

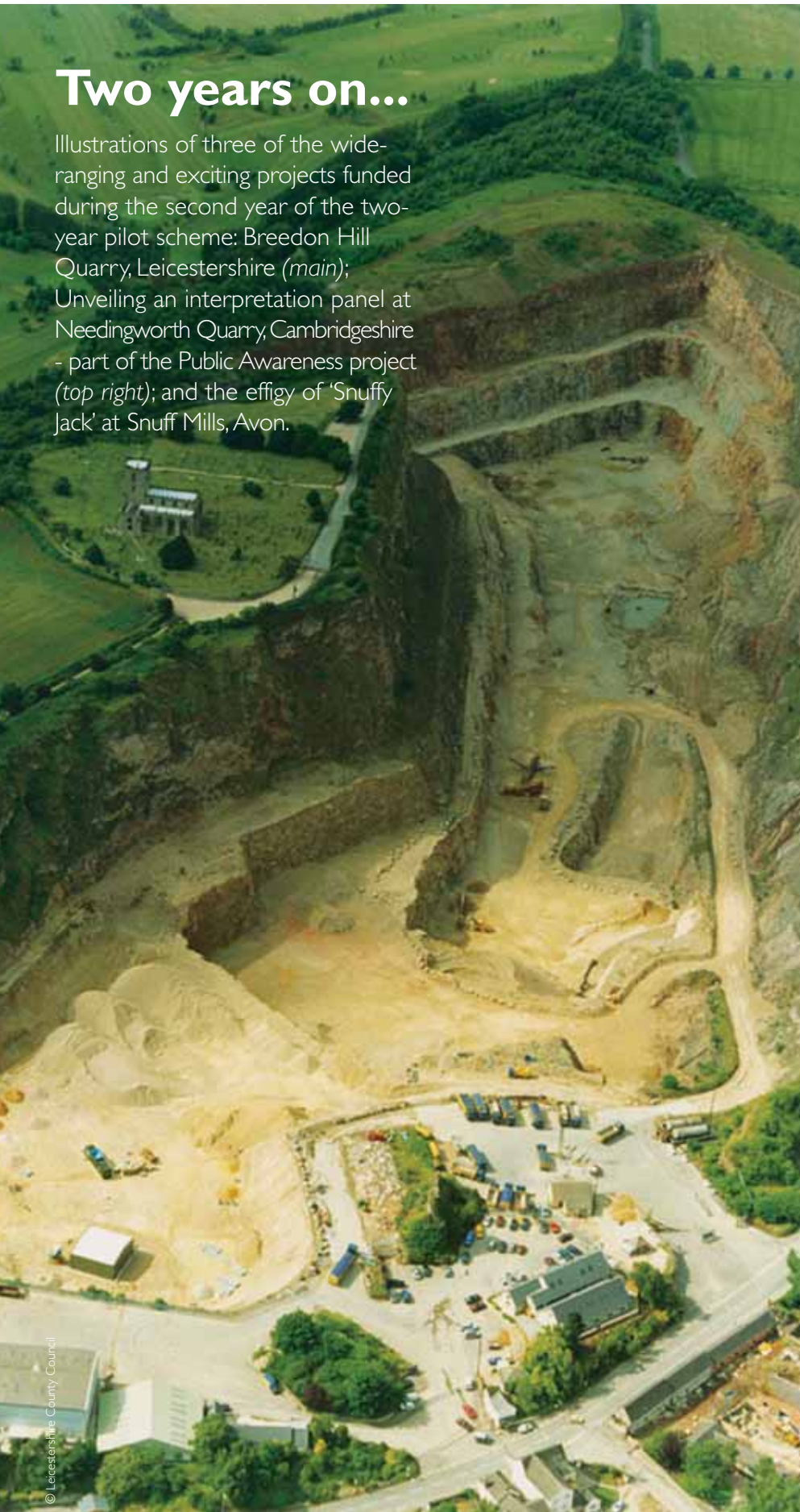
ALSF annual report

AGGREGATES LEVY SUSTAINABILITY FUND

2003-2004

Two years on...

Illustrations of three of the wide-ranging and exciting projects funded during the second year of the two-year pilot scheme: Breedon Hill Quarry, Leicestershire (*main*); Unveiling an interpretation panel at Needingworth Quarry, Cambridgeshire - part of the Public Awareness project (*top right*); and the effigy of 'Snuffy Jack' at Snuff Mills, Avon.



© Leicestershire County Council



© Cambridge Archaeological Unit



© Bristol Evening Post



ENGLISH HERITAGE

FOREWORD



© Mark Baisten

By the time the ALSF pilot scheme came to an end in March this year English Heritage had been able to give more than £9.14 million in grants to more than 100 projects which have helped to reduce the impact of aggregate extraction on the historic environment.

The number, quality and diversity of excellent and innovative proposals that we have been able to support testify to the value of the ALSF scheme. Our funding has enabled projects run by community groups, the independent and voluntary sector, local government, universities, commercial and contracting organizations, and the aggregates industry itself. We have been able to support consortia and networks, and to support projects jointly with our partner agencies, English Nature and the Countryside Agency. Indeed, one of the most valuable outcomes of the ALSF pilot scheme has been the development of partnerships across the range of ALSF stakeholders which promote our shared commitment to the historic environment.

We are therefore delighted that Defra has invited English Heritage to continue its ALSF Programme for the next three years. The pilot scheme has made a real and significant difference in helping us all to secure the conservation, understanding and enjoyment of the historic environment. We now look forward to working with our partners and colleagues to build on the successes of the first two years of the ALSF.

Simon Thurley

Chief Executive
English Heritage

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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, with English Nature and the Countryside Agency, has been a major distributor of the fund on behalf of the Department for Environment, Food and Rural Affairs (Defra).

The goal of the English Heritage ALSF scheme has been to reduce the impacts of aggregate extraction upon the historic environment. To meet this we have supported a wide range of projects which aim:

- to advance knowledge so that future aggregate extraction will have the minimum impact upon the historic environment
- to secure the conservation of important but vulnerable sites, monuments and landscapes
- to promote better understanding and greater enjoyment of our heritage to the broadest possible audience

Over the course of the pilot scheme, which came to an end in March 2004, English Heritage has distributed £9.14m in grants to 101 projects. This, our second annual report, highlights the achievements of the second year of the ALSF at the conclusion of the pilot scheme.

Exhibitions, publications, web-sites, education packs, open days and activity events have helped to get over information about aggregates and the historic environment to the widest audience. Other initiatives have been aimed at raising awareness of the historic environment, particularly the archaeology of the Palaeolithic, within the aggregates industry, and at widening the involvement of independent and voluntary groups.

We have supported the conservation of buildings and areas affected by aggregates extraction and hope that these will serve as good examples of what might be achieved in the future. Projects aimed at improving the understanding of the historic environment in aggregate extraction areas in order to enhance management of the resource have also been a priority.

The marine historic environment has also received a boost from the introduction of the ALSF. The fund has allowed us to support a range of exciting projects that will enhance understanding and management of the resource and build capacity in the maritime sector.

In all this we have been privileged to work in partnership with the aggregates industry, local government, the voluntary and independent sector, universities, and commercial and contracting organisations. It is to these partners, and to the many individuals who have initiated and driven forward the projects we have supported, that we owe the success of the ALSF pilot scheme.

The English Heritage ALSF Programme has now been extended for a further three years to March 2007, giving us and our partners the opportunity to build on the successes of the pilot scheme. Details of the new English Heritage ALSF Programme, current application procedures, and guidance can be found on the English Heritage website (www.english-heritage.org.uk/ALSF).

Kath Buxton

ALSF Programme Manager
English Heritage

© Cotswold Archaeology



Post-hole alignments at Hartshill Copse, Berkshire have revealed evidence for three Late Bronze Age/Early Iron Age roundhouses (see page 15)

RESOURCE MANAGEMENT

Predicting, planning and protecting

Understanding the archaeological potential of many aggregate producing areas requires research to characterise the age, range & preservation of the deposits and their associated cultural remains.

Excavation at Lepe, Hampshire, as part of the Coastal Corridor project

CHARACTERISING THE POTENTIAL OF AGGREGATES DEPOSITS

The **Mapping the sub-surface drift geology of Greater London gravel extraction areas** undertaken by the Museum of London Archaeology Service created a digital geoarchaeological database of the Quaternary deposits of the Lower Lea Valley using a combination of geotechnical borehole data from the British Geological Survey (BGS) archive (comprising over 3000 borehole logs) and archaeological records resulting from small-scale excavation and evaluation. Records in the BGS archive date back to the nineteenth century and extend through the deposits of aggregates

significance in this area and into bedrock. The study area extends across the London Boroughs of Enfield, Waltham Forest, Redbridge, Haringey, Hackney, Tower Hamlets and Newham and includes part of Essex.

The database can be queried to generate deposit models that in turn can be used to reconstruct the changing landscape and to predict areas of archaeological potential. These models can then be transferred to GIS-based software and made available to a wide-range of end-users on-line and as hard copy. Different layers of GIS data will enable archaeological distributions (and areas of proposed quarrying) to be linked with buried floodplain landscapes, thus allowing the identification of areas of archaeological risk/potential.



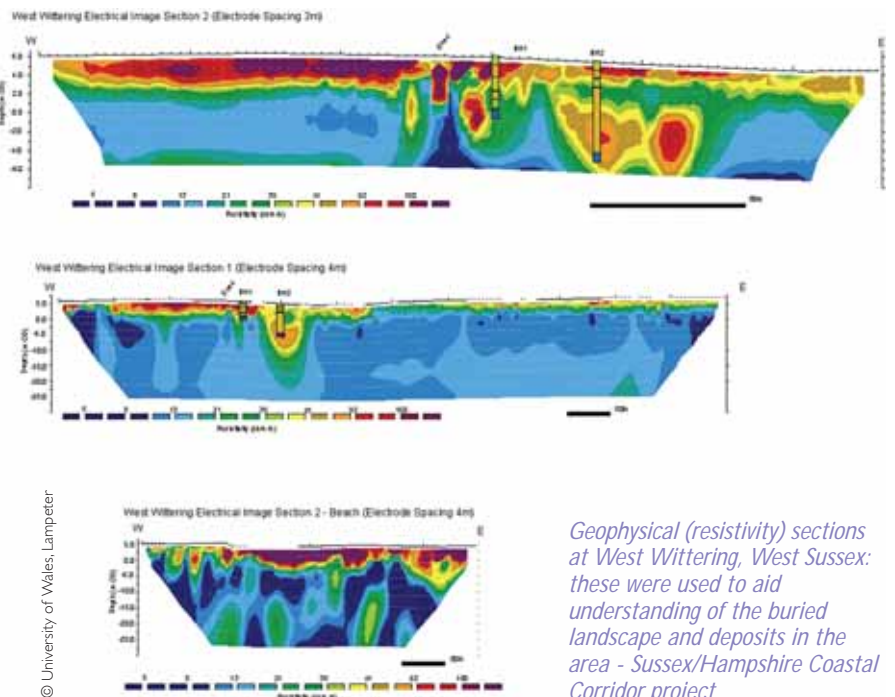


The University of Wales' (Lampeter) **Palaeolithic Archaeology of the Sussex/Hampshire Coastal Corridor project** focused on an area of considerable importance for both Quaternary geological studies and Palaeolithic archaeology. Here, a range of deposits has been identified, including marine and estuarine sediments, cold-climate slope and river deposits and wind-blown silt, containing plant, animal and archaeological remains. Although these deposit sequences have been studied in the past, further research into the dates and palaeoenvironmental associations of the sediments is required if the nature of the archaeological record is to be fully understood and predictive modelling of archaeologically sensitive areas attempted in the future.

The project aimed to address these issues by undertaking a programme of geological mapping, sediment dating and correlation of the deposits to enhance our understanding of the distribution of major Middle and Late Pleistocene deposits. An assessment of the Palaeolithic resource was also carried out, mapping the distribution of Pleistocene sediments of potential Palaeolithic archaeological significance for the area. These data can be used to inform our understanding of the occupation history of the area through Early Prehistory, assess

patterns of cultural change in the Palaeolithic, identify the relative Palaeolithic significance of particular deposits in the project area and facilitate the selection of appropriate evaluation and/or mitigation approaches. The project is also working with Southampton Museum Service to enhance the existing Prehistory displays and develop a digital educational resource to support local studies.

Test pit excavation in the Romsey area, Hampshire - Sussex/Hampshire Coastal Corridor project



© University of Wales, Lampeter

Geophysical (resistivity) sections at West Wittering, West Sussex: these were used to aid understanding of the buried landscape and deposits in the area - Sussex/Hampshire Coastal Corridor project



© Landscape Research Centre

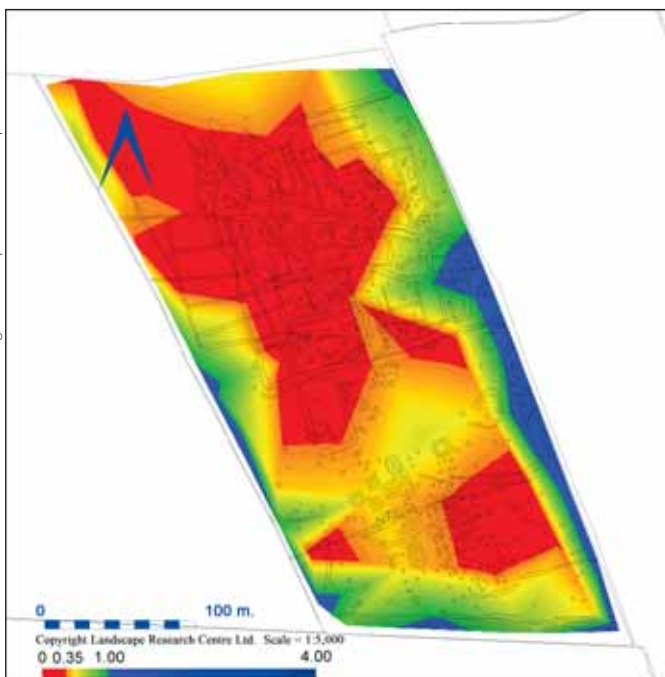
This project aimed to develop such approaches, by conducting detailed landscape and soil surveys that identified the density and nature of buried archaeological features and the depths of blown sand covering them. It used a combination of air and ground-based remote sensing, together with surface and sub-surface deposit modelling. The results have been used to develop resources to aid planning of future quarrying operations so that discovery by chance is replaced by planned and managed extraction, reducing the risk of archaeological loss or unanticipated and expensive excavation works.

Geophysical survey results overlaid onto aerial photograph data in the Vale of Pickering

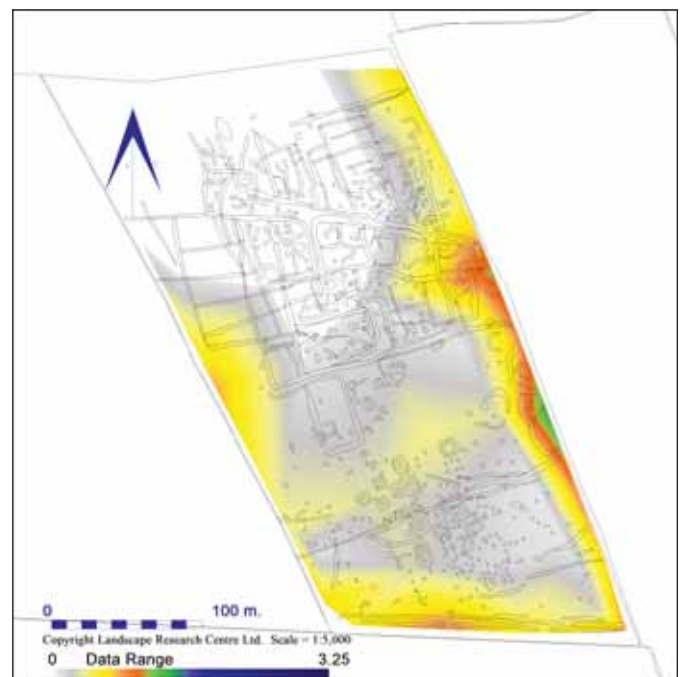
Characterising, modelling and managing the buried landscape in the Vale of Pickering a project based in North Yorkshire and undertaken by the Landscape Research Centre concentrated on an area with important resources of aggregates-grade sand and gravel. The deposits also contain a rich archaeological resource, attesting to human settlement for over 5,000 years. This was first identified when an Early Anglo-Saxon cemetery was discovered by a quarry worker in 1977. In this landscape, post-glacial and more recent blown sands have buried the archaeological remains to render them 'invisible'. In this situation air photography produces minimal information and alternative approaches are required in order to assess the archaeological potential of the landscape.

The **Late Quaternary landscape history of the Swale - Ure Washlands** was undertaken by the Lower Ure Conservation Trust. The study area for the project extends from Catterick in the north to Boroughbridge in the south and included stretches of the Swale and the Ure as they flow between the Pennines and the North Yorkshire Moors. This project characterised the river and landscape change of the area since the last glaciation (i.e. approximately the past 10,000 years) and assessed the impact of human activity during this period. The geographical boundary of the project reflects the both the area with the greatest concentration of current and future mineral workings and the historical watershed (or washlands).

All images in this sequence - © Landscape Research Centre



The depth of overburden mapped over a field in the Vale of Pickering



The thickness of the windblown sand over the same field



Brown & Potter quarry section (Ripon South) in the Swale/Ure project. Medieval shoes were recovered from the gravels in the centre of the picture (see asterisk). The gravels are overlain by a 2m thick cap of sands and silts, from which numerous animal bones were recovered, including a 1.5m wide rack of antlers

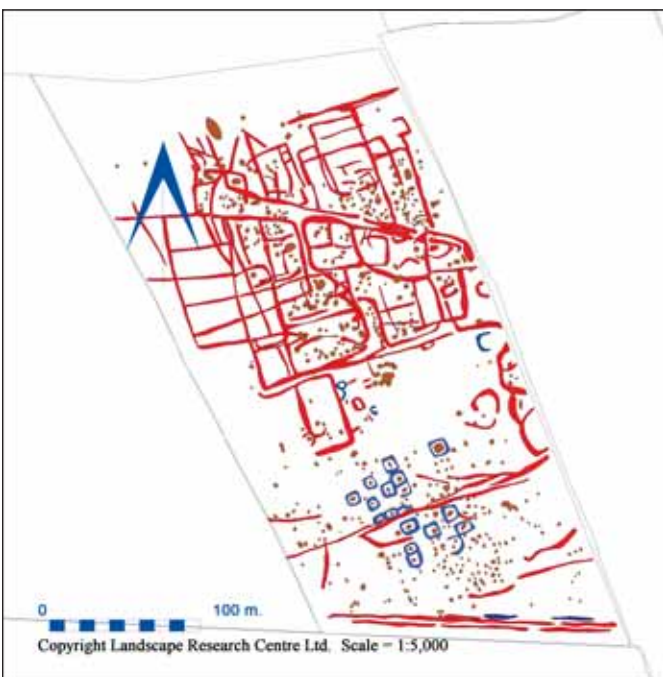


The medieval shoes recovered from Ripon South Quarry

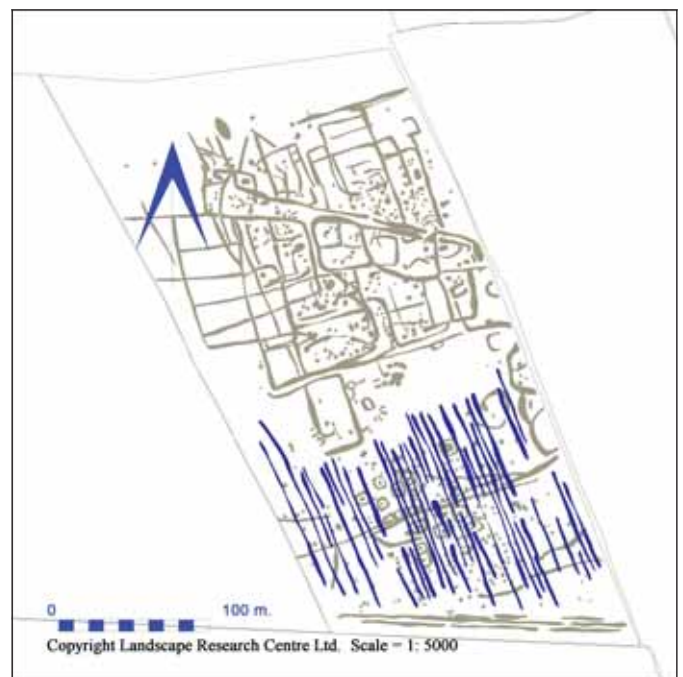
The project involved a large scale geomorphological assessment of the study area followed by detailed investigations at four key quarry sites where major aggregates producers (Tarmac, Larfarge and Hanson) are currently working. One of these quarries is located adjacent to a major archaeological site presently under excavation ahead of aggregate extraction, and the focus of a related ALSF project (**The Neolithic and Bronze Age monument complex of Thornborough, North Yorkshire**).

for creating new habitats and meeting biodiversity and landscape requirements, whilst balancing this with the recreational needs of local people. The strategy provides advice and guidance to help local authorities, parish councils, local people and mineral companies in their discussions when planning for restoration. It has delivered an improved understanding of the context for local archaeological and landscape research in the study area and widened public understanding and appreciation of the landscape.

The objective was to produce a Minerals Restoration Strategy that set out clear goals



The magnetic anomalies plotted according to class of feature



The ridge and furrow, now invisible on the present land surface, mapped by geophysics

Assessing the impact of future extraction requires combining information on geology, planning & the known historic environment.

PLANNING FOR FUTURE EXTRACTION

The project **Aggregate Extraction Related Archaeology in England: a survey** undertaken by the University of Exeter, was conducted in order to collate and synthesise the results of archaeological excavations and surveys carried out in association with aggregates extraction, a key objective being to increase dissemination of knowledge gained from archaeological work of this kind. The data were examined to compare the situation before and after the introduction of PPG16, to assess patterns of regional variation and to identify the significance of palaeo-environmental aspects. The report also highlights the geological and geomorphological context of aggregate-related archaeology and emphasises how an understanding of these processes is important for future evaluations and assessments and for the development of archaeological prospection techniques.

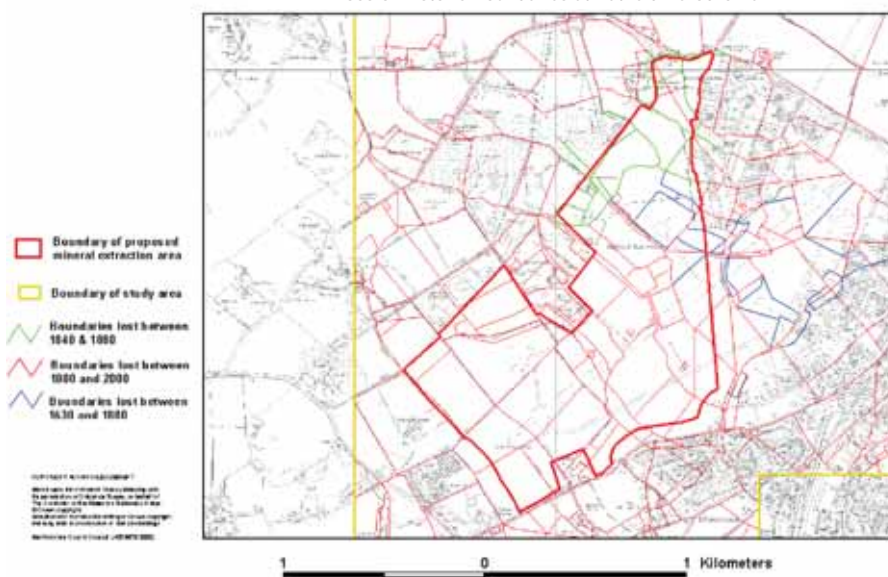
The project includes an overview of how material encountered in the course of aggregates extraction has provided a stimulus for important areas of archaeological research, contributing especially to our understanding of the Palaeolithic and, more recently, of lowland prehistoric landscapes. It also shows how aggregate quarries have provided some of our most important individual archaeological sites and unique artefacts. Specific questions tackled by the



Above: A report on aggregate extraction related archaeology throughout England

Map of Hatfield Aerodrome, an area in the Hertfordshire Mineral Local Plan Review

Hertfordshire Minerals Historic Environment Characterisation Project: Loss of Historic Boundaries at Hatfield Aerodrome



© Essex County Council

project were:

What is the archaeological significance of the results of PPG16 aggregates-related excavations in a Regional, National and International context?

Where does geoarchaeology and aggregate-related archaeology lie in relation to mainstream archaeology and heritage management?

What is the archaeological relationship between onshore and offshore aggregate-related archaeology?

Which new techniques will have a positive influence on aggregate-related archaeology?

How do archaeology and aggregate extraction stand relative to other trends in floodplain land-use planning and floodplain enhancement and conservation?

This assessment of the achievements of aggregate-related archaeology is then used to inform a series of recommendations regarding areas where future resource management work is needed, such as the establishment of semi-formalized area or valley projects and increased attention to the archaeology of crushed rock aggregates production areas.

In addition, information provided by the UK Government and Unitary Authorities, largely through county-based Minerals Local Plans (MLPs), is used to provide a list of Preferred Sites and Areas of Search that are most likely to be worked in the future. These locations are mapped and provide a basis for applying regional policy in relation to the aggregate archaeological resource.

© Hertfordshire County Council



A further recommendation of the project was that Local Authorities should be encouraged to revise and improve MLPs with respect to the historic environment details they contain. This approach formed the basis for the **Hertfordshire Mineral Local Plan Review** undertaken by Hertfordshire County Council which aimed to produce an enhanced historic environment characterisation for proposed areas of mineral extraction, prior to these being considered at Public Inquiry.

aggregate extraction sites and related historic environment features in the Thames Estuary environs in order to identify and establish the nature of the aggregates being worked at each location. The geological and archaeological potential of each site was then assessed to inform further work in the area in conjunction with the continuing historic environment value of the various quarry sites, for Palaeolithic and later archaeology including industrial archaeology.

*Left: Bank of Pleistocene river channel at Greenlands Quarry, Purfleet - Greater Thames Survey project.
Above: Area studied as part of the Greater Thames Survey project*

Below: Church House was built in 1791 as a Chapel of Ease. It formed part of a small group of buildings (now all Grade II listed) provided by the Whitbread family for the benefit of their employees - Greater Thames Survey project

This comprised a detailed desk-based historic environment assessment of all of the 21 sites identified as candidates for future extraction and will provide information that will improve the understanding of the implications of mineral extraction at each location.

The project will then identify priorities for further specialist desk-based assessment and field assessment that might be needed to inform the Public Inquiry process. This will enable a holistic characterisation which includes buildings (both standing and relic) historic boundaries, historic routes and archaeology, and will also incorporate the existing Historic Landscape Characterisation data.

The **Greater Thames survey of known mineral extraction sites** undertaken by Essex County Council provides a baseline of information to inform current and future extraction and land-use proposals through the creation of a GIS map base for the Greater Thames. The project examined and mapped past, present and proposed



A large rockshelter in Anston Stones Wood, in the Creswell Crags Limestone Heritage Area



© Creswell Heritage Trust

Aggregates extraction may impact both the prehistoric and historic environments. Those situations where particular pressure is felt need conservation strategies tailored to the sites' individual needs.

PROTECTING THE HISTORIC ENVIRONMENT

Creswell Crags is one of Britain's most important Palaeolithic archaeological and Pleistocene geological sites. Situated in an area of Magnesian Limestone on the Nottinghamshire/Derbyshire border, it has, for many years, been impacted by the works, including blasting, of the nearby limestone quarries at Nether Langwith, Whitewell, and Bolsover Moor, which together produce over 1 million tonnes of limestone aggregate a year. The **Creswell Crags Limestone Heritage Area Management Action Plan** undertaken by Creswell Heritage Trust, aimed to develop an integrated Management Action Plan for the main vales and gorges within the Creswell Crags Limestone Heritage Area. The Heritage Area contains seven Palaeolithic sites (including four Scheduled Ancient Monuments) and other caves and

rock shelters are known but currently unexplored. Archaeological investigation of the area began in the mid-nineteenth century and continues to this day with artefacts and archives being dispersed around a number of regional and national museums. However, the high quality cultural (and natural) heritage of the area is currently undervalued at both local and strategic levels, due to a number of factors including local long-term economic decline and the area's location on the boundaries of three County or Unitary Authority areas. The Management Action Plan has:

- *Provided an archaeological and palaeontological sensitivity study which assessed management issues relating to known Early Prehistoric sites, predicted the potential for other sites of that period and assessed the impact of later settlement and land-use on the vales and gorges.*
- *Consolidated and stabilised the existing artefacts and archives of the Early Prehistoric period, by creating a centralised database of their records and identifying research priorities and an action plan for their implementation.*
- *Identified opportunities to improve intellectual, physical and visual access to the cultural and natural resource for local people and for visitors, for recreational and formal education purposes including the potential for involving local people in management and interpretation.*

It is hoped that the creation of a high quality sustainable natural and cultural environment will act as a catalyst to local development, creating and encouraging inward investment, discouraging vandalism and neglect and providing conditions for appropriate development and use.

Ash Tree Gorge: One of the smaller, more open gorges in the area of Creswell Crags, and still used as pasture land today



© Creswell Heritage Trust

For centuries, lead mining was both socially and economically important to the Peak District and Derbyshire and as a by-product of winning lead, crushed rock aggregate (limestone) was also produced. Although the lead mining industry is now extinct in the area, the surface remains have become a key characteristic of the landscape of the White Peak and its immediate surroundings, attesting to the industry's historic importance. However, the remains of this mining, mainly hillocks of waste material, have been disappearing with increasing rapidity in recent decades due to pressures from modern aggregates extraction and agricultural land-use. The **Lead Rakes** project by the Peak District National Park Authority sought to raise awareness and understanding of the importance of these remains, by emphasising how they inform our understanding of the development of the landscape of the Peak District and Derbyshire orefield and by promoting their sustainable management at local, regional and national levels.

A series of surveys and analyses of the lead mine hillocks (or lead rakes) has provided information that will be used to promote awareness, appreciation and understanding of this industrial heritage amongst a wide audience; local residents, land owners and managers, visitors, planners and policy makers and students in primary, secondary and tertiary education. One of the products of the project is an education pack available in digital format via the National Park Authority website.

The church of St Mary and St Hardulph, Leicestershire, is a Grade I Listed Building, sited within an Iron Age hillfort and protected in its own right as a Scheduled Monument. However, part of the hillside has been severely impacted by large-scale crushed rock aggregate production, an activity that is on-going, with proposed extensions of the existing quarries likely to further impact on the site, both archaeologically and visually. These pressures resulted in the submission of the **Breedon-on-the-Hill: conservation plan** project by Leicestershire County Council. The main objective was the preparation of an appropriate Conservation Plan for the site, to include:

© National Monument Record, English Heritage



Oxlow Rake near Peak Forest, Peak District, part of the Lead Rakes project

- *An understanding of the site and an assessment of its current physical condition and fabric (built, landscape, ecological etc).*
- *An assessment of the local, regional, national and international significance of the site.*
- *The identification of issues and preparation of policies to specify the ways in which the significance of the site may be vulnerable, including existing quarrying and proposals for its extension.*

Conservation Policies will then be defined, providing clear and extensive guidance for the client and steering group.

The church of St Mary and St Hardulph, Leicestershire - Breedon-on-the-Hill: conservation plan

© Leicestershire County Council



EDUCATION, OUTREACH ACCESS & COMMUNITY

Making the historic environment accessible to everyone

In 2000 English Heritage led a review of policies relating to the historic environment of England. This culminated in the publication of Power of Place, which highlighted the fact that 87 per-cent of people place a high value on the historic environment. It also stressed both the interest many people have in their historic environment and their desire to be involved in some way with the past.

English Heritage has a commitment to promoting access to, and understanding and enjoyment of, the historic environment. We have therefore sought to ensure that all projects funded under the ALSF scheme, wherever possible, have addressed these aims through education, outreach, access and community involvement. It is impossible to showcase all such initiatives in this annual report and so we have concentrated on a selection of projects which demonstrate the variety and scale of the work that has taken place.

The **Snuff Mills** project was about improving community access to the heritage within Snuff Mills Park, a public park owned and managed by Bristol City Council. An improvement plan had already been written for the park, which aimed to improve the visitor experience for the local urbanised community which has a worse than average rank compared to other wards in England for all key indicators of deprivation.

The park itself includes an old quarry and a stone mill, which was used for cutting and crushing stone from the many quarries along the Frome Valley in the late 1800s. The cut stone provided a source of material for local buildings and paving, with the waste products providing a source of aggregate for local roads. It was restored in the 1800s by the Fishponds Local History Society. The

park's name originates from one of the millers, who went by the nickname 'Snuffy Jack' because his smock was always covered in snuff.

Until the ALSF funded project there was no interpretation of the rich heritage of the park. The project engaged the local community and local schools in researching the heritage of the park, mills and quarries, which lead to the production of on site interpretation for the park's 250,000 yearly visitors. It is hoped that this will be a significant step towards increasing the sense of community value of the Snuff Mills.

A particularly welcome proposal was the joint application by Cambridge Archaeological Unit and Hanson Aggregates for funding to undertake the project **Public Awareness and Educational Opportunities of Archaeological Investigations of Mineral Workings**. Using the archaeological investigations undertaken at Hanson Aggregates Lower Ouse Valley sites and also their Whittlesey Quarry, this project produced a web based 'template' for reporting progress on archaeological investigations associated with mineral workings to the public (www.unearthingthepast.net/). The project also looked at the issues surrounding the creation of material for schools, as well as producing schools packages and a travelling exhibition. The schools packages which

Reconstruction of Bronze Age settlement now the site of Bradley Fen Quarry, Whittlesey, Cambridgeshire - part of the Public Awareness project



© Andrew Hall, Cambridge Archaeological Unit



include both handling material and accompanying notes and work programmes, and focus on the local provenance of the material, have been designed to be relevant to the national curriculum beyond the confines of the history and are available through Hanson's education initiative - Material World.



The final element of the work involved the enhancement of the Southern Over round barrow cemetery situated in the area of the Needingworth Quarry, a widely acknowledged model of good local practice and an environmentally sensitive development. The five barrows are amongst the most impressive prehistoric monuments within the Fenland, and have accordingly been listed as a Scheduled Ancient Monument (SM 33362). However, while Hanson had agreed that extraction would not occur within that immediate area, the barrows were still under arable cultivation. Previously undertaken detailed geophysical survey had already demonstrated that a large ditched enclosure lay immediately north of the barrow field. In a joint effort to preserve this monument, Hanson provided funding to have the 6.3ha area taken out from arable production and fenced, while ALSF funds were used to mark the perimeter of the ditched enclosure by subtly re-instating it as an earthwork, re-seeding the area with grass, erecting a signboard, and preparing educational activities for school visits to the site.

A huge number of publications including publicity leaflets, pocket sized finds guides, books of walks, popular publications ranging in size from a few pages to substantial monographs, as well as academic publications and scientific papers have resulted from the ALSF. Thus we are highlighting here just one project **The finest prospect in all England: a history of South Essex from the first**

peoples to the Saxons, undertaken by Essex County Council. Through the production of a web site and a substantial popular publication the project aimed to enhance the understanding and appreciation of the archaeology of south Essex in the area of the Thames Gateway, a major sub-regional initiative and the UK Government's top priority for economic and social regeneration, the largest regeneration project in Europe. In this area more than one hundred years of widespread and intensive aggregate extraction has lead to an extensive archive of archaeological evidence. The information gained from this work is well known within the archaeological profession but has until now been little known by the public, even by those who live in the area.

Clockwise from top left: Schools package provided as part of the Public Awareness project; Aerial photograph of the Southern Over round barrow cemetery; Unveiling of interpretation panel at Needingworth Quarry

During the wars with the Vikings major battles were fought at Benfleet and Maldon and no doubt many smaller skirmishes also took place. Here we see a reconstruction of the Battle of Malden, Essex - included in the Finest Prospect project

© Roger Massey-Ryan, Essex County Council





© Chris Scull, English Heritage

workings, both the village and landscape being characterised by their industrial past.

Here, a survey was undertaken to assess the nature and scope of the industrial remains and identify sites at risk and those which would benefit from statutory protection or consolidation work. An industrial heritage trail was created to help local people and visitors interpret and understand the landscape, together with a series of interpretation boards along the route to help explain the history of the landscape, and an accompanying leaflet with route maps and summary of information which is available in local shops and tourist information centres.

A series of exhibitions was held to promote the archaeological research and the creation of the heritage trail, and an information leaflet aimed at local landowners was produced to raise awareness about the need to protect and care for the industrial archaeology on their land.

Finally we move to the North East where, in 2000 the University of Newcastle constructed an archaeological heritage trail next to the medieval town of Maelmin as part of the **Milfield Geoarchaeology: public outreach** project. The heritage trail is located on a gravel terrace that has been severely degraded by extraction at the adjacent quarry. Together with the Milfield café in the village, the site provides an introduction to the archaeology of the region; it is free access and open all year round with highlights including reconstructions of the Milfield North henge and the Mesolithic hut from Howick; the latter built for BBC TV's *Meet the Ancestors*. The ALSF project sought to develop this resource further, through a new entrance and information panels at the site, the publication of a popular archaeology book (*Ancient Northumberland* by Clive Waddington and Dave Passmore), the production of a booklet of local walks and extra copies of the successful Maelmin schools' packs.

© Jonathon Last, English Heritage

The site enhancement works and the book were launched at Milfield on 3 April 2004. Along with the authors of *Ancient Northumberland*, guest speakers included Peter Bromley the English Heritage Regional Director and Julian Richards of BBC TV's *Meet the Ancestors*.

Above: A display board on the Greenhow Heritage trail

We now move to the north, and the **Greenhow Village, North Yorkshire:** a survey and interpretation undertaken by Harrogate Borough Council in the Nidderdale Area of Outstanding Natural Beauty. This area is dominated by the presence of Coldstones Quarry, an active limestone extraction site which is currently seeking permission to extend its quarry

Below: A new display in front of the reconstructed Howick Mesolithic hut, Milfield



UNEXPECTED DISCOVERIES

Funding unforeseen discoveries of nationally significant archaeology

Unexpected discoveries found during PPG16 conditioned development and analysis work on sites of national importance excavated prior to the implementation of PPG16.

One of the key projects to receive ALSF funding for unexpected discoveries of national significance was **Hartshill Copse, Berkshire**. Early work proved that the archaeology far exceeded the expectations associated with the evaluation and thus the terms of the planning consent. Cotswold Archaeology undertook the current phase of work as part of an ambitious plan to run a project from concept to assessment report in just twelve months.

The site yielded extensive Late Bronze Age/Early Iron Age settlement activity including three clearly defined roundhouses and an urn cremation. Artefactual and biological evidence indicated the presence of early metalworking and textile-based crafts, and provided evidence to aid in determining the environmental and economic context of the site. Post Medieval/Modern features could largely be associated with early quarrying activity. The site was recognised to be of considerable significance, particularly feeding in to the considerable corpus of material for the Kennet Valley and demonstrating the intensification of Late Bronze Age settlement and developed land use patterns.

The sand and gravel quarry operated by Tarmac at **Flixton, North Suffolk** was another to receive funding. Being covered by a planning permission granted in 1958, which clearly predates any PPG16 type conditions there were no requirements for the operator to undertake a programme of archaeological works. Funding was thus provided by the ALSF, with the soil stripping plant being provided by Tarmac.

Evaluation was undertaken through the continuous monitoring of topsoil stripping and sampling of exposed features by Suffolk County Council's Archaeology Unit

revealing a multi-period site. Prehistoric pits and a collection of prehistoric pottery and knapping waste were uncovered suggesting domestic activity possibly relating to the 'ritual' or specialist depositions from the neighbouring RMC site. The majority of finds related to the Post Medieval period and to the landscaped gardens of Flixton Hall Park. These included boundary ditches and a tree lined avenue and most interestingly what is believed to be a 'summerhouse-like' folly offering views across the water meadows of the River Waveney and back towards Flixton Hall. Further evidence was uncovered relating to WWI when the park was given over to military training.

Other projects which received funding through the ALSF due to pre-PPG16 consents included the quarries at **Ripple and Retreat Farm, Worcestershire**. Funding was also given to **Southworth Hall Farm, Cheshire** where land due to be quarried yielded evidence with potential for pushing forward understanding of the prehistoric period in the North West. Finally, post excavation work on **Watermead Country Park, Leicestershire** was funded following the excavation of a unique Bronze Age ritual landscape including human skeletal remains with evidence of decapitation/de-fleshing.

In archaeology we will always come up against the unexpected. Even when all reasonable and expected evaluation and mitigation has been undertaken through the planning process unforeseen discoveries of nationally significant archaeology may still be made. Aggregate extraction sites are no exception and it is through the ALSF that English Heritage has been able to address some of these discoveries.

Southworth Hall Farm excavation, Cheshire

© National Museums & Galleries, Liverpool



MARITIME ARCHAEOLOGY

Mapping the potential of the seabed

Last year's ALSF annual report highlighted maritime projects that sought to facilitate and provide guidance on the assessment of maritime archaeological potential. The projects highlighted this year are concerned with mapping the potential of the sea-bed.

Sonar systems have been periodically used for at least the last four decades to investigate both wreck sites and latterly submerged landscapes, where the data has been used to provide a back-drop to a series of prehistoric archaeological studies. The **High Resolution Sonar for the Archaeological Investigation of Marine Aggregate Deposits** project undertaken by Southampton University sought to examine the potential of state-of-the-art, high-resolution, sonar systems for the investigation of marine aggregate deposits for archaeological material.

The aggregates industry generally targets coarser grained materials for extraction, in which buried objects or fine grained layers may lie unidentified. This lack of detailed structural information about the aggregate is a major problem from both the archaeological and the aggregate industry perspective. Archaeologists are interested in the identification of buried artefacts and aggregate deposits containing Palaeolithic material, while the aggregate industry is primarily interested in the presence of large quantities of wood/metal and/or fine grained sediments which will significantly degrade

the quality, and therefore profitability of the aggregate deposit.

In order to determine the potential of such material we have to be able to understand the complexity of the aggregate deposit and find suitable methods of dating coarse grained deposits. From the extensive archaeological studies of terrestrial aggregate deposits, it is evident that fine grained horizons can provide essential datable material for reconstructing depositional events and thus constraining the archaeological material they contain. Consequently, the identification of such horizons can be a major criterion for determining the potential of any one site.

This project undertook the detailed archaeological investigation of coarse grained aggregate deposits using sonar systems capable of imaging objects and layers beneath the seabed that are greater than 0.5m long, thicker than 0.2m and down to a depth of 15m beneath the seabed.

Imperial College, working closely with the aggregates industry, carried out the **Submerged Palaeo-Arun River** project which sought to reconstruct the offshore valley system of the Arun River off the south coast of Sussex.

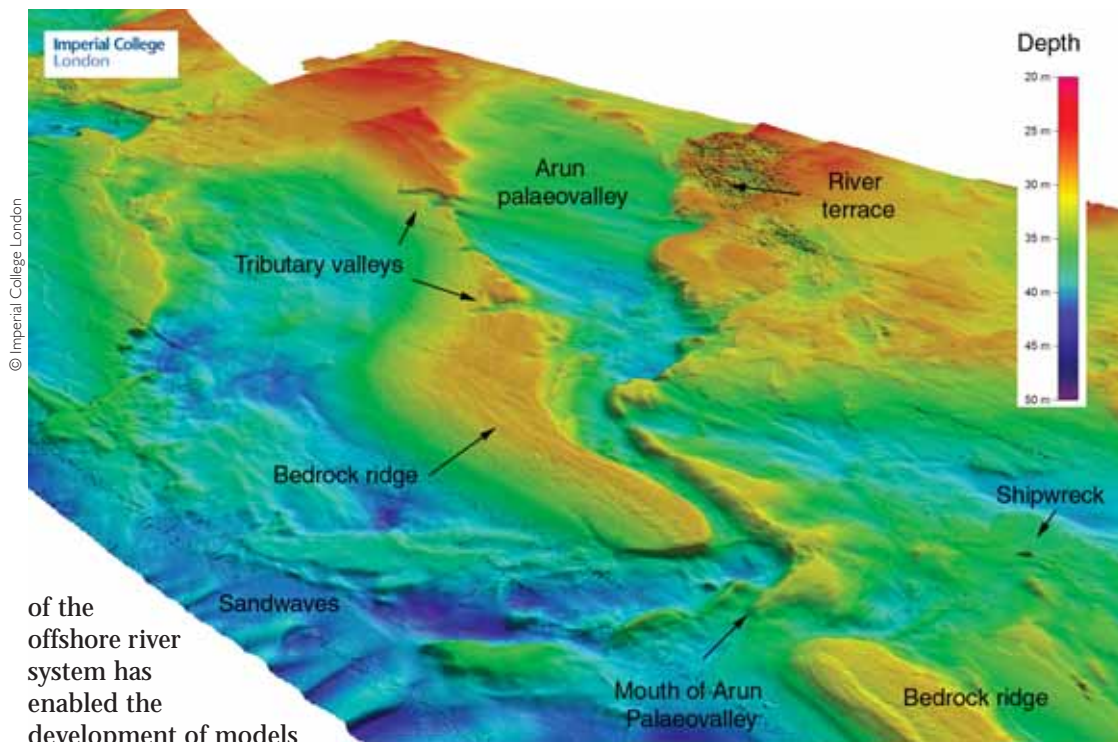
Submerged valley systems form important, but poorly understood, landscapes that are major targets for aggregate extraction, but also contain unique information on the environmental evolution of the region. Moreover, because onshore extensions of these valley systems contain some of the finest records of early human occupation in Britain, sediments and former land surfaces offshore are likely to contain important archaeological data to help record the history of early human migration into Britain.

The Prehistoric landscape of the Arun was mapped using multibeam swath bathymetry and high-resolution seismic profiling. The insight gained from the integrated geophysical/geomorphological/sedimentological investigation

Radial engine from a World War II B-17 Flying Fortress - from Wrecks on the Seabed



© Wessex Archaeology



Perspective view of the Arun palaeovalley imaged using multibeam sonar. Tributary valleys at western margin and river terrace deposits on eastern margin may hold potential for archaeological resources. Submerged Palaeo-Arun River project

of the offshore river system has enabled the development of models that allow complex submerged landsurfaces and sedimentary deposits that have extensive potential to contain archaeological resources to be understood and predicted.

The new data and technical developments provided by this study will contribute to the emerging field of prehistoric marine archaeology, in particular with regard to developing procedures to assess archaeological resource potential in offshore areas.

Finally, we look at the **Multibeam Sonar on Wrecks** survey undertaken by Wessex Archaeology assessed multibeam sonar survey (also known as swath bathymetry) and its application to the archaeological evaluation and recording of wreck sites on the seabed. This survey was an additional element to the Wrecks on the Seabed: Assessment, Evaluation and Recording project which included provision for an assessment of the application of side-scan sonar, magnetometer, sub-bottom profiler and single-beam bathymetry survey techniques for the recording of wrecks.

The need for this project arose after communication with the aggregate industry indicated multi-beam sonar survey will become standard practice during aggregate dredging licence applications. The adoption of this new technology by the industry provides an opportunity for the archaeological community to incorporate the assessment of this new data-source into the process of evaluating and recording submerged wreck sites.

Multibeam sonar bathes the sea floor with transmitted sound (enisonify) beneath and to either side of the survey vessel deriving continuous and well positioned 'spot heights' for many thousands of points on the seabed as the vessel moves forward. Unlike sidescan sonar, multibeam data provides full bathymetric (depth sounding) data for every patch of seabed that is enisonified, allowing three dimensional digital terrain models to be created very easily. As with sidescan sonar depressions and features projecting from the seabed can be displayed.

The project therefore sought to develop and test a structured system for acquiring, annotating, storing and referencing multi-beam survey data and assess the incorporation of multi-beam sonar survey data into the process of assessing, evaluating and recording wreck sites using other methods.

Following on from earlier fieldwork results and as part of the main **Wrecks on the Seabed** project diving was attempted on seven wreck sites (including metal and wooden-hulled vessels and aircraft) off the coasts of Hampshire and Sussex with the aim of establishing a basic record of each wreck. These sites were surveyed with multibeam sonar, sub bottom profiler and magnetometer, and subsequently subject dived in order to undertake closer inspection and rapid in situ recording, with an integrated diver recording system and an acoustic tracking system being used to aid detailed surface recording and diver navigation on the seabed.

Detail of the boiler from the SS Devon Coast - from Wrecks on the Seabed



BUILT ENVIRONMENT & INDUSTRIAL HERITAGE

Reducing the local effects of aggregate extraction

The ALSF has supported a number of projects which focus on the built environment and our industrial heritage. Many of these have been in the Industrial heartlands of the Midlands and North of England, and a number have been directly involved in the heritage of the extraction industry itself.

The **Peak Forest Tramway and Cromford and High Peak Railway** project undertaken by Sheffield University (ARCUS) looked at two former railways, which although built a generation apart are comparable in that they both acted as alternatives to canal transport. Opened in 1796 the Peak Forest Tramway, one of the first to use iron rails, linked the vast quarries at Doveholes with the Bugsworth Canal Basin (see below), while the Cromford and High Peak Railway, opened in 1830 used a series of inclined planes with fixed steam engines to pull the wagons some 33 miles up over the White Peak.

Along each line hundreds of monuments and buildings can still be seen, and although many have been designated as either Scheduled Ancient Monuments or Listed Buildings a great number remained unrecorded. The aim of the project was to record and document these in a baseline archaeological survey. A walkover survey along the routes of both, a total of over 38 miles, was undertaken, and 471 features in total (31 of which were listed or scheduled) were recorded. This information will now be used to inform future management of the

sites, and improve visitor information on the routes which are now used for recreation.

Further west, on the edge of the Lancashire moor land at Rossendale lie the remains of a series of former quarries and tramways. Here, the **Rossendale Quarries and Tramway Heritage** project, which aimed to develop local people's interest, knowledge and pride in the local heritage, was undertaken by Groundwork Rossendale. ALSF funding was used for the initial phase of work which recorded and assessed the remains, in order that a conservation and management plan for the area, and a programme of outreach activities could be developed.

Owned by British Waterways the affectionately known 'Buggie Basin', the site of **Bugsworth Canal Basin** on the fringe of the Derbyshire Peak District National Park, was the terminal for the Peak Forest Tramway. Built to allow the transportation of limestone and gritstone from the Derbyshire hills to the rest of the canal network, it is today unique as the only complete surviving example of a canal/tramway interchange in Britain.

A bridge and signal on the Cromford & High Peak Railway



© ARCUS

© ARCUS



Abandoned in the 1920s when the tramway closed, the basin has undergone extensive restoration and repairs over the past 30 years, and in 1999 it opened to narrow boat traffic. Unfortunately, serious leaks in the lining meant that the basin was once again closed until repairs had been undertaken. In conjunction with other funding bodies, including British Waterways and the Countryside Agency a scheme of works has been undertaken to bring the basin back into use. This work included installation of a new channel lining, sealing of the washwalls, wildlife habitat creation and archaeological recording of all works. At the time of writing the reopening of the basin to narrow boats was planned for the end of summer 2004.

Also in Derbyshire the ALSF provided £200,000 as a catalyst to attract funding from a wide range of partners (including the Borough and County Councils and the Derby and Derbyshire Economic Partnership) to address the neglected state of the medieval **Market Place, Buxton**. Despite the market place's importance to the local community, poor management over many years, and the constant use of the main road through the area by heavy lorries from

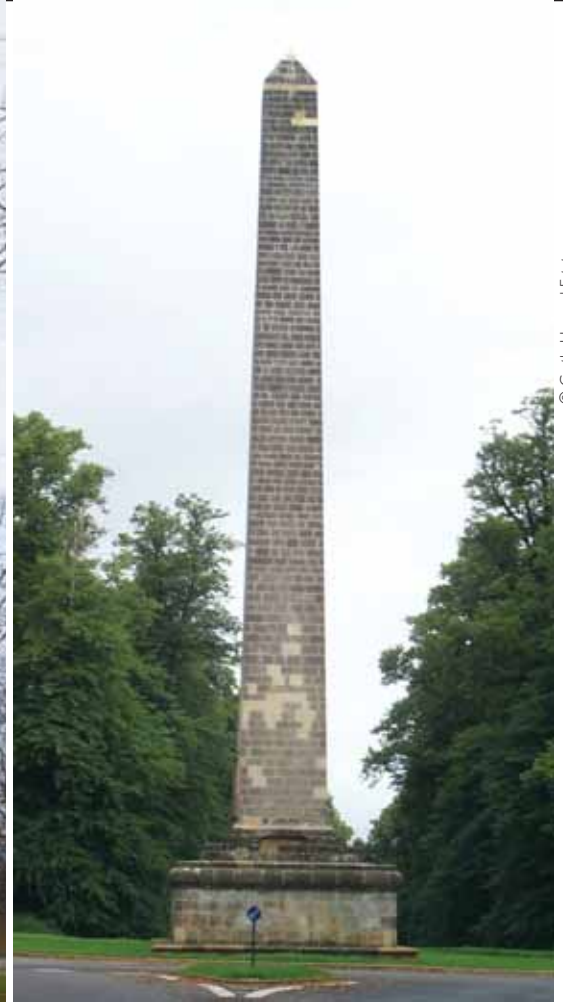
nearby lime and aggregates quarries had meant that the market place was in desperate need of improvement. Phase 1 of the project (totalling over £500,000) has re-aligned carriageways to calm traffic and maximise pedestrian space, rationalised bus movements, reorganised the car parking, reinstated avenue trees along the A515, and introduced natural stone paving in the form of setts, kerbs and flags. It is envisaged that the revitalised market place will contribute to

Bugsworth Basin contractors hoarding, illustrating the number of co-partners in this project

Buxton Market Place during works



Before and after photographs of the Castle Howard Obelisk



the economic regeneration of Buxton's old town by increasing its attractiveness, improving environmental conditions and highway safety, and providing greater flexibility to provide for traditional and new functions.

Further north and not automatically associated with the aggregates industry is the Castle Howard Estate in North Yorkshire, where we funded the **Repair to Obelisk** project. Here on what was once a private road stands a Grade 1 listed obelisk, designed by Sir John Vanbrugh for the 3rd Earl of Carlisle and built in 1715. The obelisk is ninety-five feet high and constructed of sandstone ashlar. The shaft curves at the base and is supported by four blocks of stone at the corners which stand on a plain step two courses high, which itself rests on a broad square plinth with a projecting stone seat at the bottom. Later, in 1731, two inscribed plaques with carved surrounds were added to the east and west sides of the lower part of the shaft.

Although once a private road, the highway is now an important link between the A64 and B1257 roads which are constantly used by heavy lorries from the nearby quarry at Hovingham. Thus the siting of the monument meant it was suffering in a number of ways as a direct result of the passing aggregate traffic.

A number of stones were shattered and fractured, other sections of stone had spalled away, cramps were rusting, serious soiling and weathering of the plaques had taken place and sections of the west plaque had fallen. The most serious damage however was to the corners of the plinth caused by vehicles overrunning the roadway.

To allow repair of the damage and protect the obelisk in the future a £120,000 ALSF grant was divided between the two partners; the Castle Howard Estate (responsible for the obelisk) and the highways authority of North Yorkshire County Council (responsible for the road). In order to ensure that the overrunning did not continue the roadway was immediately realigned to form a grass traffic roundabout with stone kerbing around the base of the obelisk. Following this, the obelisk was fully scaffolded, the stonework to the top was rebbeded, and the wrought iron cramps were replaced with stainless steel. Cracks in the stone facing were stitched, damaged stones in the lower parts of the shaft and to the plinth were replaced, open and defective joints were repointed and the marble plaques were cleaned, repaired and refixed. Completed in March 2004 the work will ensure that the obelisk stands proud for many years to come, and is now protected from the traffic that encircles it.

PROJECT LISTING

ALSF Projects 2003

Project Name	Responsible Organisation	Grant Paid
Aggregate Extraction Related Archaeology in England	University of Exeter	£25,958.00
Archaeological potential of secondary contexts	Southampton University	£39,166.13
Artefacts from the sea	Wessex Archaeology	£32,897.50
Assessing, evaluating and recording wrecks on the seabed	Wessex Archaeology	£92,090.34
Beckford, Worcestershire	Gloucestershire County Council	£17,850.00
Bestwall Quarry, Dorset	AC Archaeology	£140,915.77
Breedon-on-the-Hill: conservation plan	Leicestershire County Council	£10,500.00
Bugsworth Basin, Buxworth, Derbyshire	British Waterways	£40,000.00
Castle Howard Estate, Repair to Obelisk	English Heritage Yorkshire Region	£120,000.00
Characterising the Vale of Pickering	Landscape Research Centre	£60,000.00
Church Walk, Wirksworth, Derbyshire	English Heritage East Midlands Region	£29,353.00
Cotswold Canals	British Waterways	£11,000.00
Creswell Crags Limestone Heritage Area	Creswell Heritage Trust	£100,519.23
Creswell Crags - Management of Pleistocene Archives	Creswell Heritage Trust	£17,905.00
Cromford, Derwent Valley, Derbyshire: Historic Paving	Derbyshire County Council	£14,500.00
Depositional History of Dungeness Foreland	University of Durham	£40,847.00
England's shipping	Wessex Archaeology	£31,710.00
Flixton Quarry (Tarmac), Suffolk	Suffolk County Council	£4,959.00
Gloucestershire - assessment of archaeological resource	Gloucestershire County Council	£44,000.00
Greater Thames survey of known mineral extraction	Essex County Council	£53,663.78
Greenhow Village, N Yorks: survey & interpretation	Harrogate Borough Council	£8,715.50
Gwithian, Cornwall: Excavations 1949-1963	Cornwall Archaeological Unit	£25,534.14
Hartshill, Berkshire	Cotswold Archaeological Trust Ltd.	£63,642.00
Hertfordshire Mineral Local Plan Review	Hertfordshire County Council	£5,442.00
High resolution sonar and marine aggregate deposits	Southampton University	£20,000.00
Identifying the potential of coversands	University of Bradford	£56,391.00
Land south-west of Ripple, Worcestershire	Worcestershire County Council	£36,459.63

Project Name	Responsible Organisation	Grant Paid
Late Quaternary landscape history of the Swale - Ure	Lower Ure Conservation Trust	£104,823.00
Lead Rakes	Peak District National Park Authority	£42,002.68
Listening Devices, Denge, Kent	Cameron Taylor Bedford	£133,416.08
Listening Devices, Denge, Kent	O & L Construction Ltd	£511,882.04
Listening Devices, Denge, Kent	Concrete Repairs Ltd	£33,277.31
Lodge Farm, St Osyth, Essex	Essex County Council	£46,029.28
Lydd, Romney Marsh, Kent: Medieval evidence	University College London	£14,206.00
Lynford quarry	Norfolk Archaeological Unit	£79,110.09
Lynford quarry	The Prehistoric Society	£450.00
Malton Museum: Heslerton Exhibition	Malton Museum Foundation	£5,944.58
Mapping the sub-surface drift geology of Greater London	Museum of London Archaeological Service	£37,779.00
Market Place, Buxton, Derbyshire	English Heritage East Midlands Region	£200,000.00
Milfield Geoarchaeology: public outreach	Newcastle University	£19,782.00
Milfield Geoarchaeology: public outreach	The Design Desk	£11,144.45
Modelling the Chronology of Archaeological Sites	University College London	£28,277.00
Modelling the Stratigraphy of English Valley Systems	Oxford University	£22,846.75
Multi-Beam sonar on wrecks	Wessex Archaeology	£11,012.00
North Park Farm, Bletchingley	Surrey County Council	£13,862.00
North Solent Shore: Access & Interpretation Study	Hampshire County Council	£15,000.00
Palaeolithic Archaeology of Sussex/Hampshire Corridor	University of Wales, Lampeter	£94,525.45
Peak Forest Tramway & Cromford/High Peak Railway	University of Sheffield, ARCUS	£33,544.45
Public Awareness and Educational Opportunities	Cambridge Archaeological Unit	£46,709.25
Radiocarbon Dating Costs Related to ALSF Projects	Oxford Radiocarbon Accelerator Unit	£57,540.00
Radiocarbon Dating Costs Related to ALSF Projects	Scottish Universities Research & Reactor Centre	£6,960.00
Radiocarbon Dating Costs Related to ALSF Projects	University of Groningen	£41,918.00
Re-assessment of continental shelves	Southampton University	£21,156.00
Retreat Farm Quarry, Grimley, Worcestershire	Worcestershire County Council	£2,652.22
Rossendale Quarries & Tramways Heritage project	Groundwork Rossendale	£7,634.00
Rye, Romney Marsh, Sussex: evolution and archaeology	University of Durham	£32,895.00
Sandhills Project, Alderley Edge, Cheshire	The Victoria University of Manchester	£82,247.55

Project Name	Responsible Organisation	Grant Paid
Scorton Quarry, Catterick	Northern Archaeological Associates	£3,525.00
Scowles Survey, Forest of Dean	Gloucestershire County Council	£30,722.00
Shotton Project: a West Midlands Palaeolithic Network	Birmingham Archaeology	£36,195.63
Snuff Mills Park, Bristol	Bristol City Council	£16,450.00
Southworth Hall Farm, Southworth, Cheshire	National Museums & Galleries, Liverpool	£17,888.00
Spratsgate Lane, Somerford Keynes, Gloucestershire	Gloucestershire County Council	£6,043.00
Stanton Harcourt, Oxon: pleistocene material	Cropper, Katharine	£915.00
Stopes Palaeolithic Archive	Southampton University	£28,652.44
Streets For All: Design	Evolve	£52,875.00
Streets For All: Midlands	Colin J Davis & Associates Ltd	£37,701.00
Streets For All: National Overview and Management	The Conservation Studio	£35,250.00
Streets For All: North	Gillespies	£38,019.00
Streets For All: South	Guisse	£30,455.00
Submerged Palaeo-Arun & Solent Rivers	Imperial College	£121,629.00
Thames Valley Partnership	Oxford Archaeology	£16,026.70
The finest prospect in all England	Essex County Council	£9,596.00
Thornborough, N Yorks: Neolithic and Bronze-Age	Newcastle University	£40,374.72
Till-Tweed Catchment Aggregates and Archaeology	Newcastle University	£58,415.00
Trent Valley Survey 2002	Nottinghamshire County Council	£83,837.03
Understanding the East London Gravels	Museum of London Archaeological Service	£71,102.07
Vale of York assessment of alluviated landscapes	Newcastle University	£136,701.35
Watermead Country Park, Birstall, Leicestershire	Leicester University	£18,301.29
Wellington Quarry, Marden, Herefordshire	Worcestershire County Council	£35,527.39
Welton-le-Wold, Lincolnshire	Heritage Lincolnshire	£35,084.42
Where Rivers Meet: Landscape, Ritual, Settlement	Birmingham Archaeology	£81,961.82

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 Kath Buxton, Sarah Cole, Sara Cooper, Mark Dunkley and Jen Heathcote (text), and designed by Vincent Griffin.

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September 2004

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

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A Bronze Age pot being excavated at Hartshill Copse (see page 15)

