AGGREGATE LEVY SUSTAINABILITY FUND MARINE AGGREGATES AND THE HISTORIC ENVIRONMENT

ARTEFACTS FROM THE SEA SOURCE APPRAISAL

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1. INTRODUCTION

- 1.1.1. Wessex Archaeology has been commissioned by English Heritage for the Aggregates Levy Sustainability Fund to undertake research into previously recovered archaeological artefacts from the sea. A primary aim of the project is to enhance records of artefacts from the sea, and inter-tidal areas, held by the National Monuments Records (NMR) and selected coastal Sites and Monuments Records (SMR) in England, as outlined in the Project Design (Wessex Archaeology 2002a).
- 1.1.2. The initial area identified for study covers the coastline between the western Solent and the River Tees. However, based on the research work undertaken to date and consultation with English Heritage, smaller stretches of coastline have been identified for research and data enhancement to focus on.
- 1.1.3. This report presents the research work undertaken to date and will outline the quality and quantity of information collected from each source. Through this explanation of assessed sources, the process by which the smaller research areas were decided upon will be explained.

2. DATA COLLECTION – LITERATURE SEARCHES

2.1. Gazetteers of Lower and Middle Palaeolithic sites in Britain.

- 2.1.1. CBA Research Report No. 8 *A Gazetteer of British Lower and Middle Palaeolithic sites* (Roe 1968) presents basic information on sites and finds, arranged by county, to supplement the CBA's card index file of Palaeolithic and Mesolithic sites and finds. The sites are organised by county, within which the finds from each site are classified into categories such as 'handaxe' and 'core', with a short description of the site and information about the principal source or collection. The gazetteer provides a basic catalogue of known sites and findspots, but offers no interpretation of the data.
- 2.1.2. The English Rivers Palaeolithic Project (TERPS, Wessex Archaeology 1996/7) was initiated in 1991 and updates Roe's 1968 publication. TERPS initially involved a detailed survey of the Earlier Palaeolithic archaeology of southern England (Southern Rivers Palaeolithic Project, Wessex Archaeology 1993/4) and was later extended to the whole country. Its principal aims were to identify, verify and map Lower and Middle Palaeolithic sites and findspots with a view to assessing the relative importance of the sites and finds and the potential for future finds. The results were synthesised and published in the two volume monograph *The Lower Palaeolithic Occupation of Britain* (Wymer 1999).

2.1.3. Volume 1 of *The Lower Palaeolithic Occupation of Britain* takes a broad approach to the interpretation British Palaeolithic archaeology. It presents information on geological and climate change, fauna and flora, river terrace formation and interpretation and dating frameworks to interpret the lives of people in the Lower and Middle Palaeolithic. Volume 1 presents the archaeology by types of landscape, such as river valleys or the coastline. Site and area summaries allow for a fairly detailed description of the archaeology of each area and landscape type. This detailed information is summarised in Volume 2 in a series of 58 distribution maps for sites (defined as two or more artefacts) with known locations in each of the river valleys investigated. The maps show over 30 sites along the coastline between Poole harbour and Suffolk, with the majority in the Solent region.

2.2. Gazetteer of Upper Palaeolithic and Mesolithic sites in England and Wales.

2.2.1. CBA Research Report No. 20 (Wymer 1977) is a continuation of the work published as CBA Research Report No. 8 (see above Roe 1968). The work for Research Report No. 20 included investigating all known museum and private collections to which access was granted and included all stratified, excavated sites, concentrations of surface material and findspots of single, stray finds of Upper Palaeolithic and Mesolithic date. Like the 1968 gazetteer, this report provides a simple catalogue of artefacts, divided by county, with information about the location – including a grid reference where known, a publication reference or collection name, the number of artefacts from each artefact class type eg. tranchet axe, scraper or microlith and the compiler of each record. No maps are provided and there is no interpretation of the data.

2.3. The Colonisation of Britain by Modern Humans: A Review of Upper Palaeolithic and Mesolithic Resources in England.

- 2.3.1. Wessex Archaeology is currently initiating The Colonisation of Britain by Modern Humans project for English Heritage. One of the key aims of the project is to update previous surveys of the Upper Palaeolithic and Mesolithic of England mentioned above (Wymer 1977).
- 2.3.2. The scope of this project includes all the Upper Palaeolithic sites and finds in England including 'now submerged or intertidal areas (drowned landscapes)' (Wessex Archaeology 2002b) and a pilot study of three counties Nottinghamshire, Dorset and Buckinghamshire is currently proposed for the Mesolithic sites and artefacts.
- 2.3.3. It is not envisaged that the Colonisation of Britain project and the Artefacts from the Sea project will overlap, primarily due to the differing time scales, although the information from this project may be integrated into the Colonisation of Britain project.

2.4. General Literature Search

- 2.4.1. The general literature search has, to date, used the library resources at Wessex Archaeology with targeted use of the Science Library and the Institute of Archaeology Library at University College, London.
- 2.4.2. To date, this literature-based research has focused on coastal archaeology from the Palaeolithic and Mesolithic periods which, it is hoped, will correct any bias towards

- the reporting of later archaeological sites and finds in established databases. Published and unpublished sources will be used to fully research any later artefacts not already held within the SMRs, but identified during the project.
- 2.4.3. The literature search has, to date, included around 200 sources. Through this work, several areas have been identified where large numbers of artefacts have been recovered whilst detailed contextual information has been identified for a number of individual artefacts discovered in the early twentieth century.
- 2.4.4. Areas that, from the literature searches, seem to have higher numbers of Palaeolithic or Mesolithic artefacts and sites include the Yorkshire Coastline, Dogger Bank, Brown Bank and the Solent area. Some of the sites and finds from each area are briefly outlined below:

Area	Outline of sites and finds from the	Key References	
	coast and sea.		
The Yorkshire coast.	Literature on this area indicates that there are a large number of individual finds, with some sites along the coast. An indication of what is known includes a Palaeolithic occupation site, flint scatters of Mesolithic date, at least three Mesolithic harpoon points, faunal remains including a mammoth tusk and tooth and a submerged forest.	Armstrong 1922. Armstrong 1923. Clark & Godwin 1956. Flemming 2002.	
Dogger Bank.	Published articles refer to (unreferenced and unpublished) reports of 'human artefacts', flints, bone and antler spearheads and faunal remains. Reports indicate that very large numbers of artefacts have been dredged from the area. Peat, known as 'moorlog', is also dredged from the area.	Clark 1936. Coles 1998. Flemming 2002.	
Brown Bank.	This area is well known for producing large numbers of fossil mammal bones, artefacts and human modified bone and antler. Most of these artefacts are dredged up by fishermen and now held in museums on the continent or private collections and published in Dutch and Belgian publications.	Louwe Kooijmans 1972. Verhart 1995. Flemming 2002.	
The Solent.	This area has over 20 sites of Palaeolithic date, numerous findspots of Mesolithic lithics in addition to submerged landscapes including peat horizons and forests.		

3. DATA COLLECTION – ESTABLISHED DATASETS

3.1. Portable Antiquities Scheme

- 3.1.1. The Portable Antiquities Scheme holds regional and central databases of finds recovered and reported by the public. The majority of the finds come from metal detecting and therefore the artefacts recorded are heavily biased towards those from later periods. More recently, however, the Portable Antiquities Scheme has seen an increase in the number of lithic artefacts reported to them.
- 3.1.2. The Portable Antiquities Scheme has a bespoke database which records detailed information about findspots, finders and the individual finds. Contact with the Portable Antiquities Scheme identified 191 artefacts from 58 findspots from the English and Welsh coast dating up to the end of the medieval period, 1540 AD. Of these 80 are of prehistoric date and 5 are of unknown date.
- 3.1.3. Correspondence with the Portable Antiquities Scheme indicated that there are currently 'inconsistent' lines of communication between the Portable Antiquities Scheme and the local SMRs. They have suggested that it is unlikely that any other database holds information on these finds.

3.2. National Monuments Record

- 3.2.1. It is anticipated that gazetteers of Palaeolithic and Mesolithic artefacts discussed above (2.1 and 2.2) have already been incorporated into the NMR.
- 3.2.2. Previous work by Wessex Archaeology reviewed the potential for Palaeolithic and Mesolithic archaeological remains on the seabed in the area between the Eastern Solent and the Wash (Wenban-Smith 2002). This work identified 282 sites and findspots, of which 183 were recorded in the NMR and an additional 99 were recorded in TERPS (Wessex Archaeology 1993/4, Wessex Archaeology 1996/7).
- 3.2.3. Correspondence with the NMR suggests that it is likely that more sites have been added to their database since the above research. This research is covering a wider area, hence new searches will be required as a baseline dataset.
- 3.2.4. The NMR has recently ensured that all coastal sites have a corresponding coastal Land Use code, which will be used as the primary search criteria. The NMR have been approached and delivery of their data is anticipated.

3.3. Sites and Monuments Records

- 3.3.1. The seventeen SMRs that cover the coastline between the western Solent and River Tees all expressed an interest in the project on first contact by telephone. They were then provided with an outline of the project, requested to confirm their interest in participating and asked to provide any relevant comments they had about the project. The level of response varied greatly. Some SMRs immediately offered assistance, others replied with queries about the project, some acknowledged receipt of the document and are consulting colleagues whilst others have not replied.
- 3.3.2. The following table (Table 1) lists those SMRs that have been contacted, outlines the response received from them after provision of the project outline and notes any further action to be taken to ensure that their data can be used in the project.

Table 1.

SMR Area	Contact Name	Contact Name	Response to receiving project outline	WA proposed action
Isle of Wight	Ruth Waller	Rebecca Loader	Confirmed interest, have offered data	Request data & local contacts.
Hampshire County Council	Bruce Howard	Ian Wykes	Confirmed interest, have offered data	Request data.
Southampton City Council	Ingrid Peckham	Wendy Barrett	Confirmed interest, have offered data.	Request data, visit recommended.
Portsmouth City Council	Jenny Stevens		Confirmed interest, have offered data.	Request data, visit recommended.
West Sussex County Council	Mark Taylor		No response received.	Follow up.
East Sussex County Council	Andrew Woodcock		Confirmed interest, have offered data.	Request data.
Kent County Council	Paul Cuming		Consulting with colleagues.	Follow up.
Essex County Council	Sally Gale		Consulting with colleagues.	Follow up.
Suffolk County Council	Colin Pendleton		Offered data, seriously understaffed and do not have time to do searches.	Request data, visit recommended.
Norfolk County Council	Jan Allen		Initially positive, followed by queries and serious concerns.	Reply to queries.
Lincolnshire County Council	Sarah Grundy	Mark Bennet	No response received.	Follow up.
North East Lincolnshire	Ed Dickinson		No response received.	Follow up.
North Lincolnshire	Alison Williams		No response received.	Follow up.
Humber Archaeology Partnership	Ruth Atkinson		Consulting with colleagues.	Follow up.
North Yorkshire County Council	Neil Campling	Nick Boldrini	Offered data, but has concerns about mapping.	Request data.
North York Moors National Park	Graham Lee		Offered data, but may have very few records.	Request data & local contacts.
Tees Archaeology	Peter Rowe		Positive, queries re. submerged landscapes and coastal erosion modelling. Offered data.	Request data.

- 3.3.3. It is expected that the quality and quantity of data that the SMRs can provide will vary greatly as some have recently been involved in coastal surveys or data audits to clean up and enhance the records for sites on their coastline. Other SMRs showed interest in the project but cautioned that their coastline has not been the subject of any specific interest, and that they may only have one or two records of relevance to the project. It is anticipated that local contacts with museums and private collectors will be crucial in these areas.
- 3.3.4. A further factor in the quality of the SMR data is the range of recording systems currently in use. The majority of SMRs contacted use an MS Access-based database, most often the ExeGesIS Historic Buildings, Sites and Monuments Record (HBSMR) system, although some SMRs are in the process of computerisation and hold the majority of their information on paper maps and files. In these situations visits to the SMR office is recommended, along with the early identification of potentially relevant artefact collections.
- 3.3.5. Many of the SMR officers indicated that their current workload would not permit them to undertake any searches for the project themselves, but that they would be happy for Wessex Archaeology to visit their offices for data collection.

4. DATA COLLECTION – THE PROJECT DATABASE.

- 4.1.1. The data collected to date is in various formats, primarily paper records, digital text and tables. For the collation of the data sources outlined above a project specific database has been designed.
- 4.1.2. The project database is MIDAS compliant (NMR 2003) and has a similar table structure to the ExeGesIS HBSMR to facilitate data exchange with SMRs. The project database, however, incorporates fields that will aid the recording of coastal and marine sites and finds, such as fields for Latitude and Longitude in addition to National Grid References, and artefact condition.
- 4.1.3. The two major categories of information where the project database will facilitate the enhancement of existing datasets initially seem to be:
 - Artefacts from the sea, where, often, little contextual information is known, but information such as the rough location or depth from which the find came, the level of marine growth on the artefact or the level of abrasion can be recorded.
 - Coastal sites are often identifiable by lithic scatters, however little information about the surrounding geology is usually recorded in the SMRs. The project database, however, can hold detailed stratigraphic information, which aids the assessment for the potential of offshore archaeology.

5. COMMENTS FROM SMRS

5.1.1. While not all of the SMRs have responded to the invitation to participate in the project, several have replied with useful comments. This section summarises some of the comments which were more targeted at the research aims and criteria of the project.

5.2. Submerged Landscapes

- 5.2.1. Concern was expressed that the project would focus on records of coastal sites above low water that may already be well documented at the expense of records for identified, but poorly recorded, drowned landscapes beneath the low water mark thereby not really increasing our knowledge of the archaeological resource.
- 5.2.2. There were some enquiries as to how the project would deal with 'natural' sites such as peat deposits, river terraces or submerged forests where, although their rough location may be known, there is little other information available. The issue was specifically raised as they are likely to be poorly mapped, dated or interpreted with regard to the archaeology, or all of these things.
- 5.2.3. The issue of how to deal with areas of reclaimed land, which were until relatively recently beaches or salt marshes, for example, was raised and posed the question as to how the project is classifying 'the sea'. Although artefacts from these areas would have been, until relatively recently, in the sea, the area they are from is no longer classified as coastal. This question could be extended to include areas known as 'raised beached', which would have been coastal in the Palaeolithic, but which are now found inland (Wymer 1999: 147).
- 5.2.4. Following on from the last point, it was asked whether the project would include any modelling of the ancient coastline, as some areas have seen recent and dramatic coastal erosion, which has destroyed known archaeology in the area. An example given was of Roman signal stations 'recently' falling into the sea, of which there is now little evidence, and could the same not be expected for prehistoric landscapes?

5.3. Mapping and GIS

- 5.3.1. The issue of reintegrating the data back into the SMRs was raised a few times, with some questions about how the data would work within current GIS systems.
- 5.3.2. A particular issue raised was that if an SMR was using Ordnance Survey Raster maps, then artefacts from 'the sea' will have no contextual data e.g. bathymetry or geology, without the purchase of the relevant Admiralty Charts or BGS Geology charts. It was suggested that without this contextual data, or the ability to accurately map the finds, that the database would "not be much help". It was also asked if the project would provide the geo-referenced Admiralty Charts to enable the SMR to hold the data 'in context'. Further contact on this point indicates that there is a misunderstanding as to how the GIS mapping systems work, with questions relating to the inability to map a point without the background map, on which to map it. The issue, however, that the SMR will not hold contextual mapping information about artefacts from the sea remains (without some expenditure).

6. PROPOSED ACTION

6.1.1. The next step for the project is to incorporate NMR, SMR and PAS data into the project database to create a baseline dataset. It is this dataset into which primary and secondary source information will be incorporated to create the enhanced record. An outline of action for each set of primary data is given below.

6.2. Literature Search data

- 6.2.1. The gazetteers hold huge quantities of data, but because of the format of the earlier publications, it will be very time consuming to identify coastal or marine sites directly from them. As this data is expected to be in the NMR and some SMRs the gazetteers will be checked against data received from the NMR and SMRs. Enquiries as to the whereabouts of the CBA card index file will be made.
- 6.2.2. The literature search has recovered useful contextual information about a number of sites and artefacts within the general area of the project. Many of the sites or finds are mentioned in a number of sources, hence a priority as part of the initial data collection is to collate and cross-reference this information.
- 6.2.3. It is anticipated that further targeted literature research will be used to follow up any references held in the records of the existing databases.

6.3. Portable Antiquities Scheme data

- 6.3.1. The data received from the Portable Antiquities Scheme includes data from the whole of the English and Welsh coastline through all periods. A priority is to select out data that falls into the criteria of this project, i.e. within the research area and of early prehistoric date.
- 6.3.2. The data was received as a single table with 77 fields, hence, this information needs to be split into suitable tables for incorporation into the project database.
- 6.3.3. There are fields of information that were not initially provided, hence, when the relevant data has been selected, missing information fields need to be re-integrated. In some cases, it may be appropriate to locate original documents referring to the artefacts, such as records held by the Finds Liaison Officers or local museums.

6.4. National Monuments Records data

6.4.1. The NMR has agreed to provide data using the Land Use Codes as a search criterion and by polygon GIS searches. Data for the whole research area has been requested.

6.5. Sites and Monuments Records data.

- 6.5.1. Four of the SMRs that initially expressed an interest in the project have not yet confirmed that they wish to participate in the project, and need to be followed up to clarify their position.
- 6.5.2. The three SMRs who are consulting with colleagues have been contacted again to request a clarification of their position.
- 6.5.3. One of the SMRs has concerns and queries about the project, which seem inappropriate to the reciprocal nature of the project, and have not yet been addressed.
- 6.5.4. Nine of the SMRs have confirmed that they are interested in participating in the project. These SMRs are now awaiting confirmation that their area has been selected for inclusion in the project, and a formal request for data.

6.5.5. Three of the SMRs suggested that a visit to their offices would be the best way to collect information, either because they hold information on paper records and/or are short staffed and cannot give time to data collection for this project.

6.6. Proposed Study areas.

- 6.6.1. The literature search has highlighted two stretches of coastline that seem to have high frequencies of Palaeolithic and Mesolithic artefacts and sites, the Yorkshire coast and the Solent region. Two further offshore areas, the Dogger Bank and Brown Bank were also identified as 'hotspots' for early prehistoric artefacts.
- 6.6.2. Contact with SMRs has produced mixed responses to the project, although the majority of the SMRs have replied positively. There are two stretches of coastline, where neighbouring SMRs have all replied positively, these include the Solent-Sussex region including:
 - Hampshire County Council SMR
 - The Isle of Wight SMR
 - Southampton City Council SMR
 - Portsmouth City Council SMR
 - The Hampshire and Wight Trust for Maritime Archaeology have also been contacted.
 - West Sussex and East Sussex have been identified as potential areas into which the study can be extended.

The Humber-Tees coastline including:

- North Yorkshire County Council SMR
- North York Moors National Park SMR
- Tees Archaeology
- Humber Archaeology Project.
- North Lincolnshire and North East Lincolnshire have been identified as potential areas into which the study can be extended.
- 6.6.3. Through preliminary research, the Solent-Sussex and Humber-Tees coastal areas have demonstrated a high potential for early prehistoric archaeology. In addition, these areas are suitable for detailed research within this project as the Solent-Sussex area has long supported marine aggregates extraction activities, whilst the Humber-Tees coastline, and the areas offshore such as the Dogger Bank, are currently seeing an increase in marine aggregates extraction activities.
- 6.6.4. It is therefore proposed that the Solent-Sussex and the Humber-Tees coastlines are selected for more detailed study within this project.

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