

ARCHAEOLOGICAL MONITORING REPORT

SCCAS REPORT No. 2010/047

Survey of the salt marsh & foreshore below Sutton Hoo SUT 195

HER Information

Date of Fieldwork:	3rd March 2009; 16th September 2009
Grid Reference:	TM 2821 4952
Funding Body:	The Sutton Hoo Society
Project Officer:	Linzi Everett
OASIS Reference:	suffolkc1-90099

Summary

Following the discovery of man-made wooden structures and pottery on a stretch of foreshore below Sutton Hoo in 2002, a programme of archaeological work was undertaken to better understand the archaeology and dynamics of the area. As a result of this, repeat visits were made in 2003, 2005 and 2009 to monitor the rate of further erosion, the survival of known wooden structures and to record any newly exposed timbers.

The grid pegs set out in 2002 to monitor sediment changes on the foreshore showed erosion of c.30mm, on average, with accretion of 10mm apparent on the surviving pegs in the northern part of the grid.

A temporary layer of soft, waterlain silts was present over the foreshore at the time of both visits, making it difficult to assess the condition of previously recorded timber structures. Clearly some erosion of the foreshore had occurred as two new areas of timbers were recorded, both comprising a mix of vertical posts with horizontal infill. Remains were fragmentary, neither cluster appeared formalised and the wood was in poor condition. A vertical hazel (*Corylus avellana*) stake removed from wood scatter 0041 in the southern part of the survey area was radiocarbon dated to 320 AD +/- 30, the earliest date yet obtained from this site.

Survey of the salt marsh edge shows continued gradual erosion and a single sherd of medieval coarseware pottery found on the foreshore suggests that pottery continues to erode out of the salt marsh.

1. Introduction and methodology

Following a request from Angus Wainwright, (National Trust Regional Archaeologist, East Anglia) a survey was conducted of the salt marsh and foreshore below Sutton Hoo on 3rd March 2009 with further monitoring carried out on 16th September 2009. This was part of an ongoing programme of monitoring following the original discovery of man-made wooden structures on the foreshore in 2002 (Loader and Everett, 2004). On both occasions, two members of Suffolk County Council Archaeological Service Field Team, in consultation with Jonathan White, National Trust Site Manager for Sutton Hoo, accessed the foreshore at low tide in order to maximise the time and extent of exposure of the structures on the low tide line. The survey consisted of five main elements:

- **Survey the salt marsh edge to monitor erosion**

The existing edge of the salt marsh was surveyed using a Leica SmartRover RTK GPS 1200 connected to Leica SmartNet data recorder giving sub 5cm accuracy. The resulting data was overlaid onto previous results to assess the extent of any erosion that had taken place since the previous survey.

- **Measure the level of erosion/accretion shown by the grid established in 2002**

Measurements were taken from a horizontal plate attached to the shaft of the grid peg which had originally been set flush with the foreshore.

- **Check the condition of the timbers recorded during previous survey work**

- **Record the location of any newly exposed timbers**

A systematic walkover of the foreshore was conducted and new groups of timbers plotted and mapped using GPS surveying equipment.

- **Walk the foreshore to retrieve any artefactual evidence**

A systematic walkover of the foreshore was conducted within the existing 20m grid.

The site was recorded under the Historic Environment Record (HER) code SUT 195, continuing the context sequence used during the first survey. The fieldwork was commissioned by The Sutton Hoo Society. The monitoring archive is held in the County HER in Bury St. Edmunds.

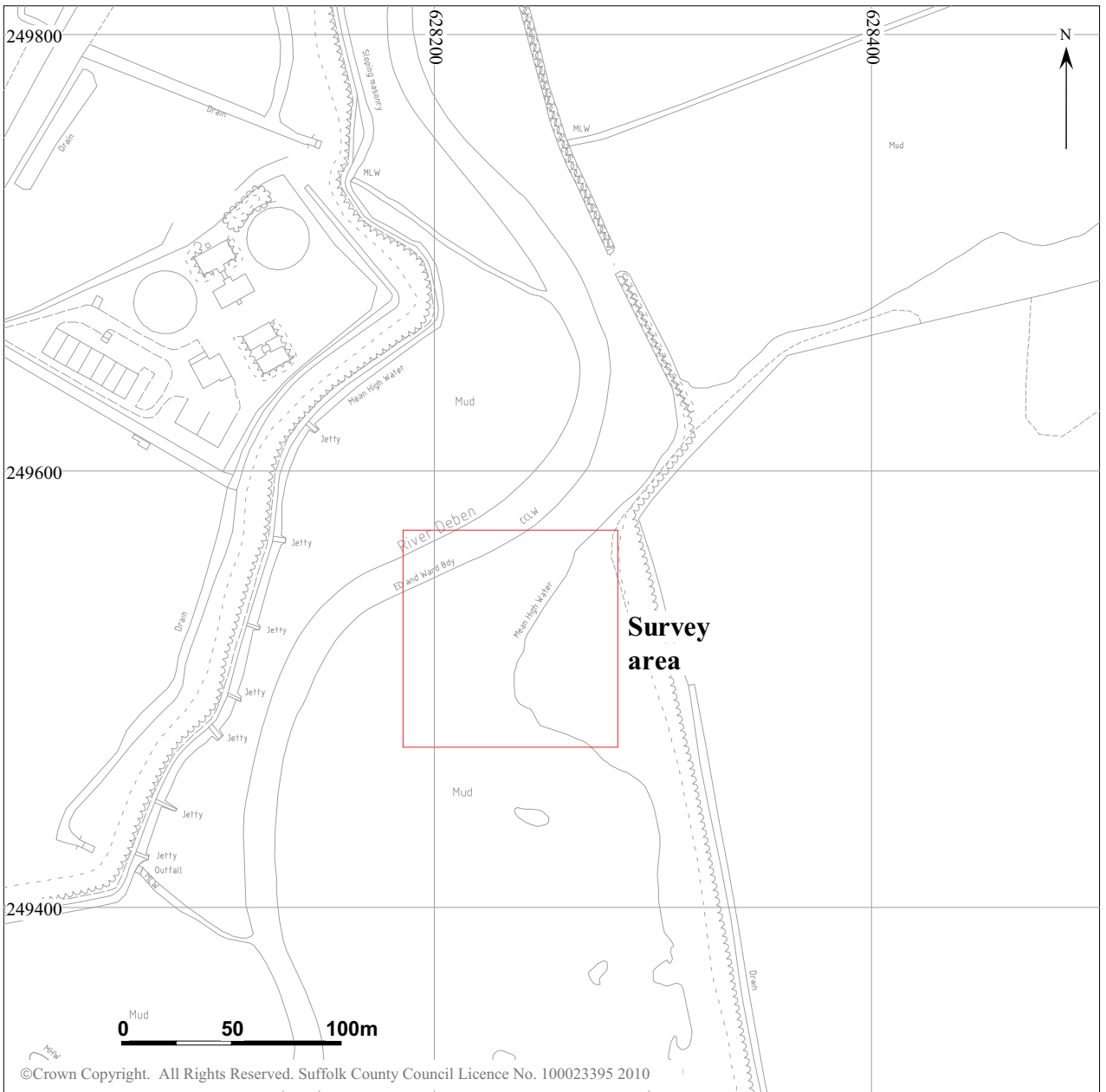
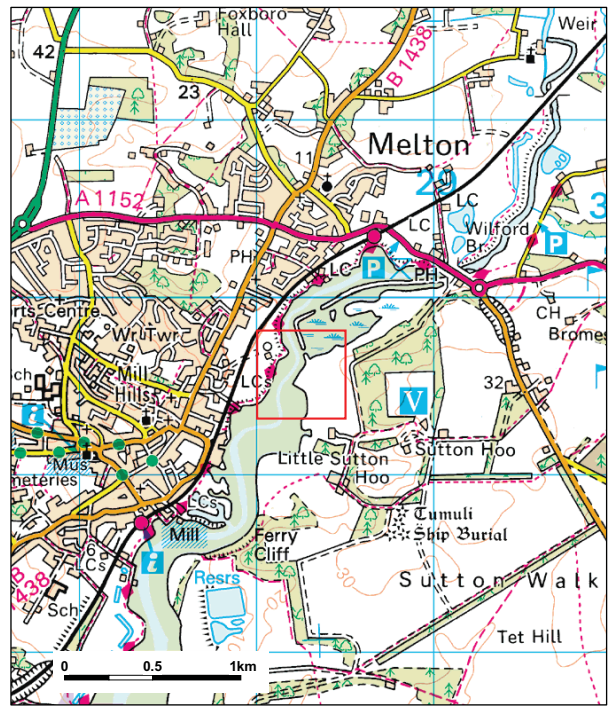


Figure 1. Site location

2. Results

Survey the salt marsh edge to monitor erosion

Figure 2 shows the surveyed edge of the salt marsh in March 2009 compared to the previous survey in 2005. This shows continued erosion, with up to 2m of land lost in places, within just under four years.

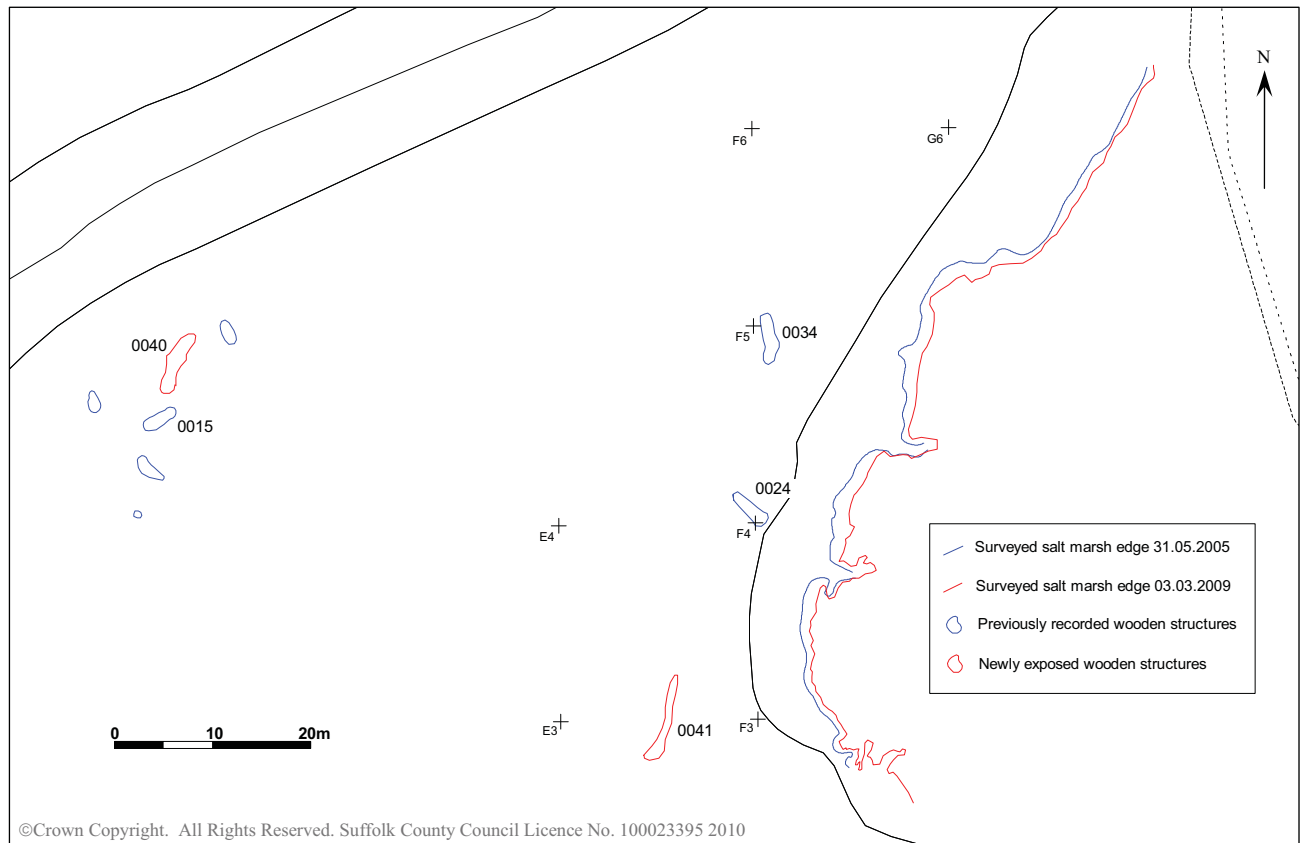


Figure 2. Results of the 2009 survey showing new wood exposures and the edge of the eroding salt marsh

Measure the level of erosion/accretion shown by the grid established in 2002

These pegs had originally been put in place to establish a grid for fieldwalking of the foreshore and were designed to allow any erosion or accretion of the foreshore to be measured. Each peg had a horizontal plate welded into position 200mm from the pegs top. The pegs were driven into the foreshore until the horizontal plate was flush with the level of the existing foreshore surface with subsequent changes to the level of the foreshore measured above or below this plate.

In March, seven of the original twelve grid pegs were located and their positions plotted (Figure 2). Previous monitoring of the site had shown that various pegs had been removed and discarded, presumably by members of the public.

Grid pegs E3, E4, F3, F4 and G6 showed erosion of the foreshore averaging 30mm whilst F5 and F6 showed accretion of some 10mm. The base plate of a peg placed adjacent to wattle structure 0015 for planning purposes was also covered by approximately 10mm of accretion. In September, there had been no appreciable difference to these statistics.

Check the condition of the timbers recorded during previous survey work

Despite selecting a date and time to coincide with a particularly low tide, a strong upriver breeze kept the tide higher than expected in March. As a result, the structures at the low tide line remained under water. Wood scatters 0024 and 0034 were not seen but may have been masked and sealed by a temporary layer of river silts. The situation was much the same for 0024 and 0034 during the second visit in September and whilst the wattle structure 0015 and surrounding areas of occasional timbers were exposed by the tide, they were just visible but partially covered by silts, making any meaningful assessment of their condition impractical.

Record the position of any newly exposed timbers



Plate 1. Post cluster 0040, looking north

0040 (Plate 1) During the March visit, several new timbers were noted by the low tide line north of wattle structure 0015 but they were not individually recorded owing to the rising tide. These were round timbers and poles, driven vertically into the foreshore and measured up to 150mm in diameter. Several large horizontal timbers were also noted in the general area. These were rough, irregular, with heavily eroded surfaces and may not have been associated with the vertical poles. A build up of light, accreted river silts covered these timbers at the time of the September visit.



Plate 2. Surveying timber area 0041, with the tide rising. Looking south west

0041 (Plate 2) A further new area of timbers was recorded towards the High Water Mark and the extent and orientation was recorded using the GPS. This area consisted of a linear spread of vertical posts and stakes, measuring approximately 40–70mm in diameter, with scatterings of brushwood and larger un-worked fragments eroding from the inter-tidal mud. These fragments are in very poor condition, structurally very soft and fragmentary with heavily eroded surfaces. A single vertical stake was excavated to assess whether it was worked and how much survived below the foreshore surface. The

excavated sample was 40mm in diameter, 280mm long with 260mm being well preserved below the surface of the intertidal mud. The recovered piece was identified as hazel (*Corylus avellana*), in the round with surviving bark and had a single cut face to produce a pointed end. This was sent to the Scottish Universities Environmental Research Centre (SUERC) in Glasgow for radiocarbon dating and returned a calibrated date of 320 AD +/- 30. The full SUERC report is included as Appendix I.

Walk the foreshore to retrieve any artefactual evidence

A single sherd of pottery was recovered during the survey in grid square F4. This was a small abraded sherd of medieval courseware which was not closely identifiable.

3. Discussion and recommendations

The dynamic nature of this foreshore environment makes it a difficult and unpredictable area to monitor. Whilst erosion of the salt marsh continues, so does the deposition of a thin layer of soft, temporary silts which can mask the recorded timber structures on the foreshore but can equally be washed away in strong tides. These silts were present during both visits in 2009, with visibility in September worse than it had been in March when new timber clusters were recorded. As such, the condition of the existing timbers was hard to assess.

Disregarding the temporary silts discussed above, the exposure of new timber areas 0040 and 0041 suggests a general trend towards erosion of the foreshore which puts already fragile horizontal timbers at significant risk from tidal action as well as potential damage from passing boat keels in shallow water. The main navigation channel through the river lies just a few metres west of wattle structure 0015 and is marked by buoys. It was noted that during 2009, the buoys were moved east, indicating a slight natural shift in the channels course. How this change in the dynamics of the river might affect the archaeology should be monitored, as whilst it could increase the threat to existing structures from erosion or river traffic, new exposures are also a possibility.

The radiocarbon date from a component of timber area 0041 is the earliest yet obtained from the man-made structures within the study area. It is closest in date to a sample taken from 0024, approximately 20m to the north and is on a similar alignment to both 0024 and 0034. It is difficult to draw any meaningful conclusions from this new date, or to interpret the wood scatter from which it was collected, however, it provides further

important evidence of significant activity on the Sutton Hoo foreshore during the Roman and Saxon period.

Although only a single medieval pot sherd was recovered during the walkover survey, it is an indication that pottery continues to erode from the salt marsh.

Continued annual monitoring of the area is recommended in order to better understand the dynamics of the environment as well as to record any further significant structures revealed. Although the structures recorded thus far are an indicator of activity on the shore of the Deben over a significant period of time, their fragmentary nature has made interpretation problematic, both in isolation and in relation to each other. Should it exist, further evidence currently sealed by the intertidal muds could go some way to elucidating what activities were being carried out here and their significance in the wider landscape context.

Duncan Allan and Linzi Everett
March 2010

References

Loader, T. and Everett, L., 2004, *Survey of the Intertidal Foreshore Below Sutton Hoo*, SUT 195, SCCAS Report no. 2003/110


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RADIOCARBON DATING CERTIFICATE

22 July 2009

Laboratory Code	SUERC-24505 (GU-18864)
Submitter	John Newman Archaeological Service Suffolk CC St Edmund House, Rope Walk Ipswich IP4 1LZ
Site Reference	Sutton Hoo foreshore
Sample Reference	SUT 195/03/2009
Material	Wood : Hazel

$\delta^{13}\text{C}$ relative to VPDB -29.7 ‰

Radiocarbon Age BP 1630 ± 30

- N.B.**
1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-

Date :-

Checked and signed off by :-

Date :-

Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]

