

The background of the entire cover is a vibrant, abstract painting of a landscape from an aerial perspective. The land is divided into numerous irregular, colorful patches of yellow, orange, red, green, and blue, suggesting different types of terrain or vegetation. A small church with a dark, pointed steeple is visible in the middle-left area. In the upper right, a biplane is depicted in flight against a cloudy sky. The overall style is impressionistic and expressive.

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

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AERIAL ARCHAEOLOGY IN ESSEX (GREAT BRITAIN)

Paul J. GILMAN *

Résumé

L'expérience du Service de l'Archéologie du Conseil du comté d'Essex démontre que, pour obtenir les meilleures performances, les prospections terrestre et aérienne doivent se combiner. On peut utiliser les résultats obtenus pour établir des projets de recherche, de classification et de protection. Notre travail a aussi démontré que la prospection aérienne peut apporter une contribution très utile dans diverses régions. À vrai dire, le littoral ne constitue pas la limite du domaine de l'archéologie aérienne.

Abstract

The work of the Essex County Council Archaeology Section shows that, to obtain the best results, aerial and terrestrial survey must be combined. These results can then be used in the formulation of projects for further research, classification, and preservation. Our work has also shown that aerial survey can make a valuable contribution in many areas, indeed the realm of the aerial archaeologist does not merely stop at the coast!

Zusammenfassung

Die Erfahrungen des Archäologischen Rates des Herzogtums Essex zeigt, dass mit der Kombination von Land-und Luftaufnahmen die besten Ergebnisse erzielt werden können. Die daraus gewonnen Resultate werden verwendet um Forschungsprojekte zu erstellen, wie Klassifizierung und Erhaltung. Unsere Arbeit soll auch aufzeigen, dass die Luftprospektion für verschiedenen Regionen ein äusserst nutzbringender Beitrag sein kann, denn Luftaufnahmen enden nicht an der Küste!

THE COUNTY OF ESSEX

Essex is a large county in the south-east of England, immediately to the north-east of London (fig. 1). The county is bounded by the River Thames to the south, the Stour to the north, and has a very long, indented coastline. One of the consequences of this geographical location is that Essex has always been exposed to contact with and influence from the continent, especially via the Thames. The county is low-lying, almost entirely below 100 m. Although the pattern of land-use is still largely that of arable farming, since the 1950's there has been a great expanse in urban development, particularly in the south and south-east of Essex.

In terms of drift geology, the west and north of the county are covered by extensive deposits of

glacially deposited boulder clay, with lighter deposits where the boulder clay plateau has been cut by river valleys. In the east and south, there are wide gravel terraces alongside the river valleys and estuaries (ALLEN and STURDY 1980). This distribution of course has a major influence on the discovery of sites from the air.

HISTORY OF AERIAL ARCHAEOLOGY IN ESSEX

The first aerial archaeological surveys of the county were conducted by Professor St Joseph, of the Cambridge University Committee for Aerial Photography. Subsequent flights by CUCAP, the Royal Commission, and by various local flyers, resulted in the discovery of hundreds of archaeological sites.

Aerial archaeology has had particular impact on our understanding of the later prehistoric periods. Because Essex has been farmed intensively for such a long period, relatively few earthworks have survived which are pre-medieval in date. The sur-

* Essex County Council,
Planning Division
Environmental Services Directorate
County Hall
GB - CHELMSFORD ESSEX CM1 1QH

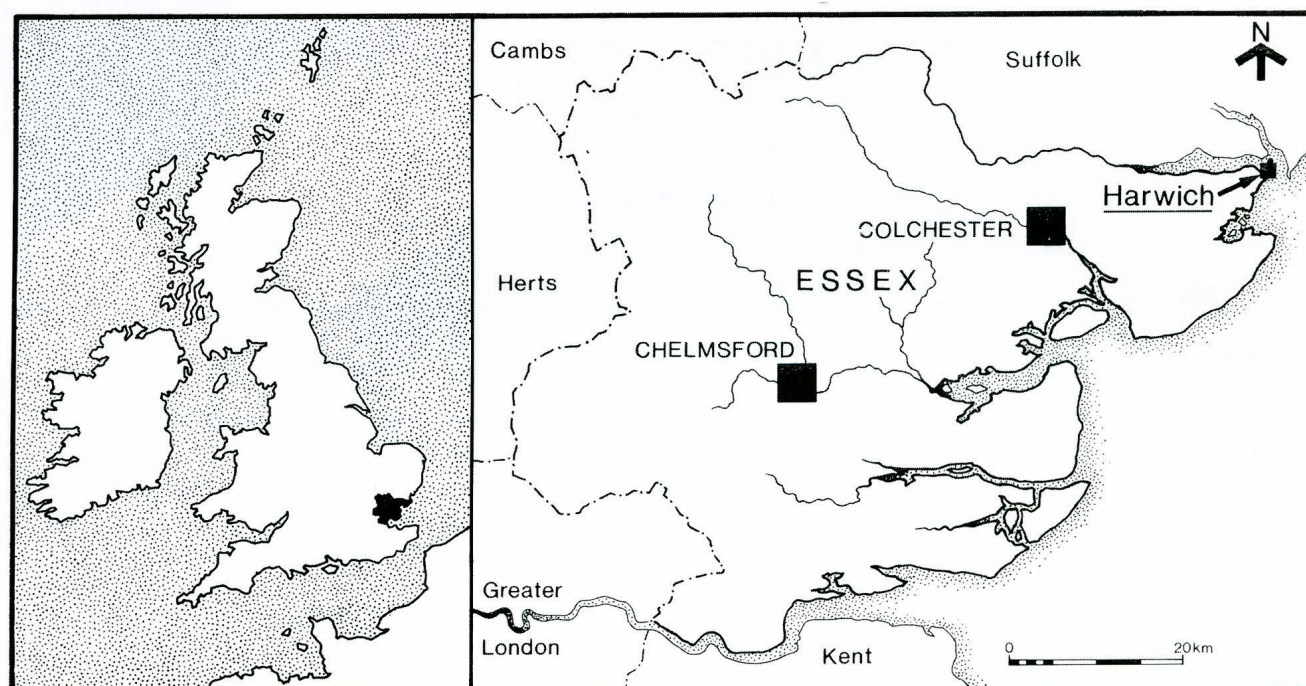


Fig. 1 : location of Essex.

vival of prehistoric earthworks, such as barrows, is especially poor. Therefore, prior to the work of aerial archaeologists, knowledge of the later prehistoric periods consisted in the main of chance finds and discoveries during development. Aerial survey changed all that, with the discovery of later prehistoric religious, funerary, and settlement sites.

Examples include : the Orsett Neolithic Causewayed Camp (HEDGES and BUCKLEY 1978); the Neolithic Cursus at Springfield (HEDGES and BUCKLEY 1981); the Late Bronze Age enclosure at Springfield Lyons (HEDGES and BUCKLEY 1987); and the Woodham Walter complex of Iron Age enclosures (BUCKLEY and HEDGES 1987).

Aerial archaeology has also made a valuable contribution to the study of later periods, important discoveries including the Iron Age and Roman settlement and religious complex at Gosbecks, near Colchester, and the multi-period complex at Mucking (CLARK 1993, HAMEROW 1993). Unfortunately, the situation of most of the gravel terraces which lead to their discovery, has also resulted in the destruction of many by quarrying, and also by development.

ESTABLISHMENT OF ARCHAEOLOGY SECTION

As a response to the increasing threat posed by development to archaeological sites, Essex County Council established an Archaeological Service in 1972. This threat has grown and indeed is still present, despite the current economic recession. The Section now consists of over 30 qualified

archaeologists who provide a full archaeological service, including development control, excavation, survey, post-excavation, illustration and publication. In order to fulfil these various tasks, the Section maintains a record of all known archaeological sites and finds in the county, the Sites and Monuments Record.

SITES AND MONUMENTS RECORD

The Sites and Monuments Record consists of various elements. There is a computerised database, a set of maps on which archaeological sites and finds are marked, supporting documentation and illustrations, published sources, and an extensive collection of photographs, many of which are aerial photographs. All cropmark sites are sketched plotted onto overlay maps and rectified plots are produced for complex sites. At present, the record contains over 15000 items. They range in date from the palaeolithic to the fortifications from the Second World War, and in extent from single finds to large cropmark complexes covering many hectares.

ROLE IN DEVELOPMENT CONTROL

The Sites and Monuments Record is the fundamental source of information for the archaeology of Essex and is therefore the basis for all of the work carried out by the Archaeology Section. The Archaeology Section has a development control team which monitors all planning applications for their implications for archaeological sites. They provide specialist advice to planning authorities, which are mostly situated within District Councils.

This advice may be that there should be archaeological evaluation prior to a decision on a planning application, or that there should be excavation or a watching brief, or even that the application should be refused. To fulfil this important task, it is essential that the Sites and Monuments Record should be as comprehensive and up-to-date as possible. Therefore, the Archaeology Section carries out surveys, especially aerial surveys, to discover new sites. These surveys may relate to particular large development projects, or may cover areas where development is anticipated in the future.

RECENT RESEARCH PROJECTS

North-West Essex

One of the most significant developments of recent years was the expansion of Stansted Airport, in north-west Essex. This had consequences for the immediate area affected by the construction work, but has also resulted in a number of development projects related to the growth of the airport. These include major housing developments and infrastructure improvements, such as road schemes. All of these projects present serious threats to archaeological sites, known and unknown. Furthermore, as a result of the increasing number of flights in and out of Stansted, it is becoming more and more difficult to carry out aerial survey in this part of the county. The Archaeology Section has, therefore, been giving special attention to this area in its pro-

gramme of aerial survey. This is important because archaeological fieldwork at the airport itself and in other parts of the area, has demonstrated that this area was extensively settled from the later prehistoric period onwards (BROOKS and BEDWIN 1989).

North-West Essex is not very promising for the aerial archaeologist, largely consisting as it does of boulder clay plateau, which does not normally show cropmarks. However, recent dry summers, especially in 1989 and 1990, have resulted in the discovery of new sites, both in the river valleys, and also even on the boulder clay plateau itself. These sites include monuments of various types, e.g. ring ditches, enclosures, and some interesting one such as the example shown in fig. 2. This site includes a minor Roman road, a small square enclosure, perhaps a mausoleum or a temple, and a series of large pits, perhaps burials or Saxon huts. This project shows that even the most unpromising of areas has potential when conditions are right.

Brightlingsea

The Brightlingsea peninsula contains numerous cropmark sites. One of the most important was excavated recently in advance of its destruction by gravel quarrying. The site was a group of small ring ditches which had been thought, because of their small size, to be the remains of Saxon barrows. However, excavation showed that in fact



Fig. 2 : cropmark complex found in the north-west of Essex.

the site was a Bronze Age barrow cemetery. Because much of this area is threatened by gravel extraction, the Archaeology Section carried out a survey to attempt to identify settlement sites contemporary and perhaps associated with the cemetery. The survey recovered many thousands of flint artefacts, and it is hoped that with the use of statistical analysis, concentrations can be identified which mark the settlement sites.

THE PROBLEM OF CLASSIFICATION AND PROTECTION

After surveys are completed new sites are added to the Sites and Monuments Record, and particularly good examples are published. For several years the Archaeology Section has been addressing the problems of the classification and interpretation of cropmark sites. On the Sites and Monuments Record, enclosed sites are classified according to their shape, e.g. rectangular, square or circular enclosure. However, the dating and interpretation of particular classes of sites can be difficult. A first attempt was made in a paper published several years ago which assessed the evidence from excavated enclosures (PRIDDY and BUCKLEY 1987). It was possible to assert that circular enclosures were most likely to be prehistoric in date, i.e. Neolithic or Bronze Age. The situation with other types of enclosure was much more problematic, for example, various enclosures have been dated by excavation to the Late Bronze Age, but they are all different in shape!

A closely related problem to classification is that of protection. Although the Sites and Monuments Record contains over 13000 entries, the number of Scheduled Ancient Monuments, i.e. those sites which enjoy legal protection, is only about 180. Furthermore, of the 3000 or so cropmark sites in Essex, only 11 are Scheduled. English Heritage has begun a Monuments Protection Programme to increase and improve the Schedule. However, cropmark sites have so far received little attention.

The Archaeology Section is therefore keen to improve our understanding of cropmark enclosures. As well as the excavations which arise in the course of rescue archaeology, some categories of site have been sampled by means of small scale excavation. A recent example of this concerns a class of enclosures thought to be the remains of Neolithic long barrows and/or mortuary enclosures, all of which survive as cropmark sites. To date, one of these enclosures has been sampled, and the evidence from the excavation, combined with the results of a fieldwalking survey, confirmed that the site was indeed Neolithic in date (BUCKLEY

et al 1988). Similarly, a section was cut across a circular enclosure, which was thought, by analogy with other sites, to be Late Bronze Age in date. The Section hopes to be able to sample many more of the various enclosure classes in future, and is seeking financial assistance from English Heritage.

Since 1993, the Archaeology Section, with the financial assistance from the Royal Commission on the Historical Monuments of England has been carrying out a project to reassess and reclassify all of the county's cropmark sites. As a result it should be possible to put forward a more objective definition of classes of sites. Using this as a basis, recommendations for scheduling and further research can then be proposed.

INTER-TIDAL ZONE

One of the most exciting recent developments in aerial archaeology in Essex has been the realisation that this kind of survey can make a valuable contribution to the discovery of sites in the inter-tidal zone. This realisation was prompted by the discovery, by a local boatman, M. Ron Hall, of an extensive series of timber structures at Collins Creek in the Blackwater Estuary (fig. 3). Aerial survey revealed the true extent of the structures (some of the alignments are over 1 km long), which are only visible for short periods at very low tides (fig. 4, 5). This was followed by site visits and two samples were taken for radiocarbon dating. The results were surprising: one sample dated to the 7th century AD, the other to the 9th. This initial work has been followed by further survey, with funding from English Heritage, including aerial survey by the Cambridge University Committee for Aerial Photography, and ground survey by the University of East London. It is possible that there may be several phases of activity, some of which may be prehistoric. At present, it is thought that most of the structures represent the remains of Late Saxon fish traps. If this is true, there are fundamental implications for our understanding of the political and economic organisation of society at this time. Briefly, whoever caused these fish traps to be built was able to coordinate and maintain large building projects and, in this example, must have been catching a lot of fish!

As a result of this discovery, the Archaeology Section, with the aid of a grant from the Royal Commission on the Historical Monuments of England, has carried out a series of flights over other areas of the Essex coast. The result was the discovery of a very large fish trap near Mersea Island (fig. 6), and the rediscovery of another fish trap near Bradwell-on-Sea (CRUMP and WALLIS 1992). This was previously known from the work of

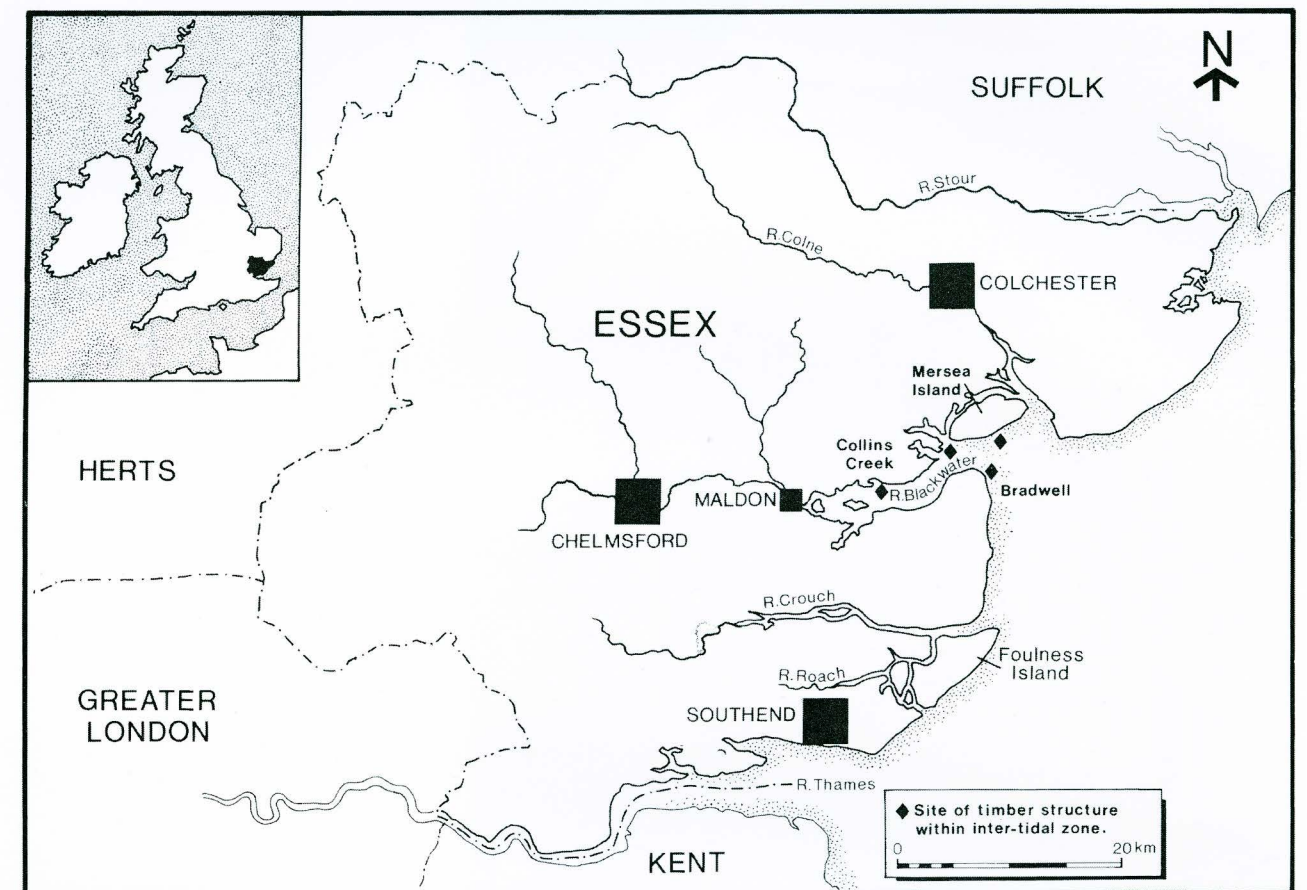


Fig. 3 : map showing location of recent inter-tidal discoveries in Essex.



Fig. 4 : timber structures at Collins Creek, Blackwater Estuary, Essex.



Fig. 5 : timber structures at Collins Creek, Blackwater Estuary, Essex.

a local archaeologist, but the flights have revealed more of the site. Several more fish weirs have been discovered in subsequent flights and more radiocarbon dates have been obtained (STRACHAN, 1998). The dates are similar to those obtained from Collins Creek and indicate that there was a sizeable Saxon fishing industry around the Blackwater Estuary.

Although this project is still in its infancy, it has already provided encouraging results. It has also shown the problems of this kind of flying. The flights must coincide with the lowest tides and these may occur very early in the day when the light is poor. Also, even at low tides, parts of some structures may still be under water and difficult to see. Even when a structure is found, it may be necessary to observe it from different angles to record it fully and obtain the best photographs.

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Fig. 6 : fish trap near Mersea Island, Essex.

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