8 The Nene Valley: an environmental synthesis

The Palaeolithic

The Lower and Middle Palaeolithic period in the Nene Valley is represented by finds of stone tools from aggregate quarries and was summarised in Wymer (1999) and more recently in Wymer (2004). Palaeolithic artefacts have been recovered from three of the terrace deposits shown in Figure 8.1: that is the Woodstone, Grendon and Ecton Members (Wymer 2004). However, the regional stratigraphy suggests that these deposits are relatively late, definitely post-dating the Anglian glaciation (OIS 12) (Langford and Briant 2004) and therefore the artefacts contained within them may well be derived (McNabb 2006). There is not a wealth of environmental data to accompany these finds and few finds of pre-Devensian organic deposits from the gravel terraces with the notable exception of the Ipswichian waterhole at Little Houghton (Smith 1995). There is also considerable faunal evidence from the cold-stage gravels at Stanwick (Ecton Member).

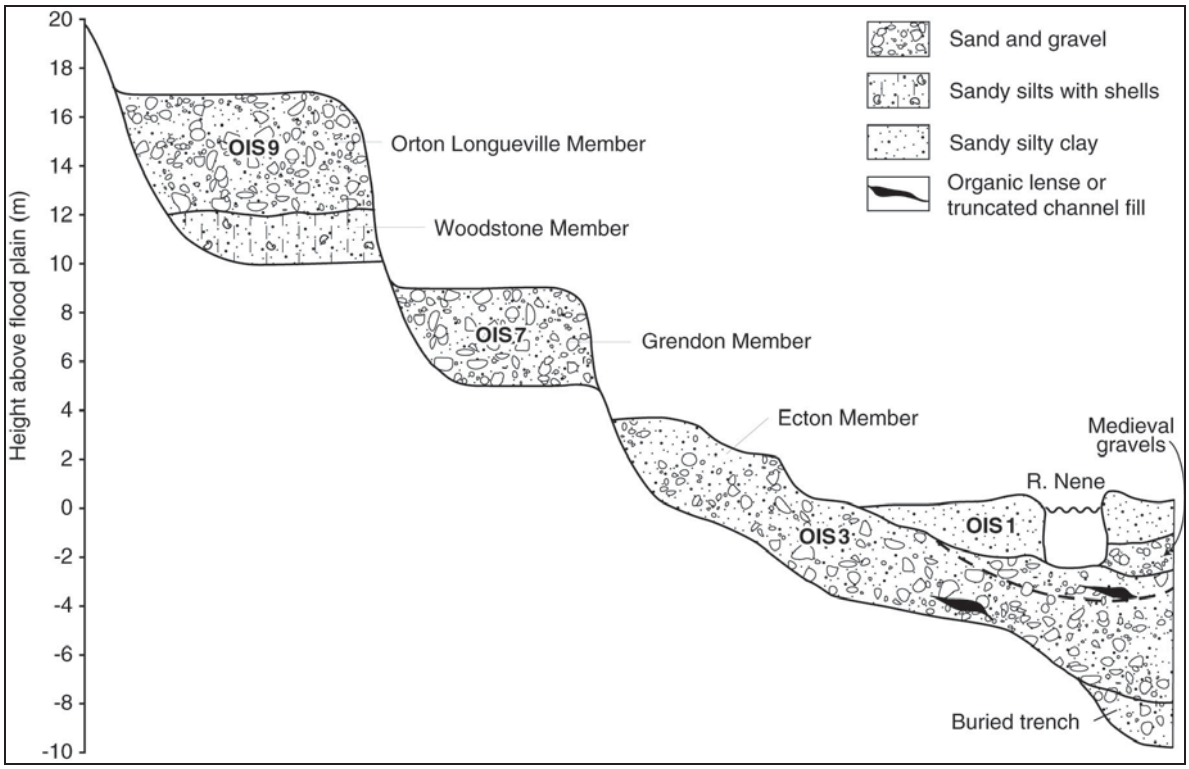

Fig 8.1: A valley terrace staircase for the Middle Nene (data from Bowen *et al* 1999 and Brown in press)

There is little doubt that the Lower and Middle Palaeolithic of the area could be important due to the location of the valley in relation to the east-west trending Mid-Pleistocene rivers and including the Bytham which, it is postulated, crosses the catchment in the Peterborough-Fens area and which is associated with some of the earliest evidence of hominin presence in the British Isles (Parfitt *et al* 2005). The equivalent to the Bytham Formation in the Nene Valley is the Milton Member which was deposited by north-west to south-east drainage, possibly through the Watford Gap, and which has yielded fossil horse teeth and mammoth tusks (Belshaw *et al* 2004).

No securely dated floodplain sites are known for the Early Upper Palaeolithic (Period 5a *sensu* NcNabb 2006) unlike the recent record from the valley interfluves at Glaston dated to *c* 30000 cal BP (Cooper

2001, Thomas and Jacobi 2001), however, more evidence is available for the LGM-Late glacial period (Late Upper Palaeolithic) or archaeological period 5b *sensu* McNabb (2006). There are only two low terraces in the Upper Nene Valley. Both are of Devensian age and a radiocarbon age of 28230±330 BP (Birm-75) was obtained from organic clays at Ecton (Morgan 1969). Recent work using OSL dating has shown that the Nene was active throughout the Devensian (Briant 2003). At Ditchford a small palaeochannel lens in the very base of the sub-alluvial gravels has been dated to 11280-11090 cal BC (11220±45 BP; SRR-4644), and the base of an upper palaeochannel cut into the gravel has been dated to 10390-9880 cal BC (10280±45 BP: SR-4642) (Brown 2004). Taken overall, these dates suggest that the sub-alluvial gravels at Ditchford were deposited during the Younger Dryas (Loch Lomond Readvance) of OIS 2. Pollen from Ditchford gives some information on the Late Upper Palaeolithic environment in the valley. Unsurprisingly this indicates an open environment covered by grasses with some birch and typical indicators of highly continental steppic conditions such as *Artemisia*, *Lactuceae*, *Chenopodiaceae* and *Helianthemum* and long distance transport of pine pollen. There is scope within the valley to extend the environmental data for this period as suitable channel fill deposits exist at Wollaston (S1013 M1 and M2), Little Irchester and Grendon. However, unless they occur in association with an *in situ* Late Upper Palaeolithic site (such as at Glaston) the environmental data would only be of limited general value.

The Mesolithic

The environmental record for the Mesolithic is derived from Grendon (pollen diagram zone Gr2), Wollaston S1013 M3, Ditchford DD2 (very early Mesolithic), Raunds Palaeochannel E (9220-8260 cal BC; HAR-9243) and Turnell's Mill Lane (late Mesolithic). Taken together these sites indicate that in the early Mesolithic the environment was still largely open with a vegetation dominated by grasses, herbs including some typical of disturbed ground, and small amounts of tree pollen, probably mostly of long-distance origin, except possibly hazel which may have become established in favourable conditions by *c* 7300 cal BC. Pine becomes locally dominant *c* 7500 cal BC, but since no macrofossils have been recovered it was probably growing on the valley sides and interfluves rather than on the valley floor. One of the most important late Mesolithic sites on the Irthlingborough island revealed a number of tree-throw pits created over a period of a thousand years up to the Mesolithic/Neolithic transition. The woodland on the terrace fragment included both oak and hazel (which was dated), and Mesolithic flintwork which was recovered from some of the tree-throw holes (Campbell and Robinson 2007). This is clear evidence of disturbance of the late Mesolithic woodland both by natural and human activity and suggests that the valley floor was being utilised and the vegetation partly managed by late Mesolithic hunter-gatherers. This may have lead to pre-existing open areas on the valley floor available for use by early farmers in the early Neolithic.

The Neolithic to the Bronze Age

There is greater environmental evidence for the Neolithic than previous periods. Sites include: Grendon (pollen zone GR3), Wollaston S1013 (top of M3), Turnell's Mill Lane (TML1b) and West Cotton. These sites indicate that at the start of the Neolithic some pine was still present in the region but that the local woodland was dominated by oak, hazel and alder. The elm decline is virtually absent as a palynological feature in the valley, presumably due to the low frequency of elm in the surrounding woodland. There are several indications that this was not a closed-forest environment, but had significant if not large open areas which were covered by grasses, sedges and most significantly bracken. The importance of bracken at sites such as Grendon and Turnell's Mill Lane suggest a relatively low intensity of grazing implying that the open areas may have had another primary function. This may well have been the laying out of monuments on the valley floor as is the case of West Cotton to Stanwick which includes a long barrow, a turf long mound, enclosures, a

causewayed ring ditch and most extensively the early Neolithic avenue which incorporated at least one tree-throw pit (Harding and Healy 2007).

Work on the Coleoptera and macrofossils from West Cotton has shown how there were pre-existing open areas with moderate disturbance due to grazing. The earliest reasonably securely dated cereal-type pollen (*Avena/Triticum*) in the valley has been recorded from S1013 at Wollaston between 3960 BC and 3780 BC. Both Higham Ferrers and Wollaston (S1013) show that there was continuing instability of the floodplain woodland into the Neolithic as evidenced by tree-throw pits. Turnell's Mill Lane pollen diagram suggests that significant slope deforestation had occurred by the mid-Neolithic whilst this part of the floodplain was still covered by alder-hazel-oak woodland. The evidence suggests that during the Neolithic the vegetation of the valley and its slopes was at its most diverse with both wet and dry deciduous woodland on the valley floor, oak-hazel woodland on the valley slopes with some alder and ash and some pine stands as well as open rough grasslands both on the floodplain and the valley slopes. This would have clearly facilitated a mixed economy with abundant wild food available in addition to agricultural produce.

Towards the end of the Neolithic clearance activity increased as evidenced by the dramatic clearance event at Turnell's Mill Lane dated to the Neolithic/Bronze Age boundary. This is probably typical of large areas of the valley floor as implied by the construction of funerary monuments at West Cotton, Irthlingborough and Stanwick. The later Bronze Age is rather poorly represented by sites on the valley floor, the most complete site being Grendon (Gr 4). This site indicates an increasing removal or lack of regeneration of trees and the expansion particularly open grasslands probably used for pasture. This reduction in local tree pollen production allows rarer component of the woodland to be seen, including beech (also recorded as a macrofossil at Higham Ferrers), field maple, hawthorn/blackthorn/sloe and ivy. These species were almost certainly present in the early-middle Bronze Age but may have become more important as the alder-oak-hazel woodland was cleared, possibly because of food and fodder value. By the end of the Bronze Age the Nene Valley was largely an open landscape, cleared of dryland trees, with pasture, arable cultivation and hedges.

The Iron Age

After the last major phases of wide-scale deforestation (eg at Grendon *c* 650 cal BC) the landscape of the valley floor was an agricultural and almost totally managed landscape. Glimpses of the cultural ecology can be seen from ditch fills at Wollaston which recorded virtually no trees at all and a range of arable and pastoral indicators with plant macrofossils of hawthorn. All the pollen diagrams from the Iron Age show firstly how little woodland existed by this period (as little as today) and the prevalence of annuals typical of cultivated and disturbed ground. This is mirrored in the archaeological record by the laying out of fields, tracks and enclosures as is most clearly shown at Wollaston and Grendon. Changes in farming in the Late Iron Age are hinted at by the increased density of plant remains and abundance of barley (Monckton 2006 citing Campbell unpub). This is in line with other sites in the East Midlands such as Kirby Muxloe (Cooper 1994), but in the Nene cannot as yet be tested using pollen analysis.

The Romano-British period

When the Roman army reached the Nene Valley in *c* AD 43 they would have seen an open, dry, agricultural landscape not totally unlike many areas of northern Gaul and even northern Italy. The valley became highly Romanised with small towns at Irchester, Titchmarsh and Ashton and other settlements at Higham Ferrers and Stanwick and several villas. It is not therefore surprising that this valley saw probably the highest level of ecological Romanisation of any in the British Isles. Over the next two centuries this includes the introduction of new crops such as buckwheat, weeds of

cultivation such as pheasants eye, and most obvious of all the vine. The site at Wollaston was the first in the UK to unequivocally illustrate that attempts had been made on a significant scale to produce wine in Midland England, possibly in order to supply the Roman armies to the north. The full list of waterlogged plant remains from Stanwick, presently unpublished but which indicates hay (Campbell pers com), will provide a valuable comparison with the pollen evidence from pollen sites like Wollaston (Hardwater Road) which indicate a woodland-free environment with both arable and pastoral land of high species diversity (possibly for hay production), hedges or areas of scrub, and fruit trees.

The Saxon period

As is all too common the Roman-early Saxon period is poorly represented in the environmental record, due to a combination of relatively low water-levels, a lack of new ditches being dug and channel stability. Environmental evidence of Saxon age has come largely from palaeobotanical studies at Raunds and particularly the Saxon settlement at West Cotton (Campbell 1994). There is no securely dated pollen profile known from the valley for this period and this remains a research priority (Vince 2006).

The medieval period

Although there is very little environmental data for this period, one pollen core from Mallows Cotton in the Raunds Survey Area almost certainly dates to this period (Brown 2006). It shows a higher level of tree pollen than any of the preceding diagrams with a peak in oak and ash and later in willow. Certain aspects suggest that it covers the last 200-500 years including a rise in pine and the consistent representation of walnut which exists on the site today. Unfortunately, the sequence has not been dated and so it is difficult to compare it to historical data or the abandonment of the adjacent deserted village.