Rendlesham Survey 2008-2014:

Assessment Report

Historic England project reference 6471

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Summary
The Naunton Hall estate in Rendlesham, Suffolk, has between 2008 and 2014 been the subject of extensive field survey and targeted small scale excavation. The main survey methods have been systematic surface collection with metal detectors, magnetometry and topographical survey, and the mapping and analysis of aerial photography. There has also been some analysis of relevant historic mapping, limited geochemical survey, and two borehole transects across the floodplain and valley slopes of the River Deben and a tributary stream to establish the preservation and potential of palaeoenvironmental data. These data-sets have all been integrated within a project GIS.

The survey has identified a complex and nationally-important sequence of settlement and activity from late Prehistory to the present day. This includes a rich and extensive settlement complex of the 5th–8th centuries AD (the early–middle Anglo-Saxon period) which is of national and international significance.

This report presents and quantifies the data gathered by the different survey techniques, provides a chronological account of the material and its importance, and assesses the overall significance and potential of the survey results in the context of the original objectives and the relevant national and regional research frameworks. It identifies priorities and high-level research goals for analysis of the survey data.

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BACKGROUND TO THE PROJECT

The modern civil parish of Rendlesham lies on the east side of the River Deben in south-east Suffolk (Fig 1). It incorporates terrains that in the past provided a range of resources: marsh or water meadow in the valley bottom, agricultural soils on valley slopes, and interfluves which are now intensively cultivated but which in the past were heathland and sheep-walk, and in Rendlesham more recently military airfield and plantation woodland. It lies within the area of light soils in south-east Suffolk known as the Sandlings. Characteristic soils in this area are Newport 2 and the less fertile Newport 4 very sandy soils over Crag geology, but Rendlesham lies at the southern end of the Burlingham 3 fine loamy soils over glacial boulder clay deposits, providing a very mixed local pattern (Williamson 2008, 29-67).

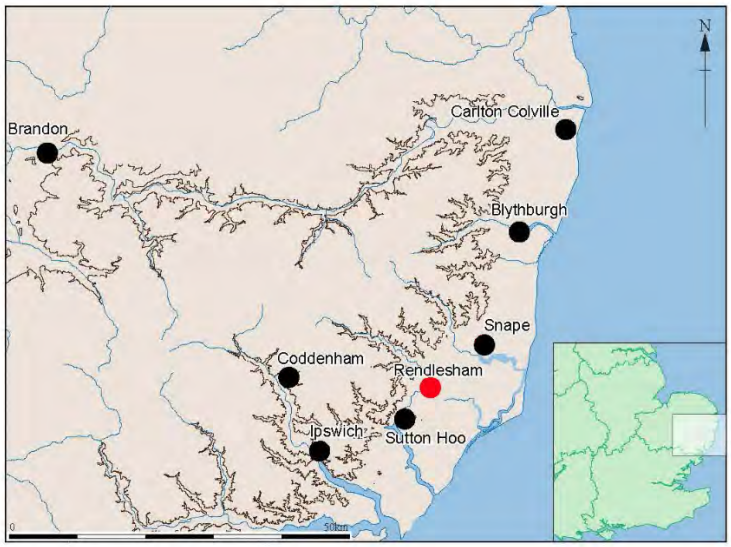

Figure 1 Map showing Rendlesham and other early-middle Anglo-Saxon places in Suffolk

Rendlesham is mentioned by Bede (*H.E.* iii. 22; Colgrave & Mynors 1969) as the East Anglian *vicus regius* (royal settlement) where King Swithhelm of the East Saxons was baptised in AD 655x663. It has consequently long been a focus of antiquarian and historical attention, and interest intensified after the discovery of the Mound One ship burial at Sutton Hoo, *c* 6km to the south-west, in 1939 (Bruce-Mitford 1948). Cremations were recorded in the early 19th century but otherwise hard evidence for an Anglo-Saxon site was frustratingly elusive until 1982 when fieldwalking and limited excavation (RLM 011) indicated Anglo-Saxon settlement activity north-west of the parish church of St Gregory the Great (Bruce-Mitford 1974; Martin et al 1983, 235; Newman 1992, 36-8). Although the potential significance was clear, little about the material recovered suggested a site of unusual status.

In 2007 the landowner of the Naunton Hall estate sought archaeological assistance in response to illegal metal-detecting on arable land. Damage was being caused by repeat visits, suggesting that significant archaeological material was being stolen. The land affected included at least one field outside the area of the 1982 fieldwalking. The response by Suffolk County Council Archaeological Service (SCCAS) was to undertake in 2008-9 a controlled metal-detector survey of the area being damaged. This was augmented by limited magnetometry, a desk-top assessment of information in the county Historic Environment Record (HER), and plotting of available aerial photography within the 1982 survey area.

The initial metal-detecting survey confirmed a concentration of archaeological material in the ploughsoil that included coins and other finds consistent with a high-status early to middle Anglo-Saxon site and showed that this evidence spread over a much wider area than initially thought. In 2009 the metal-detector survey was therefore expanded to cover the full Naunton Hall estate, under

an agreement between the individual detectorists and the landowners. The survey area covers 150ha. It forms a transect 3km north-south along the east side of the Deben valley and up to 1.25km east-west across the grain of the landscape (Fig 2). It was undertaken as part of a larger project, co-ordinated through SCCAS, which provided finds recording to Portable Antiquities Scheme (PAS) standards, and expert academic and professional guidance, and through which complementary fieldwork including further magnetometry was commissioned. Evaluation excavations in 2013-14 were separately funded and reported on (Caruth et al 2014) but the results have informed this assessment of the survey.

Interim reports on the survey were produced in 2009 (Plouviez 2009) and in 2012 (Plouviez and Scull 2012). Individual specialist reports include those on magnetometry (Woodhouse 2008, Woodhouse 2010) and on ploughsoil geochemical investigation (Dunster, Dungworth & Lowerre 2012).

Acknowledgements
Initial and continuing funding support was provided by the Sutton Hoo Society, in addition to a grant to the survey project by English Heritage (now Historic England) and considerable input in staff time by Suffolk County Council. The geoarchaeological reconnaissance and pollen sample preparations were funded by the McBurney Laboratory, Department of Archaeology and Anthropology, University of Cambridge.

The project relied on the goodwill and assistance of the landowners, Sir Michael and Lady Caroline Bunbury, their estate staff and farm managers. And the project would have been impossible without the huge input of the detectorists, Robert Atfield, Roy Damant, Terry Marsh and Alan Smith.

Archive
The artefact assemblage from the 2008-2014 survey is being acquired by Ipswich Borough Museum from the landowners and finders, with items that are declared Treasure under the 1996 Act also being acquired by the museum. Paper and digital archives are held by Suffolk County Council.

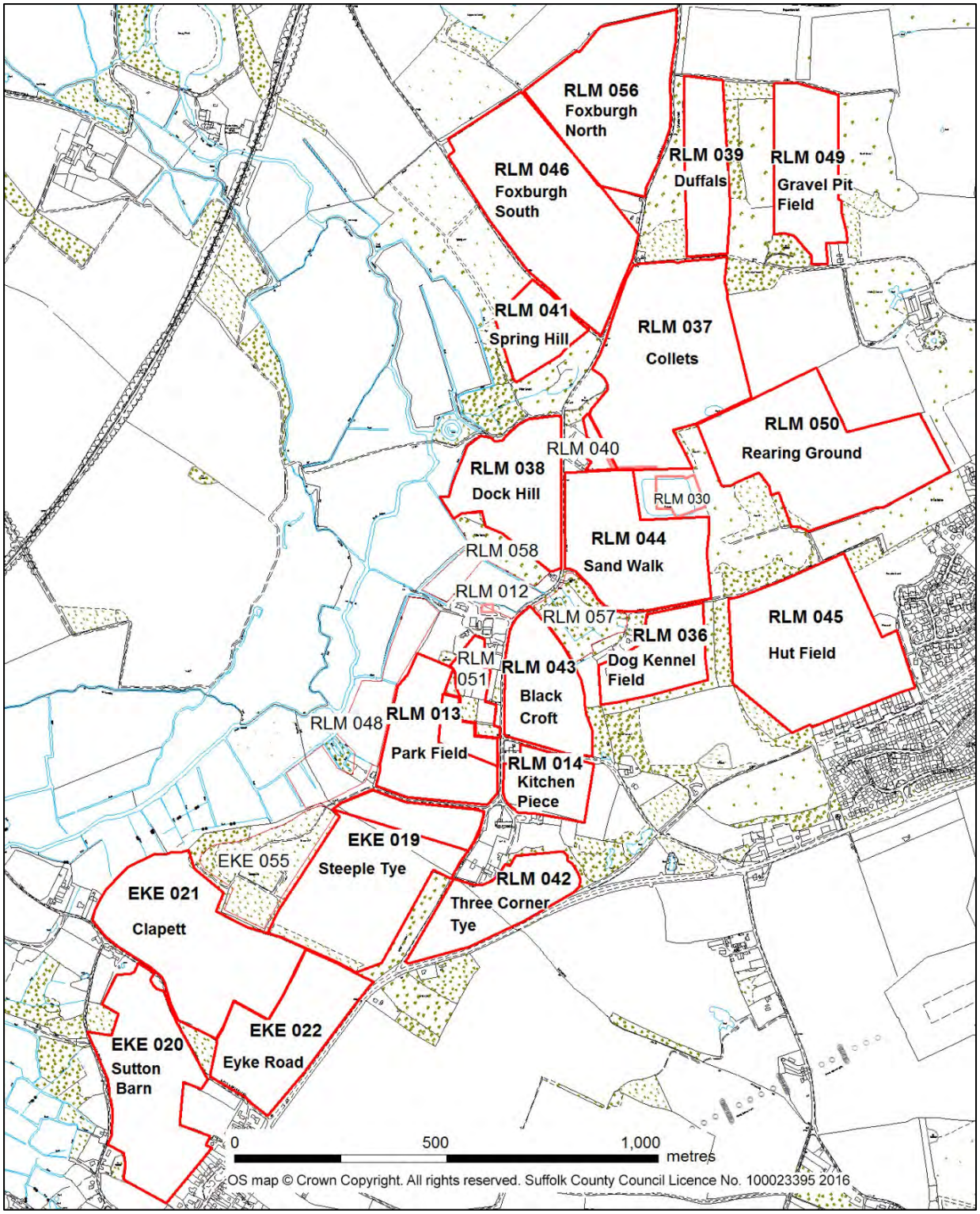

Figure 2 Map showing the survey units with HER numbers and arable field names

ASSESSMENTS OF THE INDIVIDUAL SURVEYS

Desk top study

Suffolk Historic Environment Record (HER)

The HER information for the area immediately around Naunton Hall and St Gregory's Church was summarised in Plouviez 2009, 3-6. Key elements were site RLM 006, a 19th century record of a complete urn (clearly early Anglo-Saxon from the drawing) and other pottery sherds from 'glebe land known as Hoo Hill' and records relating to the fieldwork, fieldwalking and excavation, carried out by SCCAS in 1982 at sites RLM 011, RLM 012, RLM 013 and RLM 014. The records of this fieldwork are held by SCCAS and these were examined, copied and mapped for the survey. The excavation of RLM 011, on the footprint of a new barn just north of Naunton Hall, had revealed ditches of middle and late Anglo-Saxon and medieval date. The fieldwalking produced Roman, handmade, Ipswich and Thetford-type wares from each of the sites in varying quantities, and this was mapped against the initial metal detected evidence from the survey in Plouviez 2009. The extension of the survey to encompass the whole estate involves a small number of additional existing HER sites (Fig 3):

- RLM 010 Iron Age pottery sherds, a small collection of surface finds including one decorated piece by D Chipperfield, from between RLM 045 and RLM 050. Sherds donated to Ipswich Museum, accession ref 1951-232.
- RLM 016 An area trenched by Basil Brown in June 1949 because R Bruce-Mitford identified this (the site of a cottage) as the potential find spot for the Anglo-Saxon cremation urn (RLM 006), overlapping survey area RLM 050. There were no finds from the trenching and an area of possible sand or gravel extraction was noted south of one trench.
- RLM 022 defines the extent of Rendlesham Park as shown on Hodskinson (1783) (not shown earlier in 18th C) and with extensions in 19th century. Mainly to the east of the Naunton Hall estate but including RLM 050.
- RLM 026 post-medieval brick kilns recorded on Tithe Map in field north of RLM 050 and to south of RLM 049.
- RLM 028 Cropmarks within survey area RLM 037. (Subsequently plotted in NMP 2015)
- RLM 029 Evaluation trenches in 2003 found very few archaeological features or finds in the field east of RLM 045. A single undated narrow shallow ditch was recorded aligned NW-SE at approximately TM3339 5341 in the area adjacent to the Roman finds in RLM 045. Both the evaluation and subsequent monitoring of groundworks, including demolition and soil stripping of this area, showed extensive 20th century disturbance and there were no Roman finds. The reports confirm that the subsoil in this area is clay; the only pre-modern find were a couple of flint flakes. (McLannahan 2003 and Everett 2004)
- RLM 030 Evaluation (Meredith 2006) and watching brief (Meredith & Damant 2008) on the construction of a reservoir in the north-east corner of Sand Walk (RLM 044). Evidence of quarry pits of medieval date and two prehistoric (Grooved Ware) pits, also undated ditches.
- RLM 035 Evaluation of proposed reservoir site at the south end of RLM 037 and RLM 040. Possible later prehistoric (perhaps late Bronze Age or early Iron Age) ditch and undated others (one possibly late and perhaps along roadside), a possibly Roman pit and stray finds of abraded Roman and medieval pottery (Meredith 2006).
- RLM Misc Ancient silver crown weighing about 60 oz found by persons digging at Rendlesham in c. 1660's and melted down without record (as mentioned in the 1695 edition of Camdens Britannia by Bishop Gibson; mislocated in Kirby 1735 to Mendlesham).

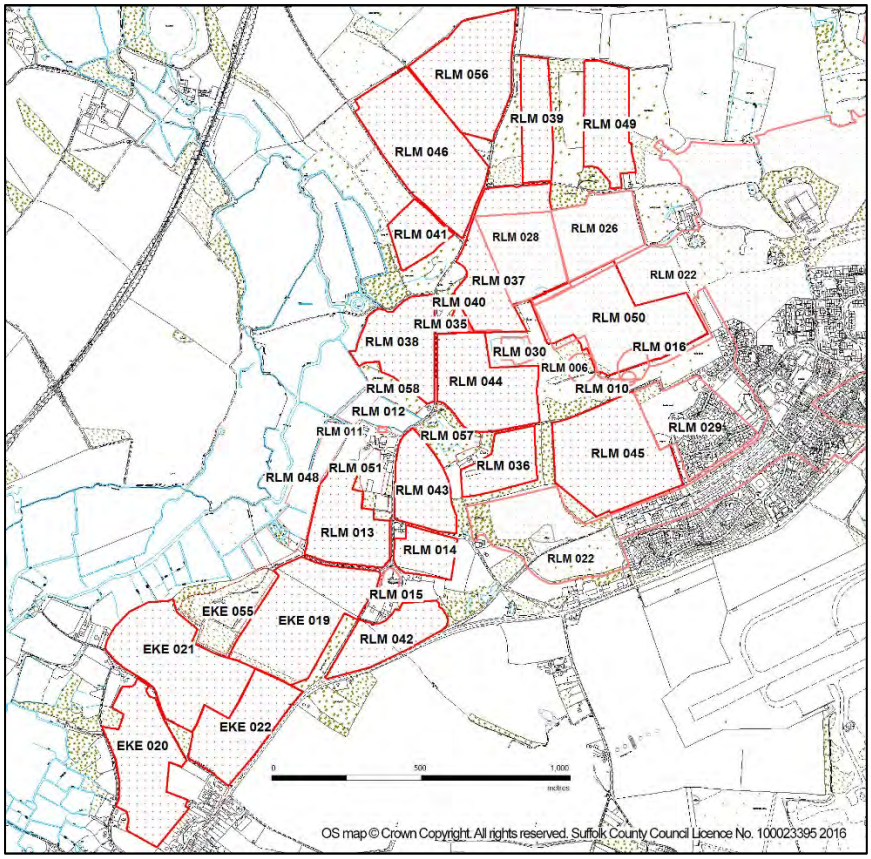

Figure 3 Map showing all HER records on and adjacent to the survey area

Documentary and Map evidence

The available historic maps used include one by John Norden (1601, SRO HD88_4_1; SRO V5_22_1 map7) for fields in Eyke only, an undated set of estate maps in Rendlesham produced by John Kirby between 1725 and 1741 (SRO index HD 427/1), the general Suffolk map by Joseph Hodskinson (1783) and access to OS maps from 1880's onwards. The Kirby and Hodskinson maps show that the road pattern was different, specifically in RLM 037 and with another north-south route on the east side of the survey area. Most fields can however be identified fairly easily on these maps.

Previous work on the area (Edward Martin, unpublished notes in the HER) for farm asset assessments has pointed out the complexity of tracing the various halls in Rendlesham and the manors; for example the Kirby map (Fig 4) for the present Naunton Hall area describes it as "A farm in Rendlesham and Eyke, in Mr John Wade's tenure…" whereas the estate map described as "Naunton Hall Farm" covers the area more recently known as Rendlesham White House (subsequently replaced by a 19th century Rendlesham Hall) to the east of the survey. Hodskinson's map of 1783 shows the present Naunton Hall as Berets, probably for the manor Bavants and also High House Farm as Rendlesham Hall. A more focussed examination of the manorial information and other documents and maps would be useful, at the very least to illustrate the development of the area subsequent to the Anglo-Saxon period.

As a contribution to the survey the field names on the available maps (Norden, Kirby, Tithe maps) are being examined by Kelly Kilpatrick who is currently carrying out research and publication of the Place Names of Suffolk at University of Nottingham.

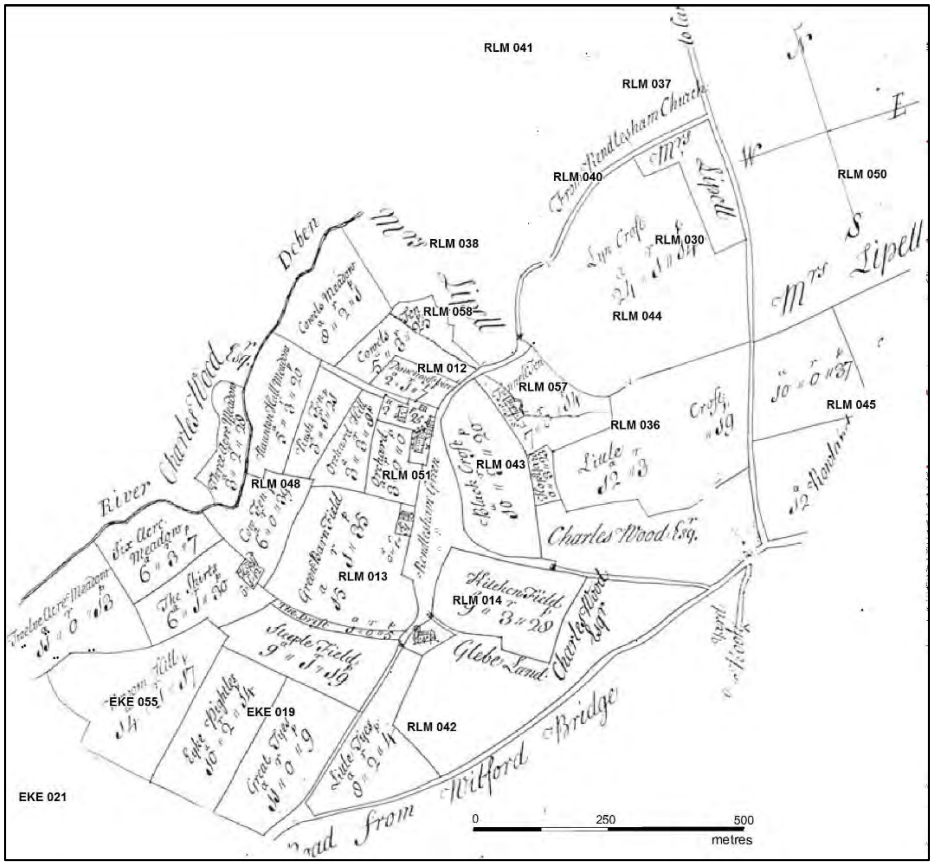

Figure 4 Copy of the map by John Kirby of an estate in Rendlesham, undated c1730-40

Geophysical survey

Magnetometry was initially carried out on the arable part of RLM 013, Park (excluding an area under maize) and pasture field RLM 012 in 2008. As the results proved positive the survey was extended to a total 46ha to cover much of the core area producing early or Middle Anglo-Saxon finds. Key elements of the survey were ground-truthed in evaluation trenches in 2013-14 in RLM 013 and RLM 044, Sand Walk. Constraints on the survey, as in the metal detecting, related to the crop cycle management, additionally complicated by need for longer advance planning to get equipment and operator in the field within the fairly short available time frames. Most of the work had to be done in the winter months with the associated potential for bad weather. Work in the field took about 42 days in total over the seven years of the survey, but with no activity in 2010 and 2011 (Table 1).

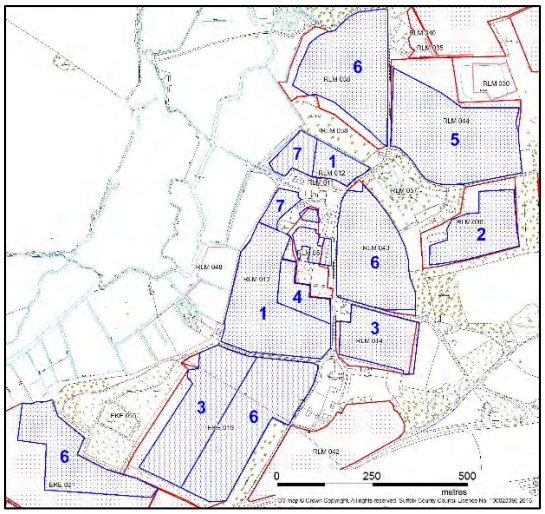

Figure 5 Map showing the phases of geophysics areas

Methodology:
All the work was carried out under the supervision of Helen Woodhouse (Woodhouse Consultancy) except for the 2014 grass areas, and the data from 2014 were also passed to Helen Woodhouse for integration with the rest. The survey was undertaken using a Bartington Grad 601-2 dual sensor vertical component fluxgate gradiometer except in the 2014 grass areas where a single sensor Bartington Grad 601 was used. Readings were taken at 0.25m intervals along traverses of 1m spacing. This enabled a reasonably high density of data to be collected whilst not impairing the speed of the survey. The survey grid was a consistent 30m grid (based on grid north) throughout. Topographic survey was also carried out, recording a series of spot heights along *c* 5m traverses across the terrain with an increased number of readings taken in areas showing visible variations in elevation so that detailed contour plans could be produced to supplement the magnetometry results. The magnetometry data were processed in Geoplot 3.0 as separate composites using a series of statistical processes in order to clarify the results.

Table 1 The magnetometry survey phases (see also Fig 5)

Phase	Survey Dates	Site reference	Surveyed by
1	29 Sept - 3Oct 2008	RLM 013 core area	LP: Archaeology (Helen Woodhouse)
1	29 Sept - 3Oct 2008	RLM 012 east half	LP: Archaeology (Helen Woodhouse)
2	19-21 Oct 2009	RLM 036	Helen Woodhouse; Neil Paveley
3	29 Jan - 5 Feb 2012	RLM 014	Neil Paveley +SCCAS
3	29 Jan - 5 Feb 2012	EKE 019 west half	Neil Paveley +SCCAS
4	30 Apr - 3 May 2012	RLM 013 maize belt	Neil Paveley +SCCAS
5	10-14 Dec 2012	RLM 044	Neil Paveley +SCCAS
6	9-27 Sept 2013	RLM 038	Neil Paveley +SCCAS
6	9-27 Sept 2013	EKE 019 east	Neil Paveley +SCCAS
6	9-27 Sept 2013	RLM 043	Neil Paveley +SCCAS
6	9-27 Sept 2013	EKE 021 part	Neil Paveley +SCCAS
7	21 - 29 Oct 2014	RLM 012 west half	John Rainer, SAFG
7	21 - 29 Oct 2014	RLM 051 Lawns etc	John Rainer, SAFG
7	21 - 29 Oct 2014	RLM 013 grass at north	John Rainer, SAFG

Results (Fig 6)
Full reports were produced on the first two phases of work, covering part of RLM 013, Park and part of pasture RLM 012 (Woodhouse 2008, also included in Plouviez 2009) and RLM 036, Dog Kennel (Woodhouse 2010). Interpretations in these reports, particularly in RLM 013, have been significantly modified by other survey work, particularly the evaluation trenches in RLM 013. The interpretation that follows is an archaeological assessment with no specialist geophysical input.

Most of the surveyed fields show probable archaeological features, and broadly there is a good correlation between these and higher densities of finds. A broad distinction can be drawn between the character of the evidence north and south of the tributary of the Deben (fields to the north being RLM 036, 038, 044). To the north there is a lower density of linear features and a greater number of

maculae; to the south (RLM 012, 013, 014, 043) there are a variety of linear systems, both curvilinear and rectilinear with fewer and mostly smaller maculae. The density of any features other than probably natural ones diminishes to the south (EKE 019, EKE 021).

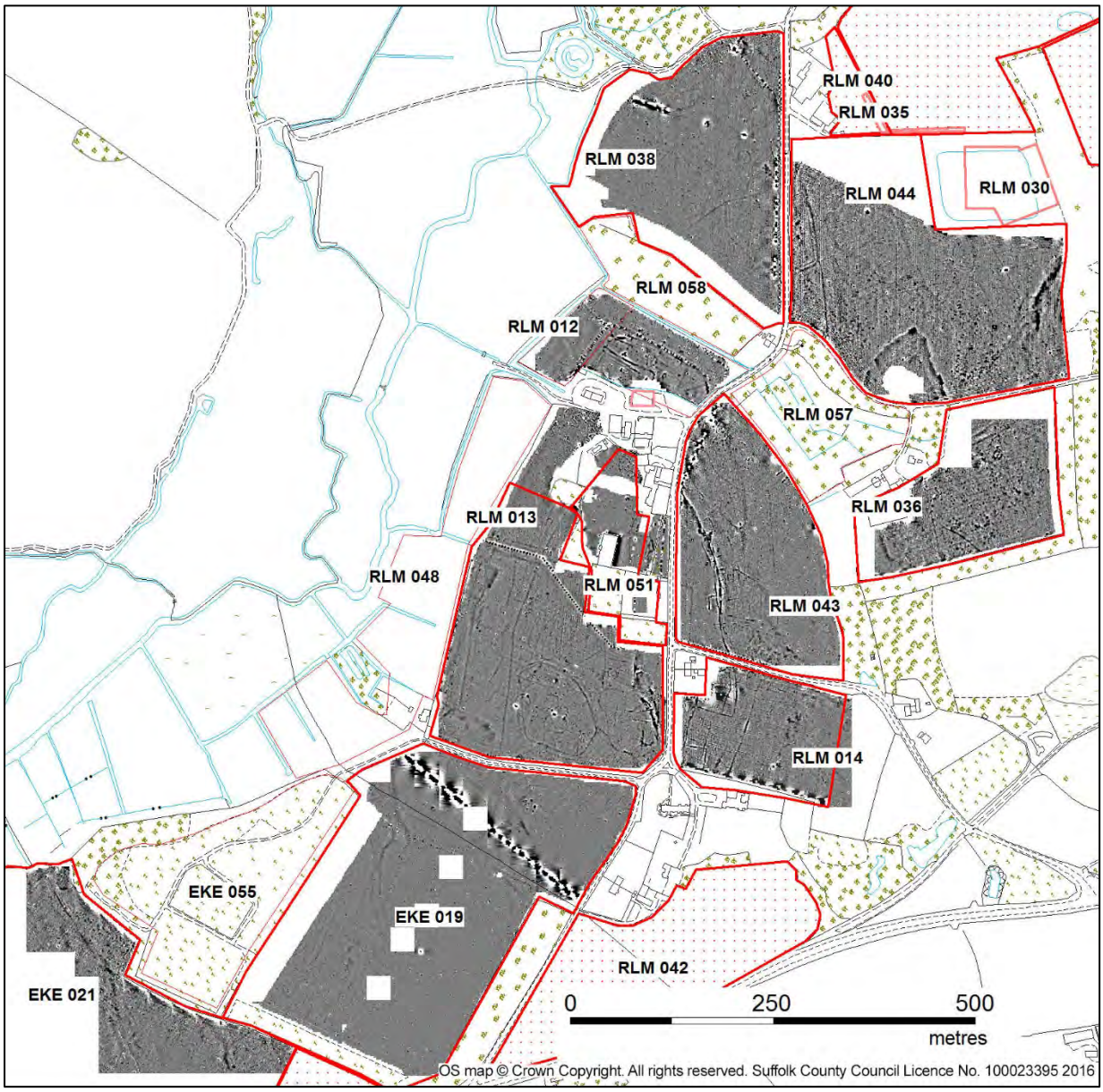

Figure 6 Map showing the magnetometry results

Within the northern group of fields there are a few potential prehistoric features: a 15m diameter incomplete ring in RLM 038 and a double oval long enclosure, *c* 25m by 35m in the north part of RLM 044 (this was confirmed as pre-5th century and contained no finds in evaluation). Less definite are an incomplete circular feature, 18m across, in the south of RLM 038 and a couple of incomplete circles, 12m and 13m across in RLM 036 (a strong discontinuous circle is seen as most likely Anglo-Saxon).

In this same area there are suggestions of a NW to SE aligned rectilinear system, particularly in the east half of RLM 044 (and similar traces are found on air photos). These ditches appear relatively low in magnetic response, suggesting a field system, probably either later prehistoric (small ditches containing late Bronze Age or early Iron Age sherds have been sampled in the reservoir area, RLM 030) or Roman in date. A stronger enclosure system lies on the west edge of RLM 044, with double ditches in the northern half; although initially this did not appear to continue in RLM 038 there is a less distinct

double-ditched area here that could form the west half of a pentagonal enclosure. Dating evidence from the evaluation of the single ditched part of this system was inconclusive as dependant on a single sherd of medieval pottery (with two pieces of perhaps residual Ipswich ware) and there is no obvious correlation of finds of any period with this system.

The distinctive density of maculae in both RLM 036 and RLM 044 seemed likely to correlate with the high numbers of early Anglo-Saxon finds from these fields. The likelihood that some were sunken-featured buildings was confirmed in the evaluation; it was also thought that the row of elongated features just west of the large extraction pit might prove to be burials but evaluation of one of these proved to be a further sunken-featured building with an adjacent pit. On this basis most of the visible maculae in RLM 044 can be considered to be buildings and some of those in RLM 036, although there are also more small pit-like features in this field. It is likely that evidence for early Anglo-Saxon burials is not apparent in the magnetometry, with the possible exception of the discontinuous ring with an internal feature in RLM 036.

In the southern fields a chronological sequence can be suggested on the basis of the evaluation results and the 18th-century map evidence. An irregular, approximately D-shaped enclosure, roughly 85m by 95m, in the southern part of RLM 013 contained pottery datable to the first half of the 1st century, and further, possibly earlier Iron Age sherds were also found. It seems likely that a smaller oval, 20m by 28m, within the enclosure is contemporary with it. Within EKE 019 parts of rectilinear enclosure systems and trackways are visible, also rather more clearly seen in the cropmarks and suggested to be of late prehistoric or Roman date; some correlation with prehistoric and Roman finds is suggested below in the chronological assessment. Though there may be similar systems within RLM 013 they have probably been obscured by other features.

Two parallel ditches, 55m apart, on the west side of RLM 013 are quite dominant features. Closer examination, in conjunction with the cropmark evidence, suggests that there are two phases to the eastern ditch, one forming a rectangular enclosure 80m wide and overlapping the north part of the late Iron Age enclosure. The other phase has a change of alignment to the south; the cropmarks suggest that this ditch extends into EKE 019, where the area is obscured by a modern pipe in the magnetometry. The ditch was dated in RLM 013 as potentially contemporary with the 6th-8th century midden layer in the evaluation, and was re-cut. This is the only feature in the magnetometry that can be dated to this significant phase, but it is possible that north-south ditches in RLM 014 and RLM 043 to the east of the later green-related complex may be contemporary and mark another Anglo-Saxon boundary; at present there is no indication that the finds distributions can be related to these.

The Kirby estate map of the 1730's shows a small green (named Rendlesham Green) between St Gregory's Church and Naunton Hall with the existing north-south road and the road to the east feeding into it. The green edge was first identified in RLM 013 (where the magnetic signal level was so strong that it was initially identified as probably modern) and subsequently in RLM 014 and RLM 043, with typical small enclosures around the outside. Evaluation evidence from RLM 013 might indicate that one of these enclosures originated in the late 9th or 10th century, but this may be as late as the 11th century, and another phase was represented by a 13th or 14th century ditch.

Potential

There is scope for more detailed examination and plotting of the magnetometry results, particularly the areas that have not been analysed by a geophysicist. The data will also provide a key element in the planning of any further fieldwork, including any further remote sensing proposals, and in any more detailed analysis of finds distributions.

Aerial Photography

The project commissioned Air Photo Services in 2008 to assess and plot available photos in the immediate vicinity of Naunton Hall (Palmer 2008 and included as Appendix 2 in Plouviez 2009). This identified two ring ditches in RLM 013, Park, as probably of World War 2 date (subsequently confirmed), and found traces of other ditched systems but not the RLM 013 complex. Further enclosures to the north of this were recorded but not plotted on the Suffolk HER (RLM 028, within RLM 037).

Examination of digital photographs taken by English Heritage (Fig 8), who have regularly surveyed the area since the early 2000's, showed that there were more cropmarks on several fields (RLM 013 and EKE 019) which could usefully be plotted (Plouviez & Scull, 2012, 5-6).

Figure 7 Aerial photo showing field RLM 013, looking north, photo by Damien Grady in 2011. ©Historic England

Full examination and plotting to NMP (National Mapping Project) standards has taken place in 2015 as part of an NMP project covering an area of East Suffolk focussed on the AONB (HE project 7085, Suffolk Coast and Heaths AONB NMP). The NMP team, based in Norfolk County Council, were given access to the results of the geophysics and other surveys. The plotted MapInfo layers and provisional descriptions in new Suffolk HER records have been made available in advance of completion and reporting on the full NMP area (see Table 2 below and Fig 8).

Results

The cropmark data has been examined with the magnetometry alongside the detector findings for each individual survey area. In the core area it provides a less complete, but occasionally a more informative, picture of the sub-surface archaeology compared with the magnetometry (for example the identification of a potential hall structure in RLM 013 and the extension of the large N-S ditch from RLM 013 into EKE 019, both visible in Fig 9). Beyond the core area it is the only source of remote sensing data, providing a context for the finds scatters for instance in the northern part of RLM 037 and adjacent areas (HER ref RLM 028).

There is scope for further analysis of the phasing and inter-relationships of the combined cropmark and magnetometry results, in conjunction with the excavated and the surface finds evidence. This will be particularly important in the design and analysis of any future fieldwork.

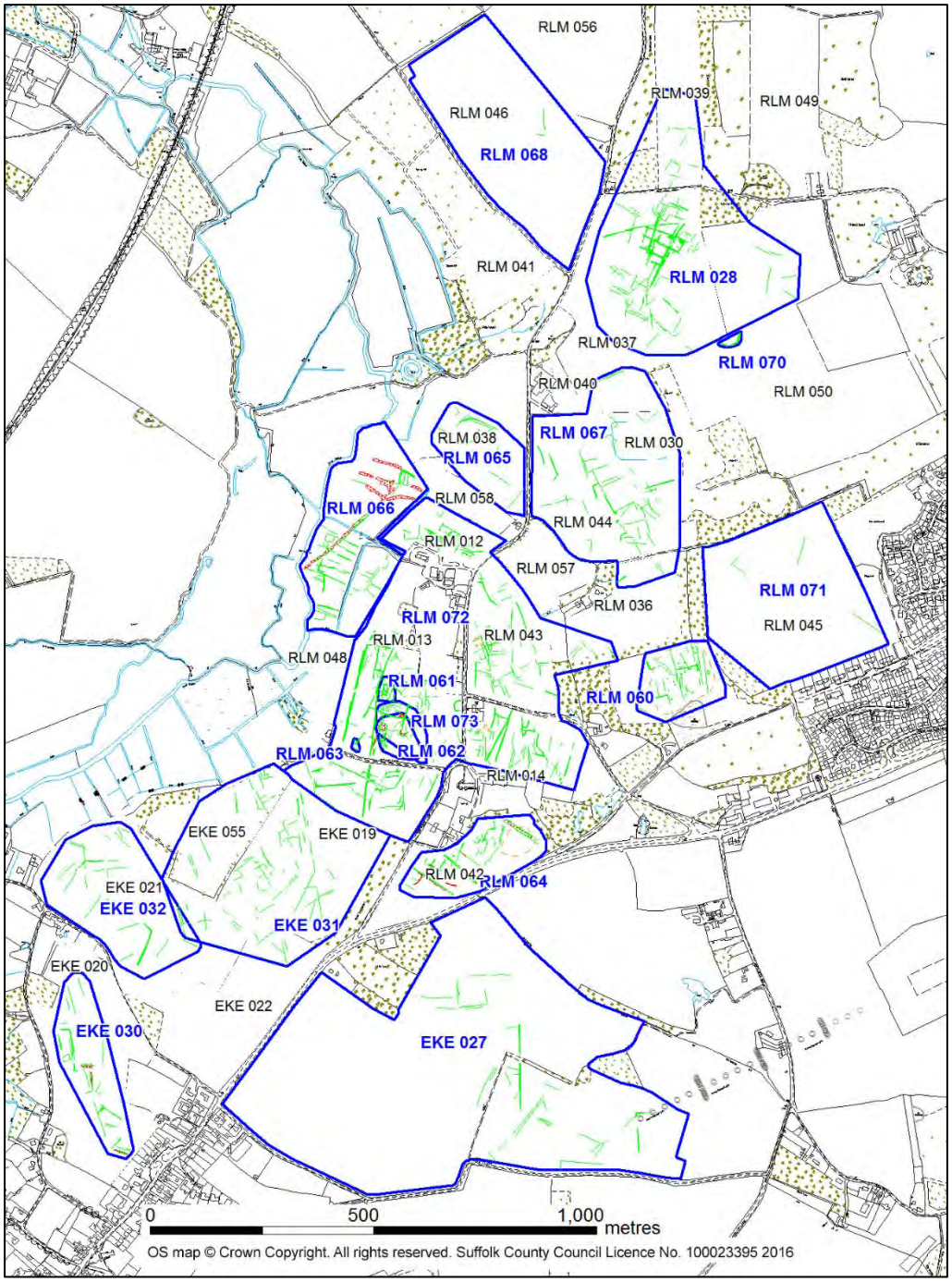

Figure 8 Map showing sites defined for the HER in the NMP project with plotted cropmarks (green) and earthworks (red)

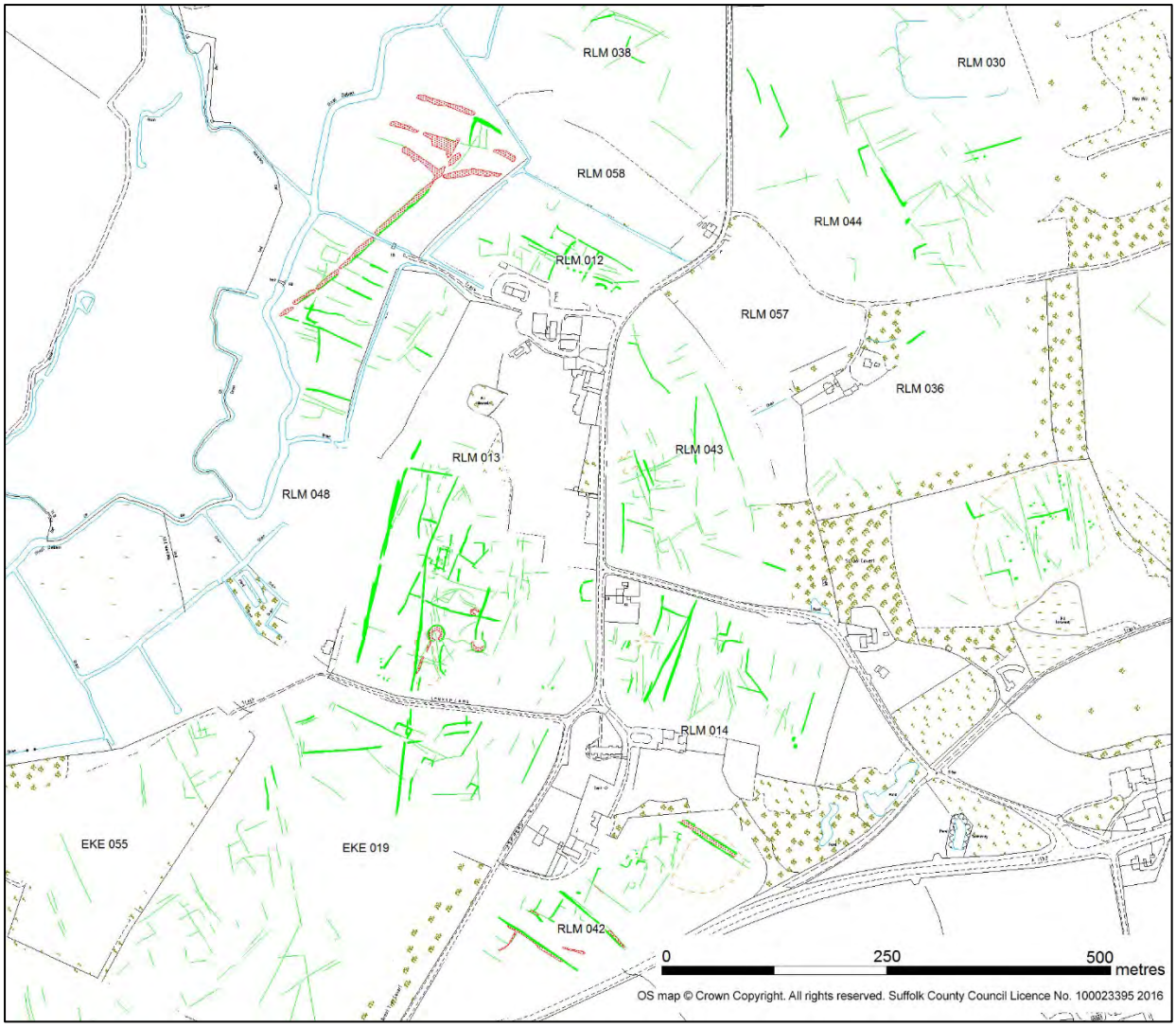

Figure 9 Map showing cropmarks in the central part of the survey area. The potential hall feature lies just east of the change in alignment of the north-south ditch line in RLM 013

Table 2. HER Sites identified from aerial photography and LIDAR (NMP project, 2015)

NMP HER	Survey Areas	Field Names	Main features	Suggested dating
EKE 027	Outside, to E of EKE 022 and S of RLM 042		Fragmentary, consists of multiple phases of ditches, potentially relating to fragmentary enclosures, field boundaries, trackways. Orientations N-S and NE-Sw	?some Roman
EKE 030	EKE 020	Sutton Barn	Possible enclosures, ditches, boundaries but is possible that many of the features relate to post medieval drainage. The indistinct nature of the cropmarks makes it hard to confidently distinguish drains from archaeological features	Undated/post medieval
EKE 031	EKE 019, 021, 055	Steeple Tye, Clappet, Broom Hill Woods	Rectilinear enclosures and trackways, some supported/confirmed by magnetometry. Main alignments N-S, more NW-SE in southern part.	Late Iron Age / Roman
EKE 032	EKE 021	Clappet	Fragmentary multiple phases of ditches, potentially relating to field boundaries, trackways and possible fragmentary enclosures, some alignments likely to be med/Pmed; some N-S alignments perhaps relating to EKE 031	?Roman and later?
RLM 028	RLM 037, 039	Collets, Duffals	Enclosed settlement, consists of a main complex of enclosures bordered by trackways, surrounded by fragmentary fields and ditches. Orientation NE-SW, a later single E-W crossing.	Late Iron Age, Roman
RLM 060	Outside; RLM 059 (2014-15 detecting)	School	Boundary ditches and a group of pits, including N-S route shown on Kirby map. Pits, possibly SFBs but perhaps later tree removal.	Medieval / Post medieval
RLM 061	RLM 013	Park	Possible rectangular post and post-in-trench building 23m by 9.5m. Aligns with large N-S ditch, possibly within a rectangular enclosure on the east side of this ditch.	Anglo-Saxon
RLM 062	RLM 013	Park	Probable Second World War searchlight battery, or a small group of anti-aircraft gun emplacements	*c* 1940
RLM 063	RLM 013	Park	A group of possible sunken-featured buildings and/or pits sub-rectangular pits, ranging in size from 1m to 2.5m	?Anglo-Saxon
RLM 064	RLM 042	Three Corner Tye	Boundaries and field boundaries, including a possible track/road and a group of pits possibly relating to sunken-featured buildings; mainly orientated NW-SE with the PMed boundary in mid field	Medieval / Post medieval; ?Anglo-Saxon
RLM 065	RLM 038	Dock Hill	Fragmentary ditches, mostly orientated NE-SW, some could be drainage. Some unmapped as v doubtful whether archaeological.	Undated
RLM 066	Water meadows to W of RLM 012 & 013		An area of banks and drainage ditches of probable medieval to post medieval date are visible on aerial photographs and LIDAR, parallel to existing boundaries but apparently crossed by a NE-SW bank.	Medieval / Post medieval
RLM 067	RLM 044, 036	Sand Walk, Dog Kennel	The E part of the site can be characterised as fragmentary field system and/or enclosure complex, the morphology would suggest a later prehistoric or Roman date. The general orientation of the boundaries - NE-SW - do seem to correlate with those recorded to the southwest within RLM 072/RLM 043. Broad, but fragmentary ditches within the western part of the site appear to relate to the large enclosures on the geophysics.	IA/Rom

RLM 068	RLM 046	Foxburgh South	Fragmentary ditches are faintly visible, orientated N-S; other visible cropmarks were not mapped due to uncertainty over their archaeological origin. Two large light-coloured mounds located in the southern part of the site, showed as red earth, ?not natural	Undated
RLM 070	RLM 050	Rearing Ground	A semi-circular ditch potentially relating to a park feature or former plantation boundary, also shows on LIDAR.	Post medieval
RLM 071	RLM 045	Hut	Fragmentary ditches are faintly visible, approx orientation NNE-SSW. Other cropmarks visible but not mapped as uncertain whether archaeological.	Undated
RLM 072	RLM 013, EKE 019	Park, Steeple Tye	Cropmark response on RLM 072 is generally relatively poor. Within RLM 013 (see also RLM 061-063 and 073 for separately defined elements) the main component is several phases of broad boundary ditches, and the large N-S ditch is visible also in EKE 019. In the proximity of the possible hall (RLM 061) the boundary ditches would appear to form a large rectangular enclosed area.	Undated / Anglo-Saxon
	RLM 012	pasture	Boundaries and trackways likely to represent several phases, a Saxon to medieval date could be suggested for the bulk of the features. A possible linear arrangement of large pits or sub-rectangular hollows in this area (TM 3249 5336) could feasibly relate to a structure or settlement. Two other groups of large sub-rectilinear pits (TM 3273 5283 and TM 3245 5289) were also visible identified	?Anglo-Saxon - medieval
	RLM 043	Black Croft	The bulk of the features within RLM 043 appear to correlate to the medieval green-edge lanes and enclosures identified on the geophysics or to features adjoining them, although it is possible that some of them relate to earlier phases of boundaries and fields. The shared orientation (NE-SW) of these boundaries and those recorded to the northeast (RLM 067/RLM 036) must also be noted.	?Medieval
RLM 073	RLM 013	Park	Fragmentary elements of a curvilinear or D-shaped enclosure which shows more clearly in magnetometry.	Iron Age

Geochemical survey

In 2011, following an assessment of the soils by M Canti, a geochemical survey was carried out by English Heritage in RLM 013 in roughly the same area as the first phase of the magnetometry, over most of RLM 014 and over part of RLM 037. Figure 10 shows the extents of the survey areas. The results were published in Dunster et al 2012. Despite there being more archaeological information now available about each of the fields it seems that the conclusion that there was no apparent correlation between the concentrations of the selected metal elements and other archaeological evidence (magnetometry, air photos, metal-detected finds) still holds true.

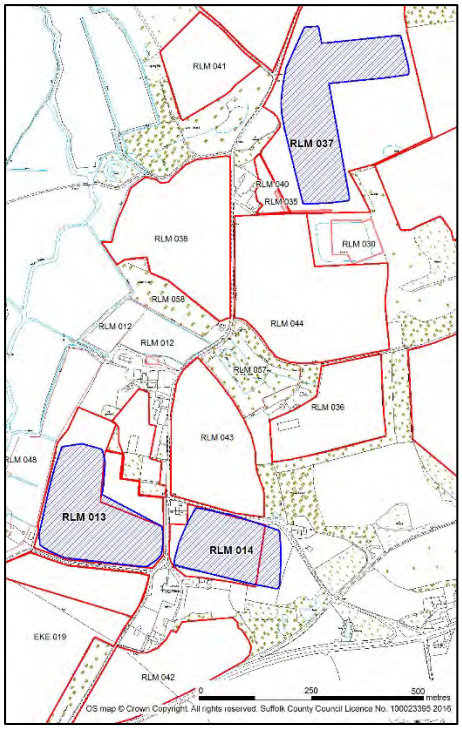

Figure 10 Map showing the extent of the geochemical sampling

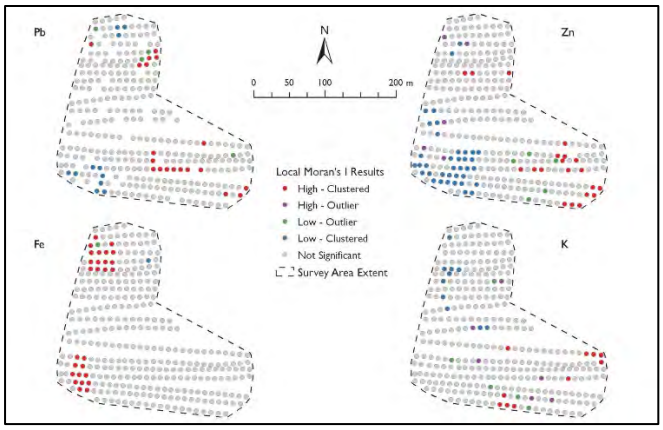

Figure 11 Interpretation of the geochemical results for RLM 013 (see Dunster et al 2012, fig 5)

Environmental survey: Geoarcheological reconnaissance of the Deben valley at Rendlesham

By Charles French and Sean Taylor

Introduction

Geoarchaeological fieldwork was carried out on June 2nd 2015 to appraise the soil/sedimentary sequence across the Deben valley floor and to prospect for wet/waterlogged archive deposits which may provide data on the past Holocene vegetational development of the valley and human impacts upon it. Particular emphasis is placed on finding deposits which may be contemporary with the Roman-Saxon and early medieval agricultural development of this landscape.

Accordingly, two hand-augered borehole transects were made: Transect 1 from east to west across the Deben vale with 13 boreholes, starting from The Park field (RLM013) adjacent to the gardens of Naunton Hall, and Transect 2 comprising four boreholes across the small tributary stream valley in Brown Cow Field (RLM012) just to the north of the farmyard at Naunton Hall. (Fig 12)

A summary of the main findings of the boreholes follows, with the borehole logs held in the survey archive.

Valley description

Transect 1

From previous national mapping studies (Chatwin 1961; Hodge *et al.* 1984) and recent geoarchaeological work (Canti nd; Dunster *et al* 2012), the hill-top area occupied by The Park field changes from boulder clay to sand/gravel till deposits off the brow of the hill, all over Pleistocene Crags geology that dominates the whole eastern North Sea coastal area of East Anglia (Banham 1971; Hopson 1987). The other side of the valley is marked by a completely different geology of Chalky Boulder Clay (Chatwin 1961; Curtis *et al* 1976, 133ff).

The soil profile in Park Field (RLM 013) in Boreholes 1-4 comprised *c*. 50cm thick organic loamy sand topsoils, with *c*. 30-60cm of yellowish brown, medium-coarse sand below as a B horizon, all developed on iron-rich coarse sands and fine gravels of the geological substrate.

At the base of slope on the southern edge of the alluvial floodplain, the soil/sediment profile changed dramatically. In Boreholes 5 and 6 there was an organic silt loam topsoil over *c*. 10-60cm of detrital peat with the groundwater table present at about a depth of 60cm below the modern ground surface. The BH5 profile was spot sampled for pollen analysis at depths of 50, 90 and 130cm.

Once into the floodplain beyond in Boreholes 7 and 8, the profile changed and shallowed to one of an organic sandy loam topsoil over a partly gleyed silt over a thin, humified peat, all developed on sands and gravels of the base of the valley. This gleyed silt appears to be an overbank alluvial deposit which is consistently present in the boreholes taken across the remainder of the upper part of the floodplain with a variable thickness of *c* 20-95cm.

This sequence was repeated on the western side of the modern River Deben in Borehole 9, but then in Borehole 10 some 40m to the west a deep, infilled palaeo-channel sequence was discovered. The upper *c* 72cm was composed of silt and silty clay alluvial deposits beneath which was an alternating sequence of reed peat and organic silt mud accumulations interrupted by shelly sands to a depth of 2.6m, and then below were alternating horizons of silt and sand to the base of the channel at 3.6m below the modern ground surface. The groundwater table was at about 1.9m. This profile was spot sampled for pollen analysis at approximately 10cm intervals from 75 to 190cm, below which the water content made it impossible to keep sediment samples on the gouge auger.

Radiocarbon dating of the upper and lower contacts of the organic fills at 60 and 180cm below ground surface in Borehole 10 yielded determinations of 2927+/-29BP (1065-1058 cal BC; SUERC-64614) and 5587+/-29BP (4425-4371 cal BC; SUERC-64610). This suggests that this is the main prehistoric channel that was gradually filling up and slowing down between the early Neolithic and the late Bronze Age.

Moving westwards across the remainder of the floodplain in Boreholes 11-13, there appears to be a shallower channel present in Boreholes 11 and 12 infilled with fine organic silt mud to a depth of 1.9m below the upper silt alluvial cover. In Borehole 12, a similar profile to BH11 is present but only to a depth of 1m, and then in Borehole 13, the alluvium thins to *c*. 40cm over a sandy soil profile more similar to the eastern valley slope profile such as in BH2.

As the hill-side rises from the western floodplain edge, the soil changes to a reddish brown, flint gravelly, calcareous, sandy loam on the margin of Chalky Boulder Clay geology. This is quite different in character from the soils on the eastern side of the valley. As this was in separate land ownership, no boreholes were possible to take this field identification any further.

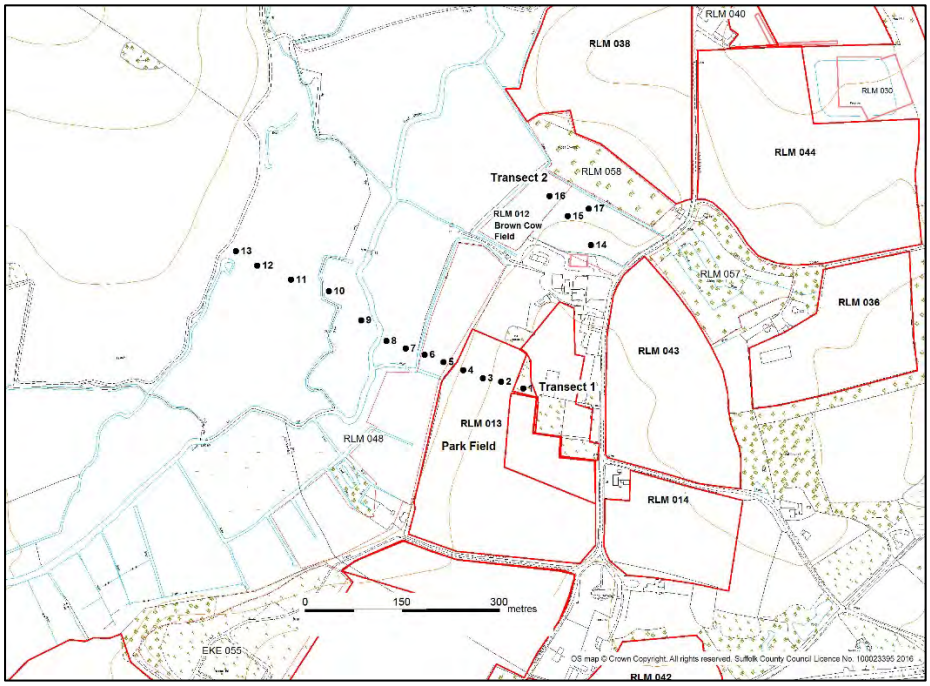

Figure 12 Map showing the geoarchaeological borehole transects locations

Transect 2

The upper slope part of the field (RLM 012) in Boreholes 14, 15 and 17 is characterised by a brown, medium sandy loam topsoil over a reddish-brown sandy loam B horizon on a gravel substrate. Interestingly, as the field flattens at the base of slope, there was a profile (BH16) that is essentially the same as that present in BH5 in a similar situation to the south. It exhibits about 90cm of wet, black, organic fine sand/silt over a gravelly sand.

Interpretative discussion

The Park Field (RLM 013) high ground is a weakly acidic to neutral loamy sand with a thick ploughsoil, all developed on Pleistocene sandy till deposits. Without careful management and organic and fertiliser input, these soils can easily degrade to Breckland-like sandy podzols that are very prone to degradation and further acidification and downslope erosion through overland flow (Dimbleby 1962; Curtis *et al* 1976). There appears to be a hillwash component to these soils on the eastern slope of the valley, resulting in an approximate doubling of soil thickness to about 1.3-1.75m.

Once onto the eastern side of the Deben floodplain, it appears that there is either a lateral flush zone leading to waterlogging and organic accumulation or a shallow former stream at the base of the slope with a depth of *c*. 1-1.5m. This situation was observed in both Transects 1 and 2.

More or less in the centre of the floodplain and just to the west of the present river channel, there is a 3.6m deep, waterlogged palaeo-channel. The lower one metre of deposits appear to indicate alternating faster and slower water conditions, probably indicative of differing flow and depositionary characteristics, and perhaps even the alternating the influence of shallow freshwater in a cut-off

channel (fine organic sands from inland) and open tidal creek silts (from seaward). This identification and hypothesis will require further confirmation in the field by taking a closed core. The sequence above of alternating, waterlogged peats, shelly sands, organic silt mud and reed peat over a depth of *c* 1.65m is suggestive of a mainly out of use palaeo-channel that is acting as an oxbow cut-off. This palaeo-channel sequence is sealed by about 70cm of silt alluvium, which indicates a very different regime of valley-wide aggradation with fine eroded sediment carried in seasonal floodwaters emanating from inland by soil erosion from cultivated slopes in the catchment.

On the western edge of the floodplain, there is the possibility of another shallow channel present, about 1-1.9m deep, that contains possible tidal beach, sand and silt deposits in its base.

Conclusions

The valley slopes are characterised by very sandy, weakly developed, sandy brown earths (or arenosols), often with very thick ploughsoil horizons, formed on sandy glacial till deposits. The valley floodplain soils are essentially fluvisols, or weakly developed soils formed in alluvial deposits in an active floodplain (Bridges 1978, 42-3; Hodge *et al.* 1984; W.R.B. 2014).

There is evidence of at least three palaeo-channels within the present day floodplain. At the base of slope on the eastern side of the valley, there are indications of a shallow palaeo-channel infilled with organic silts and detrital peat over a depth of *c*. 1-1.5m. This situation also appears to pertain at the northern base of Brown Cow Field (RLM 012) where a small stream empties into the Deben floodplain. In a similar location but on the western edge of the floodplain, there is another possible palaeo-channel. But in contrast to the eastern edge palaeo-channel, it contains organic, fine sandy/silt muds in its lower 60-100cm which may indicate tidal creek influence, sealed beneath about 1m of silt alluvium.

A major palaeo-channel is located within the centre of the Deben valley near the present day sluice and bridge west of Naunton Hall. It is at least 3.6m deep, well preserved and waterlogged, and is of at least late 5th to late 2nd millennia BC in date. This will provide a rich resource and sequence of prehistoric vegetational change for the Rendlesham landscape, but evidence for the later prehistoric and historical landscape story has yet to be located. Unexpectedly, there does not appear to be any widespread finger-print of the influence of brackish water tidal creek conditions in the valley, except perhaps in the base of this main palaeo-channel and in the possible shallow channel on the western edge of the valley. Also, we have not observed any well preserved buried soils on the margins of the valley.

Recommendations

As a small selection of the pollen samples taken from the palaeo-channel have been prepared (by Chris Rolfe, Dept of Geography, University of Cambridge) and indicate the presence of pollen and there are two spot radiocarbon dates which give a strong indication that the palaeo-channel was active for at least all of the Neolithic and Earlier to Late Bronze Age, this feature is deserving of a full palynological and sedimentological analysis. In addition, it is clear that the later prehistoric and historic palaeo-channels are yet to be located in the valley floodplain, and therefore further coring investigations are required, especially if the palaeo-vegetational record related to the late 1st-early 2nd millennia AD development of the valley and its agricultural landscape is to be located.

The material culture collected by metal detecting

Systematic metal detecting was carried out across all available arable fields within the Naunton Hall estate and was also attempted on adjacent pasture and woodland areas. The system of walking on arable fields ensured a 100% ground cover in the metal detector sweeps, and all fields were completely covered at least once. A daily record was maintained of detectorists present on each site, field conditions, evidence of looting, non-metal finds and significant finds. Retained finds were recorded using a hand-held GPS (Garmin e-Trex).

As well as collecting metal objects the team collected pottery and worked flint tools when they saw them, as would be done in fieldwalking; however metal detecting can be carried out successfully in conditions that are not good for visual collection of surface finds. Metal detecting was done with iron discrimination switched on; the sieving of the ploughsoil from a sample two 1m squares minimum in each of the excavated trenches provides data on the large amount of modern or undatable iron. From all metals that were collected all obviously modern items were discarded, and anything definitely post-1650 was also not retained for recording. A sample of lead musket balls, which were not added to the record, was examined and shown to be typical of post-medieval rural game shooting.

Table 3 Total number of records for each material found in metal detecting survey

Material	**Number of records**	
stone	7	
flint	38	
ceramic (CBM)	2	
ceramic (pottery)	285	
glass	5	
gold	57	
silver	862	
copper alloy	2571	
lead	107	
Non-ferrous*: sub-total*		*3597*
Ferrous	12	
Total	**3946**	

Stone

Of the 45 recorded stone objects, 38 are worked flint, five are lava quern stone fragments, one is a fine-grained stone used as a hone and one is a fragment of probably modern slate.

The lava quern is mostly undiagnostic fragments which may be Roman or medieval in date although some is certainly Roman; all the pieces were found on RLM 044 except one from RLM 014 and may also represent early Anglo-Saxon use of lava querns as is suggested elsewhere (West 1990, 93).

The worked flint is further discussed in the context of the prehistoric background below. The collection overall is biased by the selection of re-worked pieces and contains no general flint working waste. The true range of worked flint within the ploughsoil is also illustrated by the evaluation results (Stewart 2014). The fieldwalking in 1982 also recognised a low density presence of flint artefacts and flakes (probably in EKE 019 and RLM 013 but this has not been fully analysed). It has been shown elsewhere that the presence of worked flint concentrations often does not correlate with below ground

archaeological evidence but the general spread across the fields must be broadly indicative of prehistoric activity. There was no worked flint from EKE 020, RLM 039, 040, 041, 042, 043, 049, 056 most of them being the less intensively searched areas.

Ceramic

Only two pieces of ceramic building material (CBM) were collected in the metal detecting survey, one post-medieval (from EKE 019) and one Roman box tile fragment from RLM 013. There was a deliberate collection policy of excluding post-medieval CBM which is widely distributed in arable fields, but concentrations of fired clay fragments were noted (RLM 013 and RLM 043) on the detectorists' maps.

The remaining 285 ceramic objects are sherds of pottery vessels and a single heavily abraded spindle whorl. Pottery was found across the survey area, absent only in fields RLM 040, 041, 046, 049, 056 all of which were less intensively searched. A breakdown of the pottery sherds by period is shown in Table 4. Given the difficulties of identifying abraded hand-made wares there may be some misattribution between prehistoric and early Anglo-Saxon, and there are similar issues with body sherds of Roman grey wares and late Saxon Thetford ware. However the high percentage of Anglo-Saxon wares is consistent with other materials.

Table 4. Pottery by period

Period	**Number of pottery sherds**
Prehistoric	4
Roman	129
Anglo-Saxon:	
Hand made	24
Ipswich ware	17
Thetford ware	22
Medieval	69
Post-medieval	17
Un	2
Total	284

As a comparison the numbers of sherds from fields in the 1982 fieldwalking were extracted for Roman and Anglo-Saxon periods to Table 5. This demonstrates a far higher retrieval rate from the focussed fieldwalking process, but a proportionately similar retrieval across the periods.

Table 5 Pottery from the 1982 fieldwalking

	RLM 012	**RLM 013**	**RLM 014**	**Total sherds**
Roman	44	158	146	348
Hand made	5	17	1	23
Ipswich ware	5	7	4	16
Thetford ware	12	12	9	33

Glass

Also collected during the metal detecting survey were five glass items, of which three were post-medieval or undated but one possibly Anglo-Saxon vessel fragment and a decorated double bead fragment were found in RLM 044.

Non-ferrous metal finds

Coins (category CTJ)

As coinage, with a small additional group of tokens, jettons and coin weights and ingots of various kinds, makes up a substantial proportion (46%) of the non-ferrous metals these are considered separately here (and in the more detailed assessments of the evidence by period). Table 6 shows the total coin and other object assemblages.

Table 6 Non ferrous coins (and related items) and other objects by material

Material	Coins (CTJ)	Other objects
gold	30	27
silver	778	84
lead	12	95
copper alloy	820	1751
Totals	**1640**	**1957**

The gold coins include one late Iron Age and one medieval, the remaining 28 are dated to the Anglo-Saxon period but include three possible coin blanks or ingots. One coin is also listed as ferrous, being the iron core of a contemporary copy of an Iron Age gold stater. The twelve lead coin items are all late medieval or later tokens and possible coin weights, mostly probably also late in date. Table 7 shows the silver and bronze coinage by period, where the normal predominance of bronze Roman coins and silver medieval coins shows clearly.

Table 7 Silver and copper alloy coins (and related items) by period

	Silver	Copper alloy
Iron Age	5	2
Roman	33	650
Anglo-Saxon	194	29
Medieval	432	21
Post medieval	114	112
Uncertain		6
Total	**778**	**820**

The Anglo-Saxon silver coin group includes eleven ingots or coin substitute pieces; the copper alloy includes a balance fragment, two ingots and 13 possible or certain coin weights. The medieval copper alloy pieces are mostly jettons and two coin weights.

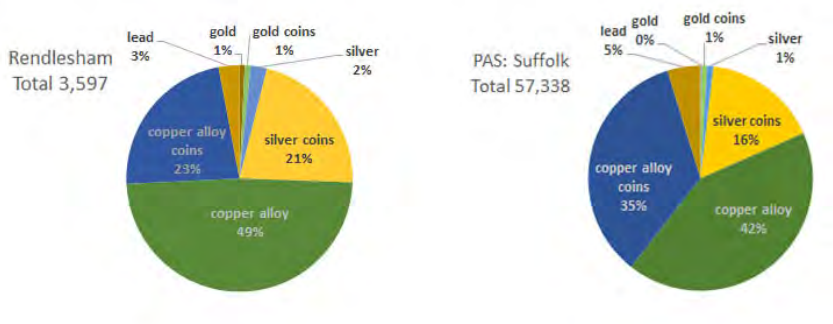

Figure 13 Comparison of the survey and Suffolk PAS quantities of non-ferrous coins and objects

Gold objects

The number of gold items is above average (1.4% of the non-ferrous metal compared to the numbers recorded on PAS for Suffolk at 0.5%). Six fragments, mainly of sheet offcut, probably represent manufacturing waste and although strictly undatable have been associated with the Anglo-Saxon activity; even more suggestive of precious metal working in the immediate vicinity is a spherical globule from RLM 013 (Fig 14). Two objects are definitely post-medieval and one might be prehistoric or Anglo-Saxon. The remaining 16 Anglo-Saxon objects, mostly dress accessories, include several of the most spectacular of the Rendlesham Anglo-Saxon finds.

Figure 14 Gold droplet, hammered droplet and sheet pieces from RLM 013 and RLM 014

Silver objects

84 objects have been identified as certainly or probably made of silver, which at 2.1% of the non-ferrous metalwork is only very marginally above the PAS Suffolk average of 2%. Fifteen pieces are potentially related to metalworking or other melting processes, including two fused Anglo-Saxon coins from RLM 044 (Sand Walk); the remainder consists of cut fragments (4) and molten pieces found in RLM 013 (7), RLM 044 (5), RLM 036 and RLM 043 – all within the core Anglo-Saxon area. Of the objects that can be fairly securely dated four are Roman, 36 are Anglo-Saxon, seven medieval and 13 post-medieval or modern.

Lead objects

95 objects are lead, of which more than half are not datable to a single period. Many of the undatable pieces are weights (41) and spindle whorls (16), although the weights do include two Roman steelyard weights and a couple of later Anglo-Saxon examples.

Pieces of particular interest include a small human head ?applique, possibly Anglo-Saxon or Roman (RLM 013 0119) and a model for casting the false ring on an Anglo-Saxon sword pommel (RLM 044 1381). Other later Anglo-Saxon items are a fragment of a brooch and four hooked tags. Commonly found medieval items include personal seal matrices (4), a pilgrim badge and ampullas (4), and early post medieval cloth seals (8).

Copper-alloy objects

The vast majority of the non-ferrous objects, 1751 in total, are copper alloy. Dated pieces range from the Bronze Age to modern, with 292 not attributable to a well-defined period.

Table 8 Copper-alloy objects by period

Period	Number of objects
Prehistoric	17
Roman	233
Anglo-Saxon	658
Medieval	320
Post-medieval	231

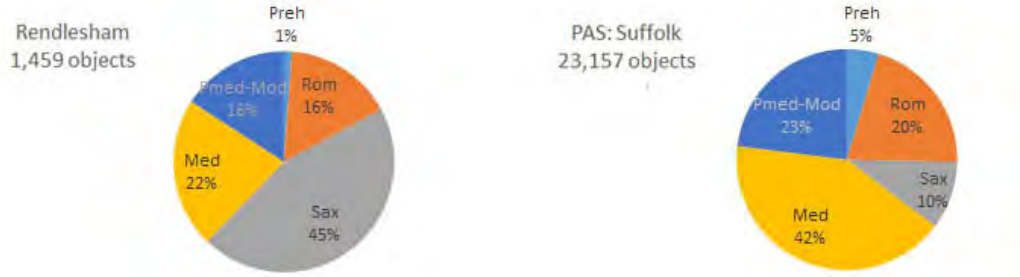

Figure 15 Comparison of the survey and Suffolk PAS quantities of copper-alloy objects

The relative distribution of the copper-alloy objects datable by period demonstrates a huge bias to the Anglo-Saxon period at 45% of the copper-alloy objects; the equivalent on the PAS for Suffolk is 10%.

Evidence for copper-alloy metalworking includes a possibly Bronze Age casting sprue from RLM 037 and unfinished Anglo-Saxon objects: pins (4), buckles (2) and bag catches (2) from RLM 013 and RLM 014, as well as undatable casting sprues from EKE 019 (2), RLM 013 (13) and RLM 036 (1).

Ferrous metal finds

Only twelve iron objects are recorded from the detecting survey because the material was discriminated against on the machines used, and was discarded when uncovered if undiagnostic or post-medieval. Had this not been done the survey would have been impossible to carry out in terms of speed, cost and volunteer enthusiasm.

The objects recorded include an Iron Age coin (core of a forged gold stater as noted above), an Anglo-Saxon knife blade (from RLM 013) and a possible arrowhead or spearhead (from RLM 036) and three undated axes from RLM 044.

SUMMARY OF THE RESULTS AND POTENTIAL BY PERIOD

The prehistoric background

The environmental factors of the survey area, particularly the valley-side location and the light soils, would normally favour prehistoric activity of all periods from the Neolithic onwards. Some of the survey fields (RLM 038 and RLM 044 with RLM 041 and RLM 046 to the north) are also in south-facing positions on the tributary valleys although the general aspect is towards the west across the Deben valley.

Remote sensing has not revealed any major Neolithic or Bronze Age monuments; a possible cursus seen in the magnetometry in RLM 013 (Plouviez 2009, 22) was shown to be Anglo-Saxon in the excavation. There is also an absence of typical ring ditches indicating Bronze Age burial mounds, as those previously identified in RLM 013 have been confirmed as related to WW2 searchlight emplacements. A double-ditched oval enclosure showing in the magnetometry in RLM 044 might be a Neolithic long mortuary enclosure and was shown in the evaluation to be pre-Anglo-Saxon. Late Neolithic Grooved Ware assemblages were found in two pits during monitoring of part of the reservoir area (RLM 030, Meredith & Damant 2008) just over 100m north-north-east of the oval enclosure.

A total of 66 items from the detecting survey are identified as of prehistoric date. By material these comprise: Worked flint 38, metal 26, pottery 2 (and a few undated fragments of pottery may also be prehistoric).

Figure 16 Flint tanged arrowhead, 46mm long, from RLM 044

The worked flint assemblage includes Mesolithic (a tranchet axe), Neolithic (leaf arrowhead and other bifacially worked pieces) and Bronze Age (barbed and tanged arrowhead, scrapers). There is a collection bias towards retouched pieces with very low flake/blade numbers, and a more representative sample of the ploughsoil content has been recovered from the evaluation trenches (Stewart 2014). A large percentage of the survey finds (16 pieces) were collected on RLM 044; this is not solely a reflection of the intensity of search since RLM 013 produced only four pieces. A similar numerical bias to RLM 044 is seen in the evaluation with twice the numbers of pieces from a slightly larger excavation area (Stewart 2014, 42-43) and probably reflects an early settlement preference for the very sandy subsoil and south facing aspect of RLM 044. Overall the worked flint confirms the impression in the fieldwalking in 1982 of a low density of flakes and artefacts all along the valley side from Eyke northwards (Loader in Plouviez 2009, App 1).

Eleven copper-alloy objects are dated to the Bronze Age, most are fragmentary tools and range from Early to Late Bronze Age in date. They are widely distributed across the survey area with a possible focus of four objects in the south-west of EKE 019 in an area of rectilinear cropmarks (part of EKE 031).

The pottery finds are a reflection of the sparse distribution, a low retrieval rate (because the fields were often in poor condition for surface visibility while good for metal detection) and the friability of prehistoric fabrics. The two positively identified sherds were flint gritted fabrics of late Bronze Age or Iron Age type.

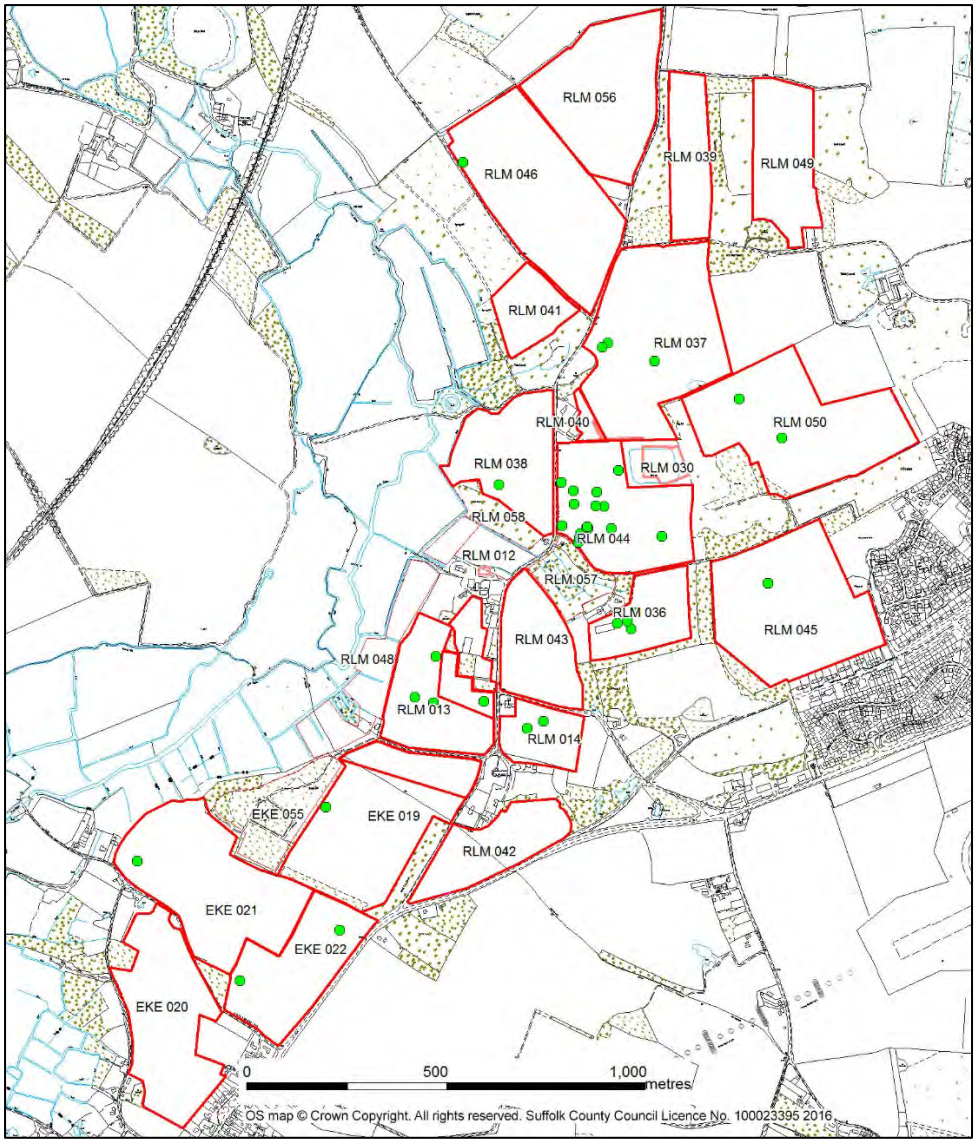

Figure 17 Map showing the distribution of worked flint objects

The prehistoric metal finds include nine late Iron Age coins and six other objects, (excluding late Iron Age brooch types which are discussed with the early Roman material). One brooch fragment is a La Tene 1 type (RLM 013 0339). Five cart fittings (terrets, mini terret and linch pin) also indicate probably pre-1st century AD activity, although some of these types continued in use into the Roman period. Of the six coins that are identifiable four can be attributed to the Iceni and two to the Trinovantes, the latter both types of Cunobelin dated between AD10 and AD40. The presence of Icenian types in south-east Suffolk has been noted before (for example the hoard of gold staters from 'near Wickham Market', Talbot and Leins 2010) with the possibility that there is an expansion of control by Cunobelin into this area after *c* AD10. The Rendlesham assemblage fits with this pattern as it includes early Icenian material (a 'Norfolk wolf' stater and an early Face Horse unit) and does not include the common late Pattern Horse units. The distribution of the Iron Age finds mostly seems to correlate with Roman concentrations, with a group including two terrets to the north (RLM 046 and RLM 037) and a group in RLM 013. In RLM 013 it is noticeable that the survey finds were outside, to the north and west of, the D-shaped enclosure shown to be backfilled in the first half of the 1st century in the evaluation.

Roman

A total of 1040 artefact records are defined as Roman of the total 3946 recorded up to July 2014. One record includes 10 of the coins that make up the EKE 022 hoard, shown as (+9) in the tables. In addition 14 objects listed as Late Iron Age to Roman are included here, giving an overall total of 1054. Various pin and cosmetic implement fragments such as tweezers could not be securely allocated to either Roman or later and are not included.

Table 9 Roman artefacts by material

Material	Number of records
copper alloy	882
silver	37(+9)
lead	2
pottery	130
ceramic	1
stone	2
Total	**1054(+9)**

683 (+9) coins are listed of which 33 (+9) are silver, the rest copper alloy.
The 371 other items can be subdivided by function as in Table 10

Table 10 Roman objects, other than coins, by function

Category	Number of records
BS Building supplies	1
DA Dress Accessories	194
FF Fixtures & fittings	1
HO Household	137
ME Military	8
PP Personal possessions	20
RC Religious or cult	1
UN Unknown	7
WM Weights & measures	2
Total	**371**

The largest categories are dress accessories, of which the main component is 145 brooches, and household, mainly the 130 sherds of pottery.

Every survey area that produced any Roman finds included coinage except for RLM 058, an area of woodland where a single brooch was found and RLM 050 with a single possibly Roman pottery fragment. Arable fields with no Roman finds were RLM 040, RLM 041 and RLM 049.

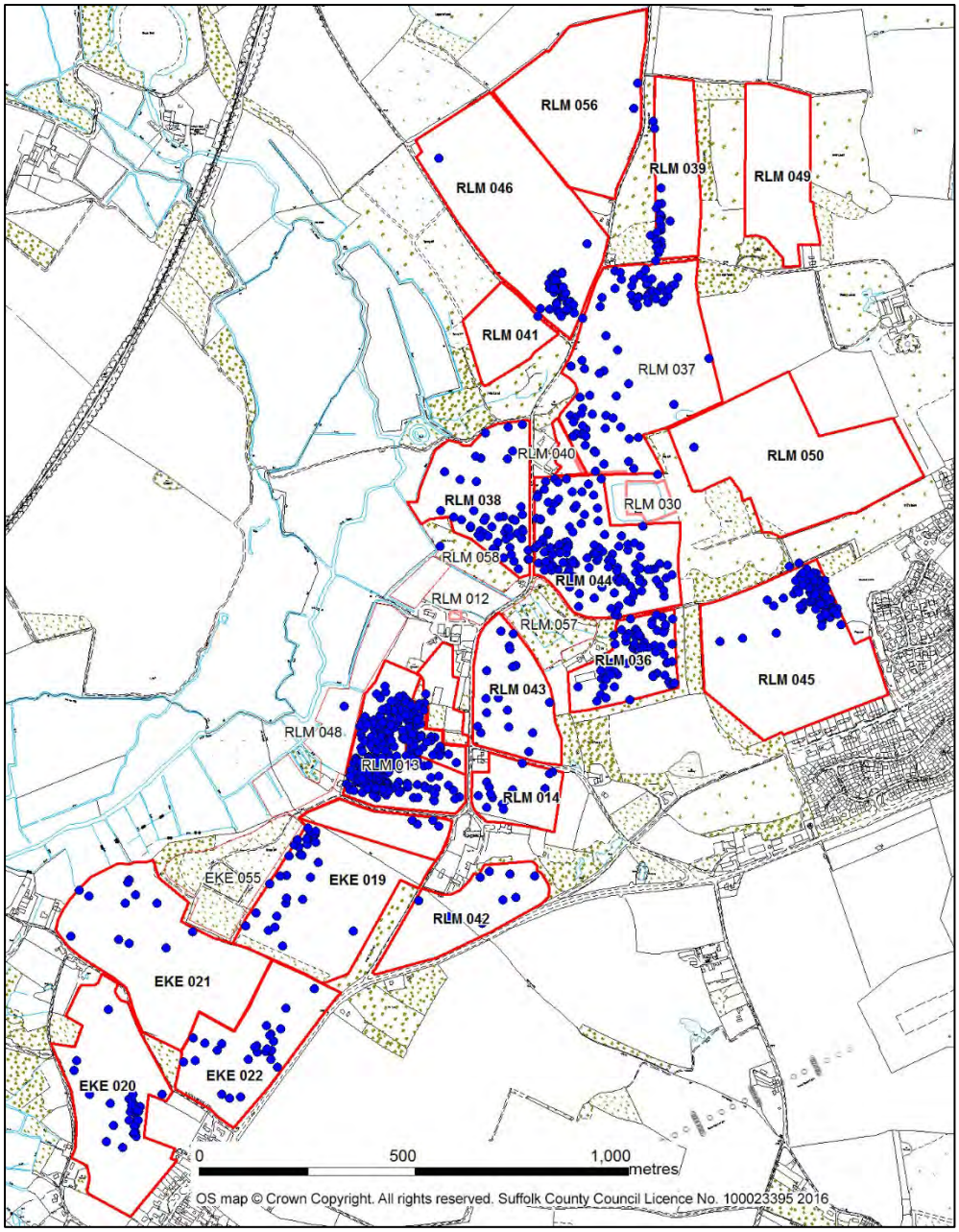

Figure 18 Map showing the distribution of all Roman finds

Roman coins

The total number of Roman coins found in each survey area is shown in Table 11.

Two potential hoards were identified by the detectorists. The first is an isolated group of 24 silver denarii scattered across field EKE 022, with a focus in the middle of the field; the denarii range in date from Nero (54-68) to Marcus Aurelius (161-180) and were deposited after *c* 170. The second is less certain but was suggested by the detectorists for RLM 013, database numbers 0674-0691 inclusive (after they had noted previously that there were excessive small bronze coins from this area) and consists of small bronze nummi of the Theodosian period (383-410). Unusually Theodosian coins make up over 50% (118 of 208 identifiable coins) of the assemblage from RLM 013 and it seems likely that many of these derive from a hoard scattered mainly northwards from around TM32307 52940 (54 of them were found within a 20m radius of this spot). Separating a scattered hoard from a complex surface scatter cannot be regarded as certain, and the potential hoard spot lies within the distribution of general 4th-century material in RLM 013. Both hoards have been included in the site totals.

Table 11 Number of coins per survey unit

Site Code	Total number of Roman coins	Silver coins (d=denarius, s=siliqua)
EKE 019	11	3 (d)
EKE 020	28	1 (s)
EKE 021	6	0
EKE 022	20 (+9)	24 (d)
RLM 013	260	2 (s)
RLM 014	4	1 (d)
RLM 036	54	1 (s)
RLM 037	42	1 (d)
RLM 038	39	1 (d)
RLM 039	21	0
RLM 042	3	0
RLM 043	8	1 (d)
RLM 044	88	3 (d) + 2 (s)
RLM 045	53	0
RLM 046	42	0
RLM 048	1	0
RLM 051	1	0
RLM 056	2	0
Total	**683 (+9)**	**34(d) and 6(s)**

Of the 692 coins 558 can be allocated to a Reece period (Reece 1991). A generalised picture (Fig 19A) of overall coin loss is distorted by the high representation of RLM 013 (208 identified coins), so this has been excluded from Figure 19B. The pattern is broadly similar to the Reece national norm, with low levels until the later 3rd century – which is very strongly represented. The 4th century includes the normal peak in the 330's-340's and a decline thereafter, below the national average for the second half of the century. However this decline is much more marked in other east Suffolk sites (for example the nearby large settlement at Hacheston, Blagg et al 2004, 84) and the Valentinaian - Theodosian percentages are markedly higher than the average in this part of Suffolk (Fig 19C)

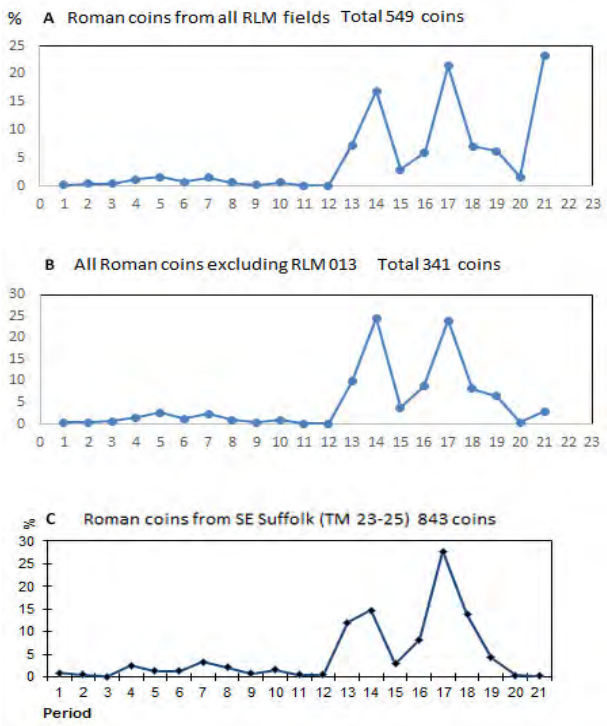

Figure 19 Coin diagrams comparing Rendlesham to south-east Suffolk (coin percentages shown against Reece periods 1 - 21)

Roman coin distributions

A number of separate "sites" can be suggested on the basis of the mapped distributions: (from south to north) EKE 020, EKE 022 (hoard only), RLM 013, RLM 045, RLM 046, RLM 039 with the north part of RLM 037 (and possibly linked to RLM 046). The nature of the relatively substantial assemblages from fields RLM036, 044 and 038 in the area north of RLM 013 is difficult to define and these are presented at the end.

EKE 020

This small group (23 identifiable) spans the late 2nd to later 4th centuries and includes a mid 4th-century silver siliqua. Subsequent to the survey the discovery of several clipped siliquae, probably a scattered hoard, confirms that activity here is likely to extend into the 5th century.

RLM 013 (drawing on comments by Sam Moorhead)

A substantial group (208 identifiable) from an intensely surveyed area which also includes late Iron Age coins. A couple of 1st century asses include a copy of one issued by Caligula (37-41), but thereafter there is a gap until the late 3rd century. All periods are far lower relatively because of the large Theodosian component (57%), probably partly a scattered hoard; however if the Theodosian element is ignored there is a below average 3rd century component and the mid to later 4th century (Reece periods 18, 19) is better represented than the norm for east Suffolk and includes two silver siliquae (Gratian and Magnus Maximus). Interestingly there are a number of earlier 4th century issues that are of an equivalent size to the Theodosian ones suggesting that they may have been selected for continued circulation in the final years of bronze coin use. The small group of sites in Britain that include very high levels of Theodosian nummi includes Richborough, Canterbury and Caerwent.

> *SM writes*: I have argued before that large assemblages of Theodosian bronze coins nearly always come from military or urban sites and are mostly in close proximity to the coast or major rivers (Moorhead and Walton 2014, 112; Moorhead, Anderson and Walton, *forthcoming*). It does seem that in the last decades of Roman Britain, the fleet was playing a major role in the Roman military and administration, probably to keep the supply lines between Britain and the Continent open. Furthermore, I believe that these bronze *nummi* were used by Roman officialdom, be they soldiers or administrators; evidence does suggest that the rural population eschewed these coins in favour of silver *siliquae* (Bland et al 2013, 131, tables 6a-d; Moorhead and Walton 2014, 112, Table 2). With this in mind, I believe that the RLM 013 coins do suggest that there was an official Roman presence in the region of Rendlesham in the late Roman period.

It is notable that despite the high level of Anglo-Saxon activity on RLM 013 there are no pierced Roman coins, in contrast with the early Anglo-Saxon areas further north.

RLM 045

The coins are all copper alloy and none are pierced. The 39 identifiable coins date from the 2nd to the middle of the 4th century, including a substantial group of contemporary copies in the late 3rd century. Overall this group is very similar to the norm for this region of Suffolk.

RLM 046

All are copper alloy and none is pierced. Of the 35 identifiable coins one is early 2nd century, the majority (80%) are late 3rd with a few 4th century and none later than 340.

RLM 039

This is a small group with only 16 identified coins, ranging from late 2nd to late 4th century (Valentinian) but complementing RLM 046 in that here there are fewer 3rd- and more 4th-century losses.

RLM 037 (north area

The 19 coins in this group are separated by a 100m gap from others in this field. However stray coins can travel on farm machinery right across fields and the presence here of one pierced coin might suggest this. The group includes one silver denarius (early 3rd) and a couple of 2nd-century sestertii but the same bias to 4th (up to Valentinian) rather than 3rd century as RLM 039.

Sites RLM 036, RLM 044, RLM 037 (south), RLM 038

These fields make up an area of early Anglo-Saxon finds that lie on the north side of a tributary of the Deben. The presence of pierced coins suggests post-Roman re-use, but whether the source of this material is within these sites or is one of those listed above remains uncertain. The identifiable totals by Reece period are presented in Table 12.

RLM 036: A late 3rd and more 4th century group, with a significant Theodosian component (over 10%). One (not clipped) siliqua of Julian II. Six (11%) pierced coins (range from radiates to Valentinian).

RLM 044: Coins from the mid 2nd century including a sestertius (M Aurelius) modified with a row of punched annulets and three joining denarius fragments of early 3rd; strong late 3rd and 4th century peaks with above the local average of Valentinian and Theodosian issues and a clipped siliqua. Nine (10%) pierced coins, radiates onwards and unusually including a Theodosian example.

RLM 037 (South): the 19 identifiable coins are all copper alloy. They range in date from early 2nd to late 4th century (Valentinian), but over half are Reece period 17 (330-348). Two (9%) are pierced (both first half of 4th century).

RLM 038: A 1st-century group includes a Claudian as (Antonia), a silver denarius of Titus and an unidentified but pierced as or dupondius; the remaining 26 identified coins are late 3rd and 4th century up to Valentinian, one of which is pierced (the 2 pierced coins are 5% of the total).

Table 12 Roman coins identifiable to Reece period from sites RLM 036, 044, 037 (South) and 038

Reece period	AD	RLM 036	RLM 044	RLM 037 (South)	RLM 038	Combined
1	up to 41					
2	41 - 54				1	**1**
3	54 - 68					
4	69 - 96				1	**1**
5	96 - 117			1		**1**
6	117 - 138					
7	138 - 161		2			**2**
8	161 - 180		1			**1**
9	180 - 192					
10	192 - 222		2			**2**
11	222 - 238					
12	238 - 260					
13	260 - 275	5	8	1	7	**21**
14	275 - 296	8	15	1	3	**27**
15	296 - 317	3	2	1	4	**10**
16	317 - 330	4	10	2	2	**18**
17	330 - 348	11	19	11	6	**47**
18	348 - 364	9	4	1	3	**17**
19	364 - 378	3	7	2	1	**13**
20	378 - 388		1			**1**
21	388 - 402	5	5			**10**
	Totals	48	76	20	28	**172**

The proportions of Roman coins from these fields could usefully be compared with assemblages from excavated early Anglo-Saxon settlements (West Stow and Eye in Suffolk) and from cemeteries.

Roman objects

As normal in metal-detected Roman assemblages, brooches are the most common finds other than coins. These provide a complementary source of chronological information, being extremely common in the 1st and 2nd centuries, when coin loss is very low, and diminishing to occasional finds in the later 3rd and 4th centuries when coin loss is high. The overall assemblage is fairly typical of east Suffolk with a predominance of Colchester derivative types, especially the Harlow (27%) and hinged (17%) types. The presence of 17 examples of types (Colchester, Langton Down, rosette) that originate in the first half of the 1st century, but continue in use to around AD60, confirms the late Iron Age activity, particularly in RLM 013, where nine of them were found. A low number (7% of the total assemblage) of Aucissa/Hod Hill types correlates with the absence of evidence for 1st-century military activity. Second and 3rd-century types are present in typically low numbers; the latest piece is a gilded oval type of the 3rd to 4th century (from the north end of RLM 037). A significant gap is the lack of any crossbow types, commonly associated with military sites and high status male burials in the late 3rd and 4th centuries. The distribution of brooch fragments is widespread across the survey area, with none present in arable fields RLM 014, 040, 041, 049 and 050; of these only RLM 014 has other Roman finds. The more substantial groups are from RLM 013 (57), RLM 037 (17), RLM 044 (16) and EKE 019 (12). The relatively high numbers of brooches compared to coins from EKE 019 may suggest late Iron Age and early Roman activity, particularly in the mid north-west part of the field, corresponding to an area of rectilinear cropmarks. The large group from RLM 013 confirms that there is 1st century activity here and includes an unusual group of probably 1st and 2nd century zoomorphic types (a rabbit, a bird and a swimming duck) from the northern half of the field. The small groups of brooches from the north of the survey area at RLM 039, and RLM 046, confirm activity continuing from the late Iron Age. By contrast the discrete site at RLM 045 produced only a couple of relatively late brooches, confirming the coin date of 2nd century and later; one of these brooches is an unusual depiction of a hippocampus, hinting at a religious function for this site which is supported by a couple of other finds.

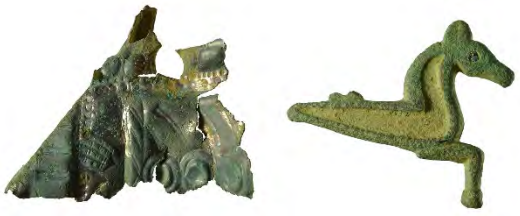

Figure 20 Silvered decorated sheet fragment and hippocampus brooch from RLM045

There is potential for further study of the relative quantities of brooch types within and beyond the survey area to examine detailed chronologies and functional aspects of the sites. Four pieces were noted as modified – from RLM 037, 038 and 044, perhaps suggesting post-Roman use, comparable to the use of coins in these areas. It may be that there is also some selection for enamelled pieces in these fields. The survey material also offers scope for looking at the degree of fragmentation, particularly of the bow brooches, and whether this relates to likely manuring as opposed to potential settlement or cemetery areas.

Other Roman dress accessories are mostly bracelets (22), with only three finger rings and an uncertain group of pins (many are more likely Anglo-Saxon, about six are likely Roman hairpins including an unusual silver fragment with a human hand and arm terminal from RLM 044). Thirteen (of the total 22) Roman bracelets are from RLM 013 which supplements the late assemblage represented by the coins. One bracelet from RLM 036 and six from RLM 044 might be Anglo-Saxon use (but one of the RLM 044 pieces is a wide bracelet fragment of 1st-century date).

Table 13 Roman pottery finds by survey unit

Site Code	Pottery sherds
EKE 019	7
EKE 020	4
RLM 013	36
RLM 014	13
RLM 036	2
RLM 037	14
RLM 038	8
RLM 039	1
RLM 044	8
RLM 045	34
Total	127

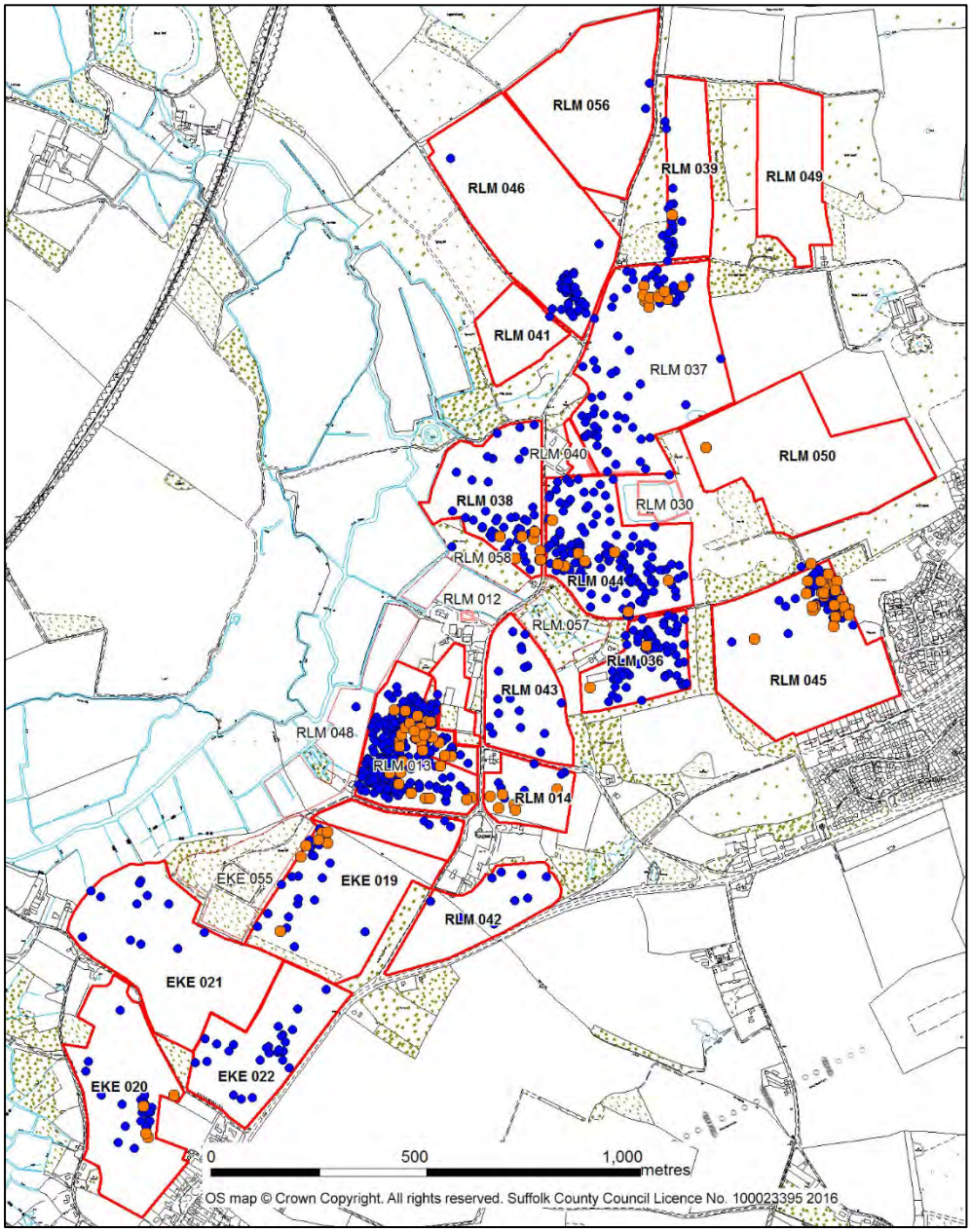

Figure 21 Map showing Roman pottery (light brown spots) against all Roman objects (blue)

The pottery sherds are predominantly local grey wares but also include samian (6), Oxford ware (2, both from RLM 013), unspecified colour coated (1), late shell-gritted ware (2, both from RLM 038), unspecified oxidised (1) and early grog-tempered (2, from RLM 013). The distribution of the pottery seems to be strongly focussed on the likely settlement areas already identified –RLM 013, RLM 045, RLM 037 (all found in the northern part of the field, with another sherd from RLM 039 to the north), EKE 019, EKE 020. However it also includes RLM 014, with only a small assemblage of metal-detected coins and objects, but which also produced Roman sherds in the 1982 fieldwalking. The Roman pottery from the mainly early Anglo-Saxon area of RLM 036/RLM 044/RLM 038 might suggest a concentration spanning the modern road in the southern corner of RLM 038 and the south-west of RLM 044. Within RLM 013 there is again a greater density of finds in the northern half of the detected area.

Items of probable military manufacture and use, excluding elements from late Roman belt sets, are sparse: EKE 019 1034 (within Rom concentration and cropmarks area), RLM 036 1136, RLM 037 1369 (south part of field), RLM 044 1070. All are 2nd to 3rd century or later and will contribute to any study of the level of military presence within East Anglia after the 1st century.

The occurrence of late Roman belt fittings is widespread across the survey area but with a majority, especially the buckle fragments, from the early Anglo-Saxon area (RLM 036/RLM 044/RLM 038). The pieces include:

Four 'propellor' belt stiffeners (EKE 019 1043 and 1123, RLM 037 1370, RLM 044 1461), two strap ends (RLM 042 1094, RLM 044 1119) and seven buckles (RLM 036 1178, RLM 038 1194, RLM 044 1131, 1301, 1302/1303, 1711, 1737) of Hawkes & Dunning forms Ia, ?IIa, ?IIb, IIIb.

This group needs further examination in light of recent research on these types and in the context of other 5th century material, particularly from the RLM 044 area.

The pattern of Roman finds shows distinct activity areas, characterised by various chronological markers and with a few hints of functional differences, such as possible religious activity at RLM 045. Some of the areas also show cropmark enclosure systems and trackways that are typical of late Iron Age and Roman rural settlements (EKE 019, RLM 037 north). None of the magnetometry results can be characterised as typically Roman in character and the only tentatively Roman feature found in the evaluation was a possible 4th-century pit below an Anglo-Saxon midden layer in RLM 013 (RLM 054 trench 6). The possible co-incidence of very late Roman activity with a key area in the Anglo-Saxon complex in RLM 013 is of considerable interest, as is the range of Roman material found in the area to the north of this.

Anglo-Saxon/ Early Medieval (5th-11th centuries AD)

Introduction

Quantification, material and condition

Including coins, the database holds records of 1,128 survey finds that can be attributed securely or with a fair degree of certainty to the period of the 5th to 11th centuries, that is the span of the Anglo-Saxon period. This constitutes just under 29% of survey finds. The proportion of Anglo-Saxon finds from Suffolk as a whole reported through the PAS is 5%, but finds of the Anglo-Saxon period make up just under 29% of the Rendlesham survey assemblage. A majority of these (at least 68%) can be dated to the 5th-7th centuries, from which it is clear that Rendlesham was a major focus of activity during this period.

Excluding coins, which are assessed separately, but including currency-related items such as coin weights and ingots, there are 841 Anglo-Saxon objects recorded on the database. The great majority of metal finds are copper alloy, with very much smaller numbers of silver, gold and lead items, although this does not take into account surface treatments such gilding, silvering and tinning. There

are only two iron objects, as the metal detectors were set to discriminate against iron. Glass and pottery were also visually identified and recovered.

Table 14 Anglo-Saxon finds quantified by period/date-range and material

Period	Early	Early-Middle	Middle	Middle-Late	Late	Late-Medieval	Early-Late		
Date-range	C5-C7	C7-C8	C8-C9	C8-C11	C10-C11	C11 +	C5-C11		TOTAL
Material									
Copper alloy	497	21	26	86	27	12	20		689
Gold	18	2	0	0	0	0	4		24
Iron	2	0	0	0	0	0	0		2
Lead	3	1	0	4	4	1	1		14
Silver	21	4	3	3	8	0	9		48
Glass	2	0	0	0	0	0	0		2
Pottery	25	0	16	0	21	0	0		62
TOTAL	568	28	45	93	60	13	34		841

Condition varies. Items of silver and lead have suffered less from corrosion than those of copper alloy, while gold, being chemically stable, has not corroded. A majority of items are broken or fragmentary, having been struck by agricultural machinery and/or moved in the ploughsoil. This has had the heaviest effect on corroded copper-alloy items, but some otherwise well-preserved gold items show clear signs of plough impact. There are, however, intact and well-preserved objects of gold, silver, copper-alloy and lead. In some cases this is due to size and shape (small compact items are less susceptible to breakage due to plough impact and movement in the ploughsoil), but in many cases the presumption must be that objects in good condition have been recently disturbed from buried archaeological deposits.

Periodisation and dating

It is currently possible to assign securely or with a high degree of confidence the manufacture and use of 613 objects (that is, 73% of the Anglo-Saxon assemblage) to one of the conventional archaeological sub-divisions of the Anglo-Saxon period derived from the pottery sequence (Hurst 1976): early Anglo-Saxon (broadly speaking the 5th to mid-7th centuries), the middle Anglo-Saxon (mid-7th to mid-9th centuries), and late Anglo-Saxon (mid-9th to late 11th centuries). The remaining items are either too damaged or undiagnostic to allow any but the broadest dating, or represent long-lived types whose manufacture and use span more than one conventional period, or types whose currency spans the transition between one period and the next.

It is becoming increasingly clear that this archaeological periodisation based on broad ceramic sequences provides only a very crude chronology when compared to the finer dating afforded by coins and some metalwork types, and that the partitions between early, middle and late Anglo-Saxon are highly problematic when applied to other types of material (Scull 2009, 3-4; Hines and Bayliss 2013). For example, metalwork types and beads offer fine chronologies with the early Anglo-Saxon period, and a range of 7th-century material culture types, including early English gold shillings, span the partition between early and middle Anglo-Saxon, making a nonsense of any attempt to characterize or explain the social and cultural processes they represent in simple period terms. This specific issue is further complicated by the re-dating of the key ceramic indicator of the middle Anglo-Saxon period, the introduction of Ipswich ware, from c AD 650 to c AD 700/20 (Blinkhorn 2012).

In order to avoid the pitfalls of crude periodisation, analysis of the Rendlesham assemblage should be based on chronometric date-ranges. Such date-ranges have been assigned to each object as part of

cataloguing during the field survey, but in some cases these are conservative and provisional, and a priority for future analysis must be expert re-examination of the material with a view to refining identification and dating. For the purposes of this assessment all Anglo-Saxon objects have been assigned to one of six overlapping chronological groups according to their most likely period of manufacture and currency (Tables 14 & 15). A seventh group consists of the 34 items that can currently be dated no more precisely than to some time within the 5th to 11th centuries. While not perfect, this scheme has the advantages that it recognises a greater degree of complexity than the conventional tripartite periodisation, and that by aggregating groups a range of comparisons over time can be drawn.

It is immediately apparent that items of the 5th to early 8th centuries make up the bulk of the assemblage. In part this may be explained by grave goods from disturbed inhumations among the earlier material, furnished inhumation having been abandoned by the end of the 7th century, but even taking this into account the disparity suggests a much higher rate of loss or discard, implying a greater density and intensity of activity in the 5th to 7th centuries than in the 8th to 11th. This tallies with the coin evidence, qualitative assessment of the earlier and later assemblages, and spatial distributions of earlier and later Anglo-Saxon material, all of which point to a change in function and status of the site in the first half of the 8th century (below).

Functional range

The attribution of Anglo-Saxon finds to functional categories is set out in Table 15. The largest single category is dress accessories. For the 8th-11th centuries the household category consists exclusively of sherds of pottery, these being Ipswich and Thetford wares that define middle and late Anglo-Saxon ceramic periodisation; for the 5th-7th centuries the household category includes items of glass and metal, predominantly vessel fragments or fittings, as well as sherds of the hand-made pottery that defines the early Anglo-Saxon in ceramic periodisation. There is some potential for diachronic comparison of the assemblages: for example, brooches and wrist clasps are the predominant dress-accessory types for the 5th-6th centuries, pins and hooked tags for the 7th-8th centuries, and hooked tags, brooches and strap ends for the 9th-11th centuries. Also noteworthy for the 5th-7th centuries are the relatively high numbers of harness and weapon fittings (ET; ME), and items connected with currency use (CTJ); direct evidence for fine metalworking is also largely confined to this early period. These points are discussed further below.

Table 15 Anglo-Saxon finds quantified by period/date-range and functional category

Period	Early	Early-Middle	Middle	Middle-Late	Late	Late-Medieval	Early-Late		
Date-range	C5-C7	C7-C8	C8-C9	C8-C11	C10-C11	C11 +	C5-C11		TOTAL
Category									
Dress accessories (DA)	357	10	25	82	18	5	1		498
Personal possessions (PP)	73	5	1	0	0	1	3		83
Weights and measures (WM)	0	0	0	1	1	0	0		2
Textile production (TP)	0	0	0	0	0	0	0		0
Equestrian and Transport (ET)	12	2	1		8	0	0		23
Coins, tokens, jetons and associated objects (CT	11	2	0	7	7	0	6		33
Household (HO)	40	0	16	0	21	0	0		77
Buildings and services (BS)	0	0	0	0	0	0	0		0
Weapons and military equipment (ME)	39	0	0	1	0	0	0		40
Metal working (MW)	10	4	1	0	0	0	7		22
Religion and cult (RC)	0	0	0	0	1	0	0		1
Recreation (RO)	0	0	0	0	1	0	1		2
Tools (T)	0	0	0	0	0	0	0		0
Fasteners and fittings (FF)	12	2	0	1	2	3	5		25
Agriculture and animal husbandry (AA)	0	0	0	0	0	0	0		0
Objects of unknown or uncertain function (UN)	14	3	1	1	1	4	11		35
Hunting and fishing (HF)									
TOTAL	568	28	45	93	60	13	34		841

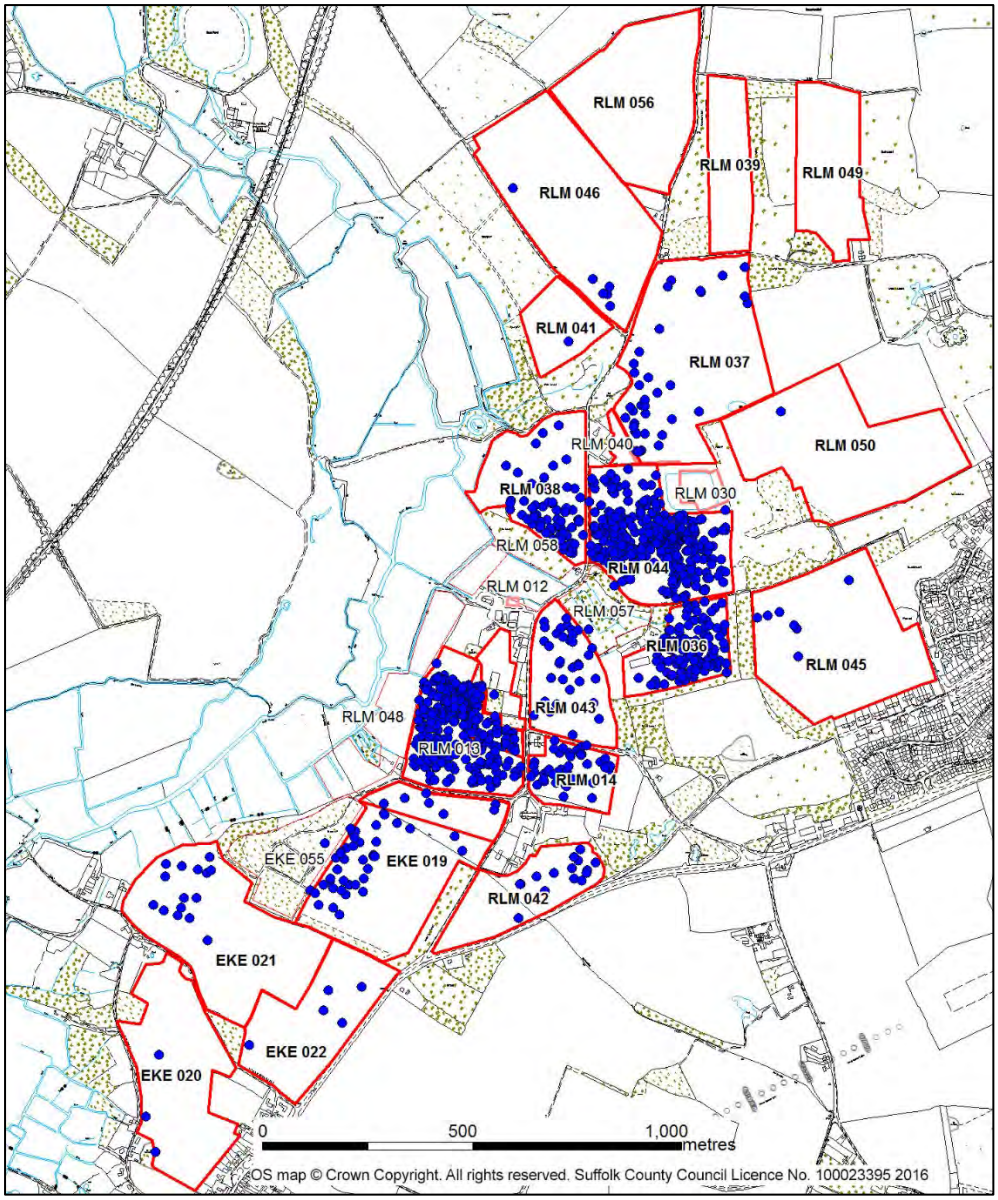

Figure 22 Map showing the distribution of all Anglo-Saxon objects

Spatial distribution and taphonomic processes

The main concentration of Anglo-Saxon finds is within 8 fields (EKE 019, RLM 013, 014, 036, 038, 042, 043 and 044) defining a concentration of activity 50 ha in extent which coincides with the greatest density of archaeological features from magnetometry and the plotting of aerial photographs. Finds of the 5th-8th centuries are spread across the full extent of this area, with very dense concentrations in RLM 013, 036 and 044, and in the west of RLM 014, the south of RLM 038, and the west of EKE 019. Finds of 9th-11th century material are very much sparser, with significant concentrations in only three fields, RLM 013, the south of RLM 038 and the north-west of RLM 014. This is consistent with a reduction in both the area and intensity of activity by the 9th century. (Figs 22, 23)

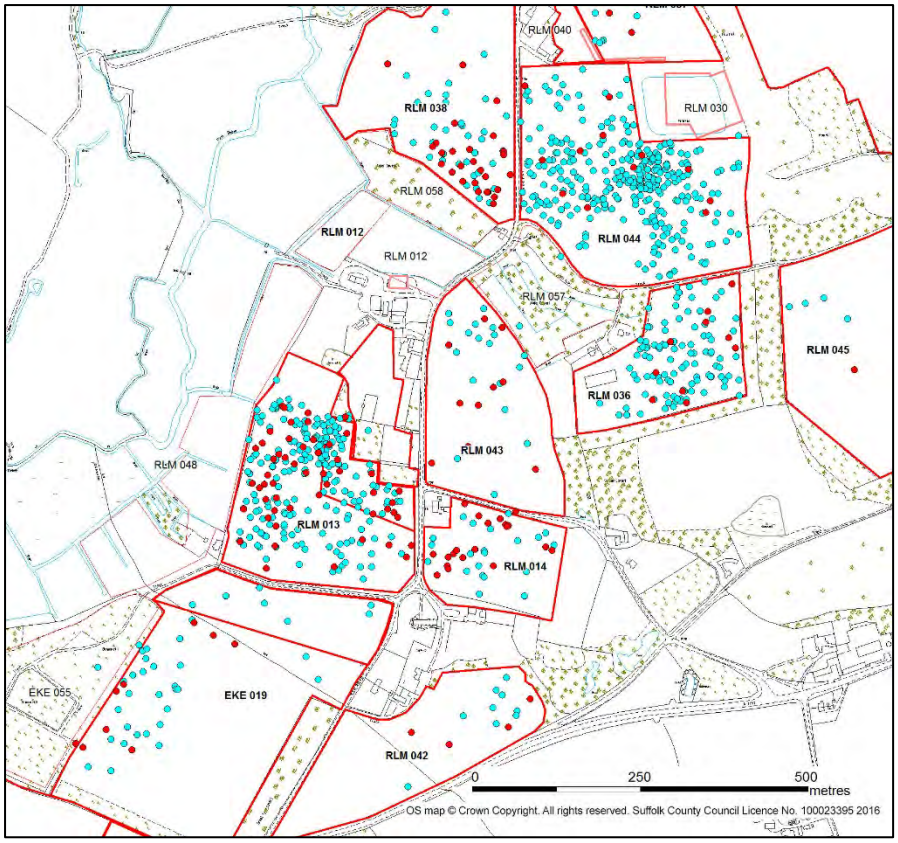

Figure 23 Map showing the distribution of 5th-8th century (light blue spots) and 9th-11th century (red spots) finds

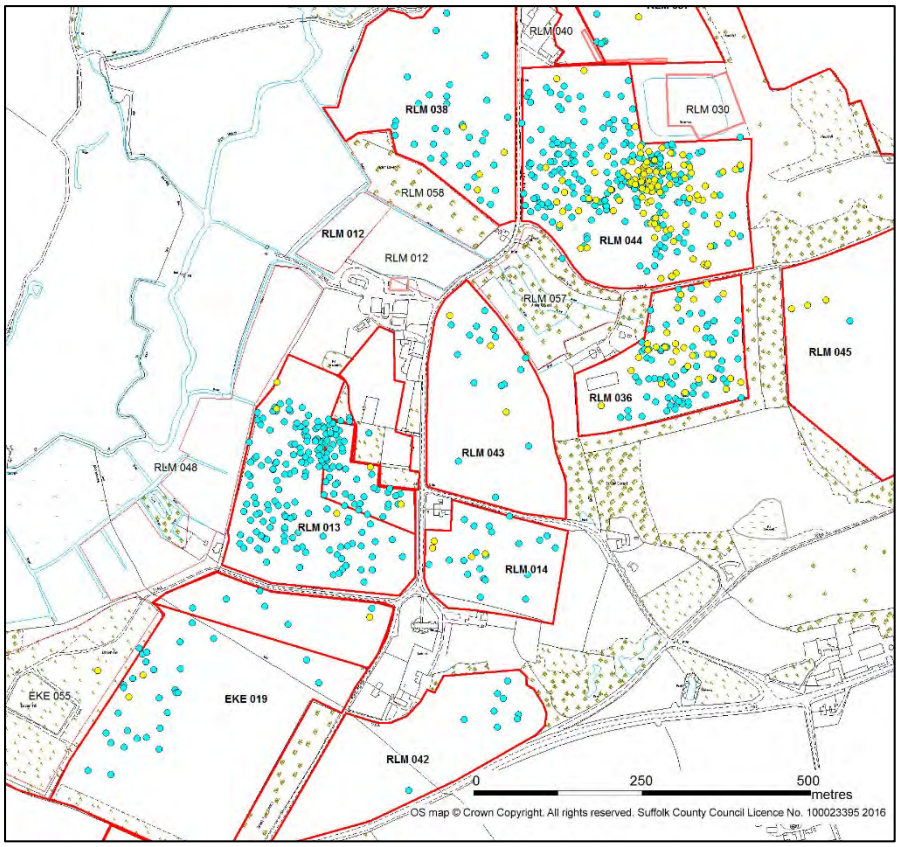

Figure 24 Map showing the distribution of 5th-6th century dress accessories (yellow spots) against all 5th-8th century finds (light blue spots)

The differential distribution of different classes of material does allow some preliminary conclusions about the spatial structure of activity and land use in the 5th to 8th centuries (Figs 24, 25). Concentrations of female dress accessories in RLM 036 and 044 indicate disturbed inhumations of the late 5th to 7th centuries and the presence of 5th- and 6th-century cremations, suggested by burnt or melted metal dress accessories and a localised scattering of stamp-decorated pottery in RLM 044, has been confirmed by excavation. A cluster of finds indicative of fine metalworking, including discarded castings, casting sprues, scrap and melt, suggest a workshop in the south of RLM 013, and finds of very high-quality gold and gold-and-garnet jewellery (Fig 26) of the 7th early 8th centuries suggests a high-status settlement focus in the north of RLM 013. There is clear potential for detailed analysis to elucidate further patterns of activity across space and time.

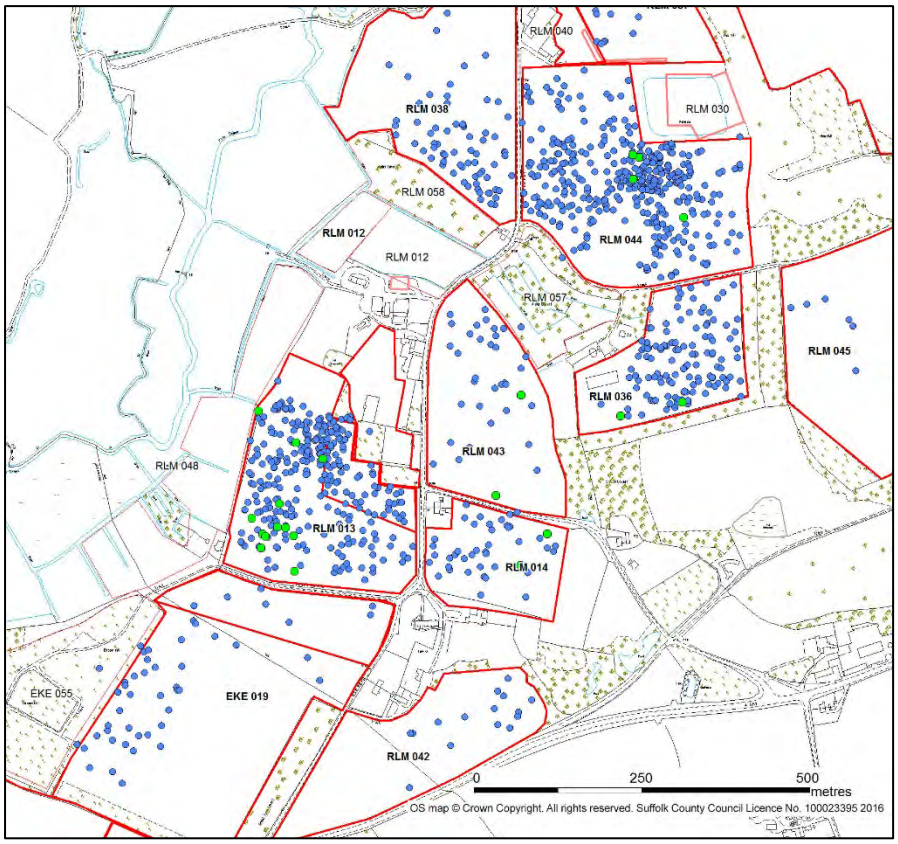

Figure 25 Map showing the distribution of metalworking evidence (green spots) against all Anglo-Saxon finds (blue spots)

This is, however, bound up with understanding the processes by which material has become incorporated in the ploughsoil. The survey assemblage is composed of items that have been ploughed-up from stratified settlement deposits and furnished burials, material that has been incorporated in the modern ploughsoil as a result of being spread on ancient fields during manuring, and items that were dropped on the old ground surface. Material ploughed up from settlement deposits is itself likely to represent a mixture of deliberate discard and accidental loss, and middening for manure would mix farmyard and household rubbish and incorporate both lost and discarded items.

Initial assessment suggests that manuring is at best a minimal factor in the distribution of 5th- to 8th-century material. As noted above, concentrations of 5th- to 7th-century female dress accessories typical of the furnished inhumation rite probably derive from burials, and the more dispersed spread of these and other contemporary artefact types across the main area of distribution most likely represents settlement debris and some losses. The wide distribution of 7th- and 8th-century gold and silver coinage across the same area is also difficult to explain as manuring, and must represent the

accumulated losses from decades of monetary transactions. Some harness and weapon fittings may be from furnished inhumations, but a majority are better explained as losses during use. This suggests periodic gathering at which members of a social elite were present. The picture is different for material of the 9th to 11th centuries. The concentrations of finds in RLM 013, 014 and 038 very probably represent a focus or foci of settlement activity, but the broader sparse distribution of finds may very well represent manuring of an associated infield or field system.

Analysis of the distribution and co-variation of types, along with a comparative assessment of excavated assemblages from contemporary settlement sites and the data from the evaluation trenches at Rendlesham, has potential to refine understanding of these taphonomic pathways and so of the human activities that the material culture assemblage represents.

Metalwork, Pottery and Glass

Character and significance of the 5th- to early 8th-century assemblage

This consists of the 568 items whose period of use and manufacture certainly falls within the 5th-7th centuries, and a further 28 that can be assigned to 7th-8th centuries and so which may fall within the earlier range. All but 27 of these are metal finds, with 25 sherds of hand-made pottery, a fragment of vessel glass and a glass bead. A number of earlier items, in particular pierced Roman copper coins and late Roman buckles and belt fittings, may represent curation or re-use in the 5th and 6th centuries.

A majority of finds can be assigned to the period between the third quarter of the 5th and the third quarter of the 6th century, but the sample is skewed by the substantial number of female dress accessories apparently from disturbed burials. This bias towards female dress accessories is not surprising: the characteristic male grave goods of the period, iron weapons, are unlikely to survive in ploughsoil for any length of time and will not register on metal detectors set to discriminate against iron. Having said this, some copper-alloy weapon fittings such pommel caps and scabbard mounts may be from inhumations. There is material of the early-middle 5th century, including simple supporting-arm brooches, early cruciform brooches of Martin's Group 1, (Martin 2015) and chip-carved silver-gilt fragments of continental tradition. Diagnostic material of the later 6th and 7th centuries includes dress pins of Ross's type L (Ross 1991, 224-231), strap- and harness fittings in Salin's Style II, pyramidal scabbard mounts, buckles of type BU7 (Hines and Bayliss 2013, 146), and a gold pin with Insular animal head terminals of the late 7th or very early 8th century. The material represents a continuous sequence from the second quarter of the 5th century, and indicates the presence here from that time of people using the material culture and dress fashions of the North Sea coastal areas of what are now the Netherlands, North Germany and South Scandinavia. Taken with the evidence for an official establishment of the Roman imperium from the late 4th century, this may suggest that there was no break in activity at the site and that the later importance of the settlement had its roots in part in its status or function under the late empire.

Overall, the range of types is characteristic of the Anglian province of material culture, with cruciform brooches, annular brooches, small-long brooches, wrist clasps and copper-alloy girdle hangers strongly represented among the later 5th- and 6th-century material; great square-headed brooches are also represented, but as fragments which may suggest the recycling of metal dress accessories. The later 6th- and 7th-century material is also broadly consistent with the range of types known from elsewhere in SE Suffolk and East Anglia. However, there are some unusual items. These include fragments of radiate-headed brooches (eg RLM 036 1037) and a disc brooch of Legoux et al type 209 (RLM 046 1049) that are best paralleled from cemeteries in northern France (Legoux et al 2009), a rare 6th-century horse-and-rider brooch in silver-gilt (EKE 021 1126), also probably from northern France, and a buckle plate from a continental belt suite of the middle or later 7th century (RLM 014 1053). Also noteworthy is an elaborate supporting-arm brooch of the later 5th century (RLM 036 1183), a rare type best paralleled by finds from Eastry (Kent) and Riensförde (Lower Saxony) (Ager 1989).

The material demonstrates a social range from the early or middle 5th century, which is represented both by relatively simple copper-alloy dress accessories and fragments of silver-gilt fittings. This is more marked by the late 5th and earlier 6th century, from which period there are fragments of silver-gilt brooches, and copper-alloy brooches with gilding or applied silver sheet, and two gold bracteates, unequivocally high-status types (Behr 2010; Behr and Pestell 2014). The more complete of these, missing the suspension loop but otherwise intact, is a D-bracteate (RLM 036 1242) that is die-linked to another example from Kent; the second, more fragmentary, is a B-Bracteate (found subsequent to the survey in RLM 059, just south of RLM 036). Evidence for social demarcation in the material culture assemblage is, however, most marked in the later 6th and 7th centuries, when there is a higher proportion of precious metal items which include dress jewellery and weapon fittings of the highest quality and status. Particularly noteworthy are the gold-and-garnet bead (RLM 013 0754) and pyramidal scabbard mount (RLM 013 0603, Fig 26), and the gold pin with animal head terminals (RLM 013 0372). Material of comparable quality include a gilded copper-alloy harness fitting with Style II decoration (RLM 038 1116) which is closely paralleled in the harness suite excavated at Sutton Hoo mound 17, a biconical gold wire bead (RLM 013 0394) and a gold pendant with cabochon garnet setting (RLM 013 0892), and gold filigree fragments from disc brooches and, probably, weapon fittings. Other high-status material of the 6th and 7th centuries includes an unusual silver vessel mount with niello and gilding (RLM 014 1015 & 1016) and hanging-bowl fittings (eg RLM 013 0045 & RLM 037 1040). Taken together, this material indicates an elite presence of the highest social standing from the mid-late 6th century until the end of the 7th or early 8th century.

Figure 26 Gold and garnet 7th-century pyramid-shaped scabbard mount, 20mm wide

This evidence for material wealth tallies with the exceptional assemblage of early gold coins from the site (Woods, below). There are strong indications that this was circulating as currency, albeit at a socially-restricted level, and does not just represent bullion treasure or raw material for the jeweller. In addition to cut coins, weight-adapted coins, ingots and apparent coin blanks, and what appears to be a contemporary silver-gilt forgery of a Merovingian tremissis (below), there are coin weights marked with contemporary Byzantine denominations (RLM 013 0470 & RLM 036 1021) and a fragment of a balance beam with an animal-head terminal in Style II (RLM 013 0625). Taken together, this strongly suggests monetary conditions in which the gold coins were recognised as units of account that might need to be checked for weight and fineness, but where payments might also be made in equivalent weights of uncoined bullion (Scull 1990). This evidence for the monetary circulation of gold coinage from the later 6th century, if not earlier, challenges conventional narratives of monetary history, but is consistent with and supports current perspectives that accept some degree of monetary circulation for gold coinage at this time, not just socially-embedded exchange as coined bullion (Williams 2013).

Finds of Merovingian gold coinage imply that Rendlesham had a significant place in inter-regional and long-distance networks of communication and exchange, and there is evidence that these contacts were established and active by the later 5th century. Early- and mid-5th century dress accessories such as the Group 1 cruciform brooches are of course good evidence for the presence of people who had migrated to SE Suffolk from northern Germany and south Scandinavia, and items such as the elaborate such as the elaborate equal-arm brooch, the gold bracteates, and a silver wrist-clasp of Hines Class A (Hines 1993) are best explained in the context of the maintenance of development of these initial contacts into a network of coastal and maritime travel and communication around and across the Channel and North Sea coasts of England and the continent. As noted above, there is also material that suggests contacts with Merovingian Gaul from the late 5th or early 6th century. Fragments from the footrings of two east Mediterranean copper-alloy basins (RLM 013 0142 & RLM 038 1195) show that from the later 6th century material was being acquired from the Mediterranean world. This would normally be seen as the indirect acquisition through networks of elite gift exchange of prestige material traded into northern Italy or Gaul by Mediterranean merchants, but the recovery from Rendlesham of a significant number of Byzantine copper-alloy coins of the late 6th and early 7th centuries (see Woods below) raises the possibility of some direct contact between Mediterranean traders and the elite establishment at Rendlesham. This has significant implications for current models of long-distance contact and exchange at this time (cf Morrison 2014). The socially-restricted circulation of gold currency provides a monetary context for such long-distance exchange of high-value goods in the later 6th and earlier 7th centuries. It also helps define the conditions from which the deeper monetisation developed that is seen in the issue and uptake of silver coinages from the third quarter of the 7th century, as seen in the sceatta assemblage from Rendlesham.

Finally, there is important evidence for fine metalworking at Rendlesham from the later 6th century until at least the later 7th century. It should be emphasized that not all metalworking residues can be dated, let alone closely dated, and that lumps of melted copper alloy could, and probably do, derive from a variety of events and processes at different times from the Bronze Age to post-medieval. Unequivocal evidence for production in the late 6th and 7th centuries, however, comes in the form of failed or discarded copper-alloy castings of characteristic material culture types, including a Style II mount (RLM 013 0218), pins of Ross type L, box or bag catches and buckle loops, a lead model from which the mould would be prepared to cast fixed ring mounts for sword pommels (RLM 044 1381), and dateable material that has been cut up for recycling as scrap; this last category includes fragments of gold jewellery and fittings. Other material that is highly likely, but not certainly, to derive from metalworking at this time includes copper-alloy melt, melted globules of gold and silver, copper-alloy casting sprues, and scrap – including gold and silver – that does not bear chronologically-diagnostic features. It is clear that at least some of the dress accessories and other items used and lost or discarded at Rendlesham were made here (Ross type L pins, for example, and box/bag catches), and that there was manufacture of both relatively low value utilitarian items and of more elaborate and costly pieces for patrons of high social rank. Comparison with other metalworking evidence from SE Suffolk, notably from Coddenham, may help elucidate some aspects of the status of the metalworkers and the organisation of production, but it does seem possible from the relatively large numbers of some simple items that were being made at Rendlesham, notably box/bag catches, that there were elements of centralising production here for a wider rural population than just the inhabitants of the Rendlesham settlement. Given the status character and status of the settlement, and its proximity to Sutton Hoo, the possibility that some of the metalwork excavated at Sutton Hoo, and found elsewhere in the Deben valley, was made at Rendlesham has to be considered seriously.

Remarkable evidence for metalworking in the later 7th and early 8th centuries is provided by two ingots comprising fused and melted silver pennies (sceattas). The coins appear to have been heated in a crucible but not fully melted, so that enough surface detail survives to identify one coin in one group as Series B (RLM 036 1046) and in the other as Series Q (RLM 044 1264). This strongly suggests that

silver coinage was being recycled at Rendlesham, either as a raw material for other objects or ingots, or for re-striking as new coins. In view of the other evidence for metalworking in gold and silver, extreme wealth, an elite social presence and early currency use it is difficult to avoid the conclusion that both gold shillings and silver pennies may have been minted at Rendlesham in the 7th and early 8th centuries. The moneyer's tools were eminently portable, and minting did not require a permanent infrastructure, only a craftsman with the necessary sanction from higher authority and access to bullion. There is evidence from Merovingian Gaul, too, that skilled craftsmen in gold and silver might also act as moneyers. As an important central place, Rendlesham should therefore be a strong candidate for minting by a smith/moneyer who was either attached to the elite establishment there or to the retinue or household of a peripatetic magnate or king who was periodically in residence.

Character and significance of the 8th- to 11th-century assemblage

By Gabor Thomas

This includes 198 items whose period of use and manufacture certainly falls within the 8th to 11th centuries, as well as 28 that can be assigned to 7th-8th centuries and so which may fall within the later range and a further 13 that may be 11th century or later. All of these are metal finds apart from 16 sherds of Ipswich ware and 21 sherds of Thetford ware. As noted above, there is very much less metalwork of the mid-8th to 11th centuries than of the 5th to mid-8th centuries. This is consistent with the patterns of coin loss and retrieval, and with the spatial evidence for a reduction in settlement area, and indicates a change in function and status from some time in the first half and no later than the middle of the 8th century.

The 8th- to 11th-century metalwork assemblage is unremarkable in its quality and diversity. It is dominated by mainstream types of the 8th to 9th centuries such as animal-headed strap-ends, pins and simple hooked-tags, most of which fall at the plainer end of the spectrum. As one would expect from the geographical location, some of the categories, such as the silver wire strap-ends, represent recognised East Anglian variants. Also of regional significance is a small group of Frankish-inspired plate brooches (covering cross, ansate and rectangular types) which could represent continental imports or local copies. These types of brooch appear in their highest frequencies in eastern counties, a reflection of trading and cultural contacts across the North Sea. A preliminary comparison with high-status middle-late Anglo-Saxon assemblages from the region such as that from Barham highlights some significance absences at Rendlesham. There is no 8th- to 9th-century Insular metalwork from the Irish/Pictish cultural domain, and no examples of prestige Anglo-Saxon metalwork reproduced in the 8th-century 'Mercian Style' exemplified by the series of disc-headed pins.

The late Anglo-Saxon/Anglo-Scandinavian period is poorly represented, and the very low numbers of tongue-shaped strap-ends and Anglo-Scandinavian horse-trappings is particularly telling. A proportion of the plain hooked tags and other undecorated fittings may, however, belong to this period.

The 8th- and 9th-century material does not compare with the quality, diversity and richness of metalwork from the later 5th to the late 7th or early 8th centuries. This again supports a change in the status and character of settlement and activity at Rendlesham in the early 8th century. On the basis of its metalwork, Rendlesham in the 8th and 9th centuries looks like an average rural settlement for the period, particularly when compared to rich Suffolk assemblages such as those from Barham and Brandon (West 1998; Newman 2003), and what metalwork there is from the 10th and 11th centuries suggests a modest farming community. Among the middle to late Anglo-Saxon material, however, are four examples of lead hooked tags which may be models for use in mould making, and it is possible that some of the undatable metalworking waste derives from this period.

The Early Medieval/Anglo-Saxon Coinage from Rendlesham
By Andrew Woods

Introduction

The Anglo-Saxon period coin assemblage from Rendlesham is of enormous significance; its scale, breadth, high status and well-recorded context mark it as unique in an English context. It represents the largest English coin assemblage of early and high medieval coins which have been recorded with precise spatial data and combined with field-walking, geophysics and controlled excavation. As such, it is of huge significance for the interpretation of metal-detected coin assemblages. This is to say nothing of the types of material found at Rendlesham, which are exceptional, and mark it out as a site of the highest status during the early medieval period.

Typology and Chronology

To date (September 2014), 213 coins have been recovered which date to the Anglo-Saxon period (410-1066) and these are summarised in Table 16. The overwhelming majority of these coins date to the century between 650 and 750, a period which saw the shift from a gold currency to silver, a huge increase in the volume of circulating coinage and the emergence of a North Sea trading zone.

Table 16 Summary of Rendlesham Anglo-Saxon period coin finds

Byzantine	*6*
Early Gold	*23*
Anglo-Saxon	6
Merovingian	17
Visigothic	1
'Sceattas'	*167*
Primary	64
Intermediate	65
Secondary	37
Uncertain	1
Denier	*4*
Penny	*12*
Total	**213**

The volume of coinage provides a strong sample of material to consider the chronology of Rendlesham. Given the nature of this summary it is not possible to go into great depth in this area but there are several elements that are worthy of comment. In Figure 27, a provisional graph modelling the production dates of the coinage from Rendlesham has been created. This can be contrasted to the pattern across Suffolk as a whole in Figure 28 to give the context for what might be considered 'normal' for the region.

The first point of note is that there is a greater volume of early coinage at Rendlesham than might be expected from other sites in Suffolk. Indeed, the presence of 23 gold coins of the 6th and 7th centuries marks the site out as highly unusual. Writing in 2006, Williams and Abdy were able to note nearly 300 gold coins that had been found within the British Isles (Abdy & Williams, 2006). Amongst this number, the major 'productive sites' at Reculver (6), Coddenham (11) and 'South Lincolnshire' (8) have all yielded fewer coins than Rendlesham. While these numbers are likely to have been revised somewhat in the interim (Williams, 2010), the comparison does serve to highlight the significant volume of gold coinage found at Rendlesham. Excluding hoard sites, Rendlesham has the highest concentration of

early medieval gold in the country. The presence of this volume of gold coinage suggests that Rendlesham is a site of the highest social status in the early medieval period. To emphasize this fact, it is necessary to look only a short distance away where the Sutton Hoo burial contained 40 gold coins of near contemporary date (Kent 1975).

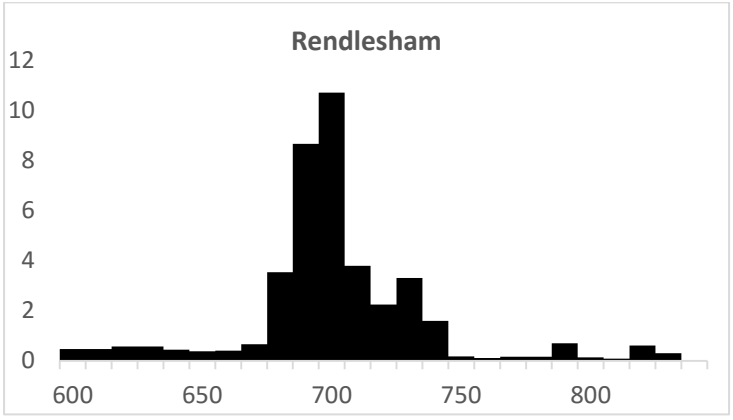

Figure 27 Histogram of production dates for coin finds from Rendlesham

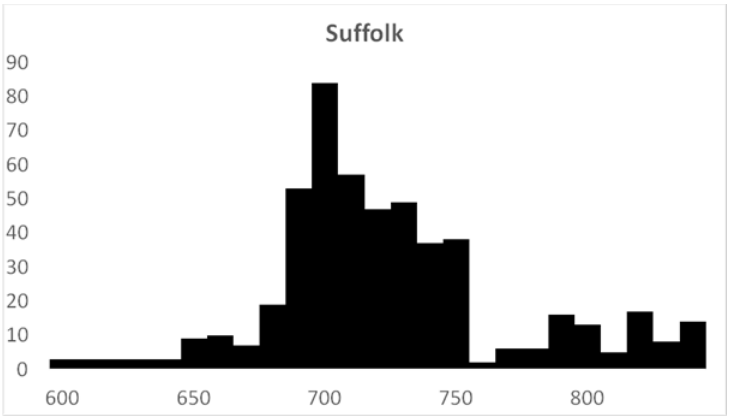

Figure 28 Histogram of production dates for coin finds from Suffolk (data source EMC)

The presence of six Byzantine coins at Rendlesham accords with an emerging pattern which suggests that they were contemporary imports and were likely to be in use alongside the gold coinage of the 5th and 6th centuries (Georganteli 2012). The production dates for these coins place them in the last quarter of the 6th century or early within the 7th century. Of course, the date of their use and loss at Rendlesham could be significantly later than this and a precise analysis of their find spots, in relation to both gold and silver coin losses, could aid with the interpretation of when Byzantine copper coinage was in use in a British context. Their production dates would suggest that they were complementary to the gold coinage but examining their relationship with the silver coinage is of some interest.

The adaptation and re-use of coinage of this date is not unfamiliar. Gold coinage, particularly that from graves, often shows signs of re-use in the form of jewellery (Williams, 2010). There is a single coin with an attachment loop from Rendlesham, an imported Merovingian gold tremissis, but there are several others which show interesting signs of adjustment. Two gold coins have had small sections added to them. In the first (RLM044_1086), an Anglo-Saxon shilling, a small section has been added to the reverse before it was struck. In the second (RLM013_0600), a Quentovic tremissis, a triangular piece of another coin has been added to the obverse obscuring the bust. This is quite an unusual

occurrence and it is difficult to be conclusive about the reasons for these adjustments. It may have been a matter of adjusting the weight of the coins to match expected standards. However, the possibility does remain that the placement of the additional piece over the bust represents a political statement rather than an exclusively economic phenomenon. In addition to the adjustment of gold Rendlesham has a single cut 'sceatta' (RLM036_1080), an unusual occurrence and perhaps suggestive of the possibility of 'sceattas' being reworked into other forms of silver on the site. Detailed work examining other these unusual coin finds alongside the evidence for metal-working could yield potentially interesting results.

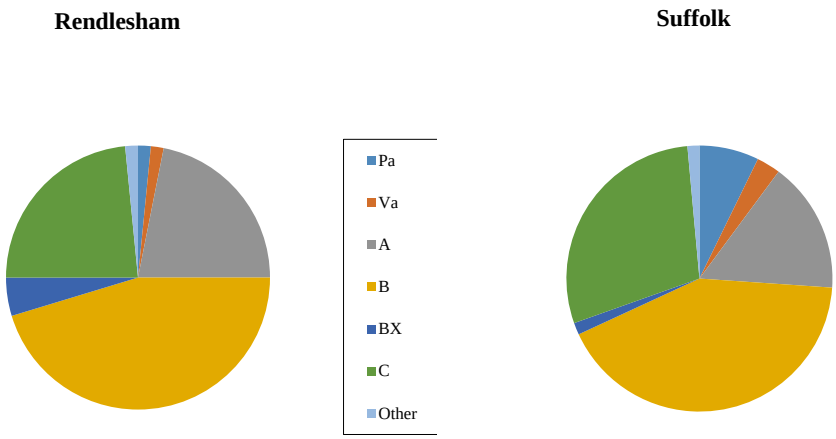

Figure 29 Comparison of proportions of Primary 'sceattas' (Rendlesham n=64, Suffolk n=69)
(Data for each 'Suffolk' graph is derived from EMC (http://www.fitzmuseum.cam.ac.uk/dept/coins/emc/). It is likely to omit coins recorded on the Suffolk HER and on the Portable Antiquities Scheme but provides sufficient data for comparative purposes)

In the late years of the 7th century the volume of coinage in use at Rendlesham dramatically increased, mirroring a shift in the alloy of the coinage from gold to silver. This is a pattern which is observable across a large number of sites in England (Blackburn, 2003). At Rendlesham, the pattern appears to mirror that of the surrounding area. In Figure 29 the proportions of transitional and primary silver coins are compared for Rendlesham and Suffolk as a whole. What emerges is a fairly clear correlation between the two. Proportions of the major primary series are nearly identical with the small differences between the two likely due to relatively small sample sizes. What this would appear to suggest is that Rendlesham drew its currency from a common pool which circulated across the region. The growth in the use of silver occurred simultaneously at Rendlesham, across Suffolk and, more broadly, England. It is interesting to note its similarity to the rest of England at this point given the fact that in the mid-7th century Rendlesham appears quite exceptional. There is enormous scope to consider the role of Rendlesham, as a place with an early adoption of coinage, in relation to the remainder of Suffolk, where monetary activity followed only as the value of coinage decreased in the late 7th century.

The early years of the 8th century and particularly from the 720s onwards see a marked shift in coin use patterns at Rendlesham when compared to other areas of Suffolk. Figure 27 highlights the fact that after a peak in monetary activity at Rendlesham around the year 700 that there was a fairly substantial decline. This is not unexpected as Figure 28 highlights that this occurred on a number of sites. Where Rendlesham differs from other areas in the apparent severity and relatively early date of this decline.

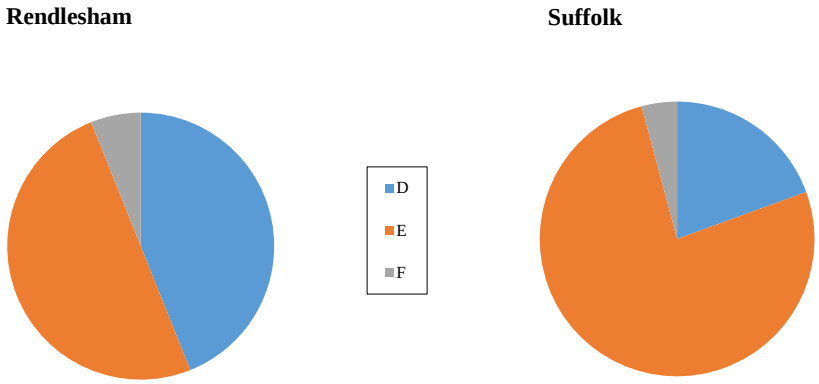

Figure 30 Comparison of proportions of Intermediate 'sceattas' (Rendlesham n=66, Suffolk n=72)

This divergence from regional patterns is emphasized in Figures 30 and 31, plotting the proportions of 'intermediate' and 'secondary' phases of the silver 'sceatta' coinage. The proportion of series D to series E at Rendlesham is almost 1:1 which is in stark contrast to the remainder of Suffolk where that proportion is closer to 1:4. Slightly less startling, but showing a similar difference, are the secondary series where the ratio of series Q to Series R at Rendlesham is about 1:1, when for Suffolk in general it is often closer to 1:2. Determining why there are these dissimilarities, especially considering the coherence of Rendlesham and Suffolk in the primary phase, is not a simple task and would reward further research. However, it is tempting to question whether this may be a chronological issue, with the later phases of both series E and series R occurring in smaller numbers at Rendlesham. Examining the precise chronologies of these series could prove a very powerful tool for interpreting the 8th-century material.

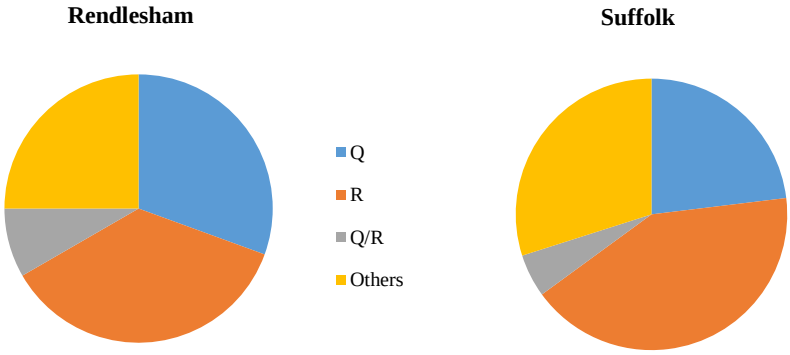

Figure 31 Comparison of proportions of Secondary 'sceattas' (Rendlesham n=37, Suffolk n=117)

The issue of chronology is an important one as it has important effects for understanding the relationship between Ipswich and Rendlesham. It is beyond the scope of this work to go deeply into this issue but it is worth noting that the proportions of series Q and Series R from Ipswich excavations are 1:9, emphasizing the difference between the two sites (pers comm Marion Archibald). These issues are complicated by the on-going uncertainty about minting places in East Anglia but the assemblage from Rendlesham offers the possibility of exploring site function and relationships with other major East Anglian centres.

The smattering of coinage which postdates the mid-8th century (see Table 17) contains some coins of note but the small scale of this material, especially given the scale of the detecting, suggests either decline or a significant change of function. There are pennies of king Offa struck in the late 8th century and three of Ecgberht in the early 9th, suggesting that there is some degree of continuity. However, the absence of coinage from the later 9th and 10th centuries, including the reasonably common St. Edmund memorial types, is notable.

Table 17 Broad silver coins (to 1066) found at Rendlesham

C8th (broad pennies)	2
C9th	3
C10th	1
C11th (to 1066)	3

Conclusions

In summary, the coin assemblage from Rendlesham is exceptional. The above summary has only touched upon its possibilities but the types, volume and quality of recording of the coinage make it a site with unique potential. Understanding the relationships between imported gold, local silver, Byzantine copper and the adoption of coinage in England is of huge interest. Similarly examining evidence for the reworking of the coinage into other forms may yield fruitful results. Perhaps the greatest possibility lies in combining the numismatic evidence with other finds, field-walking and other techniques. In doing so, it should be possible to consider Rendlesham's rise in the (6th?) century, its (potential) decline in the 8th, the shifting functions of the site and its relationships across the region and beyond.

Overview and conclusions

Surface collection, analysis of aerial photography and magnetometry, supported by targeted excavations, has identified extensive early medieval activity from the 5th century to the 11th centuries, with evidence for a particularly wealthy and important establishment of the later 5th to late 7th or early 8th centuries which may be identified confidently with the *vicus regius* noted by Bede in a context of AD 655x664.

The 5th- to early 8th-century settlement is exceptional in its size and material wealth. At 50ha it is an order of magnitude more extensive than most other contemporary rural settlement sites, and very much more extensive than any of the other high-status settlements of the 6th to 8th centuries known from aerial photography and excavation such as Yeavering (Northumberland), Hatton Rock (Shropshire), Cowdery's Down (Hampshire) and Sutton Courtenay (Oxfordshire) (Welch 1992, 43-53; Hamerow 2012, 102-109). It is larger than the 7th-century precursor settlement at Ipswich, and equal in area to the 8th- and 9th-century *emporium* (Scull 2009, 313-316).

The settlement shows an unexpectedly early and sophisticated degree of monetary circulation and integration with long-distance exchange networks, which in turn implies enduring and robust economic and administrative geographies underpinning social hierarchy and elite consumption. It may also show signs of early centralising craft production. By the 6th century this place was at the apex of a system of surplus extraction and jurisdiction, and at the centre of the systems of consumption, redistribution and patronage that fuelled elite social and political relationships. It is most convincingly interpreted as a multi-functional central-place complex: a farm, a tribute centre where the land's wealth was collected and re-directed, major administrative payments made, and important social and political events transacted, a permanent centre for agrarian or economic administration, a periodic residence for a peripatetic elite, and a periodic meeting place for military and jurisdictional assemblies. The broader scatter of metalwork finds includes items such as harness and weapon

fittings, consistent with a high-status social milieu, which might be explained as the aggregate loss from years of such gatherings.

The identification of a long-lived central place complex is something new in the archaeology of early-middle Anglo-Saxon England. As such, Rendlesham invites comparison with sites in Denmark and south Sweden such as Gudme and Uppåkra (Nielsen et al 1994; Hårdh 2002; Larsson 2004; Stidsing et al 2014) but also needs to be seen against the economic and political geography of the near Channel and North Sea coasts, in particular the emergence of poly-focal central places in north Frankia (Loveluck 2013, 149-50). It therefore begins to align south-east England with much broader contemporary trajectories of economic and socio-political development both within and without the former provinces of the Roman empire. Its importance for at least two hundred years before the early-middle 8th century runs counter to the view that secular elite sites of this period in England were necessarily transient or short-lived, and that organisational or administrative stability was introduced by and was exclusive to the Anglo-Saxon church (Blair 2005: 247-86). This in turn has implications for the degrees of socio-economic complexity underpinning the dynamics of allegiance and lordship that governed the emergence of regional hegemonies – the Anglo-Saxon kingdoms – in the 6th and 7th centuries. The presence of both latest Roman coinage and material culture types and early-middle 5th-century material from the North Sea coastal areas of north Germany and south Scandinavia suggest continuous activity from the later 4th century, and there is high potential to throw light on dynamics of social and political change in the 5th century, and of the respective impacts of migration from outside the former Roman empire and endoegenous change within the former provinces of Britannia.

The proximity of the site to Sutton Hoo adds to our contextual understanding of the elite barrow cemetery, and of early medieval landscapes of power and rulership in the Deben valley and south-east Suffolk. It is important, however, to see elite burial at Sutton Hoo in the context of the living society represented at Rendlesham rather than vice-versa. Rendlesham represents the broader and longer-term social and economic structures that enabled the wealth and power displayed at Sutton Hoo. However, although it is overwhelmingly likely that Rendlesham was a centre of the elite lineage who buried their dead at Sutton Hoo a simple one-to-one relationship between the two sites cannot be assumed. Sutton Hoo represents a fairly short-lived episode within the much longer lifetime of the central place at Rendlesham, and the Rendlesham elite must therefore have had other burial sites as well as other residences and estate centres. Rendlesham therefore poses a series of questions about the relationship of sites and places in the landscape, the organisation of landholding and surplus extraction, and the geographical expression of lordship and power. There is high potential to address these research issues through contextual and comparative analysis against other contemporary sites and assemblages from the region, such as Coddehham, Barham and Brandon (Newman 2003; Tester et al 2014). This potential for analysis at a regional scale is enhanced by the background understanding of contemporary settlement and society in south-east Suffolk established by recent research and publication (Carver 2005; Williamson 2008; Scull 2009; Fern 2015).

Rendlesham is one of the few known high-status sites of the 5th to 8th centuries which can be securely identified in contemporary documentary sources, and is the only one of this small group for which there is such abundant, sensitive and precise material culture data. Consequently, it offers high potential to establish the cultural signature of a 7th-century royal centre, to elucidate key aspects of its spatial organisation and its social and economic character and contacts, and to examine its development from antecedents to successors within the immediate landscape context. The historically-attested status of the site in the mid-7th century also offers the opportunity to establish the assemblage as a base-line against which groups of material from other contemporary “productive sites” can be calibrated.

On all these counts, the evidence for activity at Rendlesham from the 5th to the early 8th centuries constitute a data-set of clear regional, national and international significance.

There was a significant change in the character of settlement and activity in the first half of the 8th century, with clear evidence for a diminution in status and extent. However, although the rural settlement that Rendlesham became was unremarkable, the long-term evidence for changing configurations of settlement and activity within a limited landscape zone is unusual and important. Finds distributions and the results of evaluation suggest a farming settlement focused around the former high-status core of the earlier central-place complex by the later 8th or 9th century, and the establishment of a settlement focus around the known medieval and post-medieval green in the 10th to 11th centuries. There is good potential through integrated analysis of aerial survey data, magnetometry and the material culture assemblages to clarify and model in greater detail changing configurations of settlement, activity and land use from the 8th to 11th centuries.

The change in character and status of the Rendlesham settlement appears to coincide with the growth of Ipswich as a manufacturing centre and international trading port. This raises the possibility that, as elite-focused long-distance exchange – directed towards centres such as Rendlesham – became subsumed within the expanding volume of international commerce around the North Sea from the later 7th century, trade was increasingly handled at coastal ports while inland centres became more wholly concerned with the management of the rural economy. This would have important implications for our understanding of patterns of settlement diversity and change in the 7th and 8th centuries, and for economic and monetary history. Comparative analysis of the settlement and coin assemblages from Rendlesham with those from Ipswich and other contemporary sites in south-east Suffolk has high potential to elucidate and clarify these issues.

On these counts, the 8th- to 11th-century evidence from Rendlesham constitutes a data-set of regional and national significance.

Recommendations
The receiving museum (Ipswich Museum) should undertake to established professional standards any cleaning and investigative conservation of the assemblage necessary to ensure that it is stable, the objects fully legible to researchers, and any ancient organic remains (such as mineral-preserved textiles) identified. The material should be packaged appropriately, and stored and displayed in stable environmentally-controlled conditions.

Research is needed to check and refine the identification and dating of artefacts and to update the database catalogue accordingly so that it provides the best platform for further analysis and digital dissemination.

Consideration should be given to a range of compositional and technical analyses of key elements of the material culture assemblage, in particular compositional analysis of gold and silver coinage, and technical analysis of metalworking materials and residues.

Further analysis of aerial survey and remote-sensing data should be undertaken with a view to elucidating relative chronology and modelling the site sequence. This should take into account spatial patterning of the material culture assemblage and the results of evaluation.

Spatial and chronological analysis of assemblage composition, and of the co-variation of artefact types and functional types, is needed to elucidate synchronic and diachronic patterns of settlement and activity. This should seek to integrate the coin sequence with the rest of the material culture assemblage, and relate the material culture assemblage to the aerial survey and remote-sensing data.

Full analysis of the coin assemblage should be undertaken as critical to understanding the site sequence and chronology, and to broader questions of economic and monetary history.

Comparative analysis against the regional and national background as established by PAS data, and against assemblages from key contemporary site, will be necessary to contextualise patterns of settlement and activity at Rendlesham and to allow wider conclusions to be drawn about dynamics of settlement, economy and society at local, regional and inter-regional scales.

The archaeology at Rendlesham should be considered in its local and regional landscape context to investigate contemporary patterns of settlement and land-use, and their longer-term development, in the Deben valley and south-east Suffolk. Particular attention should be paid to landscapes of rulership in the 6th to 8th centuries, the relationship of different places in economic, social and cognitive landscapes, and the development of settlement networks and settlement hierarchies in the 5th to 8th centuries.

Medieval Rendlesham 1066-1550

Introduction

The medieval finds assemblage from the Rendlesham Project survey is large and, although exceptional in its meticulous recovery and recording, unremarkable in its content. This allows it to have the potential to provide a significant archaeological contribution to evidence for daily life in a rural medieval community. The last 30 years has seen an increase in interdisciplinary large-scale medieval settlement projects. Projects such as Whittlewood and Shapwick have covered very large areas and embraced a landscape approach (Dyer and Everson 2012, 27). The Rendlesham project is on a smaller scale but its strength lies in the wealth of detail it can therefore offer from the combination of survey techniques which it has employed and in particular in the systematic and wide-scale use of metal detecting.

The potential of the finds assemblage is increased when used alongside the historic maps and documents, as well as aerial and geophysical surveys. Due to their well-located nature the finds, including the coinage, have the potential to demonstrate the development of foci through space and time, both within the medieval period and in the context of earlier periods, allowing patterns of long term continuity and change to be explored. Finally, the finds also have the potential to allow comparisons to be made with assemblages of a similar date both within the same survey area and with other sites further afield.

The finds assemblage

The total number of medieval finds and coinage recorded up to July 2014 is 858. Of these 419 are medieval objects and 432 are medieval coins. Medieval finds make up 22% of the total number of finds discovered at Rendlesham. In comparison medieval finds recorded on the Suffolk PAS make up 24% of the total number of records from all periods. Rendlesham is therefore conforming to what can be taken as a Suffolk norm regarding the level of medieval activity indicated by the finds numbers recovered.

Table 18 Medieval artefacts by material

Material	Number of records
Silver	438 (432 are coins and 6 are objects)
Copper alloy	341 (15 are tokens or jetons)
Pottery	67
Lead	11
Gold	1 (a coin)
Total	**858**

Apart from the coinage only six finds are made of precious metal, indicating a higher level of wealth and status. Four of these are silver annular brooches or fragments of them (RLM 038 1057, RLM 038 1274, RLM 045 1007 and RLM 045 1040). Such brooches are common medieval finds, although it is perhaps an interesting coincidence that these four examples were found in the same two fields. There is also a silver mount from a belt or strap (RLM 037 1047) and finally there is a rare silver gilt spoon knop (EKE 019 1175) dating to the fifteenth century. The latter is three-dimensional and depicts a standing Wildman holding a club (Minter, 2014, Treasure Report 2014 T 413). The other 52 finds from EKE 019 are unexceptional and its discovery at Rendlesham demonstrates that there will always be unusual items amongst large assemblages. It is these occasional exceptional finds which can give us a greater insight into the range of material in circulation during the medieval period.

Table 19 Medieval finds by functional category

Category	**Number of records**
Coins Tokens Jetons	455
Dress Accessories	207
Household objects	83
Personal possessions	36
Fasteners and fittings	30
Equestrian and transport	18
Textile production	11
Unidentified objects	8
Weapons and military equipment	5
Religious and cult	3
Recreational objects	1
Weights and measures	1
Agriculture and animal husbandry	0
Buildings and services	0
Hunting and fishing	0
Metal working	0
Tools	0

Coins, tokens and jettons make up the largest category of finds discovered. Although these are discussed separately below, when used in tandem with the finds the coins should help to create a clearer chronological picture of the use of the site throughout the medieval period, being much more closely datable than any other category of medieval find.

The level of medieval coins, tokens and jettons at Rendlesham, making up 51% of the total number of medieval finds, is 20% greater than that recorded with the Suffolk PAS. There are no doubt many reasons for this difference, not least a potential collecting and reporting bias with the PAS data, but this may be worth exploring at a later date.

The next most common category of finds is dress accessories; this is to be expected as this category of find is very numerous on all sites and in all periods. Dress accessories occur across the survey area with only fields EKE 020 and RLM 043 having other objects but no dress accessories. Within this category certain object types are especially common. There are 87 buckles, 48 strap ends, 35 mounts and 13 brooches. Other types of dress accessory are much less common, for example there are only three finger rings. The fasteners and fittings category may also include objects which were used as dress accessories.

There is a range of quality amongst individual object types, for example the 13 brooches are all annular in type but range from those with simple copper-alloy frames to the more decorative, such as an inscribed copper-alloy example (RLM 038 1048) and the four silver examples (see above). The dress accessories also begin to hint at specialised functions, for example spur buckles can be seen (see RLM 045 1124) amongst the more common D-shaped and oval buckle frames for shoes and clothing.

Household objects are the next most frequently found category of objects with 83 finds recorded. The majority of this is pottery, 67 sherds were found in total. Sixty-four of these sherds were identified as Medieval coarse ware, two were St Neots (RLM 013 1019, RLM 014 1120), one sparse shelly ware (RLM 014 1120) and one late medieval glazed ware (RLM 044 1750). The earlier late Saxon pottery and the distribution of this and the medieval pottery will be discussed below as it appears to indicate settlement more than any other category; other categories of finds appear to have wider and more random distributions.

The remaining 20 household objects are less useful in their distributions and include nine fragments of cast copper-alloy vessels, c1300-1650 in date, found on RLM 013, RLM 037, RLM 044. Two lamp suspenders on RLM 013 and RLM 036, candlestick fragment, RLM 037 and a strainer, RLM 038 and silver spoon knop, EKE 019 and two drape rings from RLM 042.

Personal possessions make up the next category with 36 objects recorded; this includes 13 keys, overwhelmingly casket keys of 14th century date, eight seal matrices, three later medieval purse bar fragments, three mounts, three knife end caps, three padlocks, two book clasps and one lace tag. The eight seal matrices are probably the most interesting part of this assemblage. They are 13th and 14th century in date and two have been found on RLM 013, three on RLM 037 and a final two on RLM 038. Although most of them are anonymous three are personal matrices with the owners name engraved on them and further research into the individuals may be possible (RLM 037 1049, RLM 037 1399, RLM 038 1084).

There are 18 equestrian objects which are all harness pendants (10), mounts and fittings and all of 13th-14th century date. One example is heraldic (RLM 013 0023) and could be further researched.

When comparing the proportion of finds per category by field it becomes apparent that whatever the total number of finds from a field the proportion of them per category remains fairly even. This is especially true regarding which categories of finds are most common: coins, tokens and jettons have the largest number of finds, then dress accessories, followed by household objects and finally personal possessions. The only field which stands out is RLM 014, which has a higher number of pottery sherds, and so in this field household objects follow coins, tokens and jettons in frequency and are higher than dress accessories.

Finds distribution

The extent of the distribution of the medieval finds reaches across the survey area and medieval finds have been recovered from most of the fields searched. There is a background of medieval finds on most fields, when this is of a fairly even distribution and not of high density it is very likely to be the result of manuring, for example on EKE 021.

Only EKE 055, RLM 039, RLM 041, RLM 051, RLM052, RLM057, and RLM 058 have no medieval finds. This is not unexpected as all of these fields are on the edges of the survey area, further away from any known settlement. They have also been searched less than the others, indeed apart from RLM 039, which has Roman activity; the other fields have less than 7 finds recorded from them in total, a sample too small to conclude that there is no medieval activity on them at all.

Four fields produced only medieval coinage and no objects, these are; RLM 040, with one coin only, RLM 048, four coins, RLM 049, one coin only and RLM 056, one coin only. These fields are also on the edges of the survey and extend the coin distribution slightly beyond that of the objects. This may be a coincidence or possibly due to the fact that the lighter coins travel further in the plough soil and on modern agricultural machinery.

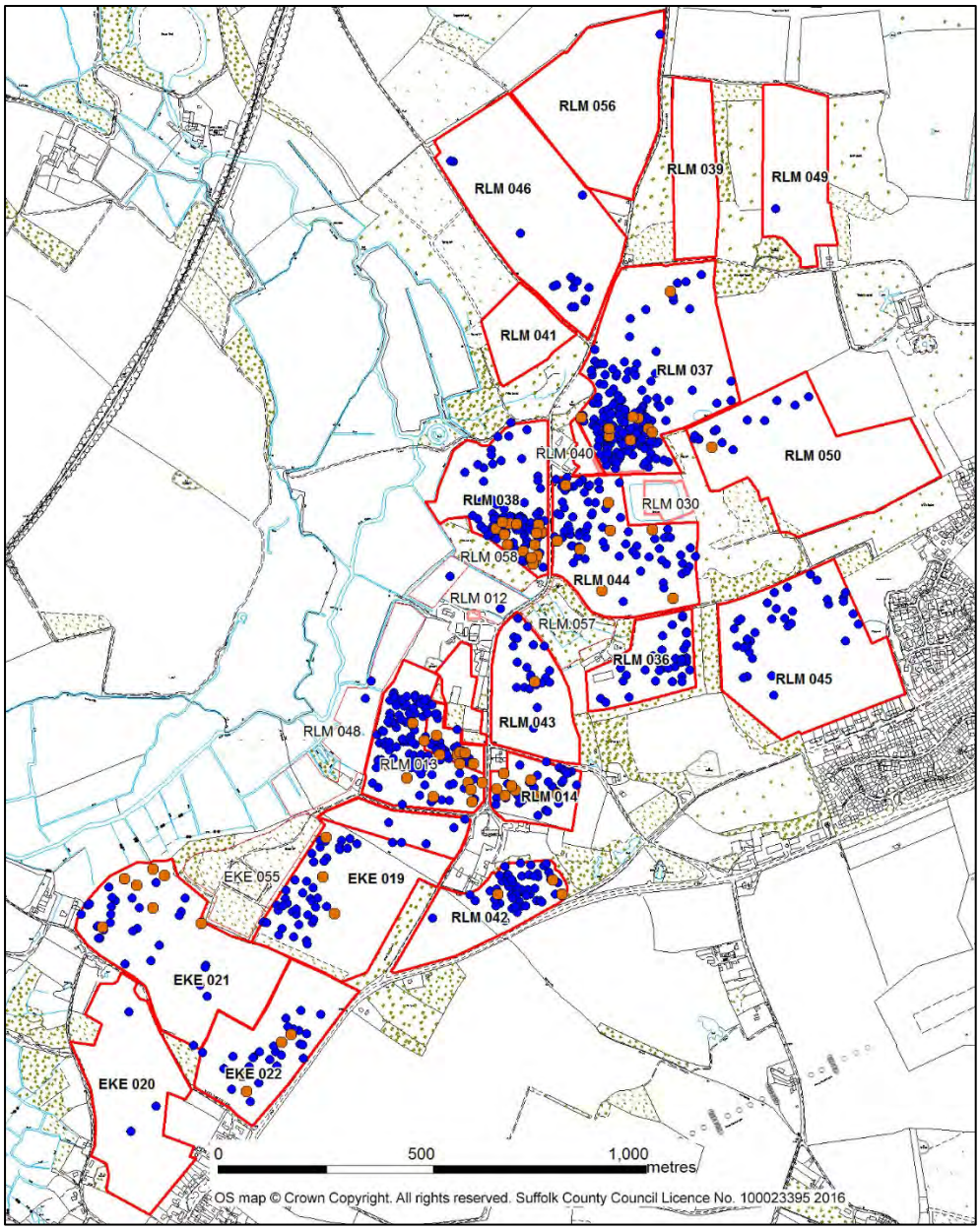

Figure 32 Map showing the distribution of all medieval finds (blue spots) and pottery (light brown spots)

Although the distribution of medieval finds is wide it is by no means uniform and with such a large finds assemblage it is reasonable to suggest that real concentrations of medieval activity can be seen in those areas with an increased density of finds. The fields which have increased number of finds include, in order of the total number of medieval finds recovered including coins, RLM 037 (185 finds), RLM 013 (137 finds), RLM 038 (99 finds), RLM 044 (83 finds) and RLM 042 (59 finds). All of these fields also have clear concentrations of finds within them with the exception of RLM 044, where the finds, including the pottery, are noticeably more evenly distributed across the whole field. It is therefore likely that in this field the high number of finds could in fact reflect the more intensive searching of the field and be from manuring rather than settlement of any kind.

As we are relying solely on surface finds, rather than excavated finds, both the total number of finds per field and the pottery distribution when used together appear to give the best clue to settlement concentrations. However, the limitations and potential pit falls of such a technique must be acknowledged. The edges of any settlement may be difficult to establish due to the blurring between settlement and the highly manured fields that surround it. There are also even examples of the removal of material from settlement for manure being so thorough that the settlement is actually only visible as a gap in the finds distribution rather than a concentration (Jones and Hooke 2012, 39). This is why it is so vital that the other evidence of medieval activity from other survey techniques and historical documents such as the 18th century Kirby map are used in tandem with the finds assemblage.

When looking for continuity in settlement patterns into the medieval period it is also useful to also look at the distribution of the later Saxon to early medieval pottery such as Thetford ware (*c*850-1100), of which 22 sherds were found in total.

Table 20 Medieval and late Anglo-Saxon pottery by field

Field	Thetford ware	St Neots	Medieval coarse ware	Late medieval glazed	Totals
EKE 019	0	0	3	0	5
EKE 021	0	0	7	0	7
EKE 022	0	0	4	0	4
RLM 013	6	1	11	0	18
RLM 014	4	1	8	0	13
RLM 036	0	0	1	0	1
RLM 037	0	0	9	0	9
RLM 038	11	0	10	0	21
RLM 042	0	0	3	0	3
RLM 043	1	0	0	0	1
RLM 044	0	0	7	1	8
RLM 050	0	0	1	0	1
Totals	**22**	**2**	**61**	**1**	**86**

The occurrence of all pottery is higher on the likely settlement areas already identified (RLM 037, RLM 013, RLM 038, RLM 042, and RLM 044) with the exception of RLM 014, which has 13 sherds of pottery out of 40 medieval finds in total. When all other medieval finds are taken into account it is seventh in the total number of finds recorded. However, when the pottery is looked at alone it is has the third highest level of activity.

When taken together the Thetford ware and medieval pottery distribution does reveal a late Saxon to early medieval pattern in several fields (Fig 32). This can be seen in RLM 038, where the finds are concentrated in south of the field, which is on the west side of the road line shown on the Kirby map and probably represent a farm or small roadside settlement. Continuity can also be seen in RLM 013, where the concentration of finds probably originates from the nearby hall, which has medieval origins. Finally, in RLM 014 and perhaps RLM 043, where activity may be beginning to relate to the green.

Other finds and pottery concentrations do not show this continuity from the late Saxon onwards, such as RLM 037, which appears from the pottery to be a new medieval settlement. RLM 037 stands out as having a higher level of medieval finds than the survey average, with 39% of finds from this field being

of medieval date. The 185 medieval finds, (87 objects and 98 coins), are mainly focused in the southern area, north and south of the road line shown in the 18th century Kirby map and they probably reflect the presence of a new medieval roadside settlement. It is also relevant to note that High House Farm, which borders this road on the south-west corner of Rendlesham 037, is identified as Rendlesham Hall on the Hodskinson map in 1783. Similarly RLM 042, for which earlier pottery is also absent, has a slight concentration of medieval coarse ware to the north east of the field and to the south of the church, presumably relating the road and / or the nearby Church.

As has been mentioned above on RLM 037, RLM 013, RLM 038 AND RLM 042 the levels of activity seen appear to relate to the presence of known post medieval landscape features, which presumably originated in the medieval period.

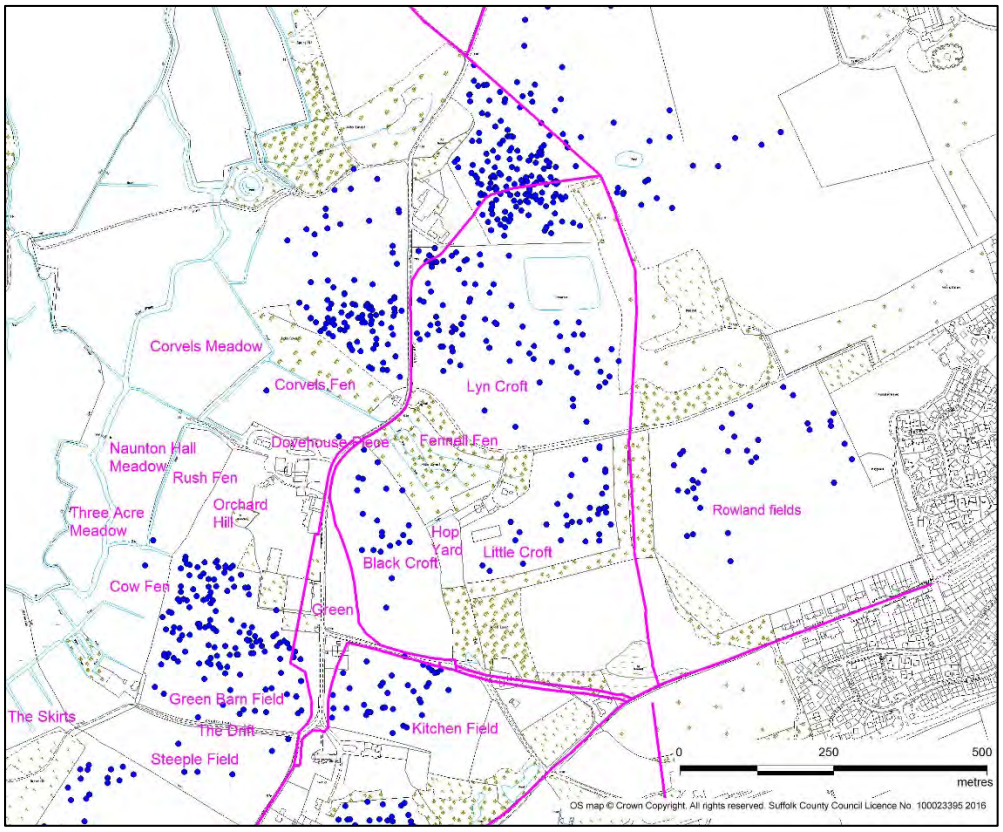

Figure 33 Map showing the distribution of all medieval finds (blue spots) and landscape features (in pink) from Kirby map

Another excellent example of the finds distributions respecting medieval landscape features can be seen when looking at the medieval green, as shown on the 18th century Kirby map, geophysical and aerial photography surveys. It has its south-west corner in RLM 013, its south and south-east end in RLM 014 and northern end and eastern side in RLM 043. In all cases it is clearly no coincidence that no medieval finds have been recovered from within the area of the green, which was presumably established from early in the medieval period, perhaps in the 12th century (Martin, 2012, 236).

Conclusions

The medieval finds assemblage is of high potential to provide evidence of the development of rural medieval Rendlesham. It is clear that their potential is increased when used alongside the historic maps, as well as the aerial and geophysical surveys done as part of the project. Further work needs to be done with this as well as other forms of historical evidence, such as place names. These have proved very illuminating elsewhere; at Shapwick field-names remain the main source of evidence for several minor early medieval and medieval settlement sites, despite the extensive archaeological

survey (Jones and Hooke, 2012, 38). Such other forms of evidence are vital to enable the finds assemblage to be put into context.
Further work is also needed to integrate the finds data with the coinage; the more accurate dating the latter provides is important. The finds and coinage need to be used together to study in further detail the development of foci through space and time, both within the medieval period and in the context of earlier periods, allowing patterns of long term continuity and change to be explored. The presence of finds thought to be due to manuring also needs to be explored further to allow minimum areas of cultivation through time to be identified.

Comparisons between the Rendlesham medieval assemblage and other medieval rural assemblages need to be made at a local and national level and it is possible that more detailed comparison with medieval sites recorded by the national PAS would also be helpful. Interesting individual finds such as personal seal matrices and heraldic pendants need further research.

Finally, the Rendlesham assemblage needs to be examined in the light of regional and national research frameworks.

The Coins from Rendlesham c*750-1700 – Statement of Potential*
By Richard Kelleher
Introduction
The corpus of medieval and early modern coins recorded as part of the Rendlesham project numbers more than 600 (the Anglo-Saxon sceattas are not included in this figure) and forms an important new body of evidence for the study of monetisation in medieval and early modern England. The earliest coins date from the reign of the Mercian king Offa (757-96) while the latest are a group of sixpences of William III (1694-1702) from the very end of the 17th century. The chronological span is impressive and, when combined with the earlier Roman and Anglo-Saxon material (see above), marks the Rendlesham assemblage out as of national importance.
Part of the special nature of the assemblage comes from the high degree of accuracy in the recording of find spots. This has enabled the finds to be plotted to within 10m. The map (Figure 34) shows the distribution across the different areas surveyed and reveals some initial foci of activity.

The coin finds
Chronological and distributional analyses based on this data, especially if combined with the evidence of other object types, should afford us the opportunity to observe patterns of change around the settlement over time.

Table 21 itemises the medieval coins discussed in this document. There are eleven coins that date from the late 8th to the 12th century (also discussed above by Woods), after which point we see a significant increase in the volume of finds in line with what we know generally about the growth of coin production in England and the Continent in the 12th century.

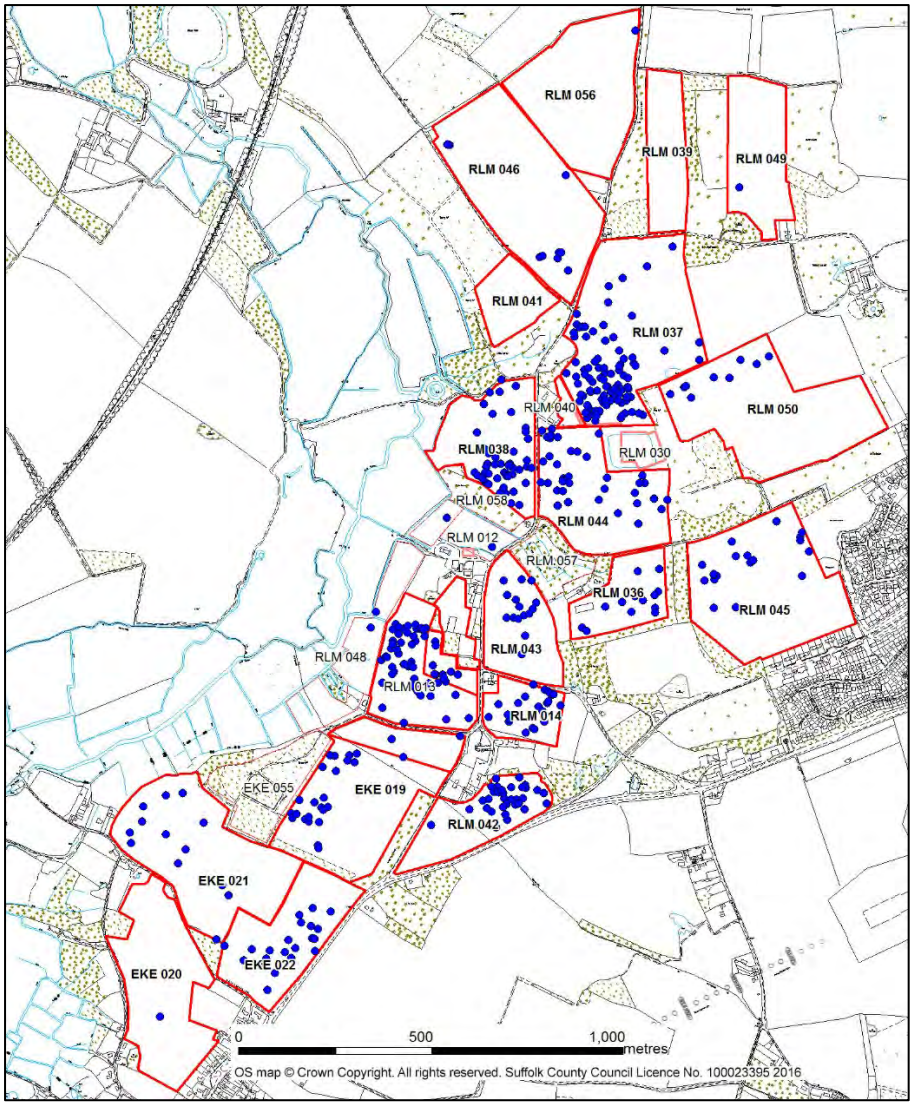

Figure 34 Map showing the distribution of the medieval coin finds

Table 21 Medieval coins 757-1544

Period	1d.	½ d.	¼ d.	4d.	2d.	Gold	Other	Totals
757-c.973	6	0	0	-	-	-	-	6
c.973-1100	2	1	2	-	-	-	-	5
1100-1180	6	2	2	-	-	-	-	10
1180-1247	20	36	21	-	-	-	1	78
1247-1279	10	43	33	-	-	-	2[1]	88
1279-1351	88	19	24	0	-	-	-	131
1351-1412	17	7	0	1	4	0	1	30
1412-1464/5	9	2	1	1	3	1	0	17
1464/5-1544	7	5	0	0	6	0	0	18
Uncertain	12	5	0	0	2	0	0	19
Anglo-Irish	7	1	1	0	0	-	-	9
Scottish	7	3	3	0	0	0	-	13
Continental	4	9	-	-	-	-	6	19
Totals	**195**	**133**	**87**	**2**	**15**	**1**	**10**	**443**

[1]Two imitations or forgeries of Long Cross pennies

This growth was made possible by the opening up of new silver mines in Saxony and elsewhere which in turn fuelled the intensification of coin production and laid the foundations for an increasingly monetised society. Rural England participated actively in this new order as finds from sites like Rendlesham are beginning to reveal. The peak in finds of 1279-1351 is typical in any histogram of medieval finds. This is thanks to the two factors; the first was the high levels of coin production after Edward I's reform, the second was the longevity in circulation of coins minted in this period (there were no full recoinages after 1279). Coins of 1279 could, and did, circulate for up to 200 years.

Table 22 lists the post-medieval material from the site. There has yet to be any serious analysis of site finds of the post-medieval period and this assemblage allows us to begin to consider the nature of coin use in this under-represented period.

Table22 Post-Medieval coins 1544-1700

Period	**12d.**	**6d.**	**4d.**	**3d.**	**2d.**	**1½d.**	**1d.**	**½ d.**	**Unc.**	**AE**	**Totals**
1544-47	-	0	1	-	1	-	0	0	0	-	2
Edward VI and Mary	0	0	0	-	1	-	2	0	0	-	3
Elizabeth I	1	6	0	6	18	2	12	1	2	-	48
James I	1	0	0	-	6	-	3	1	1	5	17
Charles I	2	0	6	-	0	-	3	0	1	43	55
William III	0	3	0	-	0	-	0	0	0	0	3
Uncertain	1	1	1	-	2	-	0	0	1	0	6
Anglo-Irish		1		1							2
Scottish									2		2
Totals	**5**	**11**	**8**	**7**	**28**	**2**	**20**	**2**	**7**	**48**	**138**

<u>The importance of single finds</u>

It is only in recent years that the importance of the single coin find for studying aspects of the medieval economy and coin use has been realised. In general medieval coins are rarely recovered in any number during excavation; the few exceptions are of course the aggregated material from multiple episodes of fieldwork in the major medieval towns of London, Canterbury, Winchester and York. However, a number of other sites, which have been intensively metal detected have yielded significant numbers of finds thanks to the specific methods of recovery used. Dunwich (Suffolk), Llanfaes (Anglesey) and South Ferriby (Humberside) have yielded good comparable material although none of these have secure find spot information.

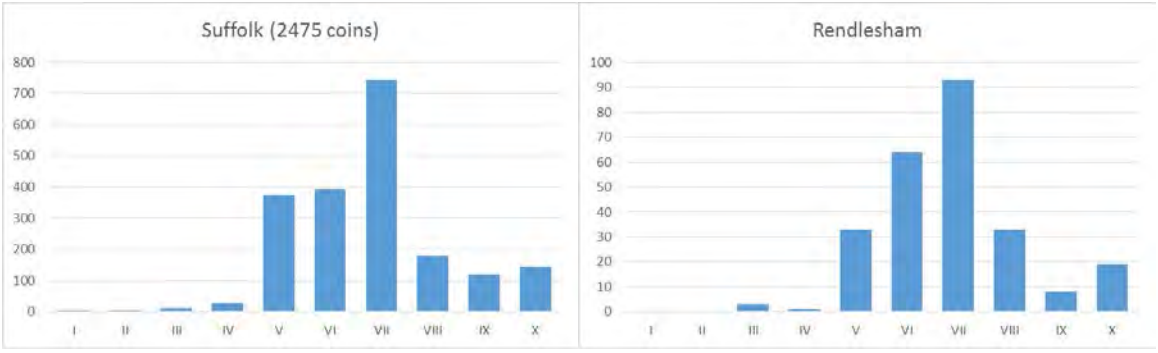

Figure 35 Histograms of single medieval coin finds from Suffolk (PAS) and Rendlesham compared

The key source which has yet to be mentioned is the PAS. The PAS material provides a vital source of comparanda for the county, regional and national picture against which we can measure the Rendlesham assemblage. Figure 35 compares the proportion of finds from different periods in Suffolk

against Rendlesham. It is already clear that there are degrees of variance, the cause(s) of which will be explored in future work.

Potential for this material

- The size of the assemblage is such that it will allow statistical comparison against other datasets such as: 1) the excavated urban sites of London, Winchester, York and Canterbury – thus revealing patterns of coin use between town and countryside; 2) other metal detected assemblages from Dunwich, Llanfaes and South Ferriby and 3) the regional and national picture as revealed by the accumulating single finds recorded with PAS.
- The denominational profile of the finds will reveal dynamics of consumption not visible elsewhere in the hoards record.
- There is the potential to explore the development of the habitation and use of the site through the medieval period thanks to the highly accurate levels of recording of find spots. This will be used in tandem with the other medieval material evidence.
- The full chronology of finds from the site from the Roman period to the 17th century makes this an interesting case study.

Post Medieval 1550-1650

Introduction

The post medieval finds assemblage is large and very similar to the medieval in that its potential lies in its ability to make a contribution to understanding everyday post medieval rural life. The distribution and research potential of the post medieval finds is very similar to those of the medieval period and the former should perhaps be seen as a continuation of the latter. Especially as many finds span both the medieval and post medieval periods, the integration of the post medieval coinage, with its more accurate dating, will be vital to help to understand continuity and change between the two periods.

The finds assemblage

The assemblage from Rendlesham contains 414 objects of post medieval date, there are also a further 81 objects of medieval to post medieval date, this includes objects types such as cast copper alloy cooking vessels (1300-1600) (Ref). Therefore, there are 497 objects in total which are likely to be post medieval in date. However, there are also a further 10 records of post medieval to modern date and a further 17 records of Roman to post medieval in date. Including these the final total, which will be used for the purposes of this statement, of probable post medieval objects is 520.

Table 23 Post-medieval artefacts by material

Material	**Number of records**
Copper alloy	341 (234 are coins, tokens or jettons)
Silver	126 (114 are coins)
Pottery	16
Lead	33
Gold	1
Iron	1
Glass	1
Ceramic	1
Total	**520**

Apart from the coinage only 13 finds are made of precious metal, indicating a higher level of wealth. Those made of silver include: two buttons, three silver hooked tags, one bell, one bodkin, one mount, one pendant, one seal matrix, one thimble and one cosmetic implement. These are all fairly common post medieval treasure finds and were found on fields EKE 019, EKE 021, RLM 013, RLM 037, RLM 038, RLM 042 and RLM 044. There is also one gold finger ring in the form of a puzzle ring (RLM 044 1511).

As with earlier periods coins, tokens and jettons form the largest category of finds recovered; 234 and coins, tokens and jettons (168 coins, 42 tokens (Boy bishop onwards), 16 coin weights, and 8 jettons) were found. The other 263 finds were objects of other categories. Dress accessories were the second most populous category with common object types dominant: these were buckles, 24 examples, hooked tags, 22 examples and mounts, 17 examples. Household objects include 16 pottery vessel sherds, mainly of glazed red earthenware, 13 copper-alloy cast cooking vessel fragments, 14 furniture fittings and/or utensils and one glass fragment. The most common objects within the personal possessions category are book clasps, keys, knives and purse fragments.

Table 24 Post medieval finds by functional category

Category	Number of records
Coins Tokens Jetons	234
Dress Accessories	97
Household objects	44
Personal possessions	36
Fasteners and fittings	29
Unidentified objects	19
Textile production	18
Equestrian and transport	14
Weights and measures	10
Weapons and military Equipment	9
Buildings and services	3
Religious and cult	2
Agriculture and animal husbandry	2
Hunting and fishing	2
Recreational objects	1
Tools	0
Metal working	0

Finds Distribution

The distribution of post-medieval finds has clear concentrations within the survey area. A wider but lower level of finds can also be seen across the whole survey area, which presumably indicates manuring. The fields which have the most post medieval finds recorded are RLM 037 (138 finds), RLM 013 (63 finds), RLM 044 (60 finds), RLM 038 (57 finds) and EKE 021 (46 finds). The first four fields are those which also have the most medieval finds recorded from them and at a broad level continuity into the post medieval period can therefore be seen on these fields.

The post medieval distribution is very similar to that for the medieval and similar concentrations of probable settlement relating to known landscape features, such as roads, can again be seen. Further work using maps and documentary evidence is needed to examine this in more detail. As in the medieval period very few finds occur within the Green area, and there is a marked concentration in the south part of RLM 037 around the former road line.

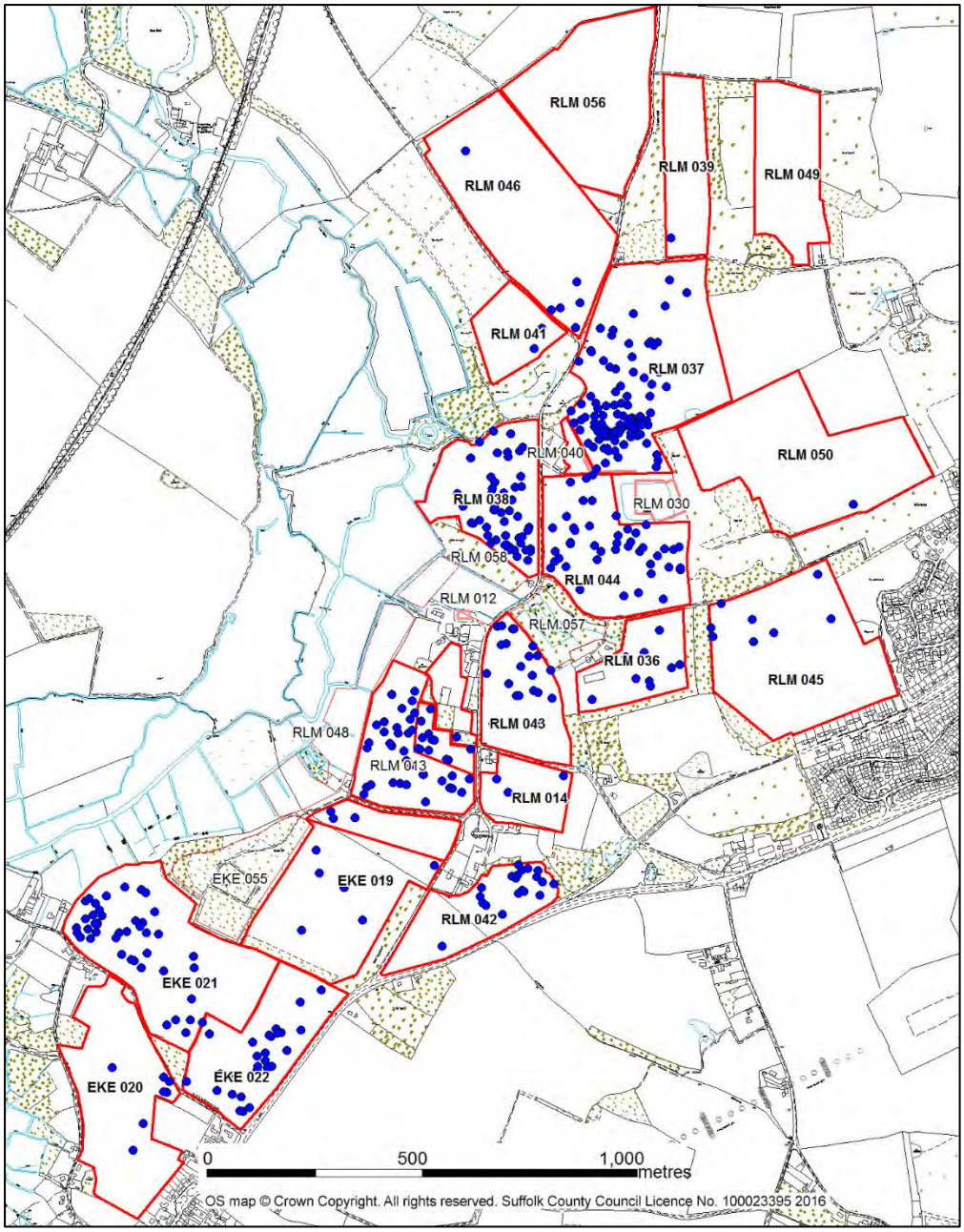

Figure 36 Map showing the distribution of all post-medieval finds and coins

Conclusions

As with the medieval the post medieval finds have some potential to shed light on normal post medieval rural life. Further work is needed with historical maps and documents to exploit this fully.

The finds need integrating with the coinage and jettons as the more accurate dating that the latter provide will help refine our understanding of the development of foci through time and space within the survey area and between the medieval and post medieval periods.

Comparisons between this and other local and national assemblages are also needed and should be looked at in the light of national research frameworks for the period.

INTEGRATED ASSESSMENT OF SIGNIFICANCE AND POTENTIAL

Introduction

Research aims and objectives

The Rendlesham survey was initiated as a response to the threat posed by illegal metal-detecting. It aimed to characterise the archaeology (plough-soil and subsurface) and its significance, within its landscape and historical contexts, in order to:

- implement long-term sustainable management of historic environment features on the estate; and
- analyse the Anglo-Saxon activity as a contribution to the understanding of early medieval settlement, society and landscape

These twin aims were linked and complementary, the eventual outcome being to secure the historical and evidential value of the archaeology for public, professional, and academic audiences. These aims were articulated in more detail through a series of specific research objectives:

Management and Protection

- what is the significance of the ploughzone archaeology?
- how vulnerable / resilient is the ploughzone archaeology?
- what are the best ways of protecting the physical resource here and its significance?
- what lessons can be learned that are more generally applicable to assessing the significance of, and protecting, ploughzone archaeologies?

Anglo-Saxon Studies

- what is the date, character and extent of the early medieval activity?
- does the early medieval use of the site change?
- what is the spatial development of activity?
- what is the social and economic character of the settlement/s represented here?
- how does the early medieval activity relate (spatially and in character) to earlier (Roman) and later (high medieval) activity?
- what are the contexts (local, regional, national and international) of the early medieval activity here?

Management and protection issues have been taken forward through separate reports: a management assessment and strategy, and a review of survey methodology (Minter et al 2016a and b). The initial concentration on Anglo-Saxon studies was a response to the clear and outstanding significance of the 5th- to 8th-century material recovered during the pilot phase of the survey, but as the survey progressed it became evident that similar questions could and should be asked of the survey data across its full chronological range. This is implicit in the individual assessments above and what follows. We also evaluate below the potential of the survey data to address regional and national research agendas.

The data-set: aggregation and integration

The project has generated a large and complex data-set. The significance and potential of individual elements of the data-set are discussed above, and some priorities for future work identified. In some cases, as with environmental coring, the results of exploratory or pilot work may merit further analysis but are of greater significance as indicating potential for future fieldwork. Similarly, further interpretation of the results of extensive magnetometry is highly desirable, but also raises questions that should be addressed in any future campaigns of fieldwork by deployment of complementary

techniques capable of greater precision. Evaluation in 2013 and 2014 has proved invaluable in ground-truthing the results of remote sensing, in establishing the character and potential of buried archaeological deposits, and in helping clarify the impacts of agriculture, but assessment and analysis of this strand of work has been carried forward as a separate exercise and is referred to here only where directly relevant to the assessment of survey data.

The potential and significance of Individual components of the data-set vary by character and chronology. This is, however, one of the largest, most extensive and best recorded ploughzone assemblages known from the United Kingdom, and is unusual both in its chronological range and in the extensive complementary data from magnetometry and the analysis and transcription of aerial photographs. Consequently, even those elements of the material culture assemblage and broader survey data that have only limited or local potential and significance in themselves have greater importance as components of an integrated data-set bearing on patterns of activity and settlement from the second millennium BC to the third millennium AD. There is, therefore, sometimes a case for further analysis to establish spatial or chronological context, especially in the balance between synchronic and diachronic perspectives, because the group value of some data is greater than their individual significance.

Conservation Management and Protection

The data collected from surface collection and limited intervention provide a good basis from which to address the questions of conservation management and protection of ploughzone and buried archaeology. This has been factored in to an assessment of condition and risk factors for the most significant areas of archaeology undertaken in accordance with the COSMIC methodology, with outline recommendations for future management (Minter et al 2016a). This primarily addresses agricultural impacts, but the threat to the evidential significance of the site from Illegal metal-detecting has been mitigated by the retrieval of a sufficiently representative sample, and the physical threat from looting has diminished very significantly over the course of the survey. It appears that the long-term presence of detectorists working with the agreement of the landowner has deterred illegal activity; increased local knowledge, engendering a sense of ownership and stewardship, may also have played a part here.

The survey data has potential for comparative studies of threats, impacts and protection responses, and to act as baseline for long-term condition monitoring should this be considered useful or necessary. The material culture assemblage also has significant potential for the investigation of the preservation of non-ferrous metal artefacts in ploughsoil, in relation both to impacts and movement by agricultural machinery and as a result of chemical decay. Elements of the copper-alloy assemblage from Rendlesham have been made available to the AHRC / Historic England project *Ploughzone archaeology: interpreting loss of data from metal artefact decay (rates, reasons and conservation management implications* hosted by Huddersfield University.

Survey Methodology

The combination of remote sensing, aerial photography and surface collection is not new, but the integration of systematic metal-detecting at this intensity and scale with magnetometry and aerial photography is unusual, as is the opportunity to compare the results with those of conventional fieldwalking over the same areas. There is no doubt that neither the extent nor the quantity of material in the ploughsoil would have been recognised by conventional fieldwalking, and that we owe our understanding of the sequence of settlement and activity here primarily to metal-detecting. This has important implications for approaches to extensive field survey and, if considered in comparison with other recent survey work that has integrated metal-detecting with other techniques (eg. Foard and Morris 2012, 22-30; Foard and Curry 2013, 99-118), the Rendlesham data-set and experience has high potential to contribute to the development of survey method and practice.

Taphonomic Processes and the Interpretation of Ploughzone Archaeology
Material has entered the ploughsoil through a variety of taphonomic pathways, and elucidating these is important to understanding the patterns of past activity represented by the ploughzone assemblage. Because of the quality of the material culture assemblage and the precision with which it has been recorded, and the complementary survey and excavation data, there is high potential through the examination of spatial clustering, patterns of co-occurrence, and comparison with material from excavated deposits to distinguish between classes of material that were most probably dropped on an old ground surface, those that directly represent disturbed archaeological deposits, and those that represent manuring from middened farmyard and domestic waste. There is also potential to examine how material may have moved in the ploughsoil as a result of recent agricultural activity. This is important both for the understanding of past activity at Rendlesham, and for the wider understanding of the taphonomic factors that may structure, and constrain the interpretation of, other ploughzone assemblages.

Because of the potentially high degree of confidence that can be attached to interpretation of past activity from the ploughzone archaeology, there is high potential for the Rendlesham assemblage to inform and enhance the interpretation of other sites known primarily or exclusively from metal artefacts recovered from the surface or the ploughsoil. This is particularly true of the 5th- to 8th-century material, which can be characterised as representing a range of activities undertaken at, and characteristic of, an extensive central place complex, and which can thus be used as a baseline against which to calibrate assemblages from contemporary 'productive sites', but because of the chronological range of the material and the precision with which it has been recorded this potential also exists for other periods.

Site Sequence and Landscape
The survey area represents a transect 3km north-south along the east side of the Deben valley and 1.25km east-west across the grain of the landscape, a sample area large enough to be sure that any patterns of presence, absence and clustering of finds are real, and to examine how patterns change with terrain. Combined with the complementary evidence of aerial photography and magnetometry and – for the early modern period – historic mapping, this represents a data-set of high potential to examine changing patterns of settlement and activity within the immediate landscape context over more than two millennia to the present day.

Even before detailed analysis it is clear that the Rendlesham data represent a complex sequence of settlement and activity that has local and regional significance for the understanding of settlement character and dynamics and their landscape contexts, and a national significance stemming from the unusual diachronic time-span and the potential to elucidate periods of change or transition. Of particular importance are the indications of coherent development without a break in activity from the late 4th to the early 8th centuries, the evidence for a change in size and status during the 8th to 10th centuries, and indications of an aggregation of settlement in the 10th and 11th centuries around a green that persisted until the 18th century. Also significant are the evidence for marked changes in configurations of settlement during the 1st to 4th centuries AD, and for patterns of activity in the landscape from the 12th to the 16th centuries.

The archaeological recognition of a major elite centre of the 5th to 8th centuries at Rendlesham adds very significantly to our understanding of the early medieval geography of the region and helps place in context the elite barrow cemetery at Sutton Hoo, the emergent trading centre at Ipswich, and other elite sites known from metal-detecting such as Coddenham. Contextual and comparative analysis within the Deben valley and south-east Suffolk has the potential to contribute significantly to current debates on geographies of power and how rulership was articulated in the landscape during the early middle ages (cf Higham and Ryan 2010; Semple 2013).

Settlement, Society and Economy

As established in the assessments above of data by class and period, the Rendlesham survey data-set has high potential to characterise and clarify key aspects of settlement, society and economy, both synchronically and diachronically, over a time-span of more than two millennia. Of national and international significance are the coin sequence from the 6th to the 17th centuries, which represents an outstanding resource for long-term monetary and economic history, and the combined data-set for the 5th to 8th centuries, which represents the development and character of a central place complex that is as yet unparalleled in the early medieval archaeology of the United Kingdom in its extent, longevity, material wealth and complexity. Rendlesham presents some major challenges to received models of economy and society in south-east England during the 5th to 8th centuries, and has important implications for our understanding of the development of the early Anglo-Saxon kingdoms and their place in the Merovingian and North Sea worlds.

The data-sets for other periods do not have such high significance, except as elements of an unusually long-term, extensive and well-structured sample, but are none the less of regional or national importance. In particular, they represent changing configurations of rural settlement, production and consumption, and allow the characterisation of settlement and community within contemporary social, communication and supply networks. As such they have good potential to contribute to both comparative synchronic analyses and longer-term diachronic studies.

National and Regional Research Frameworks

National Research Priorities

The Rendlesham data-set has potential to contribute significantly to a number of research priorities for the period of the 1st century BC to the 5th century AD identified in *Britons and Romans: advancing an archaeological agenda* (Millett and James 2001), in particular:

- the Iron-Age to Roman transition
- material approaches to the identification of different Romano-British type sites
- rural society in Roman Britain; and
- the Roman to medieval transition

There has been no recent authoritative statement of national research priorities for the early medieval and high medieval periods (5th to 16th centuries AD) but the Society for Medieval Archaeology's 1987 recommendations to HBMCE (Hinton 1987) identifies a range of priorities that remain relevant. Of these, Rendlesham has high potential to contribute to:

- a better understanding of mid-late Saxon rural settlements, and of royal and aristocratic residences as economic and social foci: this is now given additional urgency by the need to characterise and interpret so-called "productive" sites (1.b.ii; 1.e.i)
- understanding the physical organisation of the landscape (1.b.iii)
- the investigation of manufacturing processes and residues (1.d.iv)
- the development of integrated field survey (3.i); and
- characterising artefacts, and interrogating their social, economic and technological dimensions (5.i)

In addition, it is possible to identify as a national or international research priority how the early medieval central place at Rendlesham compares to other contemporary elite centres in Britain, Scandinavia and north-west Europe, and its place in the wider social, political and economic networks of which these are a part. To some extent this is currently being facilitated by the project's participation in the AHRC-funded network *Investigating Places of Royal residence in Early Medieval Britain* (http://royalresidencenetwork.org/)

Regional Research Priorities
The Rendlesham data-set also has high potential to address a number of current research priorities identified in the most recent articulation of the Research Framework for the Eastern Counties (Medlycott 2011):

- Iron Age / Roman transition
- Roman rural landscapes and settlements
- Roman / Saxon transition
- Anglo-Saxon settlement distribution, emphasising the need to characterise settlement distribution through the distribution of metal-detector finds
- Anglo-Saxon rural landscapes and settlements
- Anglo-Saxon economy
- Anglo-Saxon finds studies
- Medieval landscapes and rural settlements
- Post-medieval landscapes
- archaeological chronologies and processes of change
- landscape and environment
- methodology: the deployment of complementary remote-sensing techniques in field survey and prospection

Priorities for Analysis
Priorities for analytical work are identified only for the current survey data-set. A research agenda that builds on the data from both survey and evaluation, and identifies priorities for future survey and excavation, will be developed as a separate document.

The current document does not go beyond an assessment of significance and potential for analysis. Formulation of updated research aims and objectives, supported by detailed costings and timetable, can be produced as part of a MoRPHE-compliant updated project design if Historic England signals a willingness to fund or part-fund analysis and dissemination.

We identify five high-level research goals for analysis of the survey data: establishing site/landscape sequence and chronology; characterising past activity and settlement (primarily from material culture, and primarily synchronic); elucidating patterns of development and change (diachronic); understanding regional and wider contexts; conservation management and methodological issues. These are of course complementary and mutually-dependent, and specific analyses of different aspects of different elements of the data-set will contribute to more than one. The main areas of analysis as set out below under these heads subsume specific recommendations made in assessment of the data by class and period.

Sequence and Chronology
To identify and date, as far as possible, a relative sequence of settlement and landscape features through:

- further interpretation of the magnetometry results to characterise feature types and clarify possible physical and spatial relationships
- comparative interpretation of magnetometry and aerial photography to clarify characterisation and relationships, and aggregation to produce composite mapping
- review of the material culture assemblage to refine identification and chronological attribution and range where possible
- identification of chronologically diagnostic material culture profiles and assemblages

- investigation of spatial associations between mapped settlement and landscape features and significant assemblages of chronologically-sensitive material culture items
- comparative analysis of mapped settlement and landscape features against historic mapping

Past Activity and Settlement
To characterise settlement and activity synchronically, so as to enhance understanding of economy, society and human agency at any one time or period in the past, through:

- specialist analysis of the material culture assemblage to refine identifications
- specialist analysis of the material culture assemblage to establish social, economic and cultural signatures for each time-slice or period
- integration of mapped settlement features, material culture distributions, and the material culture profile to characterise the extent and character of settlement and activity
- technical and compositional analysis of metalworking finds and residues, and compositional analysis of the coinage

Patterns of Development and Change
Building on this, to investigate long-term dynamics of settlement and activity, and of changes in material culture and the materialisation of identities, through:

- diachronic analysis of the character, configuration and extent of settlement and landscape features, and of spatial patterns of activity indicated by material culture distributions
- diachronic analysis of material culture signatures
- diachronic analysis of key data-sets such as the early medieval to post-medieval coin sequence or the sequence of early medieval dress-accessories

Regional and Inter-Regional Contexts
To contextualise Rendlesham and add to broader understanding through:

- comparative synchronic study at regional and inter-regional scales to place settlement and activity at Rendlesham against broader patterns of subsistence and economy, and within wider social, economic, administrative and political networks
- comparative analysis of longer-term dynamics at regional and inter-regional scales
- comparative analysis at regional and inter-regional scales of key elements of the material culture assemblage bearing on issues of social and cultural identity, contact and communication, and economic and monetary history

Conservation Management and Methodology
To protect the potential and significance of the archaeological resource at Rendlesham, and to develop management and interpretation of ploughzone assemblages, through:

- assessment of condition and development and implementation of management plan
- assessment of survey methodology
- developing and testing approaches to the analysis of ploughzone material culture assemblages
- developing and testing approaches to the integrated analysis of remote sensing data and ploughzone assemblages
- evaluating and sharing these conclusions and experiences

Options for Dissemination

A draft condition assessment and management strategy has been prepared for discussion with Historic England and the Landowner. A draft review of the survey methodology has been prepared and, subject to comment and revision, will be made available through the Historic England website.

Interim interpretative accounts for both public and professional/academic audiences have been published or are in press (Minter et al 2014; Scull et al 2016). Further papers in the relevant academic journals on specific aspects of data, interpretation and methodology are envisaged.

If the necessary resource is forthcoming the favoured dissemination strategy would be a synthetic monograph, setting out the project background and methodology, and presenting an interpretative narrative based on analysis of the integrated data-set, backed by a digital data-set comprising an illustrated summary catalogue of finds and selected remote-sensing data.

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APPENDICES

Appendix 1 The metal detecting survey extent and quantification

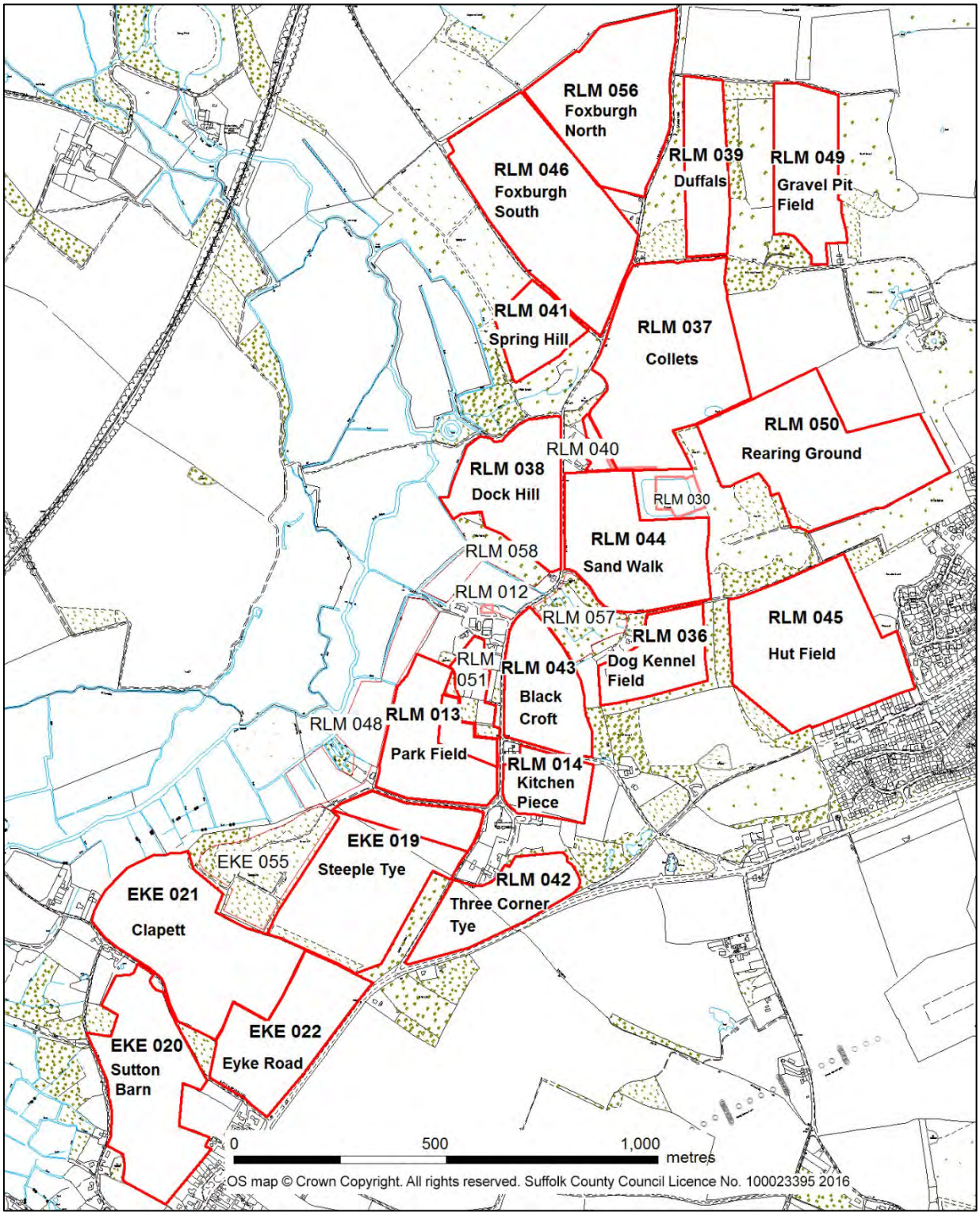

Figure 37 Map showing the survey units and field names

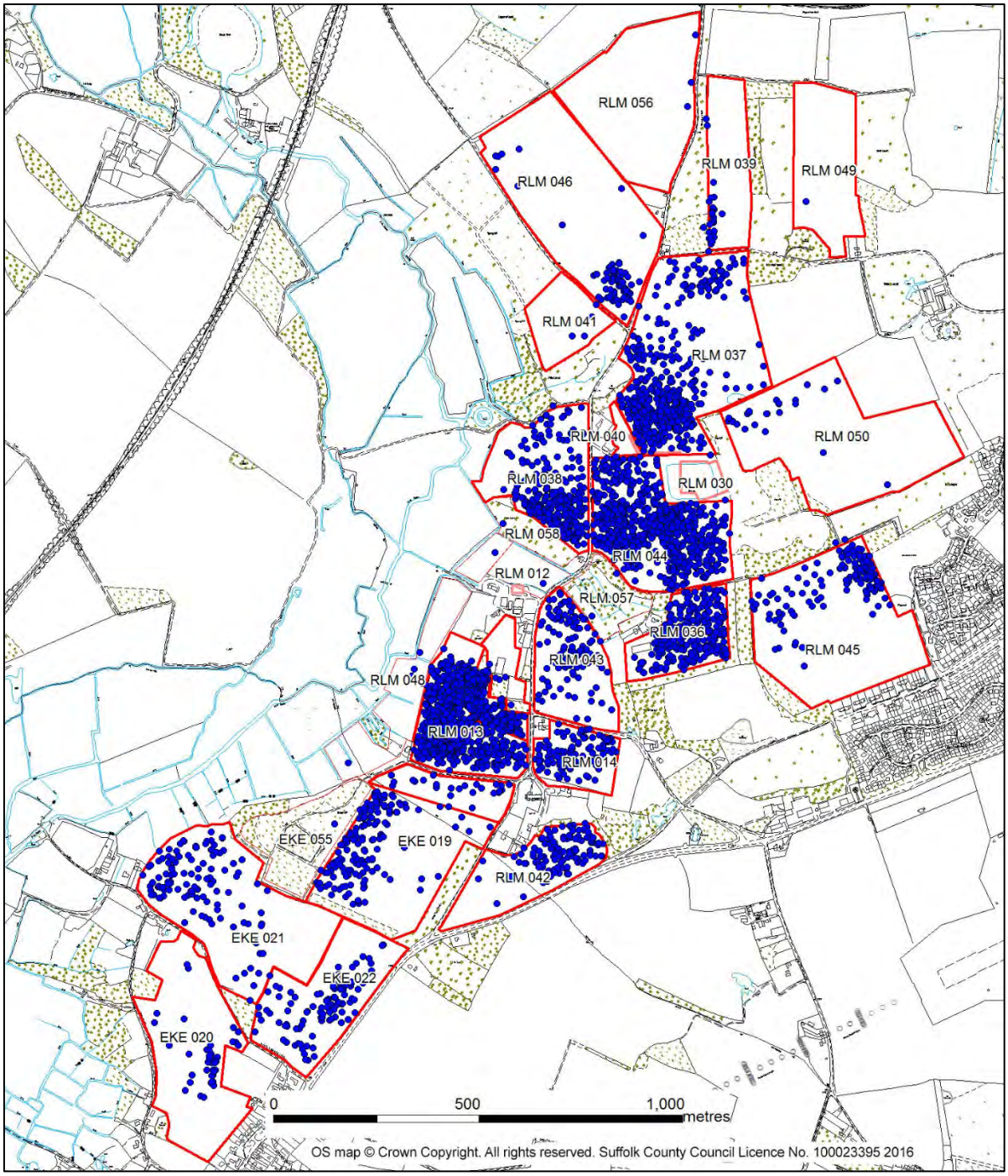

Figure 38 Map showing the distribution of all the metal detecting survey finds

Table of survey units

Site	Name	Area - sq m	Objects	Mapped	Man Days	Finds per day	Finds per ha	Days per ha	Magnetometry Ha
Arable fields									
EKE 019	Steeple Tye	*117,600*	182	179	76.22	2.388	15.476	6.481	10.18
EKE 020	Sutton Barn	*91,290*	46	46	7.50	6.133	5.039	0.822	
EKE 021	Clapett	*113,300*	125	123	33.50	3.731	11.033	2.957	3.65
EKE 022	Eyke Road	*69,030*	105	103	57.50	1.826	15.211	8.330	
RLM 013	Park	*65680*	1020	1008	249.55	4.087	155.298	37.995	7.13
RLM 014	Kitchen piece	*27840*	120	110	46.41	2.586	43.103	16.670	2.62
RLM 036	Dog Kennel	*37260*	293	283	99.10	2.957	78.637	26.597	2.75
RLM 037	Collets	*132100*	473	471	132.40	3.573	35.806	10.023	
RLM 038	Dock Hill	*64380*	294	286	91.75	3.204	45.666	14.251	5.37
RLM 039	Duffals	*41230*	31	29	7.50	4.133	7.519	1.819	
RLM 040	High House Farm = adj 037	*5164*	2	2	0.50	4.000	3.873	0.968	
RLM 041	Spring Hill	*28600*	3	3	1.00	3.000	1.049	0.350	
RLM 042	Three Corner Tye	*49270*	120	120	38.80	3.093	24.356	7.875	
RLM 043	Blackcroft	*50820*	109	109	46.00	2.370	21.448	9.052	4.92
RLM 044	Sand Walk	*83970*	742	734	251.90	2.946	88.365	29.999	6.89
RLM 045	Hut	*117500*	151	151	41.25	3.661	12.851	3.511	
RLM 046	Foxburgh South	*126100*	84	84	27.00	3.111	6.661	2.141	
RLM 049	Gravel Pit field	*58020*	1	1	1.00	1.000	0.172	0.172	
RLM 050	Rearing ground	*121400*	26	26	9.50	2.737	2.142	0.783	
RLM 056	Foxburgh North	*97200*	3	3	1.50	2.000	0.309	0.154	
	TOTAL (arable)	**1,497,754**	**3,930**	**3,871**	**1,220**				**43.51**
Non-arable areas									
EKE 055	Broom Hill Wood	*41620*	1	1	1.75	0.571			
RLM 012	Meadow	*21171*							2.10
RLM 048	Water meadows - extent approx	*48300*	7	7	2.70	2.593			
RLM 051	Garden + Park wood	15,500	5	5	2.75	1.455			0.80
RLM 057	Sand Walk Wood	38670	2	2	3.50	0.571			
RLM 058	Wood SW of RLM 038	14600	1	1					
	TOTAL (grass & woods)	179861	16	16	12	1.368	0.890	0.651	2.90
	Overall total	**1,677,615**	**3,946**	**3,887**					**46.41**

Appendix 2 Quantification of the survey finds by period

Total numbers of objects by period

Periods	Number of Finds
Prehistoric	66
Roman	1054
Anglo-Saxon	988
Late Saxon	64
Medieval	859
Post-Medieval	497
Modern	30
Unknown	388
Total	3946

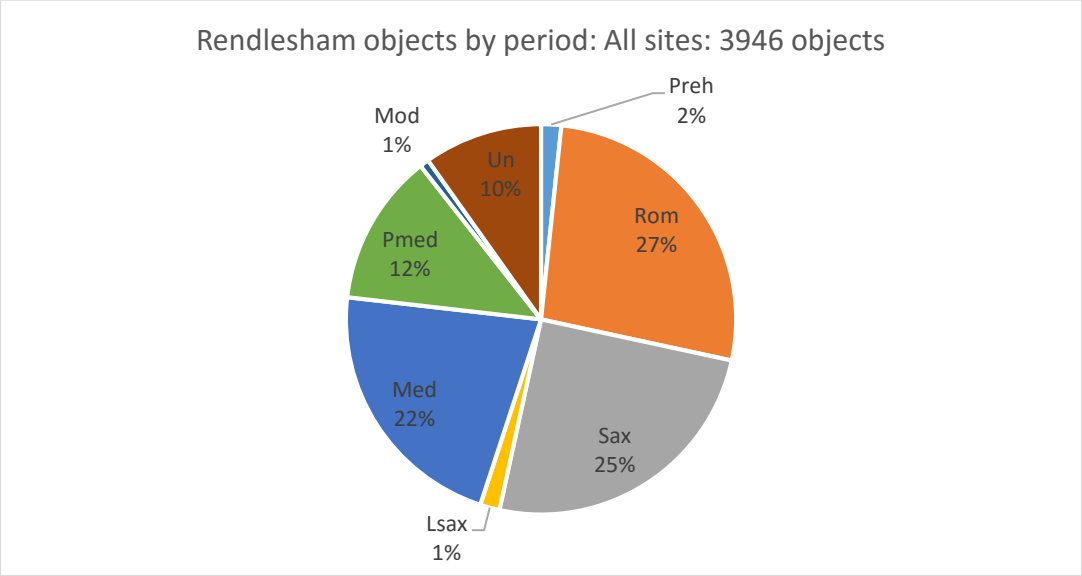

Figure 39 The relative proportions of all objects by period

Numbers of objects from each survey unit by period

	EKE 019	EKE 020	EKE 021	EKE 022	EKE 055	RLM 013	RLM 014	RLM 036	RLM 037	RLM 038	RLM 039	RLM 040	RLM 041	RLM 042	RLM 043	RLM 044	RLM 045	RLM 046	RLM 048	RLM 049	RLM 050	RLM 051	RLM 052	RLM 056	RLM 057	RLM 058	Totals
Prehistoric	5	0	1	2		13	2	5	9	1					1	20	1	4		0	2						66
Roman	37	34	13	27		381	21	70	82	53	27			10	17	137	90	49	1	0	1	1		2		1	1054
Anglo-Saxon	47	0	14	3	1	270	37	119	32	55				13	27	357	5	5		0	0	1			2		988
Late Anglo-Saxon	1	0	0	0		24	6	4	3	13			1		8	3		1		0	0						64
Medieval	52	3	39	33		137	40	36	185	100		1		59	21	83	35	15	4	1	14			1			859
Post Medieval	14	7	46	35		54	6	12	135	55	1	1	2	25	26	58	10	6	1	0	2	1					497
Modern	2	0	0	1		1	0	6	8	4				1	3	3		1		0							30
Undated	24	2	12	4		140	8	41	19	13	3			12	6	81	10	3	1	0	7	1	1				388
Totals	**182**	**46**	**125**	**105**	**1**	**1020**	**120**	**293**	**473**	**294**	**31**	**2**	**3**	**120**	**109**	**742**	**151**	**84**	**7**	**1**	**26**	**4**	**1**	**3**	**2**	**1**	**3946**

Appendix 3 Classification of the survey finds by function

Functional categories used for the object types

Category	Object types included in category	Category code	Finds numbers
Agriculture & Animal husbandry	bells	AA	2
Builldings & Services	Box flue tile, tile, nails, structural fittings	BS	5
Coins Tokens Jettons	Plus coin blanks, coin weights, ingots	CTJ	1644
Dress Accessories	beads, bracelets, brooches, buckles, buttons, finger rings, hooked tags, pendants, spangles, strap ends, wrist clasps	DA	1040
Equestrian & Transport	Harness fittings/mounts/pendants, horseshoes, linch pin, spurs, stirrup strap mounts, terrets	ET	60
Fasteners & Fittings	Swivel, rings, multi-use objects	FF	131
Hunting & Fishing	Arrowheads, powder cap	HF	5
Household	Candlesticks, furniture fittings, implements – spoons (not knives), lamp suspenders, lock bolts, vessels (ceramic, metal, glass, includes hanging bowls)	HO	358
Weapons & Military equipment	Pommel caps, pyramid mounts, scabbard chapes, shield (fragment and studs), spearheads, sword belt fittings	ME	67
Metalworking	Metalworking debris, models, moulds, unfinished objects	MW	126
Personal possessions	Bag catches, book clasps, button & loop fasteners, combs, cosmetic & toilet implements, girdle hangers, keys, knives, mirrors, padlocks (if small), purses, razors, seal boxes, seal matrices	PP	191
Religion & Cult	Ampullas, figurines, pilgrim badges, staff terminals, votive leaf	RC	8
Recreation	Gaming pieces, jews harp, marbles	RO	6
Tools	Awls, axes, chisels, flint implements/scrapers, whetstone	T	49
Textile production	Cloth seals, sewing rings, spindle whorls, thimbles	TP	45
Unknown	Unknown or uncertain function	UN	164
Weights & Measures	Balance arms/scales, weights	WM	45
		Total	**3946**

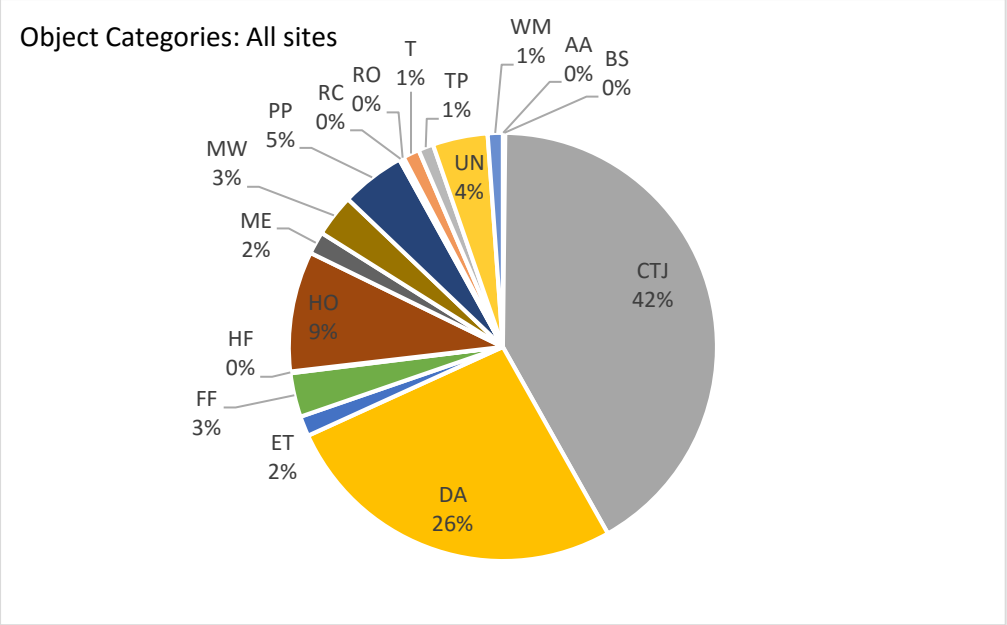

Figure 40 The relative proportions of objects of each functional category for all periods

Numbers of objects by category from each survey unit

	EKE 019	EKE 020	EKE 021	EKE 022	EKE 055	RLM 013	RLM 014	RLM 036	RLM 037	RLM 038	RLM 039	RLM 040	RLM 041	RLM 042	RLM 043	RLM 044	RLM 045	RLM 046	RLM 048	RLM 049	RLM 050	RLM 051	RLM 052	RLM 056	RLM 057	RLM 058	**Totals**
AA	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
BS	1	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
CTJ	65	36	43	70	0	451	40	105	206	130	22	2	2	57	47	214	78	57	5	1	9	1	0	3	0	0	**1644**
DA	51	2	37	16	1	259	25	87	111	78	5	0	0	29	30	263	20	17	1	0	6	1	0	0	0	1	**1040**
ET	2	1	0	0	0	8	1	6	12	8	0	0	1	5	0	12	1	3	0	0	0	0	0	0	0	0	**60**
FF	8	0	2	3	0	34	1	17	17	9	0	0	0	5	4	27	4	0	0	0	0	0	0	0	0	0	**131**
HF	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	**5**
HO	17	5	14	5	0	79	33	9	48	34	1	0	0	9	10	55	35	0	0	0	3	0	0	0	1	0	**358**
ME	5	0	4	0	0	9	0	12	7	0	0	0	0	0	2	27	1	0	0	0	0	0	0	0	0	0	**67**
MW	8	1	2	0	0	61	5	9	10	2	0	0	0	5	2	17	0	0	0	0	3	1	0	0	0	0	**126**
PP	6	0	7	3	0	39	10	20	24	16	0	0	0	4	8	47	5	1	0	0	0	1	0	0	0	0	**191**
RC	0	0	0	0	0	1	0	1	2	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**8**
RO	0	0	1	0	0	3	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**6**
T	4	0	1	1	0	6	2	6	4	2	0	0	0	0	0	20	1	1	0	0	1	0	0	0	0	0	**49**
TP	2	0	3	2	0	9	0	0	11	5	0	0	0	4	3	3	1	1	1	0	0	0	0	0	0	0	**45**
UN	6	0	4	2	0	51	0	18	15	5	3	0	0	0	2	51	1	3	0	0	1	0	1	0	1	0	**164**
WM	7	1	6	0	0	7	3	2	5	1	0	0	0	1	1	5	3	1	0	0	2	0	0	0	0	0	**45**
Totals	182	46	125	105	1	1020	120	293	473	294	31	2	3	120	109	742	151	84	7	1	26	4	1	3	2	1	**3946**