

## 6. Time and tide: five millennia of environmental change and human activity on the banks of the Suir

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Illus. 1—Location of Site 34 at Newrath townland, Co. Kilkenny (based on the Ordnance Survey Ireland map)

Talking about his dark 1970 Korean War comedy *M\*A\*S\*H*, the late Hollywood filmmaker Robert Altman said that he did not direct the film—it just escaped. Looking back on the six months my crew and I spent excavating Site 34, Newrath, Co. Kilkenny (Illus. 1), I know exactly what he meant. Affectionately known by our team as ‘The Bog’, this wetland archaeology site was excavated by Headland Archaeology Ltd on behalf of Waterford City Council, Waterford County Council, Kilkenny County Council and the National Roads Authority prior to the construction of the N25 Waterford City Bypass (NGR 259040, 114340; height 8 m OD; excavation licence no. 03E0319). As summer turned into winter it descended into a quagmire. One morning we arrived on site to find the whole area submerged beneath water over 1 m deep. Freak storms had combined with spring tides and you could canoe from one side of the valley to the other. But, miraculously, the waters receded and we lived to tell the tale.

## **‘The Bog’**

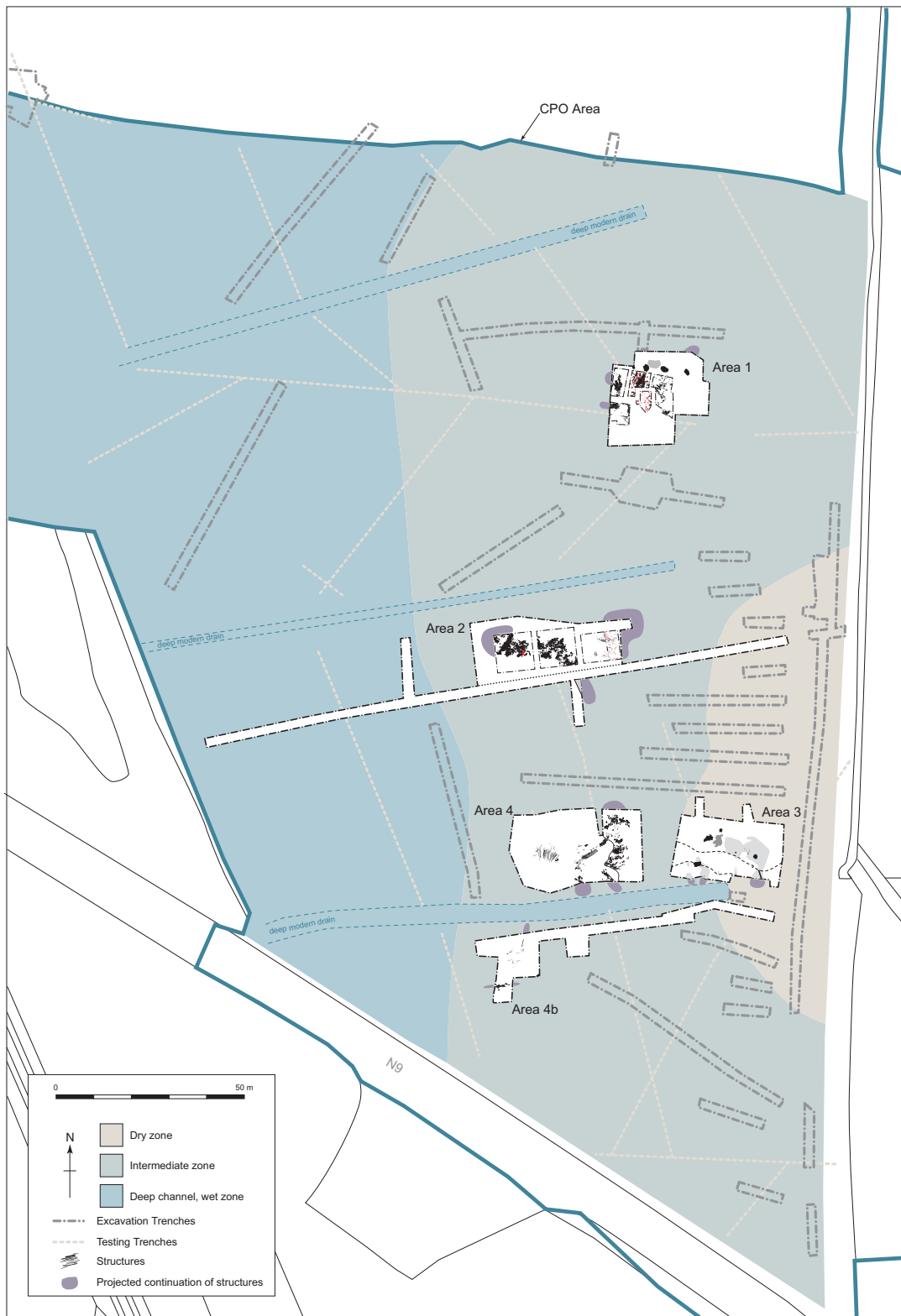
These may well have been the harshest conditions I have ever worked in, but I also have to admit that it was the best archaeology I have ever excavated. Site 34 was an exceptionally well-preserved multiperiod site comprising 21 individual structures and five areas of activity, with almost every chapter of human history represented in the same excavation. There were Mesolithic flint scatters on what would have been a dryland surface at the water’s edge; Early Bronze Age trackways intended to cross boggy ground to reach the open water; a Bronze Age burnt mound on the edge of the wetland area; Iron Age hurdles to cross tidal creeks for saltmarsh grazing; medieval platforms for the same purpose; and a 19th-century brick kiln, making use of the abundant alluvial clay.

As well as posing a technical challenge, multiperiod sites like Newrath present us with an excellent opportunity to understand how cultural and social practices change and continue over time. But what was quite surprising about Site 34 was that we were not expecting to find any significant archaeological remains in this landscape. Although similar landscapes have yielded a wealth of archaeological information in Britain and mainland Europe, this was one of the first times such a site had been excavated on a road scheme in Ireland. And as a consequence of no major work having been undertaken previously in similar conditions, our starting assumption was that this type of landscape was archaeologically marginal and would not reward extensive investigation.

Nonetheless, the wetland area was subject to the same levels of scrutiny and rigour as any of the land within the proposed road scheme, and an extensive array of test trenches was excavated. This identified a potential brushwood structure in what would later be designated Area 1, and a possible trackway in what would become Area 4. Initially we only opened Area 1 for excavation, which allowed us to assess the character and preservation of the brushwood structure. Once we were certain of what we had found and had taken further expert advice, a programme of additional testing was conducted across the rest of the wetland area. This meant that we could target our resources on the most promising and informative features, leading to the excavation of three additional areas (Illus. 2).

The quantity and scale of the archaeological remains suggested that Site 34 had been part of a very active landscape, but it is not just the events that take place on a site that determine how much we find. What survives is also a product of what archaeologists call the ‘burial environment’. Occasionally this will be exceptionally favourable to archaeological remains, either because it is waterlogged, frozen or so dry that the natural processes of microbacterial decay are slowed to a halt. Situated in an alluvial and estuarine landscape, the wet conditions of Site 34 meant that, as well as quantity, Newrath had exceptionally well-preserved archaeological deposits. Archaeologists would describe this as spatial and temporal patterning from the Mesolithic period to the present day. This means that in different parts of the wetland area, and at different depths below the present ground surface, we encountered archaeological material and environmental evidence relating not just to different periods but also to different types of landscape.

We habitually think of landscapes as ‘natural’ and ‘unchanging’, so in looking out over Site 34 today it takes a leap of faith to imagine that what we would now class as marginal pasture was formerly an important resource over many periods. Located on a shelving terrace on the edge of the River Suir, we were excavating through deposits over 3 m deep that had accumulated since the end of the last ice age. As the landscape was gradually



*Illus. 2—General site plan of Site 34 at Newrath townland, showing the location of all four excavation areas and hypothesised zones of archaeological potential (Headland Archaeology Ltd)*



*Illus. 3—Section photograph with archaeological phases indicated relating to different depositional environments (Headland Archaeology Ltd)*

transformed, a new layer of earth was deposited or eroded away, leaving a visible and permanent record of those changes in our section drawings (Illus. 3). These layers of different coloured and textured deposits—wood peats, reed peats and estuarine silts—all indicated what the landscape had been like, while the artefacts and structures contained within them also indicated what people were doing in the landscape at particular times.

While specialist environmental analysis of sample materials like pollen cores can give us a framework or a context to understand what kind of landscape people were living in, it is the structures we find and the artefacts associated with them that provide the tantalising clues as to what people were doing in those landscapes—how they were living, how they were working and, sometimes, even how they were thinking (Illus. 4 & 5).

### **From the water's edge to the settled slopes**

A scatter of five Later Mesolithic Bann flakes (chipped stone flakes 40 mm in width, trimmed at one end and then hafted to a wooden shaft, some of which have been interpreted as the prongs of fish-spears) represented the first clearly identifiable archaeological activity on Site 34. At this time a soil profile was yet to develop on the site and these artefacts represent dryland activity at the water's edge. The hunter-gatherers of the Mesolithic period lived in small mobile groups, a way of life similar to that of Australian aborigines in the early modern period. To the 21st-century mind-set that is a loaded comparison, because we are inclined to think of history as progress, with ourselves at the pinnacle and people at the beginning of the journey as primitive and backward. But you only need to spend five minutes watching people try to put tents up at a campsite or trying to light a barbecue before you realise that we might not be as advanced as we like to believe.



*Illus. 4 (left)—Excavation team cleaning peat from an early medieval platform in Area 2 prior to recording and sampling (Headland Archaeology Ltd)*

*Illus. 5 (below)—Iron Age trackway in Area 1 being drawn to ensure that the exact location of all worked wood was fully recorded (Headland Archaeology Ltd)*



These small populations of hunters and foragers were physically and mentally similar to us, with the major difference that they would have had no problem in finding food or making shelter in a landscape they would have known intimately. The small-scale Mesolithic activity recorded at Site 34 fits with this picture. Perhaps taking advantage of local channelling, pools and stream eddies, hunter-gatherer groups would have used the dryland/wetland margin for hunting, fishing and fowling or for gathering starch-rich roots.

During the Mesolithic period this was an open-water environment, but it was in the process of changing, being steadily colonised by freshwater reed swamp. This created the favourable conditions for a much more established colonisation by carr woodland (a marshy copse of water-tolerant trees and shrubs)—a change recognised in stratigraphic sections at around 3710–3620 BC (SUERC-10126; see Chapter Five entry in Appendix 1 for details of SUERC dates), with an associated steady accumulation of sediment that lasted for approximately 600 years. Pollen diagrams indicate that this was at first an oak-dominated woodland, giving way to alder, hazel and other water-tolerant species. Perhaps because tree cover was too dense at this time, we have no evidence for human activity during this phase or immediately before it.

Significant Neolithic activity was recorded, however, on two adjacent sites to the east, Sites 35 and 37, which include three structures and three pits with deliberately deposited objects of ritual significance (Site 35: NGR 259210, 114460; height 15 m OD; excavation licence no. 04E0319; Site 37: NGR 259260, 113500; height 18 m OD; excavation licence no. 04E288). Excavation director Joanna Wren excavated two Neolithic plank-built structures on Site 37 approximately 150 m south-east of Site 34. These were isolated farmsteads surrounded by tilled fields and penned animals and were much more permanent settlements than anything that had ever been seen during the Mesolithic period, when mobile populations lived in temporary camps, moving on a seasonal basis. The big change that accompanied sedentary settlement based on farming was an increased investment in the landscape, an increase in risk should anything go wrong, and a change in the perception of nature. We can see this changing outlook expressed at Site 35, approximately 100 m to the east of Site 34, excavated by Joanne Hughes, where a semicircular Neolithic structure was excavated adjacent to three pits of ritual significance. Stone objects deposited in these pits included a core, flakes, a bead and a polished stone axehead. These were high-quality objects but were not deposited in a pristine condition, and they were placed alongside deliberately broken pottery.

Artefacts can pass through many different hands over the course of their life history, acquiring a meaning or a biography in the same way that heirlooms do for us today. The stone core had been used to produce flakes, but had then been discarded and the surface subsequently weathered to a dull sheen. It was then used once again at a later date, and this life history may provide clues to the reason why it was retained and deposited with the other artefacts. The ritual deposition of these symbolic objects may have been a way of renewing a bond with a place that these people had chosen to call home, perhaps continuing a tradition that began with their ancestors and formalised a link with the land.

## **Bronze Age trackways and freshwater swamp**

In the Bronze Age the environment changed again, with a gradual replacement of alder-dominated fen carr with a *Phragmites*-dominated reed swamp that lasted from 2880–2620



*Illus. 6—Area 4, looking north, indicating the main trackway surrounded by our own plank walkway (Headland Archaeology Ltd)*

BC (SUERC-10125) to 540–370 BC (SUERC-10127). A similar environmental change has been identified at other estuarine sites in Britain and Ireland, and is the result of much wetter conditions—both groundwater rise and rising sea levels. As tree cover diminished, the landscape became more accessible and, not surprisingly, we find trackways and platforms at Newrath to aid people’s access across the reed swamp to the water’s edge.

In Area 4 evidence was found for six brushwood structures on an old shoreline leading to two substantial timber trackways. The first trackway produced a date range of 2200–1980 BC (UB-6908; see Chapter Six entry in Appendix 1 for details of UB dates). It was 3 m in length and composed of parallel roundwoods laid side by side (Illus. 6). The second trackway was 4 m long and constructed of thin roundwoods laid side by side and secured by upright pegs. Whereas the first trackway was narrow and appeared to cross a small pool, the second was considerably wider. It could have functioned as a platform, perhaps for launching boats; a possible fishing-weight was found nearby.

In the later Bronze Age, the freshwater reed swamp was becoming much more established at Site 34. In Area 3 we found a burnt mound on a distinct rise of higher, drier land on the eastern margin of the site. Burnt mounds, or *fulachta fiadh*, are one of the most numerous site types excavated in Ireland but also one of the least understood. They are characterised by a trough, into which hot stones were placed to heat water (Illus. 7). Once the water had been heated, the used stone was then cast out of the trough, eventually building up as a horseshoe-shaped mound. The burnt mound at Site 34 was composed of a timber-lined trough, a spread of burnt mound material and stake-holes. A relic streambed ran along one side, indicating that it had been deliberately positioned to take advantage of the increase in wetter conditions.

Various interpretations have been proposed for the function of burnt mounds, including cooking, brewing, dyeing and creating steam for sweat-lodges. While all of these



*Illus. 7—Wood-lined trough associated with the burnt mound in Area 3, looking east (Headland Archaeology Ltd)*

interpretations are plausible, it is possible that there is no one single purpose that explains them all. The depth of the trough in Area 3 was too shallow for cooking and the stake-holes made no structural pattern that would indicate a sweat-lodge, but they may have been used for pegging out textiles after processing, which might explain the shallowness of the trough.

### **Iron Age saltmarsh and the importance of grazing**

In the Iron Age our sections record a gradual change from peat laid down under freshwater conditions to silty clays deposited as mudflats and saltmarshes, a change that was completed by AD 60–240 (SUERC-10124). Tidal influence was clearly increasing, but far from making the landscape inaccessible, it was becoming a rich and highly valued resource. Saltmarshes provide highly nutritious grazing, particularly for sheep, as the salt helps to prevent the foot rot and liver fluke that normally exclude these animals from damp pastures. But one of the problems with saltmarshes is that they are criss-crossed by a network of steep-sided creeks that drain the rising and receding tidal waters. To aid movement of livestock, trackways and hurdles would have been needed to bridge the creeks, and this is exactly what was found in Area 1 (Illus. 8).

One structure consisted of an informal brushwood hurdle across a semi-active watercourse and produced a radiocarbon date of 344–248 BC (UB-6901). It was 6 m in length and approximately 1 m wide and was secured in position with a small number of





*Illus. 8—Brushwood structure, Area 1, Cutting A, looking west (Headland Archaeology Ltd)*



*Illus. 9—Alder roundwood secured by nine pegs at the base of the tidal creek directly below an Iron Age brushwood hurdle (Headland Archaeology Ltd)*



*Illus. 10—Alder roundwood with toolmarks indicating that a metal axe over 50 mm in width was used. Faint lines visible on the toolmarks were caused by a nick on the axe blade, providing a tell-tale signature of the individual axe that was used (Headland Archaeology Ltd)*

stakes and pegs. As we excavated to the base of the structure, we found a roundwood secured with nine pegs (Illus. 9). Why it needed so many pegs was unclear; it was approximately 0.8 m long and was not in direct physical contact with any other element. Perhaps a clue can be found in its position at the base of the tidal channel directly below the main body of the structure, a deliberate action that serves to remind us that these structures were built by people with more on their minds than just the functional need to cross a tidal stream. Arguably, this could well have been the first piece of wood to be pegged into place when the structure was first built, and could represent a symbolic or ritual practice. By securing the first element into position so emphatically, the intention could have been to imbue the entire structure with a similar stability. Perhaps also, given the importance of saltmarsh grazing, this was a public statement of ownership, granting territorial rights to the builders.

### **Tidal inundation and early medieval platforms**

Following the Iron Age, quite a significant change is evident in our sections, as the whole area became submerged and tidal movements reached high up into the saltmarsh. This was not a completely inaccessible landscape, however, because in Area 2 we found similar brushwood structures, also related to tidal creeks, which have been radiocarbon-dated to the medieval period. This suggests that there were temporary lulls in the cycle of inundation that could have been as brief as a generation but still opened the wetland up for exploitation. The westernmost cutting contained a crude trackway 8 m in length and composed of horizontal and vertical elements. Another structure consisted of a continuous linear spread of brushwood, aligned north–south, which was approximately 13 m long and 3 m wide. This has been radiocarbon-dated to AD 1324–1441 (UB-6906). It was not related to a channel but was laid horizontally on a layer of silt and peat.

## **Time and tide wait for none**

Since the era of General Pitt Rivers—the founding father of meticulous field excavation—archaeologists have delighted in presenting their work to the public in militaristic terms, just in case anyone suspects that we may be enjoying ourselves. While the majority of excavations in Ireland are not quite the sun-baked hillforts we would wish for, any comparison with war zones is equally far-fetched—except, that is, in the case of Site 34. Marching across the wetland in our ex-military waterproofs was an assault on all the senses. It felt like waddling into no man's land, and the illusion was reinforced by the tank-loud noise of caterpillar-tracked machines, the continuous flow of pumps emptying vast water-filled craters, and the sporadic outbreaks of trenchfoot.

But despite all the punishment, I hope this brief summary of our results has helped to explain why we do what we do. The archaeological opportunity to investigate all manner of unknown sites and landscapes over the duration of a single project is something particular to road schemes. I feel enormously privileged to have worked on a site like Site 34, a site where we never expected to find anything of significance but that has changed how we now think about alluvial landscapes—developing techniques, strategies and influencing policy.

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