these sites is the apparent evidence for sediment accretion whilst the sites were actually in use. It may be that some, at least, of the sites were located on areas of naturally drained land subject to periodic inundation. Further work remains to be done in order to demonstrate the extent and date of Romano-British drainage and land reclamation.

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Second Severn Crossing, English Approaches

Palaeoenvironmental Assessment

Palaeoenvironmental work was part of the archaeological assessment carried out by the Glamorgan-Gwent Archaeological Trust, of the bridgehead area and route of the access roads for the Crossing.

The aim was to assess the biological potential of the archaeological sites and associated palaeoenvironmental sequences, to characterise the nature of the sedimentary contexts, and investigate the potential for palaeoenvironmental reconstruction.

In the bridgehead area (test pit 06) a range of biological and sediment analyses indicated that estuarine silty clays which contained freshwater and estuarine diatoms were overlain by peat at *c.* +3 m OD. The silty clays may have dried out somewhat as the peat accumulated. The 'bog' consisted of wet pools dominated by *Sphagnum*, sedges and *iris* with raised drier hummocks supporting heather and ling, some of which was burnt. Beetles typical of shallow water choked with moss and the water's edge in bogs and fens were identified (*Tachys* cf. *walkeriensis; Hydroporus scalesianus* and *Lathrobium rufipenne*) - these are now of extremely restricted distribution in the British Isles. The presence of mixed woodland nearby was indicated by pollen of pine, alder, birch, oak, elm, lime, willow, hazel and holly. The peat was overlain by silty clay, a typical sequence widely observed on both sides of the estuary. Dry land mollusc species in the upper silty clays (test pit 04) may indicate a possible land surface.

At Elmtree Farm, Easter Compton (test pit 09), an apparently similar sequence was observed; however, here the plant macrofossil flora indicated that the peat accumulated under shallow, predominantly freshwater conditions with drier ground nearby. Pollen was scarce as the peat was rather oxidised. An estuarine mollusc assemblage was identified from the overlying silty clays.

A third sequence of peats and estuarine silty clays near Awkley (test pit 30) was the closest to the interface between the estuarine sequence and the higher ground. The peat was very oxidised and pollen preservation limited, but plant macrofossils and insects showed that alder carr flourished with seeds of orache, fat hen and blackberry indicating dry and possibly disturbed ground nearby. The insects indicate that there was much dead wood and decaying plant matter present with duckweed and burr reed in

wetter pools. A linear feature was evident in the silty clays overlying the peat and this contained a mollusc assemblage almost entirely consisting of freshwater species (*Lymnaea palustris, L. trunculata, Pisidium* sp., *Bithynia tentaculata,* Succineidae, *Planorbis* spp. including *crista* and *Alexa hypnorum*). A wet area or slowly flowing watercourse is suggested, which may have been subject to periodic drying out. A single shell of *Phytia myosotis* hints at occasional marine influence.

Provisional radiocarbon dates have been received of about 4500 BP for the peat from test pits 06, 09 and 30 (Dr. G. Cook, East Kilbride, pers. comm.). Further comment awaits the final results, but it does appear that very different wet land environments flourished at about the same time in different parts of the estuary.

A lower peat deposit located at between +0.9 m and +1.7 m OD in test pit 28, to the west of test pit 30, contained better preserved pollen. Brief examination of pollen from small samples collected by augering suggested alder fen conditions with mixed deciduous woodland (alder, birch, oak, elm, lime and hazel) nearby.

Sedimentary work at the Iron Age site at Hallen (test pits 18/19) indicated low energy estuarine conditions and possible exposure and human activity. Plant macrofossils comprised charred crop processing waste (oat chaff (awns); spelt wheat glume bases; and arable weeds such as fat hen and black bindweed) and occasional grains of barley.

The only evidence for colluviation was from sedimentary analyses at the interface area (test pit 23). Estuarine sediments were overlain by similar deposits but with a colluvial component. Overlying these, the colluvial component was less marked possibly indicating increased estuarine sedimentation. Above this an hiatus in sediment accumulation was indicated by a magnetic susceptibility peak and increase in sand content. A ditch was filled with estuarine sediments and pollen from the same feature may suggest a salt marsh flora.

The potential for further work on palaeoenvironmental sequences and land-use history from the third millennium BC onwards was demonstrated, but the need to look at as wide a range of evidence as possible is clear, as preservation conditions vary greatly in different parts of the levels. The complementary information from the insects and plant macrofossils in oxidised peat, where pollen preservation is poor, was particularly useful.

The specialist work was done by: Nigel Cameron, ENSIS Ltd. (diatoms); Vanessa Straker, Keith Crabtree and John James (pollen); Julie Jones (plant macrofossils); Mark Robinson (insects); Martin Bell and Su Johnson (molluscs); John Crowther (sediments).

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