

Chapter 1: Palaeolithic archaeology, commercial quarrying and the Aggregates Levy Sustainability Fund

by Mark White

INTRODUCTION, AIMS AND OBJECTIVES

If you have picked up this book and thought 'do we really need another tome on the British Palaeolithic', give me a moment to explain. The purpose of this volume is not to provide another synthesis of sites and interpretations, all of which can be found in other recent books (eg Morigi *et al.* 2011; Pettitt and White 2012). Rather, this volume is concerned solely with more widely disseminating the results and implications of the various Palaeolithic and Pleistocene projects funded through the British Government's *Aggregates Levy Sustainability Fund* (ALSF) which ran from 2002 to 2011.

The key drivers behind the ALSF are discussed below, but it is important to note from the start just how significant this fund has been in developing British Palaeolithic and Pleistocene research and showcasing it on an international stage. As noted in both the *Research and Conservation Framework for the British Palaeolithic* (Pettitt *et al.* 2008) and the benchmark reports on the impact of ALSF (Miller *et al.* 2008; Flatman *et al.* 2008; Richards 2008), it is hard to overstate the importance of the ALSF, which 'on the world stage... is held up as a model of innovative heritage management providing proactive, collaborative research benefit to all stakeholders' (Flatman *et al.* 2008). Indeed, through the provision of financial resources 'unimagined' at the turn of the millennium (Pettitt *et al.* 2008, 2), the ALSF facilitated unique opportunities to examine landscapes, deposits and materials that would otherwise not have been possible (Miller *et al.* 2008, 6). The research described in this volume also had significant practical outcomes for conservation and management, by facilitating the expansion of data on the Palaeolithic resource and nurturing greater collaboration between various stakeholders, particularly in updating Historical Environment Records (HERs) and developing mineral plans (Flatman *et al.* 2008).

However, the wider impact of these projects is somewhat more limited. As Flatman *et al.* (2008) found, awareness of the results of ALSF projects among curators and academics is extremely

patchy (and this can almost certainly be extended to units, industry and contractors), largely because their outcomes and proposals are presented in sources not used by or available to all stakeholders. Most are either buried, among the publicly available as summaries on the Archaeological Data Service (ADS), as yet unpublished, or published in specialist literature (see <http://-archaeologydataservice.ac.uk/archsearch>). Useful search terms include ALSF, Aggregates Levy or individual project names, acronyms or numbers). There is thus an urgent need to ensure that all stakeholders are able to access and act upon ALSF project results. A comprehensive summary of each project considered in this volume is included in Appendix 1, along with reference to elements of the archive available on the ADS, published monographs and papers.

This volume therefore aims to bridge the gap between achievement and awareness through a synthetic conspectus of the most significant ALSF projects, and to provide pointers where further information might be sought. The primary target audience of this volume is thus the professional but not necessarily the specialist, and while students and scholars of the Quaternary period will hopefully find it a useful digest, it is primarily intended to raise awareness and widen understanding of the particular issues facing curators, developers, consultants, industry and archaeological units when dealing with the Palaeolithic resource.

More specifically, it is hoped that the book will:

- Improve access to data and interpretations currently provided in the grey literature or specialist journals
- Provide an overview and comparative investigation of Pleistocene landscapes across England (and in English offshore waters), an exercise last attempted in the 1990s by the *The English Rivers Palaeolithic Survey* (TERPS)
- Inform future research activities undertaken through national programmes of best practice and the development of research priorities

Lost Landscapes of Palaeolithic Britain

It is important to note that this book concentrates on Lower and Middle Palaeolithic sites (as did TERPS), as these dominate the British record and were the main focus of the ALSF projects. This bias is understandable when one recalls that for the Upper Palaeolithic, a period spanning only 30,000 of the 1,000,000 years humans have been visiting Britain, we have just eight Aurignacian sites, seven Gravettian ones, not a single shred of evidence for Solutrean occupation, and much of our Magdalenian comes from caves rather than fluvial contexts.

FORMAT OF THIS VOLUME

The remainder of this chapter provides the background for understanding the development and significance of the ALSF in the context of Palaeolithic research in Britain, sets out the aims and objectives of the programme, and lists the many Palaeolithic and Pleistocene projects that benefited from it (Table 1.1 and Fig. 1.1). Four themed chapters follow this, each exploring a different element of ALSF projects. Each chapter adopts a

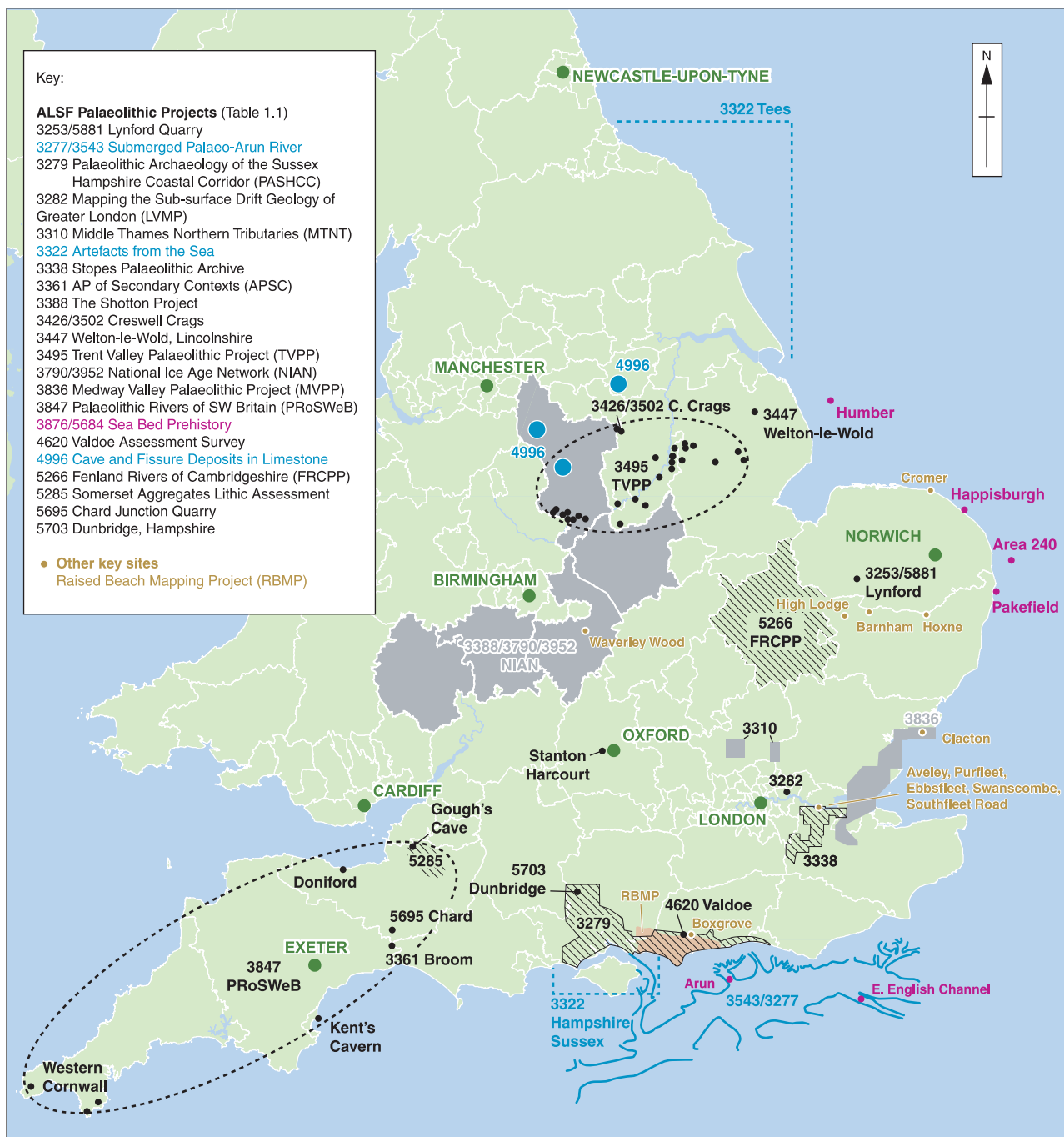


Fig. 1.1 Location of key Palaeolithic archaeological sites in Britain and ALSF projects referred to in this report. Contains Ordnance Survey data © Crown Copyright 2015

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Table 1.1 List of projects related to Palaeolithic research funded by the ALSF 2002-2011. Data from Shape (shape.english-heritage.org.uk). The list excludes additional funding for dating, EH dissemination programmes and backlog clearance projects

PALAEOLITHIC PROJECTS (* Projects not located on Fig. 1.1)				
<i>EH project no.</i>	<i>Project name</i>	<i>Acronym</i>	<i>Lead organisation</i>	<i>Total funding</i>
3253/5881	Lynford Quarry		Norfolk Archaeological Unit/ Northamptonshire Archaeology/ Royal Holloway, UoL	£404,286.90
3263/3913	The Thames Through Time Volume I	TTT	Oxford Archaeology	£162,198.90
3277/3543	Submerged Palaeo-Arun River: Reconstruction of Prehistoric Landscapes		Imperial College London	£379,247.00
3279	Palaeolithic Archaeology of the Sussex/ Hampshire Coastal Corridor	PASHCC	University of Wales, Lampeter	£308,097.50
3282	Mapping the sub-surface drift geology of Greater London (also known as The Lea Valley Mapping Project)	LVMP	Museum of London Archaeology	£232,839.70
3310	Middle Thames Northern Tributaries	MTNT	Essex County Council	£83,582.50
3322	Artefacts from the sea		Wessex Archaeology	£110,920.00
3333	Late Quaternary landscape history of the Swale-Ure		Durham University	£274,477.60
3338	Stopes Palaeolithic Archive		University of Southampton	£74,116.80
*3351	Archaeological Potential of Aggregate Deposits in the SW		University of Exeter	£1,500.00
3361	Archaeological Potential of Secondary Contexts	APSC	University of Southampton	£73,338.70
*3362	Re-assessment of the archaeological potential of Continental Shelves		University of Southampton	£84,606.00
*3363	Provenancing of flint nodules		University of Southampton	£2,620.00
3388	The Shotton Project: A Midlands Palaeolithic Network		University of Birmingham	£119,195.60
3426	Creswell Crags Limestone Heritage Area Management Action Plan		Creswell Heritage Trust	£166,570.20
3447	Welton-le-Wold, Lincolnshire: An understanding of the Ice Age		Heritage Lincolnshire	£38,671.10
3495	The Lower and Middle Palaeolithic occupation of the Middle and Lower Trent (also known as the Trent Valley Palaeolithic Project)	TVPP	Durham University	£217,141.30
3502	Creswell Crags: Management of Pleistocene Archives and Collections		Creswell Heritage Trust	£17,905.00
*3645	BMAPA Protocol for reporting Finds of archaeological interest		Wessex Archaeology	£138,135.10
3790/3952	National Ice Age Network	NIAN	University of Birmingham/ Royal Holloway, UoL	£312,037.40
3836	Medway Valley Palaeolithic Project	MVPP	University of Southampton	£254,554.40
3847	The Palaeolithic Rivers of SW Britain	PRoSWeB	University of Exeter	£208,141.10
*3854	Chronology of British Aggregates using AAR and degradation		University of York	£26,297.00
3876	Seabed Prehistory R2		Wessex Archaeology	£296,332.10
4600	Happisburgh/Pakefield exposures		Wessex Archaeology	£50,125.00
4620	Valdøe Assessment Survey		University College London	£148,782.80
4814	Late Quaternary Environmental & Human History of the Lower Tees Valley		Durham University	£60,446.60
4996	Archaeological Potential of Cave & Fissure Deposits in Limestone		Archaeological Research and Consultancy at the University of Sheffield	£30,193.80
*5088	J J Wymer Archive		Wessex Archaeology	£61,030.00
5266	Lower and Middle Palaeolithic of the Fenland Rivers (also known as Fenland Rivers of Cambridgeshire Palaeolithic Project)	FRCP	Durham University	£82,450.00
5285	Somerset Aggregate Lithics Assessment	SALSA	Somerset County Council	£10,600.00
5684	Seabed Prehistory: Site Evaluation Techniques (Area 240)		Wessex Archaeology	£286,471.40

Lost Landscapes of Palaeolithic Britain

5695	Chard Junction Quarry, Dorset: Palaeolithic Archaeological Resource	Southampton University	£131,183.00
5703	Palaeolithic material from Dunbridge, Hampshire Stanton Harcourt Pleistocene material Boxgrove Acquisition, West Sussex	Wessex Archaeology Katherine Cropper Wragg & Co	£32,435.70 £915.00 £100,000.00

MINERAL PLANNING RELATED PROJECTS

<i>Project no.</i>	<i>Project name</i>	<i>Lead organisation</i>	<i>Total funding</i>
3041	Vale of York Alluvial landscapes	University of Newcastle/ York Archaeological Trust	£328,599.00
3374	Greater Thames Survey of Known mineral extraction sites	Essex/Kent County Councils	£185,038.00
3928	Aggregate Extraction in the Ribble Valley	University of Liverpool/ Oxford Archaeology North	£304,434.10
4653	Aggregate extraction in Warwickshire	Warwickshire County Council	£97,632.00
4778	Durham – assessment of archaeological resource in aggregate areas	Durham County Council	£271,219.30
4828	East Riding of Yorkshire – assessment of archaeological resource in aggregate areas	Humber Field Archaeology	£62,482.50
5229/5707	Aggregate Landscapes of Derbyshire and the Peak District	Derbyshire County Council	£205,120.00
5319	East Sussex – assessment of archaeological resource in aggregate areas	East Sussex County Council	£22,334.00
3346	Gloucestershire – assessment of archaeological resource	Gloucester County Council	£64,595.00
3365	Modelling exclusion zones for marine dredging	Southampton University	£258,486.00
3430	Hertfordshire Mineral Local Plan Review	Hertfordshire County Council	£15,442.00
3966	Worcestershire Resource assessment	Worcestershire County Council	£77,068.40
3987	Suffolk – assessment of archaeological resource in aggregate areas	Suffolk County Council	£102,720.90
3994	Somerset – assessment of archaeological resource in aggregate areas	Somerset County Council	£77,168.00
4633	Lincolnshire – assessment of archaeological resource in aggregate areas	Lincolnshire County Council	£66,324.20
4681	Warwickshire – assessment of archaeological resource in aggregate areas	Warwickshire County Council	£94,229.00
4766	Hampshire – assessment of archaeological resource in aggregate areas	Hampshire County Council	£155,327.90
4794	Isle of Portland Archaeology Survey	AC Archaeology	£27,612.70
4832	NMP: Leadon & Severn Valleys	Gloucestershire County Council	£44,232.00
5241	Norfolk – assessment of archaeological resource in aggregate areas	Norfolk Museums Service	£110,689.00
5292	Leicestershire and Rutland – assessment of archaeological resource in aggregate areas	Leicestershire County Council	£49,548.00
5339	North Yorkshire – assessment of archaeological resource in aggregate areas	North Yorkshire County Council	£4,053.80
5366	Whole-site first assessment toolkit for sands and gravels	Leicester University	£128,746.00
5381	Palaeolithic Research Framework	University of Sheffield/ Wessex Archaeology	£3,848.00
5713	Quarrying, caves and mines: a review of evaluation and mitigation techniques	York Archaeological Trust	£24,427.50
5725	Enhancing the geoarchaeological resource in the Lower Severn Valley	Worcestershire County Council	£81,940.70
5759	Bedfordshire aggregates archaeological resource assessment	Bedfordshire County Council	£52,343.00
5769	Assessment of archaeological resource in aggregate areas within the IOW	Museum of London Archaeology	£85,226.00
5784	Oxfordshire Aggregates Archaeological Resource Assessment	Oxford Archaeology	£53,723.80
5787	Notts Aggregate resource assessment	Trent and Peak Archaeology	£62,671.00
5794	South Gloucestershire Aggregate Resource Assessment	Cotswold Archaeology	£26,105.10
5807	Wiltshire and Swindon Aggregate Resource Assessment	Cotswold Archaeology	£36,949.30
5810	Essex Aggregates Resource Assessment	Essex County Council	£78,124.00
5849	Assessment of archaeological resource in aggregate areas within the London Borough of Havering	Museum of London Archaeology	£27,747.50

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5850	Assessment of archaeological resource in aggregate areas within the Bath and NE Somerset	Museum of London Archaeology	£41,698.00
5898	West Berkshire Aggregates Resource Assessment	Museum of London Archaeology	£62,247.30

PROJECTS WITH DIRECT RELEVANCE TO THE PALAEOLITHIC RESOURCE

<i>Project no.</i>	<i>Project name</i>	<i>Lead organisation</i>	<i>Total funding</i>
3350	Aggregate Extraction related archaeology in England	University of Exeter	£86,494.00
3357	Predictive Modelling at a river confluence	University of Exeter	£296,978.00
3364	High resolution sonar and marine aggregates deposits	Southampton University	£96,460.00
3964	Aggregates industry in the Trent Valley: a history and archaeology	University of Sheffield	£57,178.80
4613	3D seismics for mitigation mapping of the southern North Sea	University of Birmingham/CBA	£241,807.70
4716	Marine Research Framework	Southampton University	£71,264.00
4772	Suffolk river valleys and aggregate extraction	Suffolk County Council	£78,005.50
4776	Unlocking the Past: archaeology from aggregates in Worcs - HER	Worcestershire County Council	£65,419.70
	AAR/Biogenic carbon OSL	University of Wales, Aberystwyth	£25,488.80
	Archaeology and the QPA		£5,238.00
	Archaeology of the Mendip Hills: conference	University of Worcester	£4,225.00

Annual Totals

2002	2003	2004	2005	2006	2007	2008	2009	2010
£1,522,101.40	£1,023,476.70	£1,340,887.90	£1,048,740.90	£1,223,588.40	£1,121,124.40	£418,371.20	£715,260.00	£369,016.0

scalar approach – that is, they examine the different potentials and problems that emerge from Palaeolithic investigations that operate at different levels of inquiry from the micro-scale of *in situ* find horizons and sites through the meso-scales of gravel quarries to the macro-scale of landscape surveys.

In Chapter 2, Martin Bates and Matthew Pope examine the range of methods used by various ALSF projects to explore the Pleistocene record. This reaches out to units and development controllers by exploring cost-effective methods as well as state-of-the-art techniques. It kick-starts the scalar approach advocated in this volume by looking at how different questions engender different approaches, and is particularly concerned with generating a greater appreciation among non-specialist stakeholders of the importance of sites with a range of environmental proxies but no hint of a human presence.

Chapter 3, by Matthew Pope and Martin Bates, deals with the record from marine and marine-land transitional zones. The marine resource has become something of a celebrity – perhaps even a cause célèbre – over the past decade, as awareness has grown that potentially high-quality archaeology can be found in intact sediments, particularly in the North Sea basin and immediate on-shore contexts. Pope and Bates examine the different ALSF projects that have tackled these issues, while also putting to rest some emerging misconceptions about this record. Vitally, they also question whether loss of marine habitat and lack of any contextual information is a price worth paying, or whether this is a resource best left to another generation.

In Chapter 4, Danielle Schreve examines the impact of the ALSF on terrestrial landscape based

projects. This concentrates on the scale of the site, and of the valley, but also discusses the highs and lows of a major flagship project – the National Ice Age Network (NIAN). This chapter also offers the best insights into the Impact of ALSF in terms of social and cultural benefits to local and national communities, and in helping address policy at a national level.

In Chapter 5, Andy Shaw and Beccy Scott discuss the technology, behaviour and settlement history of Palaeolithic humans. The text of this chapter focuses on providing a commentary on the Palaeolithic material record for the non-specialist. Taking up the theme of scales, it begins with a useful outline of the nature of the material (including its taphonomic and collection history). A temporal run-down of the key types of artefact and technologies most commonly found at Palaeolithic sites is then provided and is intended to act as a brief guide to what one might expect to find in deposits of different ages. The value of waste flakes is also discussed, as well as changes in landscapes and the use of the landscape in structuring the archaeological record, aiming once again to provide useful insights into the value (or otherwise) of various sites for various stakeholders. Finally, the authors provide a guide to interpreting the record, in terms of taphonomy, site function and landscape use. Each of the themes discussed is exemplified using ALSF projects, which are in this chapter delivered through text boxes.

The final chapter is an attempt to use these insights to define future priorities and milestones, and offers pointers for all stakeholders regarding reasonable responses and mitigation to development at different locations.

FOR THE LOVE OF CLASTS

Palaeolithic archaeology has a singular love-hate relationship with the aggregates industry. Were it not for the commercial extraction of sands and gravels, most deeply buried Palaeolithic sites would remain just that: deeply buried. Instead, there are literally thousands of findspots (Roe 1968; Wymer 1968; 1985; 1999). The most profitable period for Palaeolithic archaeology was the era when quarries and brickpits were dug by hand (essentially from the landmark year of 1859 to the late 1920s), which is when most of our known and celebrated Palaeolithic sites were first discovered (Wymer 1968; 1985; 1999; Roe 1981; Pettitt and White 2012). It is fair to say that we are still reaping these dividends – almost all of the flagship excavations of the past 30 years have been re-investigations of the best finds of this vintage (see for example Roberts and Parfitt 1999; Ashton *et al.* 1992; Ashton *et al.* 1998; Ashton *et al.* 2005; Ashton *et al.* 2008; Gowlett *et al.* 2005). Equally, for their part, the early quarry workers could augment their salaries by ‘keeping an eye out for palaeoliths’, with many collectors willing to part with fairly large sums of money and occasional legs of mutton for the right pieces from the right sites – although this did occasionally lead to sharp practices including forgery and seeding sites from other localities (cf Smith 1894). Records of Worthington Smith’s purchasing activities held in the British Museum and the Ashmolean Museum show that he was willing to pay over £1 for a prized piece, from his total annual income of £52. He was certainly not alone.

On the other hand, since the advent of large-scale mechanised extraction the very process of exposure has become the process of destruction, with the potential for lithic scatters, find horizons and indeed whole sites to be swept away in a few scoops of a giant bucket. Access to sites and collections has become increasingly difficult and now mostly involves chance finds on a sorting belt or spoil heap by quarry employees or local enthusiasts, some of the latter entering sites without permission and rarely registering their finds on the local HER. Rates of discovery have consequently slowed to about one or two major sites per generation and only a handful of truly significant new discoveries since the 1950s really spring to mind: Boxgrove, Purfleet, Aveley, Lynford, Waverley Wood, Glaston, Happisburgh and Pakefield being the most notable, the last two due to coastal erosion rather than extraction (see references in Pettitt and White 2012).

Equally, a number of historical, logistical and productivity-linked issues has made the Mineral Products Association as a body, and some (but not all) quarry managers as individuals, reluctant to allow Palaeolithic archaeologists access to their operations. This is easy to appreciate, especially when quarry companies have already conformed to legislation and often paid out large sums of money for archaeological investigations of the Holocene sediments above the Pleistocene aggregate. How-

ever, it does represent a misunderstanding as to the very different nature of Palaeolithic and Pleistocene remains and how these should be recorded and investigated. The latter occupy a rather enigmatic position among the various stakeholders. For archaeological units and scholars of later periods, Pleistocene sediment is the ‘natural’ (and of limited interest); for the quarry company, it is pay-dirt; and for the Palaeolithic specialist, it is the critical archaeological resource – the ‘lost landscapes’ of the Pleistocene. In other words, industry and Palaeolithic archaeology are interested in the same resource – Pleistocene deposits – just for very different reasons.

There is no easy solution to this, and balancing the protection of the Palaeolithic heritage with the needs of the aggregates industry is a fraught business, especially with new agendas driven towards a ‘presumption in favour of sustainable development’ (National Planning Policy Framework 2012, 14). I do not intend here to become embroiled in the rights or wrongs of the situation, nor to engage in period-specific special pleading, but a few operational issues should be outlined. As Wenban-Smith (1995b) points out, most archaeological legislation in the UK has focussed on the more visible, accessible and better documented sites and monuments of the Neolithic onwards. The non-structural nature of open-air Palaeolithic sites means that they are excluded from statutory protection on archaeological grounds – put simply, they are not monuments. However, some cave sites are Scheduled Monuments, which may appear incongruous since the caves are certainly not of human construction. In some cases caves are affected by aggregates quarrying of hard rock such as limestone, with Creswell Crags, Coygan Cave, Westbury, and Uphill Quarry being examples. The last three of these were actually destroyed by quarrying.

Environmentally significant sites that lack artefacts also fall outside the generally accepted definition of the archaeological resource and are rarely considered (Wenban Smith 1994, 1995a and 1995b), although both artefactual and non-artefactual sites may be afforded some protection if they are considered to be Sites of Special Scientific Interest (SSSI) by Natural England, usually on the basis of geology or fossil fauna (see sites in Bridgland 1994).

In counterpoint, it must be emphasised that for practical rather than legal reasons, Palaeolithic sites are incredibly hard to evaluate using normal planning procedures – either Planning Policy Guidance 16 (PPG16) or its successor the National Planning Policy Framework (NPPF) (see also Last *et al.* 2013). As it stands, local authorities are tasked with ensuring that, where proposed developments impinge upon heritage assets with archaeological interest (including Palaeolithic interests), developers should fund an appropriate desk-based assessment and, where necessary, a field evaluation. But for the Palaeolithic, how is this to be done with any degree of accuracy? New quarry sites are unlikely to have

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previously produced any Palaeolithic artefacts and will thus be largely absent from the Historic Environment Records (HERs). The uneven distribution of finds both vertically and horizontally (depending on what part of these lost landscapes are being exploited today and in the past) means that Palaeolithic occurrences pose several evaluative/predictive/mitigative problems. For example, one cannot simply assume that because a particular terrace gravel at Quarry A contained 1000 handaxes, the lateral extension of that gravel a kilometre away at Quarry B will contain anything at all. And all of this says nothing of the unique issues of monitoring marine aggregates – as recently brought home by the discovery of Palaeolithic artefacts dredged from Area 240 in the North Sea off East Anglia (Wessex Archaeology 2008; Tizzard *et al.* 2015) and the Neanderthal frontal bone found off the Netherlands (Hublin *et al.* 2009).

As described in Chapter 2, the distribution of artefacts across landscapes depends entirely on past palaeogeographies – in this case the precise part of the river channel that had once been exploited by Palaeolithic hominins and is now of interest to modern development. The quarry company or developer might also rightly ask whether another 1000 rolled handaxes from southeast England is actually telling us anything about the past we didn't already know (ie that Pleistocene hominins often made handaxes and these often ended up as clasts in rivers). If those 1000 rolled handaxes came from the relatively barren north of the country, however, their importance would be significantly greater, but they would still be derived and the details of their original context contextual depleted. In many respects other than in fine-grained well-preserved locations watching briefs are the best one can hope for. The Palaeolithic community and quarry industry must also be alive to a responsive as well as a predictive method of evaluation. That said, building such contingency into any development proposal may stumble over the imperative of presumption in favour of development. Obviously, new methods and measures are needed and predictive tools must be top of the agenda (see Chapter 2).

THE ENGLISH RIVERS PALAEOLOGIC SURVEY, 1991–1997

Following directly from concerns such as these was one of the greatest successes for English Heritage and British Palaeolithic research, *The English Rivers Palaeolithic Survey* (TERPS). This project was initiated in 1991 in response to growing awareness that the huge increase in the quantity of sand and gravel being extracted for road building and construction was potentially destroying evidence of the Palaeolithic period without record (Wymer 1999), although its proximate impetus appears to have been proposed mineral extraction at the rich site of Dunbridge, Hampshire (Gamble 1992; Wenban-Smith 1995a). This site had, incidentally, yielded

about 1000 handaxes in earlier phases of extraction (Roe 1968). At the time, although Government policy was to encourage the increased use of recycled aggregate resources, there were no means to significantly reduce the threat posed to the Palaeolithic archaeological record. TERPS began life as the *Southern Rivers Palaeolithic Project* (SRPP), directed by John Wymer under the auspices of Wessex Archaeology, and aimed to provide a detailed survey of the known Palaeolithic material south of the Thames. In 1994 this work was extended to cover the whole country (thus becoming TERPS), which divided Britain into 12 regions, primarily based on major river drainage systems.

The specific aims of the survey were (quoted from Wymer 1999, 1):

- To identify, as accurately as possible, the findspots of Lower and Middle Palaeolithic artefacts and the deposits containing them in order to demonstrate fully the distribution of known Palaeolithic sites in England
- To confirm, where necessary, the validity of previous identifications of artefactual collections
- To verify, where necessary, the provenances of discoveries, and to note the current physical condition of such sites
- To chart the extent of relevant Quaternary deposits
- To review previous aggregate extraction so as to understand the circumstances of the earlier discovery of Palaeolithic material
- To consider current established and potential mineral extraction policies so as to recognise the threat to the Palaeolithic resource
- To assess the varying relative importance of discoveries and the potential for future finds throughout the study area in order to develop predictive models; to make recommendations to English Heritage in the light of potential threats
- To disseminate the results as quickly as possible in forms appropriate to different users
- To inform the academic fraternity of the progress and results of the survey

It is clear from this that curation lay at heart of TERPS. The results were initially disseminated to HERs, county planning offices and project members as a set of maps (containing information on past, present and future mineral extraction) and gazetteers (Wymer 1992–1997). While these had a very limited print run, the results were summarised in Wymer's final book: *The Lower Palaeolithic Occupation of Britain* (Wymer 1999). TERPS remains the most comprehensive survey of Lower and Middle Palaeolithic archaeology in the British Isles or anywhere else for that matter, and the resulting dataset has underpinned British Palaeolithic research since its publication.

THE AGGREGATES LEVY SUSTAINABILITY FUND, 2002-2011

In April 2002, the UK Government imposed a new levy on sales of primary marine and terrestrial aggregate, so that market prices better reflected the social and environmental costs of primary extraction. The Department for Environment, Food and Rural Affairs (Defra) used a proportion of the revenue generated to fund research designed to mitigate the impact of aggregate production in affected areas: this was known as the Aggregates Levy Sustainability Fund. The fund was distributed by a number of delivery partners, with the lion's share being funnelled through English Nature (now Natural England) and English Heritage (now Historic England), the latter primarily involved in mitigating the impact of aggregate extraction on the historic environment, both marine and terrestrial (ALSF Annual Report 2002-3). The scheme ran through four phases over 10 years: the Pilot Phase from 2002-4, Phase 2 from 2004-6, the Phase 2 Extension in 2007, and Phase 3 which ran from 2008 to 2011.

In total English Heritage distributed £28.8 million (Tim Cromack pers. comm.), with almost £8.8 million going to projects with relevance to Palaeolithic archaeology and wider Pleistocene research (Table 1.1). Such levels of funding were indeed unimagined when the first Palaeolithic framework document was published three years prior to the commencement of the scheme (English Heritage/Prehistoric Society 1999), and outshines funding from the Research Councils UK (RCUK) and charitable sources over the same period in reach and distribution, if not necessarily in actual cash. Also outlined in Table 1.1, but not discussed in detail in this volume, are the regional frameworks and mineral assessment plans funded by the ALSF. Such plans are critical to developing an understanding of what is left of Pleistocene landscapes, and when viewed against regional and national surveys of artefact distributions in space and time, they provide the pathways towards the holy grail of predictive modelling.

Both the Pilot and Phase 2 of the ALSF in England had the following objectives, as defined by Defra in 2002 (ALSF Annual Report 2004-5, 3):

Objective 1: minimising the demand for primary aggregates

Objective 2: promoting environmentally friendly extraction and transport

Objective 3: reducing the local effects of aggregates extraction

In March 2005, the third objective was reworded, and a fourth objective was added, thus:

Objective 3: to address the environmental impacts of past aggregates extraction

Objective 4: to compensate local communities for the impacts of aggregates extraction

The priorities and initiatives set out by English Heritage for the disbursement of ALSF funding also evolved over the lifetime of the scheme. For the Pilot, English Heritage focussed on three key areas (ALSF Annual Report 2002-3, 3):

- Projects that delivered reliable predictive information and techniques to enable planning authorities and the aggregates industry to minimise the future impact of extraction on the historic environment
- Projects aimed at increasing understanding in both the public and professional spheres of knowledge gained from past work on aggregate extraction landscapes
- Targeted buying-out of old mineral permissions for the benefit of long-term management and sustainability of the historic environment

English Heritage were also mindful of the possible need to use part of the funding for excavation, analysis and dissemination of unforeseen archaeological remains encountered during developer-funded excavation in advance of aggregate extraction, provided normal planning procedures had been followed (*ibid.*).

During Phase 2, English Heritage continued to address the impact of aggregate extraction on the historic environment (initially Objectives 2 and 3, and eventually 4), specifically targeting projects that:

- Developed the capacity to manage aggregate extraction landscapes in the future Delivered to public and professional audiences the full benefits of knowledge gained through past work in advance of aggregates extraction
- Reduced the physical impacts of current extraction where these lie beyond current planning controls and the normal obligations placed on minerals operators
- Addressed the effects of old mineral planning permissions
- Promoted understanding of the conservation issues arising from the impacts of aggregates extraction on the historic environment

The final phase saw another variation, with projects now broken down into two themes, each with a different set of objectives (ALSF Annual Report 2007-8, 3):

Theme 1: quarries

- Identification and characterisation of the historic environment in key existing or potential areas of terrestrial aggregate extraction

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- Research and development of practical new techniques to locate hidden historic environment assets in aggregate landscapes
- Conservation and repair of vulnerable historic assets directly impacted by aggregates extraction or directly associated with historical extraction
- Emergency funding for the recording, analysis and publication of nationally significant archaeological remains discovered during aggregates extraction

Theme 2: marine

- Identification and characterisation of the historic environment in key existing or potential areas of marine extraction
- Research and development of practical new techniques to locate seabed historic environment assets
- Marine historic environment training, dissemination and communication

Throughout its lifetime, knowledge transfer, communication and outreach lay at the core of ALSF objectives. As a recipient of several grants it

was always very clear that projects needed to talk not to a purely academic audience, but to a variety of stakeholders, ranging from the general public and local interest groups, to government agencies, contractors, developers and the quarrying industry. Furthermore:

“One of the most important roles of the ALSF [was] the ability to fund projects that raise awareness of conservation issues, not only across the historic environment sector but also amongst the wider community and the aggregate extraction industry. Many who work in the quarry industry will have some awareness of the archaeology that often comes to light during operations but it is important that these discoveries are better recognised and understood and that an accurate record is made of them.”

(ALSF Annual Report 2004-5, 20)

Given the recent winding up of the ALSF, as well as several other major funded projects such as the Leverhulme Trust’s *Ancient Human Occupation of Britain* project (AHOB), it is timely to consider the many successes of the scheme, and use this to help build the future of the British Palaeolithic.

