

REVUE ARCHEOLOGIQUE DE PICARDIE

N° spécial 17/1999 - 390 Frs
60 Euros

Actes du colloque international d'archéologie aérienne

AMIENS, 15 - 18 octobre 1992

Hommage à Roger AGACHE

pour 35 ans de prospections aériennes dans le Nord de la France

Jimmy
Glibent

ROYAL COMMISSION ON THE HISTORICAL MONUMENTS OF ENGLAND

A NATIONAL MAPPING PROGRAMME FOR ENGLAND

Robert BEWLEY *

Résumé

Plus de 50 ans de photographie aérienne ont apporté une somme considérable d'informations sur les sites archéologiques et les reconnaissances actuelles en fournissent toujours plus. Pour obtenir le maximum d'informations à partir de photographies aériennes, un programme national de cartographie (NMP) a été mis en place par la Commission royale des Monuments historiques d'Angleterre (RCHME). Ce programme s'est développé à partir de projets de cartographie des anomalies de paysage des hautes plaines du Yorkshire et de quatre projets pilotes créés conjointement dans les années 80 par la Fondation pour le Patrimoine. Ces projets cartographieront les comtés du Kent et de l'Hertfordshire et deux zones archéologiquement importantes : la vallée de la Tamise et les vaux du Yorkshire. Cet article fournit l'historique du NMP et expose les résultats de deux des quatre projets pilotes : l'Hertfordshire et les vallons du Yorkshire.

Abstract

Over fifty years of aerial photography have added an enormous amount of information about archaeological sites and current reconnaissance continues to provide more. So that the maximum amount of information from aerial photographs can be obtained a National Mapping Programme (NMP) for England has been developed by the Royal Commission on the Historical Monuments of England (RCHME). This programme has developed from projects which mapped the cropmarks of the Yorkshire Wolds and four pilot project areas, jointly funded with English Heritage in the 1980s. These projects mapped the counties of Kent and Hertfordshire and two archaeologically important areas, the Thames Valley and the Yorkshire Dales. This paper provides a background to the National Mapping Programme and presents the results of two of the pilot projects, Hertfordshire and the Yorkshire Dales.

Zusammenfassung

Mehr als 50 Jahre Luftaufnahmen haben einen bedeutenden Informationsschatz für archäologische Stätten und zu deren Wiederentdeckung beigetragen. Um ein Maximum an Informationen von den Luftaufnahmen zu erhalten, wurde von der königlichen historischen Denkmal-Kommission in England ein nationales Kartographieprogramm (NMP) eingerichtet. Dieses Programm beschäftigt sich mit kartographischen Projekten der Landschaftsabweichungen in den hohen Ebenen von Yorkshire bis hin zu 4 Pilotprojekten, die in den 30er Jahren gemeinsam mit der Kulturgutstiftung gegründet wurde. Diese Projekte decken die Gegend von Kent und Hertfordshire sowie zwei archäologisch bedeutende Gebiete, das Themsetal und die Yorkshire Täler ab. Dieser Artikel zeigt die Geschichte des NMP und stellt die Resultate von 2 der 4 Pilotprojekten vor.

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INTRODUCTION

The conference (Archéologie aérienne Colloque d'Amiens) in October 1992 was a tribute to the success of aerial photography for archaeology in Europe. A major feature of the papers was the presentation of the numbers of sites which have been discovered in European countries over the past sixty years. The work of Roger Agache was rightly praised and the publication of his *Atlases* (AGACHE and BRÉART 1975) provided a clear message that finding sites is not enough. Taking photographs from an aeroplane is the beginning of the process of aerial archaeology, but aerial archaeologists are failing in their duties if this information is not disseminated. This view is not new, and in England the making of maps depicting archaeological information from aerial photographs is already a priority within the Air Photography Unit (APU) of the Royal Commission on the Historical Monuments of England (RCHME). As the paper by Featherstone in this volume shows, there is a need to co-ordinate aerial reconnaissance throughout the country, and similar approaches exist in Wales and Scotland (BEWLEY 1993). There is also a need to develop a programme for mapping the results of the reconnaissance at an appropriate scale. To meet these needs a National Mapping Programme has been initiated and the rest of this paper will describe its background, aims and objectives and methodology; the sections by Victoria Fenner and Peter Horne detail the methodology and some of the results. Tables 1 and 2 list the current projects within the National Mapping Programme; pilot projects in Kent and Hertfordshire have been completed. The mapping and recording phase of the Yorkshire Dales and Thames Valley Projects has been completed and new projects have been started in Lincolnshire, in the New National Forest in the midlands, in the Marches Uplands in the mid-west of England and in the Howardian Hills in North Yorkshire.

BACKGROUND

The RCHME is the national body of archaeological and architectural survey and record for England and similar organisations exist for Scotland and Wales, RCAHMS and RCAHMSW, (see abbreviations list). A Royal Warrant, granted in 1908 and revised in 1964 and 1992 charges the RCHME with the creation, curation and promotion of the National Monuments Record (NMR). Information obtained about sites discovered by aerial photography will be recorded in the National Monuments Record (NMR). Archaeological information in the NMR has developed from the Ordnance Survey (OS) records cards, which were computerised in the 1980s to form the National

Archaeological Record (NAR); from April 1994 the NAR will be based in Swindon, Wiltshire.

For over fifty years archaeological aerial photographs have been accumulating in a number of libraries throughout England. The two major sources, the RCHME's National Library of Air Photographs (NLAP) and the Cambridge University Committee for Air Photography (CUCAP), together hold over 900,000 prints. Each year more aerial reconnaissance takes place adding new information to this enormous resource (see Featherstone, Gilman and Griffith this volume).

Ever since a Matter of Time was published by the RCHME in 1960, the threat to all archaeological sites, and to cropmarks in particular, has been well known. In the 1970s and 1980s RCHME projects covering the Yorkshire Wolds, Dartmoor, and Shropshire were instrumental in formulating a basic methodology for mapping at 6" and 1/10,000 scale (RILEY, 1985). Since then discussion has focused on the way in which information from aerial photographs can be mapped, interpreted and classified. Projects in the Danebury area of Hampshire, the Trent Valley in Nottinghamshire and the Welsh Marches in Hereford and Worcester and Shropshire, made a major contribution to the study of aerial photographs (fig. 1). The results were published by the RCHME (PALMER, 1984, WHIMSTER 1989). From 1983 onwards the RCHME was aware that the ongoing enhancement of the NAR needed to be augmented with the information contained on aerial photographs.

The introduction of English Heritage's (EH) Monuments Protection Programme (MPP) required further understanding of this material. From 1988 to 1992 English Heritage financially assisted the RCHME through the NAR and APU with four pilot projects in order to achieve an agreed strategic and systematic approach for the whole country. From these four pilot projects, in Kent, Hertfordshire, the Thames Valley and the Yorkshire Dales, a methodology for mapping at 1/10,000 (or 1/10,560) scale was devised. This included work by NAR staff using the OS first Edition maps of the mid-nineteenth century to create archaeological records and the development of a computerised classification system, currently known as MORPH (EDIS *et al.* 1989). Updated records for Kent and the Yorkshire Dales, were transferred to the respective local authorities in 1989 and 1992 (fig. 2).

There were two major stimuli for a programme of mapping. The first was the requirement to enhance the NAR and the second was English Heritage's (EH) need to identify those cropmark sites worthy of protection as part of their Monuments Protection Programme (MPP). The ini-



Fig. 1. The counties of England since 1974, subsequently revised in 1998.

tial pilot projects, which began in 1987-1988, were all designed in close consultation and co-operation with the NAR, English Heritage and the relevant county-based Sites and Monuments Records (SMRs) (fig. 1). The combined needs of the local SMRs, EH and the RCHME are central to the way in which the final product, consisting of 1/10,000

scale translucent overlays and the database, has been designed. Since 1989, the RCHME has had a responsibility for co-ordinating the enhancement of SMRs, known as the SMR Lead Role. This has meant that a national record which contains the information from aerial photographs has to be consistent across the country for regional and

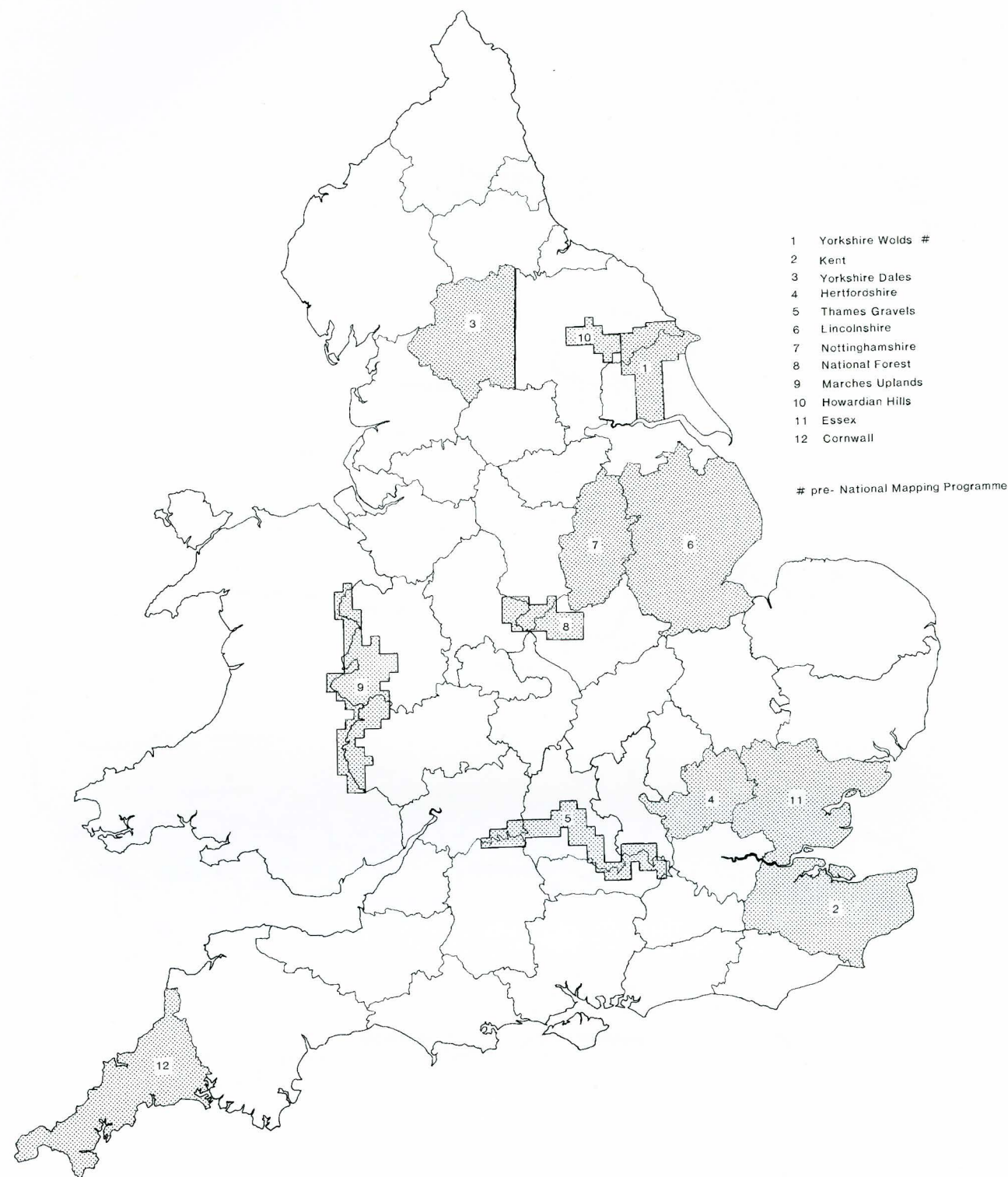


Fig. 2. NMP Projects completed or in progress in 1993-1994.

national overviews, in addition to the knowledge which is available at the county level. With the introduction of the Department of the Environment's Planning Policy Guideline No. 16 (PPG 16), there is an increased need for up-to-date records. PPG 16 provides a framework for evaluations and assessments on archaeological sites in advance of property developments with a presumption for preservation in situ initially (BAKER and SHEPHERD, 1993, GRENVILLE 1993). Detailed and

searching questions are being asked about the location and form of archaeological sites in England so that they can be protected or understood. Current estimates show that approximately 20 % of all archaeology sites are known only from aerial photography, yet less than 10 % of the country has been mapped according to a standard, consistent methodology, although the percentage is increasing annually (fig. 2).

AIMS AND OBJECTIVES

The purpose of RCHME's National Mapping Programme is to interpret, map at a scale of 1/10,000 and to classify all information from aerial photographs that falls within the RCHME's sphere of interest. This included all cropmarks and earthworks from prehistoric times up to 1945, including industrial archaeological remains. The cropmark and earthwork evidence will be classified using the MORPH system (EDIS *et al.* 1989) so that regional syntheses of site types can be compiled. For each project there will be a **report** identifying and quantifying monuments belonging to those classes of sites which are already known, for example henges, Roman forts and long barrows, as well as defining new classes of site from the MORPH classifications and interpretations. The definition of new classes is based on a number of criteria which includes location, shape and size. The project reports will be the basis for deciding on the need for further surveys and protection strategies for the project area.

There is a total of 5,444 maps at 1/10,000 scale for the whole of England and the aerial photographic information for each one will be examined in conjunction with the existing NAR and SMR records. Copies of the overlays will be available for consultation in the NMR and in county SMR offices. Records will be assimilated into the new NMR MONARCH database.

ORGANISATION AND RESOURCES

The RCHME's Air Photography Unit has two offices, the head office is in Swindon in central southern England and a northern office in York. The programme will be divided into a number of projects based either on whole counties or parts of counties which form natural geographical regions, for example Lincolnshire, the Thames Valley and the Howardian Hills in North Yorkshire. There are two elements to the organisation of the National Mapping Programme; **internal** RCHME projects, divided between Swindon and York (Table 1), and **external** projects funded by RCHME (Table 2). There are fifteen RCHME staff whose core tasks involve NMP work but who also have a range of others duties including aerial reconnaissance and higher level photogrammetric survey (RCHME 1992).

CONCLUSIONS

A set of guidelines for the NMP, detailing the methodology for the whole programme is currently being prepared and will be available on request from the APU. Elements of the mapping and recording methodology are detailed in the following sections by Fenner and Horne. Before any project can begin there has to be a quantification of the number of aerial photographs which exist for the project area. The quantifications are based on the

PROJECT	START DATE	END DATE (mapping and record)	REPORT WRITING*
Howardian Hills (15)	August 1993	January 1994	Jan-March 94
Lincolnshire (192)	May 1992	October 1995	Oct 95 - March 96
Marches Upland (76)	May 1993	April 1994	April -Aug 1994
National Forest (31)	November 1992	August 1993	Sept 93 -Jan 94
Thames Valley (58)	Nov 1987	April 1993	Sept 93 - March 94
Yorkshire Dales (136)	January 1989	April 1992	Sept 93 -March 94

Tab. 1 : RCHME INTERNAL PROJECTS 1993-1994. Numbers in brackets (15) indicate number of maps.

* The lengths of time for report writing are only approximate as they depend on the scale and nature of the project area and the archaeological sites discovered. Relocation to the National Monuments Record Centre (April 1994) will affect the exact timing.

Tab. 2 : RCHME EXTERNAL PROJECTS 1992-1993 and 1993-1994.

PROJECT	START DATE
Cornwall	1993/4
Essex	August 1993
Lincolnshire Fens	1992/3
Northamptonshire	1993/4
Nottinghamshire	1992/3

number of photographs (verticals and obliques) for each 1/10,000 sheet. Quantification assessments for 15 counties have been completed and these will provide a good base for timetabling the whole programme. From the information currently available and with current resources and methodologies it has been estimated that England's National Mapping Programme will be complete by 2008.

For any particular project, a project specification is drawn up once the quantification assessment has been made. Each specification conforms to a standard layout which details the extent of the project area, previous work in the area, the sources to be used, the standard set of conventions to be used, and the proposed costings and timescale.

Finally, there is the question of "why does this have to be done now?" As mentioned earlier there are million of oblique aerial photographs in libraries in England, many of which have never been examined for their archaeological contents. The county and district local government administrative structure is under review, and a co-ordinated record of information will be fundamental if the local safeguards, currently carried out at district and county and level are to be maintained in any new structure. The information contained on aerial photographs is an important component of the archaeology of England, especially now that archaeological protection and preservation is a significant factor in archaeology in the United Kingdom (BAKER and SHERPHERD, 1993). The maps and archaeological records which are created during the NMP will be disseminated to the national, regional and local authorities for use in defining future surveys and management strategies.

All the papers relating to the RCHME, involving aerial reconnaissance (R. FEATHERSTONE) and England's National Mapping Programme (R. BEWLEY, V. FENNER and P. HORNE) were written in 1993 and have not been changed. Since 1993, aerial

reconnaissance has continued to develop in England (see FEATHERSTONE *et al*, 1999) and the National Mapping Programme has completed 15 projects (in total) with five still ongoing (in Cornwall, Essex, the Lambourn Downs, Northamptonshire and the Vale of York). For further information see BEWLEY 1998a and b, and RCHME 1998, p. 20, and RCHME 1999. Individual reports, available on request via the National Monuments Record, have been produced for each project. On April 1st 1999, the RCHME was merged with English Heritage and all correspondence should be addressed to English Heritage, NMRC, Great Western Village, Kemble Drive, GB - SWINDON, SN2 2GZ. The York office's new address is : English Heritage, 37 Tanner Row, GB - YORK YO1 6WP.

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