AGGREGATES LEVY SUSTAINABILITY FUND

ALSF annual report

2002-2003

The first year of the ALSF

Illustrations from three of the wide-ranging and exciting projects funded during the first year of a two-year pilot scheme: Lynford Quarry, Norfolk *(top)*; Listening Mirror at Denge, Kent *(left)*; and the Maelmin Heritage Trail, Northumberland.

ENGLISH HERITAGE

FOREWORD

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English Heritage warmly welcomed the announcement of the Aggregates Levy Sustainability Fund in April 2002 and Defra's invitation to help develop and deliver the two-year pilot scheme. The ALSF gives us and our colleagues across the historic environment sector a golden opportunity to work in partnership with the aggregates industry to reduce the impact of aggregate extraction on the historic environment. We also welcome the opportunity afforded by the ALSF to work with our partner agencies, in particular English Nature and Countryside Agency, to foster integrated approaches to complex conservation issues raised by the impacts of aggregates extraction.

As this report shows, English Heritage has been able to support a wide range of excellent and innovative projects during the first year of the pilot scheme. We have been able to secure the conservation of important but vulnerable sites, monuments and landscapes, and to advance knowledge so that future aggregate extraction will have the minimum impact upon the historic environment. In all this, we have taken care to ensure that the projects we fund will deliver the benefits of better understanding and greater enjoyment of our heritage to the broadest possible audience.

It has been a bonus that the first year of the ALSF has coincided with English Heritage taking on responsibility for the marine historic environment. We have been able to extract added value from ALSF by supporting a number of important projects that meet both the priorities of the ALSF and our strategic agenda for maritime archaeology.

None of this would have been possible without the vision and dedication of our partners and colleagues in local government, commercial organisations, universities, the voluntary and independent sector, and the aggregates industry who have put so much energy and ability into designing and delivering a remarkable suite of projects. I should like to join all my colleagues within English Heritage to thank everyone who has helped to get the ALSF scheme off to a flying start.

Simon Thurley
Chief Executive
English Heritage

INTRODUCTION

The Aggregates Levy Sustainability Fund (ALSF) was introduced as a two-year pilot scheme in April 2002 to provide funds to help address the environmental costs of aggregate extraction. English Heritage, along with English Nature and the Countryside Agency, is a major distributor of the fund on behalf of Department for Environment, Food and Rural Affairs (DEFRA).

The English Heritage ALSF scheme aims to reduce the impacts of aggregate extraction on the historic environment. We will support projects to develop the knowledge, understanding and appreciation of sites, monuments, building and landscapes that have been, or may be in the future, affected by aggregate extraction. For the pilot scheme we have encouraged applications in three key areas:

1. *Projects which will deliver reliable predictive information and techniques to enable planning authorities and the aggregates industry to minimise the impact of aggregates extraction on the historic environment in future.*

2. *Projects which will increase the understanding and dissemination to both local communities and wider public and professional audiences of knowledge gained from past work undertaken on aggregate extraction landscapes. Such work will also help develop capacity to manage such landscapes in future.*

3. *In partnership with English Nature and the Countryside Agency, the targeted buying-out of old mineral permissions for the benefit of the long-term management and sustainability of the historic environment.*

We can also consider financial assistance towards the excavation, analysis or dissemination of unforeseen archaeological remains encountered during developer-funded excavation in advance of aggregate extraction provided normal planning procedures, especially those set out in PPG16, have been adhered to. However, we cannot entertain any application that might result in the ALSF supporting work which should be carried out by the industry as part of its normal obligations under the planning process.

Finally, we see education, outreach and community access as vital components which should be built in to all projects we fund whenever possible.

Response to the announcement of the English Heritage ALSF scheme has been so great that the pilot scheme was closed to further applications in November 2002. This first annual report highlights the achievements of the pilot scheme in its first year during which time we have been delighted to support such a wide range of excellent projects.

Brian Kerr
ALSF Policy Lead
English Heritage

Ice wedge clast in gravel section at Nosterfield, Ure Valley, North Yorkshire

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RESOURCE MANAGEMENT

Assisting the planning process

A number of our ALSF projects set out to improve the quality of information on the historic environment available to local authority curators, and will help them to make better-informed decisions about the impact of aggregates extraction proposals.

The Hertfordshire Mineral Local Plan Review is designed to produce an enhanced historic environment characterisation for proposed areas of mineral extraction in Hertfordshire. These will be considered at a Public Inquiry. At present, the information on the proposed areas is heavily biased in favour of one or two that have been the subject of archaeological fieldwork. The aim of the project is therefore to ensure that the historic environment character of the potential extraction areas is adequately considered in the Public Inquiry.

The characterisation will build on the existing Hertfordshire historic landscape characterisation project by adding digital layers of ancient boundaries, routes and buildings onto a GIS. This information is being taken from old maps, including estate maps. This will enable an holistic characterisation which includes buildings, historic boundaries, historic routes and archaeology.

The Forest of Dean in Gloucestershire contains landscape features known as Scowles. These consist of linear hollows closely following the outcrops of the limestones that ring the central Forest area. The Scowles are vulnerable to quarrying for aggregates and the **Scowles Survey** aims to provide a better understanding of the archaeological potential of these unique features in the face of quarrying pressures.

Many of the Scowles are canyon-like features with significant exposed rock faces. They can be many metres in depth and lead to deep underground cavities. Scowles have long been interpreted as the visible remains of early open-cast iron mining. Recent geological research, however, has suggested that these features are essentially an ancient cave system in which iron ore deposits formed through the precipitation of iron rich water. Later geological activity exposed the cave systems leaving a landscape of deep hollows and exposed rock surfaces not dissimilar to that which can be seen today. Although this theory does not alter the Scowles' status as a resource for early iron ore in the area, it raises significant questions about earlier attempts to quantify the extent of the pre-modern iron

Recording Scowles in Lydney Park, Lydney

© Gloucestershire County Council

Scowles at Scowles village, near Coleford

Scowles at Puzzle Wood, Clearwell

industry in the area based on estimates of the amount of iron ore they produced.

The project has a very strong outreach element. This includes workshops for members of local historical or archaeological organisations, the production of a newsletter widely distributed in the area and work in local schools. It has also contributed to large public events such as Forest Archaeology Day that was run as one of the events forming part of National Archaeology Day. The project team works closely with Forest Enterprise, the main landowner in the area, to ensure that they have up-to-date information on archaeological sites on their land, allowing them to take full account of these when planning future management operations in the Forest.

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EDUCATION AND OUTREACH

Broadening audiences and widening understanding

In recent years almost every agenda-setting document for the historic environment has stressed its immense value as an educational resource. English Heritage has endeavoured to ensure that educational and community value form part of all our ALSF projects.

The core objective of the EH fund is to mitigate the impact of aggregate extraction, in part by increasing the dissemination of knowledge about the historic environment that has, and is being gained, through work undertaken during extraction. As such almost all ALSF funded projects include some elements of outreach and education work making it impossible to describe all the exciting and wide ranging work taking place in a short article. The following project summaries demonstrate the range and scope of this work.

The **London before London Gallery** is the Museum of London's new gallery that tells the story of the Lower Thames Valley in prehistory from the arrival of the first hominids around 400,000 years ago to the founding of Londinium in the mid First century. The role of the aggregates industry in increasing our knowledge of the prehistory of greater London in embedded in the gallery, which contains over 1500 items, many of them from excavations that took place in advance of gravel extraction. The display itself seeks to use a fresh design approach to engage the public, and in order to encourage people to think beyond the artefacts to the people who used them, the captions are often written in a semi-poetic style.

Museum of London's new gallery

In contrast to the huge Museum of London project, the small **Malton Museum** in Yorkshire has grasped the opportunity presented by the ALSF to improve and set up a permanent gallery with disabled access. This will provide an opportunity for a wide audience to learn of the rich and varied archaeology in this aggregate bearing area, as well as providing a vehicle for the development and presentation of new educational and outreach resources, including a travelling exhibition, a web site, and curriculum linked resources for schools.

In 2000 the University of Newcastle constructed an archaeological heritage trail next to the medieval town of Maelmin at the south side of Milfield village. The trail is located on a gravel terrace that has been severely degraded by gravel extraction at the adjacent Cheviot Quarry site. The **Milfield Public Outreach Project** aims to develop this resource further, in order to make the archaeology of the region more accessible to the public and educational groups. The trail itself will be developed through the design and production of additional information boards and a map board at the site entrance, and hurdling will be purchased to complete the reconstruction of the Milfield North Henge based on Prof. Anthony Harding's excavations. The site is free access and is open all year and volunteers will be invited to help in the site enhancement and maintenance activities.

Disseminating the archaeological and environmental past of this nationally important historic landscape to a wider audience is a key priority that stakeholders in the region are keen to advance. A popular archaeology book, a guidebook of walks, additional copies of the Maelmin schools' packs and a promotional leaflet will also be produced as part of the project.

The Maelmin initiative has a wide support base and active support has been forthcoming from the academic community, the local community, local business, local schools, Northumberland National Park Authority, Forestry Enterprise, BG Transco, BBC,

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Main picture: Leading a guided walk at Welton-le-Wold. Inset: Welton-le-Wold open day

Berwick Borough Council, Northumberland County Council, English Heritage and the European Union amongst others. The positioning of an archaeological heritage trail in this rural setting is seen as a strategic opportunity to assist in safeguarding local jobs associated with the tourist and leisure industries.

Finally, a brief word on a project that is seeking to enhance the archaeological and geological resource of the former sand and gravel quarry at **Welton-le-Wold, Lincolnshire**. The quarry ceased to operate in the mid-1970s leaving an area of extraction of approximately 50 hectares. The project proposes to enhance and develop the quarry as a regional educational resource for individuals and groups in all areas of formal and informal education, as well as visitors and local residents. In order to do this the project will both re-evaluate the archaeological material previously assembled from the site, and re-assess and further investigate the context of these finds though coring and geophysics. In addition a series of community and schools based events such as open days have been devised to enhance immediate and long-term intellectual access to the resource and disseminate information about the resources at the quarry in a clear and accessible form.

© Newcastle University

School children from Hotspur School, Newcastle helping to construct the hurdled interior of a reconstructed henge at the "Maelmin Heritage Trail", Milfield

COMMUNITY PROJECTS

Participation and involvement

One of the main selection criteria for projects receiving ALSF funding throughout the two year pilot scheme has been that they be of demonstrable benefit to local communities.

The projects outlined below demonstrate the broad scope of community based projects, from industrial archaeology in the North, to pre-historic landscapes in the South, and from the Pleistocene (Ice Age) to the canal archaeology of the Midlands.

In June 1969, English China Clays (now Bardon Aggregates) purchased land next to Poole Harbour. Planning permission for gravel extraction was granted in 1991 and because evaluation had implied there was little archaeology on the site only a known Roman site was subject to planning conditions. With this in mind a group of volunteers from the Wareham and District Archaeology and Local History Society was asked to conduct a watching brief. **The Bestwall Project** began in 1992, and over the years some stunning archaeology from a period of over 7000 years has been uncovered. Although the earliest activity on the site belongs to the Mesolithic it is the evidence for Bronze Age activity that is of exceptional quality. This consists of ditches, pits, and structures, including a number of roundhouses indicating an organised and largely self-sufficient agrarian community. A large pottery assemblage, much of it possibly manufactured on site, was recovered, and the indications are that pottery manufacture continued to be of great importance into the Roman period, after which the area was largely devoted to agriculture until the beginning of quarrying.

Since 1992 over 160 volunteers have been involved with the work making this one of the largest volunteer led projects in Britain. In January 2003 it was announced that the project had been successful in a bid to the ALSF. The money is being used to prepare the excavation results for full publication, revamp the web site and produce a mobile exhibition.

At the other end of the country the **Alderley Sandhills Project** run by the University of Manchester is also involving the local schools and community, as well as catering for student participation and training and the interested public throughout field and laboratory stages of data collection.

From c.1750 BC to AD 1920, copper, lead and cobalt were mined at the site, which lies south of Manchester at Alderley Edge. In the 1850s an acid-leaching process to extract copper from the ore was developed, from which the waste sand steeped in hydrochloric acid was dumped in such quantity that the area became known as Sandhills. The sand was re-used in the 1930s as an aggregate for road building in Manchester and again in the 1960s for building the first section of the M6 and the runway at Manchester Airport.

Above: Edna Younger with a toy she lost as a child living at Hagg cottages. Right: On-site digging at Sandhills. Below: Hagg cottages, Alderly Edge early in the twentieth century

© British Waterways

Pike Lock, Stonehouse. Built c.1777, Pike Lock forms part of the Eastington flight on the Stroudwater Navigation. The chamber is lined in brick, with stone capping and stone quoins to the ends and the gate recesses. It has been restored, but is not working and water is held back by a dam at the top end of the lock

This project aims to gain new perspectives on the landscape, focusing on two themes, the transformations of domestic life and consumer culture over the Industrial Era, and the transformations in the natural and cultural landscape brought about by local intensification of extraction industries from 1750 AD. The programme will also conduct international comparative research into the effects of industrial extractive industries on cultural and natural landscapes. The local community networks have provided the basis for the outreach schemes which include the on-going public delivery of results through museum displays, visitor pamphlets, on-site signage and a web-diary.

In the Midlands the **Shotton Project** is an exploration of the Ice Age landscapes of the area and the early humans who occupied them more than half a million years ago. The need to create a Palaeolithic (Old Stone Age) network in the Midlands has become apparent since the death of Professor Fred Shotton. For more than 50 years Shotton maintained a regional network of enthusiastic local people who worked with the quarry companies to discover and record the Pleistocene geology and archaeology of the Midlands. With the death of Professor Shotton much of the momentum of this research was lost. The Shotton Project is again working with quarry companies and their employees, archaeologists, palaeontologists, geologists, local societies, museums and schools to recreate a network dedicated to systematic and regular monitoring of sand and gravel workings for finds and deposits of significance, while investigating and promoting interest in the Palaeolithic. This grouping, working in the counties of Herefordshire, Leicestershire, Rutland, Shropshire, Staffordshire, Warwickshire and Worcestershire, is known as the Midlands Palaeolithic Network.

Remaining in the Midlands, the ALSF has also contributed funds to the Cotswold Canals Partnership, a range of public and voluntary sector organisations, aiming to restore to full navigation two famous eighteenth-century inland waterways, the Stroudwater Navigation and the Thames & Severn Canal, known collectively as the **Cotswold Canals**. Aggregate extraction in the area has had, and will continue to have, a very marked impact on the setting of the canal and the water table in the area. Specifically ALSF funding has contributed to several development studies that are critical to the sensitive restoration of the canals, in particular the heritage survey that examined the architectural history of the canals, the copious documentary archives and the surrounding archaeology.

Professor Fred Shotton (1906-1990), who dedicated much of his long life and varied career to the study of the Pleistocene (Ice Age) geology, archaeology and environment of the Midlands. Below: Shotton Project activities

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UNEXPECTED DISCOVERIES

Unexpected discoveries found during PPG16 conditioned development

Funding provided for unexpected archaeological discoveries of strong regional or national importance, discovered during development where the planning process as set out in Planning and Policy Guidance 16 (PPG16) was followed.

The nature of archaeology means there are always going to be unexpected discoveries. Therefore there continues to be the need to support the unforeseen discovery of nationally significant archaeology on extraction sites, where all parties have undertaken all reasonable evaluation and mitigation actions arising from the planning process.

One of the first projects to receive ALSF funding was the Middle Palaeolithic site at **Lynford Quarry** in Norfolk. The site, a palaeochannel filled with organic material containing *in situ* mammoth remains and associated stone tools, was buried under bedded sands and gravels and discovered during an archaeological watching brief in February 2002. Such sites are very unusual in Europe and exceedingly rare in Britain and as such Lynford was identified as being of international importance. Subsequently Norfolk Archaeology Unit began excavation in early April 2002.

The archaeological deposits contained more than 2000 bones including skull fragments, tusks, antlers and teeth of mammoth, woolly rhinoceros, reindeer, horse, bison, wolf, red or arctic fox, and brown bear, together with a further 25,000 smaller fragments of material. Coprolites (fossilised dung) and bones with gnaw marks from scavengers, possibly spotted hyena were also recovered, as were bones from smaller animals such as frogs and beetles, many of which are no longer found in this country. More than 500 worked flint artefacts including a large number of handaxes were found; the majority of which were relatively fresh and sharp suggesting they were largely deposited *in situ*.

The exceptional quality of the data is enabling researchers to throw light on the environment towards the end of last glaciation, and hominid land-use, behaviour and organisation. Preliminary results suggest the channel was a shallow, open body of water with stands of vegetation and patches of bare sands along its margins. Hominid activity at the site appears to have involved a mixture of butchery and scavenging activities. The possible butchering of kills of medium-size animals may be suggested by the green fractures on reindeer and horse bones, and suspected cut marks on others. Scavenging of anatomical elements from dead mammoths is perhaps indicated by the general absence of complete limb bones in the assemblage. Numerous mammoth skull fragments recovered from the channel may also indicate the extraction of edible fat and brain from the heads of otherwise disarticulated and decomposed carcasses.

Below left: The site at Lynford, viewed from the east. The quarry can be seen in the background
Below right: Cleaning mammoth tusks and tooth

© Essex County Council

An example of highly decorated early prehistoric pottery from Lodge Farm, St Osyth

Carcass processing is also suggested by the large number of handaxes associated with the bones within the channel, and the apparent orientation of the lithic assemblage towards the final shaping of handaxes and the production of flake tools on-site for immediate use.

A second active quarry which has secured ALSF funding is **North Park Farm, Bletchingley** a sand quarry owned and managed by WBB Minerals Ltd and located to the south of the North Downs, in East Surrey. In 2001 a new quarry extension, subject to an archaeological scheme of work secured by a planning permission condition, was opened. Archaeological recording by Surrey County Archaeological Unit indicated a multi-period site, although it was the earliest evidence, a series of Mesolithic pits, that was to prove the most exciting.

The pits were of considerable interest and importance as deliberately dug pits of this date are rare, but their significance was greatly enhanced by the identification of a buried soil containing Mesolithic material within a topographic hollow. This was an entirely unexpected discovery, clearly of potential national importance and thus ALSF money was secured to further evaluate the hollow and establish the potential of the site. The primary aims of the fieldwork were to determine the origin and character of the layers within the hollow, to assess preservation of the fossilised biological remains, and to establish the duration and nature of Mesolithic activity. Assessment of the data collected is still in progress, but preliminary results suggest the area was visited repeatedly from around 8000BC to around 4500BC and used for fires and/or cooking and flint working.

Finally, we look at the Neolithic at **Lodge Farm, St Osyth, Essex** where Essex County Council's Field Archaeology Unit unexpectedly uncovered part of a large causewayed enclosure prior to aggregates extraction. Although much of the archaeological work on the site was undertaken as a developer (J.A. Lown and Sons) funded PPG16 project, the range and density of features turned out to be far higher and more exceptional than could have realistically been expected. The previously unknown enclosure was yielding an impressive quantity of decorated pottery and flint work, and although little excavation work has been carried out on causewayed enclosures in East Anglia their role as places of ritual and communal activity is well known. As such the quality of the information being recovered from the site was judged to be of significant importance, and ALSF funding was secured to complete the excavation and assessment work.

© Surry County Council

A general view of hollow containing the mesolithic material, with North Downs in background

DISSEMINATION

Analysis and publication

Prior to the introduction of PPG 16, many aggregates extraction sites were excavated without adequate resources for analysis and publication. A number of these are being taken forward through the ALSF, but with an emphasis on outreach to the communities that were affected by the extraction.

Understanding the East London Gravels will assess the research potential of a series of archaeological rescue excavations which took place during aggregate extraction on crop-mark sites in East London between 1963 and 1999. Most of that work predated the implementation of PPG16 and remained unanalysed and unpublished. The assessment, by the Museum of London Archaeology Service and Essex County Council Field Archaeology Service, will consider evidence for long-term change in settlement landscapes, economic systems and cultural identities in what is an important and under-studied region, some of which is at risk from further aggregate extraction. The assessment of this substantial archive will also lead to dissemination of publicly accessible results, making the research relevant to a variety of narratives.

The sites included in the project can illustrate the landscape development on the gravel terraces of East London. This will allow broad discussion of cultural themes apparent in the evolution of a settled landscape and of farming practices in the estuarine Thames from the third millennium BC to the seventeenth and eighteenth centuries. The project will result in the definition of a research agenda for the archaeological study of the East London landscape, and the consolidation and completion of archaeological archives from important sites. It will provide a detailed assessment of the potential of the individual excavations, supported by an updated project design for the analysis and publication of archaeological results.

As part of the assessment, The University of York will consult user-communities to determine how the archaeological resource is perceived and to develop local partnerships. A chief object of the exercise is to broaden the reach and range of archaeological reporting, and to close the gap between expert and non-professional interests. A marketing exercise will be aimed at identifying user-communities and establishing a strategy for their engagement in the project. For example local schools currently exploit past extraction sites in teaching geography and geology, but their activity sheets do not include reference to the history or archaeology of the sites. One of the main objectives of the project is the publication of a popular account, *The making of Estuary England: archaeological landscapes between London and Essex*. This will be based on findings from the selected sites, and will also summarise results from other projects to provide a vivid impression of what it was like to inhabit the London basin from the Palaeolithic through to the coming of Rome.

Project results will be developed to offer contributions and links for local- and community-based web sites. Each contribution will be structured in relation to the specific requirements of the audience involved, as well as providing links to the London Archaeological Archive and Research Centre (LAARC) web-based resources. The project team will also generate hard copy for locally-based newsletters, magazines, the local press and special user groups such as schools, museums and libraries.

For many archaeologists any mention of **Gwithian** in Cornwall is synonymous with the discovery of ancient ploughmarks, unique beaker houses and rare “dark age” pottery found during the heyday of amateur archaeological fieldwork throughout the

A beaker house at the Gwithian site

© Worcestershire County Council

© Cornwall Archaeological Unit

Left: An Iron Age round house during excavation at Beckford.

Right: Beaker pottery and a bone stamp from Gwithian

1950s and early 1960s. Indeed the exceptional preservation of successive ancient land surfaces uncovered during some 20 years or more of archaeological fieldwork and excavation and found sealed beneath the undulating sand dunes - the towans – within this extraordinary landscape has ensured Gwithian a special place within British Archaeology. This was a comprehensive study of a unique landscape which was undertaken with scholarly flair and innovation by Charles Thomas and which became a model of archaeological enquiry for its day. The project sought to chart the historical evolution and changing character of human settlement and land use from the Mesolithic period to the medieval period and revealed a wealth of evidence – the prehistoric plough and spade marks, houses and dark age pottery being just a few of its highlights. Over 60 sites of all periods were examined in an area of some 4 sq. miles during the period 1949 to 1963. While interim statements and short articles presenting some aspects of the work at Gwithian appeared at regular intervals throughout the years – the entire results of project have never been collectively synthesised and published.

The scope of this project is a comprehensive revisit to the results of this singular campaign of archaeological work in order to carry out an overall appraisal and recommend how the results of this work may reach a wider audience. The main product will be an indexed, audited and assessed archive. This work is being carried out by a team from the Cornwall Archaeological Unit, Historic Environment, Cornwall County Council.

Finally, ALSF funding is allowing us to complete analysis of two important excavations of Middle Iron Age settlements, at **Beckford** in Worcestershire, and **Spratsgate Lane, Somerford Keynes** in Gloucestershire.

Many other projects have produced leaflets, handouts, and popular publications, one of the first being *25 years of archaeological reserach on the sands and gravels of Heslerton*, produced as part of the **Characterising, Modelling and Managing the Buried Landscape in the Vale of Pickering** project.

© English Heritage

Dominic Powesland's book on the archaeological research on the sands and gravels at Heslerton, North Yorkshire

MARITIME ARCHAEOLOGY

New research into assessment, evaluation and potential

The launch of the ALSF coincided with the transfer of responsibilities for England's maritime archaeology to English Heritage. This has allowed us to support an exciting range of projects that will help us to build capacity and increase understanding in the face of growing development pressures that include marine aggregates extraction.

Wrecks on the Seabed is an important project that will provide the aggregates industry, regulators and contractors with guidance on the archaeological assessment, evaluation and recording of wreck sites. Using both geophysical and diver-based techniques, the project is addressing three levels of investigation, field assessment, non-intrusive evaluation, and rapid *in situ* recording.

The methodologies are being developed on a sample of known (but generally unidentified) wreck sites off the coasts of Hampshire and Sussex. The wrecks themselves, which include both metal and wooden-hulled vessels and aircraft were selected from an initial list of forty-four sites.

Geophysical investigations included sidescan and magnetometer surveys, and diving investigations using surface-supplied divers equipped with video, digital still cameras and underwater tracking have all taken place in Year 1, while in Year 2, further diving and detailed magnetometer, sub-bottom and multibeam surveys are planned.

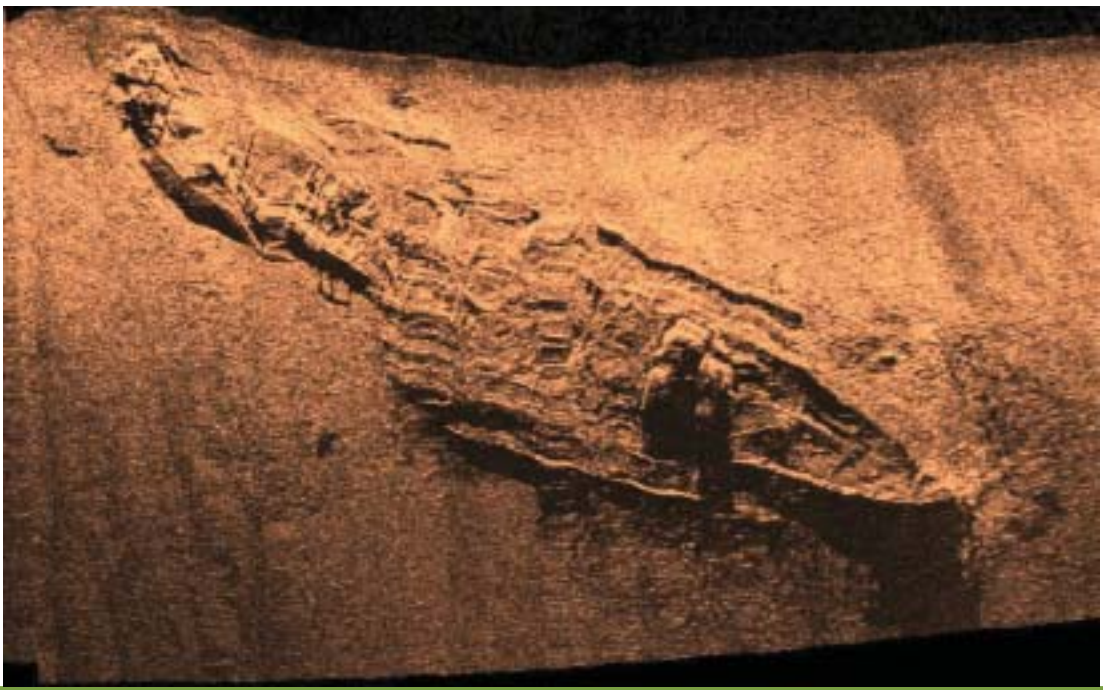
The aim of the **England's Shipping** project is to collate documentary information about past shipping patterns in a readily accessible format to facilitate the assessment of maritime archaeological potential.

Effective assessment of archaeological potential within areas of proposed development is crucial to issuing the appropriate curatorial advice and mitigation strategy. This project recognises the biases in the data commonly used to gauge the potential for shipwrecks in the course of Environmental Assessment of marine aggregate dredging and is seeking to redress the balance. Sources investigated include wreck data, lists of recorded losses ("shipping casualties") and charts of navigational hazards, most of which relate principally to wrecks lost since the early 1700s. There are however also very extensive documentary records of shipping dating back to the Medieval and Early Medieval periods although this information is not so easily accessible.

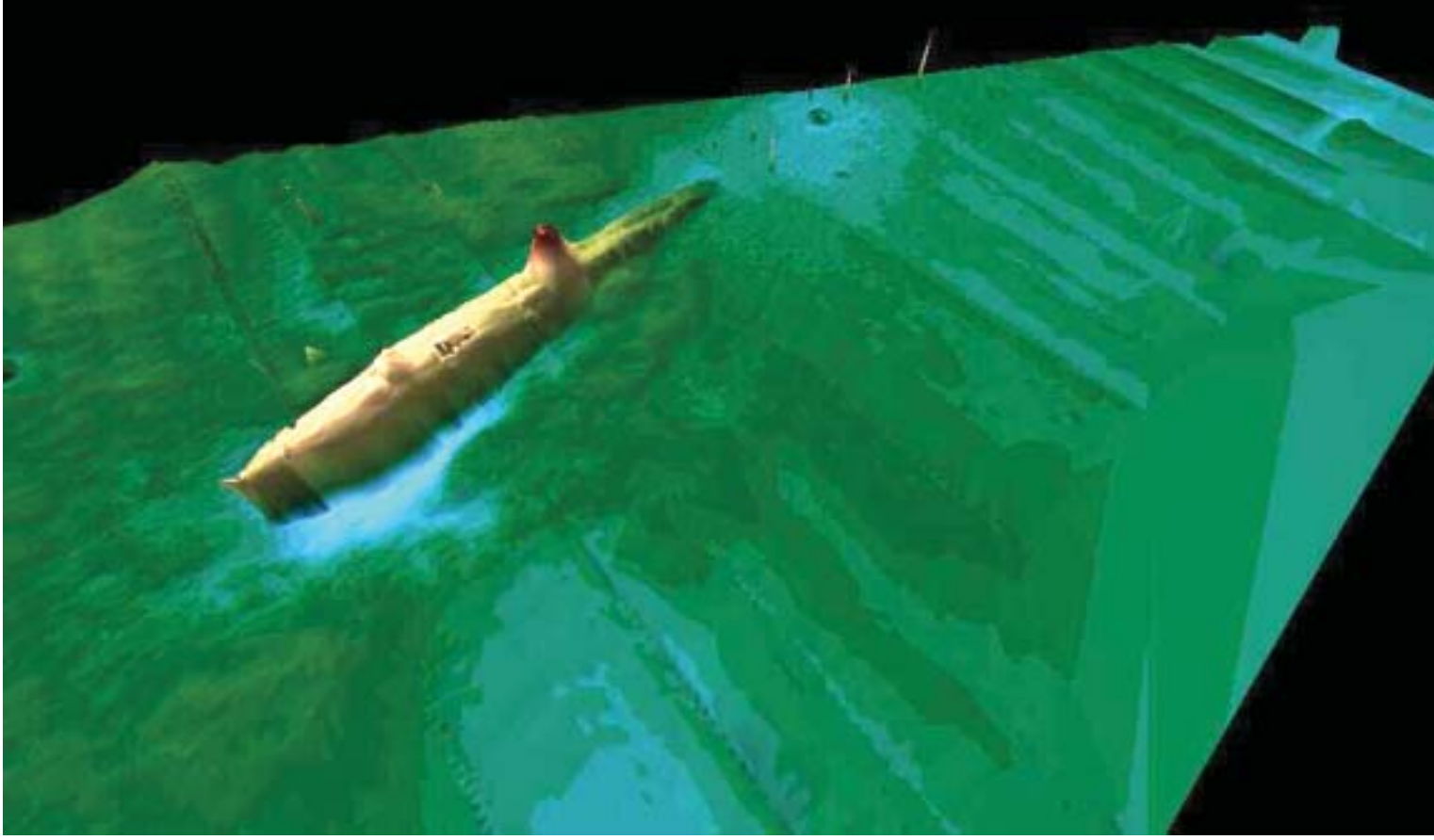
The project has developed a database for recording information about individual voyages. Records are currently being entered from port books and Admiralty log abstracts, and the GIS element of the project is being developed. The intention is to produce a digital atlas that can be made available through local and national records to increase awareness of the pattern, character and importance of England's shipping.

A third maritime project, **Artefacts from the Sea** is collating information arising from previous discoveries of artefacts from the sea

The pilot areas for "Artefacts from the Sea"



Side scan sonar image of the wreck site of the Devon Coast - Wrecks on the Seabed project



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Reson Multibeam bathymetric survey of the A1 submarine, surveyed as part of the Wrecks on the Seabed project

in a manner that improves understanding, conservation and appreciation of the marine historic environment.

The project is addressing find spots and related records at sea and on the coast, up to high water/cliff top, but encompassing a wide enough area to include relevant records with imprecise grid references. Although prompted by previous studies of early Prehistoric material, the project encompasses all pre-Modern artefacts from the sea (other than wrecks), to allow a fuller understanding of the context of marine finds.

The project again arose from the experience of preparing Environmental Assessments to accompany marine aggregate licence applications. This experience clearly indicated the value of considering records of artefact findspots from adjacent coastal and marine areas in assessing potential.

In the first year of work attention was directed towards documentary sources, the National Monuments Record (NMR), and to local authority Sites and Monuments Records (SMRs). As well as developing a project recording system, two case study areas were selected – namely the Solent-Sussex coastline and the Humber-Tees coastline – based on the availability of records, proximity to dredging areas, and known areas of archaeological potential. In the second year it is the intention to further enhance findspot records, and to include data arising from artefacts held in museum and private collections.

An acoustic track of a diver over a multibeam image of a wreck site - from Wrecks on the Seabed

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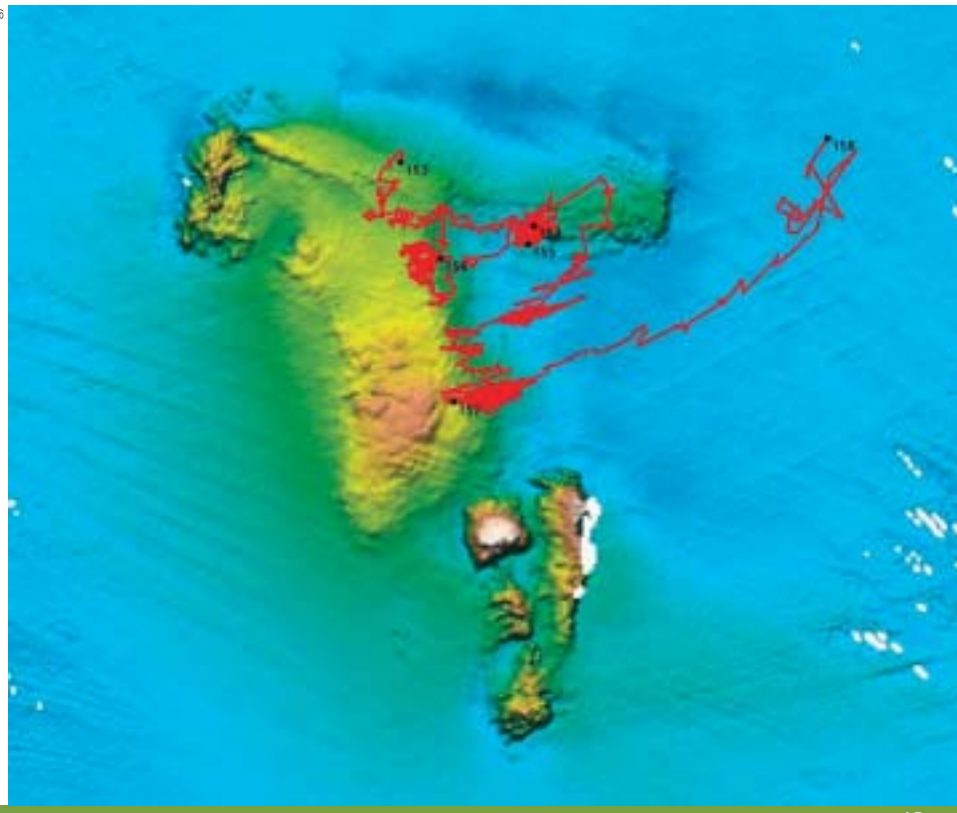

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Wessex Archaeology ALSF "Wrecks on the Seabed" project team deploying a Reson multibeam 8125 sonar head from EMU Surveyor

RIVER PROCESSES

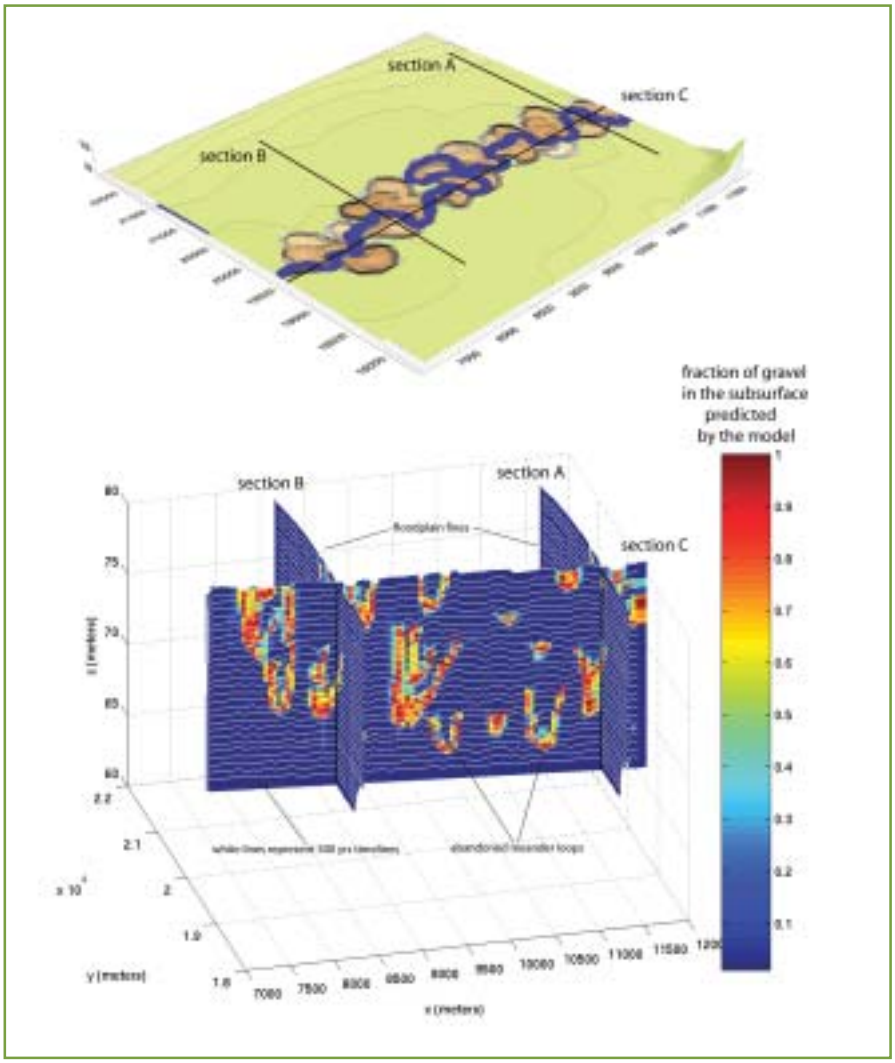
...Their implications for archaeology

Modelling river behaviour in time and space and understanding the relative importance of fluvial processes has important implications for understanding archaeological deposits.

River valleys are dynamic environments in which archaeological evidence may experience enhanced preservation, destruction or reworking as a consequence of local variations in river behaviour. Deposits in the floodplain may provide a record of both the channel position and the adjacent micro-environments that were available for exploitation by past human populations. Similarly, movement of the channel through time or episodic flood events may erode and rework archaeological and palaeoenvironmental deposits.

Modelling the Stratigraphy, Geoarchaeology and Aggregate Resources of English Valley Systems aims to enhance our understanding of the changes occurring in river valleys using computer simulations of flooding, erosion, and sedimentation patterns to explore how valley deposits are created and modified by human activities and climate change. It focuses on the Upper Thames Valley and draws on the wealth of extant data concerning archaeological sites and their past environments. The project aims to explain the origins of landform change, in particular the potential impacts of land-clearance on sedimentation patterns and flood frequency in valleys. It also seeks to examine the implications of such change for erosion, burial and visibility of archaeological remains.

The project will use the modelling technology to produce an animated sequence illustrating erosion, alluviation and river channel change over time that can be used for education and outreach purposes. Finally, it will provide model-based analysis of the factors that determine the burial depth of aggregates: potentially of interest to both the archaeological and aggregate-producing communities.



River Valley landforms and stratigraphy created by the CHILD landscape simulation model

The archaeology within river valleys and floodplains may be obscured by considerable depths of alluvium laid down over decades, centuries or millennia as a consequence of periodic flooding events. One such situation is found in the lowland Vale of York, being addressed in **Alluvial Archaeology in the Vale of York**. Glimpses of archaeology suggest the Vale may have been extensively settled from at least the later Iron Age (c. 2,000 years ago) and that its resources were being exploited as early as the Mesolithic (c. 7,000 years ago). However, there is generally a paucity of information concerning the prehistoric and historic archaeology of the Vale which is in stark contrast to the amount available for both the City of York and the surrounding upland areas.

This project will first establish the spatial distribution of the known archaeology in the Vale below the 25m contour by collating extant data-sets within a GIS. Layers relating to the geology, geomorphology and hydrology of the area will be incorporated, allowing questions concerning how these factors interrelate with

Late Iron Age roundhouses excavated near Easingwold, Vale of York

both the visibility and preservation of archaeological sites to be addressed. The information can then be used to create an initial model of the processes and chronology of the development of the Vale, concentrating initially on the area lying within North Yorkshire and the City of York. The data held within the GIS will also be developed as a resource and research tool accessible to archaeological curators and local authority planners.

Within-channel processes are also important for understanding how the archaeological record has been formed and, consequently, whether sites are representative of human activity or natural processes. The majority of archaeological data for the British Lower and Middle Palaeolithic (*c.* 500,000 years to 40,000 years BP) comprises stone tools recovered from deposits that were laid down within river channels. Given this fact it is likely that most, if not all, of these stone tools have been reworked by river action.

The Archaeological Potential of Secondary Contexts seeks to establish an interpretative framework for studying this enigmatic archaeological resource. The project involves integrating extant published data with that derived from the reassessment of antiquarian collections of artefacts, experimental work looking at the movement and abrasion of stone tools in river beds and dating sediments within channel sequences to determine the time-depth of their deposition. In particular, it seeks to establish whether discrete events can be identified and dated within sequences or whether the assemblages must remain jumbles of artefacts providing crude evidence for the earliest human occupation of England.

Middle Pleistocene river terrace sands and gravels at Pratt's New Pit Broom, Dorset, UK a typical secondary context for reworked Lower Palaeolithic stone tools

RIVER VALLEY FRAMEWORKS

Development of research frameworks

The valleys of the Trent and its tributaries have been, and continue to be, one of the highest aggregate producing areas of England. Two large-scale, multi-stranded projects are based in the area, both of which seek to develop research frameworks for synthesising the past, present and future archaeological evidence recovered as a consequence of aggregate production.

The first project, **Trent Valley Survey 2002**, covers the whole of the Trent Valley corridor, from Staffordshire to Lincolnshire. The project is being co-ordinated by Nottinghamshire County Council and carried out by Trent Valley GeoArchaeology. This group comprises individuals and organisations - archaeologists, geologists, aggregate producers, environmental and statutory bodies - involved in the study of archaeology and palaeoenvironment of the Trent Valley. The project aims to develop research into the archaeology and past environments of the River Trent and its tributaries and to make the results of that research available to a wide audience.

The objectives of the project are to:

- *enhance the Sites and Monuments Record capabilities in the curatorial organisations within the Trent Valley corridor.*
- *develop predictive models for the location of well-preserved archaeological/ palaeoenvironmental deposits.*
- *develop capabilities to characterise the historic environment of the Trent Valley and contribute to wider environmental management programmes and initiatives.*
- *expand the current localised use of innovative techniques for the evaluation and management of archaeology to the whole of the Valley system.*
- *assess the effectiveness of current approaches used to examine and manage the archaeological resource in the Trent Valley.*
- *synthesise, and make accessible, the results of research in the Trent Valley up to 2002.*

One of the intended products of the project is an internet-accessible, GIS-based risk map

Palaeochannel and ridge and swale features around the Trent/ Derwent confluence, plotted on rectified aerial photographs overlaid on OS base map

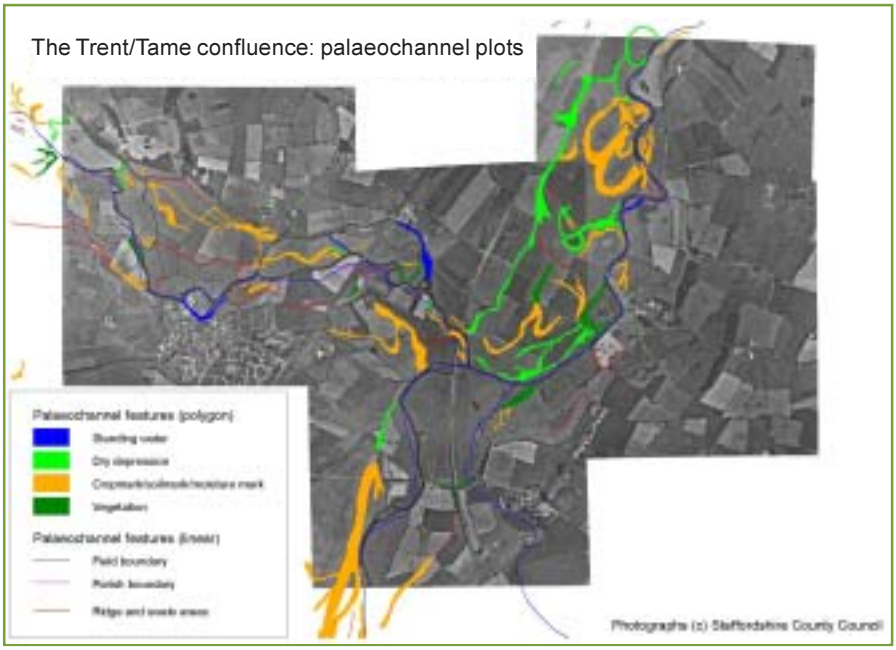
that will allow stakeholders to access information concerning the likely presence and preservation potential of archaeology at a particular location.

Where Rivers Meet: Landscape, Ritual, Settlement and the Archaeology of River Gravels focuses on a study area of 72 km^2 centred on the confluence of the Trent and Tame rivers in Staffordshire. Intensive quarrying in the study area has resulted in numerous archaeological discoveries, the earliest being a pagan Anglo-Saxon cemetery discovered in a sand-pit over 100 years ago. More recently, in 2002, an assemblage of large mammal remains was found that provided information about the environment of the area between approximately 30,000 and 50,000 years ago: the bones included specimens of woolly rhinoceros, reindeer, horse, mammoth and wolf. Recovery of these unexpected remains, which are of national importance, was facilitated by an additional ALSF grant awarded by English Nature.

Archaeological excavations conducted as part of the planning process outside the quarried areas have also yielded a wealth of information concerning ritual, domestic and economic activities dating from the prehistoric to post-medieval periods. For example, the area contains burials and monuments of the Neolithic and Early Bronze, farmsteads and fields of the Iron Age and Roman periods and an entire Anglo-Saxon settlement.

The multi-facetted project aims to:

- *synthesise the archaeology of the study area for all periods and reconstruct their contemporary environments: this information will be disseminated to both the academic and general interest communities.*
- *construct 3-D computer models showing how the river valleys have changed through time: this will involve collating multiple lines of evidence including LiDAR, GPR and borehole data.*
- *predict the location of well-preserved archaeologically-sensitive deposits based on these models.*
- *assess the impact of quarrying on archaeological remains, past, present and future, including the effects of de-watering.*
- *provide a systematic assessment of the archaeological importance and state of preservation of archaeological 'sites and monuments' within the study area.*



Where Rivers Meet - The project focuses on the confluence of the Trent and Tame rivers in Staffordshire

A key product will be a management plan for the historic environment of the study area. This will allow both planners and aggregates companies to integrate future archaeological work into extraction and restoration programmes in the most efficient and cost effective manner.

Augering in the Trent Valley

LANDSCAPE EVOLUTION

The archaeology of evolving landscapes

The character of the English landscape has changed throughout time as a consequence of both natural processes and human activities. The approaches necessary to locate, identify and understand the distribution of archaeology in particular areas must therefore take into account how the landforms we see today have altered. Nowhere is this more apparent than in the archaeology around the British coastline.

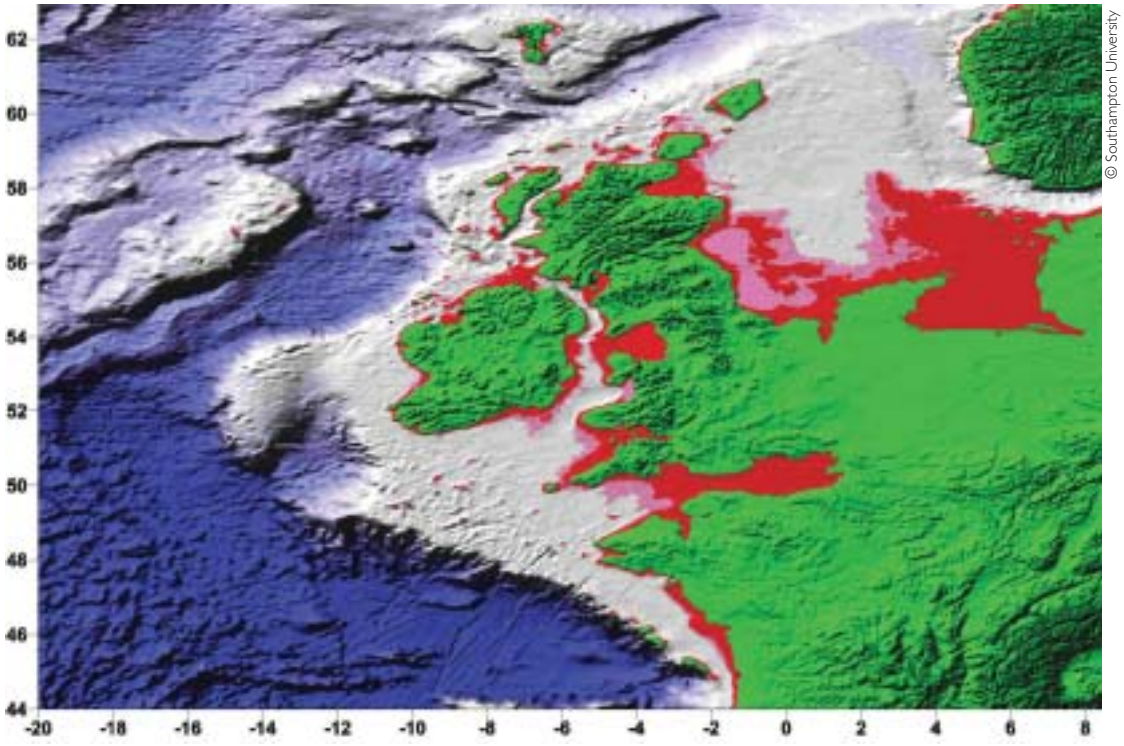
Global lowering of sea-level (which happened periodically until about 10,000 years ago) increased the landmass available for exploitation by humans, exposing, for example, areas that now lie under the North Sea and English Channel. During the extraction of marine aggregates, stone tools attesting to the presence of past human populations have been found, as have the remains of terrestrial animals. This considerable, but currently understudied, archaeological resource is the focus of **A Re-Assessment Of The Archaeological Potential Of Continental Shelves**. Four key themes were identified for this project:

- *an assessment of methodologies and models currently used to reconstruct submerged landscapes.*
- *a review of the nature of pre-submerged archaeological deposits.*
- *an assessment of the current understanding of how archaeological deposits are modified by marine transgression and regression.*
- *development of strategies for predictive modelling of submerged archaeological sites*

This will facilitate the development of a research framework and, it is hoped, stimulate further study of the resource.

Dramatic landscape changes have also occurred in more recent times, e.g. where alterations to the coastline have occurred as a consequence of both natural processes and cultural land-management practices. The complex interplay between natural processes and human endeavour that influences landscape evolution is being explored by three ALSF projects in the Romney Marsh area.

A major factor controlling the landscape evolution and human occupation of Romney Marsh has been the coastal gravel and sand beaches located at Dungeness, Hythe and Rye. These beaches have provided a source of aggregates for considerable time and in the course of extraction, important information concerning the archaeological and historic landscapes of the area has been revealed. To date, the earliest evidence for human activity comes from Lydd where material dating to the early Bronze Age was recovered. More



A simple geographic reconstruction of the north-west European landmass at the beginning of Oxygen Isotope Stage 4 (c. 72kyr BP), based on ETOPO2 altitude data and three different eustatic sea level curves: green coastline using Chappell & Shackleton, 1986; Red coastline using Shackleton, 1987; and pink coastline using Siddall et al, 2003. It was at this period that the lower sea levels and ameliorating climatic conditions are proposed to make the re-colonization of Britain possible (Ashton & Lewis, 2002). As can be seen however from this basic reconstruction depending on the chosen eustatic sea level curve the extent of this northwest European peninsula would have varied by several tens of Kilometres

© Dr Antony Long, Durham University

© Dr Paul Stupples, Liverpool University

Left: Sediments retrieved from the base of Muddymore Pit, Dungeness Foreland.

Right: Deep drilling through the Dungeness Foreland

intensive exploitation of the natural environment is thought to have occurred during the Romano-British period, suggested by the significant evidence for salt-production in the area. However, during the medieval period, people were managing and modifying the natural landscape, as indicated by the construction of sea defences and drainage systems built for the purpose of land reclamation.

The Evolution and Landscape History of Dungeness Foreland seeks to assess the age and depositional history of the Dungeness gravel beaches. The project has assessed a transect of boreholes drilled through the gravel deposits and a dating programme using OSL has been undertaken to determine the minimum age for deposition of the most recent gravels in the sequence. Fine-textured deposits overlying the gravels are being examined for plant and animal microfossils and dating evidence obtained to provide details of how the environments that developed after gravel deposition changed through time.

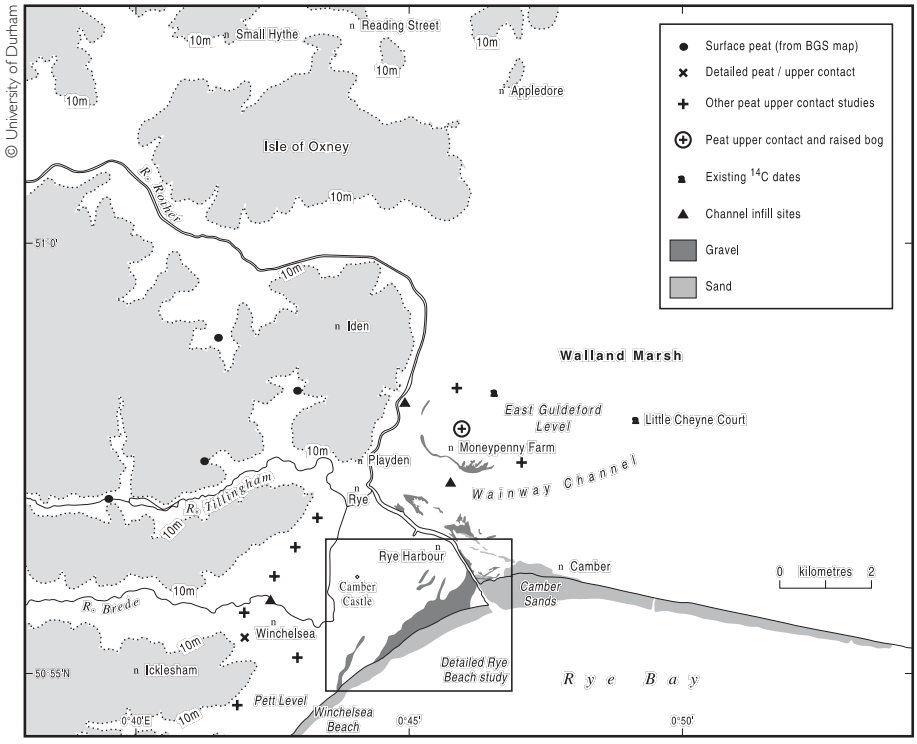
The development and stability of these gravel and sand beaches have influenced the changing fortunes of ports in the area, a subject that is addressed by **The Evolution of the Port of Rye, Sussex**. This project aims to develop a model for the evolution of Rye over the past 3000 years showing the shifting balance between natural and human processes as agents of landscape change from late prehistory to the present day.

By the medieval period, the character of certain areas of Romney Marsh was dominated by the concerted efforts of the population to reclaim and maintain land. **Medieval Adaptation, Settlement and Economy of a Coastal Wetland: the evidence from around Lydd, Romney Marsh, Kent** will synthesise the archaeological and palaeoenvironmental evidence for medieval settlement, land-use and modification of the landscape, using the considerable body of data produced by developer-funded archaeological work that has been conducted at a number of quarries in the area around Lydd.

© Dr Antony Long, University of Durham

Over-view of Muddmore Pit, a natural pit on the surface of Dungeness Foreland targeted for coring because of the sediments contained within which provide evidence for past sea-level change and coastal evolution

Location map of the Rye study area sampling locations



BUILT ENVIRONMENT

Reducing the physical impacts of aggregate extraction on the historic environment

The impact of aggregates extraction and transport on the historic built environment is often difficult to determine, but we have been able to identify and fund a small but important range of projects.

A particularly challenging project has been developed to help save the **Listening Devices, Denge, Kent**. The Listening Devices are three scheduled ancient monuments built for the acoustic detection of enemy aircraft by using the sound properties of reinforced concrete parabolic mirrors. The Greatstone site formed the Government research establishment at which experiments were undertaken between 1928 and the outbreak of the second world war, by which time RADAR had made this technology redundant. The sound mirrors are thus individually and as a group unique in the UK. The sequence of construction was a 20-foot mirror in 1928, a more advanced 30-foot mirror with listening room by 1930 and the 200-foot acoustic wall in 1930. The structures stood redundant for many years, then gravel extraction commenced, exploiting the huge gravel shingle beaches of Dungeness. This progressively encroached upon the structures and had they not been latterly protected through scheduling they could have been lost. Gravel extraction has left the structures all but isolated as an island within lakes formed by quarrying. This has seriously affected the structural stability of two of the three structures and undercutting by wave action has significantly undermined one end of the acoustic wall so that it now overhangs the lake water. The structures were included in the first English Heritage BAR register but it has until now proven difficult to address their management needs.

The lakes formed by the gravel extraction came to hold considerable importance for nature conservation whilst the vegetated shingle of Dungeness is a natural habitat of European significance. In addition to its heritage designation through scheduling, the site that contains the three structures is also a National Nature Reserve, Groundwater Protection Zone, Special Landscape Area, Candidate Special Area of Conservation, a RAMSAR site and a SSSI. Of particular relevance are large populations on the lakes of wintering birds and the largest known population of medicinal leech that feed upon the birds.

The ALSF has provided funding for Phase 1 of the project, which aims to stabilise the lake edge around the structures and to carry out essential repairs to their concrete.

Future management of the structures requires direct access to them to be controlled. This is for health and safety reasons, to minimise vandalism and to avoid disturbance to resident birds. The structures will be placed on an island by cutting the access causeways in two places. One of the cuts will have a lockable swing bridge that can be used to access the island for future maintenance and repairs and to permit continued organised visits.

In Phase 2 it is proposed to provide on-site interpretation of the structures at locations from which they can be viewed at a distance. Signage and footpath works also form part of the design but it is not the intention to increase visitor numbers beyond the limitations imposed by the nature reserve status. EC Interreg funds have been secured towards on-site interpretation, access issues and further repairs.

Cromford in Derbyshire is where Richard Arkwright developed the world's first

The 'Listening Ears'

© Derbyshire County Council

Traditional paving in Cromford, a site where historic importance has been recognised by its inclusion in The Derwent Valley Mills World Heritage Site, inscribed by UNESCO in December 2001

successful water-powered cotton spinning mill. From its inception in 1771 Arkwright also established over the next 20 years a settlement for the growing numbers needed to work the mills. Despite the effects of aggregates extraction the settlement remains remarkably intact and its historic importance has been recognised by its inclusion in The Derwent Valley Mills World Heritage Site, inscribed by UNESCO in December 2001. Derbyshire County Council is working in partnership with The Arkwright Society, which owns and is restoring Arkwright's Cromford Mills, to address the needs of their sizeable joint estates in Cromford, to ensure the preservation, enhancement and interpretation of this outstanding historic environment. The **Cromford Historic Paving Restoration Project** aims to complement the repair and restoration of historic buildings in the village where there is a need to enhance the historic public realm - streets, lanes and footpaths. It is intended to accomplish this by the repair and, where appropriate, the reinstatement of traditional paving, the under-grounding of overhead wires and service cables, the repair of historic lighting columns and the rationalisation of traffic signing.

The ALSF project is supporting research into the historic streetscape, the design and costing of a scheme of repair/restoration of historic paving and lighting, and a consultation programme with the Parish Council, residents, property owners and utility companies. The project also comprises the design and costing of a scheme for lighting the village and rationalising traffic signs and other street clutter, and the design and costing of a scheme for traffic calming Mill Lane.

The ALSF is also supporting the repair of a scheduled ancient monument, **Bugsworth Canal Basin** in Derbyshire, which was formerly used for the transport of aggregates. By coincidence, we have also supported survey work on the transport link between the canal and the quarries through the **Peak Forest Tramway and the Cromford and High Peak Railway** project.

Bugsworth Basin

© British Waterways

PROJECT LISTING

ALSF Projects 2002

Project Name	Responsible Organisation	Grant Paid
Archaeological monitoring in the West Solent	Hampshire and Wight Trust for Maritime	£1,250.00
Brauncewell, Lincolnshire	Heritage Lincolnshire	£5,053.00
Flixton Quarry, Suffolk	Suffolk County Council	£15,000.00
Rossendale Quarries & Tramways Heritage Project	Groundwork Rossendale	£13,348.00
Thames northern tributaries 2002	Hertfordshire County Council	£1,050.00
Milfield Geoarchaology: Public outreach	Newcastle University	£30,000.00
Trent Valley Survey 2002	Nottinghamshire County Council	£182,840.00
Thornborough, N Yorks: Neolithic and Bronze-Age	Newcastle University	£110,763.40
Historic environments of the River Great Ouse 2002	Bedfordshire County Council	£3,246.00
Submerged Palaeo-Arun & Solent Rivers	Imperial College	£332,618.00
Artefacts from the sea	Wessex Archaeology	£78,022.50
England's shipping	Wessex Archaeology	£79,022.50
Assessing, evaluating and recording wrecks on the seabed	Wessex Archaeology	£286,726.35
Late Quaternary landscape history of the Swale - Ure	Lower Ure Conservation Trust	£92,617.50
Southworth Hall Farm, Southworth, Cheshire	National Museums & Galleries, Liverpool	£30,875.00
Gloucestershire - assessment of archaeological resource	Gloucestershire County Council	£6,780.00
Stopes Palaeolithic Archive	Southampton University	£55,464.38
Scowles Survey, Forest of Dean	Gloucestershire County Council	£73,750.00
Till-Tweed Catchment Aggregates and Archaeology	Newcastle University	£142,500.00
Rye, Romney Marsh, Sussex: evolution and archaeology	University of Durham	£86,140.00

Project Name	Responsible Organisation	Grant Paid
Vale of York assessment of alluviated landscapes	York Archaeological Trust	£275,691.56
Hartshill, Berkshire	Cotswold Archaeological Trust Ltd.	£50,900.00
North Park Farm, Bletchingley	Surrey County Council	£41,968.50
Spratsgate Lane, Somerford Keynes, Gloucestershire	Gloucestershire County Council	£15,346.00
The Thames through time	Oxford Archaeology	£24,907.50
Understanding the East London Gravels	Museum of London Archaeological Services	£140,219.20
Bestwall Quarry, Dorset	AC Archaeology	£56,713.72
Cold War: building for nuclear conflict	English Heritage Publications Branch	£10,000.00
Modelling the Chronology of Archaeological Sites	University College London	£32,594.00
Depositional History of Dungeness Foreland	University of Durham	£151,140.00
Modelling the Stratigraphy of English Valley Systems	Oxford University	£50,960.00
Mapping the sub-surface drift geology of Greater London	Museum of London Archaeological Services	£116,350.00
Sandhills Project, Alderley Edge, Cheshire	The Victoria University of Manchester	£97,476.00
Cook's Quarry, West Heslerton, N Yorks	Landscape Research Centre	£2,700.00
Where Rivers Meet: Landscape, Ritual and Settlement	Birmingham Archaeology	£143,470.00
Lydd, Romney Marsh, Kent: Medieval evidence	University College London	£34,898.00
Rutland Quarry Museum	Rutland Railway Museum	£300.00
The finest prospect in all England	Essex County Council	£31,527.00
Palaeolithic Archaeology of the Sussex/Hampshire Corridor	University of Wales, Lampeter	£94,988.46
Re-assessment of continental shelves	Southampton University	£49,150.00

Project Name	Responsible Organisation	Grant Paid
Developing Survey and Predictive Modelling techniques	Gifford And Partners	£5,287.50
Land south-west of Ripple, Worcestershire	Worcestershire County Council	£3,009.48
Multi-Beam sonar on wrecks	Wessex Archaeology	£30,248.00
Greater Thames survey of known mineral extraction sites	Essex County Council	£115,012.22
Watermead Country Park, Birstall, Leicestershire	Leicester University	£41,316.00
High resolution sonar and marine aggregate deposits	Southampton University	£57,260.00
Creswell Crags Limestone Heritage Area	Creswell Heritage Trust	£7,350.00
Retreat Farm Quarry, Grimley, Worcestershire	Worcestershire County Council	£6,433.60
Provenancing of flint nodules	Southampton University	£2,620.00
Welton-le-Wold, Lincolnshire	Heritage Lincolnshire	£4,949.69
Predictive modelling at a river confluence	University of Exeter	£900.00
Aggregate Extraction Related Archaeology in England	University of Exeter	£40,850.00
Identifying the potential of coversands	University of Bradford	£2,862.00
Archaeological Potential of Aggregate deposits in the SW	University of Exeter	£1,500.00
Shotton Project: a West Midlands Palaeolithic Network	Birmingham Archaeology	£93,000.00
Characterising the Vale of Pickering	Landscape Research Centre	£223,490.62
Malton Museum: Heslerton Exhibition	Malton Museum Foundation	£47,500.00
Hertfordshire Mineral Local Plan Review	Hertfordshire County Council	£10,000.00
Archaeological potential of secondary contexts	Southampton University	£72,174.32
Gwithian, Cornwall: Excavations 1949-1963	Cornwall Archaeological Unit	£73,565.00
Lynford Quarry	Norfolk Archaeological Unit	£374,098.00
Lodge Farm, St Osyth, Essex	Essex County Council	£110,000.00
Listening Devices, Denge, Kent	Wright Consulting Engineers Ltd	£92,654.00

Project Name	Responsible Organisation	Grant Paid
Scourton Quarry	Northern Archaeological Associates	£7,050.00
Cleeve Wood, North Somerset	North Somerset Council	£46,250.00
Wellington Quarry, Marden, Herefordshire	Worcestershire County Council	£33,000.00
Boxgrove Acquistion, West Sussex	Wragge & Co	£100,000.00
OSL dating	University of Oxford	£5,000.00
London before London Gallery	Museum of London	£303,250.00
Cromford, Derwent Valley, Derbyshire: Historic paving	Derbyshire County Council	£15,000.00
The Neolithic and Early Bronze Age of Heslerton	Landscape Research Centre	£7,000.00
Yeavering and the work of Brian Hope-Taylor Exhibition	Bede's World	£36,000.00
Cotswold Canals	British Waterways	£40,093.00
Radiocarbon Dating Costs related to ALSF Projects	Scottish Universities Accelerator Unit Rijksuniversitat Groningen Oxford Radiocarbon Accelerator Unit	£30,000.00
Greenhow Village, N Yorks: Survey & interpretation	Harrogate Borough Council	£14,000.00
Bugsworth Basin, Buxsworth, Derbyshire	British Waterways	£90,000.00

Further details of all projects funded through the English Heritage ALSF scheme, and links to project websites, can be found through the ALSF Projects page on the English Heritage website (http://www.english-heritage.org.uk/).

ACKNOWLEDGEMENTS

This annual report was brought to you by Brian Kerr (text), co-ordinated by Kath Buxton, and designed by Vincent Griffin.

Front cover images, top: Reconstruction of middle palaeolithic at Lynford Quarry in Norfolk (Judith Dobie); left: The 20ft listening mirror at Denge in Kent; and children from Newcastle help with reconstruction work at the Maelmin Heritage Trail

English Heritage would like to thank all the organisations and individuals who have provided text and pictures for this report. Copyright rests with the individual contributors.

For further details of the English Heritage ALSF scheme please refer to the English Heritage website (http://www.english-heritage.org.uk/) or contact

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Thrust beds of glacial till and lake sediments overlain by river gravels in the Ure Valley. These beds record multiple phases of ice advance over the valley floor during the Late Devensian