FOOTPRINT-TRACKS AT GOLDCLIFF EAST 2002

by Rachel Scales

Department of Archaeology, University of Reading, Whiteknights, PO Box 227, Reading, RG6 6AB

INTRODUCTION

Footprint-tracks and trails are an extraordinary form of evidence that contribute to many areas of archaeological inquiry such as population composition, animal husbandry, hunting practices, resource exploitation and seasonality. Some important research has been carried out on them in the United Kingdom by, for example, Allen (1997), Aldhouse-Green *et al* (1992), Roberts *et al* (1996), and Bell *et al* (2002).

Goldcliff East is an exceptional site in terms of footprint-tracks. The laminated estuarine silts hold a wealth of footprint trails that belong to the birds, animals and humans that once roamed the area during the Mesolithic. The quality of these tracks can be remarkably high as shown in Figure 1. The focus of work this season has been on the lower foreshore Sites C and E (Bell *et al* 2003, fig.1). This is a particularly difficult area to work, both in terms of the extremely muddy conditions and the very short tidal window (up to 2 hours maximum) when it is possible to carry out work.

Nevertheless, work at Site C, which continued on from preliminary research in 2001 (Bell *et al* 2002), and the new survey of Site E

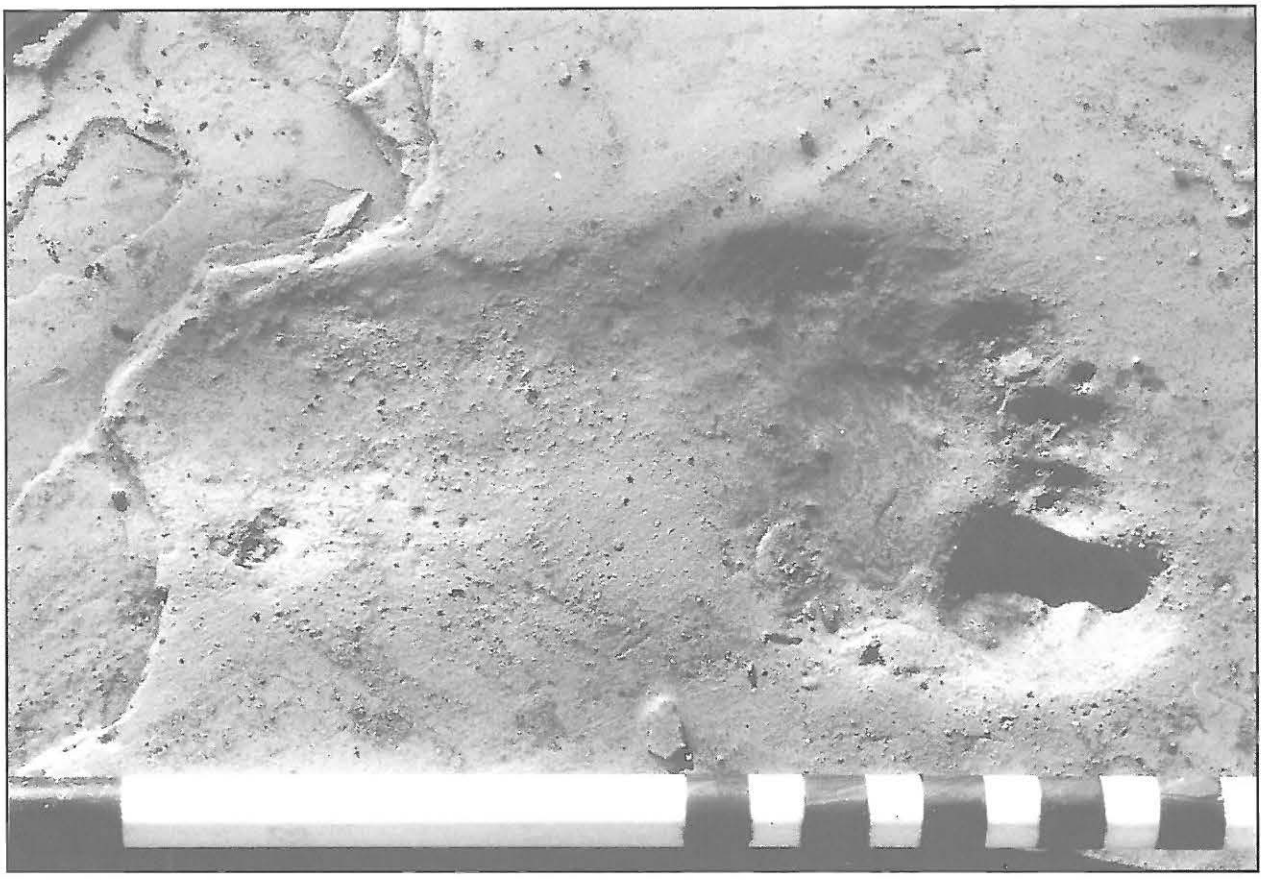

Figure 1: A well preserved child's footprint with toes from Site E in association with trail 6113, small scale divisions 1 cm (Photo. Edward Sacre).

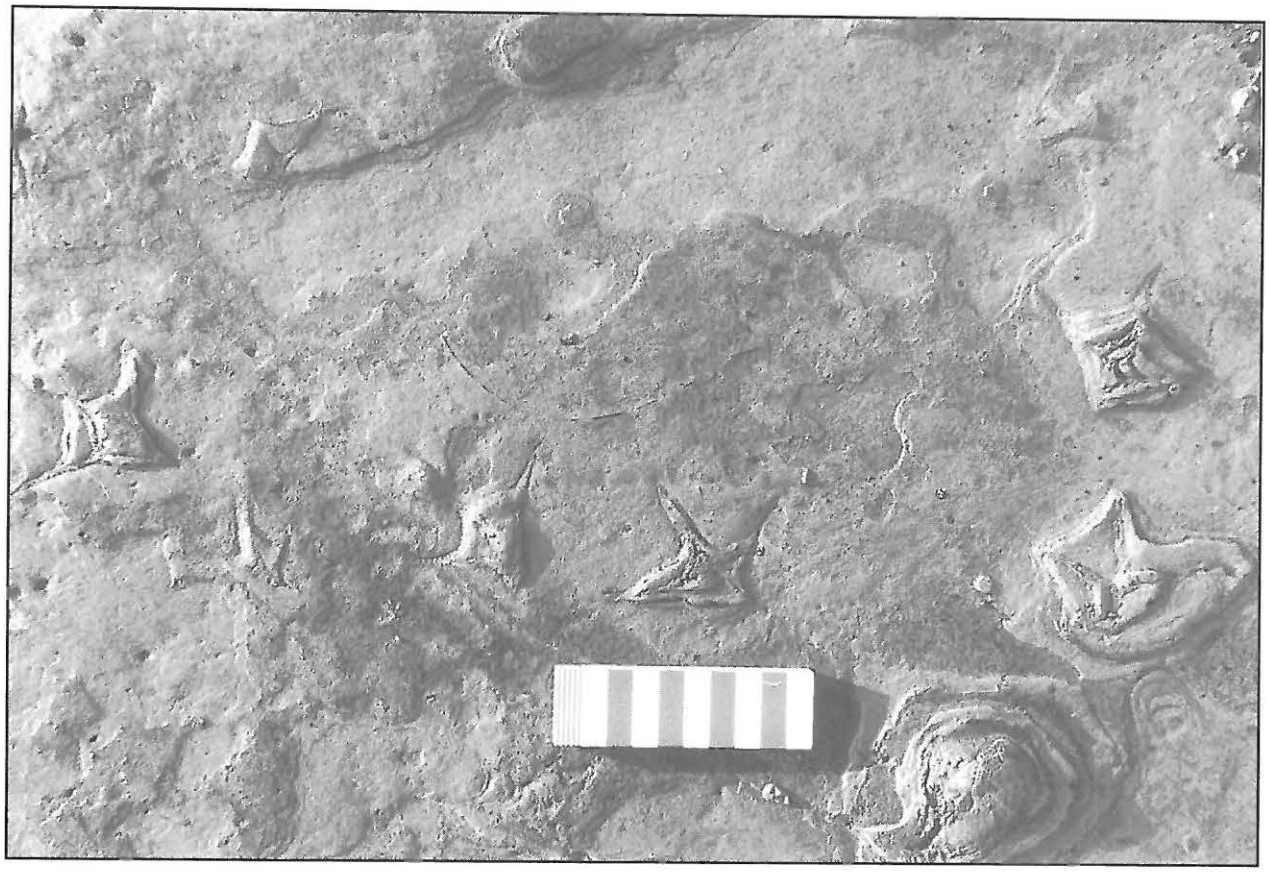

Figure 2: Footprint-tracks of birds with webbed feet, Site C, scale 10 cm (Photo. Edward Sacre).

exceeded our expectations about the number and quality of tracks available for study. Three major human footprint trails were discovered, two already exposed to the elements and one purposely followed and excavated back by hand. Several other human tracks were noted for the first time. *Cervus elaphus* (red deer) tracks with visible dew claws and numerous bird tracks ranging from small webbed prints (Figure 2) to the large splayed tracks of *Grus grus* (crane) were also recorded. Identifications were made using Bang and Dahlstrom (2001) and Brown (1992).

METHODS

The following methods have been developed in order to accurately record the footprint-tracks:

Tracing

A number of techniques were developed and used this season. Given time constraints tracing has proved to be one of the more successful ways of recording tracks. Individual footprint-tracks, whole areas, and trails were traced using clear plastic sheets (Figure 3). This quick and simple method allows the information to be gathered with ease and can be digitised during post-excavation work.

Casting

Two methods of casting were used: Plaster of Paris is a cheap and fairly easy method which can be prepared fairly quickly in the field. Aluminum strips are placed around a track to box it in and then the plaster mixture can be poured into the mold. The plaster takes approximately twenty minutes to dry before it can be lifted, and provides a lasting and moderately accurate record of a footprint-track. However, twenty minutes is often too long when working under estuarine conditions. The second method of casting using dental algenate is more advantageous here. This rather curious mint scented powder can be mixed with water in a jug and then placed on a track to take a

Figure 3: Tracing of footprint-tracks at Site C (Photo. Edward Sacre).

cast. It has a setting time of just over two minutes, which means that it has to be mixed correctly in a matter of seconds and then applied to the track. Such a rapid drying time means that it is of great use in the lower foreshore zone where time is of the essence. However, the main limitation of this material is that it does not have a long life span and will only last for two or three months if kept damp and in air tight bags. To resolve this problem, more permanent plaster replicas were made of the algenate shortly after they were taken.

Excavation

Three significant human trails were recorded (two consisting of more than one individual) along with thirteen other isolated footprints. In some cases a trail disappeared into a shelf of laminated silts, and it was possible to excavate back to reveal more tracks within the same trail. The laminated silts at Goldcliff East made it possible to peel back and remove the laminations using only bare hands, layer by layer. As this was being done the fine layers of sand sandwiched in between silt laminations were eased away with just the light touch of fingertips.

Five human footprint-tracks were situated on the edge of a shelf of laminated sediment at Site E (Figure 4). These were chosen to try out experimental excavation methods. It was felt that the sediment was too fragile to use anything as harsh as a plastic spatula or trowel in scraping movements, as this may have destroyed part of a track before it was recognized. The footprints in this particular trail were filled with sand and so it was possible once the sand was removed, to pour water over the area and see the newly excavated tracks clearly. The sea also played its role, once the upper laminations had been removed, in excavating the footprints out. It was generally found that the best and quickest method was to excavate a couple of footprints at a time and then allow the sea to complete the excavation process overnight.

Block Lifting

There is insufficient time to study an individual footprint track in great detail in the field. Therefore, twelve footprint-tracks were block lifted for further recording and micro-excavation in the laboratory; this is currently underway.

ASSESSMENT

Recording methods have been developed and tested in the field with great success. A number of detailed plaster replicas have been created providing information on human, bird and deer footprint-tracks. Tracing has proved to be a quick and reliable method of recording in the field, and has added to the growing archive of footprint-track information from this site. The development of excavation techniques also appears to be very successful. Owing to the nature of the laminated silts, the upper layers were easily removed in Site E and a large area was excavated by hand to reveal a trail of three adult human individuals (consisting of 34 footprints) walking out towards the estuary (Figure 4). Three red deer tracks belonging to one individual had crossed the human trail. Two other trails were also recorded, one perhaps belonging to someone in their teenage

Figure 4: Excavated area of footprint-tracks (group 6113) on Site E, scale 50 cm (Photo. Edward Sacre).

years comprising of 16 footprints heading straight in the direction of Goldcliff Island. The other, of 25 footprints, had been made by a very small child, probably no more than three or four years of age, and an adult walking inland from the estuary (Figure 5).

CONCLUSION

Goldcliff East has provided a wealth of high quality footprint tracks, where fine features such as overtraces, undertraces, footprints, marginal ridges and even dew claws can be easily observed (Allen 1997). Human (88 footprints), deer (52 tracks) and over forty bird tracks were recorded during fieldwork this summer. Their quantity and quality will make identification to species possible in a number of cases. The fieldwork has been a good opportunity to test recording and sampling methods. Dental algenate casting has proved to be extremely useful for the lower foreshore as it provides detailed casts rapidly. Excavation of trails preserved in laminated silts is perhaps now a viable method of exploring Mesolithic resources and utilization patterns at Goldcliff. The footprint-tracks from Goldcliff East allow us to examine this site in a new dimension. We are able to see how both people and animals were moving through and using this environment, as well as providing insights into the age group composition of the Mesolithic community.

BIBLIOGRAPHY

Aldhouse-Green, S. H.R., Whittle, A.W.R., Allen, J.R.L., Caseldine, A.E., Culver, S.J., Day, M.H., Lundquist, J. and Upton, D (1992) Prehistoric human footprints from the Severn Estuary at Uskmouth and Magor Pill, Gwent, Wales. *Archaeologia Cambrensis* 141, 14-55.

Allen, J.R.L. (1997) Sub-fossil mammalian tracks (Flandrian) in the Severn Estuary, S.W. Britain: mechanics of formation, preservation and distribution. *Philosophical Transactions of the Royal Society* B 352, 481-518.

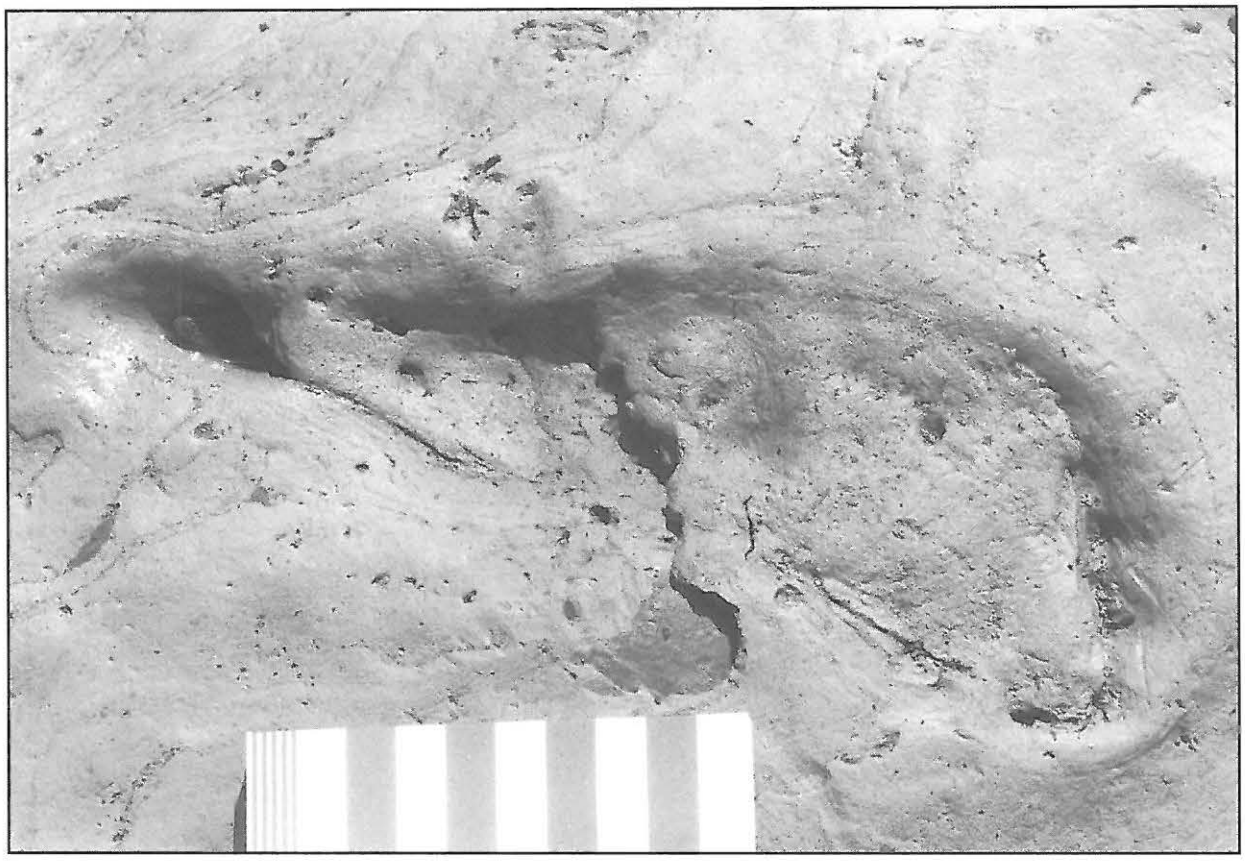

Figure 5: A child' s print in Trail 6111 on Site C, scale 10 cm (Photo. Edward Sacre).

Bang, P. and Dahlstrom, P. (2001) *Animal Tracks and Signs*. Oxford, Oxford University Press.

Bell, M., Allen, J.R.L., Nayling, N., Buckley, S. (2002) Mesolithic to Neolithic coastal environmental change *c.* 6500-3500 cal BC. *Archaeology in the Severn Estuary* 12, 27-53.

Bell, M., Allen, J.R.L., Buckley, S., Dark, P. and Haslett, S.K. (2003) Mesolithic to Neolithic coastal environmental change: excavations at Goldcliff East, 2002. *Archaeology in the Severn Estuary* 13, 1-29.

Brown, R. (1992) *Tracks and Signs of the Birds of Britain and Europe*. London, Christopher Helm.

Roberts, G.S., Gonzalez, S. and Huddart, D. (1996) Intertidal Holocene footprints and their Archaeological Significance. *Antiquity* 70, 647-651.