

Wales and the Sea: 10,000 years of Welsh Maritime History

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Chapter 3.1: The West Coast Palaeolandscape Project

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Archaeologists have long dreamed of being able to study prehistoric landscapes under the sea. We know that our earliest ancestors experienced dramatic changes in their environment and that around 12000 years ago, after the last Ice Age, during which the extensive ice sheets had made much of Northern Europe uninhabitable, temperatures became warmer, the glaciers melted and people began to spread north and west. The melt water from the glaciers caused sea levels to rise causing fertile low lying areas to be inundated, turning woodland to salt marsh and pushing coastlines back towards higher ground; gradually what is now the mainland of the United Kingdom became a separate island. At times a slow and insidious process, at times dramatically fast, the loss of familiar landscapes occurred within the memory of living generations. Spectacular evidence of this can be seen on many Welsh beaches such as Rhyl, Swansea and Goldcliff, where stumps of trees, the remnants of submerged forests, emerge from the sands at low tide (see page 21).

Our understanding of where our Mesolithic predecessors lived is gleaned from flint scatters, middens and, most strikingly, footprints of people preserved in peat that we find concentrated on coastal areas; these must be the remnants of retreating settlement as people were forced to abandon their homes that were becoming submerged. Thus much of the land where prehistoric ancestors lived is now under the sea, lost to our sight. However, recent work by the University of Birmingham has allowed us to see these submerged lands off the modern coast of Wales. Using survey data collected by commercial companies to map the seabed, the West Coast Palaeo-landscapes Project was able to look beneath the Bristol Channel and Liverpool Bay to reveal key features such as 12,000-year old river courses emptying into a substantial lake in what is now the Bristol Channel (fig 3.6)

The only technology capable of revealing these submerged landscapes, now covered with sea-bed silts, is seismic reflection survey. By sending sound waves into the sea bed, then timing the echoes that are reflected back, the type and depth of sub-surface sediments can be mapped. Recorded as a continuous trace, this gives a cross section through the sea bed. This can give a 2D survey when a single cable is used, but more useful is a 3D survey from multiple, closely spaced cables, providing data that can be viewed in section or in plan. Old river channels, lakes and hills can be mapped in this way, which can help us predict the most likely sites of submerged settlements.

Almost the whole of the Liverpool Bay was above water in the Palaeolithic period, a landscape of open tundra and floodplains cut by numerous rivers. The post glacial landscape

was cold and dry and the large floodplains would have supported grazing animals such as elk. Evidence from caves in our own landscape tell us that hunters took meat from these kills to be eaten there, while bone could be used for tool making. The inundation proceeded quickly through the Mesolithic, during which the rivers, notably the outer reaches of what are now the Mersey and Dee, would have provided passage for hunter gatherers pursuing auroch, red and roe deer and wild fowl.

The Palaeolithic landscape of the Bristol Channel was found to have been a relatively flat valley with rivers and lakes providing early man with diverse resources. Caves such as Paviland on the Gower were used as shelter. As the sea levels rose, areas of wetland and salt marsh were created until eventually the land connection between England and Wales was severed leaving only higher areas, such as Lundy, above water.

The project has shown us the importance of working closely with off-shore development such as wind farms, drilling for oil and gas and sand and gravel extraction, to ensure that the maximum information can be gleaned from their preparatory surveys. The information can help the planning process to advise developers of the position of sensitive archaeological areas which should be protected.

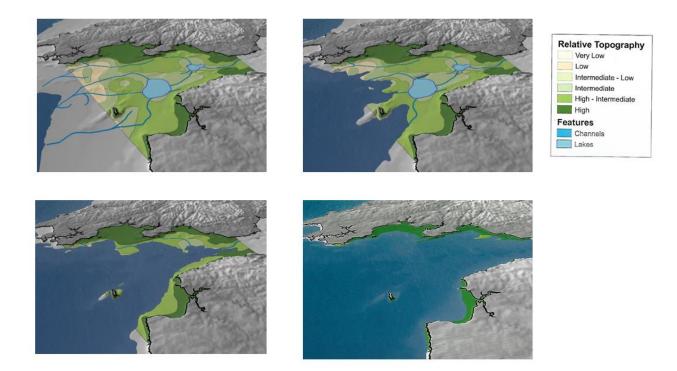


Figure 3.6 The dramatic effect of sea-level rise on our coast is shown by this sequence of images of the Severn Estuary and Bristol Channel in the Upper Palaeolithic (at about 10,000 BC and 8,500 BC), the early Mesolithic (about 7,000 BC) and the later Mesolithic (about 5,500 BC). By the end of the Mesolithic the resulting coastline was very similar to that which we know today.