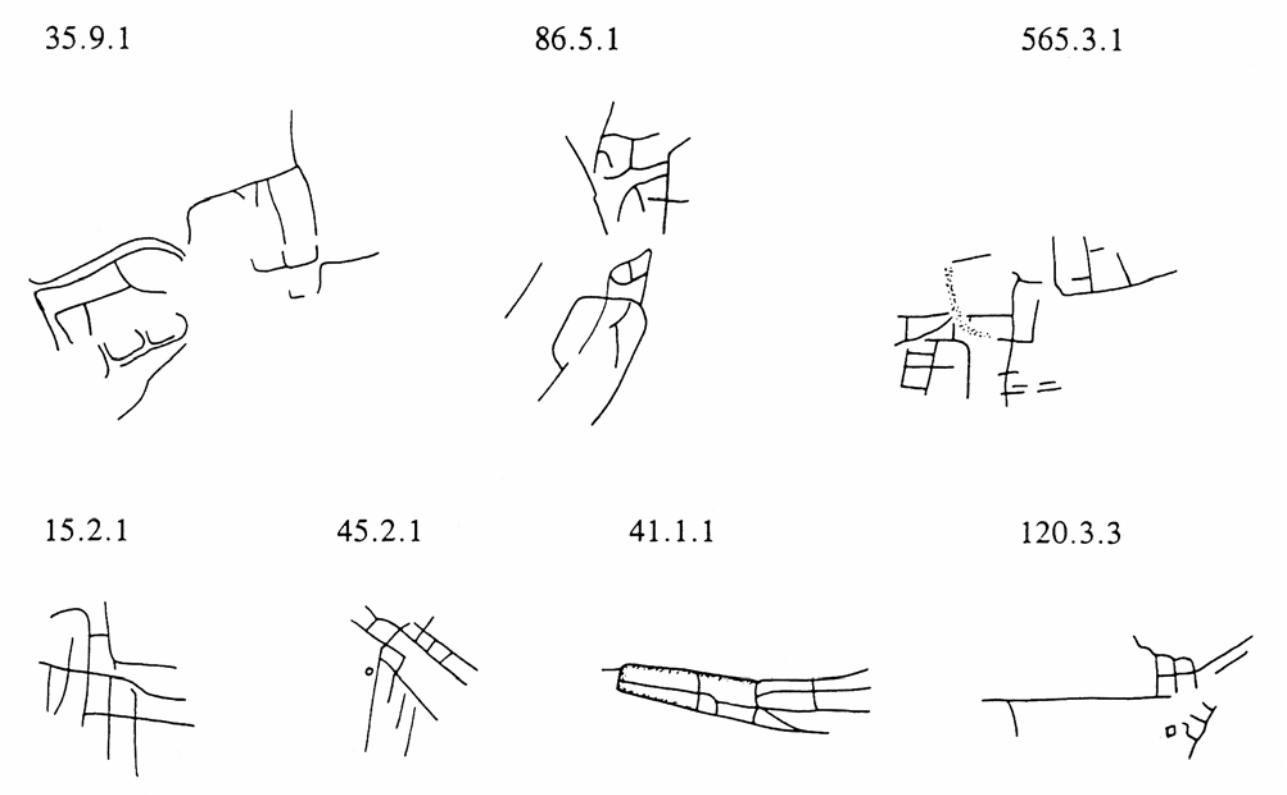
382.11.3



351.54.13

Medieval deserted villages and shrunken villages

There are twenty-one linear systems in the Thames Valley dated to the Medieval and Unknown Medieval periods with given interpretations of deserted village; shrunken village and toft. Eighteen (85.71 %) of these are still standing as earthworks.



Settlements with unit-defined trackways

A unit-defined trackway, is 'a trackway within a linear system defined on both sides by linear unit boundaries' (RCHME 1993). The trackway is therefore defined by the enclosed units within the system, rather than its own ditches and banks.

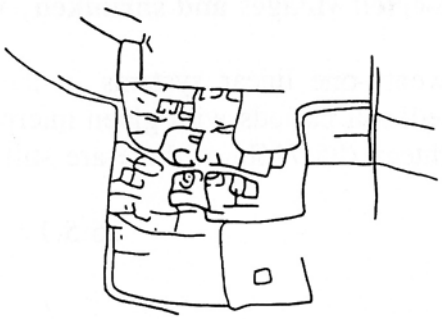
Eighteen of the twenty-six linear systems with unit-defined trackways were interpreted as settlements. Of these, thirteen (72.22%) are Roman or earlier in date and four (22.22%) are of an unknown date. There is only one example of Medieval date, that of the hollow way at Inglesham deserted Medieval village, (65.3.4), see page 106 for illustration.

It would appear therefore that unit-defined trackways are primarily a prehistoric phenomenon when relating to settlements. One example at Broadwell (46.28.1) was plotted by Benson and Miles (Benson and Milc~ 1974) who interpreted it as the probable site of the Medieval deserted village of Puttes. Its morphological similarity to Roman or earlier sites like Cleveland Farm (70.3.1), would however suggest a possible earlier date. This site is scheduled (Oxon No. 179).

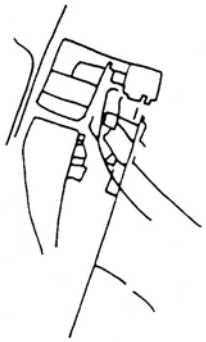
Site 73.4.5 is worth a special mention, as it is an example of the continued use of features over long periods of time. The linear system has been interpreted as an Unknown Prehistoric settlement on morphological grounds and shows up as crop marks on photographs taken in the 1980s. On earlier photography however, the site appears as an extant drainage system which is marked as in use on the 1960s O.S. 1: 10560 map.

54 25.1

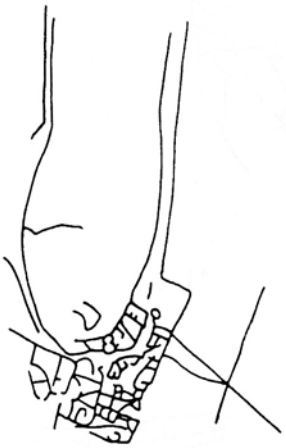
70.3.1



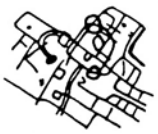
73.4.5



46.28.1



128.37.2



Provisional total. (settlement-related systems). 97 sites. (Iron Age -2 sites; Roman -9 sites; Unknown Prehistoric -48 sites; Late Medieval -14 sites; Unknown Medieval -7 sites and Unknown -17 sites).

Agriculture-related linear systems

Ninety-seven linear systems were interpreted as being related to agricultural activities. These included eighty-nine field systems, five drainage systems and two water meadows. The spread of sites by period is significantly different from that of settlement systems where 62.89% of sites are Roman or pre-Roman, (see page 109). Of the ninety-seven field systems, only twenty-eight (28.87%) are Roman or earlier; thirty-one (31.96%) are Medieval or later and thirty-eight (39.18%) are of an unknown date.

Sixty-six (68.04%) sites survive only as crop marks and thirty-one sites (31.96%) either partially or totally as extant earthworks. Of these earthworks, twenty-two are Medieval or Unknown Medieval in date and six are Unknown Prehistoric. The Prehistoric sites all form part of the Streatley Warren complex (SU58SE). One site, a Post-Medieval field system, survives as both crop marks and earthworks. Seven sites are recorded as being totally destroyed. These include six crop-mark sites, three Roman, two undated and one Unknown Medieval. The earthwork site which has now been destroyed is part of the Streatley Warren complex. (40.11.2).

Due to the small numbers of sites for each period, the broad categories of Roman or earlier and Medieval or Later were again used. The bar charts (Fig F) show that there is not such a clear division between the two periods in terms of unit size, as there was of settlement related systems. (see page 109).

Roman and pre-Roman sites range from 120 m2 to 36,975 m2, which represent the largest and smallest unit areas for field systems interpreted as field systems in this project. Fifteen (60.00%) of the twenty-five pre-Medieval field systems with calculated unit areas however, are over 2400 m2.

Average unit area information was available for sixteen of the thirty-one Medieval or later sites. These showed a wide size range, varying from 280 m2 to 6750 m2• The most common field system unit size for this period however, is 1000-1500 m2, with seven (43.75%) of the sixteen sites, Le. the majority are smaller than the equivalent Roman or earlier sites.

General morphology

The field systems fell into the following morphological groups.

	No.	%
Accreted Rectilinear	2	2.06
Ordered Mixed	1	1.03
Ordered Rectilinear	92	94.84
Random Rectilinear	2	2.06
Total	**97**	

95.88% of these systems therefore have an ordered pattern and 98.97% a rectilinear shape.

Field systems

There are eighty-nine sites specifically interpreted as field systems. Since the majority of sites are ordered rectilinear systems, the plots for each site had to be looked at manually in order to make a visual comparison. An attempt was made to group the sites using the Monuments Protection Programme Single Monument Class descriptions. On the whole this was fairly successful; however some difficulty was experienced in distinguishing regular and irregular aggregate systems from enclosed ones. The more general classes of regular and irregular were used in these cases. Drainage systems and water meadows were not included in this analysis. See Appendix 8.4 for lists of each type of field systems mentioned in the text

	No.	%
Coaxial	11.5	12.92
Regular Aggregate	35.5	39.89
Regular Enclosed	19	21.35
Irregular Enclosed	4	4.49
Trackway	4	4.49
Regular	14	15.73
Irregular	1	1.12
Total	**89**	

Coaxial field systems

A coaxial field system is described as 'a group of fields (usually square or rectangular in plan) arranged on a single prevailing axis of orientation'. (English Heritage 1988a, 4). The majority of the field boundaries follow this axis (axial boundaries) or run at right angles to it (terminal or transverse boundaries).

There is great variety in lay-out between different coaxial systems. The presence of terminal boundaries varies, as does the amount of infilling between the axial boundaries; it is often only in the smaller systems that the axial boundaries run the entire length of the system. There can be a high level of infilling which gives the system a grid-like pattern, however, the dominance of the main axis is always clear. (Fleming 1987, 188).

Coaxial field systems, as a class, were constructed over a long period of time extending from the middle of the second millennium BC, through to the early first millennium AD, a total duration of perhaps sixteen centuries.

There are eleven coaxial field systems recorded as linear systems in the Thames Valley. A number of other fragmentary systems were recorded as linear features and these are described in section 4.2.3. The Streatley Warren system however contains coaxial and regular aggregate elements and is therefore included in both categories.

The coaxial field system at Dorney (555.13.5) has been interpreted as Unknown Prehistoric in date. Evaluation and field walking evidence however suggests it is possibly Bronze Age.

Regular aggregate field systems

This was the most common type of field system in the Thames Valley, with thirty-six examples, including part of the Streatley Warren complex.

'Regular aggregate systems comprise groups of two or more fields which are orientated in the same direction and which cover an area measuring between 1 ha and 100 ha.' (English Heritage 1988f, 4). These are defined by boundaries which are consistently laid out along two axes set at right angles to one another. They are

distinguished from coaxial systems by overall area (never more than 100 ha) and by having no one prevailing axis of orientation. Sites in this monument class range in date from the Bronze Age to the end of the 5th century AD.
The location of regular aggregate systems on the periphery of coaxial systems has been previously noted elsewhere, (English Heritage 1988a, 12). This phenomenon is again illustrated at the Streatley Warren complex with a regular aggregate system lying to the west and north of the coaxial system. (40.14.1).

Regular enclosed field systems

A regular enclosed field system consists of 'a collection of enclosed field methodically arranged with individual holdings systematically distributed through different parts of a township..... In morphological terms, enclosed fields differ from open fields, not in terms of the presence of boundaries but in terms of their frequency and density. While open fields were unbounded plots within a bounded whole, enclosed fields were enclosed individually.' (English Heritage 1988g, 3).

Regular enclosed systems are restricted in date, clustering around the early 15th century AD. Examples are known of as late as the 19th century AD.

The Monuments Protection Programme Single Monument Class Descriptions do not indicate any major difference in morphological characteristics between enclosed and aggregated field systems, other than date. Some difficulty was therefore experienced in distinguishing between them when there was no indication of the date of a site. In all, nineteen examples were identified within the Thames Valley sample.

Irregular enclosed field systems

'An irregular enclosed field system is a random distribution of fields, each defined and enclosed by a physical boundary.' (English Heritage, 1988b, 3). They are distinguished from regular enclosed systems by the disorganised nature of the distribution of fields.

Irregular enclosed systems tend to cluster around the early 14th century AD, examples are however known of as late as the 19th century AD. Only four examples were identified in the Thames Valley sample.

Trackway field systems

'Trackway field systems are two or more units of ground, each bounded by a ditch, which are linked by a series of pathways. These were usually created by leaving a space of between 1.5 m and 5.0 m between parallel ditches marking the edges of each field' . (English Heritage 1988h, 2). There are therefore close similarities between unit-defined trackways and trackway field systems

There is an overlap between trackway field systems and coaxial and regular aggregate systems as defined by English Heritage. Trackway field systems were laid out according to coaxial principles, with two main axes set at right angles; coaxial and regular aggregate • systems however may also incorporate trackways.

Trackway field systems are generally confined to river terraces and the fenlands of England and are dated to the period between the early second millennium BC and the 5th century AD, they therefore overlap in date with coaxial and aggregate systems.

Four field systems were identified as trackway field systems in the Thames Valley.

Regular and irregular field systems

Some of the field systems recorded in the course of the Thames Valley project would not fit neatly into any of the categories suggested by English Heritage. Two broad classes of regular and irregular field systems were therefore used.

Since one of the main differences between regular aggregate and regular enclosed systems is date, the term regular was used when the date of the system was not known. In all fourteen field systems were classed as regular and one site as irregular.

Field systems with unit-defined trackways

There are eight field systems with unit-defined trackways, (for the definition of this term, see page 113). These include: three coaxial systems, two regular aggregate systems, two regular enclosed systems and one regular system. Three (37.5%) of the eight sites are Roman or earlier in date; two (25%) are Unknown Medieval and three (37.5%) are Unknown.

Drainage systems

There are six sites interpreted as drainage systems in the Thames Valley, all of which are Post Medieval, Unknown Medieval or Unknown in date. All are morphologically ordered in pattern and rectilinear in shape and survive either as crop marks or as a combination of crop marks and earthworks.

One site is of special interest; a partially extant system south-west of Ashton Keynes, Wiltshire, (85.31.3). The site, which has been recorded as Unknown Medieval in date on morphological grounds, is crossed by a number of double-ditched features, (85.31.1), which are interpreted as trackways

The linear system and trackways extend to the east where they become crop marks with significantly different morphological characteristics. The trackways change direction via curved corners rather than using sharp angles; the individual enclosed units are smaller and more variable in area and have curved rather than angular corners.

The eastern end of this complex of features has therefore been grouped separately from the western drainage system. It has been interpreted as a farmstead and field system of Unknown Prehistoric date, based on its morphological similarities to other prehistoric and Roman sites such as Clevedon Farm (70.3.1; see page 114) and 99.58.4 (page 112). All three of these sites are located in the parish of Ashton Keynes. This group of linear systems may therefore represent the prolonged use of a site from the prehistoric to Post Medieval periods.

Water meadows

Two sites were recorded as water meadows; both are Unknown Medieval in date and survive as earthworks. One site is ordered in pattern and rectilinear in shape (84.1.1) and the other, random rectilinear, (70.2.2).

Provisional total. (agriculture-related linear systems). 97 sites. (Iron Age -1 site; Roman 7 sites; Unknown Prehistoric -20 sites; Late Medieval 6 sites; Unknown Medieval -20 sites; Post Medieval -5 sites and Unknown -38 eight sites).

Linear systems of unknown interpretation

No specific interpretation could be given for three sites within the linear system database. These included site 91.2.1 which is referred to elsewhere in this report (see pages 93 and 104). Both of the other two sites are of ordered pattern and rectilinear shape, with unit areas of 121 m2 and 360 m2• 351.56.1 is most likely to be part of a larger settlement related system, being comparable in size and shape to parts of 57.17.4; 85.12.2 and 591.8.1, (page 112).

54.28.1, however, is more problematic. It was transcribed and recorded from crop marks on an RAF vertical taken in the 1940s and forms a discrete site unrelated to any others in the vicinity. The individual units are rectilinear in shape, but with distinctly rounded corners and a very small average unit size of 121 m2. There are no other comparable sites in the Thames Valley and the site may well relate to modern farming practices.

Conclusions

Although the Thames Valley sample is small (197 sites in total) and only seventeen sites have been dated through archaeological investigation or documentary evidence, analysis of the linear systems database has produced some useful results.

It is not possible to distinguish between settlement and agricultural linear systems on morphological grounds using pattern and shape alone. 174 sites, 88.32 % of the total sample, are morphologically ordered, rectilinear and these include sites of all periods and interpretations. It may be significant however that all six of the Roman or earlier sites with accreted pattern and rectilinear shape were interpreted as farmsteads and settlements.

The calculation and statistical analysis of average unit areas proved to be most useful. The Thames Valley sample indicates that it is possible to broadly distinguish between sites of certain function and date on the grounds of unit area alone.

Thirty-six (87.80%) of the forty-one sites with areas of 500 m2 or less, (not including sites of unknown interpretation), were interpreted as settlement-related linear systems and all of these are Roman or earlier in date. Indeed, of the fifty-seven sites with unit areas less than 1000 m2 , forty-four (77.19%) are settlements of Roman or earlier date. There are only eight sites smaller than 1000 m2, dated to the Medieval or later period, all the others being of an unknown date. It seems likely therefore that many of these undated sites will prove to be Roman or pre-Roman settlements.

Of the forty-nine linear systems with unit sizes greater than 2000 m2, thirty-four (69.39%) are field or drainage systems, (this percentage of sites rises to 81.81 % for sites larger than 3000 m2). Many of these agriculture-related systems are undated. Of the twenty-one sites which have been dated, fifteen (71.43%) are Roman or earlier. It proved impossible to distinguish function and date for sites with areas between 1000 m2 and 2000 m2.

Settlements and field systems of Roman date can be distinguished by unit size; all settlements being smaller than 2500 m2 and all field systems greater. A similar phenomenon also occurs for Iron Age sites around 2400 m2 , however, the sample

needs to be larger before one can be certain. It was not possible to distinguish the function of Medieval or later sites by unit area, both settlements and field systems possessing wide ranges in size. Statistically however there appears to be a tendency for agriculture-related linear systems to be smaller than settlements. Of the twenty Medieval or later sites with unit areas larger than 1500 m2 , fourteen (70 %) are settlements, whereas, of the eight smaller than 1000 m2, five (62.5%) are agricultural systems. There are seven dated settlement related systems with unit areas greater than 2800 m2 , all of these are Medieval or later.

Within the Thames Valley therefore, Roman or earlier settlement systems tend to be much smaller in average unit areas than their Medieval or later counter parts and sites smaller than 1000 m2 are statistically more likely to be Roman or earlier settlements. Agricultural linear I systems relating to the Roman and pre-Roman periods however tend to be larger than those of later periods.

Provisional total. (all linear systems). 197 sites. (Iron Age -3 site; Roman -16 sites; Unknown Prehistoric -68 sites; Late Medieval 20 sites; Unknown Medieval -27 sites; Post Medieval -5 sites and Unknown -58 eight sites).

4.2.3 Linear features

Introduction

Linear features are defined as: "one or more linear features which cannot be described as an ENCLOSURE or a LINEAR SYSTEM, including trackways, roads and pit alignments". (RCHME 1993). It is however possible to flag a linear feature as a potential part of an enclosure and/or a linear system within the database using the definition check facility. 4575ı sites are classed as linear features in the Thames Valley database.

There is a wide range of monument types in this group including sites from nine of the eleven main thematic groupings. 1796 (39.26%) sites were given purely descriptive interpretations such as ditch and bank and due to their large numbers and the lack of a more specific interpretation, no morphological analysis was specifically undertaken for these sites They are however included in the general morphological analysis below

Morphological analysis

Site form

4139 (90.47%) of the 4575 features are crop-mark sites and 37 (0.81 %) are a combination of crop marks and earthworks. Two sites, both interpreted as banks, are stone features There are therefore only 397 recorded linear features showing as extant earthworks alone The 434 linear features with earthworks, represent 9.49% of the total, of which 295ı (67.97%) are Medieval or Unknown Medieval in date and 38 (8.76%) are prehistoric or Roman. The remaining 101 sites include 3 modem features and 98 of unknown date

There is some correlation between the width of a feature and its form. 271 (62.44%) of the 434 earthwork or crop mark and earthwork sites are wider than 2 m. This percentage increases to 86.84% when looking at the Roman and prehistoric sites alone. Of the 4139 crop-mark sites however, only 1086 (26.24%) are wider than 2 m

The earthwork sites include twelve (66.67%) of the eighteen hollow ways and thirty-two (96.97 %) of the thirty-three lynchets as well as all the moats and woodland boundaries recorded as linear features
270 linear features are recorded in the database as being destroyed, this represents 5.90%ı of the total 4575 sites. These destroyed features include thirty-seven earthwork sites and three combined crop-mark and earthwork sites

Length

During morphological recording, the length of each feature was measured, this being defined as "the length of the longest element being described", (RCHME 1993). For all features which were straight or had angular bends and smooth bends, (and in some cases both), the dimension measured was that of the longest straight portion prior to any major change in direction. This was to allow comparison with the unit length of field systems and the dimensions of rectilinear enclosures. For linear features with the shape single curve however, the maximum dimension across the feature end-to-end was measured; this was to facilitate a comparison with the diameters of circular and sub-circular enclosures.

It must be stressed that the measurable length of a linear feature recorded from aerial photographs, does not necessarily represent the original length of the feature.

Part of the original site may have been destroyed or may be masked by other features such as trees or geological deposits, e.g. alluvium. It was not possible to take these factors into account during the analysis, since the completeness of a linear feature was not recorded in MORPH2 the same way that is for enclosures, (see section 4.2.1).

Site lengths for linear features range from 4-3370 m. The longest feature recorded is the Early Medieval boundary of Grims Ditch, Crowmarsh, Oxfordshire, (106.1.1), which continues eastward out of the project area. The shortest recorded linear feature is a portion of undated ditch, (50.36.1). 3630 (79.34%) of the total 4575 features are less than 200 m in length; 718 (15.69%) are between 200 and 399 m in length and 227 (4.96%) are longer than 400 m.

There is no observable meaningful relationship between length and period for linear features. 1188 (70.05 %) of the total 1696 dated sites are prehistoric or Roman and therefore, there will always be a bias towards these earlier sites for all ranges of length.

Of the 222 linear features interpreted as enclosures and hut-circles, 221 are less than 200 m in length and 148 are less than 50 m in length. When looking solely at hut circles, all twelve sites are between eight and twelve metres in length, which coincides with the modal range of diameters for hut circles within the enclosure database.

In addition to these 222 enclosures and hut circles, there are 721 sites which were flagged as possible enclosures. Of the total 943 possible enclosures recorded as linear features, 905 (95.97 %) have lengths smaller than 200 m. There are seventy-eight dated sites with lengths shorter than 20 m, of which, seventy-seven are Roman or earlier. Similarly, 235 (93.63%) of the 251 dated enclosures below 50 m in length are also prehistoric or Roman.

There are eleven sites flagged as enclosures with lengths greater than 300 m. Of these, nine (81.82%) are Roman or earlier. These sites include three cursus monuments (38.18.1, 330.37.1 and 371.6.1), one causewayed enclosure (555.1.1) and the Iron Age promontory fort of Dyke Hills, Dorchester, (376.28.1).

Trackways and roads range from 8 to 2025 m in length and account for 103 (45.37%) of the 227 linear features over 400 m, including 8 (57.14 %) of the 14 sites over 1000 m in length.

There are 136 sites with the interpretation field system which have been recorded as linear features. These range in length from 40 to 900 m and, seventy (51.47%) are between 100 and 200 m in length. These lengths proved to bear no relationship to the unit lengths of field systems in the linear system database, which ranged from 12 to 255 m. Of the sixty-five linear systems with recorded length measurements, thirty-four (52.31 %) are 45 and 80 m. This lack of correlation between lengths of field systems which were recorded as linear features or linear systems, is due to the way in which linear features were measured. Measurements did not relate to average unit length of the complete system, but recorded the longest straight stretch of the linear feature.

Pattern and shape

The 4575 linear features can be divided into thirty-four morphological groups based on pattern and shape. The most common combination is single straight, representing 1409 (30.80%) of the total.

PATTERN	SHAPE	No.	%
Braided	Mixed	1	0.02
Braided	Sinuous	2	0.0
Braided	Straight	1	0.02
Dendritic	Mixed	4	0.09
Dendritic	Sinuous	1	0.02
Disordered	Mixed	156	3.41
Disordered	Single Curve	3	0.07
Disordered	Smooth Bend	2	0.04
Disordered	Straight	42	0.92
Fan	Mixed	1	0.02
Fan	Straight	2	0.04
Forked	Angular Bend	3	0.07
Forked	Mixed	29	0.63
Forked	Sinuous	2	0.04
Forked	Smooth Bend	6	0.13
Forked	Straight	45	0.98
Parallel	Angular Bend	16	0.35
Parallel	Mixed	54	1.18
Parallel	Single Curve	22	0.48
Parallel	Sinuous	8	0.17
Parallel	Smooth Bend	18	0.39
Parallel	Straight	271	5.92
Perpendicular	Angular Bend	55	1.20
Perpendicular	Mixed	360	7.87
Perpendicular	Single Curve	4	0.09
Perpendicular	Sinuous	7	0.15
Perpendicular	Smooth Bend	37	0.81
Perpendicular	Straight	400	8.74
Single	Angular Bend	578	12.63
Single	Mixed	160	3.50
Single	Single Curve	221	4.83
Single	Sinuous	92	2.01
Single	Smooth Bend	563	12.30
Single	Straight	1409	30.80
TOTAL			**4575**

For most of these morphological categories, there was no noticeable pattern in the types of monument class or period within them. The following observations were however made.

a) Twenty-seven (81.82%) of the thirty-three lynchets have a parallel pattern, the remaining six being single.
b) The 210 sites interpreted as enclosures fall mainly into three categories: 101 (48.10%) are single with angular bends, thirty (14.29%) are single with single curves and forty-nine
(23.33 %) are single with smooth bends. These represent both curvilinear and rectilinear enclosures.
c) As would be expected, all four cursus monuments described as linear features are morphologically single and straight.

d) Eleven of the twelve hut circles recorded as linear features are single features with single curves, the other site is single with a smooth bend.
e) Two of the four causewayed enclosures have parallel single curves, the other two are parallel mixed and single with a single curve respectively.
f) All twelve of the round barrows recorded as linear features have a single curved shape. This is as would be expected of circular or sub-circular enclosures that are only partially showing.

g) There are 203 sites with a disordered pattern, of which, 180 (88.67%) were interpreted simply as ditches.

h) All seven examples of ridge and furrow which were recorded as linear features, have a parallel pattern as would be expected.

i) 779 (90.27%) of the 863 linear features interpreted as transport features (roads, trackways, drove roads and hollow ways) are single features and 492 (57.01 %) of them are also straight.

j) Linear features interpreted as field boundaries and field systems, comprise thirty (54.55 %) of the fifty-five sites with perpendicular pattern and angular bend shape. The remaining ,twenty-five sites are mainly miscellaneous ditches.

Multiple linear features

I
These include all multi-ditched, banked and/or pit features which were described as single features but not parallel. There are 172 multi-linear features in the project area, not including trackways, hollow ways, roads and drove roads.

Three of these sites are formed solely of multiple banks and another three sites of multiple pit alignments, (e.g. 45.20.1. see page 133). 164 sites are multiple-ditched features, although eleven also have banked elements.
I
The majority of these multi-ditched sites are stretches of field boundary and miscellaneous ditch. Other sites include all three bank barrows, two pillow mounds and four cursus monuments. There are two known causewayed enclosures which are double ditched as well as a third site (588.38.1), with at least two causeways which may be another example of this monument type. (See section 4.1.8.4).

The multiple-ditched field boundaries within groups 46.21; 74.28; 84.11 and 26.1 appear to form part of trackway field systems and are illustrated later in this report, see page 136. Two of the multi-ditched features, 587.62.1 and 31.9.1, may form triple-ditched dykes.

The majority of these multiple sites are undated, however, of the eighty-one sites that have been dated, fifty-one (62.96%) are Roman or prehistoric in date.

Large features

There are 1357 features described as large, i.e., having a width greater than 2 m. These include examples from thirty-five of the forty-two monument classes represented by linear features. They consist of all the banks, bank barrows, hollow ways, lynchets, woodland boundaries, hillforts, cursus monuments and geological marks and most of the roads trackways and drove roads. There are ten roads, trackways and drove roads which are narrower than 2 m, in each case due to the fact that only one side of the feature could be plotted.

Linear features with entrances

There are sixty-two linear features which were interrupted by gaps interpreted as entrances. As the table below shows, forty-seven (75.81 %) of these sites lie within three monument classes.

INTERP.	No.	%
ENC	18	29.03
DITC	9	14.52
FBDY	14	22.58
TRCK	15	24.19
BYD	2	3.23
FSYS	4	6.45
TOTAL	**62**	

Of the sixty-two sites with entrances; eighteen were interpreted as enclosures, a further nine sites were flagged as potential enclosures and eleven flagged as potentially part of enclosures and/or linear system. In all therefore, thirty-eight (61.29%) of the sixty-two linear features with entrances, were recorded as relating to enclosures, with varying degrees of certainty.

Of these thirty-eight probable enclosures thirty-four (89.47%) have recorded lengths of 200 m or less, twenty-two (57.89%) are morphologically single features with angular or smooth bends, (indicating rectilinear enclosures) and six (15.79%) are single with single curves, (indicating circular or sub-circular enclosures).

In all seventy entrances were recorded, five features having more than one. It must however be noted, that some entrances may have been double recorded if the entrance occurred between two adjacent and abutting features. The five features with multiple entrances include ~ two trackways, two enclosures and one field boundary.
I
Most entrances are terminally defined as shown below.

ENTRANCE TYPE	No.	%
Terminal Defined	50	71.43
Structurally Defined	11	15.71
In-turned	5	7.14
Pit Defined	1	1.43
Antenna or Funnel	3	4.29
TOTAL	**70**	

In addition to the seventy entrances, 906 other linear features were recorded as interrupted, but the gaps were not interpreted as entrances. There were too many sites to investigate individually, but further investigation may reveal that some of these interruptions are in fact entrances after all.

Linear features with foundations

There are only seventeen linear features which are defined by foundations. Of these, fourteen (82.35%) are Roman and three (17.65%) are Medieval. These sites are

restricted to four monument types: buildings (four sites), walls (four sites), roads (eight sites) and trackways (one site).

Pit-defined linear features

There are thirty-three linear features which are pit-defined, including one building and thirty two pit alignments. The building, at Roughground Farm, Lechlade, Gloucestershire, (58.27.8.), has been dated to the Roman period by extensive excavation.

Two of the pit alignments have been dated to the Iron Age, seventeen as Unknown Prehistoric, one as Unknown Medieval and twelve of unknown date. One of the Iron Age sites have been dated through excavation, however the other thirty-one sites were dated through morphology alone or through association with other dated sites. The table below shows the range of pattern and shape represented.

PATTERN SHAPE	No.	%
Single Straight	18	54.55
Single Single Curve	3	9.09
Single Mixed	2	6.06
Single Smooth Bend	5	15.15
Single Sinuous	2	6.06
Single Angular Bend	1	3.03
Parallel Straight	1	3.03
Forked Mixed	1	3.03
TOTAL	**33**	

Enclosure-related linear features

There are 943 sites which are either interpreted as enclosures or flagged as enclosures. This I represents 20.61 % of the total 4574 linear features. Some of these sites have already been discussed above under entrances. (See page 131).

Of these 943 sites, 140 have a single-curved shape, representing 56.45% of the total 248 single-curved features in the database. These single-curved sites are likely to be incomplete

circular or sub-circular enclosures such as hut-circles and round barrows.
319 of the 943 linear features which were flagged as, or interpreted as enclosure sites change

direction via angled bends. These represent incomplete rectilinear enclosures with angled corners. There are also 176 features which change direction via smooth, rounded bends which represent incomplete rectilinear enclosures with curved corners.

It is interesting to compare these sites with those within the enclosure database. Of the 2630 enclosures with corners, 1746 (66.39%) are angled and 884 (33.61 %) are curved. The I percentages are very similar to those of the 495 linear features with angular and smooth bends that were interpreted as enclosures; 319 (64.44%) are angular and 176 (35.56%) are smooth.

Similarly, there are 799 sites within the enclosure database with circular or sub-circular shapes representing 14.92% of the total 5357 enclosure sites. In comparison, there are 140 I probable enclosure sites within the linear feature database with a single curved shape, which represents 14.85 % of the total 943 probable enclosures recorded as linear features.

Agriculture-related linear features

There are 1291 sites within the linear feature database interpreted as field boundaries and 136 I interpreted as field systems. In addition, there are 413 other linear features which were flagged as linear systems which are related to agricultural activities, and a further 36 individual sites within groups which were interpreted as field systems. There are therefore I a total of 1876 individual linear features which in one way or another were recorded as forming part of larger field systems.

Linear features interpreted as field systems. As the table on page 135 shows, 129 (94.85%) of the 136 linear features which were interpreted as field systems have a perpendicular pattern. I
The sheer numbers of linear features relating to field systems, meant that it was not possible

to look at the plots of every single site individually. The final plots were therefore manually studied and all fragmentary field systems formed of individual linear features were noted. As was the case with Linear Systems, the plots were then compared with the Monuments Protection Programme Single Monument Class Descriptions.

PATTERN	SHAPE	NO.	%
Perpendicular	Straight	63	46.32
Perpendicular	Angular bend	10	7.35
Perpendicular	Mixed	52	38.23
Perpendicular	Smooth bend	3	2.21
Perpendicular	Sinuous	1	0.74
Parallel	Straight	2	1.47
Parallel	Mixed	1	0.74
Forked	Straight	1	0.74
Forked	Angular bend	1	0.74
Single	Straight	1	0.74
Single	Mixed	1	0.74
TOTAL		**136**	

In most cases, the sites were either too fragmented to allow any comparison, or it was only possible to distinguish between regular and irregular forms. In twenty-three cases however, tentative classifications were made. These classifications were more difficult to achieve than those made for linear systems, owing to the more fragmentary nature of the evidence. For full descriptions of the monument classes, see Linear System Section 4.2.2.

Coaxial field systems

Trackways and Roads

There are 863 sites in the linear features database with interpretations of trackway, road, hollow way and drove road. The majority (97.80%) are ditched features with at least one, but generally two or more, ditches. Ten sites have banked components of which five are hollow ways and five are trackways. Six of these banked features are Medieval or later in date, two are Unknown Prehistoric and two are undated. There are nine sites with metalled surfaces visible as solid crop marks, all of which are Roman in date.

Twenty-seven (87.1 %) of the features interpreted as roads are of Roman date, fifteen (83.33%) of the hollow ways are dated Medieval or Unknown Medieval and six (54.55%) of the drove roads are Roman or earlier. Assigning a date to a trackway on the strength of aerial photographic evidence alone is generally not feasible and therefore the majority, 457 (56.91 %), of the 803 trackways are undated.

The Trackway at the northern end of the Dorchester cursus (371.28.1), has been recorded in the database as Unknown Prehistoric in date. Whittle et al. (1992, 160), however, have interpreted the site as a Later Bronze Age field system. If this is the case, the site is likely to be another example of a Trackway field system.

Interrupted Ditch Features

There are 907 linear features which were recorded as interrupted, this is 19.83 % of the total linear feature database. The large numbers of sites meant that the plots of each of these sites could not be looked at manually in order to determine whether they had been deliberately interrupted during construction or if they were merely incomplete features.

A manual study of the final plots was however carried out and five sites were noted as appearing to have deliberately interrupted ditches. These included three stretches of ditch, a field system (555.4.4) and a possible enclosure (329.11.1).

Conclusions

1) There is no recognisable relationship between linear feature length, period or interpretation.
2) The method of measuring single curved features .in a direct line from end to end allows a direct comparison with sub-circular and circular features within the enclosure database.
3) By measuring the longest straight portion of angular and smooth bend features, it is possible to directly compare these features with rectilinear enclosures. This measurement however, does not appear to bear any relationship with unit lengths of linear systems as perhaps would be expected.
4) By flagging linear features as incomplete enclosures, it is possible to reconstruct certain aspects of the general morphology of enclosures from their fragmentary remains.
5) In some specific cases such as lynchets, barrows and cursus monuments, there is a definite link between pattern and interpretation. For the majority of linear feature sites however, no such relationship could be recognised.

Provisional total. 4572 sites. (Neolithic -13 sites; Bronze Age -19 sites; Iron Age -62 sites; Roman -201 sites; Unknown Prehistoric -891 sites; Early Medieval -4 sites; Medieval 124 sites; Post Medieval -38 sites; Unknown Medieval -342 sites; Modem -8 sites and Unknown -2870 sites).

4.2.4 Maculae

Introduction

Macula is used to describe area crop or soil marks, earthworks or stonework features of any shape or size, (RCHME 1993). This includes all area features, from small pits to extensive areas of quarrying. There are 1120 sites classed as maculae in the Thames Valley database, which represent a total of 11,204 individual maculae. These sites can be broadly divided into seven of the eleven main thematic groupings.

Thematically unassigned sites form the largest grouping with 704 (62.86%) of the total, the majority of these are pits and pit clusters which comprise 690 sites. Industrial sites form the next largest group which contains 354 gravel pits, extractive pits and quarries. There are thirty-four sites relating to the domestic environment including eighteen grubenhäuser, thirteen hut circles and three tofts. The religious, ritual and funerary group comprises thirteen barrows including bowl, pond and round forms; one stone circle; one inhumation site and two inhumation cemeteries. The remaining eleven sites consist of three defensive mottes; six water related fishponds and two agricultural sites including a pillow mound and a corn dying oven.

A full thematic report can be found in section 4.1, this section will therefore deal specifically with macula morphology.

Morphological analysis

Site form

1105 maculae (98.66%) are negative or cut features, with only fourteen (1.25%) positive sites and one flat. Positive maculae are those which were originally built-up features and this group includes all of the bowl barrows, mottes, pillow mounds, platforms and tofts. The single flat site within the database is a hut-circle.

1097 (97.95 %) of these area features survive only as crop marks with twenty-one earthwork sites and two surviving as a combination of crop mark and earthworks. All but nine of the sites showing solely or partially as earthworks are Medieval or Post Medieval in date, the other sites being five extant bowl barrows and four undated pits.

Size

Very small. Maculae smaller than 1 m in diameter were classed as small. At 1: 10,000 scale transcription methods will affect the identification of sites in this small size range and only seven sites were recorded in the project area. All of the sites in this size range are pits or pit clusters, six are of Unknown Prehistoric date and one is undated.

Small. More than half of the 1120 maculae were classed as small, with maximum dimensions between 1 and 4 m. These include grubenhäuser, hut circles, inhumations, a stone circle and gravel pits. 544 (94.12 %) of these small sites however, were pits and pit clusters.

There are roughly similar numbers of undated and Roman and Pre-Roman small maculae, 278 and 275 respectively. Medieval sites are not common in this size range with only seven dated to the Early Medieval period (six grubenhäuser and a pit) and eighteen Unknown Medieval sites.

Medium. There are 303 sites with maximum dimensions ranging from 4 to 15 m, most of which are undated. Of those which have dates, 111 are Early Medieval or later and 77 Roman or earlier. Unassigned pits and mineral extraction pits were the most common types of site with barrows, grubenhäuser and hut-circles also represented.

Large. Maculae with maximum dimensions ranging from 15 to 50 m were classed as large. There are 166 large maculae within the Thames Valley database, of which, 122 (73.49%) are Medieval or later in date and only nine, Roman or earlier. The Roman or earlier sites included four bowl barrows, three pits, one gravel pit and a Roman corn drying oven, whereas 116 (95.08%) of the Medieval or later maculae are mineral extraction sites.

Very large. Only sixty-six (5.89%) maculae are very large, Le. over 50 m in maximum dimension. These include six undated sites and sixty Medieval or later in date. There are therefore no very large maculae dated to the Roman or prehistoric periods. Fifty-two (86.67%) of the Medieval or later maculae are mineral extraction sites, the others include fishponds, mottes, platforms and tofts.

Pattern and shape

The maculae were divided into twenty-six groups based on pattern and shape and the spread of different monument types and periods across these groups studied. For the majority of these groups there was no recognisable patterning of sites, however, the following observations could be made.

6) The most common pattern is random, and the most common shape is round. 419 (37.41 %) of all maculae are both random and round.

7) Twenty (90.91 %) of the twenty-two sites which are random and amorphous are mineral extraction sites. In addition, 79 (77.45 %) of the 102 amorphous sites in the database are gravel pits and quarries, all of which are Medieval or later in date.

8) All seven of the ordered mixed sites are gravel pits.

9) Twenty-one (84%) of the twenty-five maculae with polyfocal pattern and round shape are interpreted as pits, these include one pit cluster.

10) 607 (87.97 %) of the 690 pits and pit clusters have a round shape, these constitute 89.93 % of the total 675 round sites in the database. Of these 690 pit features, 218 (31.59%) form part of larger groups which were given overall interpretations relating to settlements e.g. farmstead, settlement and villa.

The morphological observations above are only of the most general nature. Since 1050 (93.75%) of the total 1120 macula sites are known only from aerial photographs, many maculae interpretations, especially those of pit and gravel pit, were based on site morphology alone, rather than associated archaeological evidence. For example, 521 (96.48%) of the 540 small round maculae were interpreted as pits, of which, only 27 (5.18%) have information from fieldwork or documentary research. Small round maculae were routinely interpreted as pits in the absence of other evidence to the contrary.

PATTERN	SHAPE	No.	%

Linear	Amorphous	2	0.18
Linear	Mixed	4	0.36
Linear	Oblong	18	1.61
Linear	Rectangular	5	0.45
Linear	Round	52	4.64
Nucleated	Amorphous	2	0.18
Nucleated	Oblong	5	0.45
Nucleated	Round	15	1.34
Ordered	Amorphous	2	0.18
Ordered	Mixed	7	0.63ı
Ordered	Oblong	16	1.43
Ordered	Rectangular	17	1.52
Ordered	Round	22	1.96
Polyfocal	Amorphous	1	0.09
Polyfocal	Mixed	1	0.09
Polyfocal	Oblong	2	0.18
Polyfocal	Round	21	1.88
Random	Amorphous	22	1.96
Random	Mixed	61	5.45
Random	Oblong	68	6.07
Random	Rectilinear	14	1.25
Random	Round	419	37.41
Single	Amorphous	75	6.70
Single	Oblong	80	7.14
Single	Rectilinear	43	3.84
Single	Round	146	13.04
TOTAL		**1120**	

Mineral extraction sites

There are a total number of 354 maculae sites with interpretations of gravel pit, extractive pit or quarry. These range in date from Roman to Modern and in size from small to very large. The majority, 259 (73.16%), are Unknown Medieval in date with only five dated to the Roman or Unknown Prehistoric periods. The very large sites are either Modern, Post Medieval, Unknown Medieval or of an unknown date.

Extractive pits associated with roads

There are two maculae sites which were dated by their association with Roman roads, (112.1.1 and 128.15.2. See Thematic Report 4.1.5.1.). Their positions along the edge of the roads suggests that they are extractive pits related to the construction of the agger surface. A visual check of the final plots yielded two other similar maculae sites associated with roads or trackways, 101.15.1-3 and 349.37.1.

Medieval gravel pits

There are a total number of 278 gravel pits dated to the Medieval, Post Medieval or Unknown Medieval periods. These range in shape from round to rectangular, with oblong sites being the most common. The oblong and rectangular sites (160 in all) are spread throughout the project area, however, 51 (71.83%) of the 71 oblong and rectangular sites with more than two maculae are in Block 2.

The individual gravel pits within these groups of maculae, are often orientated on a common alignment. The regularity of these maculae suggests that they are probably

Medieval or Post Medieval in date and they possibly follow the line of earlier ridge and furrow fields. However, as the illustrations show, the majority of the larger complexes of rectangular gravel pits, lie in close proximity to Bronze Age round barrows or prehistoric settlements, and a re-evaluation of their interpretation may be necessary.

Grubenhaüser

There are eighteen sites within the macula database which were interpreted as grubenhäuser and of these, only three sites have been dated as a direct result of archaeological excavation.

Fifteen of the eighteen sites have a random pattern, the remaining three being single features. Little can be said concerning grubenhäuser shape other than ten of the sites, or groups of sites recorded, are longer than they are broad (Le oblong or rectangular in shape) and two are round. Six sites form groups of grubenhäuser of several different shapes.

Within MORPH2, small sites are classed as those with maximum dimensions in the range of 1 to 4 metres, and medium sites with dimensions of 4 to 15 m. Grubenhaüser typically range from 3 the 6 m in maximum dimensions and therefore span these two size ranges; a change to MORPH2 to reflect this is recommended.

The database was searched for other possible grubenhäuser based on the morphological characteristics of those already recorded. Single and round sites were not included in the search and neither were sites already interpreted as gravel pits or quarries. The search highlighted thirty-three new sites which could also possibly be grubenhaüser.

Unusual maculae formations

There are a number of maculae sites, mainly interpreted as pits, pit clusters or gravel pits with unusual ordered patterns, a number of which are illustrated below. Sites 128.41.1 and 119.4.2 were interpreted as a group of undated pits and an Unknown Prehistoric pit cluster respectively.

The curved fan-like alignment, common to sites 8.9.1-2, 32.22.1 and 588.2.1 is unusual within the Thames Valley. All three sites were interpreted as Medieval or later gravel pits from aerial photographic evidence only and not from archaeological excavation.

The parallel, rectangular maculae, (588.14.1-5), situated on Port Meadow, west of Oxford were interpreted as modem military features, probably dating to World War II.

Conclusions

11) The majority (93.75%) of maculae sites have not been investigated archaeologically by field-walking or excavation, and therefore interpretations are generally based on morphological characteristics. The large number of recorded pits for example, is in part due to the fact that small round maculae were routinely given the interpretation pit, in the absence of other evidence.

12) There are only fifteen sites interpreted as grubenhäuser, however, this site type was very hard to identify due to its morphological overlap with other site

types such as pits and gravel pits. It is very likely therefore that many more were plotted but have not been recognised as such.

13) There appears to be a correlation between maculae size and date. Roman and prehistoric sites cluster mainly in the very small to medium size ranges and Medieval and later sites in the large and very large ranges.

14) There does appear to be a general relationship between the morphological characteristics and the interpretation of certain specific site types, (see Pattern and shape, page 141). For the majority of maculae however, no such relationship could be recognised.

Provisional total. 1120 sites. (Neolithic -6 sites; Bronze Age -22 sites; Iron Age -34 sites; Roman -30 sites; Unknown Prehistoric -273 sites; Early Medieval -19 sites; Medieval 14 sites; Post Medieval -20 sites; Unknown Medieval -262 sites; Modem -5 sites and Unknown -435 sites).

4.2.5 Industrial complexes

There are no industrial complexes within the area of the Thames Valley project.

4.2.6 Possible new classes

There are five possible new classes.

1) Site 373.1.1 at Warborough is unique within the project area and may represent a new class of monument. It has variously been interpreted as an aberrant form of cursus and an unusually large mortuary enclosure but does not appear to fit well within either of these classes. It may be an unusual expression of part of the long barrow -bank barrow -cursus monument continuum but is unlike any other sites recorded. A Neolithic date is assumed, but not proven. See illustration below.

2) In section 4.2.1 a group of polygonal enclosures with five sides and varying sizes have been identified and illustrated (see page 98). They are not dissimilar to a group of five enclosures in Hertfordshire identified as a possible new class in the course of the mapping project undertaken in the county. In Hertfordshire one of the sites had been dated to the Iron Age (Fermer 1992, 20). An Iron Age date for the class as a whole would not be inconsistent with the evidence from the Thames Valley, some of the sites being recorded as Iron Age, or of Unknown Prehistoric date.

3) Small triangular enclosures, some of which have been illustrated on page 97 may represent a third new monument class. They appear to be a specific type of enclosure associated with Prehistoric or Roman settlement and their recurring morphological characteristics may be the result of a specific function.

4) The excavated Bronze Age settlement enclosures at Corporation Farm have a number of parallels within the project area, in terms of the shape of the individual enclosures and their layout with respect to each other; they are illustrated on page 99. Such small groups of conjoined rectilinear enclosures may represent a specific form of settlement not previously recognised for the Thames Valley.

5) 351.23.1, the excavated long or oval barrow at Barrow Hills, Radley (see section 4.1.8.9 above) has a close parallel within the project area at Langford (46.40.7). The crop mark of 351.23.1 at Barrow Hills is the result of several phases of activity one of which is thought to be closely contemporary with the causewayed enclosure at Abingdon on the basis of identical ditch deposits. 46.40.7 is just under 2 km to the north-west of one causewayed enclosure (46.25.1) and c. 2.5 km to the north-east of a second site at Langdon (59.32.1); its form may reflect a similar sequence of events as at Barrow Hills. These two sites could represent a new class; both are illustrated on page 101.

4.3 PERIOD SUMMARIES

4.3.1 Unknown

Code	Interpretation	No. of records
BANK	Bank	24
BDRY	Boundary	2
BYD	Boundary ditch	14
BLD	Building	2
DV	Deserted village	2
DITC	Ditch	1298
DRAN	Drain	18
DSYS	Drainage system	7
DRRD	Drove road	3
ENC	Enclosure	1198
FMS	Farmstead	1
FELD	Field	2
FBDY	Field boundary	841
FSYS	Field system	106
ANNX	Annexe	2
GEOM	Geological marks	9
GRA	Gravel pit	63
HOLO	Hollow way	2
HTCL	Hut circle	13
LYNT	Lynchet	8
NATF	Natural feature	3
PIT	Pit	356
PITA	Pit alignment	12
PITC	Pit cluster	4
QRRY	Quarry	12
ROAD	Road	2
SET	Settlement	12
STEN	Stock enclosure	1
TRCK	Trackway	457 ,.
UNKO	Unknown*	9
WCE	Watercourse	2
TOTAL		**4485**

Code	Group interpretation	No. of records
FMS	Farmstead	18
FSYS	Field system	18
INCM	Inhumation cemetery	1
SET	Settlement	25
TOTAL		**62**

Sites of unknown date represent 40.41 % of the total database and include monuments belonging to four of the five MORPH2 site types (there are no industrial complexes in the Thames Valley survey area). With a project based on aerial photographic sources it is inevitable that there will be a fairly high proportion of sites which cannot be dated. Many of the undated sites also have non-diagnostic interpretations with no suggestion of function, the most common interpretations being

(in descending order) ditch, enclosure, field boundary and trackway. For some of the interpretations, e.g. field boundaries, the same basic morphological characteristics recur again and again over time; it is not possible to even hazard a guess as to the date of anyone site. For other sites such as enclosures, the analyses undertaken and reported upon under section 4.2.1 suggest that for some small groups of sites a date may tentatively be suggested.

4.3.2 Pre-Neolithic

No pre-Neolithic monuments have been recorded during this project. Given the nature of Palaeolithic and Mesolithic sites this is hardly surprising in a project concerned with transcription from aerial photographs. Incorporation of data from other sources concerning pre-Neolithic sites would complement this study; in particular Mesolithic settlement patterns, as revealed by artefact scatters, would provide a relevant background to discussion of the Neolithic landscape.

4.3.3 Neolithic

Code	Interpretation	No. of records
HNFM	Hengiform monument	6
BKBW	Bank barrow	3
CENC	Causewayed enclosure	12
CSRD	Causewayed ring ditch	2
CURS	Cursus	16
ENC	Enclosure	9
HNGE	Henge	4
LOBW	Long barrow	15
MORT	Mortuary enclosure	16
PIT	Pit	6
RDBW	Round barrow	13
TOTAL		102

Neolithic monuments represent less than 1% (0.91 %) of all the sites recorded from aerial photographs. The range of monuments recorded is restricted to funerary or 'ritual' sites. This includes causewayed enclosures, but acknowledges the current debate concerning their function. The pits are all associated with ritual monuments and assumed to be contemporary.

Neolithic sites have been recorded as crop marks throughout the project area: Fig. 35 shows their distribution and illustrates that it is a far from even one. There are small clusters of sites at a number of locations, including in the Lechlade area, the Stanton Harcourt area and the Abingdon area. The largest and most noticeable concentration of sites is in the stretch of the river valley running from Dorchester to Benson and North Stoke, where excavation has shown a long period of Neolithic activity.Such diverse monuments as mortuary enclosures, bank barrows, henges, and hengiform and cursus monuments have been investigated.

It is noticeable that many of the groups of sites are near the confluence of two or more rivers; for example the small cluster at Lechlade is close to the rivers Thames, Cole and Leach, whilst the well-known group of sites at Dorchester is near the confluence of the Rivers Thames and Thame. In other areas where there are extensive gravel terraces, for example to the north of the Thames between Lechlade and Stanton Harcourt, the absence of comparable groups of Neolithic sites may indicate that the distribution of sites is a genuinely archaeological one. Deliberate siting of monuments close to the junction of water courses may be a Neolithic

phenomenon. However, the distribution must be viewed with a degree of caution for it is precisely in those areas where groups of Neolithic sites are largely absent that later settlement, especially that dating from the Late Bronze Age to the Roman period, is most extensive. There is no way of knowing the degree to which later activity has destroyed all evidence of earlier sites; the causewayed enclosure at Langdon (59.32.1) clearly shows the juxtapositioning of monuments from both earlier and later prehistory. It is interesting to note that the distribution of cursus monuments and causewayed enclosures is a mutually exclusive one. The distribution of pit/timber circles and henges, when compared to that of cursus monuments and causewayed enclosures, is also instructive, and similar observations about differences in Neolithic distribution patterns elsewhere in Britain, including Scotland, have been made (G. Maxwell, pers. comm.).

Case has in the past stated that "long barrows, bank barrows, long mortuary enclosures and cursuses are an interlocking Middle Neolithic series" (Case 1982, 69). This has been borne out by the results here, in both the thematic and morphological reports (sections 4.1 and 4.2 respectively). There is overlap at both ends of the spectrum between long barrows and mortuary enclosures, and cursus monuments and bank barrows. For example the shortest cursus recorded is 115 m long, well within the length range of those bank barrows within the project area. Over ten years has passed since the published work of Loveday and Petchey in this field (Loveday and Petchey 1982). Not only has the number of sites available for study increased but a number of excavations have now been published that were not previously available. The oval barrow is a site type .that has been resurrected more recently, and the overlap between long barrows and oval barrows is discussed in sections 4.1.8.9 and 4.2.1. The different dates implied by the two types of barrow is an important distinction and one that reinforces the need to be able to distinguish between them on aerial photographs with a degree of certainty. A review of the subject is recommended.

As well as 'long' enclosures and the large curvilinear causewayed enclosures and henges, small square Neolithic monuments have been recognised, as have small round ones. Some curvilinear enclosures are as early as the long enclosures, as proved by the excavations at Dorchester. The square enclosures are represented by such sites as Dorchester I and 307.26.2 at Sonning in Berkshire (Slade 1964); their function is currently unknown but assumed to be of a ritual nature. The round enclosures are represented by small hengiform enclosures and round barrows. Small curvilinear enclosures can only conclusively be identified as being Neolithic in date as a result of excavation. There is an overlap in terms of size between causewayed ring ditches and hengiform monuments, the diameters of all hengiform monuments being within the maximum range of diameters of causewayed ring ditches.

However, given the known morphological characteristics of these monuments, aerial photography can locate and suggest those other sites which may on excavation prove to belong to the site type, taking into account proximity to and relationship with other Neolithic and Bronze Age monuments. The same is also true for Neolithic round barrows which morphologically overlap with a much larger number of other sites of Bronze Age or later date. Again, proximity to other monuments may suggest an early date, but this will only be proved conclusively by excavation.
Aerial photography must be regarded as one technique for the investigation of the Neolithic period. As the extensive excavations at Barrow Hills, Radley have shown, features between the larger monuments are as important as the monuments themselves, if not more so (more people were buried between the barrows at Barrow Hills than under them). Most of these smaller features are not visible on aerial photographs.

4.3.4 Bronze Age

Code	Interpretation	No. of records
BRW	Barrow	2
BOBR	Bowl barrow	6
DITC	Ditch	4
ENC	Enclosure	15
HTCL	Hut circle	2
PIT	Pit	8
POBO	Pond barrow	4
RDBW	Round barrow	866
STCL	Stone circle	1
TOTAL		**908**

Code	Group interpretation	No. of records
BCEM	Barrow cemetery	30
FSYS	Field system	1
TOTAL		**31**

In common with the Neolithic period the range of monuments recorded for the Bronze Age is restricted mainly to funerary or 'ritual' sites. Bronze Age sites represent 8.10% of the total number of sites. Round barrows are by far the most numerous site type recorded for the period and have been transcribed singly and in cemeteries (five or more sites in close proximity). The cemeteries can be divided into two types, nucleated and linear, neither of which is predominant in the project area. The distribution of both types of cemetery is essentially riverine, and that of linear cemeteries is more limited. Both types only occur in close proximity to each other in two areas, the Lechlade area and the Standlake -Stanton Harcourt -Eynsham area. The excavated cemetery at Barrow Hills, Radley, is unique within the Thames Valley west of London and is most closely paralleled with sites in Wessex.

Throughout this report the assumption has been made that all ring ditches are the remains of ploughed-out round barrows. Excavation has shown this is not necessarily true. It is recommended that this be looked at in more detail in the context of the Thames Valley, although from an aerial photographic point of view it may not be possible to tell in most cases whether a ring ditch was originally accompanied by a mound or not. It is also possible that some of the sites recorded here as ring ditches are actually hut circles, there being a clear overlap in tenns of diameter between the two types of site. The range of diameters of hut circles as a group has been shown to be a relatively narrow one, whilst that of round barrows is much wider. On a site by site basis, however, it can be very difficult to tell the two monument classes apart. Apparent relationship to other features in the vicinity may be all that has led to the interpretation given in any particular case.
As can be seen from the above list only two Bronze Age hut circles have been recorded; in both cases excavation has confinned their date. Although a few Late Bronze Age settlements are known (for example the settlement immediately outside the hillfort at Wittenham Clumps has its origins in the Late Bronze Age) there is a dearth of Bronze Age settlement evidence from crop-mark sources. It is possible that more sites belonging to this period have been transcribed than have been recorded as Bronze Age. The work in section 4.2.1 on conjoined enclosures similar to those excavated at Corporation Fann suggests that there may be a number of similar sites in the project area. It is also possible that some of the predominantly curvilinear groups of settlement enclosures and hut circles that have been recorded as

Unknown Prehistoric in date are in fact the remains of Late Bronze Age settlement. In section 4.1. 3.6 on settlement, sites have been listed that are thought to be Middle Iron Age or earlier in date; some may be Bronze Age. It is also possible that much of the Bronze Age settlement evidence remaining to be found will be located by means other than aerial photography. The excavations at Yarnton have shown that the ring ditches are on higher ground than the settlements, which have been masked by alluvium. There may well be other settlements on the valley floor that are invisible to the aerial photographer.
Bronze Age monuments have been found throughout the project area (see Fig. 36). At a number of locations a high density of sites are found in close proximity, for example Stanton Harcourt and to the west of Dorchester. Surprisingly few sites have been recorded to the north of the river in parts of Block 2, but it is possible that this may be explained by the density of later settlement activity in these areas. The Bronze Age landscape could have been re-used and masked by later inhabitants of the Thames Valley, or destroyed. Although many earthworks have been recorded from vertical and oblique photographs at the western end of the project area on clayey soils that are subject to a degree of waterlogging, no upstanding Bronze Age round barrows have been recorded. It is therefore possible that the heavier soils were essentially avoided by the barrow builders.

4.3.5 Iron Age

Code	Interpretation	No. of records
BLD	Building	1
DITC	Ditch	26
DRRD	Drove road	1
ENC	Enclosure	184
HLFT	Hillfort	6
HTCL	Hut circle	162
FBDY	Field boundary	13
FSYS	Field system	1
ANNX	Annexe	3
PIT	Pit	33
PITA	Pit alignment	
2I		
RAMP	Rampart	1
SET	Settlement	
SQBW	Square barrow	22
TRCK	Trackway	9
TOTAL		**446**

Code	Group interpretation	No. of records
FMS	Farmstead	9
OPDA	Oppidum	1
SET	Settlement	15
TOTAL		25

Prior to the Iron Age most of the monuments recorded from aerial photographs are 'ritual' in nature, with little or no evidence for settlement. From the Iron Age onwards, however, domestic sites dominate numerically, with few or no ritual or funerary sites in the aerial photographic record. Only 446 Iron Age sites have been recorded compared to the 908 Bronze Age monuments, but this reflects the number of sites

excavated, not the potential number of Iron Age sites in the study area. Iron Age sites currently represent 3.96% of the database, but many of the Unknown Prehistoric settlements are likely to be Iron Age in date. A greater range of monument classes has been recorded in the Iron Age than in earlier periods, from the hillforts and a possible oppidum at one end of the spectrum to enclosures, hut circles and pits at the other.

In 1986 Miles stated that "no Oxfordshire hillfort has been excavated on any scale." (Miles 1986, 51). This is true not just for hillforts in the Oxfordshire section of the project area but for all six of the hillforts in the project area. In the same article the contrasting amount of attention received by hillforts in Wessex and other areas, compared to those in Oxfordshire is stressed. The understanding of the sequence of settlement patterns in the Thames Valley in the Iron Age requires landscape archaeology projects which will incorporate information about all types of sites from all available sources. The role of hillforts in the Thames Valley, and their relationship to other settlements is a surprisingly unknown quantity. Work in progress outside the project area at Uffington Castle, being undertaken by the Oxford Archaeological Unit, will shed some light on the matter but much more remains to be done.

Further work is also needed on defended sites within the Thames Valley with interpretations other than hillfort. The valley fortification at Burroway, Clanfield, the possible oppidum at Dyke Hills and the large defended enclosure at Cassington Mill are all low-lying sites close to the River Thames. Each is close not only to the Thames but also to its confluence with one of its tributaries: at Dyke Hills with the Thame, at Cassington with the Evenlode, and at Burroway with the Burroway Brook. The limited excavation available for all defended sites (including hillforts) suggests "that local hillforts were no longer occupied in the Late Iron Age" (Miles 1986, 51). It has been suggested there was a shift in emphasis at the end of the Middle Iron Age, away from the hillforts to the defended sites on the valley floor. The sequence of events may not, however, be so clear-cut. A Late Iron Age date has been confirmed by excavation for Cassington, and is postulated for the unexcavated Dyke Hills. It is however suggested in section 4.1.3.5 above that Dyke Hills (or some elements within it) may be earlier than Late Iron Age in date whilst limited excavation suggests the valley site at Burroway dates to the Early or Middle Iron Age. Some of the low-lying defended enclosures may therefore be contemporary with the hillforts, rather than later than them.

The siting of the valley floor enclosures may have been connected with the control of trade up and down the River Thames, or influenced by the location of river crossings. The positioning of the low-lying sites could also have been a result of the increasing importance of the River Thames as a boundary. Further work on Iron Age defended enclosures is needed, against the background of other contemporary settlement, including investigation of the possible new defended enclosure 513.1.1 (see section 4.2.1 above but note the reservations).

Although the MORPH2 data does not distinguish between Early, Middle or Late Iron Age sites, the combination of aerial photographic data with excavation evidence suggests a change in settlement type in the Late pre-Roman Iron Age accompanied in some cases by a shift in settlement location as well. At Gravelly Guy, excavation has shown a settlement shift at the end of the Middle Iron Age, accompanied by a change from predominantly curvilinear to rectilinear methods of enclosure. At Thornhill Farm there is also a physical shift in the settlement at the end of the Middle Iron Age, although pottery studies suggest the 'Middle Iron Age' may end later than previously thought (D. Jennings pers. comm.). The evidence presented above under settlements (section 4.1.3.6) suggests that it is possible to use a c~mbination of

morphological characteristics to distinguish between Middle Iron Age or earlier sites and Late Iron Age or Roman sites. The enclosures within Middle Iron Age settlement sites appear to be predominantly curvilinear; the settlements appear to be unenclosed with few associated field systems but .they may have had hedged fields. The excavations at Mingie's Ditch and Watkins Farm have tentatively identified the presence of hedging within the immediate environment of the sites; the lack of linear systems recorded with the settlement sites of Middle Iron Age or earlier date is also consistent with the use of hedging or hurdling as a method of boundary marking.

The initial analyses carried out on the small sample of enclosures within groups interpreted as farmsteads (see section 4.1.1.2 above) also suggests morphological characteristics can be used to distinguish between Iron Age and Roman farmsteads. A higher percentage of Iron Age enclosures were found to be curvilinear, and their internal areas are usually smaller. Given the small sample size available for analysis, it is recommended that a similar approach be adopted to a much greater number of securely-dated sites to see if the preliminary results obtained here can be confirmed.

It is more difficult to distinguish between Late Iron Age and Roman sites on morphological grounds, particularly when considering Romano-British rather than Roman sites. Further work is needed to determine whether some of the morphological characteristics that seem to distinguish Iron Age and Roman enclosures and linear systems from each other can be used to separate Late Iron Age and Romano-British sites. It may be that conservative approaches to style have resulted in 'Late Iron Age' settlements, in morphological terms, continuing to be constructed into the Roman period.

The distribution of Iron Age monuments illustrated in Fig. 37 is unlikely to reflect the full extent of Iron Age settlement in the Thames Valley. Certain trends are observable though, including the density of sites near Lechlade, Oxford and Dorchester. It is certain that the gravel terraces north of the river in the Upper Thames Valley were more densely occupied, many of the Unknown Prehistoric settlements probably belonging to the Iron Age. In order for this settlement pattern to be placed in its proper context, it needs to be viewed against the background of the large hilltop and valley floor defended enclosures, both within the project area and outside it.

4.3.6 Roman

Code	Interpretation	No. of records
BAR	Barn	2
BYD	Boundary ditch	2
BLD	Building	38
CNDR	Corn drying oven	1
DITC	Ditch	37
DRRD	Drove road	2
ENC	Enclosure	164
EXTP	Extractive pit	2
FMS	Farmstead	4
FBDY	Field boundary	65
HTCL	Hut circle	4
IHUM	Inhumation	1
INCM	Inhumation cemetery	1
PIT	Pit	24
ROAD	Road	27
SET	Settlement	5

STEN	Stock enclosure	1
TEMP	Temple	1
TRCK	Trackway	39
VILL	Villa	2
WAL	Wall	2
TOTAL		**424**

Code	Group interpretation	No. of records
FMS	Farmstead	6
FSYS	Field system	4
SET	Settlement	16
TOWN	Town	1
VILL	Villa	9
TOTAL		**36**

The range of Roman monuments recorded reflects the settlement patterns of the Roman period, and there is also limited evidence for burial practices. No Roman barrows been recognised although it is possible that some of the barrows interpreted as belonging to the Bronze Age may in fact be Roman. No Roman forts, camps or other military installations were identified. 3.77% of the total number of sites recorded are Roman, but this primarily reflects the number of sites excavated. Many of the Unknown Prehistoric settlements are likely to be Roman in date.

Although some elements of the Roman communications system had their origins in the Iron Age, an extensive network of roads and trackways developed in the Roman period. Many of the Roman settlements are associated with trackways indicating participation in, and communication with, a wider world. Dorchester is unique as the only Roman small town in the study area but Alchester is just outside the project boundaries as is the extensive settlement and probable small town at Frilford. Communication was also possible with the larger Roman towns and cities such as Corinium, Calleva, Verulamium, and Londinium.

The aerial photographic record helps to distinguish between different types of settlement. They range from the administrative centre of the Roman small town of Dorchester to villas such as Hambleden, Barton Court Farm and Roughground Farm to settlements such as Northmoor, Claydon Pike and Appleford and down to the level of small individual farmsteads. The settlement at Hambleden appears to represent a Roman site whilst smaller settlements such as Cleveland Farm are more likely to be Romano-British. Sites of different status are also apparent. The settlement at Appleford appears to represent a small community, whilst Claydon Pike is a much larger settlement, possibly with military associations. The large village at Northmoor may have fulfilled the role of a local centre for trade and exchange.

Research for this report suggests that groups of Iron Age and Roman sites can be distinguished using a combination of morphological characteristics. In the context of Romano-British settlement sites this may not, however, be so easy; in the Iron Age period summary, above, the overlap between the two periods is discussed. Aerial photographic evidence has shed no light on the transition from the Late Roman to the Early Medieval period.

The distribution of Roman monuments (Fig. 38) reflects the importance of Hambleden, the Dorchester area and the Lechlade area as foci for Roman activity. "The gravel terraces of the Thames and its tributaries, despite their dense occupation, are markedly lacking in villas, except for the area between Dorchester

and Abingdon and to the west of Abingdon up the Ock Valley" (Young 1986, 60). It is suggested that many of the Unknown Prehistoric settlement sites on these terraces are likely to be Romano-British.

4.3.7 Unknown Prehistoric

Code	Interpretation	No. of records
BANK	Bank	2
BRW	Barrow	2
BDRY	Boundary	2
BYD	Boundary ditch	11
BLD	Building	3
CSRD	Causewayed ring ditch	2
DITC	Ditch	302
DSYS	Drainage system	1
DRRD	Drove road	3
ENC	Enclosure	1634
FMS	Farmstead	9
FBDY	Field boundary	168
FSYS	Field system	47
ANNX	Annexe	15
GRA	Gravel pit	3
HOLO	Hollow way	1
HTCL	Hut circle	983
INCM	Inhumation cemetery	1
LYNT	Lynchet	9
PIT	Pit	248
PITA	Pit alignment	17
PCIR	Pit circle	5
PITC	Pit cluster	7
RDBW	Round barrow	37
SET	Settlement	41
TRCK	Trackway	255
TOTAL		3808

Code	Group interpretation	No. of records
FMS	Farmstead	58
FSYS	Field system	9
SET	Settlement	131
TOTAL		198

An extremely wide range of monuments have been recorded with the date Unknown Prehistoric, representing 33.84% of the total number of sites recorded. Section 3.4 above gives a full explanation regarding the use of the date 'Unknown Prehistoric'. Most of the sites relate to settlement of varying degrees of complexity, with the remainder either agricultural or ritual. Many of the Unknown Prehistoric sites are likely to belong to the Iron Age or Roman periods but some will be earlier (e.g. causewayed ring ditches).
The results of the analysis undertaken for this report suggest that it may be possible to tentatively date some of the groups, using a combination of morphological characteristics. Settlement-related enclosures appear to be predominantly curvilinear up until the Middle Iron Age, after which there is a change in emphasis to

predominantly rectilinear sites. Large-scale land division has commonly been recorded dating from the Late Iron Age onwards, although it is possible that some of the undated or Unknown Prehistoric linear systems may in fact be earlier (co-axial field systems have been recorded which are similar to others outside the project area known to belong to the Bronze Age). It is also possible that some of the settlement-related features of Unknown Prehistoric date could be Bronze Age (see section 4.2.1).

The distribution of Unknown Prehistoric sites throughout the project area is extensive (see Fig. 39). They are common on all soils where crop marks are present, and also as earthworks on the chalk downland of Berkshire. The presence of several sites downstream from Reading suggests that these areas too were occupied during the Roman period and earlier, although the density of settlement does not appear to match that on the gravel terraces of the Upper Thames Valley.

4.3.8 Early Medieval

Code	Interpretation	No. of records
BYD	Boundary ditch	1
BLD	Building	13
DITC	Ditch	3
ENC	Enclosure	4
GRUB	Grubenhäus	18
PIT	Pit	1
RDBW	Round barrow	3
TOTAL		**43**

Code	Group interpretation	No. of records
FMS	Farmstead	1
SET	Settlement	2
TOTAL		**3**

Only a very limited number of Early Medieval sites have been recorded, 0.38% of the total number for the project. Although grubenhäuser, buildings, enclosures, round barrows, ditches, pits and boundaries have been transcribed it is not easy to identify Early Medieval settlement patterns from aerial photography in the Thames Valley. Much of what we know is from other sources such as excavated cemeteries, find spots, and standing buildings, all of which are outside the scope of this survey. Aerial photography has not shed any light on the transition from the Roman to the Early Medieval period.

The distribution of Early Medieval monuments shown in Fig. 40 illustrates a concentration of sites in the Abingdon - Dorchester area. This is confirmed by evidence from other sources, such as the excavations at Barton Court Farm (Miles 1986a).

4.3.9 Medieval

Code	Interpretation	No. of records
BAIL	Bailey	2

BANK	Bank	1
BYD	Boundary ditch	3
BLD	Building	11
DV	Deserted village	9
DITC	Ditch	37
DRAN	Drain	4
DRRD	Drove road	2
ENC	Enclosure	42
FBDY	Field boundary	26
FSYS	Field system	17
FISH	Fishpond	5
ANNX	Annexe	1
GRA	Gravel pit	2
HOLO	Hollow way	8
MOAT	Moat	25
MOTT	Motte	3
PLAT	Platform	1
HEAD	Plough headland	3
RFLB	Ridge and furrow	7
ROAD	Road	1
SHVL	Shrunken village	4
TOFT	Toft	10
TOWR	Tower	1
TRCK	Trackway	9
WALL	Wall	2
TOTAL		**236**

Code	Group interpretation	No. of records
ABBY	Abbey	1
DV	Deserted village	4
FSYS	Field system	1
GRGE	Grange	3
MANR	Manor	1
MTBL	Motte and bailey	1
RIBA	Ringwork and bailey	1
SET	Settlement	1
SHVL	Shrunken village	13
TOTAL		**26**

There is an abundance of evidence for the Medieval period, related to both settlement and agriculture (although ridge and furrow was not routinely recorded). A number of defensive sites were recorded, as were some religious ones. The high status grange at Wyke is one of the most interesting discoveries for the Medieval period. Medieval records represent 2.66% of the total project database and 160 are earthworks. The distribution of sites shown in Fig. 41 has a bias towards the western end of the project area, but downstream from Oxford many of the Medieval villages are still inhabited. Desertion and shrinkage seems to have been most common on the clayey soils prone to waterlogging west of Lechlade, whilst those settlements on the lighter brown earths have continued to be occupied to the present day. Conversely, earthworks on the lighter soils are more likely to have been destroyed by continual agricultural activity, and the distribution may be biased in this respect. The surviving villages, and the buildings within them, would need to considered in any in-depth study of Medieval settlement patterns.

4.3.10 Post Medieval

Code	Interpretation	No. of records
BANK	Bank	2
BLD	Building	1
DITC	Ditch	3
DRAN	Drain	9
DSYS	Drainage system	2
ENC	Enclosure	4
FELD	Field	1
FBDY	Field boundary	16
FSYS	Field system	6
FISH	Fishpond	1
GARD	Garden	1
GRA	Gravel pit	16
MOAT	Moat	2
PLMD	Pillow mound	1
PLAT	Platform	1
QRRY	Quarry	1
TRCK	Trackway	4
TRNC	Tree ring enclosure	1
TOTAL		**72**

Code	Group interpretation	No. of records
DSYS	Drainage system	1
FSYS	Field system	1
GARD	Garden	1
ROAD	Road	1
TOTAL		**4**

0.64% of the sites recorded are Post Medieval in date. Most are related to agricultural activity and water management in the Thames Valley but some ornamental features, such as moats and deliberate tree plantings have been recorded. The increasing amount of gravel extraction from this period onwards can be seen in the number of Post Medieval gravel pits that have been recorded. Post Medieval features on the 1: 10,000 base map were not included within the brief of the project.

4.3.11 Twentieth Century

Code	Interpretation	No. of records
DITC	Ditch	6
DRAN	Drain	1
ENC	Enclosure	2
FBDY	Field boundary	3
GRA	Gravel pit	1
RBUT	Rifle butts	1
TRCK	Trackway	1
TOTAL		**15**

Code	Group interpretation	No. of records

FSYS	Field system	1
FWOK	Fieldwork	1
TOTAL		**2**

Only 0.13 % of the sites recorded are Modem in date. Every effort was made to avoid duplication with information on the OS map base, and the archaeological scope of the project was restricted to sites of limited categories dating to before 1945. Some of the records are military in origin, such as the fieldwork recorded; the rifle butts may have had a military or recreational function.

4.3.12 Unknown Medieval

Code	Interpretation	No. of records
BANK	Bank	19
BDRY	Boundary	5
BYD	Boundary ditch	2
BLD	Building	2
DV	Deserted village	3
DITC	Ditch	37
DRAN	Drain	23
DSYS	Drainage system	15
ENC	Enclosure	63
EXTP	Extractive pit	1
FELD	Field	1
FBDY	Field boundary	160
FSYS	Field system	32
GRA	Gravel pit	245
HOLO	Hollow way	7
LYNT	Lynchet	16
PLMD	Pillow mound	2
PIT	Pit	3
PITA	Pit alignment	1
HEAD	Plough headland	1
QRRY	Quarry	14
ROAD	Road	1
SHVL	Shrunken village	5
TOFT	Toft	5
TRCK	Trackway	29
UNKO	Unknown	1
WATM	Water meadow	2
WDBY	Woodland boundary	3
TOTAL		**698**

Code	Group interpretation	No. of records
DSYS	Drainage system	1
DV	Deserted village	3
FMS	Farmstead	1
FSYS	Field system	12
MANR	Manor	1
SET	Settlement	1
SHVL	Shrunken village	4
WATM	Water meadow	1

TOTAL	**24**

6.2 % of the records on the database are Unknown Medieval in date; section 3.4 gives a full explanation of the use of the date 'Unknown Medieval'. Many of the records represent features which span the Medieval and Post Medieval periods. Others, particularly field boundaries, woodland boundaries and gravel pits could relate to any period from the Medieval onwards. Some shrunken and deserted villages have been recorded as Unknown Medieval as the date of their shrinkage or desertion is not known.

4.3.13 Multi-period sites and landscapes

There are numerous multi-period sites in the Thames Valley, in the form of complex patterns of crop marks that have been photographed on many occasions. The majority of multi-period sites can be divided into two broad categories: early prehistoric ritual sites and landscapes, and later prehistoric/Roman landscapes related to settlement and agriculture.

There are many classic Neolithic and Bronze Age sites of a ritual nature in the project area, almost all of the Neolithic monuments having later Bronze Age sites close by. These include the well-known major early prehistoric landscapes such as Dorchester, Benson, Eynsham, Radley and North Stoke and the more recently discovered landscapes at Buscot, Sonning and Langford. The siting of Bronze Age funerary monuments was definitely affected by the location of earlier Neolithic monuments, a pattern recognised elsewhere in Britain. The earlier monuments continued to be part of the 'living' landscape beyond the traditional limits of the Neolithic period.

Later landscapes are dominated by settlement sites, with associated agricultural remains. Many are extensive, such as Northmoor and Standlake, and there is no way of knowing without excavation how successive generations occupied the same site. Evidence from sources other than aerial photography suggests that some multi-period Iron Age and Roman sites may have had their origins in the Late Bronze Age. At sites such as Northmoor, the crop marks suggest the earlier Iron Age settlement was at least partially respected by later settlement. At other sites however the layout of the Roman settlement was completely uninfluenced by the earlier Iron Age occupation; Barton Court Farm is a good example of this phenomenon.

From the aerial photographic evidence, the earlier 'ritual' landscapes do not commonly coincide with later 'domestic' landscapes although the two distributions are not entirely mutually exclusive. The complex of monuments at Radley is one of the exceptions; crop marks clearly show monuments from the Neolithic to the Early Medieval period most of which respect each other. This may suggest that some of the Neolithic and Bronze Age sites were relict parts of later landscapes. Conversely the field system cutting part of the northern end of the Dorchester cursus, which may date to the Late Bronze Age, shows a complete disrespect for the earlier monument suggesting it was no longer a highly visible component of the landscape when the field system was constructed. It is also possible that in other areas, such as on the extensive gravel terraces to the north of the river between Lechlade and Eynsham, later settlement activity has totally destroyed the evidence for earlier monuments (or at least evidence of the sort that can be recorded on aerial photographs). This is unlikely though, because examples are known where the earlier monuments have still been recorded as crop marks. For example, at Langford a causewayed enclosure has clearly been totally ignored during the construction of a later settlement, but both show quite clearly on the aerial photographs.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 METHODOLOGICAL RECOMMENDATIONS

Sources of data

Both the Excavations Index and the NAR provided invaluable data for this project. For future projects it would be highly desirable for programmes of updating to be timetabled to coincide with NMP projects. In addition to using the Excavations Index as a source, more time to consult primary sources would be desirable as would be information about the numerous archaeological evaluations. Information resulting from evaluations is not always easily obtainable; as it is not consistently published or otherwise made publicly available. One of the consequences of PPG 16 is that it is probable that more crop marks have been sectioned in recent years than ever before; it is very frustrating that evaluation results are not consistently finding their way into the public domain. This needs to be addressed.

Access to OS First Edition maps would have been very useful. Not only would the number of sites recorded in certain classes of monument have increased (particularly Medieval sites) but it would also have enabled the sites transcribed to be viewed in their fuller context. It is recommended for future projects that the First Edition sheets are routinely consulted.

The MORPH2 program

In the course of the project it became apparent that it would have been desirable for a series of ranges for the width of linear features to be recorded, rather than whether they were simply smaller or larger than 2 m. This would have enabled further work on drove roads, and major Roman roads and trackways to be undertaken, and may well have aided distinction between drove roads and trackways. It is recommended that the MORPH2 linear features database is amended accordingly.

It is also recommended that the MORPH2 database be altered to allow more than one period to be recorded, as well as sub-divisions within the major periods. For example being able to distinguish Early, Middle and Late Iron Age sites on the computerised database would have considerably aided morphological analysis. Once there is a direct link between MORPH2 and MONARCH this problem may be overcome.

5.2 RECOMMENDATIONS FOR SURVEY AND EXCAVATION

Reconnaissance

This project has shown that aerial reconnaissance continues to provide worthwhile results, even in an area where it has such a long history, leading to the discovery of new sites and significant new detail about known sites. A good example is the pit circle, 587.41.1, within the Foxley Farm complex of crop marks; it was only recognised as a result of photography of exceptionally fine crop marks taken in June 1984 (see section 4.1.8.11 above). In recent years both 1989 and 1990 yielded significant results, and preliminary examination of photography taken during the report-writing period suggests further significant results were obtained in the Thames Valley during the early summer of 1994. Therefore continuing programmes of aerial survey in the Thames Valley are recommended, particularly targeting areas where the photographic cover is not as complete as others. For example, although it may

prove almost impossible to gain access to the Heathrow Air Traffic Control zone, those areas immediately surrounding it would benefit from further reconnaissance. With the closure of many of the military airfields at the western end of the Thames Valley, such as Hullavington in Wiltshire, it should become increasingly easy to monitor those areas susceptible to crop marks which have not already been engulfed by the Cotswold Water Park. Although RAF Lyneham is still operational, it is occasionally possible to enter their airspace, and again, this could provide valuable information.

In addition to reconnaissance for crop marks, some of the gaps within the distribution maps in this report are the result of variations in topography, or drift or underlying geology. It would be worthwhile targeting parts of the Corallian Ridge and the Berkshire Downs for photography in conditions suitable for recording earthworks. There are undoubtedly more earthworks to be recorded which will provide further information about past human activity in the Thames Valley, and complement the patternings and distributions observed to date.

Air-photo interpretation

As with all area-based projects, it is necessary to look at the archaeological evidence beyond the limits of the project area, especially when the study is based upon a river valley. For the Thames Valley, the higher ground of the Cotswolds, the Chilterns and the Berkshire Downs needs to be taken into account. Certainly from the Neolithic period onwards communities did not exist in isolation within the Thames Valley; links with other local topographic zones were important, as were more distant links (for example with Wessex). As a next step it is recommended that the archaeology transcribed from aerial photographs for this project is viewed in a wider context and incorporated in a study of those areas mentioned above. The National Mapping Programme project for Berkshire scheduled to start later in 1995 will help provide a first point of comparison, but other wider studies must either be separately funded, or must await the updating of the aerial photographic data as part of the National Mapping Programme projects in each of the surrounding counties.

Equally, although this is the first time that the Thames Valley from its source to the western outskirts of London has been considered as a single block, cutting across six counties, it is totally artificial to draw the line and stop recording in the vicinity of Slough and Windsor. The decision to do so was entirely administrative. It would be highly desirable for the Thames Valley to be viewed in its entirety, from source to sea. The archaeology of Kent was mapped in 1989 from aerial photographs as the first pilot project for what has now become the National Mapping Programme. It is recommended that this work be brought up-to-date, for the purposes of comparison. The National Mapping Programme project for the county of Essex is currently underway, and the Thames Valley corridor, which is recognised as one of the areas where the threat to the archaeological resource from development is greatest, is the next block on which work will commence. The only area left to be studied is the section of the Thames Valley running through London, linking Berkshire and Surrey with Essex and Kent. Although modem photography of this area will be relatively sparse, it is expected that detailed examination of historical photography, particularly that immediately preceding the post-war urban expansion, may yield some interesting results. It is recommended that study of this London area is undertaken, either within the brief of the National Mapping Programme project for Berkshire or as a separate project.

The time constraints for the project meant that it was not possible to routinely search out and consult modern vertical photography, such as that taken for planning,

highways or census purposes which is usually held by county councils. This means that the view presented here, concerning the survival of earthwork sites in particular, is likely to be an artificially optimistic one. It is recommended that this be addressed, using up-to-date photographic sources as a first step leading to effective targeting of sites for fieldwork. Earthworks within the Thames Valley are relatively rare, and a rapidly diminishing resource. Some of those that are still surviving should be worthy of a higher level of record.

Once all the archaeological information has been transcribed and recorded from aerial photographs for the entire length of the Thames, it is recommended that a wider regional study of the archaeology is undertaken. Almost all the themes addressed in this report could be extended and compared with the data from the whole Thames Valley. Examples that might be included in the project are: (i) a comparison of the data for linear systems and enclosures over all project areas, to see if the conclusions reached in sections 4.2.1 and 4.2.2 above are confirmed by the data from the eastern half of the river valley. (ii) A comparison of the ways in which changing settlement patterns are revealed through the medium of aerial photography, and whether the patterns themselves are similar along the length of the Valley.

Fieldwalking

Surprisingly few sites have been dated by fieldwalking; it is recommended that targeted programmes of fieldwalking be undertaken. In the early 1980s Miles (1982, 63) remarked "the Romano-British settlement pattern can be reconstructed to a considerable degree in the Upper Thames region by aerial photography and fieldwalking". This applies to other periods as well as the Roman (including the Iron Age and the Bronze Age). There is a clear need for well-designed programmes of fieldwalking, the results of which should be fully disseminated apd incorporated in both national and local records.

Field survey

It is recommended that the remnants of the Iron Age -Romano-British field system at Streatley Warren in Berkshire, surviving as earthworks in UOOill Wood and Town Copse, are fully surveyed on the ground. Most of the field system has now been destroyed by ploughing and its nature and extent can only be recorded from historical aerial photography, or from crop or soil marks on recent photographs. A brief ground visit to Unhill Wood and Cow Common in 1993 did however reveal still extant earthworks many of which would not have been plotted during this project as they were masked by woodland. There may also be further earthworks surviving in Ham Wood, but this was not visited during limited fieldwork. Field survey would complement aerial photographic survey and their combination would reveal the full extent of the site.

Remote sensing

It is recommended that a programme of targeted geophysical surveys is drawn up, to find out more about individual sites, and groups of sites. It is felt that remote sensing techniques are under-utilised, and would be particularly suited to sites such as Hambleden, where it may be possible to confirm the presence of the temple and gain more information about its overall plan and confirm the presence of the temple.

Environmental research

One of the key indicators for the potential survival of well-preserved and possibly waterlogged archaeological deposits in the Thames Valley is alluvium; locating those

areas where alluvium masks archaeological deposits is of key importance. Aerial photography and the interpretation of aerial photographs, combined with fieldwork with a palaeoenvironmental element, should be undertaken to recover information on the environment as well as the likely preservation of sites.

Excavation

Targeted programmes of limited excavation would further our understanding of the archaeology of the Thames Valley and would test the methodology of morphological analysis to the full. It would enable the relationships between key sites to be established, in addition to providing more detailed information about crop-mark formation processes. Little work has been done since the 1970s regarding the relationship between crop marks and what actually lies beneath the surface (although collation of the results from numerous evaluations may provide a considerable amount of data).

5.3 RECOMMENDATIONS FOR RESEARCH

Neolithic funerary monuments

There is a considerable overlap in morphological terms between those sites recorded here as long barrows and those as mortuary enclosures. Only two of the long barrows have been recorded as classic parallel crop marks of the quarry ditches, the remainder are enclosures. This is perhaps not surprising given the nature of the underlying sub-soil in much of the project area. All the mortuary enclosures have been morphologically recorded as enclosures too, and it is between these sites that there is considerable overlap. (It is worth noting that all the long barrows recorded in Hertfordshire were also curvilinear enclosures.) The use of the two terms and the characteristics of each site type need re-examination in the light of the high degree of overlap and the small number of sites excavated compared to those recorded from aerial photography. There is also a recognisable group of sites that are perhaps best recorded as oval barrows. More work needs to be done to enable crop-mark sites to be assigned to one or other group with more confidence than at present.

Prehistoric and Roman settlement

There are a number of recommendations that can be made concerning Bronze Age, Iron Age, Roman and Unknown Prehistoric settlement sites. It is suggested in the thematic section 4.1.3.7 above that by using a combination of morphological analysis and visual scanning it may be possible to determine the dates of many of the undated settlements that have been recorded from aerial photography.

A three stage project for Iron Age/Roman settlements is recommended to further tests the hypotheses suggested.

(i) The original excavation information and/or finds for those excavated Iron Age settlements need to be re-examined to determine their place within the wider period (are they Early, Middle or Late).

(ii) A wider sample of data from securely-dated Iron Age and Roman settlements (not necessarily those visible on aerial photographs) needs to be collected and morphological recording and analysis undertaken.

(iii) Each group of Unknown Prehistoric or undated sites recorded as settlements need to be morphologically analysed and the results compared with those generated in the first two stages of the project.

A more intensive comparison of excavation results and the crop-mark evidence would greatly assist future interpretations. It would also be of interest to compare

Romano-British rural settlement patterns in the Thames Valley with the results of the work that has been done in the Fens, for example Hallam's work on settlement size (Hallam 1970).

Limited research on the morphological characteristics of enclosures in groups that have been interpreted as farmsteads suggests a similar approach may allow those of Iron Age and of Roman date to be distinguished. A larger sample of securely-dated enclosures is needed; this work could be linked to that recommended for settlements above.

It is also suggested in section 4.2.1 that it may be possible to locate Bronze Age settlements similar to that excavated at Corporation Farm from aerial photographs, or the transcriptions made from them. A number of possible sites have been identifIed, and a programme of further investigation at each site (fieldwalking, geophysics or limited excavation) may confirm whether or not the suggested date is correct. Given the rarity of such sites urgent work is needed.

Iron Age defended sites

Surprisingly little work has been done on hillforts and other Iron Age defended settlements within the project area (see sections 4.1.2.2 and 4.3.5). It is therefore not possible to determine the sequence of development of these sites, and the role which they played in relation to other broadly contemporary sites. A programme of selected excavation at some of the sites, perhaps coupled with re-consideration of the material remains of others already excavated (such as Cherbury Camp) would shed light upon the dating of large Iron Age defended enclosures, and provide a context for Iron Age settlement in the Thames Valley.

Field systems

Section 4.2.2 illustrates that the field systems that have been recorded can be further subdivided into different categories, based largely upon their morphological characteristics. Further work is needed regarding the date of many of them. Few Bronze Age field systems have been identified on aerial photographs of lowland Britain. A project to examine excavated examples, in order to determine their morphological characteristics and to see how these characteristics differ (if at all) from later field systems, would provide valuable data

The information recovered from upland areas, such as Bodmin Moor and Dartmoor where much work on Bronze Age field systems has already been done, could also be incorporated. Re-examination of the Thames Valley data may then lead to the identification of a number of possible Late Bronze Age field systems.

Recording ridge and furrow in some form is essential for a detailed understanding of Medieval and Post-Medieval landscapes, and affects the interpretation of archaeological distributions relating to earlier periods. The nature of its relationship to earlier crop marks is of particular interest, to determine whether the ridge and furrow led to the protection or degradation of earlier sites. A limited area study, where Roman or earlier crop marks and ridge and furrow both occur in close conjunction, would shed light on this relationship whilst transcription of ridge and furrow at an appropriate scale would aid understanding of all aspects of Medieval agriculture and subsistence in the Thames Valley.

Pentagonal enclosures

Analysis of enclosures in section 4.2.1 has tentatively identified a group of five-sided enclosures that may be Iron Age in date. A similar group of sites was identified during

the Hertfordshire Mapping Project, and here they are considered as a possible new monument class. Again further investigation and targeted excavation would determine their function and confirm their date.

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7 ILLUSTRATIONS

Figure 1. National Mapping Programme Projects 1993/4 (in progress or completed)

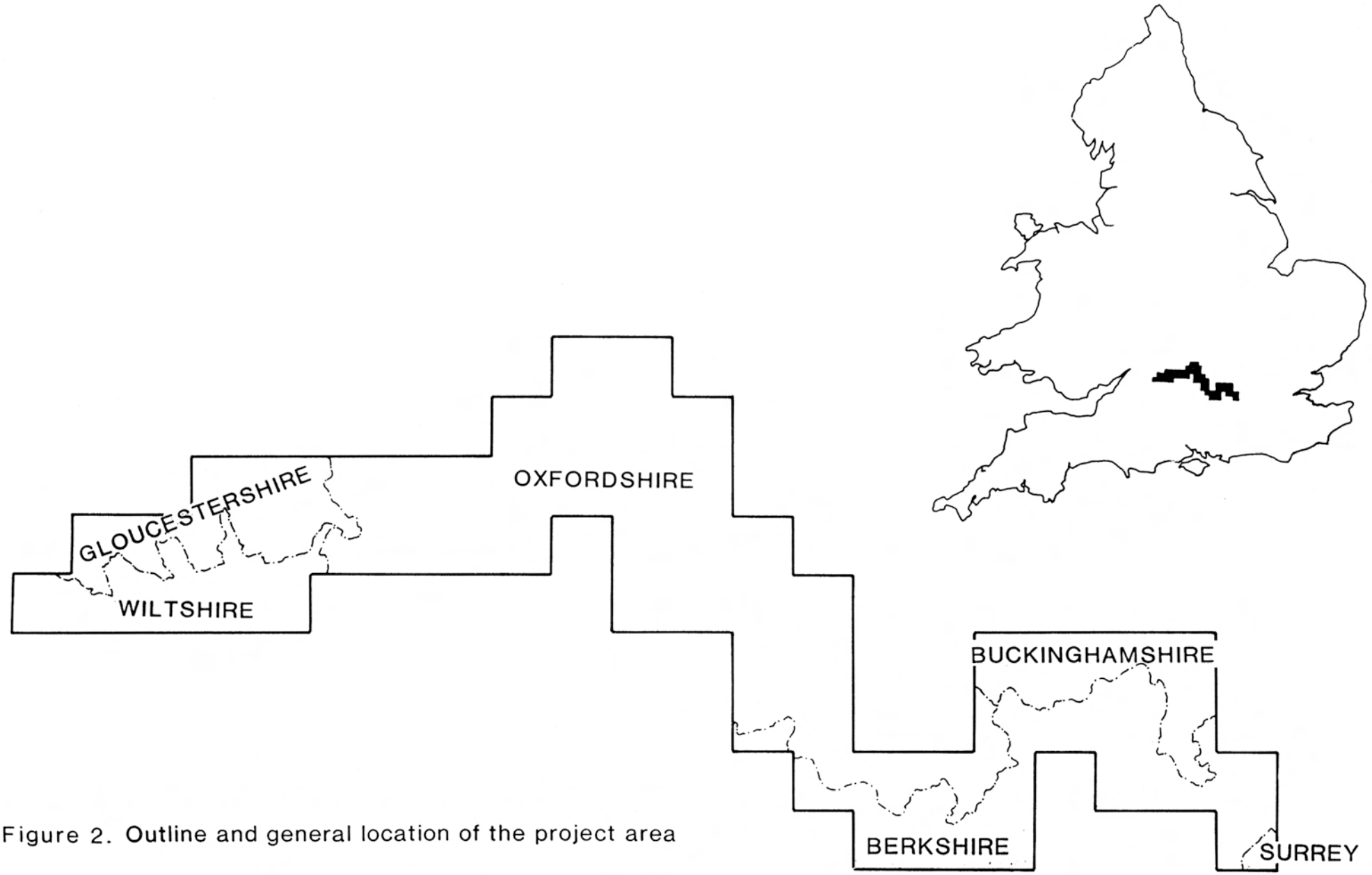


Figure 2. Outline and general location of the project area

Figure 3. Sources of information for sites

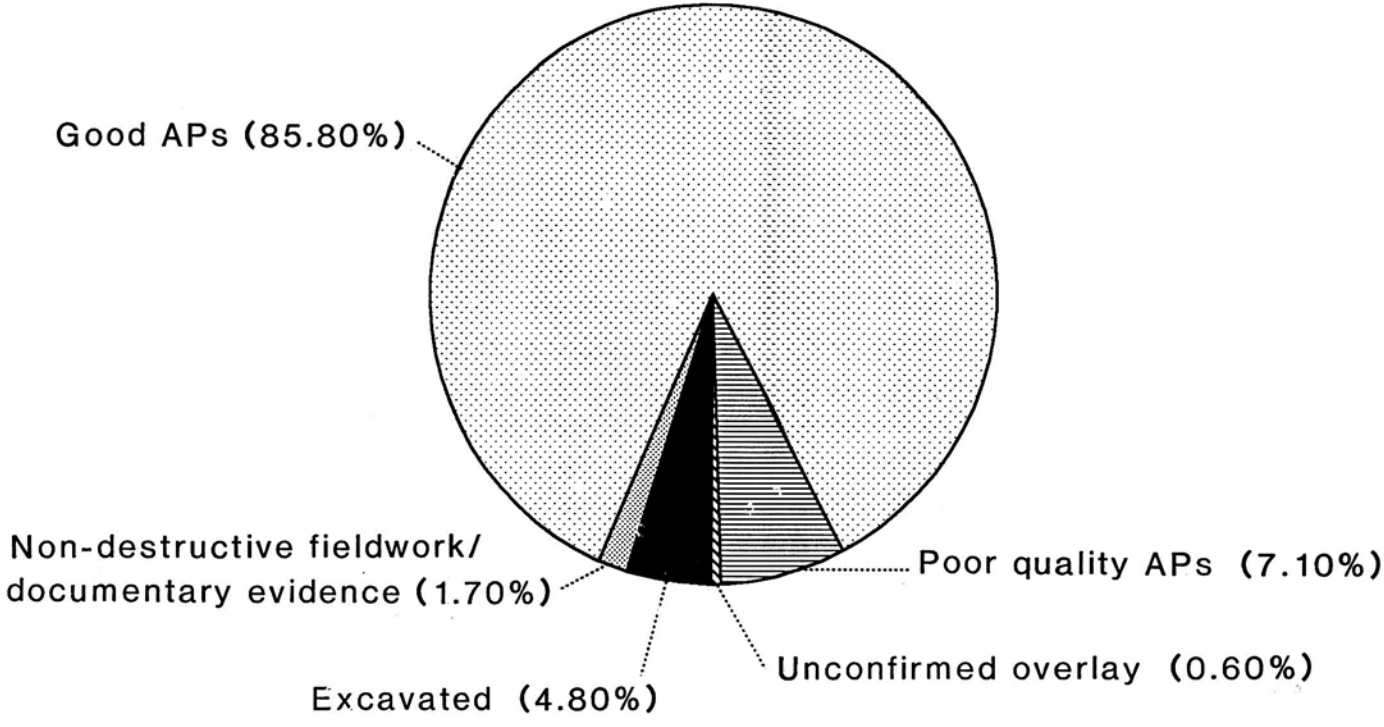


Figure 4.

Sites with NAR and/or SMR numbers

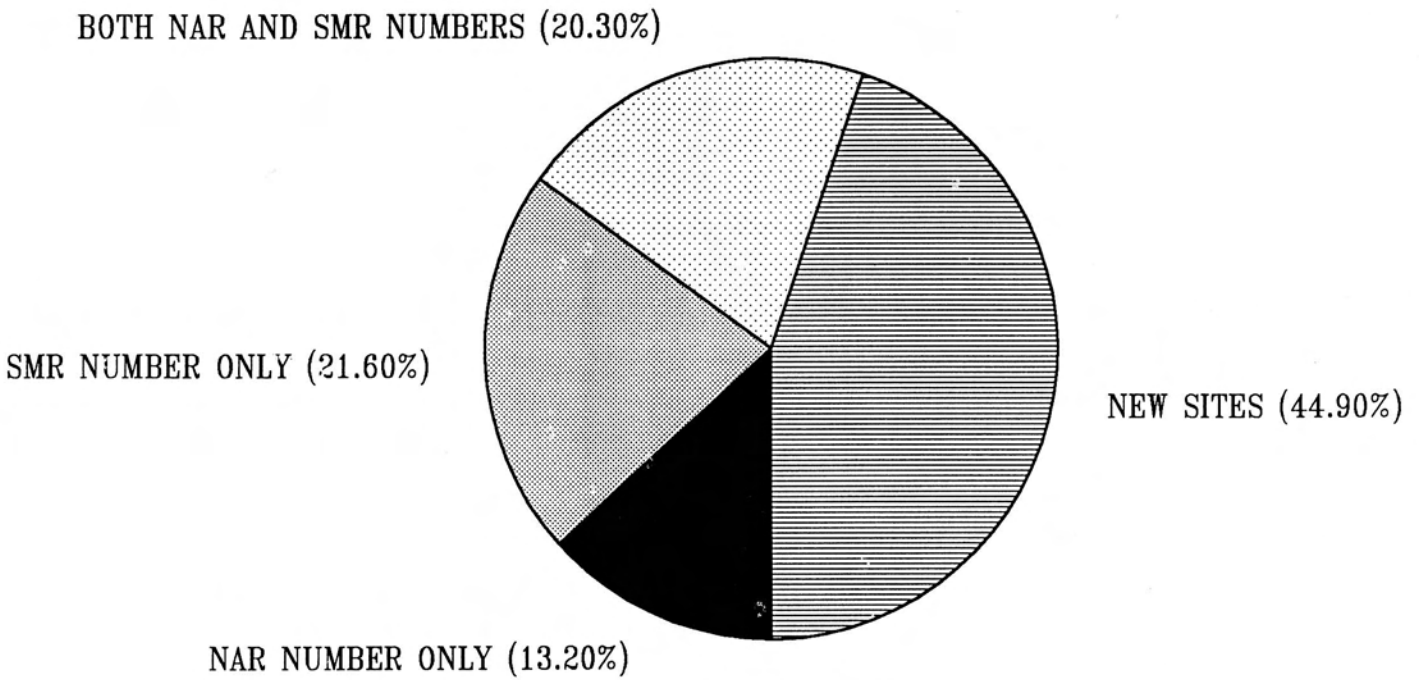
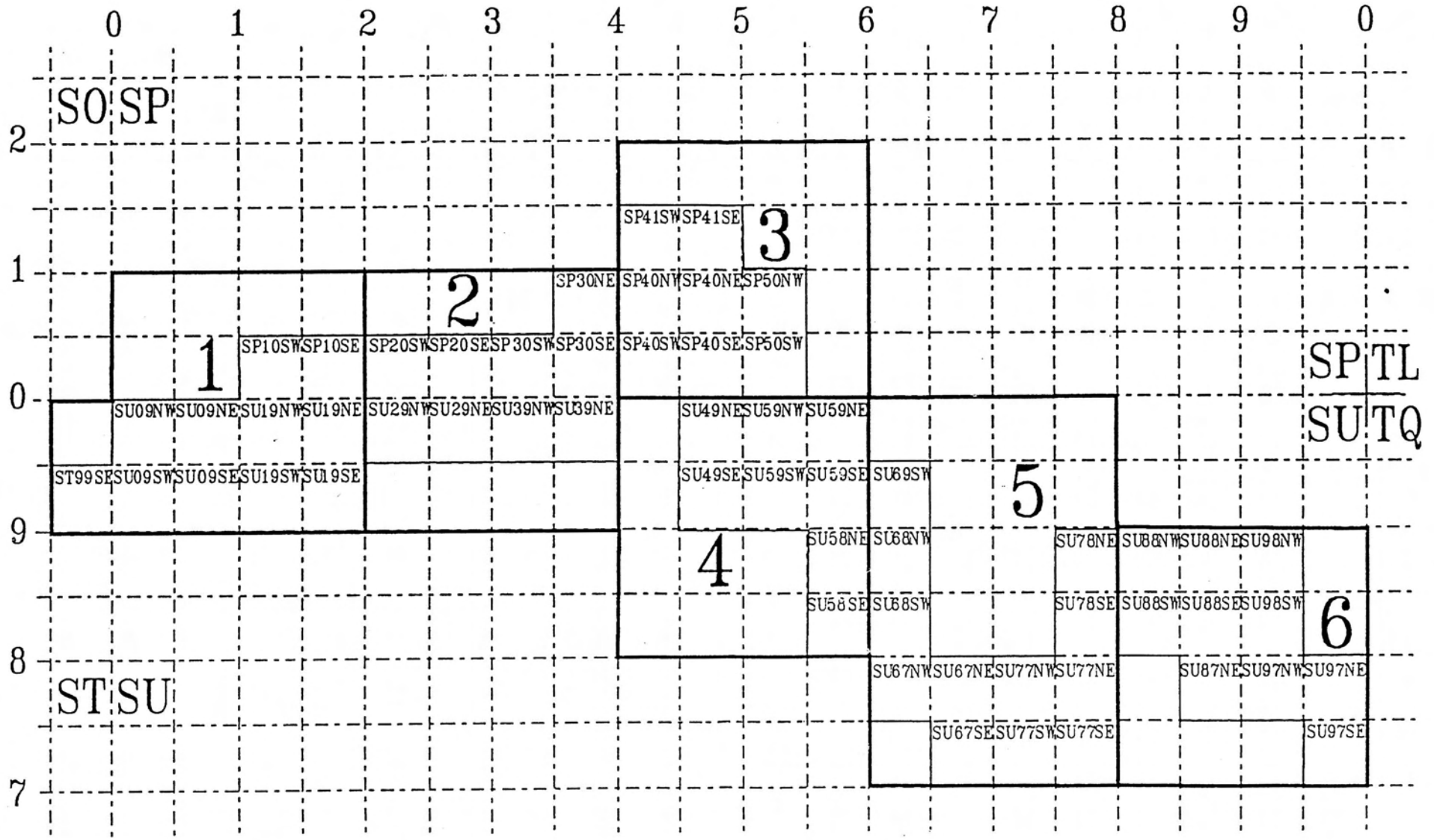


Figure 5. Thames Valley: Key to Blocks and 1:10,000 Maps



Drift Geology and Gravel Extraction Areas - Blocks 1 and 2

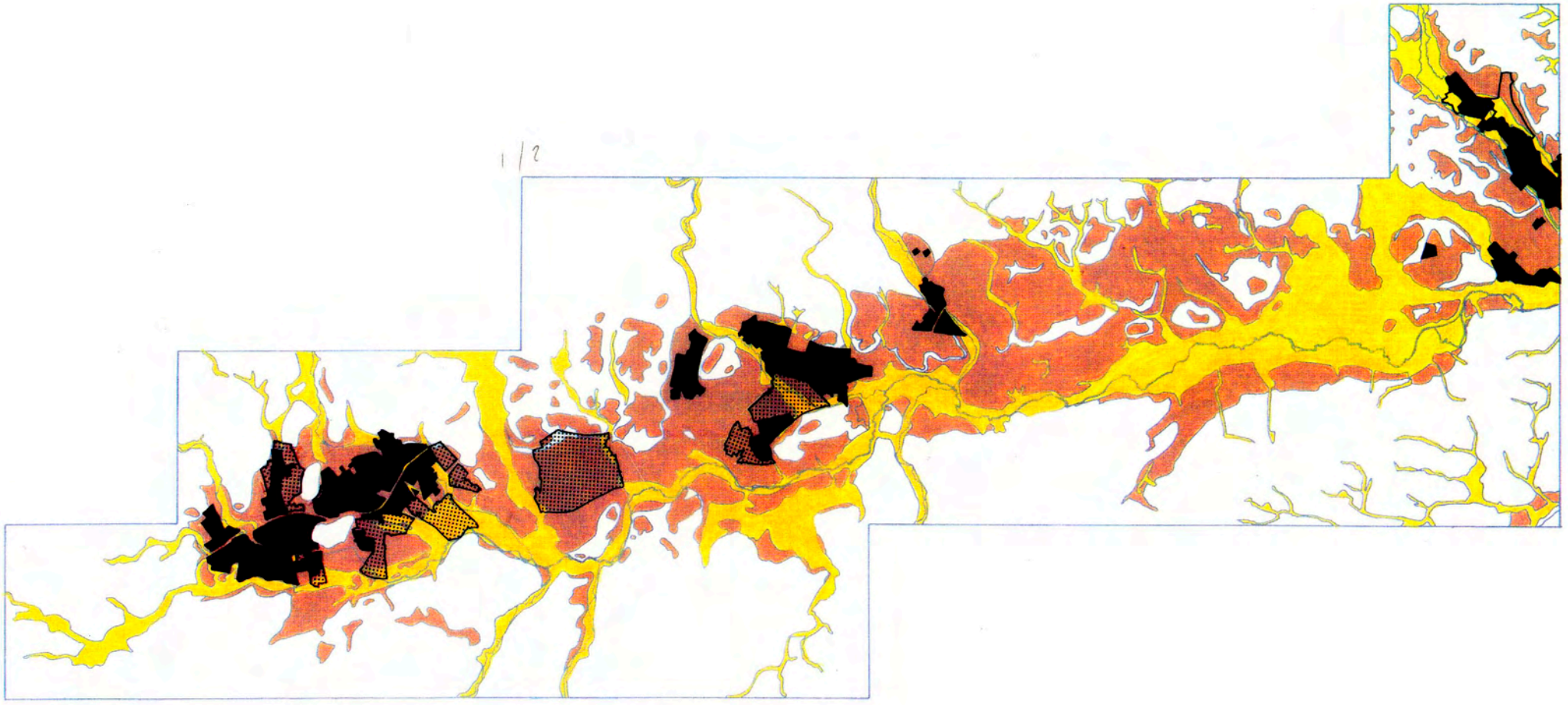


Figure 6.

Drift Geology and Gravel Extraction Areas

Blocks 3 and 4

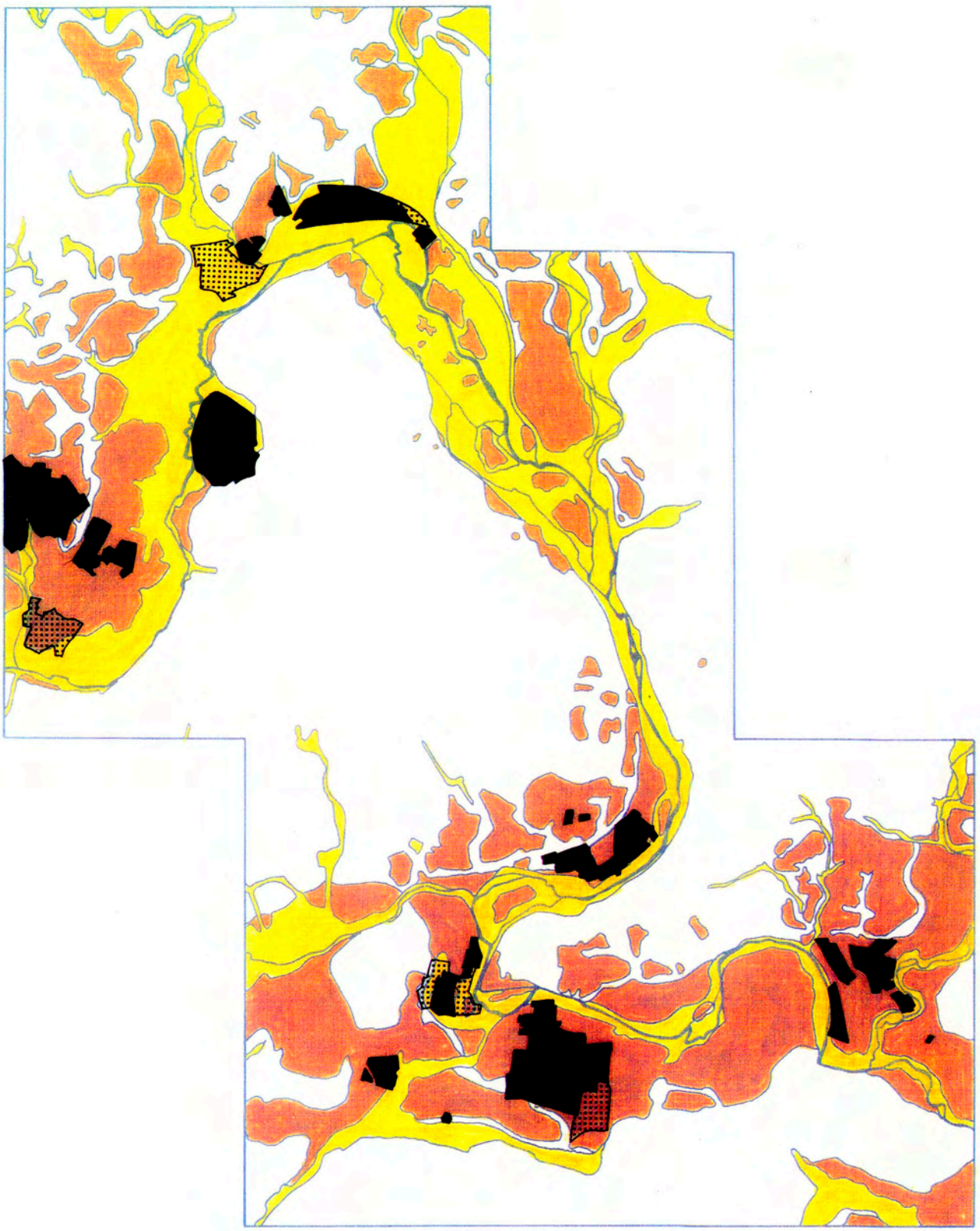


Figure 7.

Drift Geology and Gravel Extraction Areas - Blocks 5 and 6

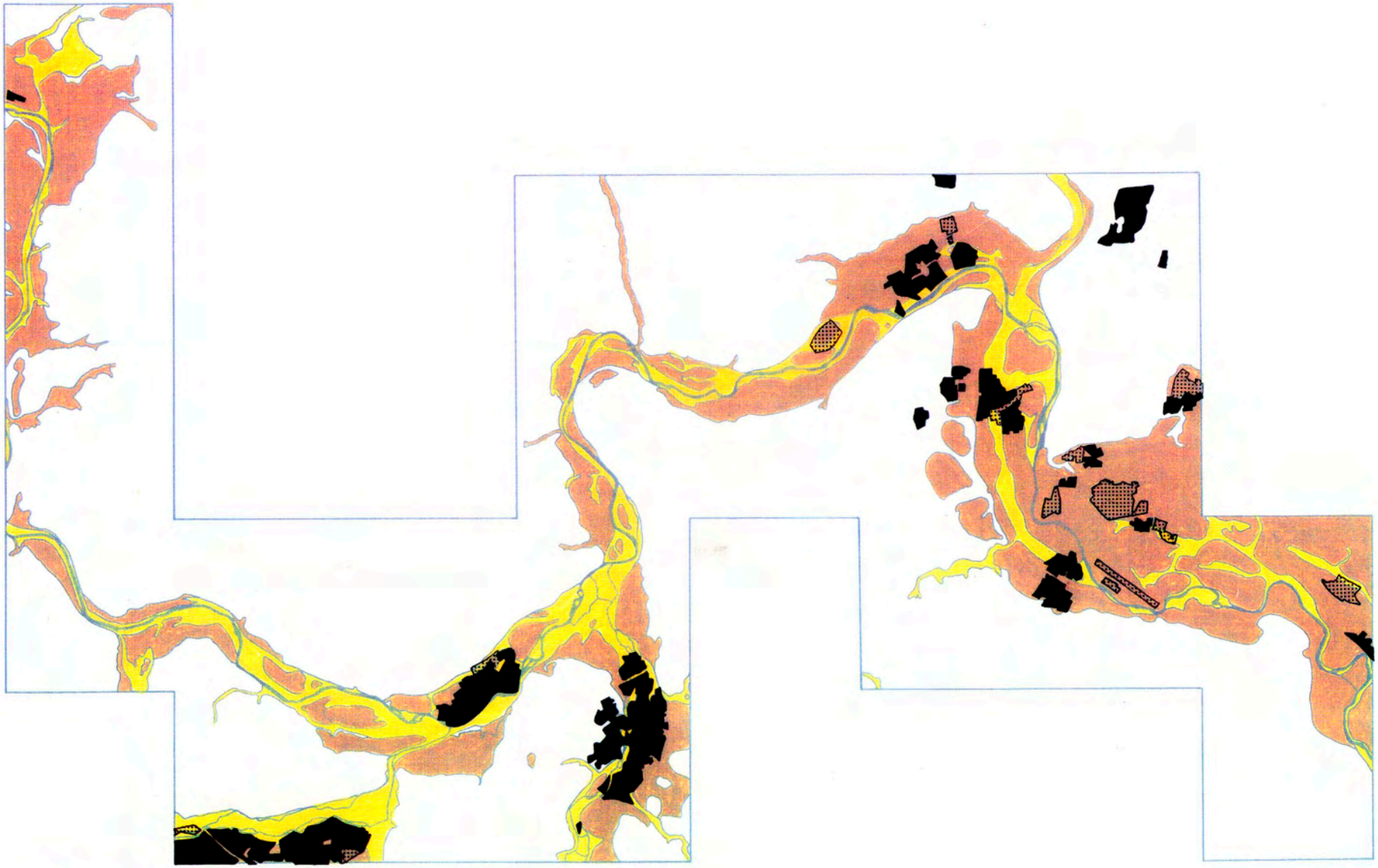
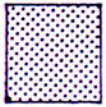


Figure 8.

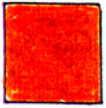
KEY TO FIGURES 6, 7 & 8

Extracted Gravel Areas



Areas with Permission for Extraction

Alluvium



Valley Gravels

Figure 9. The Thames Valley Drainage Pattern

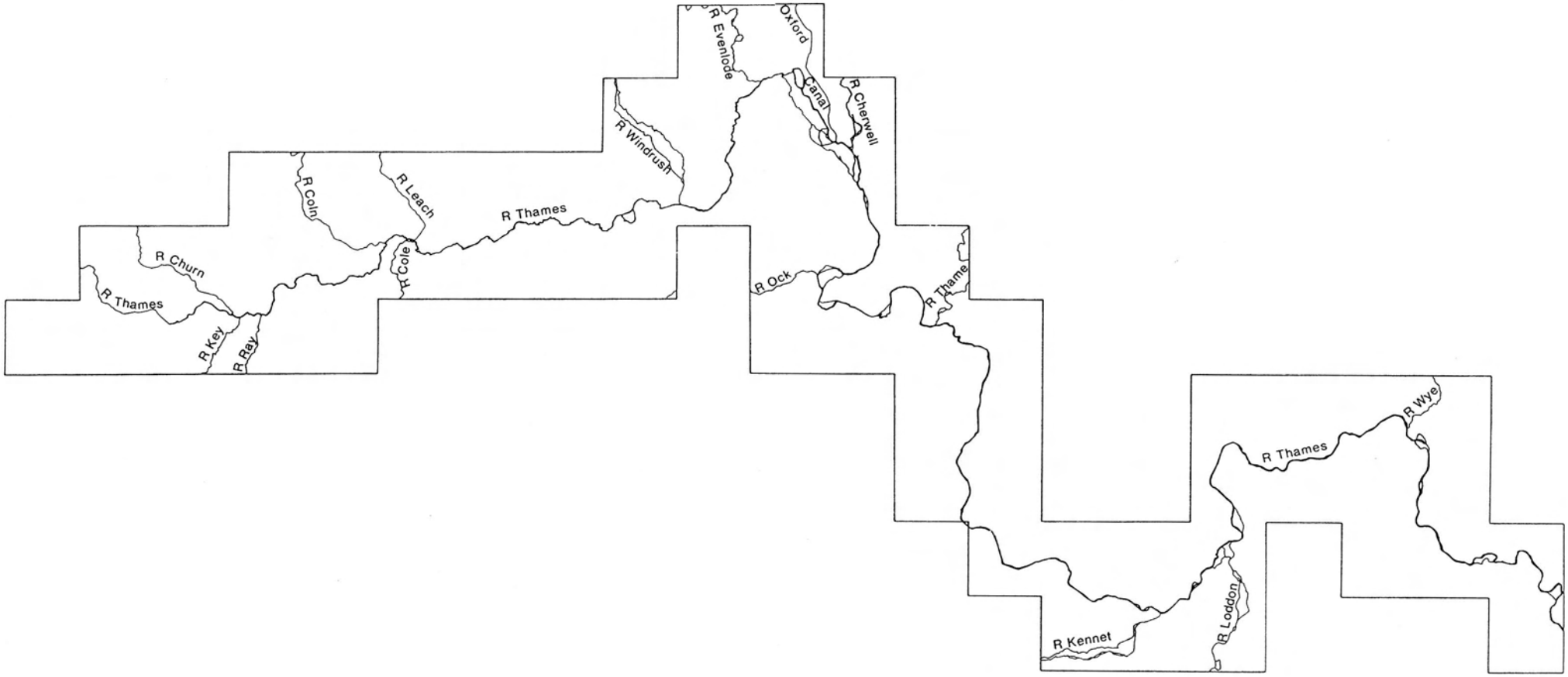


Figure 10. Thames Valley Urban Areas

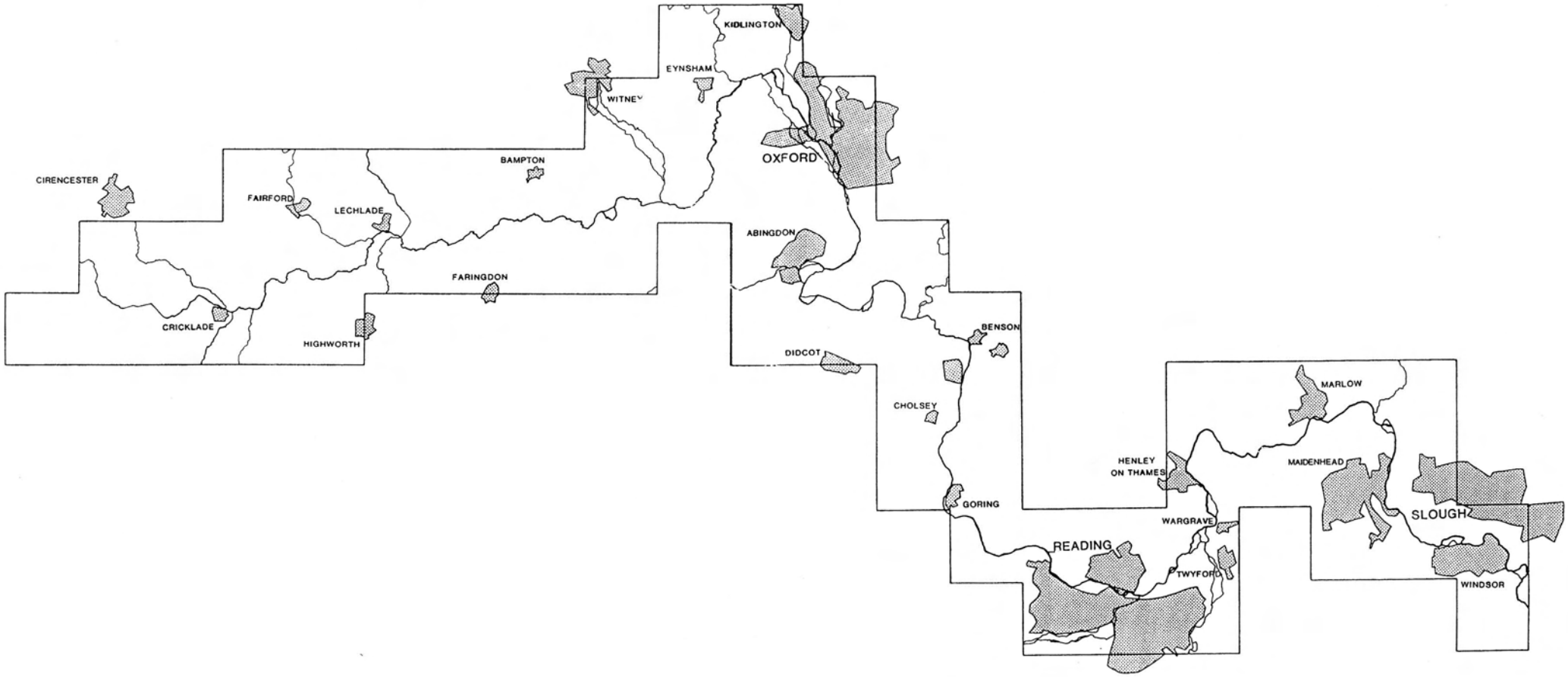


Figure 11. All Crop-mark Sites in the Thames Valley

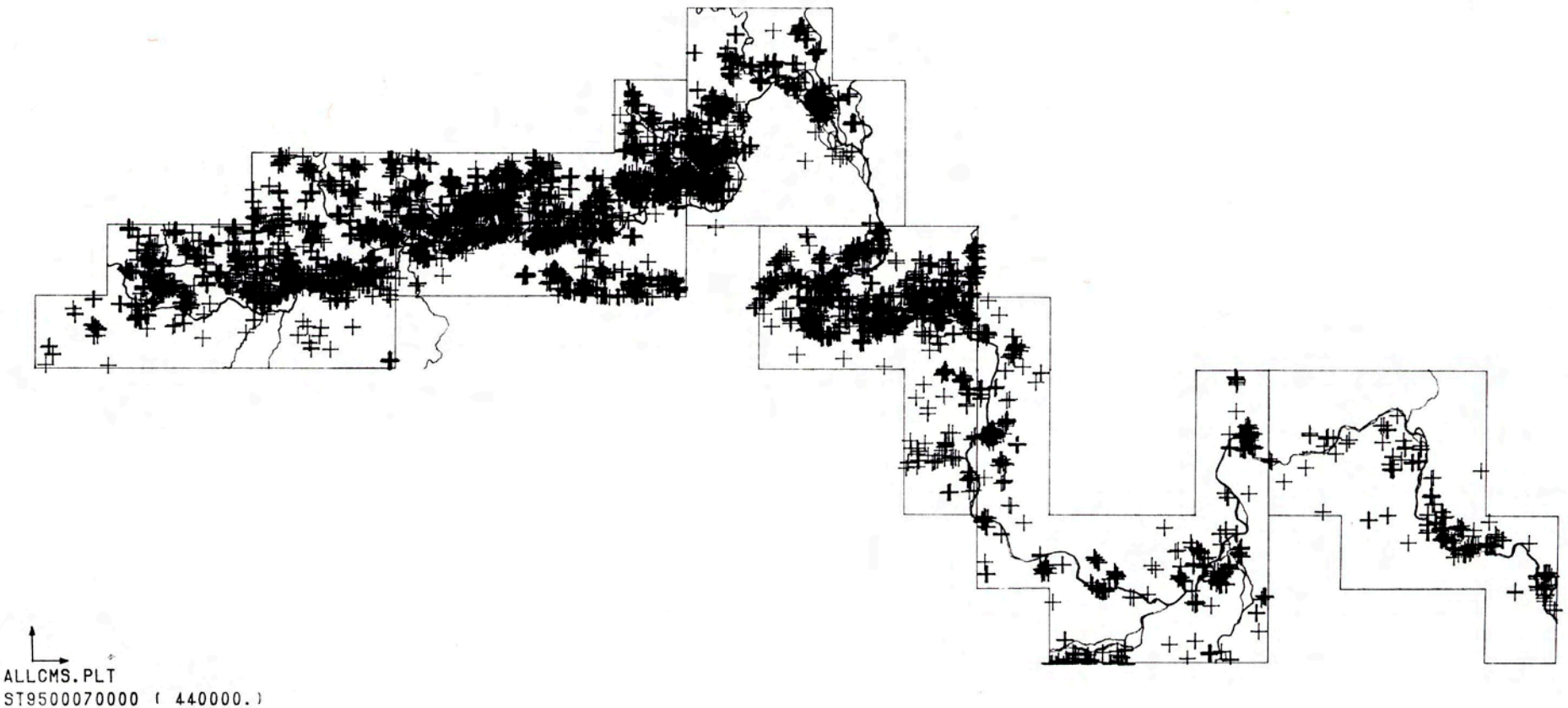


Figure 12. The Distribution of Earthwork Sites

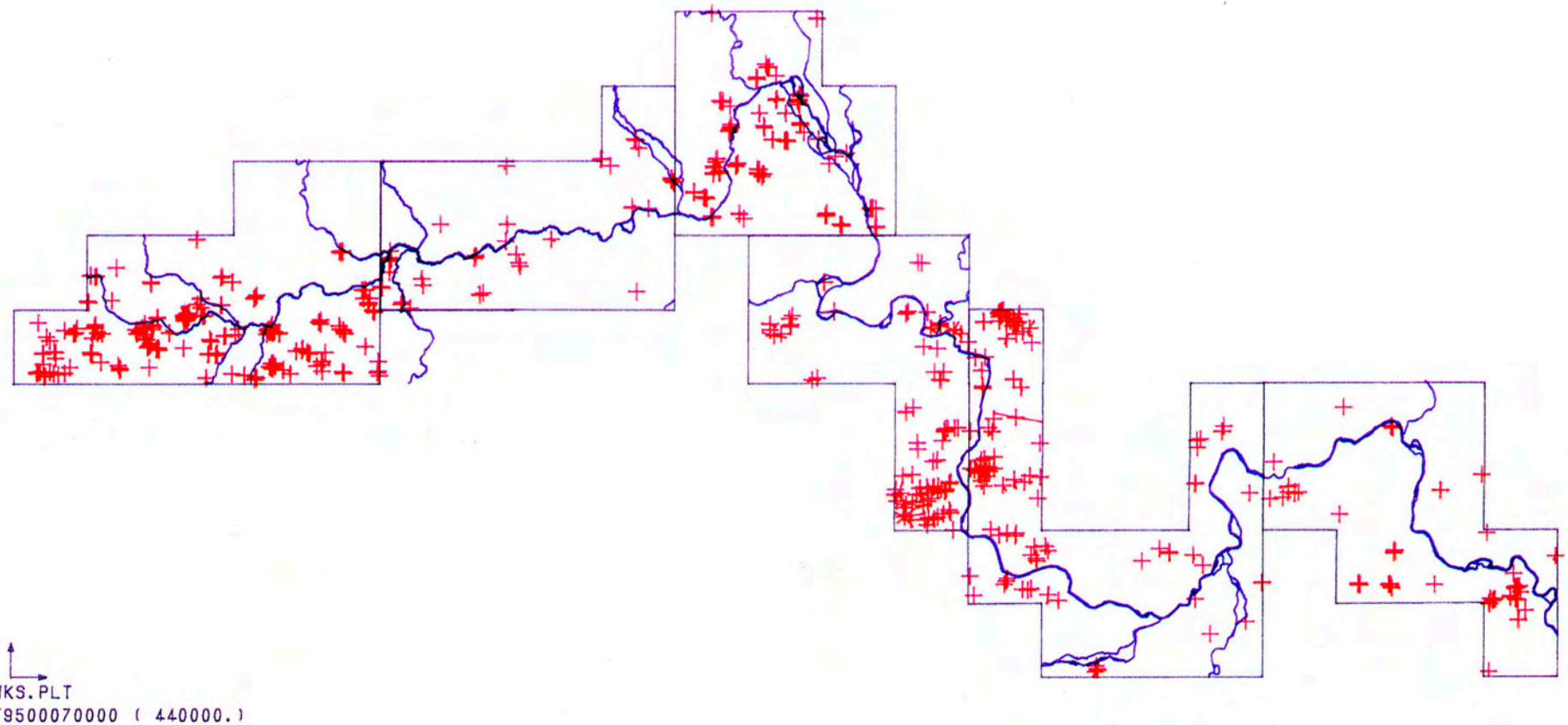


Figure 13. The Distribution of Roman or Earlier Farmsteads

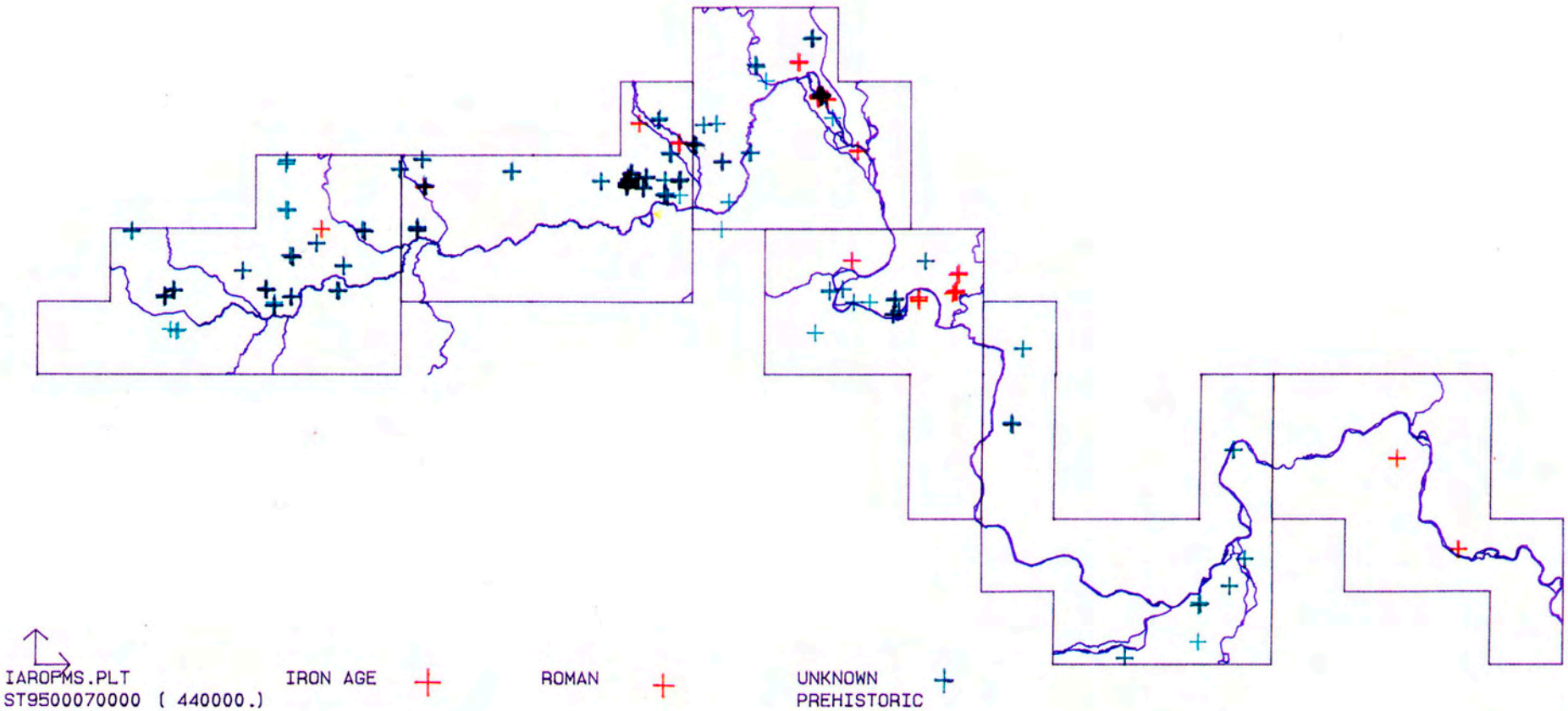


Figure 14. The Distribution of Roman or Earlier Field Systems, Field Boundaries and Lynchets

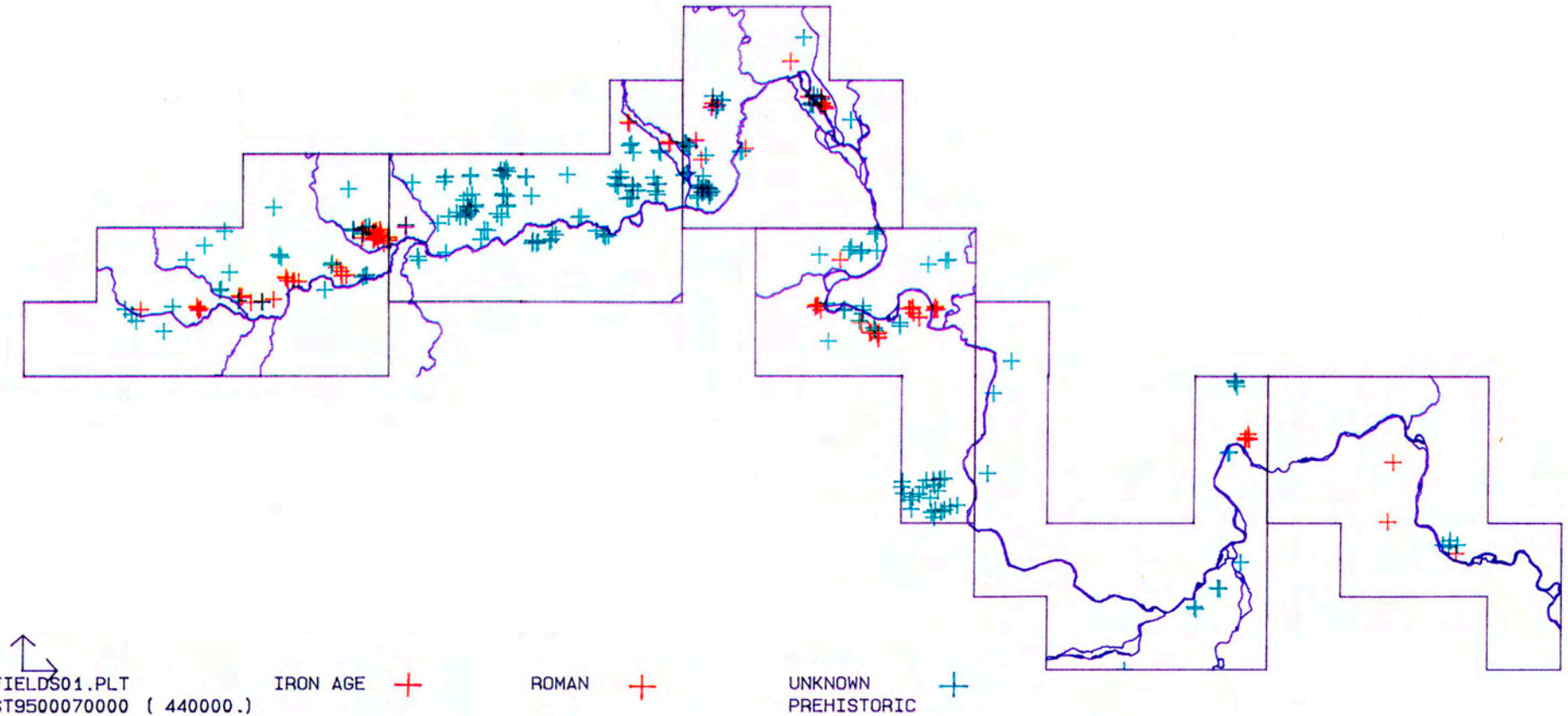


Figure 15. The Distribution of Medieval or Later Field Systems, Field Boundaries and Lynchets

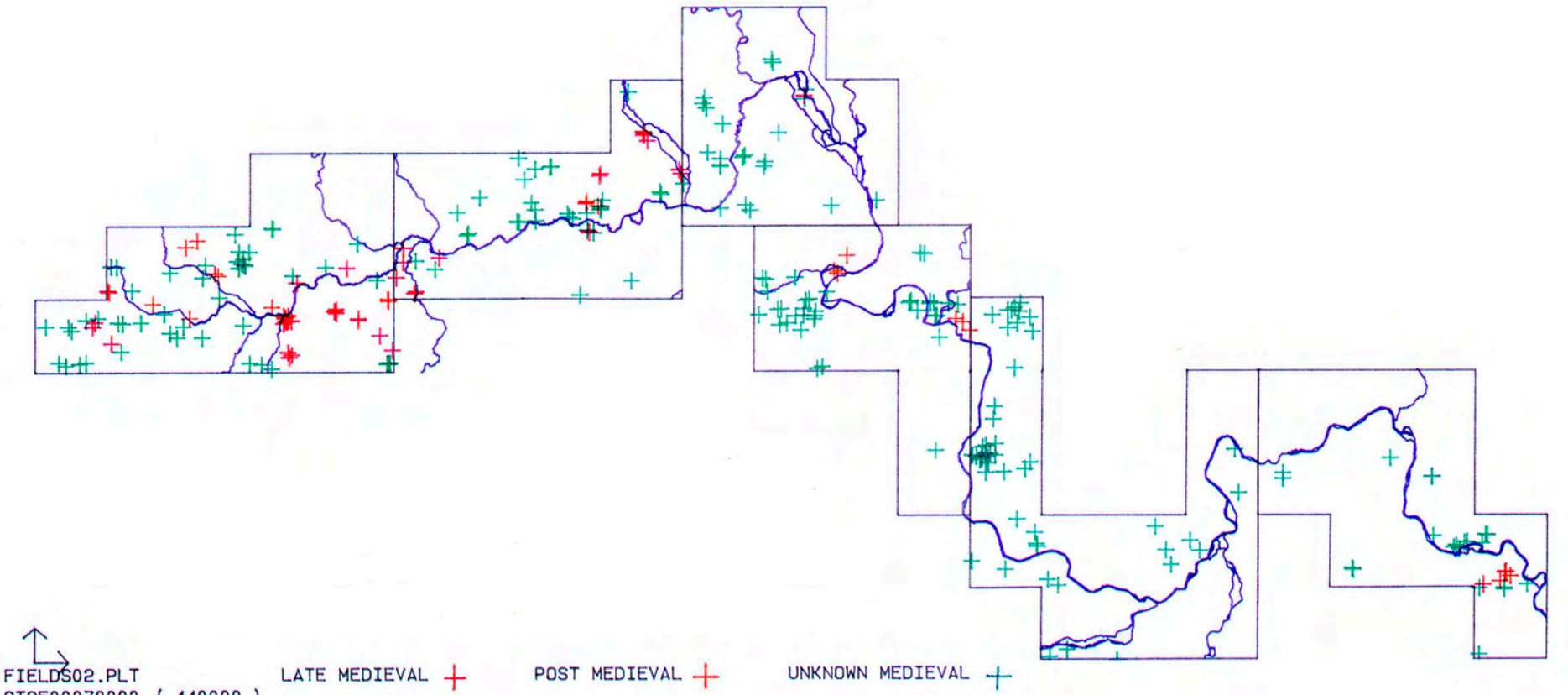


Figure 16. The Distribution of Roman Villas

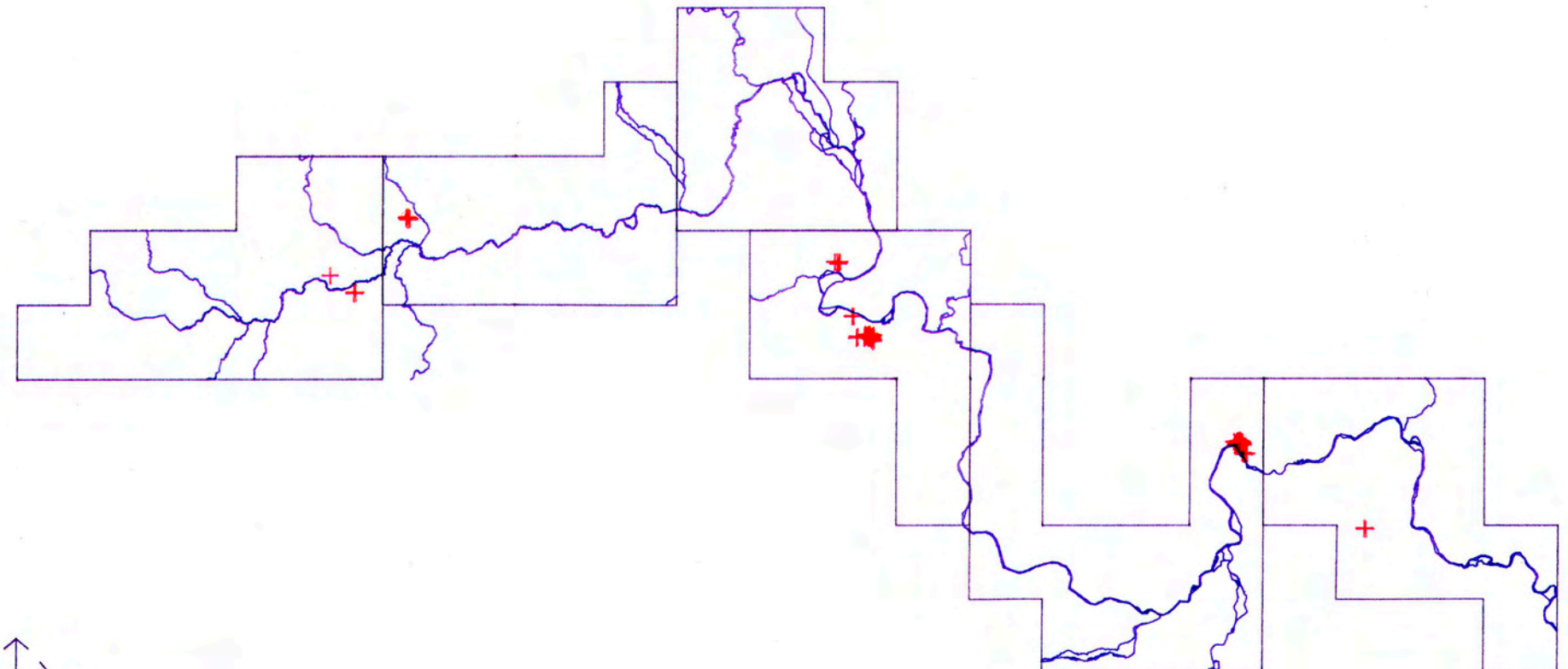


Figure17. The Distribution of Hillforts

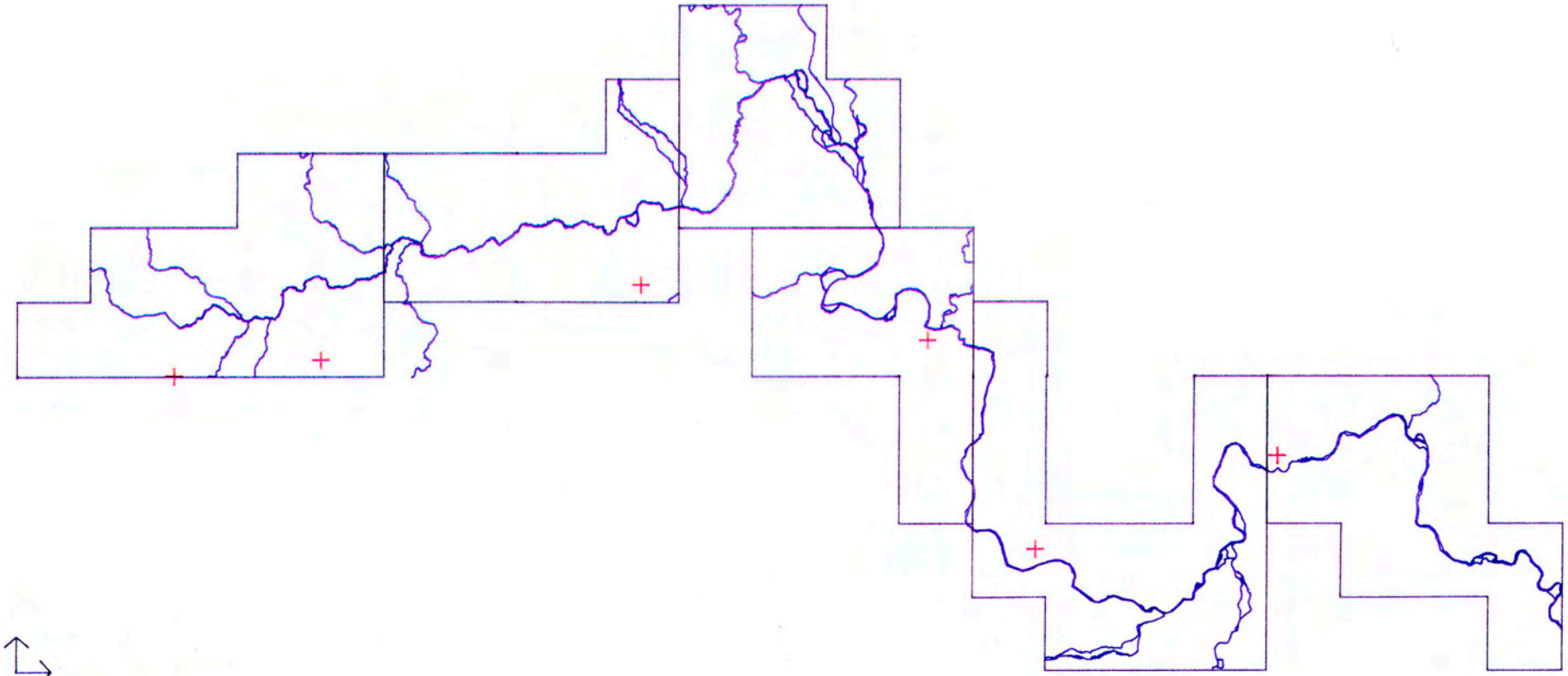


Figure 18. The Distribution of Shrunken and Deserted Villages

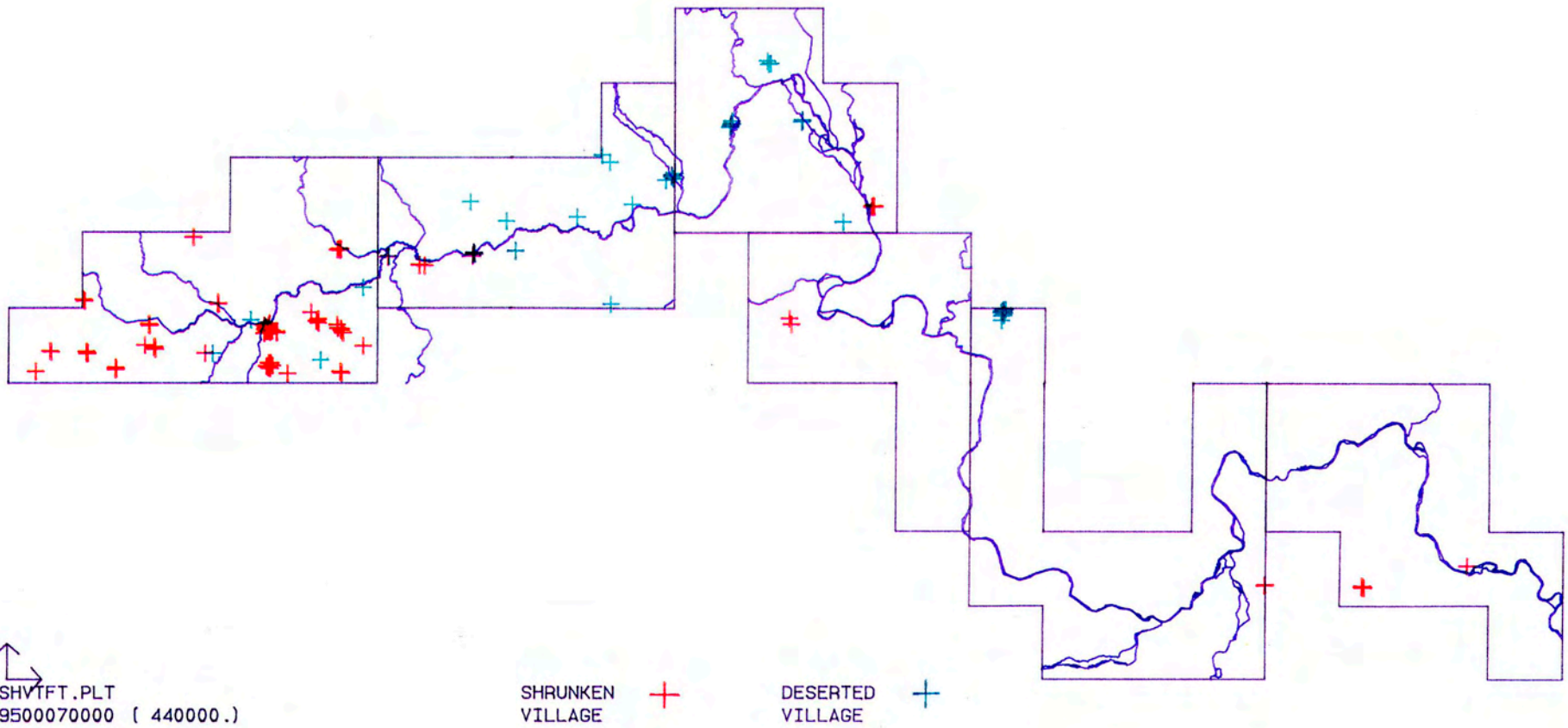


Figure 19. The Distribution of Grubenhauser

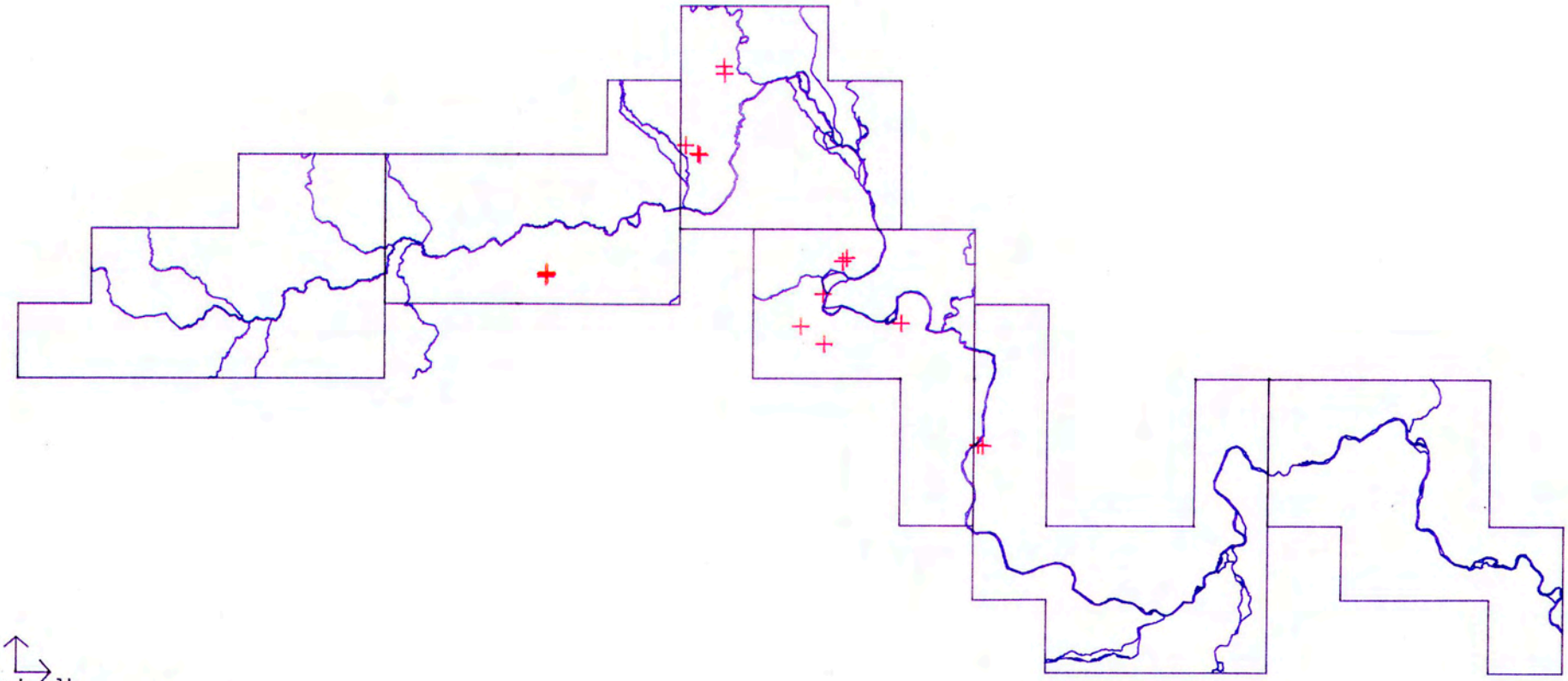


Figure 20. The Distribution of Hut Circles

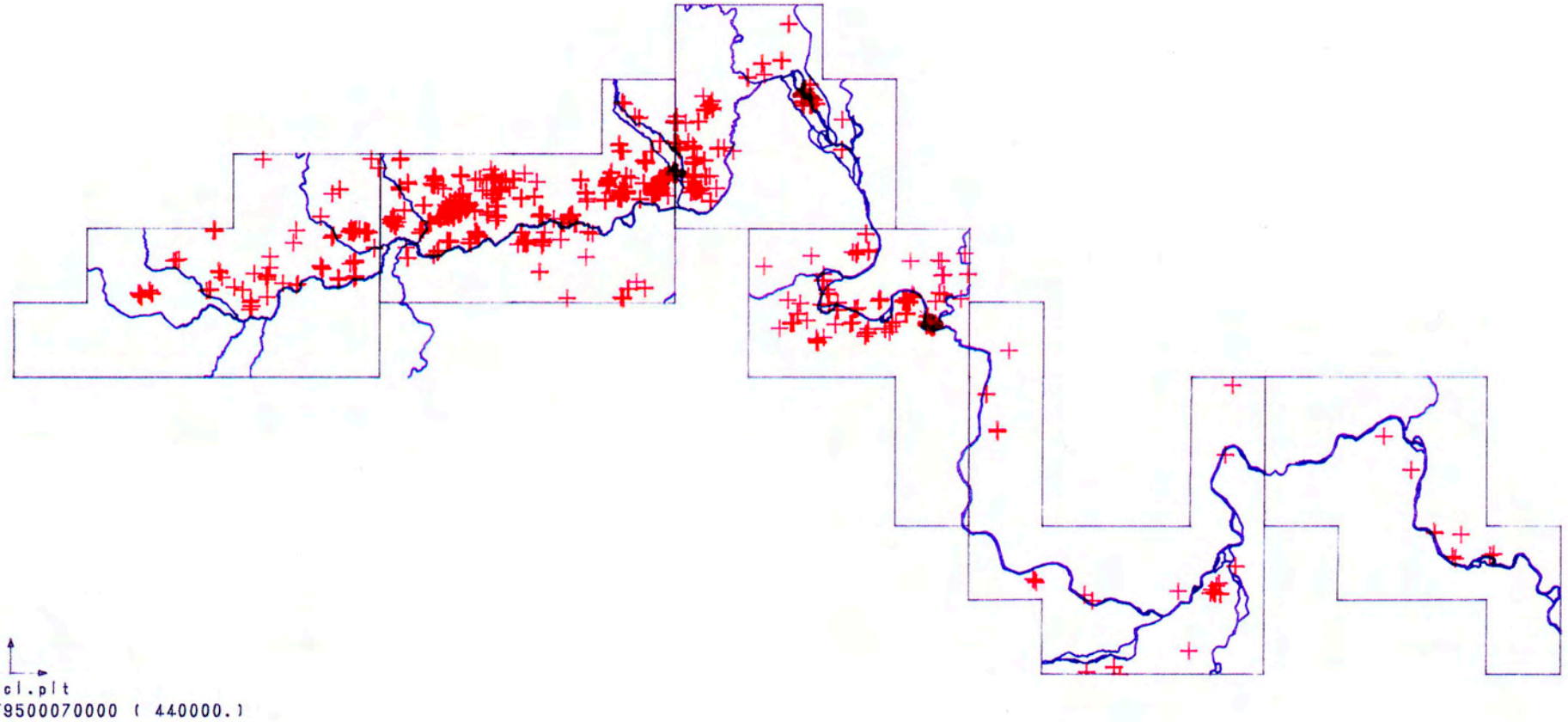


Figure 21. The Distribution of Moats

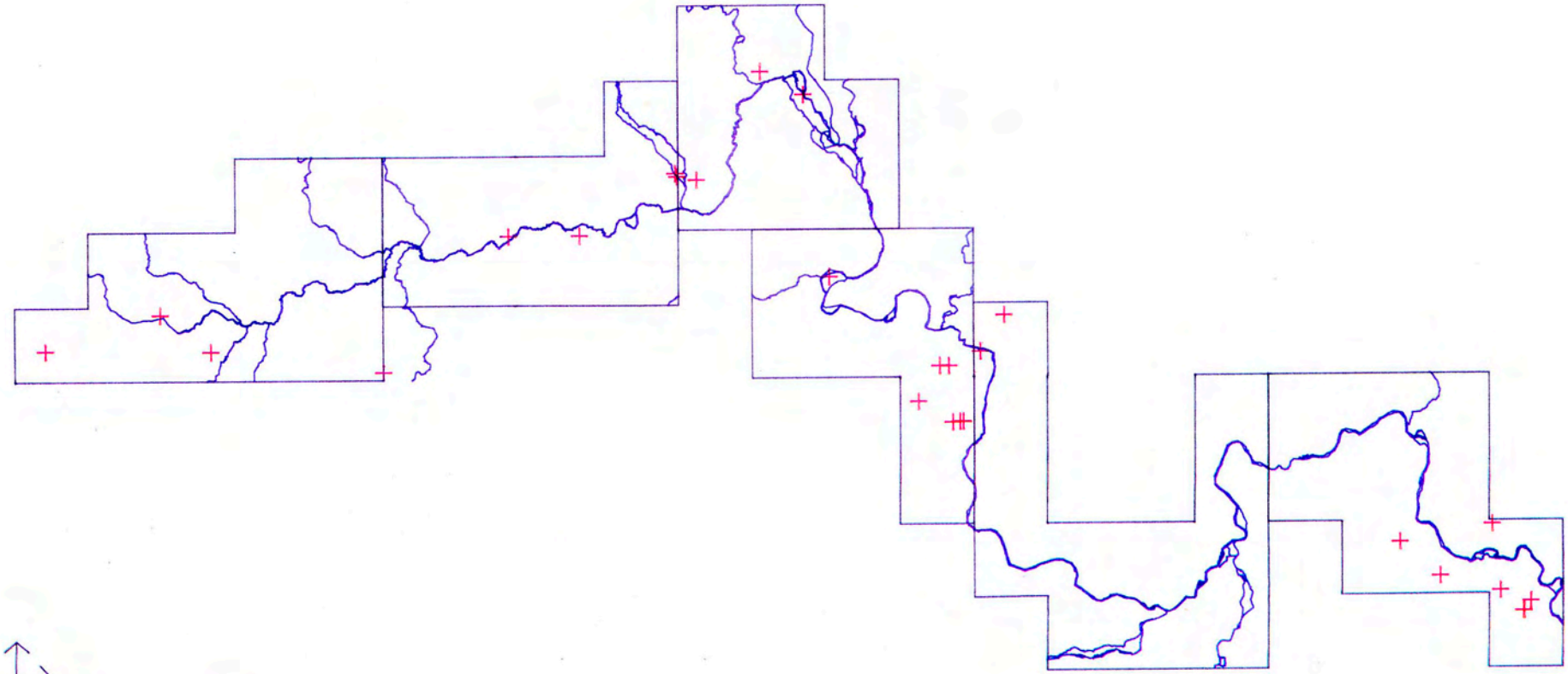


Figure 22. The Distribution of Iron Age and Roman Settlements

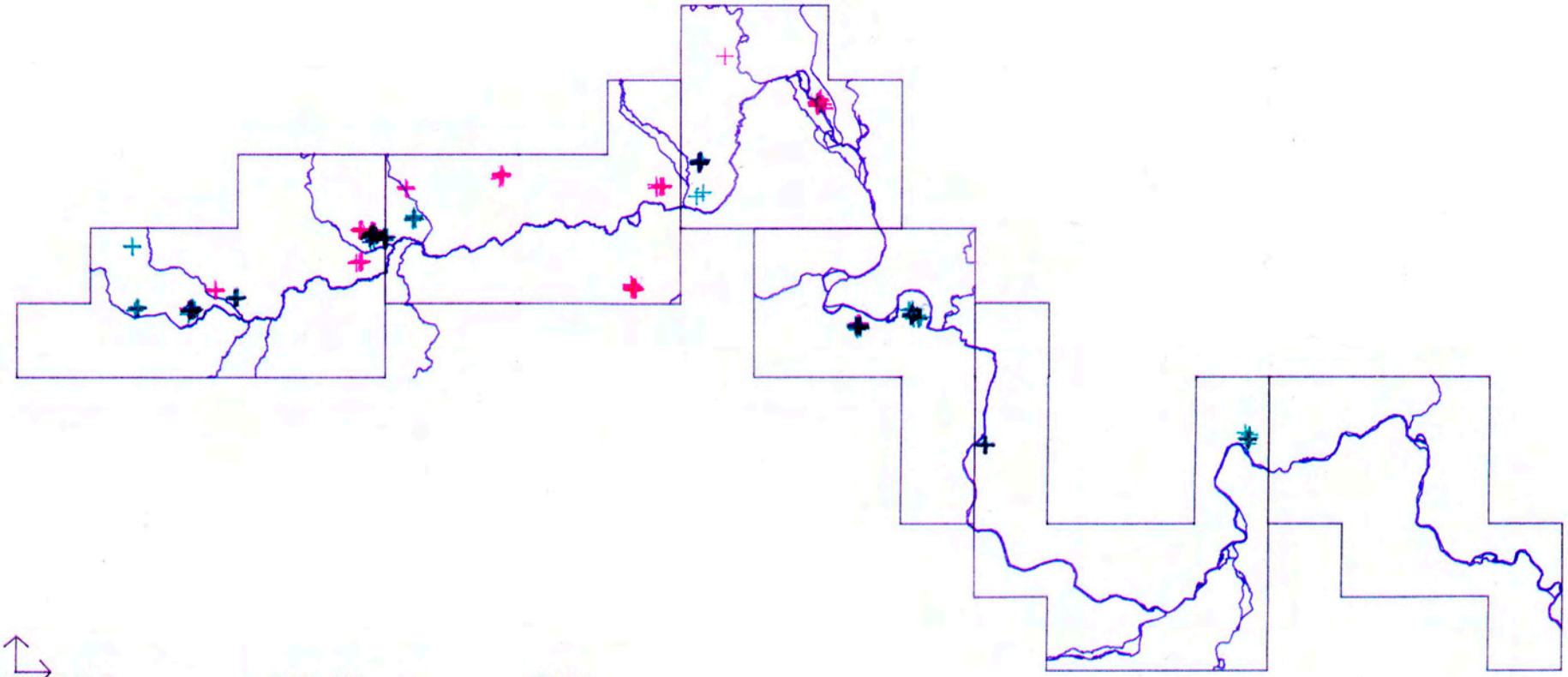


Figure 23. The Distribution of Unknown Prehistoric Settlements

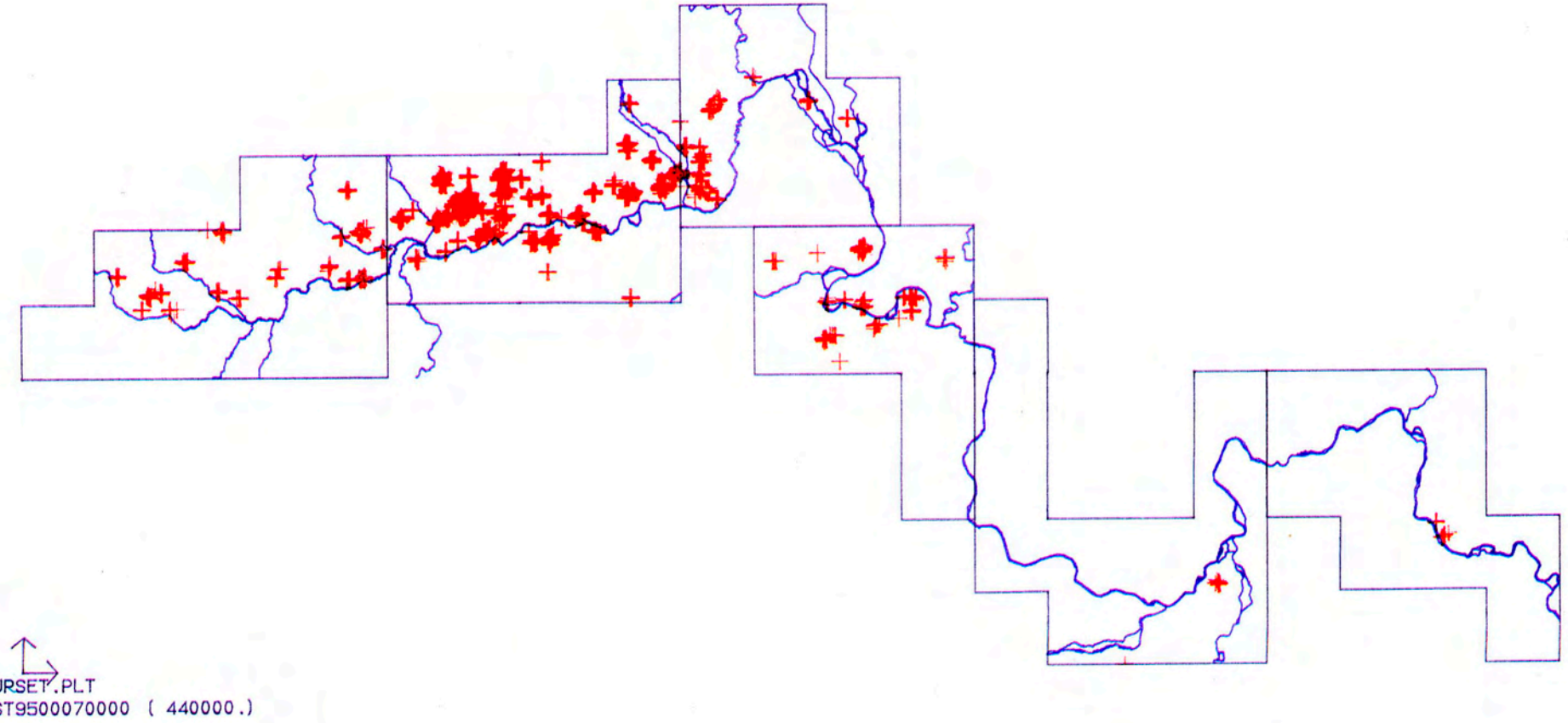


Figure 24. The Distribution of Long Barrows, Bank Barrows and Mortuary Enclosures

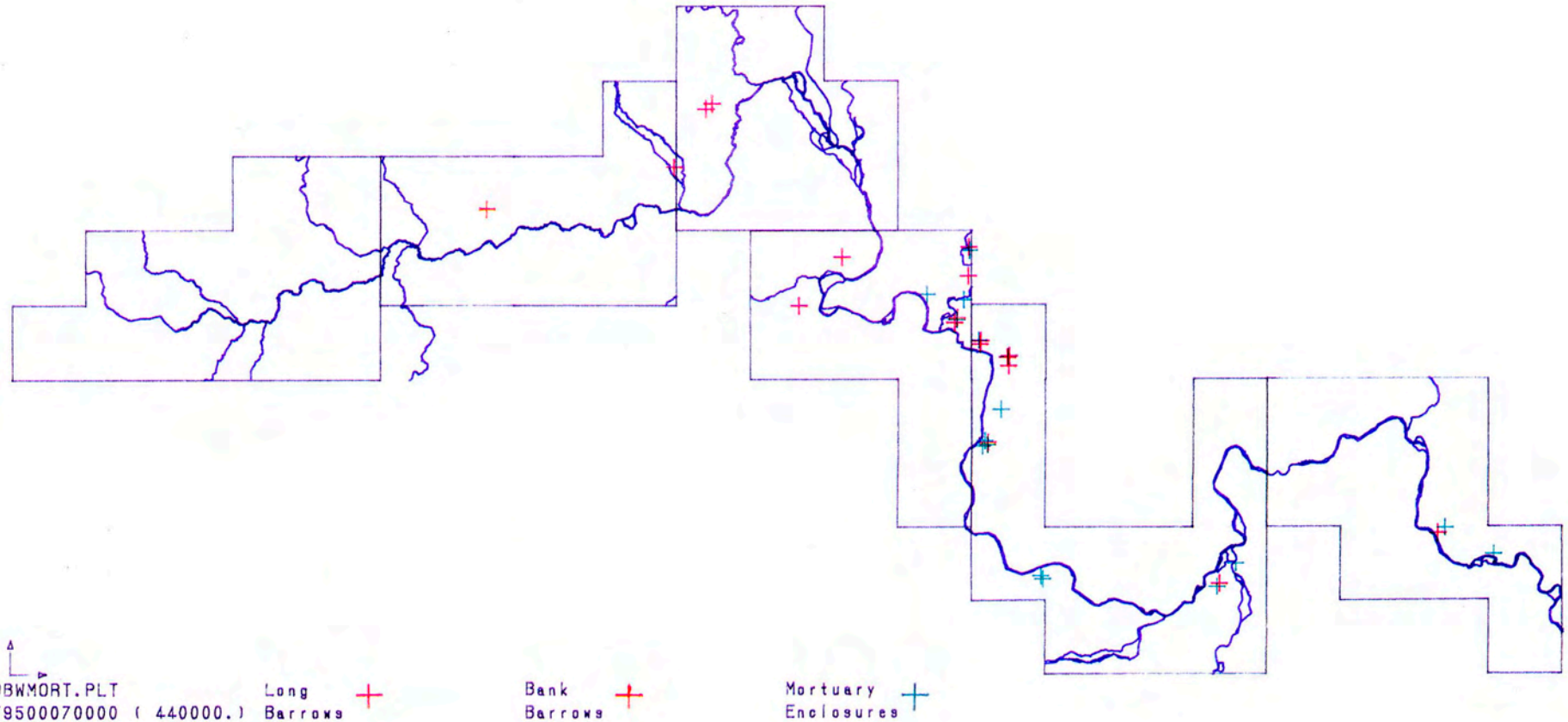


Figure 25. The Distribution of Barrow Cemeteries

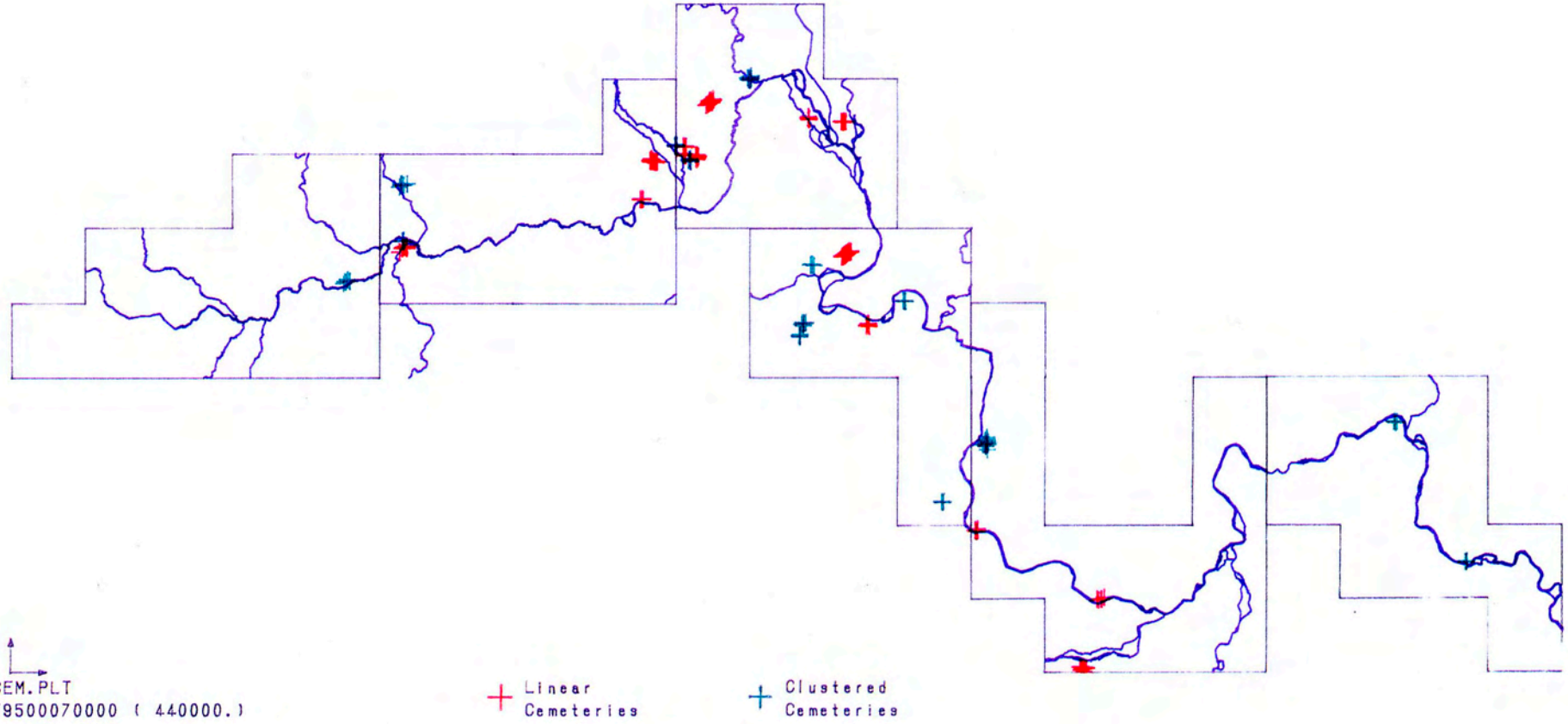


Figure 26. The Distribution of Barrows

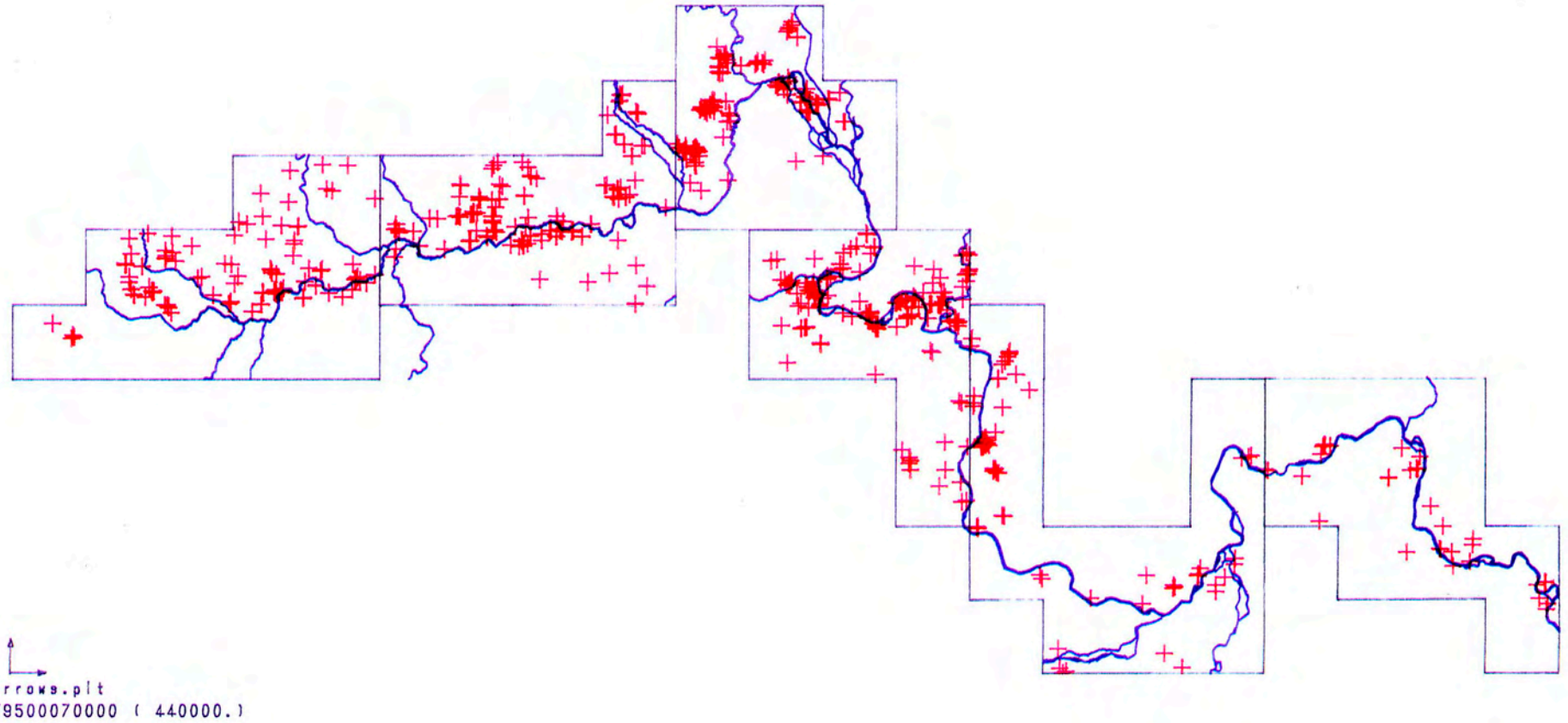


Figure 27. The Distribution of Causewayed Enclosures

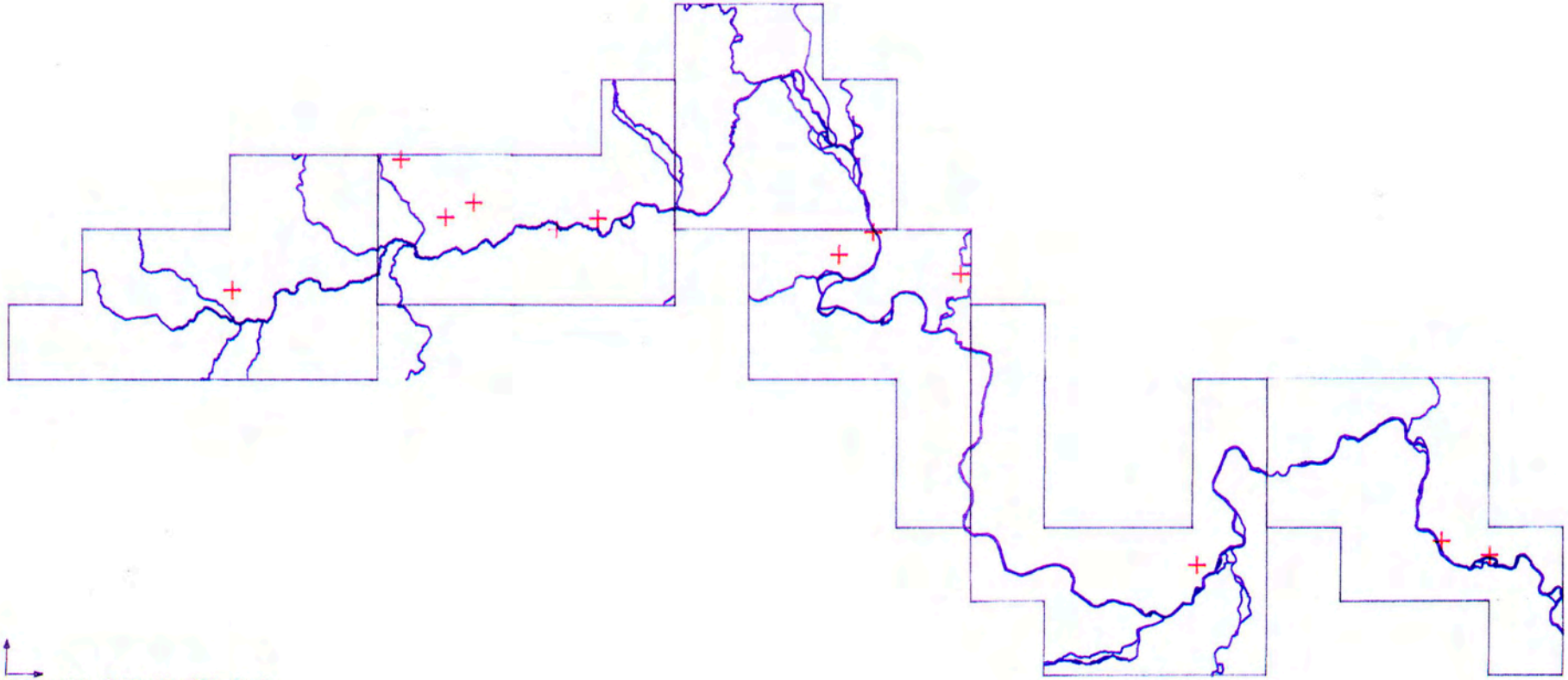


Figure 28. The Distribution of Cursus Monuments

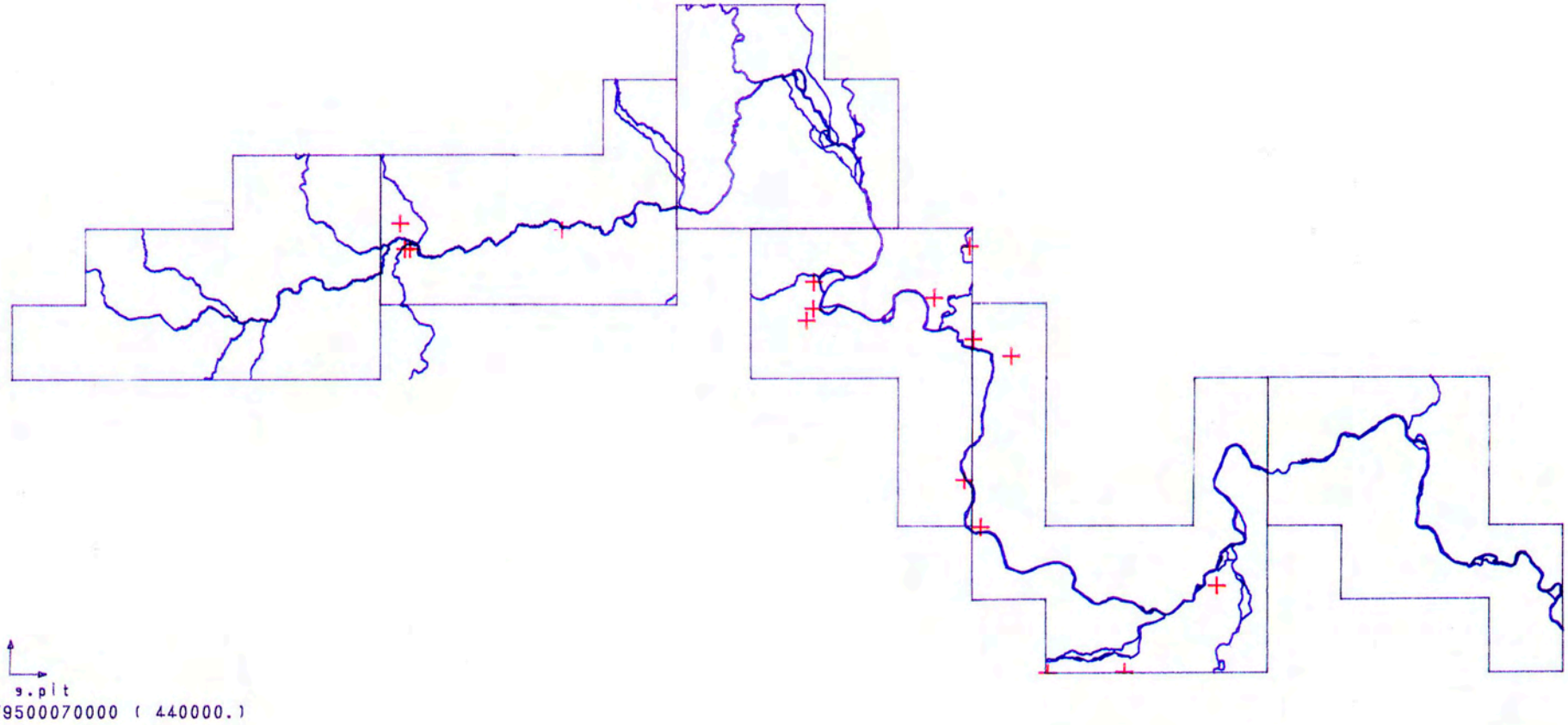


Figure 29. The Distribution of Henge and Hengiform Monuments

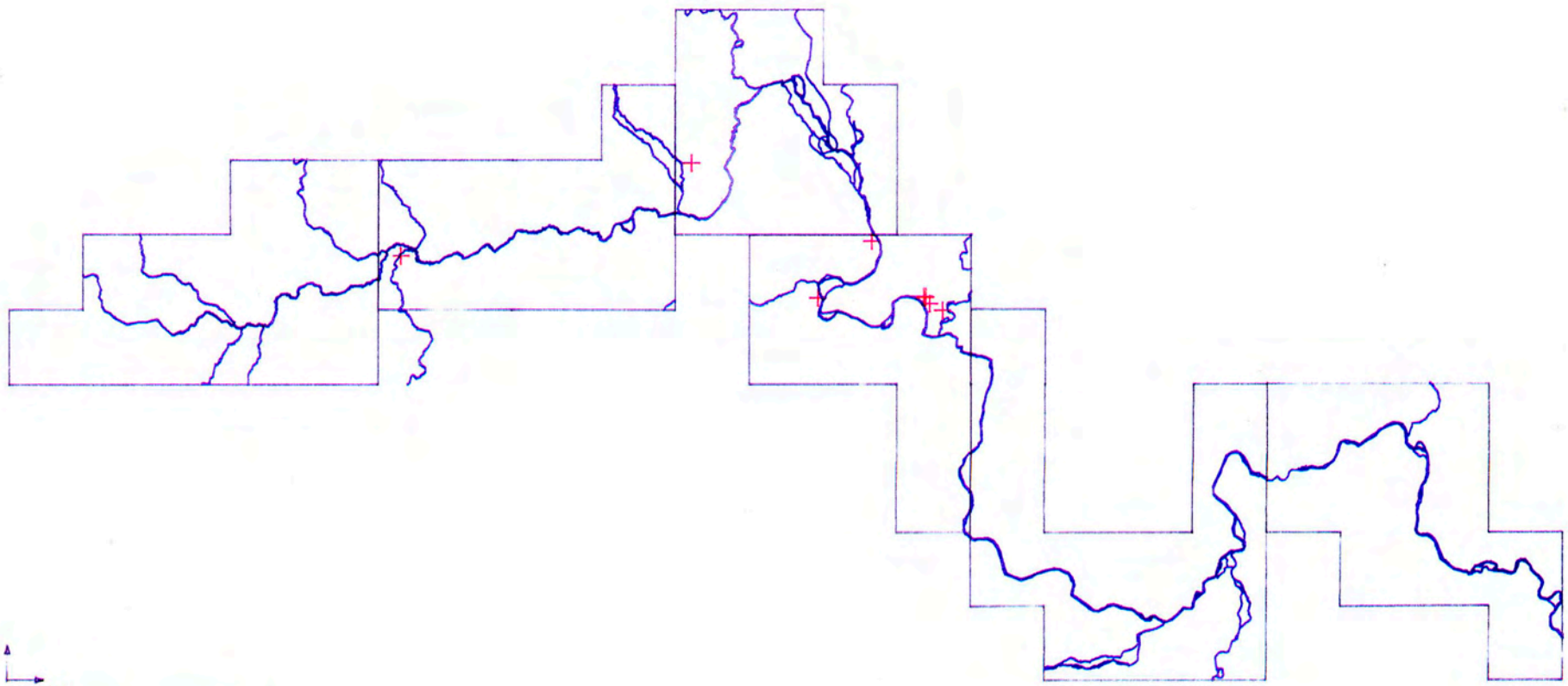


Figure 30. The Distribution of Pit and Timber Circles

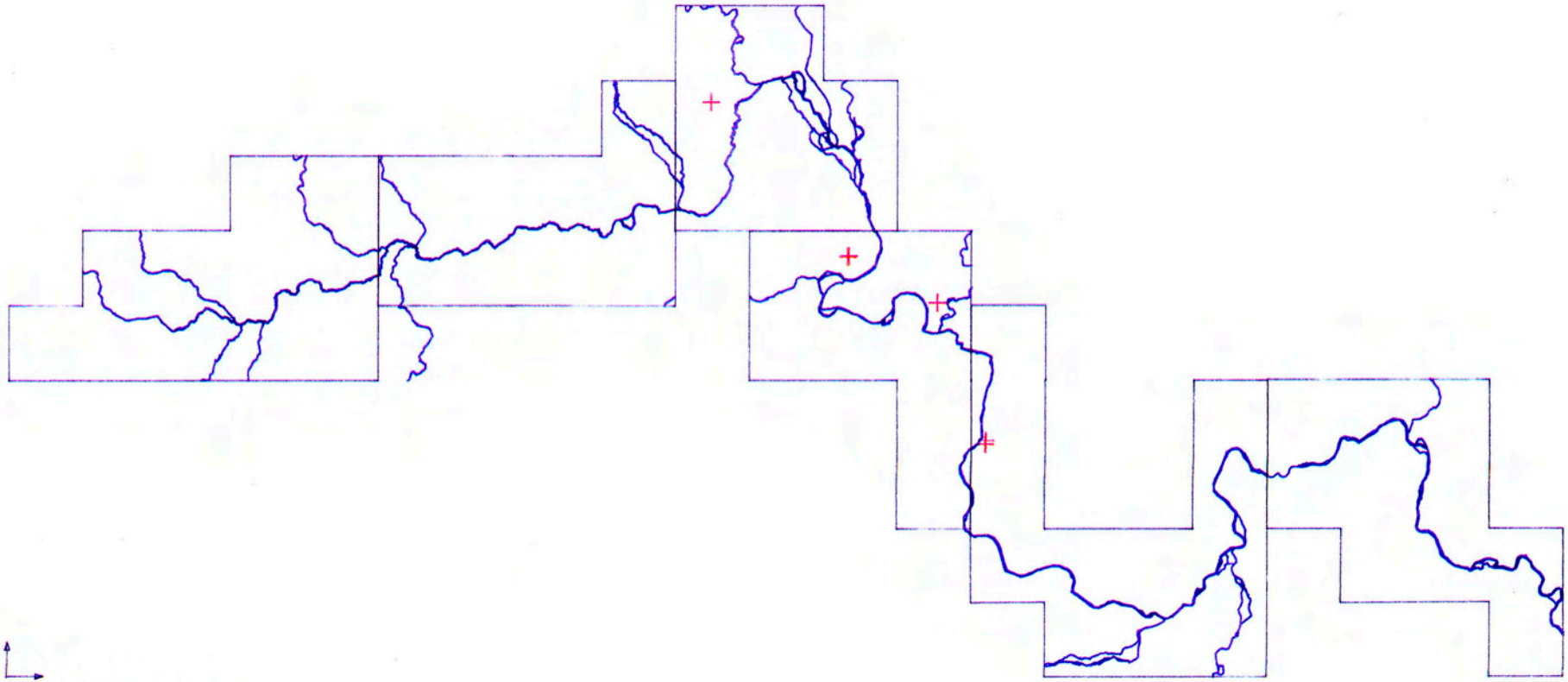


Figure 31. The Distribution of Roads

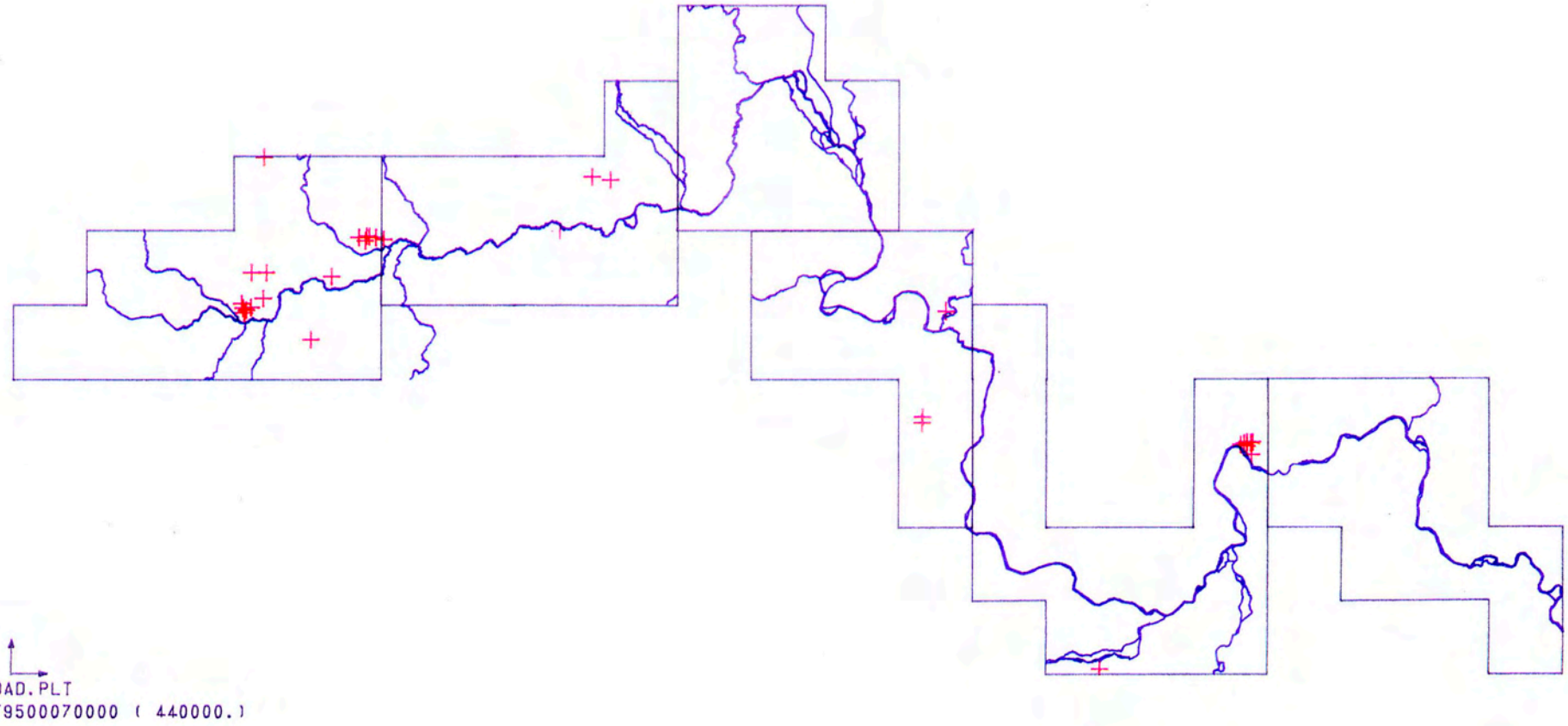


Figure 32. The Distribution of Roman or Earlier Trackways

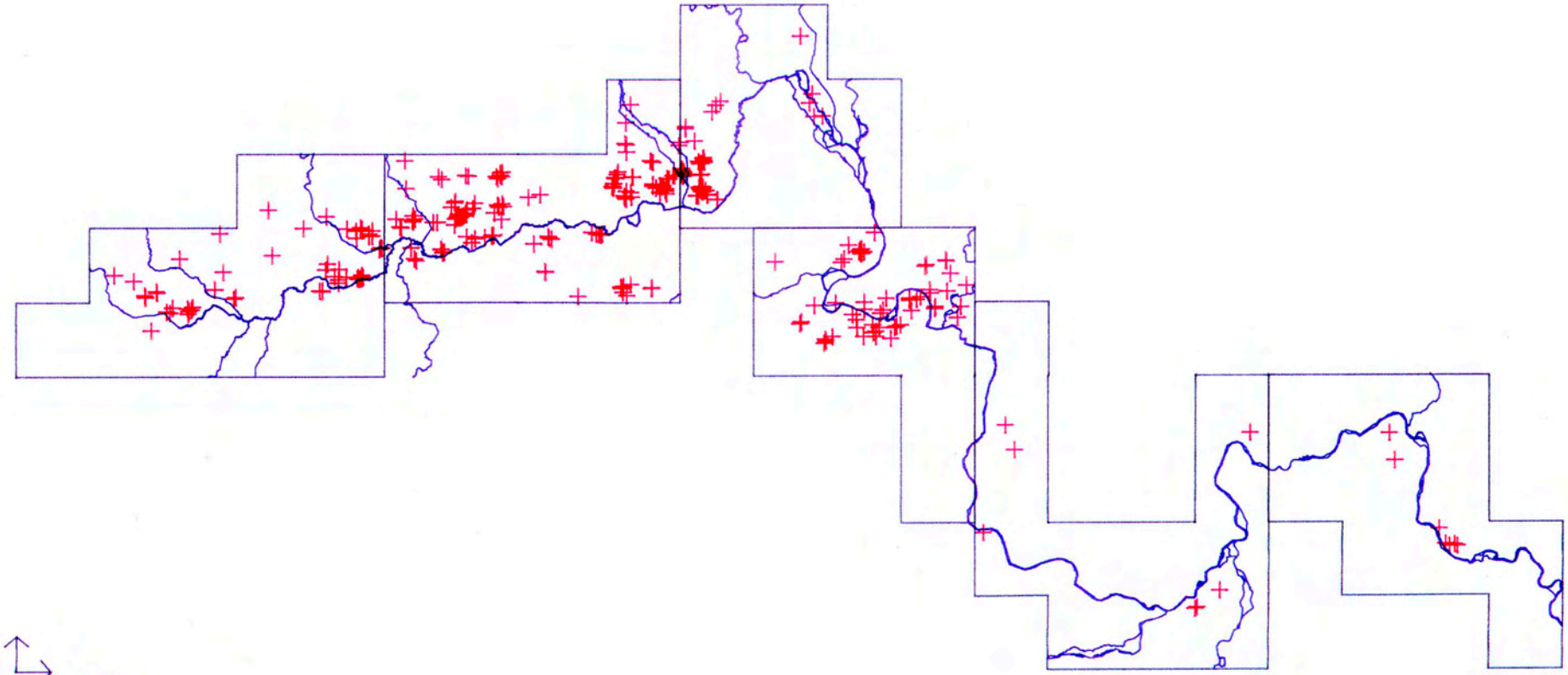


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Figure 33. Histogram showing the relative numbers of site types

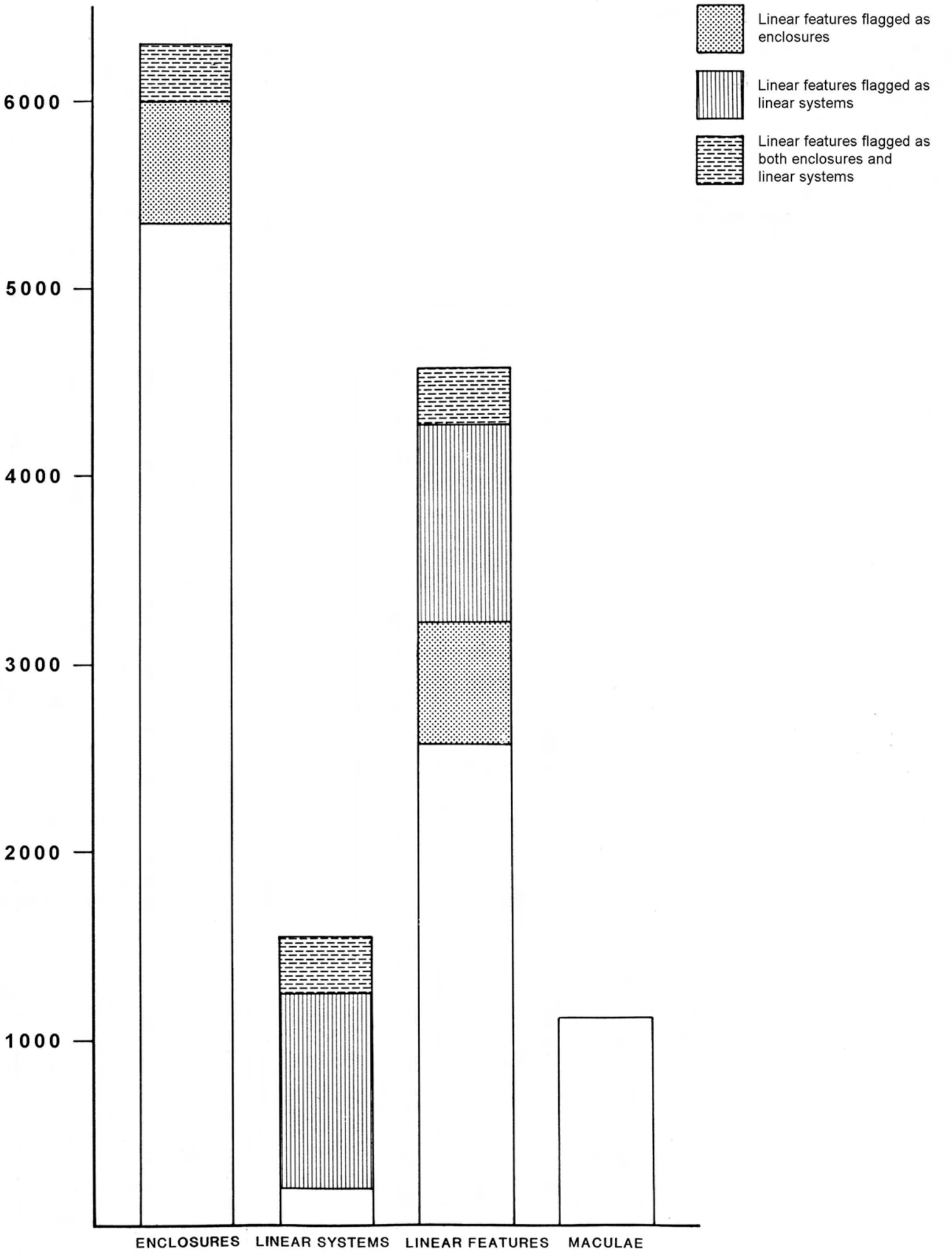


Figure 34. The Distrbution of Highworth-type Circles in the Thames Valley

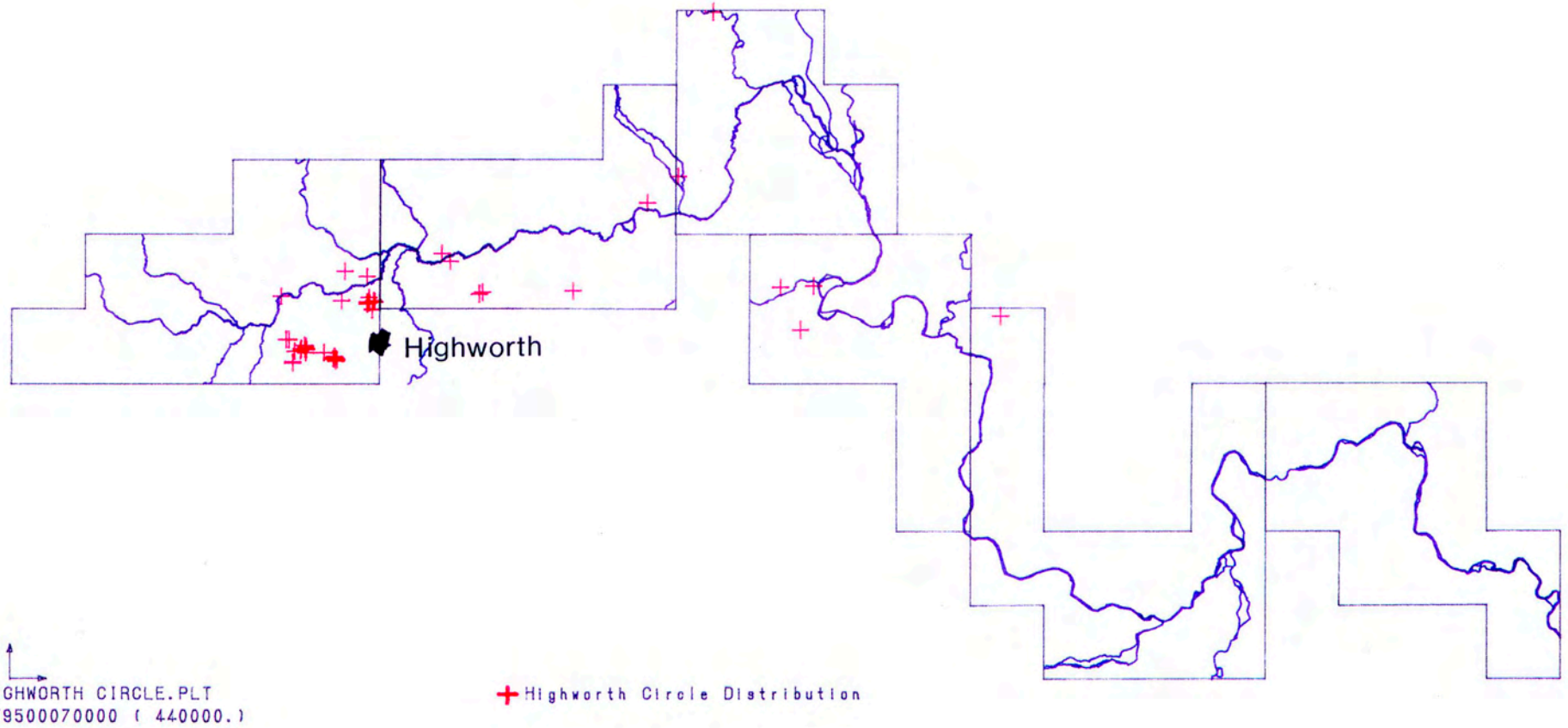


Figure 35. The Distribution of Neolithic Monuments

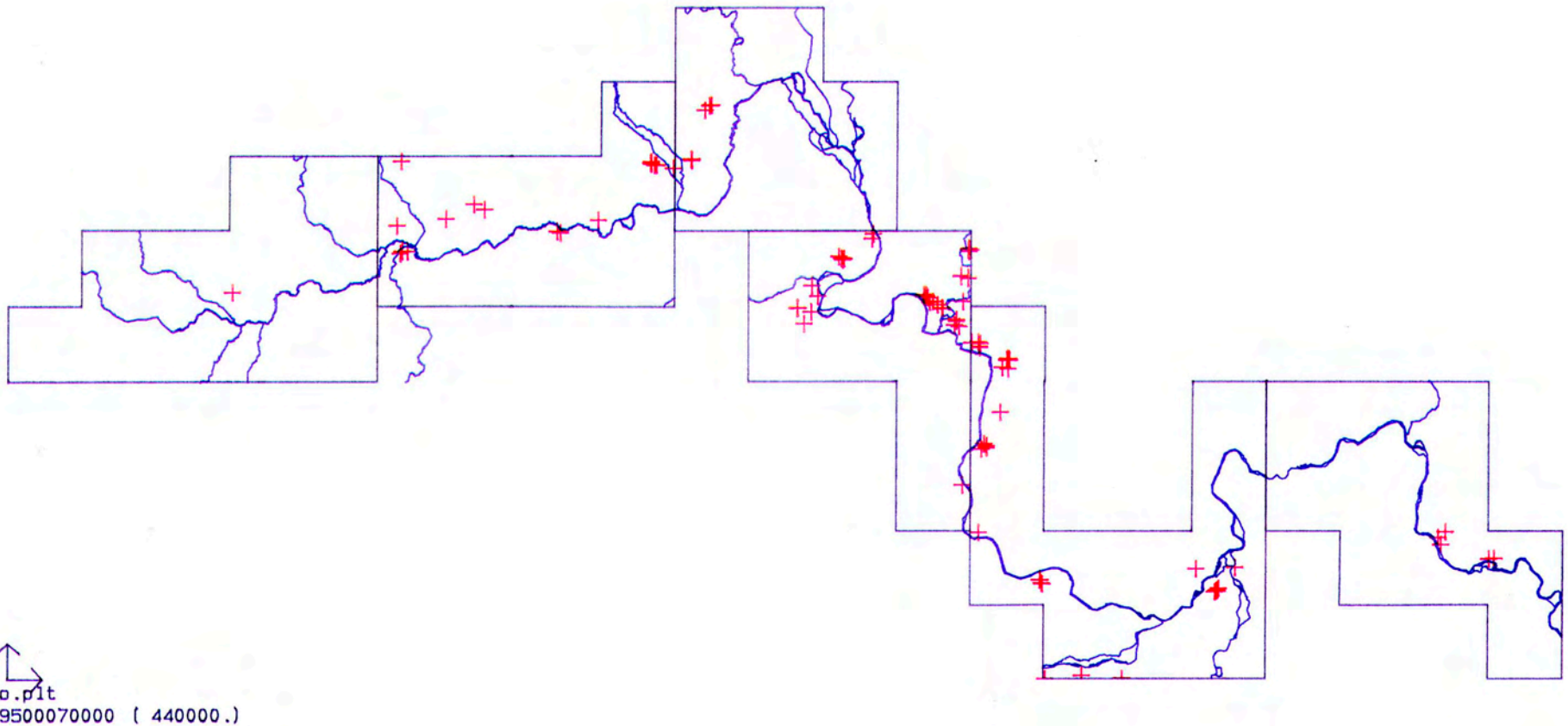


Figure 36. The Distribution of Bronze Age Monuments

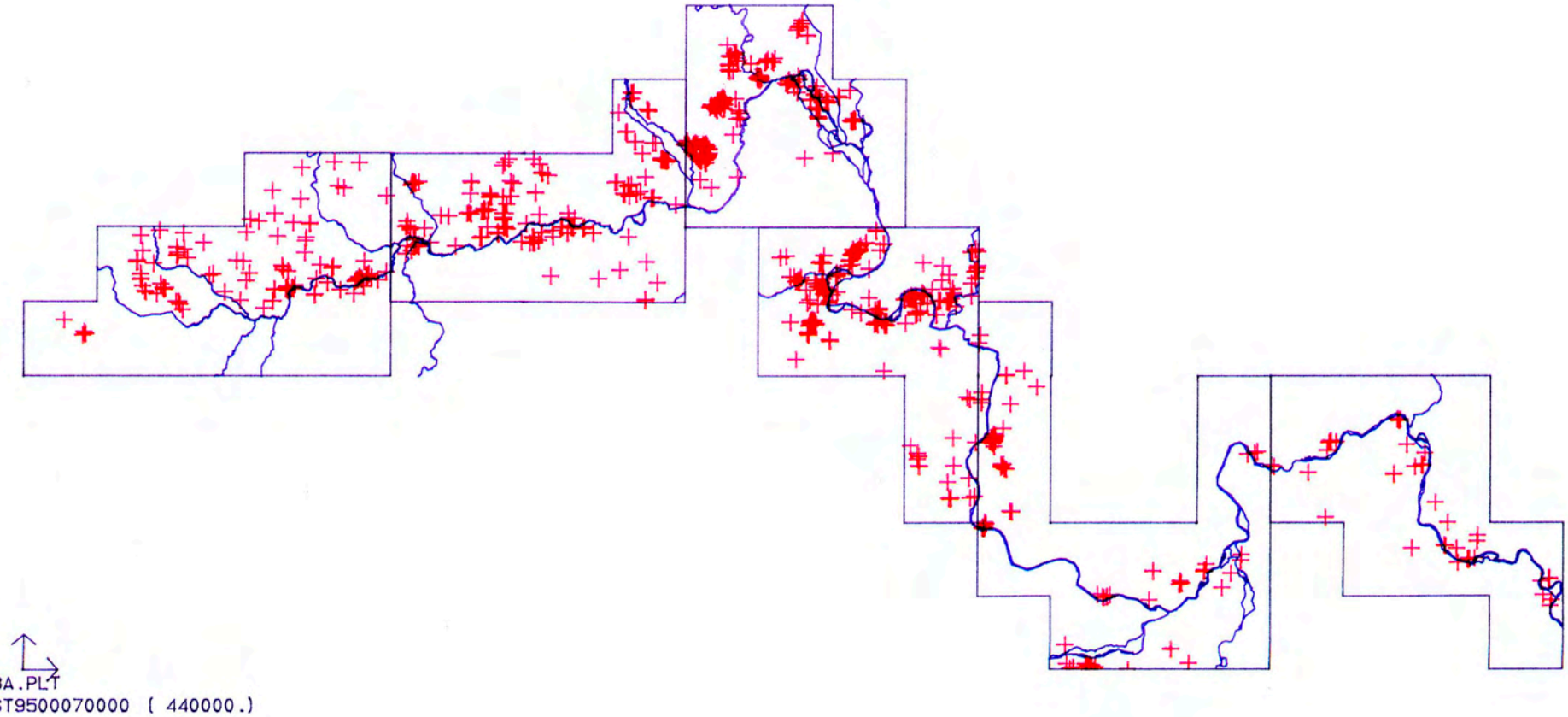


Figure 37. The Distribution of Iron Age Monuments

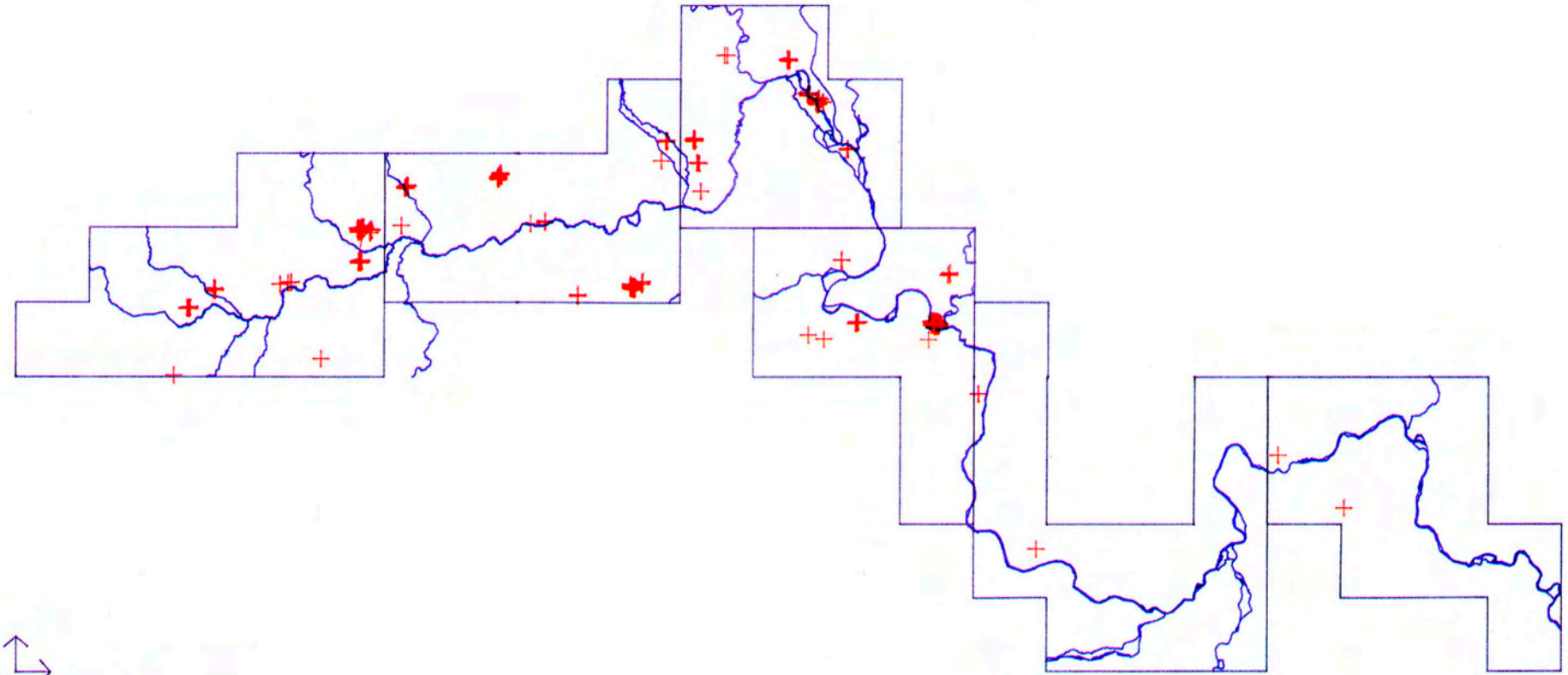
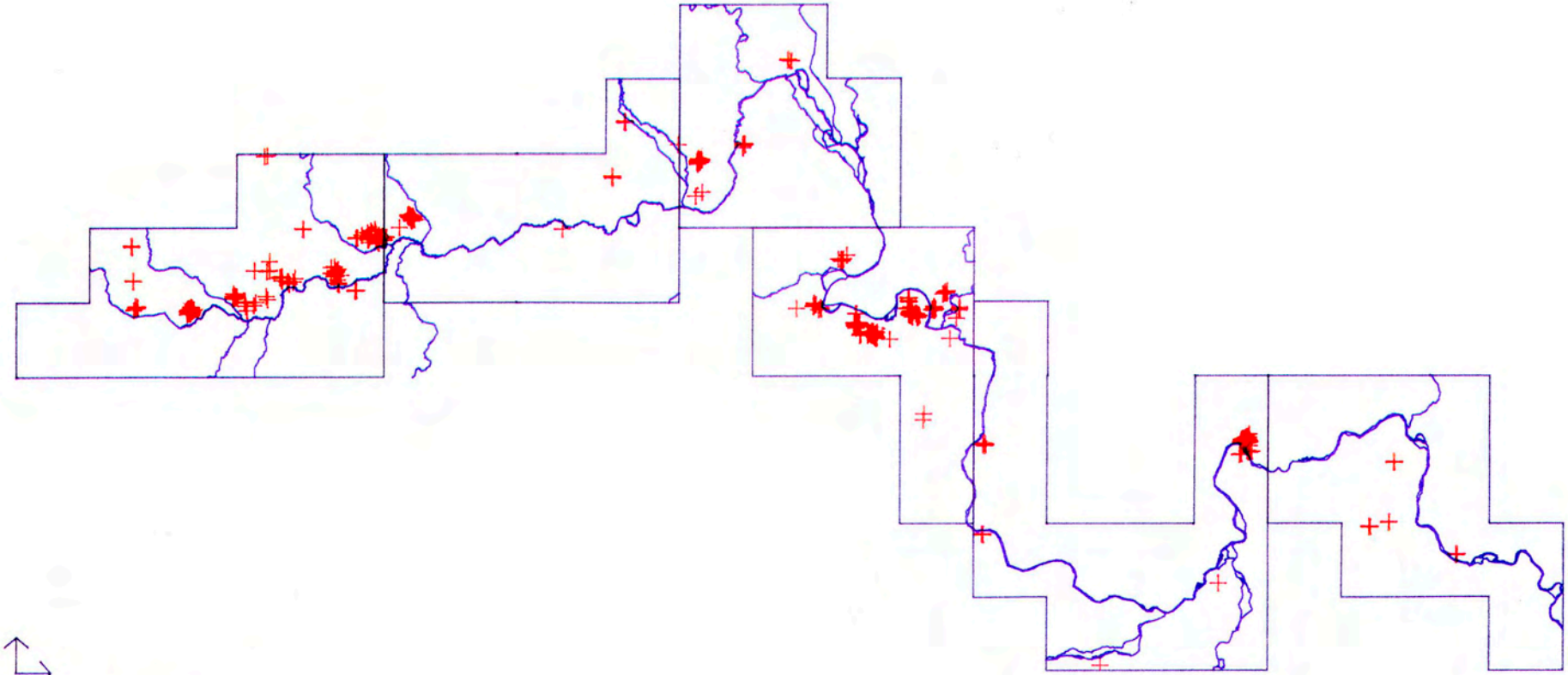
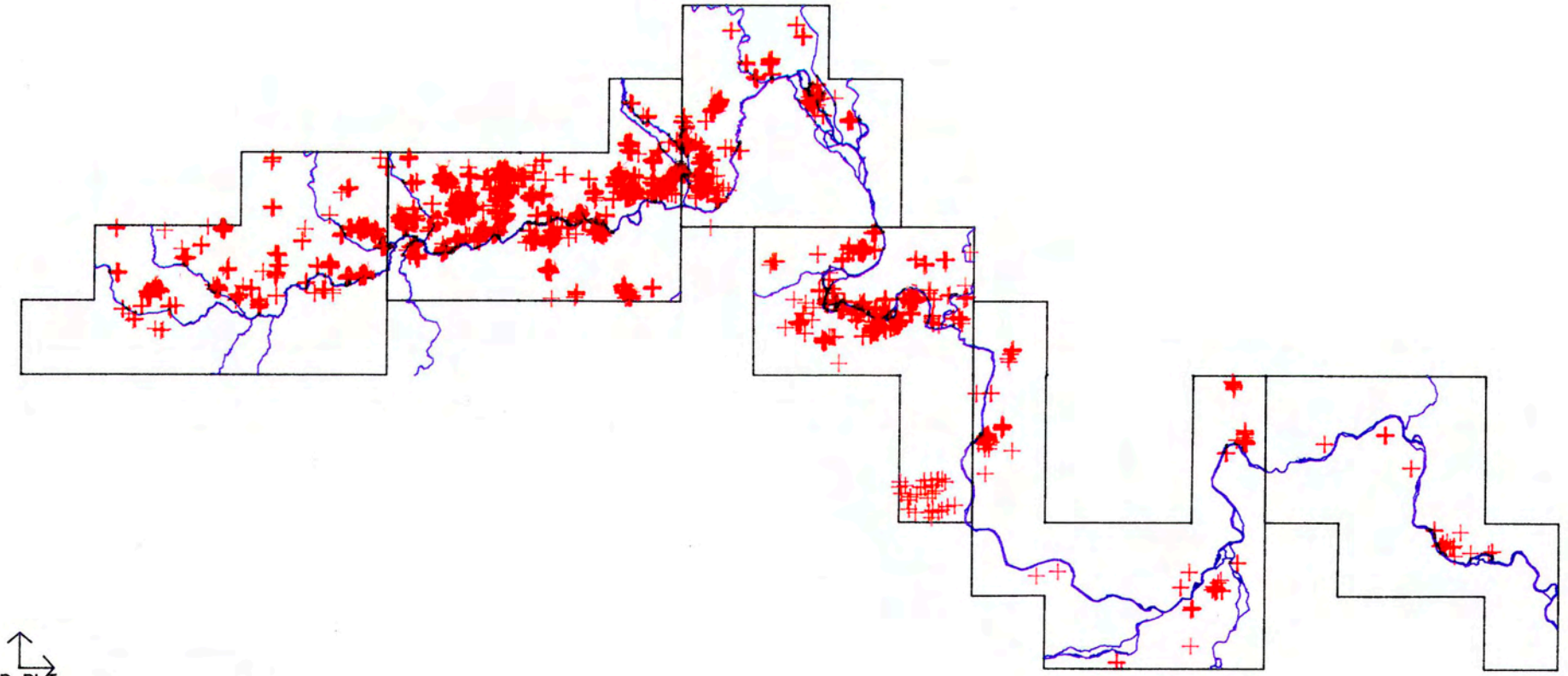


Figure 38. The Distribution of Roman Monuments

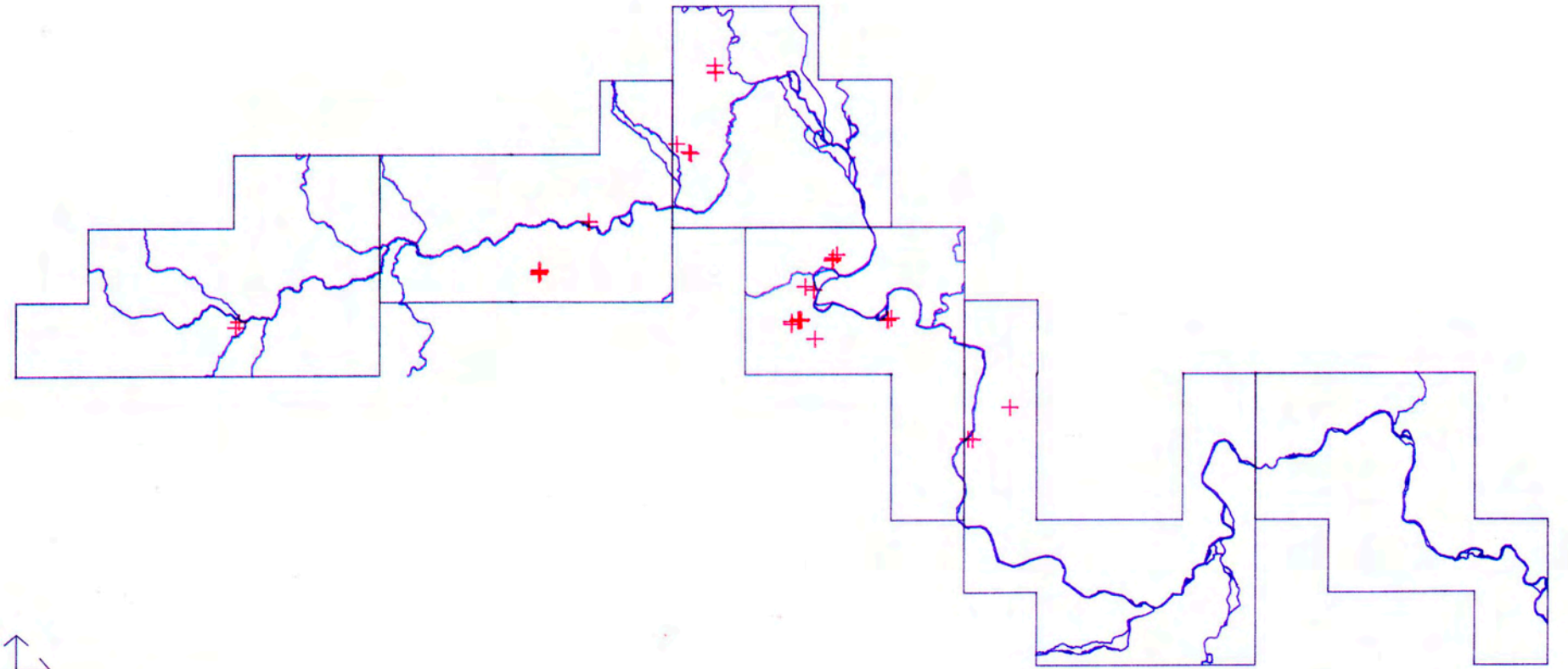


39. The Distribution of Unknown Prehistoric Monuments



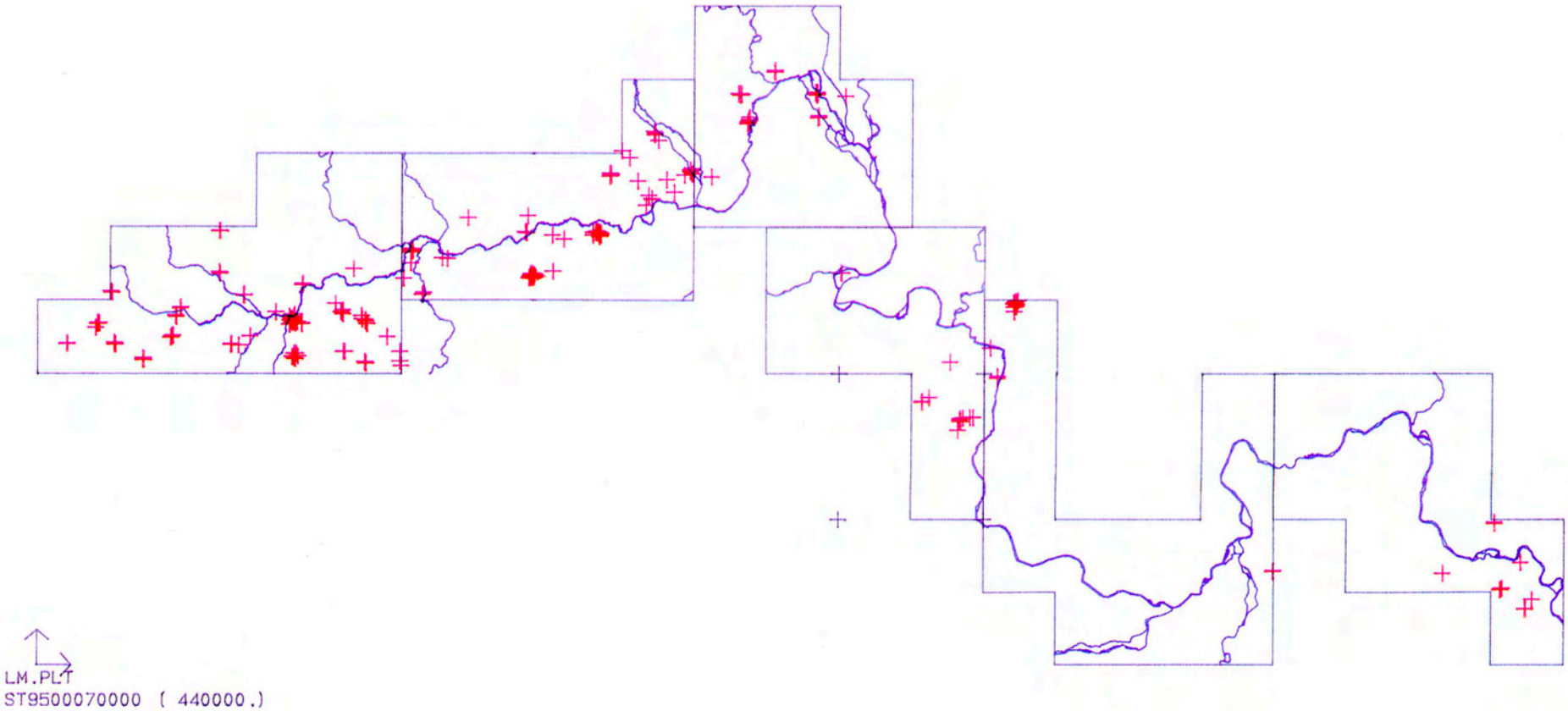
UP.PLT
ST9500070000 (440000.)

Figure 40. The Distribution of Early Medieval Monuments



EM.PLT
ST9500070000 (440000.)

Figure 41. The Distribution of Medieval Monuments



8 APPENDICES

8.1 AERIAL PHOTOGRAPHIC SOURCES CONSULTED

1. NMR -Air Photographs
RCHME National Monuments Record Centre
Kemble Drive
Swindon
SN2 2GZ

Both the specialist oblique and vertical collections were consulted.

2 University of Cambridge Collection of Air Photographs
The Mond Building
Free School Lane
Cambridge
CB2 3RF

Both the oblique and vertical collections were consulted.

3 Wiltshire County Council Library and Museum Service
Bythesea Road
Trowbridge
BA14 8BS

All photographs held by the Sites and Monuments Record were consulted. These included both oblique and vertical collections. Verticals held by the planning department were not consulted.

4 Oxfordshire County Council Dept of Leisure and Arts
Central Library
Westgate
Oxford
OX1 IDJ

The Sites and Monuments Record held specialist oblique and vertical cover. All accessible photographs were consulted.

5 Buckinghaml;hire County Council Library and Museum Service
Buckinghamshire County Museum
Technical Centre
Tring Road
Halton
Aylesbury
HP22 5JP

The specialist oblique cover held by the Sites and Monuments Record were consulted.

6 Gloucestershire County Council County Planning Department
Shire Hall
Gloucester
GL1 2TN

All available coverage, held by the Sites and Monuments Record was consulted.

7. Oxford Archaeological Unit
46 Hythe Bridge Street
Oxford
OXl 2EP

Oblique cover in both colour print and colour slide formats were consulted.

8.2 OTHER SOURCES CONSULTED

The County Sites and Monuments Records listed above (no's 3 to 6 in the list) were consulted in addition to the following:

Babtie Public Services
Shire Hall
Shinfield Park
Reading
RG29XG

The National Archaeological Record (now part of the NMR)
RCHME
National Monuments Record Centre
Kemble Drive
Swindon
SN2 2GZ

The Excavations Index (now part of the NMR)
RCHME
Address as above

Permission to consult all relevant archaeological excavation reports was also granted by the Oxford Archaeological Unit, although it was not possible to view everything. See address section 7.1 above.

8.3 MORPH2 DATABASES AND ARCHIVE DETAILS

MORPH2 Databases -Details of the MORPH2 database structure as well as computer hard and software specifications used for the Thames Valley project, are contained within Appendixes C and D of the MORPH2 USERS GUIDE, (1993).

Database		**No of records**
PRI	DBF	11252
ENC	DBF	5360
LFD	DBF	4575
LSD	DBF	197
IND	DBF	o
GRI	DBF	3535
ENT	DBF	1332
GROUP	DBF	4974
GROUP	FPT	3557

Archive -The Thames Valley project archive will be held in the NMR Archive section and will include:

a Index of contents
b Project specification
c Project report
d Original pencil drawings of each quarter sheet (see Appendix 7.4 for list)
e Master copy of the final inked overlays
f AERIAL digital data
g Correspondence relating to the project
h Paper records including Map Note Sheets and Site Record Forms
i Project photographic loan forms and lists
j MORPH2 digital data
k MORPH2 maps
l Supplementary digital data including parish code and interpretation code databases

8.4 MORPHOLOGICAL REPORT LISTS

Enclosures

POSSIBLE HIGHWORTH CIRCLES

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR No.	SMR No.	ALLEN No.
TG	4	1	1	SU26779604	ENC	U	1	4	7	3088	
TG	4	1	2	SU26802599	ENC	U	1	4	7	3088	
TG	4	1	3	SU27009611	ENC	U	1	4	7	3088	
TG	24	24	1	SU33139622	ENC	U	2	3		12158	
TG	32	28	1	SP40210386	ENC	U	2	2			
TG	34	25	1	SP38140211	ENC	U	2	4		226	
TG	37	10	2	SU62089448	ENC	LM	1	3			
TG	60	14	1	SU24229873	ENC	U	1	2			
TG	60	16	1	SU24809819	ENC	U	1	2			
TG	86	9	1	SU15049210	ENC	U	2	4	11	604	12
TG	86	9	2	SU15079232	ENC	U	2	3	11	603	11
TG	86	9	3	SU15009232	ENC	U	2	4	11	602	10
TG	86	9	4	SU15029240	ENC	U	2	4	11	601	8
TG	86	9	5	SU15029253	ENC	U	2	4	11	600	7a
TG	86	9	6	SU14979259	ENC	U	2	4	11	606	7
TG	86	9	7	SU14729238	ENC	U	2	4	11	604	4
TG	86	9	8	SU14719226	ENC	U	2	4	11	603	6
TG	86	9	9	SU14319221	ENC	U	2	4	11	602	3
TG	86	10	1	SU16269212	ENC	U	2	4	3	606	13
TG	86	11	1	SU16979185	ENC	U	2	4		609	
TG	86	11	2	SU16969176	ENC	U	2	4	6A		14
TG	86	11	3	SU17069152	ENC	U	2	4	6E	610	18
TG	86	11	4	SU16909170	ENC	U	2	4		607	
TG	86	11	5	SU17049179	ENC	U	2	4	6B	15	
TG	86	11	6	SU17099160	ENC	U	2	4	6D	611	17
TG	86	11	7	SU17139173	ENC	U	2	4	6F	613	19
TG	86	11	8	SU17179163	ENC	U	2	4	6G	612	20
TG	86	11	9	SU16999167	ENC	U	4	4	6C	608	16
TG	89	2	1	SU19519498	ENC	U	2	4	16	620	34
TG	89	2	2	SU19529492	ENC	U	2	4	16	619	35
TG	92	2	1	SU14179150	ENC	U	1	2			
TG	92	2	2	SU14159140	ENC	U	1	2			
TG	93	2	1	SU13899299	ENC	U	2	4	9	601	1
TG	93	2	2	SU13719300	ENC	U	2	4	9	600	2
TG	114	5	1	SU19319576	ENC	U	2	4	14B	601	30
TG	114	5	2	SU19189547	ENC	U	2	4	14L	609	39
TG	114	5	3	SU19289544	ENC	U	2	4	14K	608	38
TG	114	5	4	SU19229538	ENC	U	2	4	14J	607	37
TG	114	5	5	SU19199531	ENC	U	2	4	14H	606	36
TG	114	5	6	SU19629556	ENC	U	2	4	14C	602	31
TG	114	5	7	SU19659549	ENC	U	2	4	14D	603	32
TG	114	5	8	SU19709545	ENC	U	2	4	14E	604	33
TG	114	5	9	SU19359539	ENC	U	2	3			
TG	116	1	1	SU17449555	RDBW	BA	1	3			
TG	117	1	1	SU17669752	ENC	U	1	2			
TG	117	8	1	SU19189715	ENC	U	2	4	11	2430	40
TG	128	85	1	SU13369587	RDBW	BA	2	2		625	
TG	328	2	8	SU48539362	RDBW	BA	2	4	5		
TG	330	16	1	SU49399651	RDBW	BA	2	4		8370	
TG	334	4	1	SU47179640	ENC	U	2	3			
TG	580	1	1	SP42481489	ENC	U	2	4	3	1261	
										51	SITES

Analysis done 26/05/94

Linear Systems

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	588	53	19	SP49760813	FSYS	lA	2	3	22		2400
TG	64	4	1	SU21429536	FSYS	LM	2	3			0
TG	92	5	4	SU12879119	FSYS	LM	3	4		450	0
TG	93	4	10	SU12869350	FSYS	LM	1	4		609	0
TG	93	4	1	SU12309335	FSYS	LM	1	4		456	1400
TG	93	4	6	SU12409370	FSYS	LM	1	4		456	2400
TG	90	1	1	SU19029249	FSYS	LM	1	4		456	3150
TG	75	14	1	SU07809660	FSYS	PM	2	3			0
TG	89	1	2	SU19639483	FSYS	PM	2	3			0
TG	75	4	1	SU06709655	DSYS	PM	2	4		3045	280
TG	351	32	2	SU51439791	FSYS	PM	2	3	47	8379	1000
TG	94	26	1	SUI1549445	FSYS	PM	2	4			6750
TG	45	11	2	SP36340711	FSYS	RO	4	4	16	5991	0
TG	363	12	1	SU78658607	FSYS	RO	2	4			0
TG	378	1	18	SU55799425	FSYS	RO	2	4	61		2500
TG	121	4	4	SU19989940	FSYS	RO	2	4	1	3191	3200
TG	376	2	1	SU57189450	FSYS	RO	2	4		4436	4950
TG	121	34	7	SU19029959	FSYS	RO	5	5	1	520	5950
TG	121	4	10	SU19399953	FSYS	RO	2	4	1	3191/522	36975
TG	3	17	1	SU29889923	FSYS	U	2	3			0
TG	27	16	1	SU32229944	FSYS	U	2	3			0
TG	46	61	2	SP26560110	FSYS	U	2	4		3192	0
TG	47	13	4	SP26850357	FSYS	U	2	3			0
TG	57	35	5	SP20180167	FSYS	U	2	4	23		0
TG	124	17	1	SP42430363	FSYS	U	2	4			0
TG	125	55	1	SP42190246	FSYS	U	2	4	11		0
TG	302	7	1	SU70547457	FSYS	U	1	3			0
TG	320	1	1	SU52699613	FSYS	U	2	2			0
TG	327	1	1	SU65227422	FSYS	U	2	3		1268	0
TG	37S	25	2	SU56059465	FSYS	U	2	4	61	8532	150
TG	74	41	13	SU10389791	FSYS	U	2	2		3055	286
TG	47	13	1	SP26790337	FSYS	U	2	3		8133	375
TG	57	35	7	SP19880177	FSYS	U	2	-3	23		625
TG	51	43	1	SP28030220	FSYS	U	2	3			660
TG	32	4	2	SP39420313	FSYS	U	2	4		5584	704
TG	34	45	1	SP38270329	FSYS	U	2	3		8238	900
TG	333	2	1	SU48309585	FSYS	U	2	3	43	9052/9035	1050
TG	58	54	1	SU22559964	FSYS	U	2	4	1200		
TG	333	1	8	SU48219573	FSYS	U	2	3	43	9052/9035	1350
TG	50	31	1	SP29560476	FSYS	U	2	4	443		1500
TG	50	13	1	SP29120309	FSYS	U	2	4		8154	1600
TG	49	21	2	SP29920246	FSYS	U	2	3		8153	1750
TG	325	2	1	SU69727016	FSYS	U	2	2		1116.03	1750
TG	368	1	2	SU59589616	FSYS	U	2	3			1800
TG	18	13	1	SU39039639	FSYS	U	2	4		12123	2100
TG	62	22	1	SU23759858	DSYS	U	2	4	17	3352/1409	3000
TG	335	2	2	SU46299624	FSYS	U	2	4			3300
TG	19	8	1	SU39539560	FSYS	U	1	4			3600
TG	114	1	1	SU19399520	FSYS	U	1	3			3600
TG	332	1	1	SU47769516	FSYS	U	2	3		2655/56	4200
TG	7	8	1	SP27660000	FSYS	U	2	3			4250
TG	50	21	1	SP29890395	FSYS	U	2	4			5600
TG	335	30	1	SU45429569	FSYS	U	2	4			6900
TG	334	16	1	SU47319658	FSYS	U	2	4			7650
TG	329	13	1	SU48889273	FSYS	U	2	4		2667	9500
TG	357	1	1	SU68307684	FSYS	U	2	3			10200

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	44	18	1	SP38690552	FSYS	U	2	4		2739/8242	20400
TG	13	2	1	SU37639653	DSYS	UM	1	3			0
TG	32	21	3	SP40050290	FSYS	UM	2	4			0
TG	70	2	2	SU07979456	WATM	UM	1	3			0
TG	75	2	1	SU06719658	DSYS	UM	2	3		3045	0
TG	75	8	2	SU07829515	FSYS	UM	2	4		3042	0
TG	84	3	1	SUOll19339	FSYS	UM	1	3		607	0
TG	85	31	3	SU04239291	DSYS	UM	2	4		617	0
TG	92	7	1	SUl1499024	FSYS	UM	1	3			0
TG	126	4	1	SP42640461	FSYS	UM	1	4			0
TG	126	10	1	SP42650409	FSYS	UM	1	3			0
TG	85	31	2	SU04419272	FSYS	UM	1	3			875
TG	79	10	1	ST98569359	FSYS	UM	1	4			960
TG	85	28	1	SU04889243	FSYS	UM	1	3		618	1000
TG	84	1	1	SU00449307	WATM	UM	1	3			1120
TG	565	4	5	SP50350140	FSYS	UM	3	4	43	1440	1125
TG	93	3	1	SU13249236	DSYS	UM	1	3		620	1200
TG	95	10	2	SU00309728	FSYS	UM	1	3			1350
TG	77	8	2	ST98099062	FSYS	UM	1	4		454	1750
TG	50	34	1	SP28590463	FSYS	UM	1	4			4800
TG	77	4	2	ST96659072	FSYS	UM	2	4		605	4875
TG	40	9	5	SU57268258	FSYS	UP	1	4			0
TG	127	22	9	SU12429815	FSYS	UP	2	3		3031	120
TG	45	46	6	SP36340553	FSYS	UP	2	4	7	8685	560
TG	582	22	1	SP48161293	FSYS	UP	2	4	42	2622	600
TG	351	54	1	SU52179851	FSYS	UP	2	3		9866-7	750
TG	125	28	16	SP41210264	FSYS	UP	2	3	11		765
TG	588	31	1	SP49140889	FSYS	UP	2	4	22	3245	840
TG	366	10	5	SU57939780	FSYS	UP	2	3		8569/70	980
TG	583	1	1	SP44030518	FSYS	UP	2	4			1350
TG	65	39	1	SU21999779	FSYS	UP	2	4	21		1540
TG	362	3	3	SU77758950	FSYS	UP	2	4			2250
TG	40	9	1	SU57218291	FSYS	UP	1	4			2500
TG	85	32	3	SU04599300	FSYS	UP	2	4		617	2800
TG	40	11	2	SU55808175	FSYS	UP	3	4	2		3000
TG	555	13	5	SU91917853	FSYS	UP	2	5	47	2444	3000
TG	40	14	1	SU55688092	FSYS	UP	4	5	49/57	2437/1305	4100
TG	347	1	1	SU49849490	FSYS	UP	2	4	41	8470	4200
TG	40	11	3	SU55628155	FSYS	UP	3	4	2		4400
TG	366	10	6	SU58109782	FSYS	UP	2	3		8569	4550
TG	40	13	1	SU55038244	FSYS	UP	1	4		9660/2892	5000

97 SITES

Analysis done 22/04/94

Linear Systems

SETTLEMENTS

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TG	56	23	3	SP24030287	SET	UP	2	3			0
TG	58	27	3	SP21830058	SET	RO	5	5	5		0
TG	113	6	49	SU18469992	SET	IA	2	3	1	324	80
TG	119	11	9	SU16039753	FMS	UP	2	3	5	2424	96
TG	54	20	27	SP33150087	SET	UP	2	3			120
TG	58	27	2	SP21910078	SET	RO	5	5	5		120
TG	59	2	16	SP23480040	SET	UP	2	4		3179	120
TG	125	7	20	SP41440352	SET	UP	2	2	7		144
TG	95	17	8	SU01569696	SET	UP	2	4	22	2368	150
TG	32	1	63	SP39470343	SET	UP	2	4			169
TG	51	58	2	SP27880158	SET	UP	2	3			180
TG	128	37	2	SU12709700	SET	U	2	3			180
TG	56	22	4	SP23950287	SET	UP	2	3			182
TG	57	17	4	SP21450256	SET	IA	2	4			195
TG	28	25	1	SU30189959	SET	U	2	3			225
TG	35	65	35	SP36260210	SET	UP	2	4		8630-54	225
TG	581	5	1	SP45071008	FMS	UP	2	2			234
TG	76	11	5	SU08499577	SET	UP	2	4	24		240
TG	99	39	8	SU03699551	SET	UP	2	3	34	613	250
TG	60	3	5	SU24769910	SET	UP	2	4	22	8100/1	252
TG	34	26	8	SP37960228	FMS	UP	2	4		1036/3906	264
TG	46	28	1	SP26210199	DV	U	2	4		5488	270
TG	46	40	1	SP25450210	SET	UP	2	4		12172	300
TG	125	32	8	SP41330265	SET	UP	2	3	11	8314	300
TG	54	25	1	SP33410099	DV	U	2	4		8199	320
TG	46	13	1	SP25050077	SET	UP	2	4	5/16/15	8108	324
TG	364	15	4	SU55609502	FMS	RO	2	5	28	3172-3	338
TG	35	65	44	SP36250195	SET	UP	2	4			375
TG	381	16	1	SU53259331	SET	UP	2	3	12		375
TG	98	5	1	SU02859886	SET	RO	3	4	19	2365	400
TG	94	59	1	SU12469534	FMS	UP	1	3		618	414
TG	66	7	2	SP42560187	SET	UP	2	4			440
TG	85	32	2	SU04699306	FMS	UP	2	4			450
TG	34	26	7	SP38010231	FMS	UP	2	4		3906	500
TG	46	16	1	SP25420105	SET	UP	2	4	15	8112	500
TG	59	2	8	SP23330025	SET	UP	2	3			500
TG	99	58	4	SU04609580	SET	UP	2	4		609	500
TG	591	8	1	SP45951136	SET	UP	2	3	12	1346	500
TG	117	16	2	SU18239670	SET	UP	2	3	8	1499/497	510
TG	45	2	1	SP35050514	DV	LM	1	4		954	560
TG	573	8	2	SP49620755	FMS	UP	2	3			576
TG	55	18	1	SP34210193	SET	U	2	4		11671	600
TG	587	28	9	SP42050786	SET	UP	2	4	13	3714	600
TG	85	12	2	SU03189475	SET	RO	4	5	14	2406//300	616
TG	120	3	3	SU17389891	SHVL	UM	1	3		3004	625
TG	347	1	6	SU50039514	SET	UP	2	3	41	8470	625
TG	115	19	4	SU15649574	FMS	UP	2	3		625	640
TG	73	4	5	SU08789887	SET	U	2	3			672
TG	16	4	20	SU36249559	SET	UP	1	3			700
TG	372	14	1	SU58349548	FMS	U	2	4		4413	700
TG	382	11	3	SU50469264	SET	UP	2	4	15	2538	728
TG	381	21	6	SU53659357	SET	U	2	4		8494	750
TG	29	17	1	SP38150441	SET	UP	2	3		8239	800
TG	82	1	2	SU00419201	SHVL	LM	2	3			800
TG	328	51	2	SU48469411	SET	U	2	3			900
TG	348	5	1	SU52489495	SET	UP	2	3		8490	900

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	128	37	1	SU12609710	SET	U	2	3		611	960
TG	383	4	11	SU52519455	SET	UP	2	4	54	8488	986
TG	48	30	4	SP27890052	SET	UP	2	4		1405	990
TG	386	27	16	SU54879375	SET	UP	2	4		12873	1000
TG	92	5	2	SU12639105	SHVL	LM	3	4		450	1050
TG	8	1		SU03339641	SET	U	2	4	37	3121/618	1050
TG	333	1	2	SU48389598	SET	U	2	4	43	9052/9035	1200
TG	347	1	2	SU49939499	SET	UP	2	3	41	8470	1200
TG	51	58	1	SP27790149	SET	UP	2	4		2425	1250
TG	319	5	1	SU53949518	FMS	UP	2	4	43	8523-24	1344
TG	558	4	2	SU93547771	TOFT	UM	2	3		4556	1350
TG	381	24	3	SU53059278	VILL	RO	2	4		8491	1352
TG	85	25	1	SU04589386	TOFT	LM	1	3		453	1400
TG	92	4	1	SU13889065	SHVL	UM	1	3			1400
TG	348	4	1	SU52499502	SET	UP	2	3		8490	1400
TG	372	12	1	SU58049566	FMS	RO	2	4	34	4417	1435
TG	364	18	2	SU55639517	SET	UP	2	4	28	8527/8533	1500
TG	82	4	1	SU02339098	SHVL	LM	1	3			1520
TG	86	5	1	SU16089148	DV	LM	0	4		452	1575
TG	351	54	13	SU52529839	SET	UP	2	4		8411	1600
TG	319	10	1	SU53539513	SET	U	2	4		5641	1650
TG	93	4	2	SU12359359	TOFT	LM	1	3		456	1800
TG	99	8	2	SU03349637	SET	U	2	3	37	3121/618	1800
TG	61	1	1	SU22779786	SHVL	LM	1	4	23	2642/7535	1820
TG	15	2	1	SU35669525	DV	UM	2	3		12070	1925
TG	41	1	1	SP35610467	DV	LM	2	4		1101	2000
TG	364	9	5	SU55309528	SET	UP	2	4	18	8526	2025
TG	338	2	1	SU49209787	SET	U	2	3		4931	2064
TG	70	3	1	SU06799447	SET	RO	5	5		602	2250
TG	77	4	4	5T96879081	SHVL	UM	1	3			2475
TG	329	31	1	SU49849233	SET	UP	2	4	18	8464	2475
TG	364	15	5	SU55609527	FMS	RO	5	5	28	8529/8527	2475
TG	128	18	1	SU12479738	SET	UP	2	4		600	2520
TG	565	3	1	SP51350067	DV	UM	3	4	49	1445	2880
TG	571	9	1	SP48560742	DV	LM	4	5	8	2353-6	3500
TG	65	3	4	SU20709836	DV	LM	3	4	19	401/452	3800
TG	117	2	2	SU18969632	DV	UM	1	3			3850
TG	117	24	16	SU18339668	SET	UP	2	4	8	1499/497	4000
TG	48	8	1	SP28650075	DV	LM	1	3			4875
TG	35	9	1	SP37120182	DV	LM	2	3		1080	4950
TG	94	34	1	SUI1379418	DV	LM	2	4	455	455	5400

97 SITES

Analysis done 21/04/94

Linear Systems

TRACKWAY FIELD SYSTEMS

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	46	61	2	SP26560110	FSYS	U	2	4		3192	0
TG	75	8	2	SU07829515	FSYS	UM	2	4		3042	0
TG	327	1	1	SU65227422	FSYS	U	2	3		1268	0
TG	376	2	1	SU57189450	FSYS	RO	2	4		4436	4950
										4	SITES

Analysis done 25/04/94

Linear Systems

IRREGULAR ENCLOSED FIELD SYSTEMS

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	50	34	1	SP28590463	FSYS	UM	1	4			4800
TG	84	3	1	SUOll19339	FSYS	UM	1	3		607	0
TG	85	28	1	SU04889243	FSYS	UM	1	3		618	1000
TG	92	7	1	SUl1499024	FSYS	UM	1	3			0
										4	SITES

Analysis done 25/04/94

Linear Systems

REGULAR ENCLOSED FIELD SYSTEMS

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	32	21	3	SP40050290	FSYS	UM	2	4			0
TG	64	4	1	SU21429536	FSYS	LM	2	3			0
TG	75	14	1	SU07809660	FSYS	PM	2	3			0
TG	77	4	2	ST96659072	FSYS	UM	2	4		605	4875
TG	77	8	2	ST98099062	FSYS	UM	1	4		454	1750
TG	79	10	1	ST98569359	FSYS	UM	1	4			960
TG	85	31	2	SU04419272	FSYS	UM	1	3			875
TG	89	1	2	SU19639483	FSYS	PM	2	3			0
TG	90	1	1	SU19029249	FSYS	LM	1	4		456	3150
TG	92	5	4	SU12879119	FSYS	LM	3	4		450	0
TG	93	4	1	SU12309335	FSYS	LM	1	4		456	1400
TG	93	4	6	SU12409370	FSYS	LM	1	4		456	2400
TG	93	4	10	SU12869350	FSYS	LM	1	4		609	0
TG	94	26	1	SUl1549445	FSYS	PM	2	4			6750
TG	95	10	2	SU00309728	FSYS	UM	1	3			1350
TG	126	4	1	SP42640461	FSYS	UM	1	4			0
TG	126	10	1	SP42650409	FSYS	UM	1	3			0
TG	351	32	2	SU51439791	FSYS	PM	2	3	47	8379	1000
TG	565	4	5	SP50350140	FSYS	UM	3	4	43	1440	1125
										19	SITES

Analysis done 25/04/94

Linear Systems

IRREGULAR FIELD SYSTEMS

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR No	SMR No	UNIT AREA
TG	333	2	1	SU48309585	FSYS	U	2	3	43	9052/9035	1050
										1	SITE

Analysis done 25/04/94

Linear Systems

REGULAR FIELD SYSTEMS

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	27	16	1	SU32229944	FSYS	U	2	3			0
TG	32	4	2	SP39420313	FSYS	U	2	4		5584	704
TG	47	13	1	SP26790337	FSYS	U	2	3		8133	375
TG	47	13	4	SP26850357	FSYS	U	2	3			0
TG	50	13	1	SP29120309	FSYS	U	2	4		8154	1600
TG	57	35	5	SP20180167	FSYS	U	2	4	23		0
TG	57	35	7	SP19880177	FSYS	U	2	3	23		625
TG	125	55	1	SP42190246	FSYS	U	2	4	11		0
TG	302	7	1	SU70547457	FSYS	U	1	3			0
TG	320	1	1	SU52699613	FSYS	U	2	2			0
TG	332	1	1	SU47769516	FSYS	U	2	3		2655/56	4200
TG	333	1	8	SU48219573	FSYS	U	2	3	43	9052/9035	1350
TG	368	1	2	SU59589616	FSYS	U	2	3			1800
TG	378	25	2	SU56059465	FSYS	U	2	4	61	8532	150
										14	SITES

Analysis done25/04/94

Linear Systems

COAXIAL FIELD SYSTEMS

MORPH	NO:		GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	3	17	SU29889923	FSYS	U	2	3			0
TG	7	8	SP27660000	FSYS	U	2	3			4250
TG	18	13	SU39039639	FSYS	U	2	4		12123	2100
TG	40	13	SU55038244	FSYS	UP	1	4		9660/2892	5000
TG	40	14	SU55688092	FSYS	UP	4	5	49/57	2437/1305	4100
TG	45	11	SP36340711	FSYS	RO	4	4	16	5991	0
TG	49	21	SP29920246	FSYS	U	2	3		8153	1750
TG	50	31	SP29560476	FSYS	U	2	4		443	1500
TG	65	39	SU21999779	FSYS	UP	2	4	21		1540
TG	335	2	SU46299624	FSYS	U	2	4			3300
TG	362	3	SU77758950	FSYS	UP	2	4			2250
TG	555	13	SU91917853	FSYS	UP	2	5	47	2444	3000

12 SITES

Analysis done 25/04/94

Linear Systems

REGULAR AGGREGATE FIELD SYSTEMS

MORPH	NO:			GRID REF	INTERP	PER	SCE	VAL	NMR NO:	SMR NO:	UNIT AREA
TG	19	8	1	SU39539560	FSYS	U	1	4			3600
TG	34	45	1	SP38270329	FSYS	U	2	3		8238	900
TG	40	9	1	SU57218291	FSYS	UP	1	4			2500
TG	40	9	5	SU57268258	FSYS	UP	1	4			0
TG	40	11	2	SU55808175	FSYS	UP	3	4	2		3000
TG	40	11	3	SU55628155	FSYS	UP	3	4	2		4400
TG	40	14	1	SU55688092	FSYS	UP	4	5	49/57	2437/1305	4100
TG	44	18	1	SP38690552	FSYS	U	2	4		2739/8242	20400
TG	45	46	6	SP36340553	FSYS	UP	2	4	7	8685	560
TG	50	21	1	SP29890395	FSYS	U	2	4			5600
TG	51	43	1	SP28030220	FSYS	U	2	3			660
TG	58	54	1	SU22559964	FSYS	U	2	4			1200
TG	74	41	13	SU10389791	FSYS	U	2	2		3055	286
TG	85	32	3	SU04599300	FSYS	UP	2	4		617	2800
TG	114	1	1	SU19399520	FSYS	U	1	3			3600
TG	121	4	4	SU19989940	FSYS	RO	2	4	1	3191	3200
TG	121	4	10	SU19399953	FSYS	RO	2	4	1	3191/522	36975
TG	121	34	7	SU19029959	FSYS	RO	5	5	1	520	5950
TG	124	17	1	SP42430363	FSYS	U	2	4			0
TG	125	28	16	SP41210264	FSYS	UP	2	3	11		765
TG	127	22	9	SU12429815	FSYS	UP	2	3		3031	120
TG	325	2	1	SU69727016	FSYS	U	2		2	1116.03	1750
TG	329	13	1	SU48889273	FSYS	U	2	4		2667	9500
TG	334	16	1	SU47319658	FSYS	U	2	4			7650
TG	335	30	1	SU45429569	FSYS	U	2	4			6900
TG	347	1	1	SU49849490	FSYS	UP	2	4	41	8470	4200
TG	351	54	1	SU52179851	FSYS	UP	2	3		9866-7	750
TG	357	1	1	SU68307684	FSYS	U	2	3			10200
TG	363	12	1	SU78658607	FSYS	RO	2	4			0
TG	366	10	5	SU57939780	FSYS	UP	2	3		8569/70	980
TG	366	10	6	SU58109782	FSYS	UP	2	3		8569	4550
TG	378	1	18	SU55799425	FSYS	RO	2	4	61		2500
TG	582	22	1	SP48161293	FSYS	UP	2	4	42	2622	600
TG	583	1	1	SP44030518	FSYS	UP	2	4			1350
TG	588	31	1	SP49140889	FSYS	UP	2	4	22	3245	840
TG	588	53	19	SP49760813	FSYS	lA	2	3	22		2400
										36	SITES

Analysis done 25/04/94

8.5 STATUTORY BODIES

Wiltshire County Council
Oxfordshire County Council
Buckinghamshire County Council
Gloucestershire County Council

For the full addresses for the above bodies, see section 7.1.

Berkshire County Council
Shire Hall
Shinfield Park
Reading
RG29XG

English Heritage
Fortress House
23 Savile Row
London
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