

## THE SEVERN ESTUARY LEVELS: TEN YEARS PAST AND TEN YEARS FORWARD

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*This paper takes a personal view of the highlights and successes of the last ten year's archaeological work in the Severn Estuary Levels. It then attempts to identify what might happen in the next decade, and how the vast body of information that has been accumulated by a succession of multi-disciplinary projects might be co-ordinated in order to provide a much more complete and evolving picture of this remarkable region.*

### Introduction

The wetlands that fringe the Severn Estuary have produced some archaeological discoveries of outstanding importance, starting in the late 19<sup>th</sup> century with the Glastonbury and Meare 'lake settlements'. The work of the Somerset Levels Project pioneered wetland archaeology in Britain during the 1970s and 80s (Coles and Coles 1986), though since the establishment of the SELRC attention has broadened to include the North Somerset Levels, Gloucestershire and Avon and, most notably, the Gwent Levels. In this paper, some of the highlights of Severn Estuary archaeology will be summarised briefly, before discussing various of the many issues that need to be addressed in the coming years.

### The Somerset Levels

Wetland archaeology around the Severn, and indeed in Britain, began in the Somerset Levels with Bullied and Gray's work at the Glastonbury and Meare lake settlements (Bulleid and Gray 1911; 1917; 1948), though occasional wetland discoveries in that area are recorded from as early as the 1850s (e.g. Stradling 1850). This was followed by the pioneering work of Harry Godwin (e.g. 1941) on the post-glacial vegetation sequences, and John and Bryony Coles' (1986) 'Somerset Levels Project' which revealed the extent and preservation of prehistoric structures within the Brue Valley peatlands. Since then the pace of destruction through commercial peat cutting has slowed, though new threats are emerging such as agricultural 'improvement', erosion along the banks of major watercourses, and drainage and peat

shrinkage (e.g. Brunning 1997; Grove and Brunning 1998). Recent discoveries have included two Bronze Age pile alignments similar to those at Flag Fen near Peterborough, and it is worth remembering that very little survey or excavation has occurred in the extensive peatlands south of the Polden Hills, despite their proven potential (e.g. Brunning 1997).

Until the 1980s, wetland archaeology in Somerset was firmly focused on the prehistory of peatlands, but since then attention has widened to encompass the extensive alluvial marshes towards the coast, which saw widespread settlement during the Roman and medieval periods. Rippon (1997a) has provided an overall review of the evidence and has since completed a programme of fieldwork on the previously neglected North Somerset Levels (Rippon 1997b; 1998; 2000b). This project has included extensive documentary research and a survey of the standing buildings, reflecting the increasingly interdisciplinary nature of research into the Severn wetlands. Discoveries have included evidence for Late Iron Age salt production, an early Romano-British ditched enclosure system, and late Romano-British reclamation probably associated with the construction of the well-appointed villa at Wemberham. Though work on the reclaimed landscape of the North Somerset Levels has taken place within the controlled environment of a research project, equally valuable work on interestingly very different Romano-British landscapes has occurred elsewhere on the Severn Levels, within the context of development-led work (notably in advance of the Alternative Bird Feeding Grounds, Gwent Europark, and Nash Sewage Works on the Gwent Levels, and Second Severn Crossing on the Avonmouth Levels).

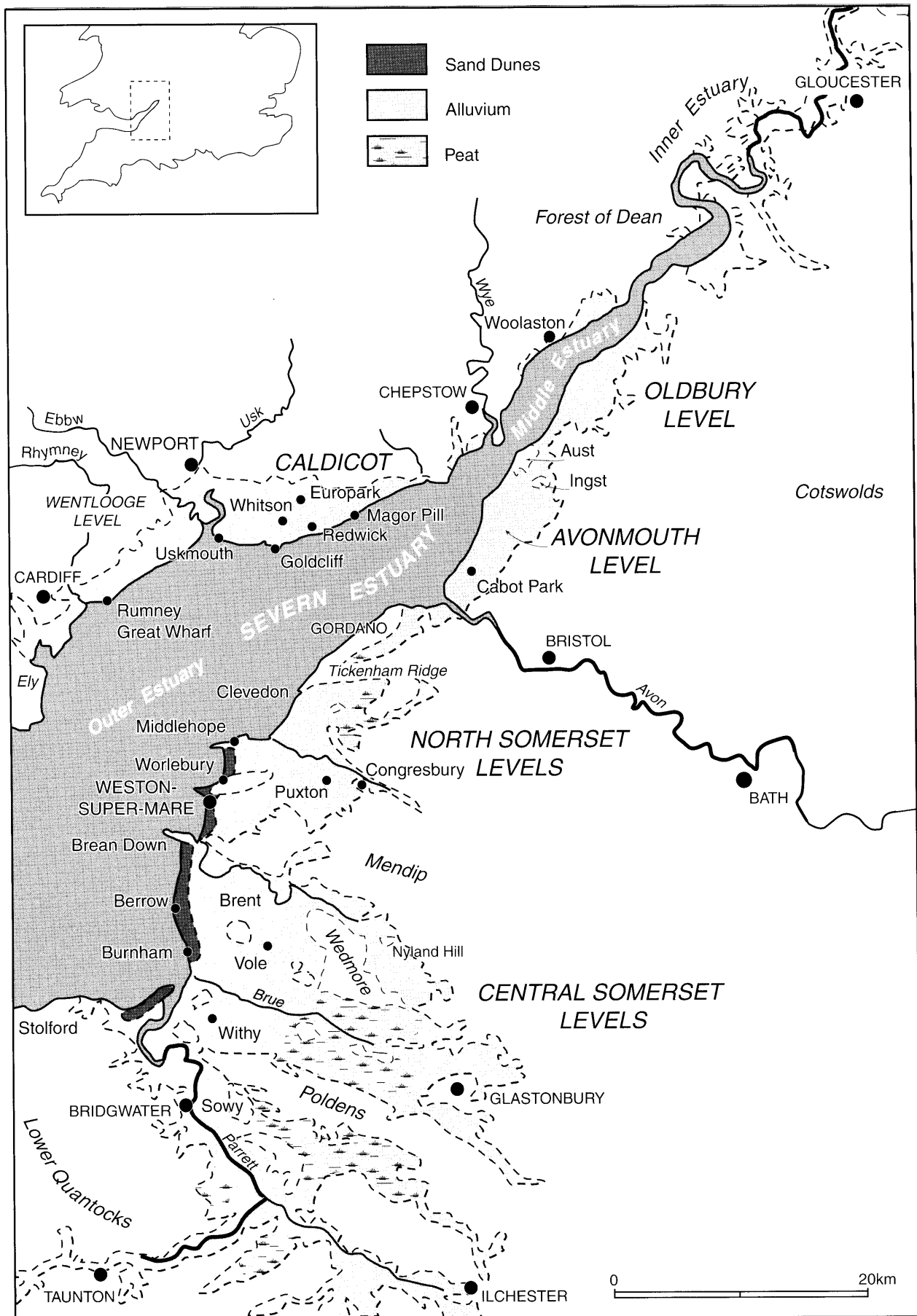


Figure 1: Map of the Severn Estuary Levels showing the places referred to in the text.

This illustrates a key feature of the Severn Estuary archaeology: the importance of integrating development-related work within research-led frameworks.

Another key theme has been the integration of a wide range of source material, most notably for the historic period. This was begun by Williams (1970) in his seminal study of *The Draining of the Somerset Levels*, and developed by Rippon (1997a) in his overview of the Severn Levels during the medieval period: it is testimony to the pace of work around the estuary that the latter is already in need of revision! Two key themes that have emerged during the 1990s are the need to carry out further documentary research, and to test through fieldwork models for how the historic landscape has emerged. Musgrove (1999) has made an important start in looking at the wealth of material left to us by Glastonbury Abbey, while analysis of the historic landscape in the North Somerset Levels, along the same lines as that for the Gwent Levels (see Rippon this volume), has led to a programme of carefully targeted fieldwork designed to test the models for landscape development.

### The Gwent Levels

The Gwent Levels have consistently produced the most exciting archaeological discoveries in Wales over the past ten years. These remarkable finds include the Bronze Age site at Caldicot with its Middle Bronze Age boat, Late Bronze Age landing stage and the oldest bridge in the Principality (Nayling and Caseldine 1997), the Romano-British boat at Barlands Farm, apparently stranded over 3 km from the sea (Nayling *et al.* 1994), and the Iron Age site at Goldcliff, which when swept clean

by the sea, proved to have the most extraordinary array of wooden structures exposed anywhere at any one time (Bell *et al.* 2000).

These archaeological excavations have also had a heroic quality, with something of the romance of the pioneering days of archaeology. Our colleagues have overcome harsh and unforgiving natural conditions and considerable logistical barriers to achieve their goal – though with a cosy pub within easy reach at the end of the day! It is hard to forget Nigel Nayling's hoarse voice emerging from a mud-encrusted wetsuit late one August night when the Magor Pill Boat was finally lifted. Or the team from the Glamorgan-Gwent Archaeological Trust trying to rescue the Iron Age buildings in advance of the vast array of machinery constructing the foundations for the enormous Wilkinson's Distribution Warehouse (Figure 2). The small team working on the Second Severn Crossing will for ever remember the day they had to keep standing in the effluent outflow from the Sudbrook Paper Mill, to thaw themselves out sufficiently to sledge off the 14th-century fish basket they had recovered (Godbold and Turner 1994). Once the Severn mud has penetrated into your clothes and your skin, the smell, and perhaps the thrill, never leaves you.

Less spectacular, but perhaps ultimately more influential, has been the work on the historic landscape. This began with the demonstration by John Allen and Mike Fulford that a Romano – British landscape survived in parts of the Wentlooge Level (Allen and Fulford 1986; Fulford *et al.* 1994). This potentially gave a context to the Goldcliff inscription and revealed a great feat of ancient civil engineering, though the initial vision of all the Gwent Levels being reclaimed by Roman legionaries (Boon 1980) has since been tempered, as it has been revealed that most



Figure 2: Excavations at the Wilkinson's Distribution Warehouse Site on the Caldicot Level.



Figure 3: A parish map (Redwick) from the Commissioners of Sewers maps of the Caldicot Level (Gwent Record Office D.1365/2). Copyright: Gwent Records Office.

if not all of the Caldicot Level remained as a high intertidal marsh. The work of Allen and Fulford provided the preliminary to Stephen Rippon's study of the historic landscape of the Gwent Levels (Rippon 1996), which made extensive use of a remarkable set of maps produced in 1830-31 by the Commissioners of Sewers, and now in the Gwent Record Office (reference nos D.1365/1-2 and D.2282/1-2: Figure 3). The value of documentary evidence in that and other investigations should also not be forgotten.

It can be argued that this very modestly-funded project has changed the fate of the Gwent Levels, from almost total destruction by industrial and other development, to one of the conservation successes of the decade. Firstly it forged the first real bond between the Countryside Council for Wales and the archaeological community. CCW had very courageously designated nearly all of the under-developed reclaimed land of the Gwent Levels as an SSSI, a process which began in 1982 and took until 1993 to complete, because so many landowners and occupiers were involved (CCW 1998). However, the basis of the SSSI was the reen and ditch system, and particularly the range of plants and invertebrates

that it supported. The ecological value depended on the periodic clearance of the different classes of reens and ditches at different intervals. The surface of the fields themselves had no protection, and duckweed and midges do not have the same emotive power as orchids and the red kite. If developers could maintain or replace the total length of reens on their proposed sites, it was hard for CCW to defeat planning applications, but the historic landscape provides the key, for it gives meaning to the existing drainage system and the landscape as a whole. People can recognise the endeavour that goes into creating and sustaining this landscape; the reasons for its survival are tangible and visible, and mitigation by laying out replacement ditches within a modern development is no longer sufficient compensation for the loss of the historic landscape.

The Gwent Levels Historic Landscape Survey was also largely responsible for the radical alterations to the preferred route of the M4 Relief Road. A £40,000 study led to the moving of a proposed £350 million motorway. Though the preferred route remains on the Levels, it now runs hard up against land that had already been designated for industrial and housing developments. If built it may provide

an effective cordon to future expansion and so preserve the remaining landscape. Newport Borough Council's draft Unitary Development Plan also shows a complete change of heart compared to the earlier 1990s, in which it is now trying to retain all the undeveloped Levels within its boundaries for their nature conservation, archaeological and landscape importance, rather than seeing it as prize development land.

### Gloucestershire

The areas of estuarine alluvium in Gloucestershire have not yielded such spectacular finds as those from the Gwent and Somerset Levels, though the steady accumulation of evidence is revealing a similar intensity with which they were exploited in the past. A key theme that has emerged here, as throughout the Estuary, is the extent to which communities on both the English and Welsh sides were economically (and socially?) linked. Probably the most important of the early archaeological investigations within the ambit of these Levels were at the Chesters villa (Scott Garrett 1938) on the west bank and the nearby Lydney Park Farm 'villa' (Hart 1967; Fitchett 1986). It has since been established that at the Chesters iron-smelting took place on an industrial scale (Fulford and Allen 1992), and similar activities apparently occurred at Lydney Park Farm (Allen 2001 forthcoming a). Indeed, rural craft production is surprisingly common on Romano-British sites around the Severn Estuary, on the English side in Gloucestershire (Allen and Fulford 1990b; 1992; Allen and Rippon 1997), at Rumney Great Wharf on the Wentlooge Level (Fulford *et al.* 1994), and Kenn Moor on the North Somerset Levels (Rippon 2000b). The distribution of ore from the Forest of Dean and possibly other sources in the Bristol Channel orefield, indicates the extensive use of water transport on the Estuary, a tradition that the distribution of pottery suggests can be traced back to at least the late Iron Age (Allen 1998b; 1999a; Allen and Fulford 1996). The importance of water transport is also reflected in the remains of medieval quays encountered at Hill (Allen and Fulford 1996) and Woolaston (Fulford *et al.* 1992; Allen 1996). The estuary was even more important as a highway in early modern and modern times, as testified by the surviving physical evidence for fisheries, boats and waterfront structures (Green 1992, 1995, 1996, 1999; Parker 1998; Townley 1998; Allen 1999a).

As in the Gwent Levels, intertidal survey has revealed important discoveries in the Gloucestershire

part of the Severn Estuary, when two local enthusiasts (Green and Solley 1980) and a student (Copeland 1981) described substantial assemblages of Romano-British pottery from the eastern shore at Oldbury Flats and Hills Flats. Subsequent work showed that not only was pottery of this period present at numerous, widely scattered sites, both intertidal and on the alluvium, and on both banks of the estuary, but that it was accompanied by a rich variety of other occupation debris (Allen and Fulford 1987, 1990a, 1990b, 1992; Allen and Rippon 1997; Allen 1998a, 1990). The existence of these numerous settlements, that at Oldbury on Severn probably being the largest and of highest status, and the lack of substantial post-Roman alluviation, implied that much of the alluvial outcrop had been embanked and drained in Roman times.

None of these sites have so far been subject to proper excavation, and indeed, of all the alluvial wetlands that fringe the estuary in the former county of Gloucestershire, only the Avonmouth Levels have seen substantial excavations prompted by the ongoing industrial expansion. Key sites include the prehistoric settlements at Kites Corner and Hallen, Romano-British enclosure system at Northwick, and medieval sites at Seabank and Rockingham Farm (Barnes 1993; Insole 1997; Locock and Lawler 2000).

### 'Events'

No area of land is immune from 'events' as the late Harold Macmillan described the unexpected in politics, and in the past ten years the Severn Estuary and its Levels have seen a number of 'events' that could affect their future. Though plans for the Severn Barrage (which provided an initial stimulus for the creation of the SELRC in 1987), are in abeyance, another major infrastructure development – the Second Severn Crossing – has cut a swath across both the Avonmouth and the Gwent Levels. The Alternative Bird Feeding Grounds, created between Uskmouth and Goldcliff, and the LG development, which impinged upon the Wentlooge Level west of Newport, were both the result of political decisions in which arguments for conservation played little part. Changes in land ownership, the problems faced by farmers, and the depletion of fish stocks are beginning to change practices which have been carried out for centuries. It is ironic, for example, that the excavation and classification of fishtraps, which was almost invented on the Gwent Levels (Green 1992; Godbold and Turner 1994; Nayling 1999), should have occurred as the last working

fishtraps in Wales, at Goldcliff, were nearly put out of business by the hugely inflated cost of fishing licences.

These changes in traditional practices mean that efforts should be made to rescue the oral traditions as much as rescuing the archaeology. We can learn so much from men like Neville Waters, former chairman of the Internal Drainage Board, who has now left farming and the Levels. He describes the winter task of casting (cleaning) and laying the grip systems by hand, features that we now treat as archaeological. There is Derek Huby, from up the Severn at Awre, who is the last maker of basket fishtraps, and operates one of the last putcher ranks. Mr J Neal of Middle Newton Farm on the Wentlooge Level, is one of the last farmers still to graze livestock on the saltmarsh. Finally there is Derek Upton, who, through his remarkable discoveries, has introduced so many archaeologists to the riches and challenges of the estuary.

Recent years have also seen the centralisation of power and decision making on the Gwent Levels, for example, diminishing the communal practices that have sustained the area for hundreds of years. The hierarchy of drainage features, which had been managed as a single system by the Commissioners of Sewers, has been broken down. The Environment Agency now takes responsibility for the seawalls and the major reens, leaving the Caldicot and Wentlooge Internal Drainage Board to deal with the rest. No longer do local residents take responsibility for the protection of their land and homes, and major developers assume that central government will continually reinforce the sea defences, to provide permanent protection for their investment. The recent extensive flooding in England and Wales, and the inexorable rise in the sea level, emphasises the potential risks of developing land which, but for the quite fragile flood defences, would be covered by water with increasing frequency.

The 1990s also taught us how to become ever more cost-effective in the archaeological projects that we have undertaken. Caldicot Castle Lake remains the most expensive archaeological project in Wales to date, for Cadw at least. Elsewhere, collaborative funding has been a great success, most particularly with the Magor Pill Boat, where a single phone call to Laing-GTM, the consortium then building the Second Severn Crossing, ultimately led to their remarkably generous and highly-skilled role in lifting what remained of Wales' Mary Rose intact. It is hard to imagine the circumstances for such a project

occurring again. Martin Bell, firstly at Goldcliff and now Redwick, has developed, perhaps in the face of Cadw's financial cautiousness, a low-tech, low-cost but highly-effective style of excavation, in which, without any of King Canute's supposed vanity, he works with the sea and the vagaries of the sediment that it carries, rather than trying to compete with it. As a result, whole buildings are excavated, analysed and recorded, at far less cost than equivalent building footprints on a dry land site, where the wood had decayed. Throughout the intertidal zone, work must be opportunistic, for example recording areas of peat shelf swept clean by storms, and eroding areas need to be regularly monitored.

### Wetland Archaeology and the Public

The remarkable discoveries from the Severn wetlands have presented local museums with both problems and potential opportunities, as they have faced the task of conserving the remarkable wooden objects and structures that have been so painstakingly recovered and recorded. Several of these great finds from the Gwent Levels have now been through the conservation process, notably the boat strake from Caldicot, buildings 1, 2 and 6 from Goldcliff, and the Barlands Farm and Magor Pill Boats. It is, however, a great disappointment that as yet none of these finds are on public display, and that plans for a new museum in Cardiff Bay and for galleries devoted to the Levels at Caldicot Castle have been shelved, though the display of the Barlands Farm boat is eagerly awaited at Newport Museum. Since the retirement of Bob Trett, the SELRC has failed to include any museum archaeologists in their steering committee, a situation that urgently needs to be addressed.

The presentation of wetland archaeology to the public has been more successfully achieved in Somerset. The Peat Moors Visitor Centre, established by John and Bryony Coles' Somerset Levels Project, and now managed by Somerset County Council, attracts some 10,000 visitors a year to see reconstructions of prehistoric trackways (including the Neolithic Sweet Track) and buildings from the Glastonbury Lake Village. Other finds from the Somerset Levels can be seen in the Tribunal Museum, Glastonbury, and the County Museum in Taunton.

Academic publication of these results of the work in the Severn Levels has been a great success, following the example set by the Somerset Levels Project (Coles and Coles 1986; *Somerset Levels*

*Papers*). Work in the 1990s on four major projects on the Gwent Levels has been published as monographs in the Council for British Archaeology's Research Reports series (Rippon 1996; Nayling and Caseldine 1997; Nayling 1998; Bell *et al.*, 2000) and a fifth, on the Barland's Farm Boat, is forthcoming. The results of other projects have been published in prestigious international and national journals, such as *World Archaeology*, *Antiquaries Journal*, *Archaeological Journal*, *Britannia* and *Medieval Archaeology*. Fieldwork on the Welsh side of the estuary was even extensively cited in English Heritage's report on *England's Coastal Heritage*, (Fulford *et al.* 1997). The quality, volume, variety and timeliness of these publications is as good if not better than any of the great wetland projects undertaken elsewhere in Britain, and because a wide range of vehicles – all independently refereed – have been used, they have reached a very wide academic audience.

However, set against this success in the academic world has been the failure to communicate the interest of our work to the wider public, which has to be linked to some extent with the problem of museum display. Some projects have attracted considerable media interest – particularly the lifting of the Magor Pill Boat, which was a cliff-hanger on the national news for several nights. Time Team have visited the Somerset Levels, but despite their coverage of the excavation of 'Seahenge' in Norfolk, have yet to be persuaded to return to the Severn Estuary Levels. Overall, we need to concentrate on reaching out to a wider audience, perhaps by following the example of the excellent fold-out map – *Archaeology of the Tidal Thames* – produced by the Thames Archaeological Survey, and by developing the existing SELRC website.

### Looking to the future

So much for the past ten years, what of the next? The optimism of the 1990s needs, perhaps, to be tempered. Several factors are at work. On the Welsh side of the Estuary, Derek Upton is for the moment not as active as he has been. He has made nearly every important discovery over the past ten years, and we professional archaeologists are still trying to cope with the consequences. Until someone else develops his eye and spends the same amount of time on the foreshore, further new discoveries will be far more intermittent. There is also a desperate need to achieve a comparable level of general reconnaissance on the English side. Also on the foreshore, the

majority of finds have been revealed by the differential erosion of the mid-tide peat shelf (Allen 2001 forthcoming c), which is where the Gwent Levels seem to do so well compared to the rest of the Severn Estuary, as the peat shelf is exposed for kilometres at a stretch, and over considerable widths at one time. This fact makes Heike Neumann's survey of the Gwent foreshore (Neumann 2000, 282–320) so valuable as a benchmark to measure the rate of erosion and to plot new discoveries in relation to sites that will soon disappear. Given that it is the intention of the Environment Agency to maintain the seawall in its present position and sea-level is steadily rising, then erosion of the peat shelf will continue only up to point where additional forward protection of the seawalls is required, as has begun to happen at Rumney Great Wharf. The opportunity for future archaeological excavations may therefore be time-limited.

There are also more limited opportunities derived from major commercial development in those areas presently designated for industrial use. The M4 Relief Road, if built, will be on an embankment providing little opportunity to record buried archaeological remains. Developers are being encouraged by their archaeological consultants, and the planning authorities by their archaeological curators, to use construction methods that do not impinge below 'the historic landscape' into the potentially archaeological rich layers beneath. There can be clear economic incentives in doing so, but the major factor must be to avoid what is now recognised as a powerful constraint upon development: the archaeological importance of the area. This may lead to archaeological fieldwork being focussed on unravelling the historic landscape which, as Rippon has pointed out (1996; 1997a; 2000a; and this volume), is yet to reveal all its secrets. The one major site in the Gwent Levels to be radically affected by the proposed M4 Relief Road is a complex of moated platforms and apparently 13th-century buildings at Broadstreet Common. There may be some opportunities to section reens and drains, and investigate the sites of stanks (sites of temporary dams) or gouts (sluices/tidal flaps which opened through the seawall) to show how these vital structures evolved. Just as it is to be hoped that, if built, the new M4 will act as a barrier against further urban and industrial sprawl onto the Levels, it must also be hoped that the M5 does the same in Somerset, notably around Weston-super-Mare, the expansion of which is occurring with so little regard for cultural heritage.



### The need for synthesis

After all this fieldwork, the next stage of work must be to begin to assimilate the great body of data gathered by all the disciplines over the past decade, most recently through the numerous PPG16 related evaluations, and begin the challenge of reconstructing the succession of environments that developed in this region over the past 12,000 years. Ursula Maier and Richard Vogt's paper (this volume) on the Neolithic landscape of western Lake Constance has shown what can be achieved if a multi-disciplinary project can be sustained over an extended period.

The pioneering work of John Allen provided a generalised model for the Holocene sequence around the Severn Estuary, though the evolution of these estuarine environments remains in many respects ill-understood (Allen 2000). The first challenge is to reconstruct palaeotopographies at key points in the sedimentary sequence, and explain the very complex relationship between the land surface and the position of the sea: 'Where is the sea?' is the fundamental question at all periods in the Severn Estuary. The position and shape of the main estuary and its tributaries, the tidal range and the consequential mean high water mark, the volume of sediment carried by the river, the presence of transient barriers such as gravel banks or sand dunes, the relative frequency of storm surges and other infrequent events, all affect how much land there is available and what environments it is capable of sustaining.

The first attempts are being made through the collation of borehole data, such as Housley *et al.*'s (2000) work in the Brue Valley, and Allen's (2001 forthcoming b; and this volume) study of the Gwent Levels. Despite intensive investigations in areas such as Goldcliff (Bell *et al.* 2000), the remarkable window into the deep Holocene sequence that is afforded by the intertidal zone has not yet been exploited to its full potential, although John Allen and Simon Haslett are now recording the long sections exposed on the foreshore, in order to better understand the interaction of sedimentary processes in the Levels. There is also a need for more multi-proxy palaeoenvironmental analysis to understand the processes at work within the Estuary, and the work of Ben Horton (this volume) and Simon Haslett and his colleagues (this volume) has shown how very sophisticated models can be developed. Infuriatingly, however, the many land surfaces contained within the Holocene sequence are not preserved at their original height, as differential consolidation and

compaction by later sedimentation, particularly of peat soils, cause often unquantifiable lowering of the absolute heights of former ground surfaces, affecting the success of correlating one sequence to another and reconstructing past topographies (Allen 1999b). A key issue is that of sea level movement over the past 2,500 years, a period for which we lack peat deposits, and for which we need to develop textural, micromorphological and chemical analysis on suspected buried surfaces (e.g. Rippon 2000b).

Chronology also remains a problem. Radio-carbon dating is the main technique for most key surfaces but it remains a coarse way of correlating them over wider areas. Some examples, such as the late Mesolithic and Neolithic 'submerged forests' and those associated with wooden structures, offer the chance of much greater chronological refinement through dendrochronology. Some large-scale archaeological projects, such as at Goldcliff and those associated with major developments such as Cabot Park (Avon Levels) and the Gwent Europark (Caldicot Level), cover such large areas that subtle variations in the topography can be recorded and the results could perhaps be applied across wider areas of the terrain. A greater problem is dating surfaces without sufficient organic material, as experiments with archaeomagnetic dating have not on the whole proved successful (see Locock this volume).

Having found the land, the next stage is to picture the environments that it supported. Recent research has moved away from descriptions of the environment at a sub-regional level, normally using pollen analysis, to much more site-specific indicators such as plant macrofossils, insects, diatoms and foraminifera. Martin Bell and Ben Horton (this volume) have described how effective these can be in revealing very localised changes in the environment, and in identifying seasonal changes in activity. Frustratingly, only tiny fragments of these environments survive today – small areas of saltmarsh, and some fen woodland on the Magor Marsh Nature Reserve – which might allow us to visualise what the Levels may have looked like in prehistory. How far these residual analogues can allow for a comprehensive reconstruction of the environment awaits to be seen.

Feeding in these environments were a wide range of animals, birds and fish (see Bell this volume). The thought of aurochs lumbering about the creeks, and herds of red deer grazing the saltmarsh, are hard to equate with the coastal fringes of modern South Wales or Somerset. The pre-reclamation marshes would have been alive with



waders, wildfowl and birds like the stately crane, while migratory fish, salmon, sea trout and eels must have been abundant in the adjacent Estuary. It would have been a remarkably resource-rich environment, of which we now see hints following the breaking of the shingle barrier in Porlock Bay on the west Somerset coast, and the development of a new intertidal wetland behind.

Man is but one animal in this specialised environment, but one who becomes progressively more dominant later in prehistory, and from the Roman period seeks to take control. Rippon (2000a; and this volume) has outlined the range of options that were open to human communities in determining how they could utilise the rich resource potential of these environments. In the beginning they rarely leave more than footprints, giving the sense of an opportunist interest in hunting and gathering. By the middle Bronze Age, trading and transport links were established while from the late Bronze Age, settlements appear, and cattle and to a lesser extent sheep were brought to graze. A great challenge will be if the development of increasingly refined sedimentary, topographic and environmental models can provide a more successful way of predicating where such ephemeral settlements remain, buried by the later alluvium.

Though the Gwent Levels are so far alone in having benefited from a detailed historic landscape characterisation, it is clear that there was remarkable diversity in how the Severn Levels were embanked and enclosed during the medieval period and a vast amount of information remains locked-up within the historic landscape (Rippon 1996; 1997a; 2000a; 2000b; and this volume). These landscapes were created through remarkable feats of engineering, and although the basic drainage system of today is understood (e.g. Rippon 1996; 1997a), the practicalities of water management in the past has seen little attention (but see Allen and Rippon 1995; Rippon 1999, 117-20). Although the locations of many sea banks, flood banks and some outfalls have now been established, these critical monuments have been much abused and otherwise neglected. No Roman or medieval seabank has been physically dated or even excavated in order to discover how it was constructed or maintained. The chances of achieving a better understanding are now small, given the unprotected status of the banks and outfalls and the extent to which they have been damaged or destroyed by landowners and the authorities. The mid-eighteenth century outfall conserved at Hill (Wilson 1993) is, however, a glaring exception and an example of what can be achieved.



Figure 4: A field meeting of the SELRC at the Goldcliff excavations in 1994.

This is a substantial research agenda, and harder to imagine than what might be achieved, is how it can be achieved. Traditional Sites and Monuments Records cannot cope with this level of detail, though increasingly sophisticated Geographical Information Systems would allow the topographical and environmental models to be built up as more and more data is assimilated. Inevitably in some areas the picture will be very detailed but in others rather broad brush. This would provide a rather static presentation of the material, which could be enlivened by computer graphics to introduce the herds of animals, and the reconstruction of the archaeological sites.

It is very encouraging that so many people who are interested in 'Estuarine Archaeology' should look towards the work being done in the Severn Estuary for inspiration. The community of specialists, professional and amateur fieldworkers which the Severn Estuary Levels Research Committee has fostered over the past ten years is rare and special (Figure 4). The great wetland projects in England have come and gone, but the SELRC survives and continues to widen its embrace. The main challenge faced by the committee is to find funding sources to allow the development of the understanding of this remarkable environment to move onto another plane and into more dimensions.

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