

## 6 Comparative analyses and implications of the new dates

Many of the palaeoenvironmental sites described and analysed in this report are palaeochannels of the River Nene. It is clear that not only has the river changed location during the Holocene but it, or rather its channels, have changed character. This is illustrated by a plot of the maximum depth in exposed sections against the radiocarbon age estimate of the inception of organic deposition from the basal sample (calibrated) as shown in Figure 6.1.

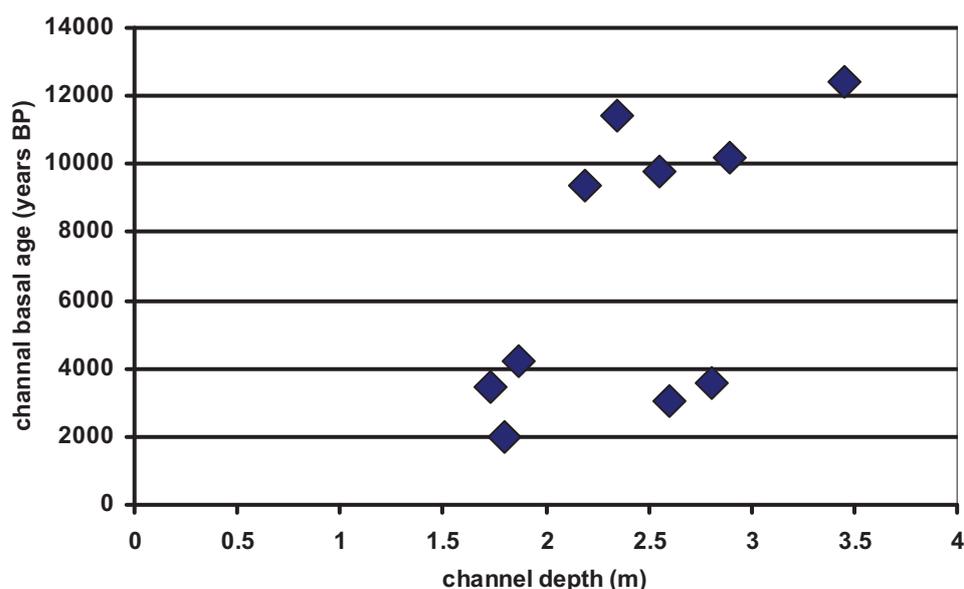


Fig 6.1: Palaeochannel maximum depth against basal age using the calibrated intercept date

This relationship (correlation coefficient 0.59) is due to the increasing bank height caused by alluviation of the floodplain following the stable-bed aggrading-banks (SBAB) model proposed by Brown (1997).

Although it is not the purpose of this project, inter-site comparisons are facilitated by the combination of the archaeological-environmental GIS system developed by this project and this report. For example, many of the sites have records of macrofossil wood identified to genus or species level. These include; Little Houghton, Wollaston, Higham Ferrers, Ditchford and West Cotton. Figure 6.2 shows a histogram of these finds grouped by time period. This is a remarkable dataset because it clearly shows typical woodland type species from *c* 6500 cal BP to *c* 3000 cal BP and then a completely different assemblage dominated by *Prunus* and *Sambucus* sp. from *c* 3000 BP – 2000 cal BP. This is consistent with the pollen data of landscape-scale clearance beginning in the Neolithic and increasing in the Bronze Age and Iron Age to the point that, prior to the Roman period, the valley had probably lost all of its natural woodland and the remaining woody species existed in hedges and may be some small scrubby copses. As shown in this report there is abundant evidence that the Romano-British Nene Valley was an open intensively cultivated landscape with little or no natural landscape elements remaining.

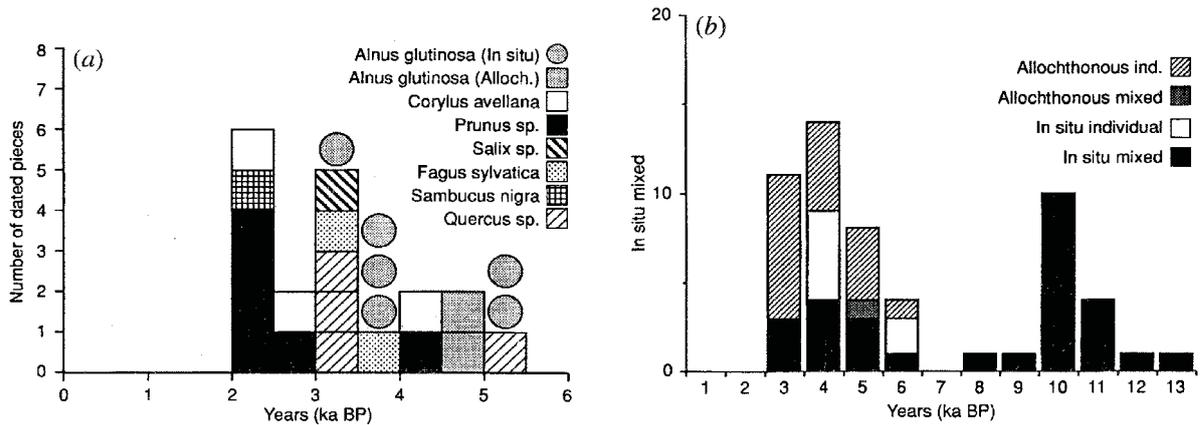


Fig 6.2: Wood identifications for all Nene Valley sites grouped by time periods (a) and classification/origin of the wood-bearing strata (b) (Data grouped using uncalibrated radiocarbon ages BP, Data from Brown *et al* 1994)

Grain size analyses have also been undertaken for a number of comparative units from Raunds (C3), Higham Ferrers (1m), Wollaston (1m) and Little Houghton (0.75m) (Fig 6.3). This confirms that all the overbank units sampled are dominated by silt size clasts with generally 25-35% clay with one exception (Higham Ferrers 1m). The variations in both mean grain size and in sorting (as revealed by the shape of the curves) do not appear to be site related and are probably due to the local environment and particularly distance from the active channel at the time. If this is the case then the Higham Ferrers 1m sample was probably furthest from the channel at the time of its deposition.

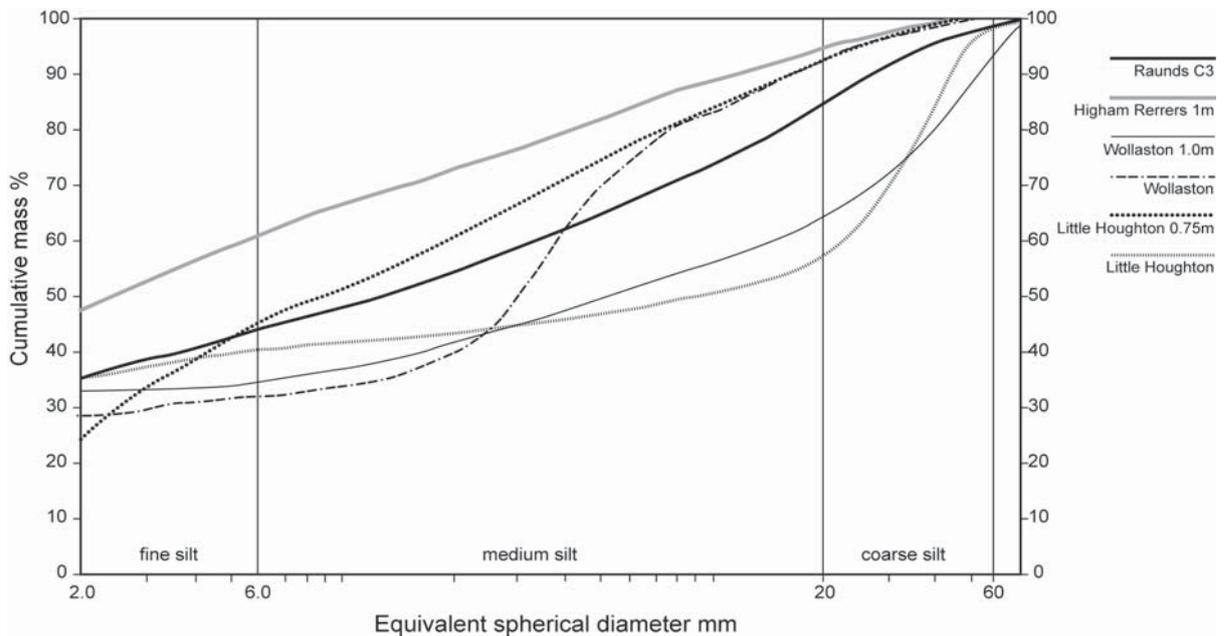


Fig 6.3: Selected sample fine sediment cumulative grain size distributions