

The Uskmouth Footprints

At the time of writing, a paper on the Uskmouth footprints is being assembled for publication. Environmental work on foraminifera by Dr. Stephen Culver (Department of Geological Sciences, Old Dominion University, Norfolk, Virginia, USA) has shown clearly that the footprints were made then, as now, in intertidal mud. Casts of some of the footprints will soon be on display in the Stone Age Gallery of the National Museum of Wales. Here Astrid Caseldine has outlined some elements of the fascinating results of her pollen analyses.

Stephen Aldhouse-Green,
National Museum of Wales.

Recent Pollen Investigations at Uskmouth

The environmental conditions contemporary with the Mesolithic footprints at Uskmouth and the environmental sequence after they were made have been investigated using pollen analysis. Samples were taken from the infill of two footprints and from three adjacent sections, all of which had been truncated by erosion to a greater or lesser extent.

The Environmental Sequence

The analysis of pollen from the footprints themselves indicates an open environment with salt-marsh, represented by *Chenopodiaceae* and *Glaux* pollen, in the vicinity. Pollen of *Gramineae*, fresh-water aquatics and fen species possibly suggests the development of reedswamp towards the edge of the estuary. The relatively high percentage of dryland arboreal taxa, including *Quercus*, *Pinus*, *Tilia*, *Ulmus* and *Corylus*, is interpreted as reflecting mixed deciduous forest on the dryland.

Following the period when the footprints were made, there appears to have been a short episode of reedswamp development, represented by high *Gramineae* pollen values and the presence of a *Phragmites* peat at Site 3. This peat is stratigraphically lower than that recorded at Sites 1 and 2 but a radiocarbon date of 6140 ± 100 BP (OxA-3307) for the peat is similar to those obtained from the base of the peats in the same section as Sites 1 and 2, perhaps indicating either a rapid accumulation of sediment between the two peat layers or a too-young result in the latter case arising from contamination with modern carbonaceous material. A return to salt-marsh conditions is indicated at Sites 1 and 2 where clays and silts are recorded as well as *Chenopodiaceae* pollen and other taxa indicative of salt-marsh. At both these two sites the local vegetation succession is seen to progress through from salt-marsh to reedswamp and then fen carr. At Site 1 a thin layer of blue-grey clay in the peat and a minor peak in *Chenopodiaceae* pollen reflects a brief marine incursion. This event is not evident in the environmental record from Site 2. However, at both sites the trend towards fresh-water fen is indicated by the occurrence of *Hydrocotyle* pollen. *Salix* pollen suggests the presence of willow carr prior to the domination of alder and birch. At Site 2 the later deposits have been eroded but at Site 1 the record extends a little further before truncation. *Alnus* values remain high while *Betula* values decline, reflecting alder's ability to tolerate occasional

marine inundations. At the same time an increase in *Salix*, Cyperaceae and Chenopodiaceae pollen indicates wetter conditions and the proximity of salt-marsh.

Comparison with Goldcliff

The sequence at Uskmouth is similar to that recorded at Goldcliff (Smith and Morgan 1989), approximately 4.5 km to the east. In both areas salt-marsh is followed by the establishment of reedswamp which in turn is superseded by carr woodland, first willow and then alder. However, at Uskmouth birch also appears to have formed a significant part of the local fen woodland. A return to marine conditions, but with carr persisting, is then indicated in both areas. Radiocarbon dates from the base of the peats at Uskmouth and Site 1 at Goldcliff are broadly comparable [Uskmouth 6250±80 BP (OxA-2627), 6260±90 BP (CAR-1178); Goldcliff Site 1 5950±80 BP (CAR-659)]. The dates for the wood peat are essentially the same [Uskmouth 5810±80 BP (OxA-2628); Goldcliff Site 1 5850±80 BP (CAR-658)]. The later deposits have been eroded from the sections examined at Uskmouth but at Goldcliff (Smith and Morgan 1989), following cessation of marine conditions, the vegetation succession progresses through from reedswamp to fen to raised bog before a reversion to reedswamp and a return to estuarine conditions again.

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Figure 3 Aerial photograph of Caldicot Castle lake excavations adjacent to the River Nedern and Caldicot Castle.

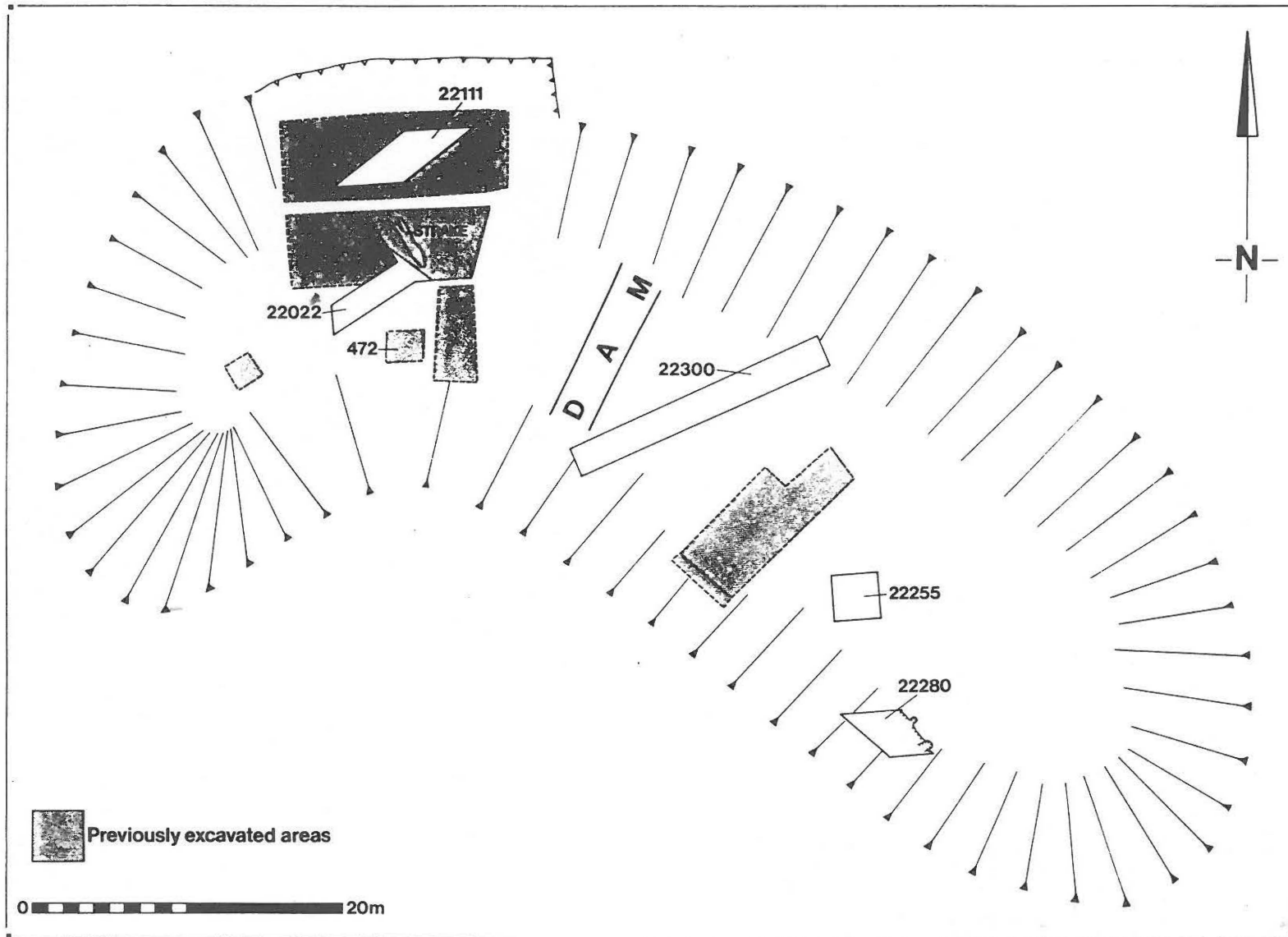


Figure 4 Caldicot excavation plan.