

**ASSESSING THE RESEARCH  
POTENTIAL OF  
GREY LITERATURE IN THE STUDY  
OF ROMAN ENGLAND**

**STAGE 1 REPORT**

*For*

**ENGLISH HERITAGE**

CA PROJECT: 2205  
CA REPORT: 08002

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# ASSESSING THE RESEARCH POTENTIAL OF GREY LITERATURE IN THE STUDY OF ROMAN ENGLAND

## STAGE 1 REPORT

### COTSWOLD ARCHAEOLOGY

CA PROJECT: 2205

CA REPORT: 08002

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|-----------|----------------------------------|------------------------|
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## ACRONYMS AND ABBREVIATIONS

|       |   |
|-------|---|
| ADS   | Archaeology Data Service                                |
| AHRB  | Arts and Humanities Research Board                      |
| AIP   | Archaeological Investigations Project                   |
| ALGAO | Association of Local Government Archaeological Officers |
| AMIE  | Archives and Monuments Information England              |
| AOD   | Above Ordnance Datum                                    |
| BIAB  | British and Irish Archaeological Bibliography           |
| CA    | Cotswold Archaeology                                    |
| CBA   | Council for British Archaeology                         |
| EH    | English Heritage  |

|       |   |
|-------|---|
| GIS   | Graphic Information System                                  |
| HER   | Historic Environment Record                                 |
| MAP2  | Management of Archaeological Projects 2                     |
| NGR   | National Grid Reference                                     |
| NMR   | National Monuments Record                                   |
| OASIS | Online Access to the Index of Archaeological Investigations |
| PPG   | Planning Policy Guidance                                    |
| RCHME | Royal Commission on Historic Monuments in England           |
| SMR   | Sites and Monuments Record                                  |

## EXECUTIVE SUMMARY

Since the adoption of Planning Policy Guidance Note 16 (Archaeology and Planning) in 1990, about 90% of all archaeological work in England has been prompted by the planning process. The products of these investigations are typescript reports produced in very small numbers which are normally deposited in the local Historic Environment Record. These reports form the principal component of archaeological grey literature which can be defined as written reports which whilst publicly accessible, are in reality difficult to access. The need to make the results of developer-funded work more readily available, both to the local communities in whose name planning conditions were imposed in the first place, and to those with a more specialised interest in the past, is recognised as a priority by English Heritage and others in the archaeological community. This project examines the research dividend that can be gained from a study of grey literature relating to investigations that have discovered Roman remains in England. It assesses the potential of grey literature to enhance our understanding of one of the most popular periods of English history. The project is divided into three distinct stages, and this report details the results of Stage 1, which has four basic research objectives. First, to provide a rapid quantification throughout England of the number and scale of investigations which have discovered Roman remains. Second, analysis of the geographic distribution of the investigations, highlighting hot spots and areas where the pace of discovery has been quieter. Third, an assessment of the nature of the archaeological monuments and deposit types encountered, and finally an investigation of the varying degrees to which grey literature is reaching conventional publication, and thus informing synthesis which draws only from this source. The data gathered during Stage 1 will identify pilot areas for more detailed analysis in Stage 2, while Stage 3 will involve the expansion of the project to cover the whole of England (and ideally Wales and Scotland as well). The overall aim is to produce a national review of the research contribution of grey literature in the study of Roman Britain.

The methodologies adopted for Stage 1 have made use of a number of existing data sets, in particular the Archaeological Investigations Project (AIP); the Archives and Monuments Information England database curated by the National Monuments Record, and the British and Irish Archaeological Bibliography (BIAB).

Almost 9,500 fieldwork investigations encountered Roman remains of one sort or another in the 15 years between 1990 and 2004. Of these roughly half were field evaluations; a quarter watching briefs, and a quarter excavations. Thus over 2,700 investigations involved the recording of Roman remains through the technique of excavation. By comparison 2,260 Roman sites were explored in the 15 years between 1973 and 1987,

so the scale of archaeological work since 1990 has far exceeded anything that had gone before.

The distribution of fieldwork is far from uniform across England. There were ten times more investigations in the South East region than the North East during this period, and over four times more investigations per km<sup>2</sup>. Over most of England one in four or five of all archaeological investigations examined Roman remains of some sort, although in the North East this is one in ten. These regional variations are related to a number of factors such as the intensity and extent of development across England; differences in the ease with which sites can be ascribed to the Roman period, especially those sampled by small scale investigations such as field evaluations, and underlying patterns of differing densities of Roman activity, especially rural settlement, within and beyond the province. The sheer number of investigations that has taken place points to the potential that the results should have for the study of Roman Britain, and a rapid overview of this work at a national level has proved useful and achievable. At the outset it was hoped that it would prove possible to provide some basic assessment of the types of site most commonly being investigated, but a major conclusion of this project is that it is very difficult, if not indeed currently impossible, to obtain a rapid national quantification of this topic.

It would appear that a number of investigations, perhaps mostly excavations, produce little (or no) grey literature and thus are poorly represented in existing data sets. It might be argued that this is relatively unimportant as these sites will progress to full publication within a few years. However the proportion of investigations which have found Roman remains and have been fully published between 1990 and 2004 is very low. Only 316 fieldwork projects recorded by the AIP between 1990 and 2004 had reached a full publication listed in the BIAB by 2006. It appears that almost 90% of excavations, which had investigated Roman remains, had not reached full publication within this period. We do not consider it likely that all of these excavations did not produce results of sufficient value to warrant this treatment, and it is likely that investigations of substance with valuable results remain unpublished. A lack of consensus on what should be formally published; differing curatorial policies and levels of enforcement; the variable capability and commitment of different archaeological contracting organisations, and the editorial policies of local archaeological journals all combine to make the low level of publication understandable, even if it cannot be viewed as acceptable. Indeed despite these problems some organisations are clearly more successful at getting their reports published than others. Where reports are published, our analysis suggests that it often takes over five years from completion of fieldwork for the final report to hit the bookshelf.

The '*Roman Britain in*' reports in the *Journal of Roman Studies* and *Britannia* have served the discipline well for over 85 years. Less than 20% of investigations recording

Roman remains listed by the AIP appear in *'Roman Britain in'*, although equally these reports capture around 100-140 interventions each year not recorded by the AIP. The latter appear mainly to be sites investigated outside of the planning system. We suggest that *'Roman Britain in'* might consider abandoning any attempt to be comprehensive, and instead become an outlet for interim accounts of the most significant interventions. A collection of illustrated interim accounts of the most significant investigations published within one or two years of fieldwork would be of considerable benefit to researchers.

This stage of the project has been concerned with finding out what has been going on at a national level, and has not examined individual grey literature reports. Nevertheless there seems little point in listing and indexing grey literature if the interested researcher cannot easily access the reports. It is essential for the health of the discipline that access to grey literature reports becomes easier, and copies in pdf format which can be downloaded from internet sites seem the most effective way forward.

## **ACKNOWLEDGEMENTS**

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The Roman Grey Literature Project is co-directed by Neil Holbrook of Cotswold Archaeology and Prof. Michael Fulford of Reading University. Stage 1 was directed by Neil Holbrook, with day to day management by Richard Morton. The report text was written by Neil Holbrook and Richard Morton, and data analysis and collection was carried out by Richard Morton and Rosemary Blackwell. Illustrations were prepared by Richard Morton and Peter Moore.

Great thanks are due to the AIP team at Bournemouth University for providing the information on the grey literature of England on which this project is based. The AIP has been a hugely successful project, a reflection of the lengthy and dedicated research carried out by its team. The AIP is directed by Prof. Timothy Darvill, and Project Manager Bronwen Russell and Researcher Ehren Milner provided much appreciated advice and technical expertise. The AIP is funded by English Heritage.

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## 1. INTRODUCTION AND OBJECTIVES

### 1.1 Introduction

Around 1990 archaeology in England underwent a series of fundamental changes that reshaped the way the discipline was practised, a pattern that looks set to endure into the early decades of the 21st century. Investigations prompted by the planning process accounted for 89% of all archaeological interventions in England between 1990 and 1999 recorded by the Archaeological Investigations Project (AIP) based at Bournemouth University School of Conservation Sciences (Darvill and Russell 2002, 52). In terms of fieldwork the principal types of investigation can be divided between those which normally occur prior to determination of a planning application and those that are usually secured on condition. The former category comprises field evaluation which utilises such techniques as surface collection; geophysical survey and trial trenching. The latter category comprises techniques that constitute 'preservation by record' such as open area excavation; strip and record sample excavation; watching brief, etc. The product of all these types of investigation is the ubiquitous 'client report'. These are typescript reports produced in very small numbers (often less than ten copies). They are normally deposited in the appropriate Historic Environment Record (HER), often with a second copy accompanying the site archive when it is deposited with a museum. Client reports are the principal (but not exclusive) component of archaeological grey literature which can be defined as written reports which whilst publicly accessible, are in reality difficult to access. Some HERs, for example, do not allow public access to their collections but equally prohibit the photocopying of more than a small percentage of a report for fear of infringing copyright. Others charge labour costs for photocopying which can render copying of reports uneconomic.

The need to make the results of developer-funded work more readily available, both to the local communities in whose name planning conditions were imposed in the first place and to those with a more specialised interest in the past, is recognised as a priority by English Heritage and others in the archaeological community. Many now accept that some form of internet-based access to pdf copies is the most economically viable solution, and some good initiatives are now in place, such as the online library of unpublished fieldwork reports hosted by the Archaeology Data Service (ADS) at <http://ads.ahds.ac.uk/catalogue/library/greylit> and a good local venture in Worcestershire ([http://worcestershire.whub.org.uk/home/archaeo\\_dr\\_index](http://worcestershire.whub.org.uk/home/archaeo_dr_index)).

Whilst the AIP has been largely concerned with identifying the scale and distribution of archaeological investigation in England, Richard Bradley has recently completed a separate piece of research looking at what grey literature adds to our knowledge and

understanding of prehistoric Britain and Ireland. The results indicate that syntheses based purely upon conventionally-published data contain serious lacunae in a number of important areas (Bradley 2006; 2007; Phillips and Bradley 2005). This project examines the research dividend that can be gained from a study of grey literature relating to investigations that have discovered Roman remains in England. It assesses the potential of grey literature to enhance our understanding of one of the most popular periods of British history.

## **1.2 Previous Work**

Syntheses of the archaeology of Roman Britain have to date drawn almost exclusively upon fieldwork discoveries which have been disseminated through conventional publication outlets. The '*Roman Britain in xxxx*' reports published annually in the *Journal of Roman Studies* between 1921 and 1969, and since then in *Britannia*, have been the principal mechanism of notifying researchers of new discoveries ahead of full publication. Whilst the '*Roman Britain in*' reports provided a reasonably comprehensive overview of discoveries up until c. 1990, the upsurge in developer archaeology has rendered these reports an increasingly partial account of new discoveries. Indeed it is not entirely clear what the criteria are for inclusion within '*Roman Britain in*' – one suspects it is discoveries which the editors consider to have relevance beyond the purely local. The '*Roman Britain in*' record is also highly biased to those individuals and archaeological contracting organisations who voluntarily decide to contribute, as it is rare that submission to a period journal is stipulated in a brief set by a curator as part of the planning process. In a review of research on Roman Britain between 1960-1989 Wilkes (1989) used the '*Roman Britain in*' reports as a basis for a short essay exploring trends in the volume and geographic distribution of archaeological investigations through the period. If a similar exercise was to be attempted for the period since 1989 this data source alone not would provide a reliable basis for study.

Recent syntheses of the archaeology of late Iron Age and Roman Britain, whilst cognoscenti of the existence and potential contribution of grey literature, have not made use of it (examples include Cunliffe 2005; Mattingly 2006, 44). The resource appears to be too large; too disparate; of too variable quality, and above all is too difficult to access to make this a viable option for a single scholar, no matter how dedicated. A similar situation applies with the Regional Resource Assessments prepared as part of the Regional Archaeological Research Frameworks projects. The resources available to these projects simply did not permit any in depth examination of grey literature. A new generation of post-graduate researcher is starting to make use of grey literature, but the constraints of post-graduate research necessitate that theses are tightly drawn chronologically, geographically or thematically. Studies on aspects of prehistoric Britain do, however, demonstrate the value

that can be obtained from such research (see for instance recently published work by Yates 2006 and Moore 2006).

### **1.3 The Purpose of this Project**

The lack of accessibility to grey literature is manifestly not beneficial to the study of Roman Britain. This problem was identified as a key issue in *Britons and Romans: Advancing an Archaeological Agenda* published in 2001.

‘The past two decades have seen an enormous growth in developer-funded archaeology as well as individual research initiatives in fieldwork. These have produced a mass of new information which has not always been well-enough integrated into current syntheses. There is thus a need to pause, first to consider what potential this new information offers for enhancing our understanding of Roman Britain, and second to provide up to date reviews of what more we need to know’ (James and Millett 2001, 1).

A number of the Regional Archaeological Research Framework projects have also highlighted the issue. For example the draft South-West Archaeological Research Agenda highlights ‘improved access to, and synthesis of, grey literature’ as a key research aim for all chronological periods (Webster 2007). If the potential of grey literature is to be unlocked there is a need to bridge the gap between the individual typescript report contained in the HER and overarching regional or national syntheses. The purpose of this project is to identify patterns and draw conclusions from the myriad of grey literature pertaining to the Roman period, and examine how this affects the picture contained in existing syntheses. The information gathered and outputs produced should facilitate future researchers to make use of grey literature and encourage them that investment in time will be worthwhile.

This project has been divided into three distinct stages. This report details the results of Stage 1, although the aims of Stages 2 and 3 are briefly outlined in order that the overall structure of the project can be appreciated. Stage 1 has four basic research objectives:

Research Objective 1: To provide a rapid assessment throughout England of the number and scale of investigations which have discovered Roman remains;

Research Objective 2: An assessment of the geographic distribution of the investigations, highlighting hot spots and areas where the pace of discovery has been quieter;

Research Objective 3: An assessment of the nature of the archaeological monuments and deposit types encountered; and

Research Objective 4: An assessment of the varying degrees to which grey literature is reaching conventional publication, and thus informing synthesis which draws only from this source.

The detailed methodology to deliver these objectives is set out in Section 2.

Stage 2 will comprise a more detailed assessment of the potential of grey literature to enhance the academic understanding of specific aspects of Roman Britain. The data gathered during Stage 1 will identify pilot areas for more detailed analysis. These will most probably consist of discrete local authority areas served by a single HER. Once the trial areas have been selected, typescript reports which seemingly offer the most potential will be reviewed against a set of research themes, and a written synthesis produced. Further detail on the methodology proposed for Stage 2 is contained in Section 6. Stage 3 will involve the expansion of the project to cover the whole of England (and ideally Wales and Scotland as well). The aim will be to produce a national review of the research contribution of grey literature in the study of Roman Britain.

The remainder of this report is structured as follows. Section 2 details the methodologies adopted for Stage 1 of the project, followed in Section 3 by a review of the results obtained. Using the experience gained during the course of this of the project Section 4 provides a retrospective assessment of the appropriateness of the methodologies and the reliability of the data gathered. Section 5 presents the conclusions that can be drawn from the data, and Section 6 looks forward to Stage 2.

This report is not the only product of Stage 1 of this project. It is anticipated that the databases created will be uploaded onto the Archaeology Data Service website so as to form a resource which can be used by future researchers. We have also sought to publicise the project and aims through a variety of media, including a poster display and presentation at the Roman Archaeology Conference in London in 2007, and email bulletins issued to the HER Forum.

## **2. THE METHODOLOGIES ADOPTED FOR STAGE 1**

A number of datasets were selected to provide the baseline information for the project and these will now be described and discussed in turn

### **2.1 Data Sources**

#### *2.1.1 The Archaeological Investigations Project (AIP)*

The data gathered by the AIP comprised the primary data source on grey literature reports recording Roman remains for the current project. The AIP is an ongoing research project

commissioned by English Heritage from the School of Conservation Sciences in Bournemouth University. The project began in 1995 and collected data produced from 1990 onwards, the years following the inception in England of Planning Policy Guidance Note 16: Archaeology and Planning (PPG 16), although some data from years prior to this have also been collected (Darvill and Russell 2002). The major aims of the project were to present an analysis of the character and distribution of archaeological investigations following the introduction of PPG 16, and to publish its results initially as supplements to the British and Irish Archaeological Bibliography (BIAB), and from 2001 online at <http://csweb.bournemouth.ac.uk/aip/aipintro.htm>.

The following sources were utilised by the AIP:

i) Sites and Monuments Records (SMRs) and Historic Environment Records (HERs). County and Unitary Authority SMRs/HERs are visited/consulted annually regarding their collection of investigation reports.

ii) Archaeological Contractors and Consultancies. The AIP holds a regularly updated list of active archaeological companies. Larger contracting units are visited annually, and smaller companies are consulted as to the whether a visit is appropriate. If not, they will either provide copies of reports, or direct the AIP to where they may be located (such as the local HER).

iii) Local societies, universities and OASIS. Between 1995 and 2002 questionnaires were sent out to local societies and universities (those listed on the Council of British Archaeology website and also from internet trawls) regarding investigations carried out between 1990-2002. From 2002 onwards these bodies were requested to submit report details via *Online Access to the Index of Archaeological Investigations* (OASIS), a joint English Heritage, Archaeology Data Service (ADS) and AIP venture which aims to further disseminate information on grey literature via the internet (<http://ads.ahds.ac.uk/project/oasis>). Where appointments can be arranged, universities are also visited. A small number of local societies also send in reports.

iv) The Excavations Index curated by the National Monument Record. This is consulted and checked against the AIP database at the beginning and end of each data collection year. The Excavations Index is based upon reports and documentation sent to the NMR by archaeological contractors and curators. As it relies on voluntary contributions its contents are inevitably partial and incomplete.

v) County Archaeological Journals. A number of journals issued by county archaeological societies have a long tradition of including summaries of all archaeological work which has taken place within the county in the previous year. Whereas this was once a fairly comprehensive listing, the upsurge in the volume of

work has now encouraged editors to only include accounts which have made noteworthy discoveries, and to omit completely interventions which have found little or nothing. The level of detail in summary reports is variable, however, and the information supplied is not always sufficient for a useful AIP entry to be created. In addition to the county journals a number of regional publications have fulfilled a similar function, examples including *South Midlands Archaeology* and *West Midlands Archaeology* issued by the relevant CBA regional group. The pattern across Britain is patchy, however, and a good number of counties have no annual 'round-ups' at all. Between 1995-99 the county and regional journals were consulted annually by the AIP for summaries of fieldwork carried out from 1990. From 1999 these were not consulted as methodically, partly due to the high volume of archaeological sites following the inception of PPG16, although in 2005 the AIP decided to include this source once more (database and other technological developments have aided the quicker processing of information).

The data gathered by the AIP was held on a Paradox database until 2005, and is now held in Microsoft Access and served as the primary data source for the current project. This is a relational database, which consists of a main table of basic data with a series of linked sub-tables providing more detailed information on specific topics ('fields'). The key basic fields in the main AIP table include information on location, type of fieldwork, monument form, contractor, year the project was begun and completed, cost, planning background, geology, landuse and bibliographic details. The specific elements of the database utilised for the current project are detailed below in the individual methodology sections.

### 2.1.2 *The Archives and Monuments Information England (AMIE) database*

The AMIE database is maintained by the National Monuments Record. A large number of data sources feed into the AMIE database, including digitised data from the Ordnance Survey Archaeology Section data cards (formerly held on the MONARCH database); internal information from the former RCHME and English Heritage, including projects such as the National Mapping Programme and those carried out by English Heritage Survey and Archive teams; migrations from other databases, including the National Buildings Record and the Defence of Britain project, and external inputs such as information and reports provided by archaeological bodies and contractors, voluntary bodies, and information via schemes such as PASTSCAPE and OASIS. The database includes monument records, investigation records, and archive catalogue records. Monument records were queried for the present project by NMR staff in Swindon. Each monument entry in the database is accorded a monument form description, based upon the descriptions within the English Heritage *Thesaurus of Monument Types* (<http://thesaurus.english-heritage.org.uk/thesaurus>). The

*Thesaurus* comprises a structure of standardised terms for various archaeological remains, with the aim of maintaining consistency within archaeology, and is regularly updated by the English Heritage Data Standards Unit. The *Thesaurus* comprises a list of basic monument 'types' with more detailed 'narrow' terms. Queries for the following *Thesaurus* terms (for the Roman period) within the AMIE monument database were carried out: civil settlements ("towns"), villas, roads, temples and defences. The first category of civil settlement comprises *coloniae*, *civitas* capitals, spas and small towns, and does not include other forms of settlement. These queries were supplied to Cotswold Archaeology as ArchView shapefiles, which were then converted into MapInfo files and Access databases.

### 2.1.3 Ordnance Survey

Mapping information was purchased from the Ordnance Survey, and the data has been used within the terms and conditions provided (CA licence AL50196A). As the current project is concerned with national questions, the MiniScale mapping product was determined to be most suitable and cost-effective for the project objectives. MiniScale mapping is a small-scale product designed for use within graphic applications, providing geographic context on a national basis. The product shows the major boundaries, lines of communication, settlements and physical features of the country, and is suitable for GIS and other graphics formats. MiniScale is derived from the Ordnance Survey 1:250,000 scale topographical digital database, and can be used at viewing scales of between 1:800,000 and 1:2000,000 (suitable GIS/graphics parameters of this project). The information was supplied as tiles in Adobe Illustrator format, which were georeferenced for use within the MapInfo GIS software (the tiles are designed to be readily georeferenced, and contain the national grid as an attached tile). The following tiles were specifically utilised in this stage of the project:

i) Map of England, Government (NUTS1)/English Heritage Regions and Counties/Unitary Authorities. The highest level of government region comprises the Nomenclature of Territorial Units for Statistics level 1 unit (NUTS1), developed as part of the European Union standardisation of government regions. There are nine regions across England, which also correspond with the English Heritage regions. They are referred to in this report as the English Regions. These are sub-divided into counties and unitary authorities.

ii) Physical topography. MiniScale includes layers of contours depicting land at heights of less than 0m Above Ordnance Datum (AOD); 0-75m AOD; 75-200m AOD; 200-400m AOD; 400-600m AOD; 600-800m AOD; and greater than 800m AOD. These contour ranges were converted within MapInfo GIS to create selectable polygon layers. The height ranges are those used by the Ordnance Survey as convenient categories with which to depict physical topography at small

scales. The MiniScale mapping also provides a tile of major UK rivers. These are selected by the Ordnance Survey as representing the major river systems of the country at this scale;

iii) Modern landuse. Information on modern landuse included the delineation of major urban areas, motorways and A roads. Major urban areas are selected on a visual basis at the MiniScale view by the Ordnance Survey. The areas are not based upon population densities.

#### 2.1.4 *The British and Irish Archaeological Bibliography (BIAB)*

The BIAB is an online database which contains records of archaeological publications since the 17th century ([www.biab.ac.uk](http://www.biab.ac.uk)). It is a structured repository for data collected over a long period of time, and includes the following sources:

- i) The current British and Irish Archaeological Bibliography produced between 1997 and present;
- ii) The British Archaeological Bibliography established in 1991 and becoming the BIAB in 1997;
- iii) The British Archaeological Abstracts published by the Council for British Archaeology between 1968 and 1991;
- iv) Various further earlier 20th-century and 19th-century compilations.

The BIAB includes published records from county archaeological journals, monographs, series, magazines, specialist reports, related compilations, and other sources.

#### 2.1.5 *The 'Roman Britain in xxxx' Sections of Britannia*

'Roman Britain in xxxx' has a long tradition stretching back over 80 years. These sections are published annually by the Society for the Promotion of Roman Studies in the journal *Britannia*, and contributors are invited to submit entries by March of the year of publication for work done in the previous year. The editors are entirely dependent upon the information submitted to them, and do not have the time to chase, request or commission contributions. The decision to contribute is usually entirely voluntary (it is rare that this is a requirement in an archaeological brief set as part of the planning process), and it is evident that while some archaeological contractors always contribute, others do not. Pressure on space within the journal also means that contributions are edited, and emphasis is placed on those that have made significant discoveries. Investigations which have found little or nothing are rarely included. As part of this project all entries in 'Roman Britain in 1990' to '2005' were reviewed and entered onto a database, as described below in Section 2.2.4.

## **2.2 Methodologies**

### *2.2.1 Research Objective 1: A rapid assessment throughout England of the number and scale of investigations which have discovered Roman remains*

The initial database queries were carried out by the AIP team (the process is summarised in Fig. 1). All field investigations (desk-based assessment and Environmental Impact Assessment were excluded) which identified Roman remains were extracted to a separate Access database and ArchView shapefiles, a total of 9428 entries. This provided the basic Roman data set for the project. A number of relevant attached data fields were defined, which suited the objectives of the current project. These comprised site name; year of fieldwork; archaeological contractor; monument form; NGR easting and northing; scale ('type') of investigation; information on whether the remains were newly discovered or previously known; bibliographic details, and summary.

An overall project database of archaeological investigations in England which have identified Roman remains was created by the AIP and provided to Cotswold Archaeology as an Access database and ArchView shapefile. The shapefile was converted to a MapInfo Professional v7.5 GIS file. The GIS layer and attached database generated from the overall project database of Roman sites illustrates each archaeological investigation by a point located on a background map of England. A 'click' on any of the generated points shows the attached information fields listed above. The total number of sites discovering Roman remains was calculated via the database and viewed visually through the GIS. The scale of the field investigations (evaluation, excavation, watching brief and other) were also queried within the database and viewed as a GIS layer and a database list. An Access database and shapefile of *all* fieldwork investigations recorded by the AIP was also provided by the Bournemouth team. This included the same attached information fields as the Roman sites database. This allowed the number of sites recording Roman remains to be compared to the number of fieldwork investigations as a whole. This information may be viewed statistically through comparison of the databases, or visually through the GIS.

### *2.2.2 Research Objective 2: The geographic distribution of the investigations, highlighting hot spots and areas where the pace of discovery has been quieter*

The MapInfo GIS files for both the database of investigations recording Roman remains and database of all AIP sites allowed the distribution of investigations to be viewed visually and compared. Thus the pattern of investigations identifying Roman remains could be viewed on a national level, and compared to all of the fieldwork recorded by the AIP. In this way, the database for all AIP investigations acted as a 'control' dataset, and higher or lower proportions of sites finding Roman remains could be identified in different locations.

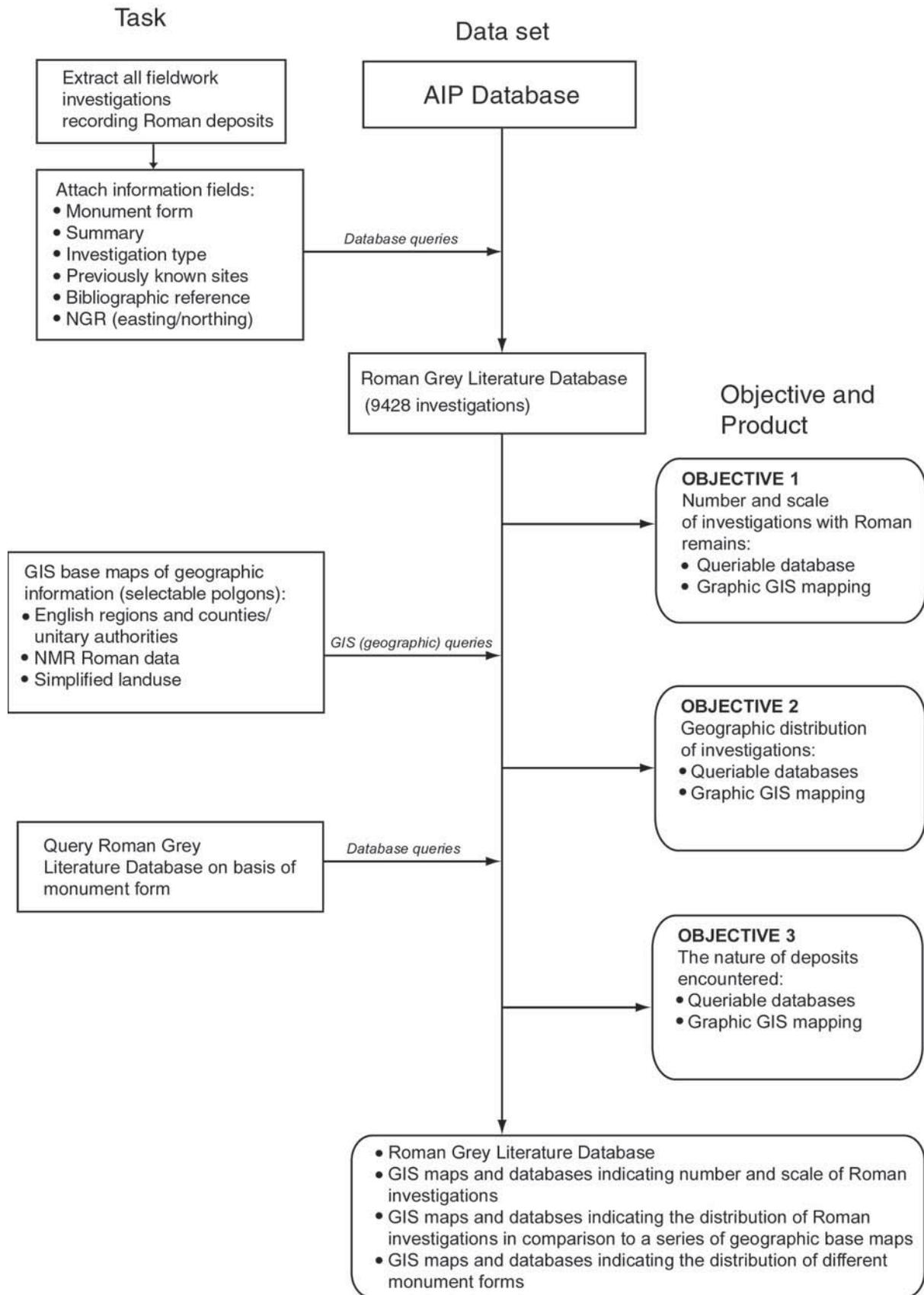


Fig. 1 Methodology for Stage 1 objectives 1-3

A geographic structure was needed to analyse these distributions, and, as outlined above, several geographic data sets were chosen for their potential influence on the extent and distribution of recorded Roman deposits. Both the distribution of investigations recording Roman remains and the distribution of all AIP sites were compared to the MiniScale data sets provided by the Ordnance Survey (see Section 2.1.3) and the monument distribution patterns based upon the AMIE database (see Section 2.1.2). The GIS format of these categories allowed rapid assessment of the numbers of total AIP investigations and Roman AIP investigations within different zones and comparisons to be made according to the average numbers of entries per hectare or km<sup>2</sup>. Significant variations in the geographic distribution of investigations could then be identified in comparison to the above geographic variables.

### *2.2.3 Research Objective 3: The nature of the deposits encountered*

Additional queries were carried out by the AIP team on the main Roman data set on the basis of monument form, a defined field within the database. The monument form descriptions used by the AIP are largely based upon definitions within the *Thesaurus of Monument Types* (Section 2.1.2). Several monument forms were chosen to represent a range of Roman remains and to maintain a consistency with the monument data obtained from the AMIE database. The queries on monument form carried out by AIP staff were provided as ArcView shapefiles, converted by Cotswold Archaeology to MapInfo GIS files and Access databases. The first five categories queried broadly equated to the AMIE monument forms (civil settlement (“towns”); villas; roads; temples and shrines, and defensive sites (fortifications)), supplemented by a further three categories (field systems; finds, and kiln sites).

The proportion of each monument form as a percentage of the total number of Roman investigations was calculated, and the distribution patterns of these categories examined through the GIS system in relation to each of the three main geographic distribution sets. This objective encountered particular problems, due to much smaller than expected data sets for each of the monument categories. This is discussed in detail in Section 4.1 below.

### *2.2.4 Research Objective 4: An assessment of the varying degrees to which grey literature is developed into conventional publication, and thus informs synthesis*

This objective was addressed via two separate analyses using the methodologies summarised in Fig. 2. The first analysis was an assessment of the number of mitigation projects recorded by AIP which reach formal, conventional, publication. This was achieved by a cross-correlation between Roman AIP investigations and the BIAB record of published

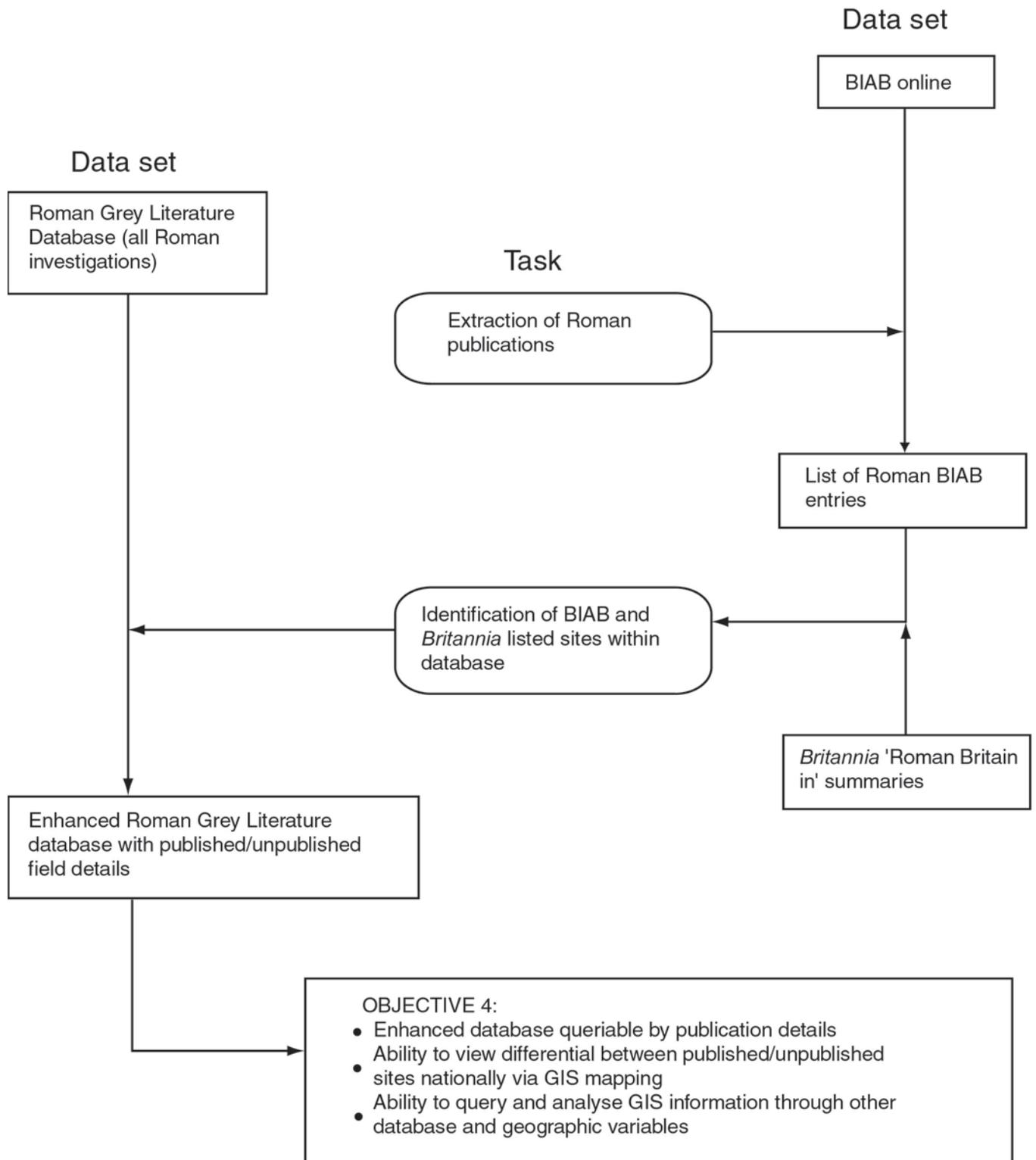


Fig. 2 Methodology for Stage 1 objective 4

investigations, in order to identify the number and proportion of investigations reaching the BIAB. The online BIAB database was used as a 'lead' database and a list of all Roman publications between 1989 and 2006 was produced (two years after the 1989-2004 project period, to account for a minimum preparation period of two years between the end of fieldwork and the year of publication). The majority of entries were for non-fieldwork publications and were quickly excluded from the list. It was originally intended to assess post-determination works in the AIP database only, under the assumption that evaluations are rarely published. It very quickly became apparent, however, that this was not the case, and over a third (177 of 453) of investigations listed by the BIAB are designated as 'evaluations' within the AIP database of Roman investigations. The methodology was therefore expanded to include evaluations within the AIP database. Each publication entry in the BIAB was checked against the database of Roman investigations derived from the AIP. Additional data fields were filled-in from this information to enhance the database, comprising a yes/no field to signify publication; bibliographic reference; date of publication; author, and whether the publication was a full final account or summary interim note.

The second analysis was to provide an assessment of the degree to which investigations reported in grey literature which yield valuable results are being included in the '*Roman Britain in*' reports published annually in the journal *Britannia*. Inclusion within the annual '*Roman Britain in*' reports has been one of the principal methods of disseminating the preliminary results of fieldwork to a wider academic audience, and these reports are still widely used by those involved with synthesis. The annual '*Roman Britain in*' summaries for the years 1990-2005 were checked against sites in the enhanced Roman project database. The report for 2005 was examined so as to capture any sites reported in that year which were not included in the 2004 and earlier 'roundups'. Additional data fields were added to the database comprising a yes/no field to signify presence in '*Roman Britain in*'; the '*Roman Britain in*' year (this is a year before the *Britannia* publication date); the location of the investigation (by county and letter codes); and author/informant. For instance an entry 96 West Sussex 2c would relate to '*Roman Britain in 1996*' (published in *Britannia* 28 in 1997), with West Sussex entry 2c equating to site 2 (Chichester), investigation c (St John's Street Car Park North).

Through this methodology the Roman project database was further enhanced with searchable publication information. Upon commencement of this part of the project it became apparent that a simple database of *Britannia* listed sites *not* listed by the AIP would be both useful and require little further work (as all *Britannia* entries were being read and checked). A further database of all investigations listed in '*Roman Britain in*' not covered by the AIP was therefore created, which proved a useful comparative data set.

### **2.3 Metadata standards**

The English Heritage Data Services Unit was consulted on metadata standards for the project. Metadata records contain information that describe the content of the project data sets in a standard way, including information on sources, formats, subjects, etc. As the project data will be hosted by the ADS in the long-term, the metadata standards recommended by the ADS were used and updated as the project continued. Standards recommended by the ADS are outlined in the ADS Guidelines for Depositors Version 1.2 (<http://ads.ahds.ac.uk/project/userinfo/deposit.html>), and are based on the internationally recognised metadata standards of the Dublin Core Metadata Initiative. The metadata created by Stage 1 of this project is listed in Appendix 1.

## **3. FINDING OUT WHAT HAS BEEN GOING ON IN ROMAN ENGLAND: PROJECT RESULTS**

### **3.1 The number, scale and distribution of investigations which have discovered Roman remains in England**

#### **3.1.1 Quantitative Analyses**

The following analyses (Research Objectives 1 and 2) are based upon the AIP database of sites, queried through various fields in order to extract sites finding Roman remains, and only includes fieldwork. The AIP classified the scale of fieldwork investigations according to the following categories: evaluation; geophysical survey; and post-determination/research (the latter includes both excavation and watching briefs/ 'archaeological monitoring'). In order to analyse excavation and watching brief results separately, the database of all Roman sites was queried through the 'summary' field in order to differentiate watching briefs from excavations. The results are summarised in Table 1 and Fig. 3.

A total of 9428 fieldwork projects recorded by the AIP between 1990-2004 identified Roman remains. Of these, 4995 (53%) comprised field evaluations and 4310 (46%) post-determination or research projects. A key word search of the summary text field found that a total of 2323 projects included a watching brief (25% of the total Roman sites) and 2751 included excavation (29%). The latter statistics must not be treated as highly accurate as the summary field of the AIP database was not designed to allow detailed queries, and the combined total therefore varies from the total for post-determination/research as a whole. The results of this exercise do provide a guide to the types of investigations finding Roman remains, however, with around half the remains identified through evaluations, and a quarter or so each from excavations and watching briefs/archaeological monitoring (with a slightly

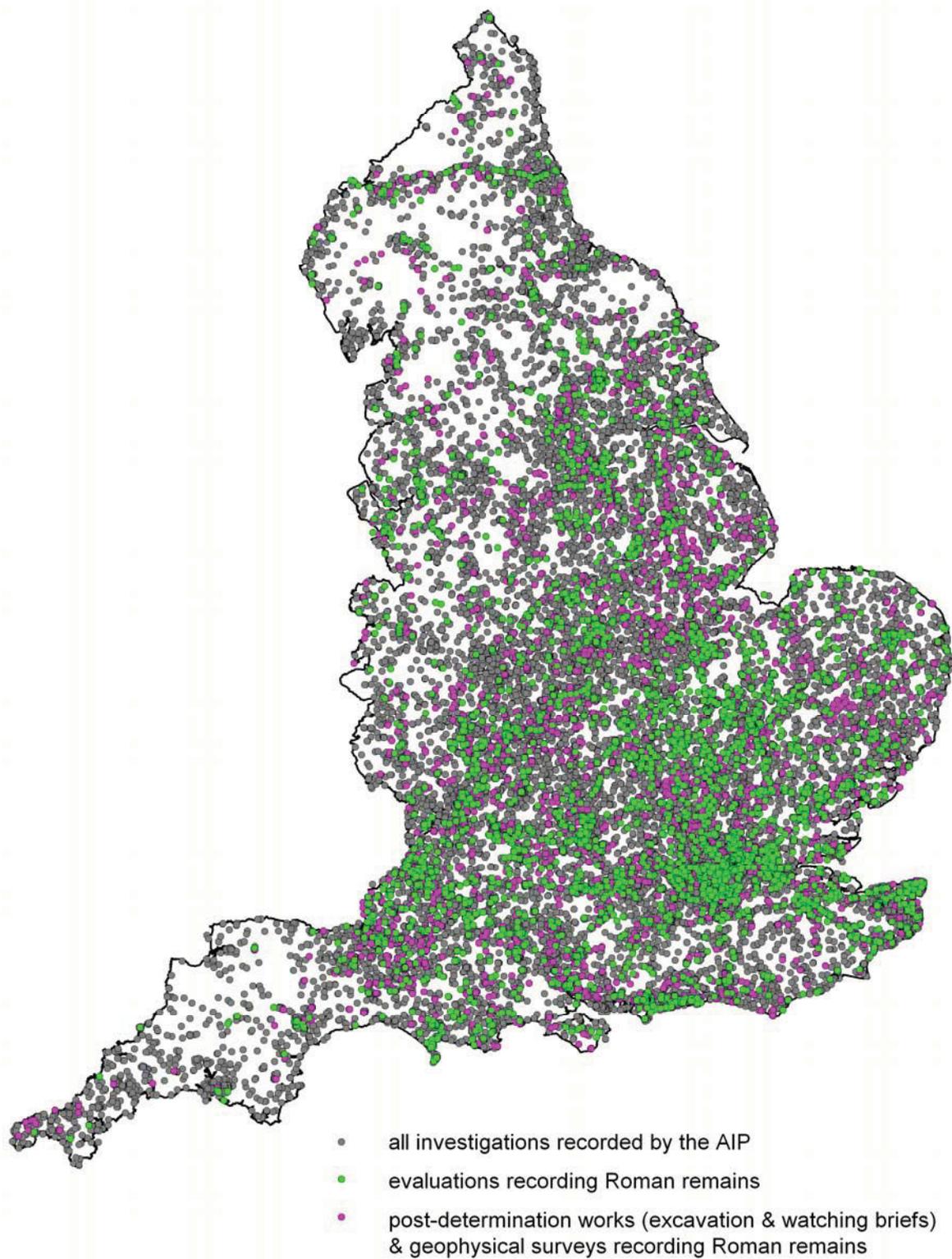


Fig. 3 Distribution of all AIP investigations and those recording Roman remains

higher emphasis on excavations). The number of geophysical survey sites associated with Roman remains is very small (only 123, or 1%). This is undoubtedly not a true result, but rather a result of the low representation of geophysical surveys within the AIP as a whole.

| Fieldwork Type              | No. of projects recorded by AIP identifying Roman remains | Percentage of total projects recorded by AIP identifying Roman remains |
|-----------------------------|---|--|
| Evaluation                  | <b>4995</b>   | <b>53%</b> of total Roman sites  |
| Post-determination/Research | <b>4310</b> : of which                                    | <b>46%</b> of total Roman sites  |
|                             | 2323 include watching brief                               | 25% of total Roman sites   |
|                             | 2751 include excavation                                   | 29% of total Roman sites   |
| Geophysics                  | <b>123</b>  | <b>1%</b> of total Roman sites   |
|                             | Total <b>9428</b> Roman investigations                    | Total – <b>100%</b>  |

Table 1. Summary of number and scale of archaeological investigations identifying Roman remains.

In order to identify significance in these figures, it is necessary to compare the proportions of investigations finding Roman remains with the proportions of investigation types recorded by the AIP as a whole. For this reason the whole AIP database was queried for the number of investigation types in the same manner as for Roman AIP sites above. The results of this analysis are presented in Table 2 and Fig. 4.

| Fieldwork Type              | No. of all AIP investigations     | Percentage of total AIP investigations | No. of Roman AIP investigations        | Percentage of total Roman investigations |
|-----------------------------|-----------------------------------|--|--|--|
| Evaluation                  | <b>17,627</b>                     | <b>41%</b>                             | <b>4995</b>                            | <b>53%</b>                               |
| Post-determination/Research | <b>24,709</b> : of which          | <b>57%</b>                             | <b>4310</b> : of which                 | <b>46%</b>                               |
|                             | 13,770 include watching brief     | 32% of total AIP sites                 | 2323 include watching brief            | 25% of total Roman sites                 |
|                             | 9305 include excavation           | 21% of total AIP sites                 | 2751 include excavation                | 29% of total Roman sites                 |
| Geophysics                  | <b>1057</b>                       | <b>2%</b>                              | <b>123</b>                             | <b>1%</b>                                |
|                             | Total <b>43393</b> investigations | Total – <b>100%</b>                    | Total <b>9428</b> Roman investigations | Total – <b>100%</b>                      |

Table 2. Archaeological investigation types of all periods compared to those finding Roman remains.

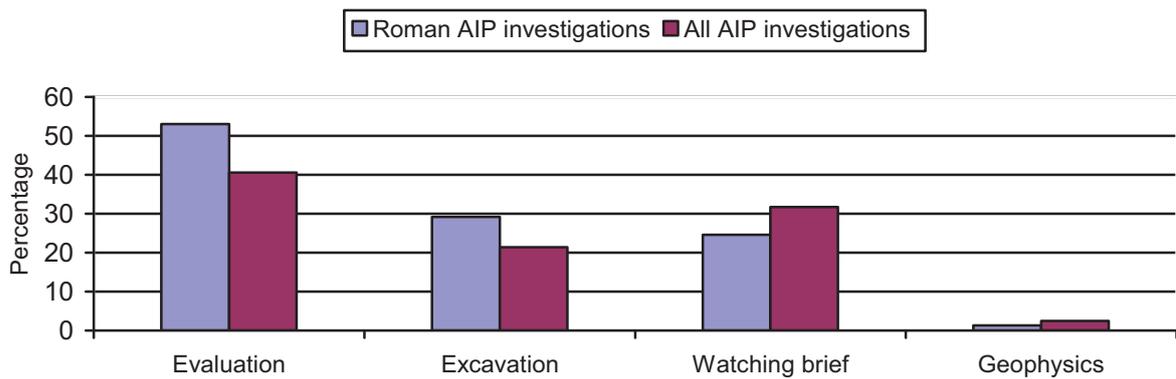


Fig. 4. Analysis of investigation types.

In all 43,393 fieldwork sites are recorded by the AIP, comprising the same categories of evaluation, post-determination/research and geophysical survey. Of this total 22% (9428) identified Roman remains. The greatest proportion of these investigations comprises evaluations (41%), followed by watching briefs/archaeological monitoring (32%), excavation (21%) and geophysics (2%). As with the sample of Roman investigations, the greatest proportion of work recorded by AIP as a whole comprises evaluation. The Roman percentage is significantly higher however (53% compared to 41%), and suggests that Roman remains are particularly susceptible to identification through the evaluation technique. The proportion of excavations recording Roman remains is also greater than the AIP dataset as a whole (29% compared to 21%). This indicates that proportionally more Roman sites are subject to excavation than the average for sites of all periods. Conversely, proportionally less Roman remains appear to be recorded through watching briefs/archaeological monitoring than the average for other periods (25% compared to 32%).

### 3.1.2 Distribution Analyses

The geographic distribution of investigations discovering Roman remains in England has been studied with respect to the overall AIP database of all archaeological investigations, and the results compared to three major geographic data sets which chosen for their potential influence on the data. These comprised modern political areas (English Regions, counties and unitary authorities); modern land use and topography; and the distribution of certain categories of Roman archaeological sites.

England has a total area of 130,100km<sup>2</sup>. A total of 9428 investigations identifying Roman remains is recorded by the AIP between 1990-2004, an average of 0.07 investigations per km<sup>2</sup> across the country. A total of 43,393 investigations were recorded by

the AIP within the same years, an average of 0.3 investigations per km<sup>2</sup>. This forms the base information against which regional variation can be measured.

### Modern Political Areas

An analysis was made of the distribution of investigations identifying Roman remains across the nine English Regions, and counties and unitary authorities within these regions (Fig. 5). Table 3 presents the numbers of AIP investigations recorded in the nine regions, plus the average investigation densities and the proportions identifying Roman remains.

| English region           | Total no. of AIP investigations | Average no. per km <sup>2</sup> of AIP investigations | Total no. of AIP investigations recording Roman remains | Average no. per km <sup>2</sup> of AIP investigations recording Roman remains | % of all AIP investigations discovering Roman remains |
|--------------------------|---------------------------------|---|---|---|---|
| North West               | 1695                            | 0.12  | 395   | 0.03  | 23%   |
| North East               | 1741                            | 0.20  | 182   | 0.02  | 11%   |
| Yorkshire and the Humber | 4210                            | 0.27  | 830   | 0.05  | 20%   |
| East Midlands            | 5238                            | 0.33  | 1097  | 0.07  | 21%   |
| West Midlands            | 3648                            | 0.28  | 670   | 0.05  | 18%   |
| Eastern                  | 7128                            | 0.37  | 1818  | 0.09  | 26%   |
| London                   | 3769                            | 2.37  | 1022  | 0.64  | 27%   |
| South East               | 8814                            | 0.46  | 1890  | 0.09  | 21%   |
| South West               | 7068                            | 0.29  | 1490  | 0.06  | 21%   |
| (Multiple regions)       | 82                              |   | 34  |   |   |

Table 3 Comparison of the distribution of archaeological investigations between English regions.

In terms of the total number of investigations the highest ranking regions are the South East (8814), Eastern (7128) and South West (7068). These same regions also had the greatest number of investigations identifying Roman remains: South East (1890), Eastern (1818) and South West (1490). When taking the area of each region into account, however, the highest density of investigations recording Roman remains occurs in London (0.64 investigations per km<sup>2</sup>), reflecting both the presence of the largest Roman town in Britain and the high rate of development within the capital during the study period. The next highest densities are in Eastern and South East regions. The final column in the table presents the proportion of all

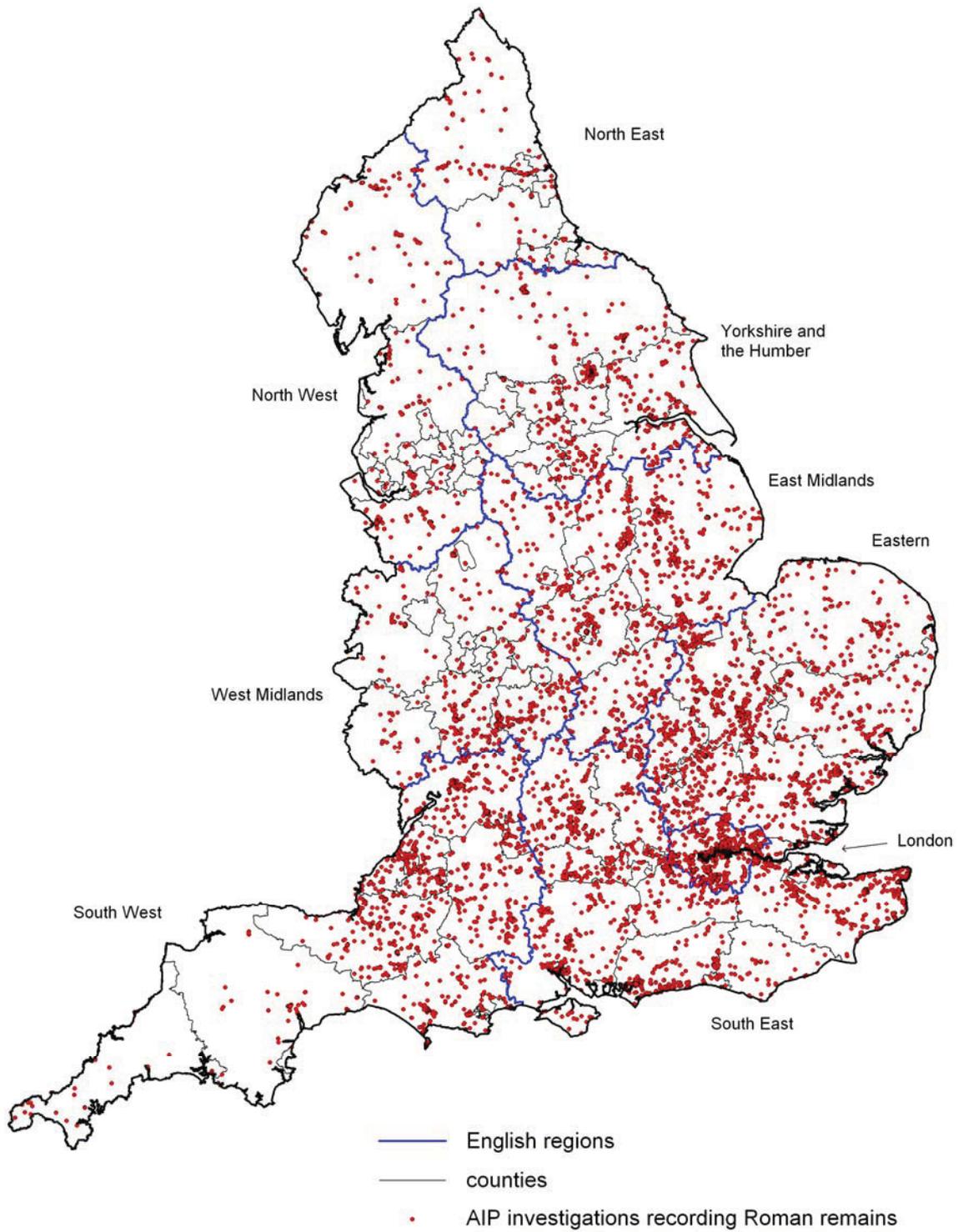


Fig. 5 English regions and distribution of archaeological investigations recording Roman remains

investigations which identified Roman remains in each region, offering a rough guide to the commonness of Roman discoveries. London again displays the highest proportion of Roman discoveries (27%), followed by Eastern region (26%). The third highest proportion of Roman investigations is recorded in the North West, a region which displays the lowest density of all investigations, and the second lowest density of those discovering Roman remains, but 23% of all investigations found Roman remains. Thus the North West region generally displays a low rate of investigation, but a high frequency of Roman remains.

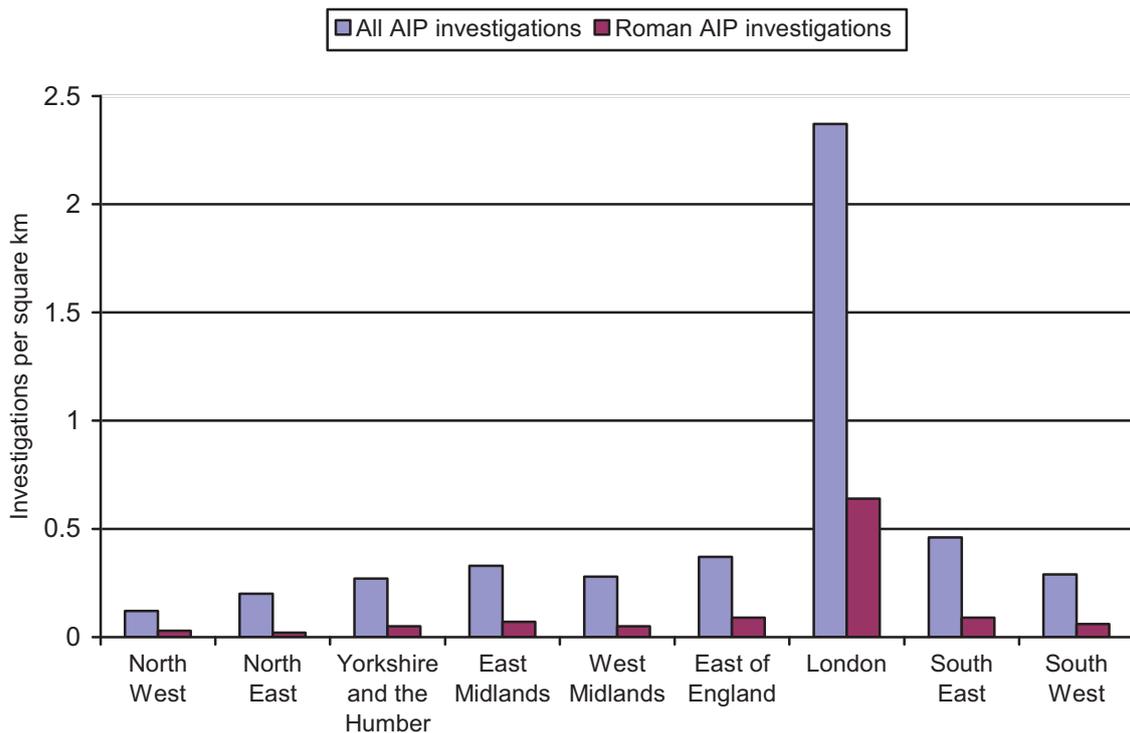


Fig. 6. Density of archaeological investigations in different English regions.

The density per km<sup>2</sup> of all archaeological investigations of all periods and those discovering Roman remains across the nine English regions is summarised in Fig. 6, and the proportion of investigations recording Roman remains across the same regions is shown in Fig. 7.



Fig. 7. Frequency of archaeological investigations discovering Roman remains in different English regions.

Due to the very large number of counties and unitary authorities within England (over 100, plus 33 within London region) a meaningful analysis of the data sets in relation to these local authority areas could not be conducted within the parameters of the present project. A sample of local authorities across the country (comprising two authorities from each of the nine regions) was examined using the same statistical analyses as above, in order to assess the value of such an exercise. Whilst the regional overview of archaeological investigations outlined above provided some useful trends, the analysis of investigations at this more detailed administrative level of authority proved to be of little value. The size of authorities and variables such as modern landuse, settlement form, and economic growth are so variable that comparisons at a national level are at best misleading.

### Physical topography

The distribution of investigations recording Roman remains in relation to altitude (height above sea level) and major river systems is shown in Fig. 8. A statistical analysis of the total number of investigations and those recording Roman remains in relation to altitude is presented in Table 4. No investigations recording Roman remains are recorded at heights of over 600m AOD. A gradual increase in both the density of Roman investigations and the proportion of all investigations finding Roman remains is then displayed with a decrease in altitude. There is obviously a large emphasis on the lowland 0-75m zone in terms of total investigations recording Roman remains. This is clearly a product both of the distribution of Roman settlement in England, and the areas most susceptible to modern development.

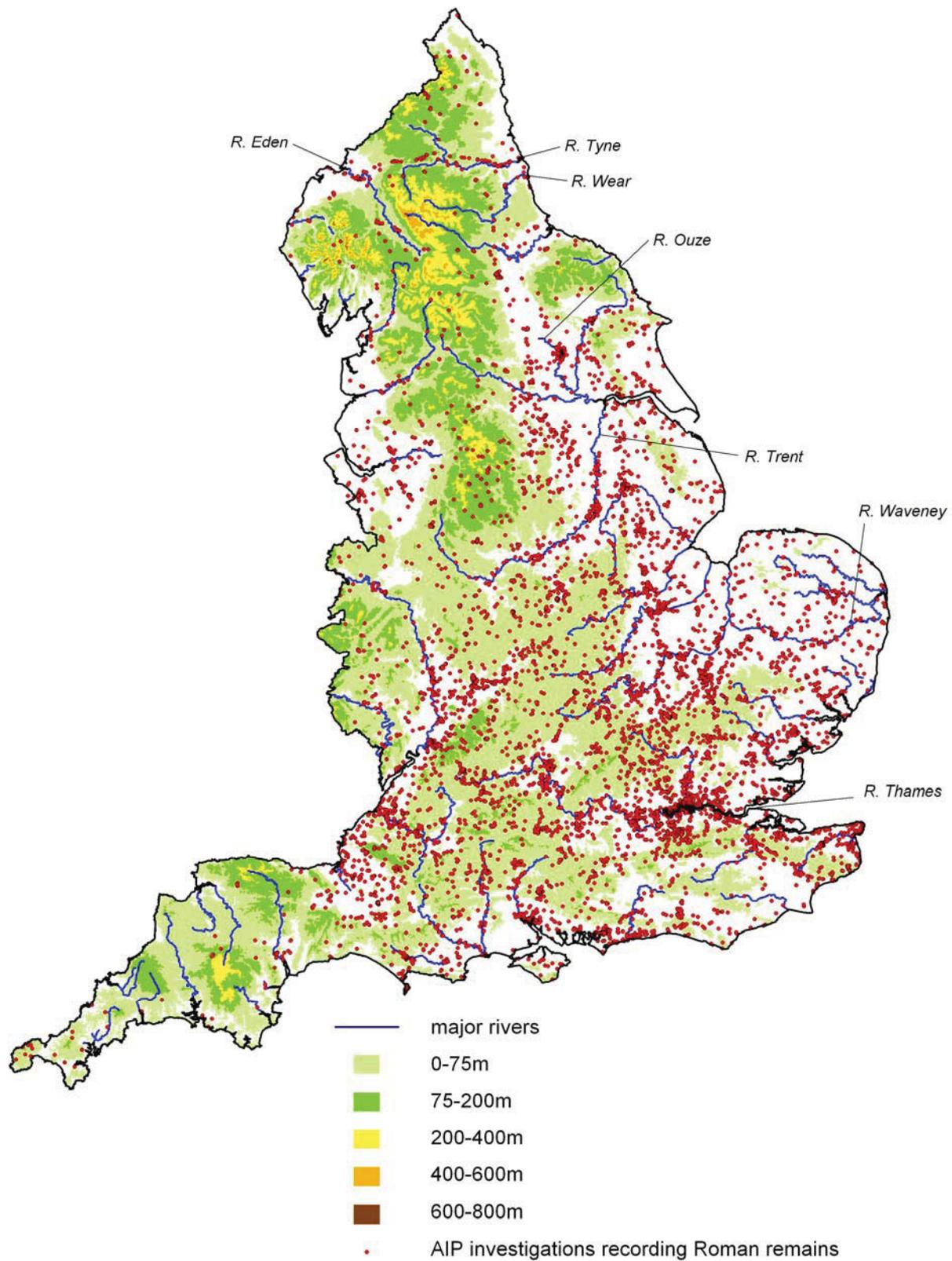


Fig. 8 Physical topography and distribution of archaeological investigations recording Roman remains

| Height above sea level | Total no. of AIP investigations | Average no. per km <sup>2</sup> of AIP investigations | No. of Roman AIP investigations | Average no. per km <sup>2</sup> of Roman AIP investigations | % of AIP sites identifying Roman remains |
|------------------------|---------------------------------|---|---------------------------------|---|--|
| 800m +                 | 0                               | 0   | 0                               | 0   | N/A                                      |
| 600-800m               | 5                               | 0.012   | 0                               | 0   | 0%                                       |
| 400-600m               | 96                              | 0.026   | 10                              | 0.003   | 10%                                      |
| 200-400m               | 1043                            | 0.059   | 151                             | 0.008   | 14%                                      |
| 75-200m                | 12703                           | 0.18  | 2353                            | 0.03  | 18%                                      |
| 0-75m                  | 30690                           | 0.7   | 7075                            | 0.13  | 23%                                      |

Table 4. Analysis of archaeological investigations within specified altitude bands.

The relationship between the location of investigations recording Roman remains and major English rivers is presented in Fig. 9. There is an average density of 0.23 Roman investigations per km<sup>2</sup> within 500m of a major river; 0.19 within 1km; 0.13 within 2.5km; and 0.09 within 5km. The national average is 0.07 investigations recording Roman remains per km<sup>2</sup>. These figures reflect the obvious attractiveness of the fertile major river valleys for later prehistoric and Roman settlement, and also the concentration of modern development in these areas (be it related to settlement, infrastructure or mineral extraction). The distribution of investigations mapped in Fig. 8 shows strong linear concentrations along the Eden in the northwest; the Tyne and Wear in the northeast; the Ouse around York; the Trent in the midlands; the Waveney in East Anglia; and the Thames in the southeast.

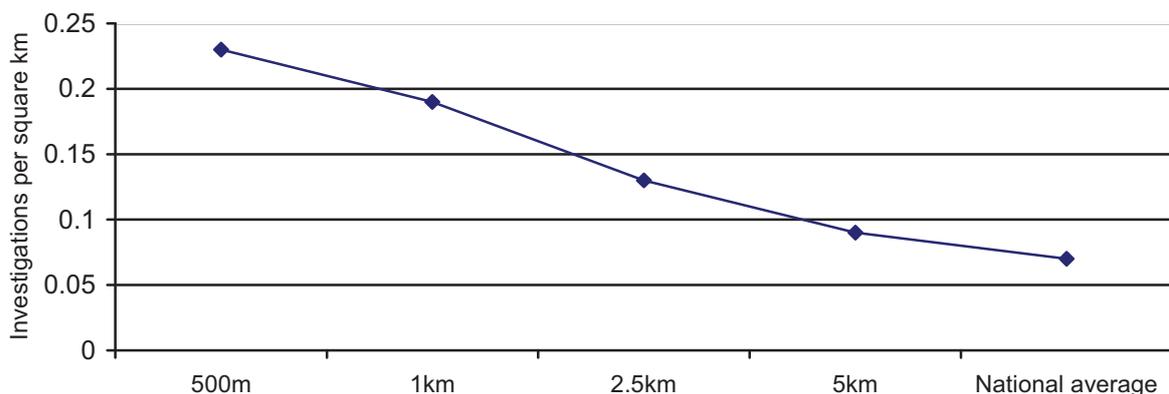


Fig. 9. The densities of archaeological investigations recording Roman remains related to distance from major rivers.

### Modern landuse

A comparison of the density of archaeological investigations between major urban and rural areas defined in the OS MiniScale mapping is presented in Fig. 10. The average national density of investigations identifying Roman remains is 0.07 per km<sup>2</sup>. There is a significantly higher average density of 0.51 investigations per km<sup>2</sup> in major urban areas, and an average of 0.06 per km<sup>2</sup> across rural areas. The average national density of all investigations recorded by the AIP is 0.3 per km<sup>2</sup>. In urban areas this increases to 2.07 investigations per km<sup>2</sup>, and decreases to 0.29 per km<sup>2</sup> in rural areas. Nationally, an average of 23% of all investigations recorded by the AIP identified Roman remains. In urban areas this proportion is slightly higher at 25% and slightly lower in rural areas at 21%. This is likely to be a simple reflection that many Roman towns lie beneath modern urban areas where the pace of development is quicker than in the countryside.

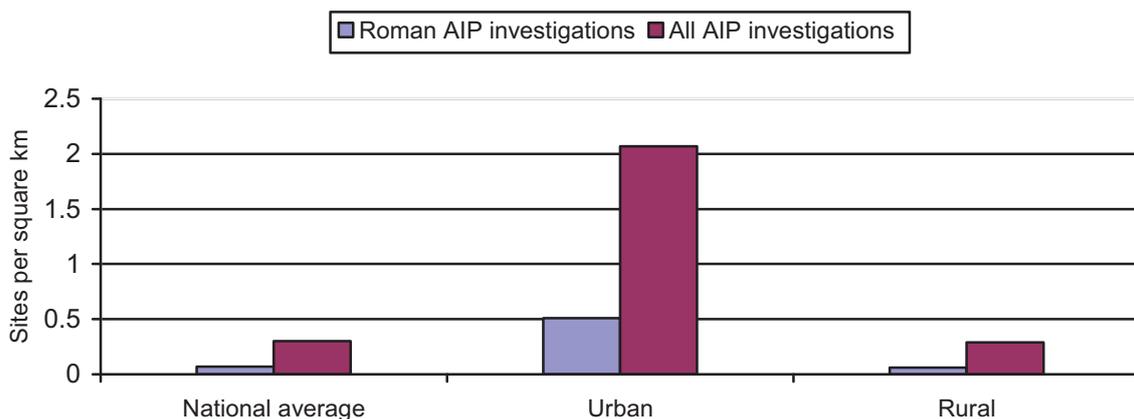


Fig. 10. Analysis of the density of archaeological investigations recording Roman remains across urban and rural areas (as defined on the Ordnance Survey MiniScale mapping).

Analysis of the density of investigations recording Roman remains in relation to 'A' roads and motorways reveals an average of 0.22 Roman investigations per km<sup>2</sup> situated within 100m of an 'A' road (compared to the 0.07 national average), and 0.1 investigations per km<sup>2</sup> situated within 100m of a motorway. The higher density of investigation in the vicinity of 'A' roads reflects both the number of such roads which fossilize Roman courses, and the volume of archaeological work which has taken place during the study period associated with the upgrading of major trunk routes. For example, a total of 146 interventions identified Roman remains in the vicinity of the A1 (from London to the northeast) between 1990 and 2004.

### The Map of Roman Britain

The fifth edition of the *Ordnance Survey Map of Roman Britain* was produced in 2001, using data supplied by the National Monuments Record and its Welsh and Scottish counterparts (Sargent 2002). It was therefore appropriate to use the NMR as the basic source for a comparison of the pattern of archaeological interventions finding Roman remains with the main elements on the map of Roman Britain. The distribution of Roman towns and roads is illustrated in Fig. 11, based on information supplied from the AMIE database. A total of 156 Roman towns (*coloniae*, *civitas* capitals, spas, small towns; collectively referred to as civil settlements in AMIE) is plotted. This is compared with the distribution of investigations identifying Roman remains. Within a radius of 0.5km of these civil settlements there is an average density of 10 Roman investigations per km<sup>2</sup>, which gradually falls to 0.1 per km<sup>2</sup> at distances of 10km (Fig. 12). As with the analysis compared to modern landuse, this is undoubtedly a product of the fact that many Roman towns lie beneath current settlements where there is more redevelopment than in the countryside.

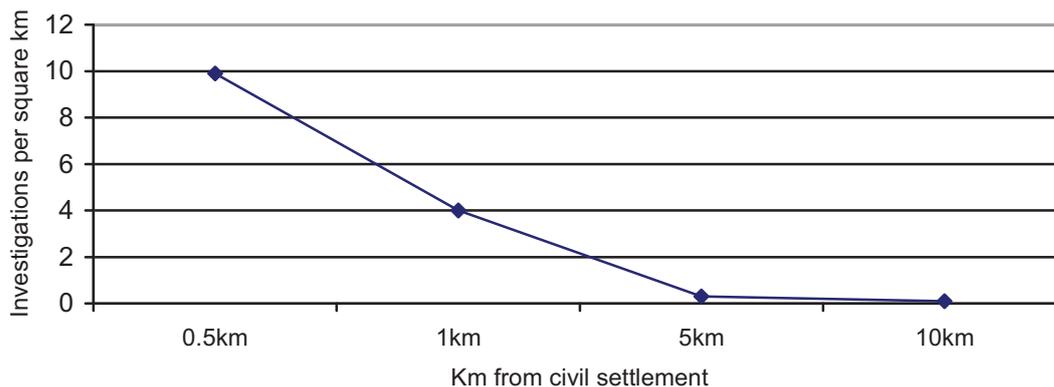


Fig. 12. The densities of archaeological investigations recording Roman remains related to distance from Roman towns.

A similar, but less pronounced, relationship is also apparent between Roman roads and investigations recording Roman remains. Spatial analysis found that within distances of 0.25km of Roman roads there is an average 0.50 Roman investigations per km<sup>2</sup>, falling to 0.09 per km<sup>2</sup> within 5km (Fig. 13). Once again this reflects the fact that the courses of many Roman roads are fossilised in the current network, and the volume of work that has been undertaken associated with their upgrading.

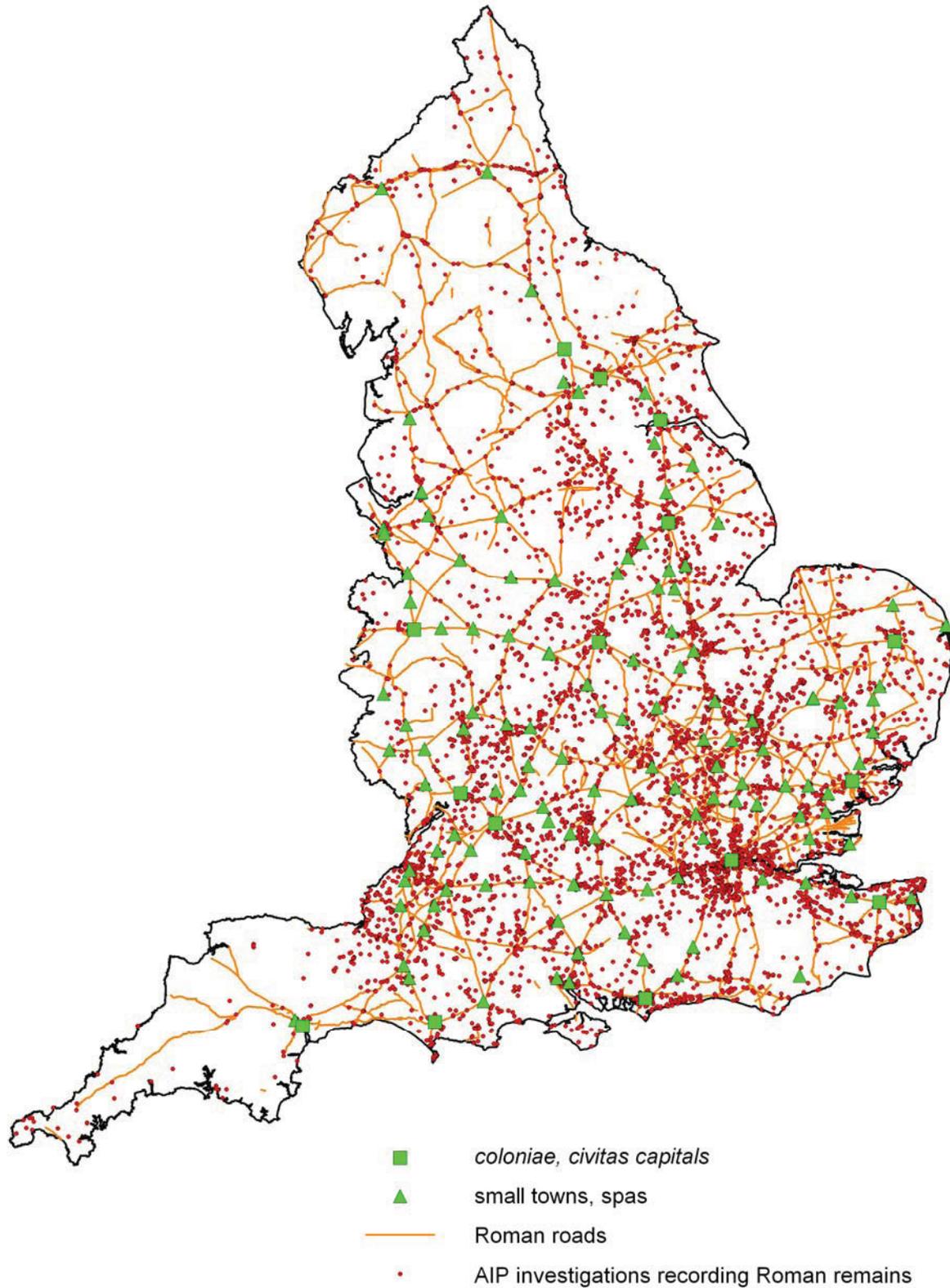


Fig. 11 Roman roads and towns and distribution of archaeological investigations recording Roman remains

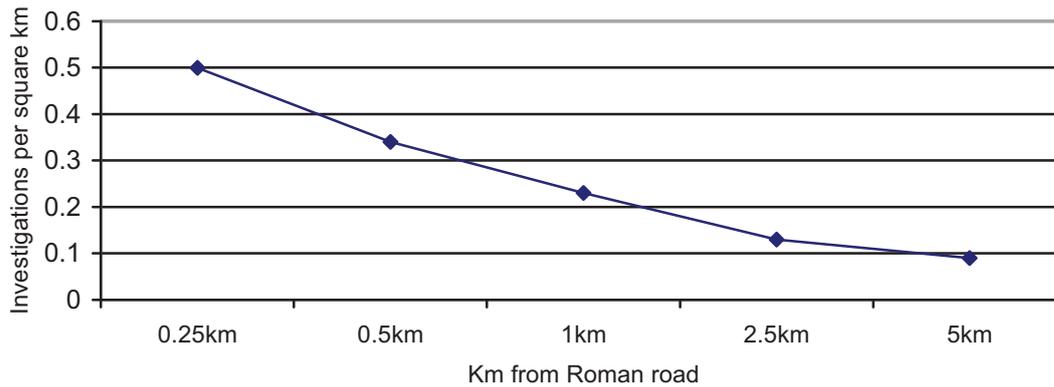


Fig. 13. The densities of archaeological investigations recording Roman remains related to distance from Roman roads.

A total of 2100 known or potential villa sites are recorded on the AMIE database (Fig. 14). As is well known recorded villa sites predominantly lie within a zone to the southeast of a line stretching between the Exe and the Humber. Of the 2100 sites, 1956 (93%) lie within this 'villa zone' and only 144 examples beyond. Some 80% (7513) investigations recording Roman remains lie within this zone. This reflects two things. First the higher density of rural settlement during the Roman period in the English lowland zone (although note the important caveats in Section 4.2). Second the concentration of new development in the south and east of the country during the study period. Spatial analysis between the occurrence of villa sites and investigations recording Roman remains found a positive relationship between the two, although the significance of such a relationship is doubtful given the high number of sites involved.

Distributions of temples/shrines (276 sites) and 'defensive sites' (2488 sites) were also derived from the AMIE database. The data set of the former category is so low that no meaningful analysis in relation to the distribution of Roman investigations could be carried out at a national level. Similarly, although the class of 'defensive sites' contains a relatively large data set, monuments within it vary widely (including forts, sites along Hadrian's Wall, coastal milefortlets and (bizarrely) Cornish 'rounds'). Given the heterogeneity of this monument class no further analysis is presented.

### **3.2 The types of Roman monument most frequently investigated**

Research Objective 3 aimed to identify which kinds of site were most commonly investigated and reported on in grey literature. A restricted set of monument types were selected for analysis. These were chosen to represent both a range of Roman monument forms, and to maintain a consistency with data sets obtained from the AMIE database. The queries were

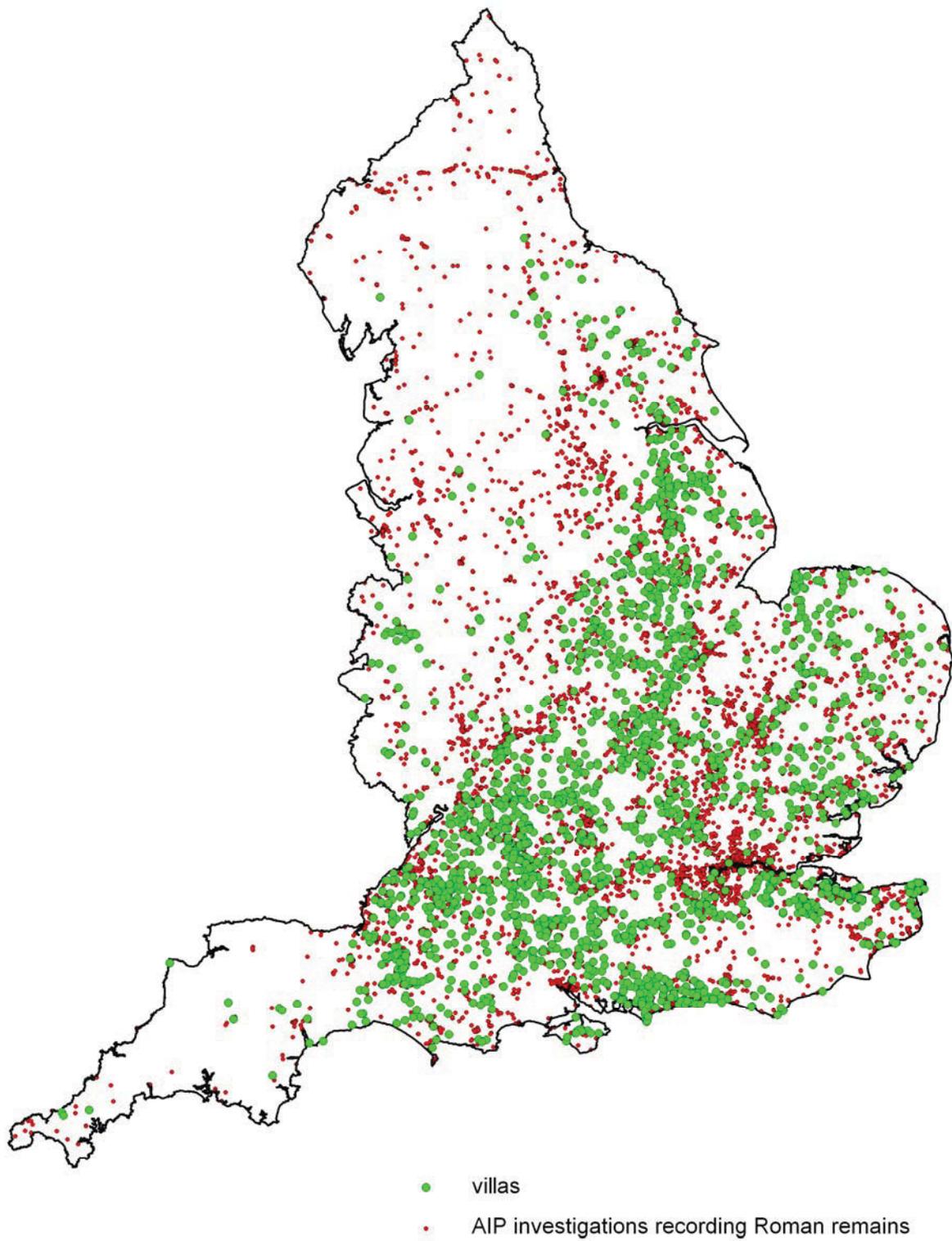


Fig. 14 Roman villas and distribution of archaeological investigations recording Roman remains

carried out by the AIP team, and were analysed against the investigation types of evaluation, post-determination/research, and geophysical surveys. The monument categories chosen comprised: civil settlements ("towns"), villas, roads, temples and shrines, defensive sites (fortifications), field systems, finds and kiln sites. The results of the monument queries are summarised in Table 5.

|                                   | Civil settlements (towns) | Villas | Roads | Temples/shrines | Defence | Field systems | Finds | Kilns |
|-----------------------------------|---------------------------|--------|-------|-----------------|---------|---------------|-------|-------|
| No. of AIP Investigations         | 106                       | 29     | 267   | 11              | 39      | 56            | 545   | 46    |
| % of all Roman AIP investigations | 1.1%                      | 0.3%   | 2.8%  | 0.1%            | 0.4%    | 0.6%          | 5.8%  | 0.5%  |

Table 5. Frequency of selected types of Roman monument encountered in archaeological investigations.

There is clearly a very low representation of monument types in the AIP data, the reasons for which are discussed in detail in Section 4. These limitations go some way to explaining the numbers and proportions of monument types recorded by the AIP. The distribution of each category was also mapped through the GIS, and compared to the spatial data sets described above. The limitations on the samples, however, meant that no meaningful analysis could be achieved. Although of limited result, this analysis has been a useful exercise. It has indicated that the most complete record of grey literature reports, the AIP, is unsuited to examination of the types of Roman deposits being recorded on a national level, although it is a highly valuable resource for quantitative analysis of investigations recording Roman remains as a whole.

### **3.3 The degree to which grey literature is developed into conventional publication**

This objective was approached through use of the British and Irish Archaeological Bibliography (BIAB) online database and a trawl through back-issues of *Britannia*. The database of investigations recording Roman remains was enhanced with the results of these exercises, including bibliographic references and source, providing a searchable database and GIS layer. Thus the information gained on publications can be viewed and compared in both temporal and geographic terms (i.e. variations in publication rates over the course of the 15 year study period, and in different regions of the country).

### 3.3.1 The number of archaeological investigations which reach formal publication

It was originally intended to correlate only post-determination investigations listed in the AIP with publications contained within the BIAB, as professional experience suggests that the results of evaluations rarely reach, or indeed warrant, formal publication. It was realised at an early stage of this analysis, however, that over a third (177 of 453) of investigations listed in the BIAB were designated as 'evaluations' within the AIP database of investigations recording Roman remains. This is mainly due to the fact that the AIP database was compiled from *reports*, and the same archaeological 'site' may therefore have more than one entry related to each phase of fieldwork. Due to the large number of sites in the database it was not possible to cross-correlate these related interventions. In some cases it is likely that publications relate to a phase of excavation not recorded in the AIP, yet the earlier evaluation is contained in that source (and thus giving the impression that the evaluation has been published). There is also commonly a somewhat blurred distinction between 'evaluation' and 'excavation', and many grey literature reports use phrases such as 'evaluation excavation' although the fieldwork may represent the final phase of archaeological works on the site. The decision was therefore taken to widen the exercise to include all categories of fieldwork investigations, including excavations, evaluations and watching briefs. The results of the analysis for the 15 year study period are presented in Table 6 and Fig. 15. BIAB entries up to and including 2006 were assessed in an attempt to catch fieldwork investigations undertaken up to 2004 but published in the two years following this date. A record was also made of whether a publication was an interim statement or full final publication.

| AIP Years    | Total no. of AIP Roman investigations recorded | AIP investigations reaching publication as listed by the BIAB 1990-2006 |           | AIP investigations reaching final publication as listed by the BIAB 1990-2006 |           | AIP investigations reaching interim publication as listed by the BIAB 1990-2006 |           |
|--------------|--|---|-----------|---|-----------|---|-----------|
|              |  |   |           |   |           |   |           |
| 1990-1994    | 2625   | 207   | 8%        | 159   | 6%        | 48  | 2%        |
| 1995-1999    | 3829   | 189   | 5%        | 121   | 3%        | 68  | 2%        |
| 2000-2004    | 2974   | 57  | 2%        | 36  | 1%        | 21  | 1%        |
| <b>Total</b> | <b>9428</b>                                    | <b>453</b>  | <b>5%</b> | <b>316</b>  | <b>3%</b> | <b>137</b>  | <b>2%</b> |

Table 6. Analysis by five year period of archaeological investigations finding Roman remains which had reached conventional publication by 2006.

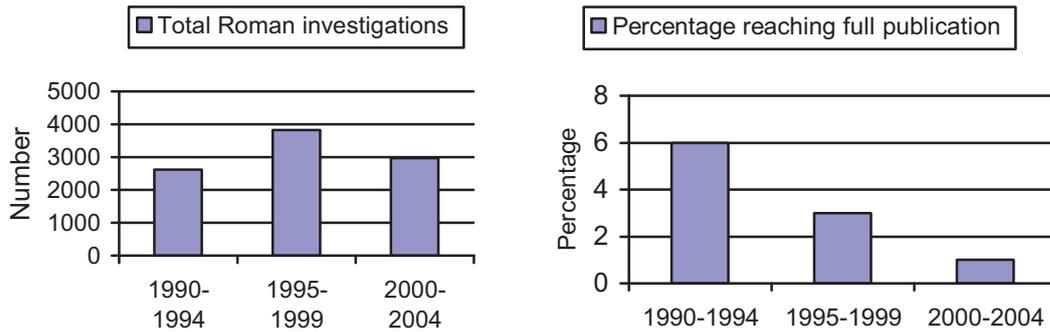


Fig. 15. Summary of archaeological investigations finding Roman remains undertaken in five year periods which had reached conventional publication by 2006.

| English region           | Total no. of AIP Roman investigations recorded | AIP investigations reaching publication as listed by the BIAB 1990-2006 |             | AIP investigations reaching final publication as listed by the BIAB 1990-2006 |             | AIP investigations reaching interim publication as listed by the BIAB 1990-2006 |             |
|--------------------------|--|---|-------------|---|-------------|---|-------------|
|                          |  | Number  | Percentage  | Number  | Percentage  | Number  | Percentage  |
| North West               | 395  | 27  | 6.8%        | 22  | 5.5%        | 5   | 1.3%        |
| North East               | 182  | 7   | 3.8%        | 3   | 1.6%        | 4   | 2.2%        |
| Yorkshire and the Humber | 830  | 31  | 4%          | 10  | 1%          | 21  | 3%          |
| East Midlands            | 1097   | 30  | 2.7%        | 18  | 1.6%        | 12  | 1.1%        |
| West Midlands            | 670  | 33  | 4.9%        | 24  | 3.5%        | 9   | 1.3%        |
| Eastern                  | 1818   | 97  | 5.3%        | 79  | 4.3%        | 18  | 1%          |
| London                   | 1022   | 61  | 6.0%        | 44  | 4.3%        | 17  | 1.7%        |
| South East               | 1890   | 99  | 5.2%        | 71  | 3.7%        | 28  | 1.5%        |
| South West               | 1490   | 67  | 4.4%        | 45  | 3%          | 22  | 1.4%        |
| Multi County Record      | (34)   | (1)   |             |   |             | (1)   |             |
| <b>Total</b>             | <b>9428</b>                                    | <b>453</b>  | <b>4.8%</b> | <b>316</b>  | <b>3.3%</b> | <b>137</b>  | <b>1.5%</b> |

Table 7. Regional analysis of archaeological investigations undertaken between 1990 and 2004 which had reached publication by 2006.

Only 453 Roman investigations recorded by the AIP could be correlated with publications listed in the BIAB, 5% of the total number of Roman investigations. Indeed only 316 of these reports constituted full and final publication, which can be compared with 2751 excavations undertaken during the study period (Table 1). Although there was an increase in the number of investigations recording Roman remains in the period from 1995 to 1999 compared to 1990-4 period, the number of investigations reaching final publication dropped: 6% of

Roman investigations completed between 1990-4 had been fully published by 2006, falling to 3% for projects completed between 1995-9 and 1% between 2000-4. There is an inevitable time lag between the end of fieldwork and publication, and the results seem to suggest that this is commonly in excess of five years.

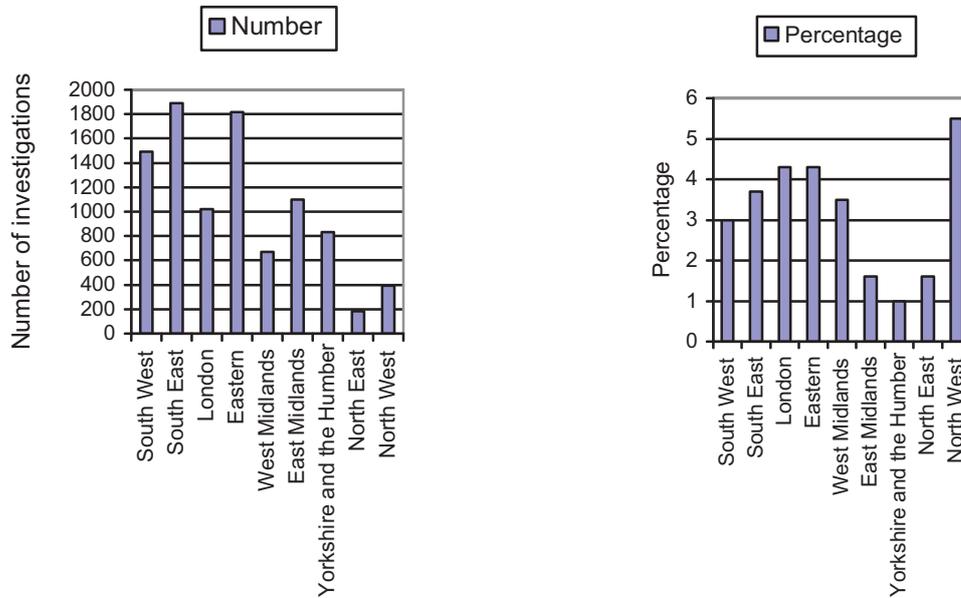


Fig. 16. Bar charts illustrating regional variations in the number of archaeological investigations finding Roman remains undertaken between 1990 and 2004 which had reached full publication by 2006.

The results are analysed by English region in Table 7 and Fig. 15. The highest numbers of Roman investigations which had been fully published by 2006 were in Eastern (79 investigations), South East (71) and South West (45) regions. When the total number of investigations recording Roman remains is taken into account, however, the highest proportion of Roman investigations reaching full publication is in the North West (5.5%) followed by London and Eastern regions (4.3% respectively).

### 3.3.2 The number of investigations included in the annual 'Roman Britain in' reports published in the journal *Britannia*

The *Britannia* volumes published between 1991 and 2006 (the 'Roman Britain in' reports are for the year before the publication date) were assessed. The 'Roman Britain in 2005' report was reviewed to catch any investigations which were not reported in the year immediately following fieldwork. Archaeological investigations recording Roman remains identified by the AIP which are also listed in the 'Roman Britain in' reports are summarised in Table 8.

| AIP Years    | Total no. of AIP Roman investigations recorded | AIP Roman investigations cited in <i>R B in 1990-2005</i> |            |
|--------------|--|---|------------|
| 1990-1994    | 2625   | 504   | 19%        |
| 1995-1999    | 3829   | 636   | 17%        |
| 2000-2004    | 2974   | 490   | 16%        |
| <b>Total</b> | <b>9428</b>                                    | <b>1630</b>   | <b>17%</b> |

Table 8. Archaeological investigations finding Roman remains recorded by the AIP which are also cited in the annual 'Roman Britain in 1990-2005' reports published in the journal *Britannia*

In all 1630 of the Roman investigations recorded by the AIP are also listed in the 'Roman Britain in' series for the years of the study period, 17% of the total Roman investigations. This is also a relatively low proportion of investigations, although it is almost four times higher than the 5% of investigations recorded by the BIAB. The clear reason for this is that the large majority of entries within BIAB are final publications as opposed to the interim statements in *Britannia* (BIAB does not regularly include 'county round-up' sites from the regional archaeological journals). The proportion of investigations published within the three five year periods is also fairly stable, with only a slight decrease from 19% to 16%, reflecting that the entries for '*Roman Britain in*' are submitted soon after the completion of fieldwork.

| English region           | Total no. of AIP Roman Investigations recorded | AIP investigations cited in <i>R B in 1990-2005</i> |            |
|--------------------------|--|---|------------|
| North West               | 395  | 74  | 19%        |
| North East               | 182  | 33  | 18%        |
| Yorkshire and the Humber | 830  | 123   | 15%        |
| East Midlands            | 1097   | 191   | 17%        |
| West Midlands            | 670  | 112   | 17%        |
| Eastern                  | 1818   | 324   | 18%        |
| London                   | 1022   | 300   | 29%        |
| South East               | 1890   | 259   | 14%        |
| South West               | 1490   | 206   | 14%        |
| (Multi region)           | (34)   |   |            |
| <b>Total</b>             | <b>9428</b>                                    | <b>1630</b>   | <b>17%</b> |

Table 9. Regional analysis of archaeological investigations finding Roman remains recorded by the AIP which are also cited in the annual 'Roman Britain in 1990-2005' reports published in the journal *Britannia*.

The correlation between entries in the AIP and the ‘*Roman Britain in*’ reports is analysed by English region in Table 9. The greatest correlation is in the South East (1890), followed by Eastern (1818) and South West (1490) regions. The noticeably highest proportion of Roman investigations appearing in *Britannia*, however, is in Greater London where 29% of investigations recording Roman remains listed by the AIP also appeared in the journal. This reflects the fact that the major archaeological contractor working in Greater London (Museum of London Archaeology Service) has been very diligent over the years in submitting information to *Britannia*. The majority of other regions are close to the national average of 17%.

## 4. EVALUATION OF DATA RELIABILITY AND SUITABILITY

### 4.1 Evaluation of the data sources

The data sources used to inform this project have been described in Section 2.1. They were chosen during the preparation of the project design for their perceived suitability to the aims of the project. Each data source was assessed during the project design stage in terms of its content, format, restrictions on usage and other pertinent issues. This was carried out through discussions with the major data providers (the AIP, National Monuments Record, Ordnance Survey agents and the BIAB), as well as detailed research on the relevant literature. As the project has progressed conclusions have been drawn on the suitability and reliability of the data sets for the tasks in hand, and it has become clear that some of these factors have had an influence on the results obtained. In this section we will critically review the success of the chosen data sets and the methodology adopted, and assess the impact of these considerations on the results obtained.

#### 4.1.1 The Archaeological Investigations Project (AIP) Database

The data provided by the AIP provided the basic information on grey literature reports recording Roman remains, and on the whole this has proved to be well-suited for the purposes of Stage 1 of this project. The data set of Roman investigations produced by the AIP team could be analysed both visually through the GIS and as a list in the Access database, both in terms of total numbers and in terms of distribution of fieldwork types. These formats proved to be highly informative and flexible, and allowed queries to be carried out quickly. It also allowed the data to be analysed in detail against the other project data sets. The provision of the complete AIP database (in summary form) as both a GIS layer and database also proved successful, allowing trends in the Roman data to be compared to a ‘control set’ of all AIP investigations. Three specific aspects of the AIP data set are worthy of

more detailed comment, some of which have proved to have significant implications for the project results, others less so.

### How complete a record is the AIP?

The success of this project is heavily dependent upon the comprehensiveness of the AIP. This was the only source which could have been used to facilitate a rapid overview of what has been going on in Roman England, quite simply because it is the only data set which is readily accessible; aims to be comprehensive, and has collected information in a systematic way. Whilst some professionals have been disparaging about the incompleteness of the AIP, most accept its achievement as the start of a national record of archaeological interventions (Darvill and Russell 2002, 6, n. 4). Of course the AIP is not 'complete', as it relies upon the comprehensiveness of the records kept by others (principally HERs and contracting organisations) and the willingness of these bodies to cooperate and facilitate data collection. Support for the aims and objectives of the AIP, and associated initiatives such as OASIS, is variable within the profession, with some repositories being unable or unwilling to supply comprehensive lists of reports produced or received. Within the planning system it has been very rare for briefs set by curatorial authorities to stipulate that information should be passed to the AIP (although a requirement to complete OASIS records is becoming more common).

The collection criteria utilised by the AIP will also influence what is included. For an intervention to be included it has to be documented (the AIP defines its annual listings as "events completed to the report stage and made available to the survey for a particular year"; Darvill and Russell 2002, 9). Most effort has been expended by the project on the listing of client reports produced as part of the planning process. There are, however, a number of investigations which do not produce typescript documentation, either shortly after the completion of fieldwork (or indeed in some cases at all). These have only been partially captured by the AIP. Knowledge of such investigations normally flows from the county or regional 'round-ups' (where these exist), and it is not uncommon for submission of a report to these publications to be stipulated in a brief set for work conducted within the planning system). As the volume of work has increased over the last 15 years, even in areas where such 'round ups' do exist these have becoming increasingly partial with time. The AIP now treats inclusion within a county round-up as sufficient documentation to warrant inclusion, although this has not always been the case within the study period of this project and there are undoubtedly a proportion of investigations listed in various county or regional journals which are not included within the AIP (and consequently in the statistics used in this project).

One suspects that the type of investigation which may be under represented in the AIP is excavation undertaken either as mitigation following the determination of a planning application or for 'research' purposes outside the sphere of the planning process. Such

works frequently do not generate an immediate grey literature report. For a substantive excavation the first documentation received by the HER following the completion of fieldwork is often the *post-excavation assessment and updated project design*. It is a frequent requirement of the planning process that these documents are produced in accordance with the process and specification set out in *The Management of Archaeological Projects* 2nd edition (colloquially known as MAP2) (EH 1991). In theory these documents should be produced shortly after the completion of fieldwork, although in reality a time lag of one or two years is common (and indeed sometimes much longer). The AIP does now record post-excavation assessment documents in its listings, as the database has developed to become more inclusive during the project, although this source has not been rigorously collected throughout all of the study period. Not all excavations are subject to post-excavation assessment, and in some cases no grey literature is produced at all as the project progresses directly to formal publication in a recognised journal or monograph.

Attempts to quantify the number of investigations not recorded within the AIP are difficult due to the obvious absence of a comprehensive overall record with which to compare it. However some data can be presented to facilitate a qualitative assessment of this issue. Analysis of the number of investigations which have reached full publication was undertaken via a correlation of entries in the BIAB and the AIP (Section 3.3.1). During the data collection process it became apparent that a number of investigations recorded as field evaluations in the AIP appeared to have progressed to full publication. Indeed over a third (177 of 453) of investigations listed in both the AIP and BIAB databases were designated as 'evaluations' within the AIP. This is at least partially due to the fact that the AIP database was compiled from *reports*, and the same archaeological 'site' may have multiple entries relating to different phases of fieldwork. Due to the large number of entries in the database it was not possible to correlate between related investigations on the same site. There can also be a somewhat blurred distinction in grey literature reports between 'evaluation' and 'excavation', and many reports use phrases such as 'evaluation excavation' although the fieldwork may represent the final phase of archaeological works on the site. It is also likely in some cases that a subsequent phase of excavation had occurred, not recorded by the AIP, and that this formed the core of the published report (although obviously mention was also made in the report of the findings of the evaluation).

Another means of evaluating the completeness of the AIP is by comparison with the '*Roman Britain in*' sections of *Britannia* (Section 3.3.2). During data gathering it became clear that a simple database of entries cited in the '*Roman Britain in*' reports, but not included in the AIP database of sites finding Roman remains, could be compiled with little further time expenditure. The results of this are summarised for the 15 year study period in Table 10.

| <i>Roman Britain in years</i> | <i>Roman Britain in entries also in the AIP</i> | <i>Roman Britain in entries not in the AIP</i> | Total number of <i>Roman Britain in entries</i> |
|-------------------------------|---|--|---|
| 1990-1994                     | 451 (47%)                                       | 507 (53%)                                      | 958 (100%)                                      |
| 1995-1999                     | 531 (46%)                                       | 636 (54%)                                      | 1167 (100%)                                     |
| 2000-2004                     | 470 (40%)                                       | 713 (60%)                                      | 1183 (100%)                                     |
| <b>Total</b>                  | <b>1452 (44%)</b>                               | <b>1856 (56%)</b>                              | <b>3308 (100%)</b>                              |

Table 10. Analysis of entries in '*Roman Britain in xxxx*' not included in the AIP database.

It will be noted that the number of investigation summaries in the '*Roman Britain in*' reports which are also included on the AIP database (1452) is lower than the figure in Table 8 for the number of Roman AIP entries also included in the '*Roman Britain in*' reports (1630). This is not the contradiction it seems. The AIP is a database of grey literature reports, and therefore may include more than one entry relating to a single archaeological 'site'. The '*Roman Britain in*' reports on the other hand are for archaeological 'sites', and a single entry may conversely have had several grey literature reports produced. On average, over the 15 year study period, just under half (44%) of the site reports within the '*Roman Britain in*' summaries are also recorded by the AIP. Examined by the three five year periods, this proportion has fallen slightly from 1990-4 to 2000-4 (from 47% to 40%), although the total number of entries within *Britannia* summaries increased from 958 in the period 1990-4 to 1183 in 2000-4. On face value it would appear that the '*Roman Britain in*' reports are capturing the results of a significant proportion of investigations not recorded by the AIP, although there is an important caveat which must be applied to this observation. Sites excavated over many years will have multiple entries in '*Roman Britain in*', each reflecting the results of the previous year's work. For instance reports on the long-term excavations at South Shields Roman fort, Tyne and Wear, appear in all editions of '*Roman Britain in*' within the study period. However, there is no entry for these excavations within the AIP as no grey literature has been produced. (although regular summaries have appeared in local journals). Projects such as South Shields and Silchester *insula IX* (ongoing since 1997, with annual grey literature interims) are exceptional, however, and are not conducted in a development-led environment. It is more common to find extensive mitigation excavations phased over several years, particularly in advance of large-scale mineral extraction where sites are excavated in phases ahead of the programme of extraction.

As a final test an annual 'round-up' was chosen at random. Between 1995-99 county and regional journals were consulted annually by the AIP for summaries of fieldwork carried

out from 1990. From 1999 these were not consulted methodically, although in 2005 this source was included once more. Warwickshire was selected as in this county briefs set by the curator state that fieldwork summaries should be submitted annually to the journal *West Midlands Archaeology*. Two years were selected at random: 1993 (within the period when the AIP did not systematically cover the county 'round-ups') and 1999 (when it did). In 1993 six Roman investigations are listed in *West Midlands Archaeology* for Warwickshire, of which five appear in the AIP. In 1999 the number of Roman entries had risen to eleven, of which ten appear in the AIP. The AIP therefore captured all but one of the entries within both years, a high success rate.

The AIP is a major achievement. It is the only national, reasonably comprehensive and easily accessible listing of archaeological interventions available, and without it this stage of the project would not have been possible. OASIS is designed to build on the achievements of the AIP, and should facilitate greater data capture in the future. However not all local authorities have signed up to making the submission of an OASIS record a mandatory requirement of planning related archaeological work (and is entirely voluntary for non-planning related investigations), and the project is still in its infancy with a number of issues still to resolve.

### Monument descriptions

A limitation on the usefulness of the results of the current project was most apparent in the assessment of the types of Roman monument most frequently investigated (Section 3.2). This resulted from the definition of monument forms within the AIP database, and the limitations of this data field meant that little useful analysis could be achieved. Although inconsistency in the monument field was raised as a potentially limiting factor in the Project Design, the effect of this has been more widespread than was originally anticipated. The AIP database contains a field for monument form, guided by the descriptions contained in the English Heritage *Thesaurus of Monument Types* (Section 2.1.2). This field was only available for 48% of the Roman investigations (around 4500 out of the total 9428). This is largely due to the fact that reports commonly do not offer an interpretation of the monument represented (generally because of lack of information). The AIP was designed primarily as a record of grey literature reports, and an interpretation of monument form, if not clearly stated, was not within its remit. The representation of the chosen monument categories in the half of the sample which do have the ascribed monument forms was also very low (Table 5). This appears to be related to the interpretation adopted for the results of investigations recorded in the database. For example, the search through the monument field for 'settlement' produced 106 individual Roman entries, and this is obviously an under-representation of settlement sites (settlement is a part of the 'domestic' monument class of the *Thesaurus*,

and is associated with a number of narrower terms). A much larger number of entries in the AIP, however, are assigned specific narrow-term monument forms in the 'monument' field, such as 'ditch', 'post-hole' etc, according to the results of the investigation, and not assigned the broader, and more interpretive term, 'settlement'. The assignment of these categories is quite correct, and in line with the *Thesaurus* terms, but it is not suited to broad queries on the nature of Roman monuments being recorded.

A slightly different limitation is exemplified by the category of 'finds'. The term 'finds' is not in fact listed in the *Thesaurus*, which recommends 'findspot', a term which also retains a degree of ambiguity. This term is used in the AIP database (in parentheses to distinguish from *Thesaurus* terms) to indicate a positive archaeological discovery, where there is insufficient data to indicate a form of monument. It is attached to a total of 545 Roman entries (Table 5). The term was predominantly used for sites where little other data was available, and includes both single and multiple finds and different types of artefacts. Little value was therefore found in the analysis of this category.

The AIP database also contains a field for whether an investigation is of a newly-discovered site or of one that was previously known. Eight villa investigations are recorded on sites designated as previously unknown. Examination of the individual entries, however, shows that nearly all of these relate to the identification of new elements on existing villa sites, rather than new sites per se. The data are therefore not well suited to assessing the numbers of newly discovered monuments investigated between 1990 and 2004.

#### Investigation location

It was established at early meetings with the AIP team that there is a degree of inaccuracy in an unknown number of grid coordinates attached to sites within the database. This can result from factors such as errors in original site reports or errors during data entry by AIP staff. Some site reports also use an inappropriate level of accuracy, such as rounding up the grid coordinate to the nearest 100m (the AIP database requires an entry of 12 figures, i.e. to the nearest 1m). It was agreed that the AIP team would run a check and correct the position of investigations whose coordinates were obviously wrong, but that it was obviously not feasible to check the accuracy of every entry. Use of the database during the course of the project, especially in its GIS format, suggested that the very large majority of sites are correctly placed, certainly to at least a 100m accuracy, with only a negligible proportion emerging in the wrong location. For the purposes of the current project, looking at the national distribution of investigations, this issue is not considered to have significantly influenced the analytical results.

#### *4.1.2 The Archives and Monuments Information England (AMIE) Database*

The content and format of the AMIE database is overseen by the English Heritage Data Standards Unit in cooperation with the Datasets Development and Archives teams. The database is subject to consistent recording formats, necessary for its use as a record of archaeological information searchable by a wide range of variables. Overall, the national AMIE data queries proved a valuable resource for the project. The queries to produce monument distributions were carried out by NMR staff through the monument form field of the AMIE database. For the purposes of the present project certain of the monument queries were more suitable than others. The distribution of Roman towns (including small towns), villas and the road system provided a useful and representative backdrop of the established Roman infrastructure, an important consideration in the analysis of the geographic distributions of archaeological investigations. The category of temples was found to be of limited relevance to an understanding of Roman remains being found, while the inclusion of monuments within the category 'defensive sites' was found to be too broad to offer meaningful comparative distributions. This broad term includes, for instance, forts and fortlets, mileforts, Cornish 'rounds' and numerous features along Hadrian's Wall. Individually, these narrow term monuments are too specific to offer any value in terms of comparative national distribution patterns.

#### *4.1.3 Ordnance Survey Data*

The Ordnance Survey MiniScale mapping was found to offer a versatile and cost-effective GIS-compatible mapping system. Although produced at a small scale, it was very suitable for the national scale of the present project. Its major limitation, in terms of geographic analysis, is that it is produced as a visual mapping system, and not designed specifically for controlled analysis. As outlined in Section 2.1.3 this means that geographic features such as major urban areas are not produced according to set criteria, such as population density, but on visual representation chosen by the Ordnance Survey. On a national level, therefore, the MiniScale mapping offers a useful guide to geographic features, and is accurate enough to use as an analytic tool, but it would not be suitable at a more detailed level.

#### *4.1.4 The British and Irish Archaeological Bibliography (BIAB)*

At the outset of this project the BIAB was considered to offer the most complete record of archaeological publications available. It was further considered that the use of the online BIAB database would be the most time-effective method of assessing the data. During the course of the project this indeed proved to be a useful and effective method, achieved within the predicted timescale. Further detail on the sources making up the BIAB database became apparent during the course of comparing AIP investigations and the BIAB list. The major

finding was that interim reports within the 'county round-ups' of regional journals are not generally included within the BIAB. Hence, the representation of interim publication is considerably under-represented in the results.

#### **4.2 Defining what constitutes 'Roman'**

This study is concerned with an assessment of the Roman period in England, and it is worth making the point that we are concerned with a chronological period rather than solely with sites which have yielded evidence of Romano-British culture. For instance much of Northumberland lay outside the bounds of the Roman empire (if not outside of official influence) for much of the period under discussion, yet sites to the north of Hadrian's Wall occupied during this period are clearly within the remit of this project. The same applies to those areas which lay within *Britannia* yet display comparatively little evidence of integration with the provincial administration and economy, such as parts of the North West and the South West peninsula. The AIP categorises 'Roman' as the years AD 43-410, with the preceding period susceptible to variety of chronological designations depending upon the quality of the evidence (late Iron Age; Iron Age; late prehistoric; prehistoric). The succeeding period is categorised as Early medieval (AD 410-1066).

The attribution of archaeological sites to the Roman period is usually on the basis of artefacts, which are more plentiful as site finds than for any archaeological period before the later medieval period. Many low-status farmsteads discovered in trial trench evaluation usually yield a few sherds of distinctly Romano-British pottery to allow a date to be proposed in the grey literature report, and thus in turn feed into the AIP entry. One of the great strengths of Romano-British archaeology is this ubiquity of artefacts which permits a chronological precision not available for the preceding or succeeding periods. However it must be recognised that the quality of this evidence is distinctly regional, and in some parts of the country the ability to ascribe sites to the Romano-British period is much more difficult than in others. In some areas distinctly Romano-British artefacts are much rarer as site finds than in parts of the South and East. This occurs on a number of levels, but is particularly true of non-villa rural settlement, one of the most common site types investigated by contract archaeology. The Wroxeter Hinterlands Project has demonstrated that in the Shropshire plain rural sites of fully Roman date were virtually aceramic, and the villa at Whitley Grange near Wroxeter yielded fewer than 70 sherds of pottery from several seasons of excavation (White and Barker 1998; Matthews 1997). In contrast the non-villa settlement at Birdlip Quarry in the Gloucestershire Cotswolds produced in excess of 16,000 sherds from a single campaign of excavation in advance of road construction (Timby 1999, 339, Table 7.14). In areas where distinctly Roman artefacts are scarce, it is also unusual for rural settlements to undergo distinctive morphological changes at the outset of the Roman period, and where

sites are known from aerial photography and geophysics, but lack associated artefacts, a broad late prehistoric or Romano-British date is usually the best that can be achieved. Absolute dating techniques might be able to demonstrate that a site was occupied during the Roman period, but these methods are rarely employed at the evaluation stage.

The conservative nature of certain ceramic traditions can also militate against precise chronological attributions. In many areas it is impossible to differentiate 1st century B.C. from 1st-century A.D. (both pre and post-Conquest) coarsewares, and some traditions were even longer lived (for instance the Malvernian industry of Worcestershire where featureless body sherds could date anywhere between the 4th century B.C. and the end of the 1st century A.D.). In aggregate these factors suggest that it is quite likely that some rural sites that are categorised as Iron Age or later prehistoric in grey literature reports may in fact have persisted into the Roman period, or indeed have been occupied fully within this period. The converse is also likely to be true, and that some sites classified as Roman were abandoned before the mid 1st century A.D. As post-Roman sites are very rare it is much less likely that sites classified to the early medieval period by the AIP did in fact originate in the Roman period. Continuity of ceramic traditions from the 4th into the 5th century A.D. is extremely hard to demonstrate, with perhaps Cornwall being the only region where pottery production and settlement forms were seemingly unaffected by the 5th-century A.D. discontinuity so apparent in much of the rest of England (Quinnell 2004).

## 5. CONCLUSIONS ON STAGE 1

### 5.1 *The volume of work going on*

Almost 9500 fieldwork investigations encountered Roman remains of one sort or another in the 15 years between 1990 and 2004. Of these roughly half were field evaluations; a quarter watching briefs and a quarter excavations (Table 1). Therefore over 2700 investigations involved the recording of Roman remains through the technique of excavation. By way of comparison, the 'Roman Britain in' sections of *Britannia* for the 15 years between 1973 and 1987 recorded 2,260 sites explored, although the actual number of sites will be less than this as this figure includes multiple entries for the same site explored over a number of seasons (Wilkes 1989). Clearly the scale of archaeological work since 1990 has far exceeded anything that had gone before.

The distribution of these investigations is far from uniform across England. London, South East, Eastern and South West regions comprise 48% of the total area of England yet they contain 66% of investigations finding Roman remains (Table 3) There were ten times

more investigations in the South East region than the North East during this period, and even allowing for the differing extents of the two regions, there was over four times more investigations per km<sup>2</sup> in the South East than the North East. Over most of England one in four or five archaeological investigations examined Roman remains of some sort, although in the North East this is one in ten. These regional variations are related to a number of factors such as the intensity and extent of development across England; differences in the ease with which sites can be ascribed to the Roman period, especially those sampled by small scale investigations such as field evaluations, and underlying patterns of differing densities of Roman activity, especially rural settlement, within and beyond the province. It is obvious that the distribution of Roman investigations is heavily influenced by where development has been taking place. On Fig. 5 the line of the Channel Tunnel Rail Link through Kent is just as visible as the line of Hadrian's Wall. Likewise strong linear trends visible alongside certain Roman roads marked on Fig. 10 reflect the location of archaeological work associated with the upgrade of modern roads which fossilise Roman alignments. The concentration of investigations along the line of Ermine Street between London and York is particularly pronounced on this map, due in no small measure to archaeological works associated with various improvements to sections of the A1 trunk road during the study period.

Clearly the maps are not just an artefact of modern factors, however, and do reflect underlying patterning in Roman settlement. This is clear from the comparison of the location of all investigations compared to those finding only Roman remains in Fig. 3. It can be seen that the relatively sparse numbers of investigations on distinctly Roman sites in Devon, Cornwall, Shropshire, Cheshire and other parts of the North West and North East are not purely a product of a lack of investigation. That said, the distributions in the latter areas may be affected by the low levels of Roman material culture which are found on rural sites compared to other parts of England (Section 4.2). The lower density of Roman sites in the North and Midlands compared to the South and East is also suggested on a project basis, for instance by comparison of the discoveries on the Channel Tunnel Rail Link in Kent compared to those on the M6 Toll Road in the West Midlands (Williams 2003; *British Archaeology* 65 (June 2002), 5; although cf. *British Archaeology* 66 (August 2002), 25).

The sheer number of investigations that has taken place point to the potential that the results should have for the study of Roman Britain and a rapid overview of this work at a national level has proved useful and achievable. At the outset of this project it was hoped that it would prove possible to provide some basic assessment of the types of site most commonly being investigated. A major conclusion of this project is that it is very difficult, if not indeed currently impossible, to obtain a rapid national quantification of this topic. The reasons for this are discussed in detail in Section 4.1. It is now clear that this topic needs to be tackled at the regional or county level via the direct review and interrogation of grey

literature reports. Indeed this is the approach that Richard Bradley successfully adopted for his project on prehistoric Britain. From a cursory, non-rigorous review of the ‘*Roman Britain in*’ reports in *Britannia* it is apparent that development-led investigations have made major contributions to our understanding of some monument types, and less with others. Redevelopment within England’s historic towns and cities has continued apace, and while preservation *in situ* is a well-established policy in local development plans, major investigations in several Romano-British towns have taken place in recent years (London, Canterbury, Leicester to name a few). In the countryside knowledge of non-villa rural settlements and associated field systems has increased dramatically, and now forms a highly valuable data set to compare against the long-established focus of attention on villas.

### **5.2 Finding out what has been going on**

The AIP is the only data source currently available which even attempts a comprehensive approach to data collection. Inevitably it is to some degree partial and incomplete, but it does capture many investigations not included in other listings. In theory the mandatory compilation of OASIS records for interventions secured through the planning process ought to make for a more comprehensive record, but the incomplete take up across the country does not allow OASIS to be a full solution at the present time. This report suggests that the types of intervention which are most difficult to capture are excavations, some with significant findings, which produce little (or no) grey literature. It might be argued that this is relatively unimportant as these sites will progress to full publication within a few years. However our analysis highlights that very few investigations are published in conventional formats, and where this does happen it often takes a good number of years to achieve. The decision by the AIP in 2005 to treat county or regional ‘round-ups’ as a document source (and thus include interventions cited there which do not otherwise generate grey literature) is to be welcomed and should increase coverage. Such ‘round ups’ do not exist for the whole country, however, and where they are not available (or where submission is not required by curatorial briefs) problems will persist.

The ‘*Roman Britain in*’ reports in the *Journal of Roman Studies* and, since 1970 in *Britannia*, have served the discipline well for over 85 years. These reports rely entirely on voluntary contributions and the analysis has demonstrated that they are far from comprehensive. Less than 20% of investigations recording Roman remains listed by the AIP appear in ‘*Roman Britain in*’ (Table 9), although equally these reports capture entries that do not make it into the AIP (on average around 100-140 interventions each year (Table 10), although there is a difficulty in directly correlating the two sources as the AIP is concerned with distinct interventions while ‘*Roman Britain in*’ is concerned with sites explored in a calendar year). It would seem that many of the sites that appear in ‘*Roman Britain in*’ but not

in the AIP are those which are investigated outside of the planning system. It is pertinent to reflect on the role that *'Roman Britain in'* does, and perhaps should, fulfil given its partial coverage. As a national and international journal, 'national' importance has been cited as a criterion for the inclusion of full excavation reports within the journal (Esmonde Cleary 2005, vii). At the moment, however, the notes for contributors for *'Roman Britain in'* makes no statement about whether significance determines if a report should be submitted or not. The following suggestion is offered for a revised remit for *'Roman Britain in'*, with due acknowledgement that responsibility in this matter rests solely with the editorial committee of *Britannia*. Could *'Roman Britain in'* abandon any attempt to be comprehensive and instead become an outlet for interim accounts of the most significant interventions? A set of regional correspondents/editors would be required to select the most significant investigations who have a good knowledge of what has been happening in their patch. They would need links with the HERs, major contracting organisations and those active in fieldwork conducted outside of the planning system. They could then directly approach the organisation or individual responsible for the fieldwork and request an interim account of typically 500-1000 words in length, accompanied by plans and photographs as necessary. Most post-excavation assessment documents contain a site plan which could be reused for this purpose. A strong editorial hand would be required, and bi-annual reviews of each region might prove easier to accomplish than annual ones. This approach would require more active editorial involvement than currently, but the benefit to the discipline of having illustrated interim accounts of the most significant investigations within one or two years of fieldwork might make this investment in effort worthwhile. A similar approach could be adopted in Wales and Scotland, which while not being subject to the AIP, has publications such as *Archaeology in Wales* and *Discovery and Excavation in Scotland* which aim, and largely succeed, as comprehensive listings.

This section of the project has been concerned with finding out what has been going on at a national level, and has not been concerned with individual grey literature reports. Nevertheless it is worth reiterating at this stage that there is little point in listing, indexing or otherwise highlighting grey literature if the interested researcher cannot follow up a reference and easily access a report. There is no doubt that it is essential for the health of the discipline to make it easier to directly access grey literature reports. Copies of reports in pdf format which can be downloaded from internet sites seem the most effective way forward, and the initiative in Worcestershire shows what can be achieved ([http://worcestershire.whub.org.uk/home/archaeo\\_dr\\_index](http://worcestershire.whub.org.uk/home/archaeo_dr_index)), although period searches are not currently possible. The online library hosted by the ADS has a category of unpublished fieldwork reports (<http://ads.ahds.ac.uk/catalogue/library/greylit>), and a search on 6 August 2007 found that there were 1024 reports loaded on that site in all, of which 131 were

highlighted by a period search under Roman. Nationally we have only just begun to scratch the surface of the mountain of grey literature, and more needs to be done here.

### **5.3 The low level of formal publication of archaeological investigations**

The proportion of investigations which have found Roman remains and have been fully published between 1990 and 2004 is very low. Only 316 fieldwork projects recorded by the AIP between 1990 and 2004 had reached a full publication listed in the BIAB by 2006, only 3.3% of the total number of Roman investigations (Table 6). How can this be explained and should we be surprised by this finding? It would not be difficult to draw the conclusion that many fieldwork exercises do not produce results of sufficient value to warrant this treatment. This is undoubtedly true of a number of investigation types, especially evaluations, watching briefs and recording exercises of very limited extent, yet we suspect that this simply cannot be true of all 2751 investigations which can be classed as an excavation of one form or another. Even if all the publications related to this class of investigation (which they do not) they will still only comprise around 11% of the total number of excavations. It is likely therefore that almost 90% of archaeological excavations conducted since 1990 had not reached full publication by 2006, and surely this includes investigations of substance with interesting results. This conclusion is supported in reviews of recent work concerning prehistoric Britain. For instance Richard Bradley (2006, 8) has written that '... there are many archaeological contractors who ... provide well-rounded and thoughtful accounts of field projects. Some of these could be issued as they stand, but they are held back, sometimes forever, by inhibitions over what is required of a published account. Often all that is lacking is an experienced editor. More puzzling is the fact that some organisations have published the results of nearly all their significant projects, whilst others have produced nothing over the same period of time'. David Yates (2007) in his study of Bronze Age landscapes in southern Britain refers to a number of sites which are only reported in grey literature, and yet from his discussion of them are evidently of sufficient importance to warrant wider dissemination. Another example is provided by Tom Moore (2006, 20), who notes the disparity between the extent of development which has taken place in the environs of Bristol and the seemingly relatively poor quality of Iron Age evidence in this area. He ascribes this in part to the fact that many rescue excavations have not been published in a comprehensive way, and cites one site of particular interest where the post-excavation assessment document was produced in 1998 but no formal publication has followed. The assessment document therefore remains the only source of information available on this excavation.

What are the reasons behind this variable approach to conventional publication? PPG 16 paragraph 25 states that where 'preservation by record' is agreed or enforced via a

planning condition it is legitimate for planning authorities to require developers not only to fund the cost of archaeological recording but also the publication of the results as well. What is meant by publication is not otherwise defined in the guidance, but briefs set by local authority curators over the last 15 years have made it explicit that publication can mean widespread dissemination in a generally accessible format and not just a typescript report. It is implicit that the planning authority should approve the mode of publication of the results of an investigation secured via the planning system, and if necessary insist on wider dissemination beyond the typescript report. The usual mechanism for this dialogue and approval process is via the submission to the curator of a post-excavation assessment document. This document is usually modelled on the specification contained in appendices 4 and 5 of MAP2, which states that the organisation responsible for the fieldwork should state how the report and its method of dissemination have been planned to reflect the archaeological significance of the project. In theory this approach should ensure that all investigations which have made significant discoveries are taken forward to an appropriate level of publication, and yet the analysis presented above suggests that this may not always be the case. The MAP2 approach is based on a site by site assessment of importance, and it would seem that there is a lack of consensus on what should be published within the curatorial and contracting communities, and indeed that opinions and requirements vary considerably. Just as views differ on what makes a good excavation report, this is probably an inevitable state, but it is possible to isolate a number of factors which contribute to the lack of consistency in publication.

### *5.3.1 Curatorial Policy and Enforcement*

Although direct evidence is lacking, analysis of the distribution of published sites suggests that some curatorial authorities are more rigorous than others in both specifying full publication and thereafter following this up to ensure compliance. The latter is an important point as in a number of local authorities curatorial services are under resourced and priority is naturally given to ensuring that appropriate conditions are imposed on planning applications in the first place. Following up on conditions granted many years ago to ensure that an appropriate report has been published will often be a lesser priority, and anecdotal evidence suggests that in some areas relatively little effort is devoted to ensuring publication once a typescript has been lodged with the HER.

### *5.3.2 Contractor Capability and Commitment*

As Bradley identified it is hard to escape the conclusion that a factor in determining whether a significant investigation is published or not is the capability and commitment of the contracting organisation responsible for the fieldwork. Some contractors devote considerable

resources to bring their projects to publication, others seemingly have less success. There are also doubtless examples of organisations tackling projects for which they do not have adequate resources, and whilst the fieldwork gets completed there is not sufficient expertise to bring the site to publication. One suspects that this is most common on excavations which turn out to have significantly more complex archaeology present than had been suggested by the evaluation. Some contractors accept their contractual responsibilities and see through projects to conventional publication even when this involves budget overspends, whilst others may be tempted to cut their losses at the typescript stage.

### *5.3.3 Financial Failure*

Some projects fail to reach publication owing to financial failure in one form or another resulting in insufficient funds being available to complete the analysis. This can take a number of forms. The financial failure of archaeological contracting organisations leading to winding up or insolvency is thankfully very rare, although it has happened. More prevalent is where the commissioning body, frequently a commercial developer, suffers financial failure during the post-excavation phase, and without funding being available archaeological contractors cannot hope to complete these projects. Overall gross financial failure is likely to be a relatively small factor in the non-publication of archaeological fieldwork.

### *5.3.4 Local Publication Policy and Availability of Outlets*

Even when a report has been prepared for publication it is by no means straight forward to secure a suitable vehicle for its dissemination. Some briefs state that reports should be published in designated journals (usually that of the established county society). However the editorial policies of these societies vary considerably and county journals do not exist simply to provide an outlet for reports generated by contract archaeology. Many journals seek articles that ensure a spread between disciplines (archaeology and history for instance); geographical coverage, and chronological period. There is no guarantee that a specific report will fit these criteria, even if the results are inherently interesting. There is also an increasing reluctance amongst some editors to publish 'long' excavation reports with detailed specialist reports. Substantial backlogs of material waiting for publication (three years from submission to publication is not uncommon) and the absence in some areas of a regularly-issued recognised journal (Berkshire and Lancashire for example) add to the complications. Nevertheless some contractors are clearly more successful at getting their reports published than others.

Overall the lack of consensus on what should be formally published, the difficulties of getting reports into print, and differing curatorial policies and levels of enforcement all combine to make the low level of publication of archaeological fieldwork understandable,

even if it cannot be viewed as acceptable. The delays in getting reports published are an impediment to the development of the discipline. Over 20 years ago Barry Cunliffe (1986, 32) considered that 'a four year period of research and preparation is adequate for the majority of excavations', and more recently the Highways Agency has stipulated on some contracts that all post-excavation tasks should be completed within two years of the completion of fieldwork (for instance Highways Agency n.d., 6.28). The analysis presented in Table 6 suggests that in many cases it is taking over five years for reports to hit the bookshelf.

## **6. THE WAY AHEAD FOR STAGE 2**

This report is only concerned with the results of Stage 1 of this project. When evaluating the results presented it is important to keep in mind that this is not a discrete project in its own right, but merely the first stage of a longer programme of research. The purpose of Stage 1 was very much to ascertain how much information could be obtained from a rapid national review of the evidence. It is unrealistic to expect Stage 1 to come up with startling or radical conclusions, although the scale of archaeological work on Roman England documented here will surprise many. Rather Stage 1 is the essential groundwork that will underpin the more detailed investigations proposed in Stages 2 and 3. This section of the report looks forward to Stage 2 of the project. Much space has been devoted in this report so far to methodological issues, and the effects that these have had on the results obtained. It is important, however, not to forget that the overall objective of this project is concerned with enhancing our knowledge and understanding of Roman Britain. This can best be achieved by switching the focus of the project, and working from the bottom up. That is to say by the direct review of specific reports of interest on a county by county basis, and using this information to enhance the knowledge base for specific regions, and ultimately the country as a whole. The data will have to be examined at this level if we want to answer many of the most pertinent questions, and ultimately assess the research dividend that has accrued for Roman Britain from the introduction of PPG 16. Regional analyses will allow us to look in more detail at areas which were previously thought to be weakly settled in the Roman period, and see how these perceptions have been changed by 15 years of developer-funded work (for instance in the Midland claylands where scores of new sites have been discovered in advance of development). Regional case studies of the impact of PPG 16 on the known density of Romano-British settlement have the potential to radically alter our views on the population of Roman Britain. Equally it will be pertinent to look at those areas which are still

blank or thinly settled in our period. To what degree does this relate to a lack of investigation, or could it reflect areas of forest or waste in the Roman period?

These and other questions will be tackled in Stage 2, the outline approach and methodology for which are as follows (full details will be contained in an updated project design). The data gathered during Stage 1 will be used to identify pilot areas for more detailed analysis. These trial areas will most probably consist of discrete local authority areas served by a single HER, and will be selected by reference to criteria such as:

- i) An unpublished grey literature which is both sufficient in size to make analysis worthwhile, but not so large that its study will be prohibitively resource-intensive;
- ii) A geographical spread between what in previous paradigms was described as the highly 'romanised' lowland zone and the less 'romanised' highland zone;
- iii) A spread between areas which have experienced considerable development over the last 15 years, and consequently a large number of mitigation excavations, and areas with comparatively lower levels of fieldwork;
- iv) An area where there appears to be a low quantity of conventional publication compared to the number of investigations identified in Stage 1;
- v) Areas which possess data derived from large-scale linear schemes (pipelines, roads, etc.). Analysis of these data against factors such as landscape, topography and soil quality might produce valuable information on varying levels of settlement density in different parts of Roman England;
- vi) A county or regional synthesis produced in the last decade or so against which to benchmark the contribution of grey literature, and a more recent regional resource assessment document; and
- vii) An enthusiasm on the part of the staff and managers of the HER for the project, and a willingness on their part to assist project staff.

One of the pilot areas will be Essex so as to complement another English Heritage sponsored project concerned with settlement hierarchies in Roman Essex being conducted by University College London. This project will investigate urban/rural inter-relationships through innovative synthetic approaches to excavated material culture and environmental assemblages. An assessment of the academic potential of grey literature generated by this project could therefore complement that study. If Essex is chosen it would seem appropriate to also include Colchester Borough HER.

Once the trial areas have been selected the methodology to be adopted will follow that used in Richard Bradley's prehistoric project (information courtesy of Richard Bradley and Tim Phillips). Data collection will involve a visit to the HER, using the AIP gazetteer to prioritise those reports that offer most potential. The reports will be reviewed, and those which appear to have particular value will be copied. In addition to visiting the HER it will

also be appropriate to visit the major archaeological contractors who work in the pilot areas to capture data not yet submitted to the HER. We would also undertake interviews with relevant curators/contractors so as to capture their extensive local knowledge. The data retrieved will be indexed in a simple database according to geographical location and the nature of the deposits reported. The latter will be categorised according to themes such as Iron Age/Roman interface; communications and infrastructure; military activity; urbanism; agriculture and land-use; religion; trade, industry and economy; material culture; environment, and settlement density. Once collated, the data will be reviewed against the themes and a synthesis produced. The contribution of grey literature will be assessed against existing county/national syntheses which have previously drawn solely or largely on traditional publications, and the relevant regional archaeological resource assessment and agenda.

A report will be prepared at the end of Stage 2 identifying the research contribution of grey literature against the series of themes. It is conceivable that an edited version of this section of the report might be suitable for formal publication. It will also provide methodological assessments, such as the cost-benefit of reviewing different types of record/type of intervention, and an assessment of the methodological strengths and weaknesses of grey literature within the study area. For example are artefacts, faunal remains and plant macrofossils routinely catalogued, quantified and reported to a sufficient standard to permit use in synthesis? How much useful information on these topics is contained in grey literature? The final section of the report will contain an assessment of the feasibility and potential to expand the project to cover the whole of England. This will include guidance on the optimum approach to be adopted at this level of study, and a preliminary assessment of the resources required to achieve it.

At the completion of Stage 2 further review will take place, but we are convinced that a further stage of research rolling out the project across the rest of England (and ideally Wales and Scotland as well) should follow. This will generate the national review of the research contribution of grey literature in the study of Roman Britain, the ultimate aim of this project. A suite of funding sources, and possibly collaborators, is likely to be required to achieve this final objective, and secure the formal publication of the results in an academic book.

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**APPENDIX 1: STAGE 1 METADATA INFORMATION**

|               |   |
|---------------|---|
| Title         | Roman Grey Literature Project Stage 1 Database  |
| Description   | The objective of the Roman Grey Literature Project is to assess the research potential of the grey literature in the understanding of Roman England. Stage 1 of the project addressed the grey literature of the whole of England, looking at questions such as: 'how many investigations are finding Roman remains, and where?'; 'are there any significant distributions in these remains, and if so why?'; 'what types of remains are being found?'; and 'how many of these investigations are reaching publication?'. The project database is based upon data from the Archaeological Investigations Project (AIP) based at Bournemouth University, which has been enhanced by Cotswold Archaeology with information on publications. It lists all of the investigations recorded by the AIP which found Roman remains, and is searchable through queries such as type of investigation, location, publication and name. Two further stages are envisaged for the project, looking at smaller areas of the country in more detail |
| Subject       | Suggested keywords for the subject content of the Roman Grey Literature Database: Roman; Research; Publication; Cotswold; Archaeology; Grey; Literature   |
| Coverage      | England   |
| Creators      | Lead project team: Cotswold Archaeology and Department of Archaeology, Reading University<br>Project associates: School of Conservation Sciences, Bournemouth University<br>Project funding and content control: English Heritage   |
| Publisher     | N/A   |
| Identifiers   | Cotswold Archaeology Project Number 2205  |
| Dates         | Original data set compiled by AIP team, Bournemouth University 1995-2007. Roman Grey Literature Project Stage 1 Database created April-July 2007  |
| Copyright     | Cotswold Archaeology 2007   |
| Relations     | Archaeological Investigations Project, School of Conservation Sciences, Bournemouth University. Online at <a href="http://csweb.bournemouth.ac.uk/aip">csweb.bournemouth.ac.uk/aip</a>  |
| Language      | English   |
| Resource type | Processed data  |
| Format        | Microsoft Access 2000; MapInfo Professional v7.5  |