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**A review of archaeological wood analyses in southern England**

Wendy Smith

with radiocarbon data by Peter Marshall

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## **A review of archaeological wood analyses in southern England**

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### **Summary**

This review presents a summary of analyses of charred, waterlogged, and in some cases mineralised or preserved wood from archaeological sites in southern England ranging in date from the Palaeolithic through Post-Medieval periods. Although not attempting to be fully comprehensive, approximately 380 archaeological wood analyses are reviewed chronologically. For each major chronological period (e.g. Mesolithic, Neolithic, etc) a summary of results is presented and, in addition, key sites or significant analyses are discussed. Major results / themes in the data are reviewed chronologically. This report concludes with a discussion of priorities for future wood analysis work from archaeological sites.

### **Keywords**

Wood  
Charcoal

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## 1 Introduction

The aim of this review is to establish a base-line data set for archaeological wood (charcoal and waterlogged/ mineralised/ preserved wood) in terms of its current use in reconstruction of the composition, management and use of ancient woodland, as well as the importation of exotic wood, at archaeological sites. Archaeological wood not only includes material of at least two years of growth from the main stems, branches and/or trunks of trees and shrubs, but also includes vines (e.g. clematis, grape or honeysuckle) and can include roots from any of these plants. Approximately 380 published reports or Ancient Monument Laboratory reports have been included. The literature search for this review was primarily made using the *Environmental Archaeology Bibliography* web page on the English Heritage website (<http://www.eng-h.gov.uk/EAB>).

This review is largely confined to discussion of palaeoenvironmental and/or palaeoeconomic aspects of wood analyses. Palaeoenvironmental aspects of wood analyses primarily mean investigation of what the archaeological wood may tell us about the composition and/or management of ancient woodland. Palaeoeconomic aspects of wood analyses mean the use and/or specific selection of wood on archaeological sites for a particular activity (e.g. as fuel, as structural timbers, as trackways, etc...). This can also include information on importation of exotic wood.

Methodological issues specific to wood identification and/or analysis, however, will not be addressed in great detail in this review. Primarily, because this already has been covered elsewhere by Murphy (2001) in his review for the Midlands. However, observations on the recovery, quantification and identification of archaeological wood, especially those made by wood anatomists, will be considered here in terms of the issue of 'best practice'.

The archaeological wood reports discussed in this review do not represent all work published, but instead form a fairly comprehensive collection of published medium- and larger-sized reports. An attempt has also been made to include reports from all counties, islands, urban centres and major archaeological sites in the region, which in some cases has resulted in the inclusion of smaller-sized reports. In preparing this review, it was



clear that many London sites where wood analyses have recently taken place are, as yet, unpublished and, as a result the wood analyses of London are somewhat under-represented here. General reviews of the archaeology of London, however, have been published and do briefly summarise some of the main wood analysis results (Kendall 2000; Sidell, Ainsley *et al.* 2000; Sidell, Conheeney *et al.* 2000; Sidell *et al.* 2001; Sidell *et al.* 1999).

A dedicated review of archaeological wood analyses for southern England (see §1.1 for a definition of the region) has not been attempted before. Previous reviews of environmental archaeology in southern England have included archaeological wood (Armitage *et al.* 1987; Bell 1984; Robinson and Wilson 1987; Scaife 1987), but usually not in as much detail as palynological or archaeobotanical evidence. No attempt will be made here to review wooden objects or structures (e.g. timbers from standing buildings, ships, etc...). Detailed studies on structural wood (building or ship timbers) or wooden objects (e.g. Coles, B. 1990; Coles, J. M. *et al.* 1978; Marsden 1994, 1996; McGrail 1979; Milne 1992; Nayling 1989) exist, but primarily focus on wood working, rather than woodland management or selection of wood for specific purposes. Submerged woodlands will also not be covered by this review, although they are present in many areas of the region (e.g. Torbay area, Marazion, Barnstable Bay, Porlock, Blue Anchor Bay, Stolford and Severn Beach in Bell 1984, 44). These are not reviewed here for two reasons. First, these relict landscapes require multidisciplinary study, not just wood analysis, and, much like ship's timbers or wooden objects, merit specific detailed study. Second, although they all provide direct evidence of woodland composition, they do not always preserve evidence for wood use or management activities by ancient peoples.

No attempt has been made here to alter published results, aside from updating the nomenclature to current usage. All nomenclature and common names follow Stace (1997) for indigenous species. In the case of exotic taxa, the nomenclature adopted by the specialist(s) has been maintained here.

## 1.1 *Region*

The southern region of England includes the current counties of Berkshire, Cornwall, Devon, Dorset, Gloucestershire, Greater London, Hampshire, Kent, Oxfordshire, North Somerset (formerly part of Avon), Somerset, Surrey, East Sussex, West Sussex, and Wiltshire, as well as the Isle of Wight and the Scilly Isles. The attribution of sites to specific counties generally follows the current usage on the *Environmental Archaeology Bibliography* webpage. For brevity, these counties and islands have been assigned codes, which will be used throughout summary data tables. The codes assigned to counties, and some explanation of the allocation of sites in recently altered counties, are presented in Table 1.

## 1.2 *Period*

This review will discuss wood analyses in chronological order from the Lower Palaeolithic through to the Early Modern period. The information from these reports has been assigned to specific archaeological periods or combined periods, when assignment to a single period was not possible. A brief description of the periods and the codes used for these periods in the data tables are presented in Table 2.

## 1.3 *Mode of preservation*

The mode of preservation for the archaeological wood (e.g. preserved, mineralised, waterlogged and carbonised or charred wood, which is more commonly known as charcoal) was also recorded in the data tables. The term ‘preserved’ wood applies to any wood still in use and primarily refers to Medieval period or later timber or wooden objects. This review does not attempt to present a comprehensive catalogue of all preserved objects from Medieval or later sites, but those examples of preserved wood which are included were chosen to more comprehensively demonstrate the range of wood in use in these later periods. The codes adopted for the different forms of preservation are presented in Table 3.

#### 1.4 *Archaeological context*

Wherever possible, the type of context(s) that the wood was recovered from has been recorded. A list of the codes for all the context types used within the data tables is presented in Table 4.

#### 1.5 *Security of context and level of identification*

The wood identifications discussed include material which is not securely ancient and varying levels of identification. In some cases tentative identifications are covered by the nomenclature of trees, shrubs, bushes and vines used in the data tables. For example, identifications that include any taxa belonging to the Pomoideae sub-family of Rosaceae are scored under 'Hawthorn group'.

Occasionally, however, the identification, itself, is less secure, either because the date of the material identified is uncertain or because the identification itself is not secure or is only provisional. These less secure identifications have been indicated in the data tables, as well as identifications of material which may not be securely ancient. Table 5 presents the codes used for questionably ancient material and the different levels of identifications made in various wood analyses.

#### 1.6 *Quantification*

The reports reviewed here are not consistent in terms of the quantification of archaeological wood. Some reports only present a list of wood taxa identified; whereas, others present a detailed record of either the weight or volume (with some presenting both weight and volume) of wood remains studied. Because varying degrees and types of quantification are used in the reports, it was only possible to compare data in terms of the presence or absence of taxa at sites. The issue of quantification, however, is of concern to

specialists in the discipline. In addition to different approaches to quantification (recording either or both volume and weight), which may result in one site presenting results by weight and another by volume, it is also clear that taphonomically there are varying degrees of weight loss in different species of wood upon charring (Gale and Cutler 2000, 12).

### 1.7 Radiocarbon dating (*by Peter Marshall*)

Tables 27–31 and Figures 14–18 present the radiocarbon dating evidence where available for sites dating up to the Roman period. The radiocarbon dates presented are for the archaeological contexts which are the source of the material for the wood analysis and are not limited to just the archaeological wood, but also include plant remains (i.e. macrofossils) and animal bones from those contexts. The results are conventional radiocarbon ages (Stuiver and Polach 1977), and are quoted in accordance with the international standard known as the Trondheim convention (Stuiver and Kra 1986).

The radiocarbon determinations have been calibrated with data from Stuiver *et al.* (1998), using OxCal (v3.5) (Bronk Ramsey 1995, 1998). The date ranges have been calculated according to the maximum intercept method (Stuiver and Remier 1986), and are quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years.

## 2 Review of data

The data reviewed are presented chronologically and in summary. The reports are reviewed here in terms of examples of best practice, which can be applied elsewhere in future, or in terms of establishing a baseline of data for a particular chronological period. In many cases the reports included in this review merely present a list of taxa identified, without any discussion or synthesis. Such reports, will be listed in the tables, but may not be discussed in much detail, especially when better examples of wood analyses are available for discussion.

## 2.1 *Early humans (500,000 – 50,000 BP)* (Data: Table 6, Figure 1)

At present, the earliest archaeological wood from southern England comes from Middle Pleistocene or Cromerian interglacial deposits at Boxgrove, West Sussex (Robinson 1997a). Mark Robinson has provisionally identified microscopic, iron-replaced fragments of conifer-like wood tissue, from soil micromorphology thin sections (see Table 6). This result is supported by the work of Scaife, who has also identified conifer pollen from previous excavations at Boxgrove (Scaife 1986). The identification of conifer made by Robinson has been taken by the excavators to support Scaife's conclusion from his analysis of pollen samples that conifers were 'significant in the landscape at the time' (Roberts *et al.* 1997, 322). Caroline Cartwright (pers. comm. of unpublished data) has also confirmed that pine (*Pinus* sp.) charcoal were recovered from other Boxgrove contexts. She also found birch (*Betula* sp.) in one context.

The Boxgrove work, which does include evidence for early hominid activity, combines environmental evidence (pollen, charcoal, animal bones) from various areas of the site, on the basis that it comes from the same geological layer. This is a standard approach to geological deposits, but does mean that the environmental evidence reported is not always directly linked to areas of the site with archaeological evidence for hominid activity (stone tools and/or modified bone). In particular, it is not clear that the charcoal identified by Robinson (1997a, 322) directly resulted from hominid activity.

Mark Robinson (pers. comm.) is currently carrying out further work on charcoal collected from soil samples at Boxgrove. Robinson (pers. comm) has reported that, so far, he has a secure identification of Scots pine (*Pinus sylvestris*) and a provisional identification of alder (*Alnus* sp.). The alder identification could include grey alder (*Alnus incana* L.) or green alder (*Alnus viridis* L.), both of which are only grown now as ornamentals in Britain (Stace 1997, 126), but typically occur in woodland and/or scrub in European alpine regions today (Ellenberg 1988, 261–2, 434–5).

## 2.2 *Early Hunter-Gatherers (50,000 – 10,000 BP)* (Data: Table 7, Figure 2)

Only three wood analyses are published from the southern region, which broadly date to the Upper Palaeolithic (see Table 7). Work by Levy (1964), produced charcoal and waterlogged wood from a series of boreholes, pits and sections at Brook, near Ashford, Kent. This report simply lists the taxa and quantity of fragments identified, with some discussion of identification observations. No environmental interpretations were put forward.

Gale (1995) has identified a small quantity of charcoal fragments from a Pleistocene (more precise dating was not available) palaeochannel at the Montefiore Halls of Residence site in Southampton, Hampshire. Oak, and possibly blackthorn, were present, but Gale (1995, 46) suggests that the limited range of taxa identified corresponds to the small quantity of charcoal recovered from the deposit. As a result, she concluded that this assemblage only provided sufficient evidence for an '*indication* of the presence of oak wood at this time' (Gale 1995, 46).

Preliminary charcoal results from an *in situ* hearth at Tornewton Cave, Devon (Cartwright 1996) produced an assemblage dominated by yew charcoal. Cartwright (1996, 197) notes that 'yew is a well-known raw material for artefacts' in the period, and that this might explain its presence at Tornewton.

### 2.2.1 Discussion

The paucity of dedicated charcoal studies dating to the Palaeolithic in Britain is most likely a direct reflection of the limited number of sites excavated. In addition, the difficulties of ensuring that charcoal is directly associated with human activity at these early sites continues to be a concern. For example, the charcoal recovered from Brook, Kent and Montefiore Halls of Residence, Southampton, Hampshire is not clearly associated with human activity. Radiocarbon evidence for the period is ideally based on Accelerator Mass Spectrometry (AMS) dates on worked bone, which can be securely identified with an archaeological event (Housley *et al.* 1997, 26–8). At present, the

characterisation of the Palaeolithic *wildwood* (i.e. primary forest) of Britain is largely based on palynological study. However, the incorporation of charcoal analyses with plant micro- or macro-fossil evidence from Palaeolithic sites can provide additional, independent supportive evidence to characterise the nature of woodland in the period. In addition, charcoal analyses from Palaeolithic sites will provide the earliest evidence for the selection of wood for specific purposes (i.e. fuel, objects, and/or building materials).

### 2.3 *Late Hunter-Gatherers (8050 – 3500 cal BC)*

(Data: Table 8, Figure 3 and Radiocarbon: Table 27, Figure 14)

Ten wood analyses are reviewed here from Mesolithic sites in southern England (Table 8). As with Palaeolithic evidence, the number of sites and range of taxa recovered is limited.

Dimbleby (1960) records Scots pine, hazel, broom, blackberry/raspberry, and clematis (traveller's joy) charcoal identifications from Mesolithic deposits at Oakhanger, Hampshire. Although the quantity of wood is not fully described, Dimbleby (1960, 258) does indicate that Scots pine dominates this assemblage and argues that it was most likely intentionally selected as fuel. In addition, he notes that clematis does not grow on acid soils and the nearest possible source for it would be approximately three miles away on the chalk.

Cartwright (1985e) records the dominance of oak charcoal in Mesolithic deposits at Selmeston, East Sussex, with hazel and hawthorn group also present. She also reports that the birch and beech charcoal recovered in some samples may be modern contamination. The use of oak, hawthorn and hazel as fuel and structural timber, as well as sources for food, are discussed as possible explanations for their presence on site.

Two possible Mesolithic tree boles were investigated by Thompson (1999) for charcoal at Barrow Hills, Radley, Oxfordshire. In both cases only fragments of oak charcoal were recovered.

At Three Holes Cave in Devon, Cartwright (1996) has identified a diverse range of wood charcoal (see No. 3, Table 8) used as fuel. Rather than concluding that a mixture of kindling (for the smaller shrubs and climbing vines – e.g. dog-rose and ivy) and main fuel (for larger trees and shrubs – e.g. ash and hazel) was used at Three Holes Cave, Cartwright (1996, 1997) suggests that this is ‘more likely to be indicative of timber logs which have associated climbers...being felled, as necessary, for fuel’.

Charcoal samples from two Mesolithic pits at Montefiore Halls of Residence, Southampton, Hampshire were studied by Gale (1995). The charcoal identified included a range of woodland trees (oak and ash) and understorey or woodland margin trees and/or shrubs (blackthorn and/or cherry, poplar/willow, hawthorn group – including apple, whitebeam and wild service tree). All charcoal was associated with worked flint and pottery sherds, and the assumption has been made that these deposits represent ‘some form of domestic waste’ (Gale 1995, 47). Gale (1995, 47) suggests that oak and ash wood were most likely collected for fuel, and the presence of a variety of fairly shrubby wood taxa in the charcoal assemblage suggests that wood was ‘collected randomly from the neighbourhood’.

At Westward Ho! in Devon a series of rapidly eroding peat shelves, which preserved Mesolithic/ Neolithic period middens and submerged forests, were excavated in 1983–4 (Balaam *et al.* 1987). Both waterlogged stakes (the majority were identified as hazel, but one was identified as alder) and tree stools (oak and willow) were studied. In general, wooden stakes and/or tree stools were simply recorded for site plans and occasionally sampled for identification and/or dating purposes. There was no discussion of tool marks on the wood, especially the stakes, so it is not clear whether such evidence survived or not. Microscopic charcoal was also present throughout all pollen and soil micromorphology samples of Mesolithic features at Westward Ho! Scaife’s work on pollen from the site (Balaam *et al.* 1987, 230), provides additional supportive evidence for an interpretation of clearance(s) in the immediate vicinity of Westward Ho! Whether this, in combination with the presence of microscopic charcoal, represents natural clearance, or not, is not known.



The earliest of the Somerset Levels trackways is the Sweet Track (Coles, J. M. *et al.* 1973; Coles, J. M. and Orme 1976b, 1979, 1984), which dates to 4230-3800 cal BC. The Sweet Track is generally considered one of the earliest Neolithic trackway structures in Britain (e.g. Bell and Walker 1992: 168). Regardless of whether the wood used from the 'Sweet Track' was coppiced or not (see discussion in Orme and Coles 1985, 18), it is considered 'one of the most elaborate and sophisticated [trackways], with poles of oak, ash, lime, hazel, alder and holly, of different sizes and selected for particular functions in the structure' (Rackham 1995, 37). In particular, oak appears to be used almost exclusively for the 'rails' (i.e. the horizontal boards used to walk on) and hazel and alder are primarily used for the supporting 'pegs' (Coles and Orme 1976b: 39–59).

### 2.3.1 Discussion

The detection of evidence for intentional woodland clearance is perhaps the single most important research issue in the British Mesolithic. Although it is widely agreed that major clearance events occurred in southern England during the Bronze Age (Bell and Walker 1992, 165–7), secure identification of woodland clearance by Mesolithic and Neolithic peoples is still highly debated (see summary of evidence in Bell and Walker 1992, 154–8; Zvelebil 1994, 45–55). Whether charcoal horizons observed in sediment cores for pollen analysis dating to this period represent natural or man-made forest fires remains uncertain and in need of further investigation (e.g. Simmons 1996).

The paucity of excavated Mesolithic and Mesolithic/ Neolithic transition sites means that our understanding of the nature of woodland cover, and its possible modification by Mesolithic people, in the region during this period is biased toward palynological evidence. Again, integrated approaches to woodland reconstruction which incorporate pollen, insect, plant macrofossil and charcoal/ waterlogged wood evidence are essential for the accurate reconstruction of ancient woodland in the region.

In addition to the possible role of Mesolithic peoples in woodland clearance, study of wood charcoal from Mesolithic and Mesolithic/ Neolithic transition sites can lead to better understanding of how hunter/gatherers exploited woodland resources in these periods.

## 2.4 *The rise of agriculture (3500 – 1350 cal BC)*

(Data: Tables 9-10, Figure 4 and Radiocarbon: Table 28, Figure 15)

The most striking feature of analyses of Neolithic through Early Bronze Age archaeological wood is the marked increase in the number of sites (N = 84, from 10 sites in the previous Late Hunter-Gatherer period) where these studies have taken place and the range of taxa (N = 45, from previous Late Hunter-Gatherer period 28 taxa) recovered. Tables 9 and 10 summarise the data on charcoal and mineralised or waterlogged wood respectively. Perhaps as a direct result of increasing numbers of studies, the Neolithic to Early Bronze Age period has produced a great deal of evidence for woodland management and/or the specific use or selection of wood for various activities.

### 2.4.1 Evidence for woodland management

Possible evidence for woodland clearance and/or management first appears in the preceding Mesolithic period and continues into the Neolithic/ Bronze Age periods (Bell and Walker 1992, 165–8; Rackham 1995, 33–8). It is generally accepted that a large portion of the British landscape had been intentionally cleared of its original woodland cover by the Iron Age (Dark 2000, 34, 79–80). Although we know that many trees are self-coppicing (i.e. oak, ash and hazel), direct evidence for coppicing is still quite rare for these early periods.

Cartwright (1993, 222) has suggested that in combination with other forms of environmental evidence, and focusing on ‘*associations* of woody taxa’, it is possible to attempt environmental reconstructions on the basis of charcoal evidence. At Easton Down, in Wiltshire, Cartwright (1993) studied charcoal deposits in a series of ditches around a Neolithic long barrow and detected strong evidence for changes in the *associations* of woody taxa over time. Charcoal from the pre-mound deposits (hawthorn group, elder, and ash) suggested scrub and woodland, whereas the mound core contained a combination of woodland and scrub/grassland taxa (oak, ash, hazel, blackthorn,

hawthorn group), suggesting a more open environment. The charcoal from the primary ditch fills suggested chalk scrub/woodland vegetation (mainly oak and ash, with small quantities of hazel and hawthorn group), with evidence for more woodland vegetation in secondary ditch fills (mainly oak and hawthorn group, with small quantities of ash, hazel and blackthorn). This appears to be followed by limited evidence for possible woodland clearance and/or an open environment (birch, hawthorn group and blackthorn identified) in the upper secondary and tertiary ditch fills. These subtle changes in the taxa identified were supported, in particular, by the mollusc and soil micromorphology results (Cartwright 1993, 222).

At Maiden Castle, Gale (1991c, 129) argues that rod and nail impressions in daub, which consistently are of regular diameters, suggest ‘coppicing might have been in operation’. To date the only Neolithic sites which have produced unequivocal evidence for coppicing (e.g. Bell and Walker 1992, 168–9), are the Walton Heath, Rowland’s and Garvin’s trackways on the Somerset Levels (Rackham 1977). The preservation of ‘part of the stool or even the stub of a previously-cut rod [often] remained attached’ to the hazel rods used in the hurdles of Walton Heath and Rowland’s trackways and in the loose wood at Garvin’s trackway (Rackham 1977, 67).

Evidence from an Early Bronze Age trackway at Bramcote, in London, has suggested that woodworking does not necessarily take place immediately on-site. In the case of ‘Structure II’, debris from trimming alder stakes and poles was present on site, but ‘no oak chips, were found, which clearly indicates that the trimming and cross-cutting of the oak logs took place elsewhere...[a]s green oak heartwood chips are heavier than water they would be especially likely to remain *in situ* in a wet environment’ (Thomas and Rackham 1996, 241 – citing unpublished results of Damian Goodburn). Although absence of oak chips does not necessarily provide irrefutable evidence for the absence of oak woodworking immediately on-site, this result does suggest the possibility that fully finished worked oak wood recovered at Bramcote was provided from an off-site source. Exactly how far away from site oak woodworking may have actually occurred remains a matter for speculation.

#### 2.4.2 Selection of wood for building materials

Large amounts of oak (mainly from mature trees), hazel (immature wood) and ‘hawthorn group’ charcoal (both mature and immature wood) were recovered in ‘discrete patches associated with baked clay daub’ (Berzins 1997, 50) at the Bronze Age settlement at Varley Halls, East Sussex. Berzins (1997, 50) believes that this ‘clearly represent[s] the remains of structural materials of the hut’. In this case, through carefully collecting charcoal in association with daub, Berzins has been able to record what wood was specifically selected to make this wattle and daub structure, and whether only mature or immature wood, or both, were used in the structure. Almost all the oak appears to have been derived from mature timbers, forming the main structural elements of the buildings at Varley Halls (Berzins 1997, 50). Berzins (1997, 51) believes that the wattle structures were made up of hazel for both rods and sails (the uprights between which the rods are woven) and hawthorn group taxa (which primarily come from more mature wood) were most likely used for sails, because the wood could be less pliant.

#### 2.4.3 Selection of wood for fuel

Study of wood charcoal from specific hearth contexts has also revealed information about the specific selection of wood for use as fuel. However, whether this is selecting what is immediately available or possibly a more complicated selection of preferred wood fuels is not always clear. Charcoal recovered from a buried soil at Brean Down has led Straker (1990b and pers. comm.) to conclude that the Beaker period landscape was dominated by ash (*Fraxinus* sp. – 53.8% by weight), which although still common in the Mendips area is no longer present on the grasslands of the Brean Down today. She suggests that the large quantities of charcoal recovered from this palaeosol were most likely related to clearing or burning off of the vegetation before cultivation.

Charcoal analysis from Wilsford Shaft (Squirrel 1987) highlights the difficulties in extrapolating woodland composition from charcoal evidence. Squirrel (1987, 94) cites Mark Robinson’s comments on the assemblage:

All the identified species could occur on the chalk, but a more likely habitat for *Alnus* is neighbouring river valleys. The absence of wood of thorny species (e.g. *Prunus spinosa* [blackthorn] and *Crataegus* sp. [hawthorn]) suggests either that all the wood was from proper closed or managed woodland or, if scrub was also being exploited, only certain species were being collected. This makes an interesting comparison with the seeds...which include no evidence of woodland and only slight presence of mixed thorny scrub.

Determining whether a charcoal assemblage comes from a managed wood with limited taxa or results from the intentional selection of specific trees in surrounding scrub or wood is rarely possible, even when other lines of environmental evidence are available.

#### 2.4.4 Selection of wood for ritual purposes

In addition to specific selection of wood for structures or fuel, results from two Oxfordshire sites, Barrow Hills, Radley (Thompson 1999) and Gravelly Guy (Gale 1988), suggest that the selection of wood fuel for ritual use may have taken place, as well. At Barrow Hills, Radley, Thompson examined the relationship between the number of wood taxa and context and observed different trends in the Grooved Ware pits, inhumations and cremations. In particular Thompson (1999, 253) observed that a wider range of taxa was recovered in Grooved Ware pits (a form of funerary context at Barrow Hills, Radley), than other forms of funerary contexts. Internal variability within features was explored by comparing the proportion of taxa between areas within a feature. In several cases, Thompson (1999, 253) was able to demonstrate changes in either the range or overall proportion of wood taxa either laterally across a feature, or vertically (i.e. upper and lower fills) within a feature. She also noted that charcoal recovered from ten out of eleven Neolithic funerary contexts was dominated (>60% of identifications by weight) by a single taxon. Oak charcoal was recorded lying immediately over several bodies in a linear mortuary structure on the site. Thompson (1999, 253) believes that this could either represent a charred wooden lid placed over the blocks of conglomerate lining the grave or it could be the remains of a fire (? funerary pyre) lit over the grave after burial. This activity also appears to have continued in the Bronze Age funerary deposits studied. She suggests that 'a single tree or bush was burnt [in most funerary pyres] and that this choice

may have been of ritual significance' (Thompson 1999, 253). As Thompson (1999, 253) argues, it is unlikely that the selection of wood for a funerary pyre is entirely due to chance.

At Gravelly Guy Gale (1988, 5) has also noted differences in the wood(s) selected for cremations. In addition to the cremation results, she (Gale 1988, 5) suggests that the charred remains of an oak coffin recovered from a Beaker period inhumation may support the conclusion that charcoal resulted from the ritual burning of a coffin or planks of wood placed round a body.

#### 2.4.5 Earliest identifications of beech (*Fagus sylvatica* L.)

The native status of beech is still debated. It is generally believed that beech was one of the last trees to colonize post-glacial Britain (Rackham 1995: 27). Godwin (1956, 206–9; 1975, 273–6) suggests that doubt about the native status results from the fact that Julius Caesar's account of Britain does not record beech in an area believed to be the location of ancient, natural beech forest in England. However, Caesar was not a botanist and Godwin suggests that Caesar's use of the latin word *Fagus* (which we now use for beech) was used at that time for sweet chestnut (Godwin 1956, 206; 1975, 273). In addition, Godwin (1956, 206; 1975, 273) suggests that based on existing pollen and archaeobotanical remains, there was ample evidence to suggest a pre-Roman status for beech and, therefore, argues that beech is most likely native to the British flora. One factor, which hampers recognition of beech in the pollen record, is that beech flowers infrequently and beech pollen poorly disperses (Godwin 1956, 206; 1975, 273). As a result, Godwin (1956, 206; 1975, 273) argues that it is likely that beech is under-represented in the British palynological record.

One of the earliest secure identification of beech charcoal comes from Hazleton North in Gloucestershire. This identification is considered by Straker (1990a) to be 'of interest...as it confirms the presence of this species close to its northern limit early in the Neolithic period.' Beech charcoal has also been identified from Neolithic deposits at Abingdon Camp in Berkshire, Mount Pleasant in Dorset, and Abingdon in Oxford. In

addition, Neolithic waterlogged beech wood has been recovered from the Blakeway trackway on the Somerset Levels.

#### 2.4.6 Discussion

The Neolithic through Early Bronze Age sees a major increase in the number of sites where analyses of archaeological wood have taken place. In addition to an expansion of the range of evidence for the specific use of wood (as domestic fuel, fuel for cremations, building materials, objects, etc...), this period provides the first secure evidence for woodland management (i.e. coppicing evidence from the Somerset Levels trackways) in Britain.

Out of the nine sites recorded as having evidence for clearance prior to 3500 BC identified by Bell and Walker (1992, 165–7, Figure 6.11), five occur in southern England. Obtaining evidence for modification of the woodland by Neolithic peoples in the region, should remain a high priority at excavations in the region. Integrated approaches (including analysis of pollen, plant macrofossils, insect remains, as well as charcoal/waterlogged wood analyses) to this research question should be encouraged.

Although there is a major increase in the number of sites with archaeological wood analysis data compared with Mesolithic and earlier period sites, those Neolithic through Bronze Age sites with wood analysis data are biased to limited regions within southern England and in terms of waterlogged wood are almost entirely dominated by evidence from the Somerset Levels. At the level of individual counties evidence for archaeological wood is frequently limited to a handful of sites or a tight cluster of sites from a specific area within the county.

#### 2.5 *Transitional Early Bronze Age through Late Bronze Age (ca. 2200 – 800 cal BC)* (Data: Tables 11-12, Figure 5 and Radiocarbon: Table 29, Figure 16)

The majority of reports are assigned to this transitional period largely because they are older reports that do not specify which period(s) of the Bronze Age the material studied is from. In most cases these reports merely present a list of taxa identified and some go on to discuss the types of environments these taxa can be found in today. Nevertheless, there are several more recent reports which also fall into this category, usually because it was not possible for the excavators to distinguish Early Bronze Age from Middle Bronze Age deposits.

Tables 11 and 12 summarise the charred and mineralised or waterlogged wood data, respectively.

### 2.5.1 Selection of wood for specific use

The sites of Knighton Hill and the Rollright Stones provide evidence for the possible ritual use of specific wood species in cremations. At Knighton Hill, Biek (1970) reports that only ash (*Fraxinus* sp.) wood was recovered from cremations and stake-holes in the 1959 excavation of a Bronze Age barrow. At the Rollright Stones, Straker (1988) notes that like Barrow Hills, the charcoal evidence supports the interpretation that wood taxa (in this case hazel or oak) were specifically selected for cremations.

Gale (1992b) has noted distinctive patterns in Early through Middle Bronze Age ring-ditch deposits from Field Farm, as well. One ring-ditch only produced charcoal from mature oak (*Quercus* sp.), whilst the other ring-ditch produced a mixture of large quantities of field maple (*Acer campestre*), blackthorn and/or cherry (*Prunus* spp.), and ‘hawthorn group’. Only one fragment of oak charcoal was identified in this second ring-ditch. Gale (1992b, 67) suggests that one possible interpretation for the difference between these two ring-ditches might be that the charcoal recovered from the second ring-ditch represents woody species growing in the locality; whereas, the charcoal recovered from the first ring-ditch most likely represents wood brought in from further afield, possibly for some special purpose (i.e. fuel, timber for a structure or object, etc...).



## 2.6 *Diversification and intensification (1350 – 0 cal BC)*

(Data: Tables 13-14, Figure 6 and Radiocarbon: Table 30, Figure 17)

Tables 13 and 14 summarise the data available for charcoal and waterlogged wood analyses from this period. The range of taxa recovered from sites dating to this period does not alter considerably from those recovered from sites dating to the previous Neolithic to Early Bronze Age and transitional Bronze Age periods. A few taxa do vary between these periods, but this can most likely be explained by minor differences in the composition of charcoal assemblages from different sites. Like the preceding periods, identifications of oak, hazel and ash are most prevalent. Notably, alder charcoal is only infrequently recovered from sites dating to these earlier periods. Why there should be a paucity of alder charcoal identifications dating to these earlier Neolithic and Bronze Age periods is not entirely clear. However, these sites may have been relatively far away from wetlands and/or rivers where alder would naturally occur. Certainly, alder is regularly identified in waterlogged wood assemblages from these periods, where sites are in close proximity to rivers and/or wetlands, although these results are largely biased by the Somerset Levels data. It may be that when other dry, dead wood taxa were readily available, these were usually selected over alder for fuel in the period. Certainly, alder wood is generally considered to be a poor fuel, although alder does make good charcoal (Gale and Cutler 2000: 34).

### 2.6.1 Evidence for woodland management

Evidence for coppicing in this period is still largely conjectural, but this interpretation often best suits existing data. Certain taxa are self-coppicing, especially hazel (Rackham 1995: 10). At Danebury, Poole (1984, 482) argues that it ‘seems almost certain that the woodland utilized at Danebury was managed’. In particular, she notes that the hazel charcoal studied consistently ranges in age from three to nine years and charred hazel wattles, along with impressions in daub, support this interpretation (Poole 1984, 482–3). Gale has argued that oak coppice was in use at both Runnymede (Gale 1991d, 233) and Wytch Farm (East of Corfe) (Gale 1991a). At Runnymede, the generally young age of oak wood (35 years or less) and the ‘predominance of seven-year-old [oak] stems

conforms with the long established custom of harvesting rods on a seven-year cycle' (Gale 1991d, 233). At the 'East of Corfe', Wytch Farm, Dorset a number of charcoal-filled pits were sampled. All of the pits produced small diameter stem and cord wood (wood cut from the main trunk of tree or from coppice standards, sprouting from a coppicing stool) that appears to have been used in preference to mature oak wood (Gale 1991a, 203). Gale (1991a, 203) believes this indicates that coppicing or pollarding was practised to generate a steady fuel supply. The precise function of these pits and the specific use of the fuel (i.e. for pottery, metalworking, salt manufacture, etc...) is not clear. However, Gale (1991a, 202) argues that it is unlikely that these pits were used as charcoal clamps, since 'the traditional pit clamp...[has a] usual diameter...[of] 4.6 m', which is substantially wider than the maximum 1.6 m diameter of the excavated pits. However, prehistoric charcoal clamps have rarely been securely identified archaeologically and, therefore, may not necessarily conform to modern dimensions.

The presence of scrub taxa in charcoal at Rowden in Dorset, Carn Euny in Cornwall and the Rollright Stones in Oxfordshire has been interpreted to indicate the presence (or indeed increase) of scrub at these sites. At Rowden, there is a clear increase in wood associated with scrub or hedge over 'true' woodland taxa between the Neolithic and the Middle Bronze Age deposits, which may indicate 'a reduction in the availability of woodland taxa' in this later period (Carruthers and Thomas 1991, 114). Carruthers and Thomas (1991, 114) stress that 'due to the available and frequently inadequate quality of the data...further conclusions must await more intensive sampling', nevertheless, the implications for woodland clearance in the area during the Middle Bronze Age are clear.

At Carn Euny, Sheldon (1978, 431) reports that broom/gorse dominates the charcoal assemblage by both number and weight, not only suggesting the presence of heathland (either dry or wet, acid soils), but its exploitation. Most notably, she observes that the presence of alder and hazel in deposits is mutually exclusive at the site (Sheldon 1978, 432), which may suggest changes in the areas exploited for wood fuel over time. Unfortunately, the data from individual contexts are grouped together by phase and presented in summary tables, rather than for individual contexts, so it is not possible to ascertain whether the presence or absence of these wood taxa was also related to context type.

At the Rollright Stones, Straker (1988, 102) notes a ‘general shift in emphasis from woodland (in the Bronze Age cremations) to scrub species (used as fuel in the Iron Age settlement) that may reflect changes in the vegetation cover in the vicinity of the site.’ She does note, however, that wood can be imported into the site from elsewhere, and may not necessarily reflect the local vegetation. However, the difference between ritual Bronze Age deposits and domestic Iron Age deposits may also be a factor in the selection of wood fuels at the Rollright stones.

Gale (1999a, 1999b, 1999d, 1999e, 1999f) has reported the use of a wide variety of wood fuels from sites along the A30 excavations in Devon. In particular, she notes that at the A30 Honiton (Long Range) site, a wide range of taxa derived from both unmanaged and managed woodland appear to be in use as fuel (Gale 1999f, 157). She suggests that this may represent the simultaneous use of scavenged and coppiced and/or pollarded wood fuels.

#### 2.6.2 Selection of wood for ritual use

Both the sites of Jewson’s Yard in Uxbridge, Greater London and Cowleaze in Dorset provide some evidence for the ritual use of wood. Robinson has identified that oak wood was the main fuel supply for two Late Bronze Age cremations (Robinson 1995, 22). In addition, at Cowleaze Carruthers (1991, 114) notes that the presence of oak charcoal ‘steadily increases; buried soil (7%), turf barrow mound (39%) and cemetery ditch silts (92%)’. Carruthers believes that the high percentage of oak charcoal in the cemetery ditch deposit most likely can be linked to the barrow ‘structure and cremation ritual at the time of the cemetery usage’ (Carruthers and Thomas 1991, 114).

### 2.6.3 Selection of wood for industrial use

The first secure identifications of the use of wood fuels for industrial purposes (pottery manufacture, metalworking, etc...) date to the Iron Age in southern England. Charcoal associated with iron working has been recovered from both the sites of Brooklands in Surrey and Maiden Castle in Dorset. At Brooklands, Keepax (1977) recovered only oak charcoal from two iron working areas at the site. At Maiden Castle, Gale (1991c) recovered oak and ash charcoal from contexts associated with iron smelting. Gale (1991c, 128) believes that 'these must have been fired in great quantity to maintain the heat needed for such an industry'.

### 2.6.4 Evidence for use of exotic taxa

Keepax and Morgan (1978) have identified larch (*Larix* sp.) charcoal from the Iron Age site of Nornour on the Scilly Isles. A radiocarbon date of 2290 to 830 cal BC [HAR 239] (Clark 1978: 66) was obtained which confirmed a pre-Roman date. They suggest that larch wood was most likely obtained through the collection of driftwood, rather than any particular trade contacts. This is the earliest find of exotic wood in the region, and notably, no other exotic taxa appear until the Roman period.

### 2.6.5 Discussion

With nearly 150 sites reviewed, archaeological wood evidence from Late Bronze and Iron Age sites form a substantial data set on the nature of woodland and wood use in these periods. Clear evidence for the intentional selection of wood for specific purposes (ritual, building materials, fuel, etc...) and the management of woodland now exists. Again, the waterlogged wood analyses are heavily biased by the Somerset Levels data. Although charcoal analyses have occurred in most counties in the region, only a handful of the sites excavated have reported charcoal analysis results, and these are often biased to limited areas within individual counties.

## 2.7 *Transitional Iron Age to Roman Period (ca. 800 cal BC – 100 cal AD)*

(Data: Table 15, Figure 7 and Radiocarbon: Table 31, Figure 18)

Table 15 summarises the charcoal and waterlogged wood identifications for the four sites that span the transition from the Iron Age to the Roman period. In many cases these reports are only provisionally dated or only present preliminary results. However, the radiocarbon results for Glastonbury clearly span the transition from Late Iron Age to the Roman period (e.g. Coles, J. M. and Orme 1985, 1988).

Glastonbury, one of two settlement sites (the other being Meare Lake Village) currently known on the Somerset Levels, was largely excavated in the early 20<sup>th</sup> century (Bulleid and Gray 1911, 1917, 1948) and wood analyses from this site are not as precise as later work. Bulleid only recorded wood identifications for oak and alder, other unidentified wood was recorded as ‘not oak’ or ‘quite soft’ (Orme and Coles 1985, 22–3). Although oak timber was clearly the preferred building material, both oak and ash were used for the smaller artefacts on site (Orme and Coles 1985, 22). Charcoal and waterlogged wood recovered from the 1979 excavations, however, has considerably extended the range of scrub and woodland taxa identified (Orme and Coles 1985, 23 – see Table 15). Orme and Coles (1985, 23) suggest that in the first millennium secondary woodland (i.e. naturally regenerated woodland in man-made clearings or artificially selected man-made forests), dominated by shrubby taxa (i.e. blackthorn/cherry, dogwood, elder, hazel, and purging buckthorn), was encouraged after clearance of primary woodland (i.e. virgin forest, untouched by man) and this secondary woodland also steadily decreased through over-exploitation later in the first millennium AD.

## 2.8 *Roman (0 – 400 cal AD)* (Data: Tables 16-17, Figure 8)

The Roman period results for archaeological wood are summarised in Tables 16 and 17. The range of native wood taxa identified is not significantly different from that known from the preceding Bronze Age and Iron Age periods. With the exception of larch, which was first found in the region from Iron Age deposits at Nornour, Scilly Isles (see §2.6.4

and entry 30 on Table 13), several exotic taxa – cedar, cork oak, silver fir, spruce, and sweet chestnut – are first recorded in southern England during the Roman period.

### 2.8.1 Evidence for woodland management

Our understanding of woodland composition, even in areas as well known as Avebury, is often surprisingly limited. Rowena Gale's (1996e, 56) analysis of the charcoal assemblage from Winterbourne, Wiltshire does establish that in the Roman period, woodland composed of taxa typically still found in and around downlands existed in the area (most likely a mixture of scrub species – e.g. blackthorn, hawthorn, and hazel – and light woodland or isolated stands of taller species – oak, ash or maple). As Gale (1996e, 56) states, '[t]he identification of the charcoal complements existing knowledge of the [Avebury] region and has provided a base-line on which to found evidence from future excavations'.

Roman period evidence from Gravelly Guy in Oxfordshire suggests that there is a general decline in the range of species available from the preceding Iron Age period (Gale 1988). The majority of taxa recovered (e.g. ash, hazel, field maple and oak) do produce coppice stools and certainly Gale suggests that it was possible that coppicing had taken place at Gravelly Guy (Gale 1988, 11). At Farmoor in Oxfordshire, a waterlogged wattle structure (comprised of oak and ash uprights and hazel and ash horizontals) was recovered from the lining of a Roman well. The oak rods were primarily fast-growing, straight poles, one of which was 7 years old and only 75mm in diameter, which is precisely the 'sort of wood produced by oak under coppice conditions' (Robinson 1979, 81).

At Pomeroy Wood in Devon, charcoal was recovered from three phases of Roman occupation roughly spanning the first through third centuries AD (Gale 1999g). Comparison of the results from three phases of Roman occupation indicates that despite the site's change from a military to a civilian settlement, 'the character and type of fuel used remained the same throughout this time' (Gale 1999g, 383). Gale (1999h, 382–4) believes that coppiced oak was the main wood used as fuel at Pomeroy wood throughout the Roman period. Oakwood fuel was often supplemented by small quantities of alder,

ash, birch, hazel, elm, field maple and holly and, to a lesser extent, shrubbier species (including hawthorn group, blackthorn, elder and gorse/broom).

Finally, waterlogged structural timbers from Roman London provide the first evidence for both the wasteful use and the possible wide scale felling of older trees for structural timbers. At the Roman port of London, excavators observed that ‘only one major structural timber had been cut from each tree, a wasteful practice which contrasts noticeably with later medieval techniques’ (Milne 1985, 65). Milne (1985) suggests that ‘the lavish use of ancient timber on the London waterfront suggests that the Romans saw much of the British woodlands as a resource to exploit rather than to develop’.

Although some of the timbers from the Roman port at London suggest wasteful use of woodland resources, there is some evidence for the re-use of timbers as braces in the eastern quay structure (Milne 1985, 62). In addition, at Peter’s Hill (Anonymous 1993, 101), also in London, it appears that some of the oak piles excavated ‘have been squared down from larger originals’. At both sites, a certain amount of prefabrication of timbers appears to have occurred as well.

## 2.8.2 Selection of wood for use as domestic and industrial fuel

A wide variety of wood fuels seems to have been in use in southern England during the Roman period. Western notes that a limited range of wood taxa (hazel, ash and maple) was identified in fuel deposits (a hypocaust system and forge) at Cox Green Roman Villa (Western, C. 1962). Western (1962, 89) argues that all of these taxa are suitable ‘for the purpose of stoking’ furnaces. Like the results for Pomeroy Wood in Devon (see §2.8.1 above), charcoal evidence from a Roman tiliary kiln and re-smelting hearth at Great Cansiron Farm in East Sussex suggests that a mixture of managed (including coppiced) and scrub wood was used as fuel (Cartwright 1986c). Notably at Great Cansiron, birch seems to be the primary wood fuel used.

Charcoal is generally considered the most appropriate fuel for smelting or smithing, and was also in general use in Roman Britain as the fuel in braziers or cooking ovens (see

discussion in Gale 1999d, 382). At Chesters Villa, in Woolaston, Gloucestershire, oak charcoal dominates the iron working assemblages (73.3% of all identifications) (Figueiral 1992). Figueiral (1992, 190) suggests that charcoal making (intentionally pre-burning wood to make charcoal fuel) was an integral part of the iron making process and, therefore, it is possible that a portion of the charcoal identified from iron working contexts was actually charcoal, rather than wood fuel. Other evidence for the use of charcoal in southern England during the Roman period comes from Pomeroy Wood in Devon. Charcoal recovered from lower fills of a third to fourth century latrine may be evidence of 'the possible use of charcoal to abate and purify the foul odours from the cess pit' (Gale 1999d, 381–2). Gale (1999d, 381–2) suggests that evidence of the practice of deodorising cess pits with charcoal is also preserved at Salford Priors in Warwickshire.

### 2.8.3 Selection of wood for ritual purposes

Ritual use of wood in funerary pyres seems to continue into the Roman period. At Jewson's Yard in Uxbridge, Greater London, oak wood was the main fuel used for cremations (Robinson 1995). Robinson (1995, 22) notes that other plants, including spelt wheat chaff, plum stones, cherry stones, summer savory seeds and dock seeds were also recovered from these cremations. Non-food plants may have been used as kindling, but the presence of food plants is 'more problematic', however, Dominique de Moulins has also recovered charred lentils from cremations at Hooper Street, East London (Davis and De Moulins 2000: 374-7).

### 2.8.4 Newly introduced or exploited taxa

As both Tables 16 and 17 suggest, the Roman period sees an increase in the range of taxa imported or introduced to Britain, along with an increase in their frequency of recovery. Finds of exotic wood are primarily from sites in London, but also have been recovered from Chew Park well (well of a Roman Villa) and Herriot's Bridge (Roman settlement) in Somerset (Metcalf and Levy 1977; Metcalf and Richardson 1977). There does appear to be a bias in finds of exotic wood toward urban (London sites) and prestige (villa) sites.



Whether these exotic wood taxa were fully introduced into the British flora (as intentional orchard, woodland or garden trees or as accidental introductions) or merely imported (as part of decorative objects or perhaps the raw materials for their production) during this period is not clear. Milne (1985, 67) argues ‘that the Romans had no need to import exotic timber to Britain, since there is ample evidence that the province was extensively wooded.’ Although a few exotics were imported, these seem to have been used primarily for small objects or for their decorative properties.

Barrels recovered from the Roman port of London were made from silver fir or cedar, larch or spruce and oak (Straker 1985). Silver fir/cedar and larch/spruce have also been identified in a range of other objects from Roman London, including writing tablets, pegs and bungs (Gale 1987a). A wooden stopper from the Sunlight Wharf excavations (presumably Roman) was identified as cork oak (*Quercus suber* L.) by Gale (1987a, 4).

The identification of horse chestnut (*Aesculus hippocastanum*) at Witcombe Roman villa in Gloucestershire is somewhat dubious. Certainly, Godwin (1956, 290; 1975, 172) suggests that Roman or earlier identifications should be ‘discounted’, since this is most likely a later (possibly as late as Medieval) introduction to Britain. Identifications of sweet chestnut (*Castanea sativa*) in the Roman period, however, are more secure and this species is generally considered to be a Roman introduction to Britain (Godwin 1956, 205; 1975, 276–7). An extremely well preserved, waterlogged roundwood post from a Roman roadside structure at London wall has been identified as sweet chestnut by Nayling (1991), and other secure and/or tentative identifications are known from the period (e.g. Anonymous 1955; Figueiral 1992; Lyell 1912; Metcalfe and Levy 1977).

A number of wooden objects recovered from excavations in Roman London have been identified as box (*Buxus* sp.). These are the first secure examples of the use of boxwood in the region. Although considered a native species by Stace (1997, 457), there is still some debate about the native status of box in the British Isles (Godwin 1956, 181; 1975, 175–6). In particular, the identification of possible boxwood by Cecil Maby (1930) at Whitehawk camp, Brighton has been taken as possible evidence for the early presence of box in Britain (Godwin 1956, 181; 1975 175). However, the Whitehawk possible box

charcoal was recovered from the same context as charcoal identified as possible horse chestnut (*Aesculus* sp.), and horse chestnut is considered to have been a later introduction to Britain (possibly as late as the Medieval period) (Godwin 1956, 290; 1975, 172). As a result, there is some doubt as to whether this single early and tentative identification of boxwood in the region is secure.

#### 2.8.5 Discussion

The main question concerning woodland in the Roman period revolves around whether the Romans treated British woodland as a resource to be exploited arbitrarily or applied woodland management strategies, possibly aimed at sustainability. In addition, existing archaeological evidence for exotic wood taxa appears to be largely limited to urban or villa sites, and primarily derived from small, portable items. The presence of exotic wood could indicate either the high status of the site (as in the case of Chew Park well, which was a Roman villa), but may also directly indicate ‘romanisation’ of the villa’s occupants. However, recovery of exotic wood appears to be biased toward waterlogged preservation and, therefore, may not provide comprehensive evidence on which to base such claims.

#### 2.9 *Early Medieval (400 – 850 cal AD)* (Data: Tables 18-19, Figure 9)

There is still some debate over the nature of woodland in this period, especially in terms of whether woodland regeneration occurred. The majority of evidence for or against these interpretations is derived from the pollen record (Dark and Dark 1997, 143–4). Current British dendrochronological evidence suggests that tree-ring samples from 4th century and 8th century sites in England are extremely limited (Tyers *et al.* 1994, 17–21). Notably the charcoal data also show a marked decrease in the number of sites studied from the 4<sup>th</sup> and 8<sup>th</sup> centuries.

In the previous Roman period, a total of 77 sites was discussed, whereas only 22 sites are reported for the Early Medieval period. Admittedly, the data presented here are not fully comprehensive, but the decline in charcoal analyses from this period does appear to

reflect a general decline in archaeological evidence, which is encountered in other disciplines within environmental archaeology (i.e. in the archaeobotanical record for southern England, pers. comm. G. Campbell). Whether gaps in evidence reflect a genuine decline in archaeological data, or are biased by the limited number of sites dating to this period that have been excavated, is not clear.

### 2.9.1 Evidence for woodland management

Perhaps due to the paucity of available sites in southern England, during this period, no evidence for woodland management is discussed in the wood analyses reviewed.

### 2.9.2 Selection of wood for building timbers

At Tintagel in Cornwall, Gale and Straker (1997, 106) observed that hazel (for wattle) and oak (for main structural timbers) were ‘preferentially selected for construction’ timbers.

### 2.9.3 Selection of wood for fuel

It also appears that hazel and oak were primarily used for fuel at Tintagel (Gale and Straker 1997, 106). Saxon remains from Kingston upon Thames, Surrey and Hounslow Police Station (unpublished data of J. Giorgi cited by Davis in her Kingston upon Thames report) provide evidence for the intentional collection of heather (*Erica cinerea*<sup>1</sup>/ *Calluna* sp.) for use as fuel (Davis 1999, 48). Davis (1999, 48) argues that there were extensive areas of heathland in England during the Medieval period and, certainly heather was

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<sup>1</sup> *Erica cinerea* leaves were identified in the plant remains, so Davis (1999) concludes that the *Erica* sp./ *Calluna* sp. charcoal identified is likely to include *Erica cinerea*.

collected, ‘even coppiced’ (managed by cutting back), for fuel and firelighters. It seems likely that heathland areas were regularly exploited, in some cases intentionally managed, for heather/ ling fuel in the period (Davis 1999, 48).

#### 2.9.4 Use of wood for grave goods

Preserved or mineralised wood used for grave goods (such as spearshafts, sword scabbards and/or knife tangs) have been recovered from Early to Middle Saxon burials at Buckland (Cutler 1987) and Polhill (Anonymous 1973) in Kent. These items would have been specifically selected for the funerary ritual, but it is likely that the wood is merely a component of the object selected to express status. None of the reports speculate on whether the objects would have been used during life or were specifically designed for grave goods.

#### 2.9.5 Discussion

The nature of woodland after Roman occupation should be a research priority. ‘The end of Roman Britain, in environmental terms, has usually been seen as having been accompanied by widespread woodland regeneration following the abandonment of agricultural land’ (Dark and Dark 1997, 143). In addition, there appear to be two crucial gaps in the dendrochronological record of England. First, ‘[w]e have no datable tree-ring samples from a 4th century site’ (Tyers *et al.* 1994). Tyers and others (1994, 19) tentatively link the departure of the Romans with the consistent absence of datable tree-ring material from 4th century Britain. Later in the Saxon period, there appears to be a second marked reduction in the dendrochronological record for Britain in the 8th-9th centuries, although this is also observed in Irish and northwest German evidence (Tyers *et al.* 1994, 17).

## 2.10 *Transitional Saxon (ca. 400 – 1100 cal AD)* (Data: Tables 20-21, Figure 10)

The majority of this material was not securely dated to a particular sub-period within the Saxon period. In general, however, most of the wood identifications continue to show a much more limited range of taxa, primarily dominated by native taxa. Like the Early Medieval data, the overall number of sites classed as ‘Transitional Saxon’ is much smaller than in the Roman period and also may reflect the limited number of sites dating to this period where archaeological wood analyses have taken place.

### 2.10.1 Newly introduced or exotic taxa

Exotic taxa have been identified from the sites of Billingsgate (Gale 1987c) and Baynards Castle (Gale 1986) in Greater London. These include taxa already known from the Roman period, such as cork oak (*Quercus suber*) and spruce/larch (*Picea* sp./*Larix* sp.) At Billingsgate (Gale 1987c) a tentative identification of *Anisoptera* sp., trees of Indo-malaysian origin, which often are used for decorative woodwork and especially veneers, was made. This is the only known identification of such wood in southern England.

## 2.11 *Medieval to the Black Death (850 – 1350 cal AD)* (Data: Tables 22-23, Figure 11)

As in the preceding Early Medieval period (including transitional Saxon), wood remains from this period are primarily dominated by native taxa. Again, the overall number of sites studied is much lower than in the Roman period.

### 2.11.1 Selection of wood for use as industrial fuel

The specific selection of oak wood for industrial fuel is evident at a number of sites from this period. At both Barnett’s Mead (Cartwright 1981) and Clacket Lane (Robinson 1997b), oak was the primary fuel used to fire pottery kilns. Robinson (1997b, 84) notes that mature oak wood was specifically selected to fire the pottery kiln at Clacket Lane,

and suggests that ‘the kiln was [most likely] burning branchwood that was a by-product of timber production’. The use of mature oak wood was also recorded at Anslow’s Cottages, where Gale (1992a: 159) observed that mature oak, largely from heartwood, was the main fuel used, most likely for a ‘more industrial function’. Western (1976) also observed the dominance of oak fuel at Alsted (Site 3). He noted that although oak was the primary fuel used in the early smelting hearths, in the later forging hearths the type of wood fuel used was much more varied and was always used in combination with coal.

### 2.11.2 Medieval charcoal burials

There is some evidence that the ritual selection of wood for burial continues into this period. Most interestingly, at Christchurch, Oxford, two of the excavated graves contained skeletons ‘resting on a bed of charcoal’ (Hassall 1973: 270). The charcoal from the first grave was primarily oak, but also included elder and/or birch charcoal. The bed of charcoal in the second grave was entirely made up of oak. Hassall (1973, 271–2) reports that this style of burial is equivalent to the ‘Danish’ style reported by Martin Biddle and they would have been positioned ‘almost immediately outside the western end of the 12th century Priory Church [at Oxford]’. This style of burial is also known at Winchester, New Minster (Hassall 1973, 272 and footnote 3).

### 2.11.3 Newly introduced or exotic taxa

A few newly introduced or exploited exotic wood taxa have been identified in the Late Saxon through Early Medieval periods. Watson (1981b) has identified the first use of walnut (*Juglans* sp.) in southern England from a carved wooden cartouche at Hampton Court Palace. Charcoal identified as chestnut species (*Castanea* sp.) or sweet chestnut (*Castanea sativa*) has been recovered from London at Northolt Manor (Levy 1961), in Surrey at Alsted (Western, A. C. 1976) and in East Sussex at Barnetts Mead (Cartwright 1981), Broomans Lane (Cartwright 1983b) and Church Street, Seaford (Cartwright 1978c) as well. Sweet chestnut (*Castanea sativa*) was first introduced in the Roman period and clearly continues in use in the Saxon and Early Medieval periods.

#### 2.11.4 Discussion

Like the preceding Early Medieval period (including transitional Saxon), there is a gap in the dendrochronological evidence for Medieval to Black Death period sites in Britain. Although ‘there is evidence of more or less continuous occupation somewhere in the country right through the period,...we do not seem to find [any dendrochronological evidence] outside York and London during the 10<sup>th</sup> and 11<sup>th</sup> centuries’ (Tyers *et al.* 1994, 17). Whether this patterns in the dendrochronological data reflects a real decline in woodland and/or exploitation of wood in these periods is unclear.

With the exception of sweet chestnut (*Castanea sativa*), the pattern of primarily using native taxa continues from the preceding Early Medieval period. Whether this implies a reduction of trade contacts, a more limited supply of prestige goods, or is merely linked to the decrease in sites excavated as compared to the Roman period is not clear. The dominance of urban sites may limit our understanding of rural wood use and/or woodland management. The issue of what building materials were used at rural settlements in the period has been identified as an area in particular need of further research (Tyers *et al.* 1994, 17).

#### 2.12 Transitional Medieval (ca. 1100 – 1650 cal AD) (Data: Table 24, Figure 12)

Several reports included identifications of wood, which were broadly dated to the Medieval period. These are listed in Table 24. In the main, these sites have produced small assemblages of primarily native wood. One exception, however, is the identification of cork oak (*Quercus suber*) from Trig Lane, London (one of the sites studied under 24 London Sites AML 60/87) (Gale 1987a).

### 2.13 Late Medieval through Early Modern (1350 cal AD – 1900 cal AD)

(Data: Table 25-26, Figure 13)

The final period reviewed – the Late Medieval through Early Modern period – primarily demonstrates the long-distance trade links England established and maintained from the Late Medieval period onward, with the arrival of exotic wood from tropical Africa, the Far East, the West Indies and the Americas. Table 25 presents sites with charcoal analyses and Table 26 presents sites with mineralised, waterlogged and part mineralised and part preserved wood from this period.

#### 2.13.1 The selection of wood for charcoal production

Excavations at Lordship Wood revealed six platforms dated to  $280 \pm 70$  cal BP, which are believed to have been used for charcoal burning (Jones 1983). The wood charcoal identified from these platforms was dominated by hazel and hawthorn group charcoal (63% of the assemblage by weight), but also included smaller amounts of oak, beech, hornbeam, birch and alder charcoal. Although hazel coppices readily, hawthorn is usually pollarded (Rackham 1995). Two species of hawthorn are native to Britain (Stace 1997, 396–7). ‘Common’ hawthorn (*Crataegus monogyna* Jacq.) is more typically grown in hedgerows, although the midland hawthorn (*Crataegus laevigata* (Poir.) DC.), which is common in central and southeastern England (Stace 1997, 397), is more tolerant of shade, and frequently associated with ancient woodland. Jones (1983, 212) concludes that further samples of charcoal from this area are necessary in order to establish what taxa were present at Lordship Wood, and how they were managed, in the past.

#### 2.13.2 The selection of wood for structural timbers at waterfronts

As explained in the introduction, no attempt will be made here to review wooden objects or structures (e.g. timbers from standing buildings, ships, etc...) in detail. However, several recent excavations at waterfronts have produced evidence on the woods selected for such structures.



At Abbey Wharf, Reading, Berkshire, all of the large structural timbers used on the waterfront were oak (Carruthers 1997, 63–4). Carruthers (1997, 64) notes that although birch and ash were used in the revetments of the Early Medieval waterfront structures, these were not used in the Late Medieval and Early Modern structures on site. She (Carruthers 1997, 64) argues that ash and birch would be ‘unsuitable for long-term use due to their liability to rot under water’. A range of other wood (such as beech, field maple, poplar/willow, and elm), however, were used in this period as structural timbers at Abbey Wharf (Carruthers 1997, 63).

### 2.13.3 Newly introduced or exotic taxa

Perhaps the most notable result from the study of archaeological wood dating to the Late Medieval through Early Modern periods, is the identification of a range of exotic taxa at a small number of sites in southern England.

The first identification of holm oak (or evergreen oak), *Quercus ilex*, is made in this period in Surrey, from Betchworth Church Barn (Miles 1992). Waterlogged Scots pine (*Pinus sylvestris*) and spruce/larch (*Picea* sp./ *Larix* sp.) wood were recovered from Abbey Wharf, Berkshire and East Gate, Gloucester. Carruthers (1997, 63) demonstrates that both Scots pine (native in Northern Britain) and larch/Norway spruce (European origin) were not widely available in southern England until the 18th century, when plantations were established.

The first identifications of grape (*Vitis vinifera*) and walnut (*Juglans* sp.) wood (both cultivated in Europe) are also made in this period at Abbey Wharf, Berkshire (grape and walnut) and Cutler St., London (walnut). Both of these taxa are known archaeobotanically from Roman times in Britain. Although grape was certainly cultivated in Britain from at least the Roman period (e.g. the vineyard at Wollaston, see Meadows 1996), it is possible that walnut was not cultivated in England until the Early Medieval period (Carruthers 1997, 62–3). Certainly walnut would be utilised for its decorative qualities, and grape wood is known for its durability (Gale and Cutler 2000: 146, 280).

Finally, four exotic taxa – ebony (*Diospyrus* sp.), sandalwood (*Santalum* sp.), gum tree (*Eucalyptus* sp.) and lignum vitae (*Guaiacum* sp.) – have been identified, which clearly demonstrate the far-reaching trade links of Britain in this period. A wooden ‘modern road block’ made from gum tree (*Eucalyptus* sp.) from an unidentified site in London was identified by Gale (1987a). Over 500 *Eucalyptus* species exist, most of which are from Australia and Tasmania and are a valuable timber for heavy construction work (i.e. house building, railway construction, etc...) (Gale 1987a). Waste material from working sandalwood (*Santalum* sp.) and ebony (*Diospyrus* sp.) were recovered from post-medieval deposits at Cutlers Street, London (Gale 1987b). Both taxa are native to East Malaysia, Australia and Polynesia and if not imported directly, these finds do demonstrate the strong trading links established in Britain by the Post-Medieval period. Post-medieval worked objects in lignum vitae (*Guaiacum* sp.) have been recovered from both Cutler Street, London (a bobbin and a pulley) and Abbey Wharf, Reading, Berkshire (a turned lid) (Carruthers 1997; Gale 1987b). Lignum vitae is native to tropical America and the West Indies, and is particularly prized for its self-lubricating properties (Carruthers 1997, 63). Again, these finds suggest far-reaching trading contacts have been established by this period.

#### 2.13.4 Discussion

Characterizing Late Medieval through Early Modern woodland and wood-use remain major research themes for the period, especially with the intensification of industrial and naval activities in the period. In addition, the incorporation of historical sources can greatly aid our understanding of wood use and/or woodland management in the period (e.g. Rackham 1995).

Finally, the Late Medieval/ Early Modern period sees the arrival of exotic wood from the Far East, Australia and the Americas. Detection of how wide-spread exotic wood was, and whether they were exclusively used at high status sites should be explored.

### 3 Methodological priorities for future wood analyses

The review of archaeological wood analyses for the southern region raises three main issues in terms of the recovery and analysis of ancient wood remains:

- how we recover archaeological wood.
- how we analyse the data.
- how the context sampled relates to wider research issues.

Such issues are in need of careful consideration by archaeologists, as well as wood analysts, if we are to move beyond the rudimentary collection and recording of data.

#### 3.1 *Sampling archaeological wood*

The recovery of archaeological wood on sites varies from hand-picked, to bulk sampling (often as part of archaeobotanical sampling), and on to a combination of these two methods. Even today, the incorporation of intentional collection of charcoal samples at excavations is often solely for the recovery of samples suitable for radiocarbon dating. Typically, charcoal is retrieved as part of the archaeobotanical sampling strategy, which may not necessarily address methodological and/or research issues specific to wood analysis. Sampling waterlogged wood may entail consideration of storage and conservation (Brunning 1996). Analysis of waterlogged wood has previously been viewed as ‘expensive’, and this has been used as an excuse in the past by some excavators to avoid incorporating thorough sampling of archaeological wood during excavation of waterlogged sites (e.g. 1972/3 excavations at Ferry Lane, Shepperton – see discussion of what work was attempted and preservation *in situ* of fish weir stakes in Bird 1999: 105). No one would support such attitudes in terms of pottery or small finds and, therefore, curators should encourage thorough sampling and analysis of wood from waterlogged sites, not only to characterize the activities which may be taking place on site, but also to establish information about the surrounding landscape.

Although specific guidelines for sampling charcoal do not exist, guidelines on sampling for waterlogged wood (Brunning 1996) are available from English Heritage. A brief description of how archaeological wood was sampled on site should be provided in any report of wood analysis results. The majority of reports reviewed here failed to provide basic information on the contexts sampled or their date. In most cases, it was not clear whether the data presented represented one or multiple samples. Sampling charcoal across features should be attempted more frequently. As Thompson (1999) has demonstrated, sampling vertically (i.e. the various stratigraphic layers of a pit, burial, etc...) and horizontally (i.e. in a grid across a feature) can generate important data regarding the use of wood on a site (in this case for cremations).

Whichever sampling method(s) are employed, the basic information on how the material was recovered should be reported, especially as it may introduce bias into the archaeological wood data from a site. For example, hand collection of archaeological wood will favour larger, most likely intact, fragments and, therefore, will be biased against wood taxa which are more likely to fragment into smaller pieces on archaeological sites (i.e. through charring in ancient times, taphonomic conditions, etc...). The recovery of charcoal through flotation, however, may also damage fragile remains of archaeological wood, causing them to fragment further and, therefore, reducing our ability to reconstruct the age of the tree, the function of the wood in structures, or even establish its secure identification. As a result, a combined strategy of hand-collecting larger fragments of wood, as well as collecting bulk soil samples (possibly as part of archaeobotanical sampling of the feature), will ensure maximum recovery of data on archaeological wood from a site (e.g. combined hand collected and sieved (flotation) charcoal from Hazleton North, Gloucestershire in Straker 1990a).

How well wood survives charring and how likely charred wood remains intact or breaks up are methodological issues which impact on wood analysis results and require further research. In addition, it is notable that certain taxa are rarely recovered. For example, 'virtually no lime wood, or more especially charcoal, survives' (pers. comm. Vanessa Straker). These issues are particularly important in terms of the design of sampling strategies for the recovery of wood/ charcoal from archaeological sites, if we are to attempt to reduce possible bias in archaeological wood data.

### 3.2 *Analysis of archaeological wood*

As Murphy (2001, 22) has commented, in his review of archaeological wood in the Midlands of England, current research on archaeological wood is still working at ‘the basic stage of data accumulation’. Certainly, it is not possible to claim that we have achieved a firm understanding of woodland use/management for any period in southern England. Examples of integrated approaches to the archaeological reconstruction of woodland use/management are limited. Non-wood fuels can be used in combination with wood fuels, yet charcoal and archaeobotanical remains often are studied and reported on in isolation. Reconstruction of ancient woodland composition can easily draw on other forms of environmental evidence (i.e. pollen, insects, molluscs, plant macrofossils, etc...) providing a more holistic approach to the environmental reconstruction, which reduces problems of bias against certain woodland taxa in all of these environmental archaeological sub-disciplines.

Perhaps the single most obvious gap in current analysis of archaeological wood, is the lack of comparison of results of similar features (i.e. all hearths, all pits, etc...) at an individual site, or between different sites. Which wood fuels were typically used in hearths at Bronze Age sites in Hampshire, for example, cannot be explored on the basis of existing evidence. Comparison of change over time is often attempted at a rudimentary level for individual sites, but usually in terms of the overall assemblage composition. It is far more likely that comparing archaeological wood results from similar features (i.e. hearths) across different periods may generate far more reliable comparanda, than the comparison of amalgamations of archaeological wood, most likely from different context types, across periods.

More sophisticated forms of analysis, possibly in integration with other forms of environmental evidence, are needed (see discussion in §3.3). It is clear that if analyses of archaeological wood are to move beyond basic characterisation of data to reconstruction of ancient woodland use/management such approaches will have to be attempted.

### 3.3 *Research priorities for future wood analyses from specific context types*

In addition to considerations of how to sample for and analyse archaeological wood, the context from which this material is derived can also lead to wider research issues, which should be considered both in excavation and analysis. A few major themes for future analysis are apparent as a result of this review:

- Recognition of woodland clearance
- Detection of charcoal production
- Detection of coppicing
- Specific selection of wood fuels for industrial activities (i.e. pottery production, metalworking, etc...)
- Specific selection of wood for ritual purposes, especially in relation to cremations and/or burials

The list above simply explores some of the more obvious wider research issues for wood analyses in southern England. This **should not** be viewed as the only possible research issues to be addressed but, instead, should serve as a starting point for many other avenues of future research.

#### 3.3.1 Recognition of woodland clearance through charcoal analyses

The detection of woodland clearance is a major research objective from the Mesolithic period onward. Pollen evidence is the primary source for reconstruction of ancient woodland. However, microscopic charcoal is frequently detected in sediment cores for pollen analysis from Mesolithic and/or Neolithic sites (e.g. Westward Ho! Balaam *et al.* 1987, 230) in the region, as well as elsewhere in Britain (e.g. Patterson, W. A. *et al.* 1987; Simmons and Innes 1996). This evidence is often used to infer woodland clearance, usually in combination with pollen diagrams that suggest a corresponding relative decrease in arboreal pollen after a charcoal horizon. Typically the microscopic charcoal

present in a pollen sample is only counted and not identified (e.g. Patterson, W. A. *et al.* 1987, 9). However, recent study of evidence from Star Carr (Mellars and Dark 1998, 195–6) suggests that microscopic charcoal can also be derived from non-arboreal taxa, such as reeds. As a result of such work, it is important to recognize the possibility that microscopic charcoal could be derived from plants other than trees. Certainly the identification of microscopic charcoal from pollen cores to species or genus level should be considered in regions where reed beds or Ericaceous taxa were a likely component of the landscape.

In later periods (Iron Age – Medieval) as well, pollen analysis is still often used as the main method to identify woodland clearance (e.g. Dark and Dark 1997; Dark 2000). However, there is scope to compare palynological evidence for the relative decrease in certain arboreal taxa with the recovery of charred/ waterlogged wood remains from archaeological sites in the region. This will allow comparison of the palynological evidence for woodland existing in the region with archaeological evidence for the wood exploited at sites in the region. Since pollen rain does not always reliably represent the actual vegetation in a region (either in terms of composition or proportions of taxa), the cross-comparison of palynological evidence with archaeological wood (waterlogged and/or charcoal) may clarify the composition (i.e. the type and density of wood in the surrounding landscape) and/or management (the coppicing, intentional selection, etc...) of ancient woodland in a particular region.

### 3.3.2 Detection of charcoal production

Identification of charcoal fuels as opposed to raw wood fuels has yet to be resolved. Certainly, given the temperatures required for most ore smelting operations (e.g. Lucas 1989, 456; Rackham 1995, 84–5), it seems likely that charcoal production (intentionally pre-burning wood to produce charcoal fuel) must have been in place quite early in Britain, perhaps as early as the Bronze Age.

Charcoal fuel is produced by burning wood under reducing conditions. Modern experiments suggest that the amount of charcoal necessary to convert raw iron ore (7.6

kg) into a smithed long bar (0.45 kg) would be approximately 60 kg (Crew 1991, 35). This estimate does not include any charcoal used to roast the ore prior to smelting. 'Moisture and organic substances including oils, resins, gums and tannins are driven off [during charcoal production] leaving an inert substance (carbon)' (Gale and Cutler 2000, 11). Experiments on the effects of charring on branch-wood demonstrate that at 300°C weight loss ranges from 50-70% and at 700°C weight loss ranges from 60-80% for common British wood, such as field maple, birch, hazel, hawthorn, beech, ash, poplar, bird cherry, oak, willow and lime (Gale and Cutler 2000, 12).

Charcoal fuel production is something that is likely to have occurred in the past but is not detected by current archaeological methods. The development of methodologies to distinguish charcoal fuel from charred wood fuel should be encouraged. Also, there is a need to improve the recognition of charcoal production (pre-burning of wood to make charcoal fuel) in the archaeological record. Certainly, the identification of charcoal clamps in the archaeological record is not always straightforward (e.g. Wytch Farm (East of Corfe) Gale 1991a, 201–2).

### 3.3.3 Detection of coppicing

Direct evidence for coppicing is extremely limited. The earliest generally accepted evidence for coppicing are the hazel rods from the Neolithic period Walton Heath and Rowland trackways and loose hazel wood at Garvin's trackway, all of which preserve the remains of the coppicing stool (Rackham 1977, 67). Most studies rely on the collection of evidence that can support an interpretation of coppicing, such as consistent age or diameter of archaeological wood or preserved impressions of wood in daub. For example, Maiden Castle, Dorset, Gale (1991c, 129) interpreted wattle and sail impressions in daub, of consistently regular diameters, as evidence that 'coppicing might have been in operation'.

Evidence for coppicing in the Bronze Age is largely conjectural, but often best suits existing data. At Danebury, Poole notes that the hazel charcoal studied consistently ranges in age from three to nine years and she argues that charred hazel wattles, along



with impressions in daub also support this interpretation (Poole 1984, 482–3). Gale has argued that at Runnymede, oak wood was usually 35 years old or less and that the ‘predominance of seven-year-old [oak] stems conforms with the long established custom of harvesting rods on a seven-year cycle’ (Gale 1991d, 233). Perhaps the best example of collection of such proxy data for coppicing comes from the Late Bronze Age deposits of charcoal and daub at Varley Halls, East Sussex (Berzins 1997), where the age of individual timbers from the main structural elements of buildings were studied. Berzins (1997) was able to establish that mature oak wood was used for the main structural timbers, that some of the wattle sails were mature hawthorn and that all of the wattle rods and most of the wattle sails were immature, and most likely coppiced, hazel.

Although it is reasonable to conclude from such evidence that coppicing was practiced as part of woodland management, it should be remembered that these are not direct data for coppicing. Identification of coppicing from archaeological wood, therefore, seems entirely dependent on the careful collection of wood samples and other supporting evidence (i.e. such as recognition of collapsed structures, collection of daub, etc...) during the course of excavation.

#### 3.3.4 Selection of wood fuels for industrial activities

Experimental work on industrial processes, such as iron smelting and smithing (e.g. Crew 1991), have established that substantial quantities of raw wood fuel or charcoal fuel are needed (see discussion of Crew’s experiment above in §3.3.2). Most suspect that regular demand for wood fuel necessitated some form of woodland management to ensure a steady fuel supply (e.g. Gale 1991a, 203). The different burning properties of wood (i.e. whether they burn hot, can burn efficiently if unseasoned, etc...) are also frequently cited in wood analyses (e.g. Carruthers and Thomas 1991, 111–3; Gale 1991c, 128).

The selection of wood for fuel would have involved a number of decisions, but two issues are particularly worth attention in future analyses of wood fuels:

- The choice of wood burned

- The detection of mixtures of wood and non-wood fuels

The selection of wood for fuel involves a range of decision making processes, such as using waste wood from timber production (e.g. Robinson 1997b) or the intentional use of branchwood (e.g. Neolithic Runnymede Gale 1991d, 231) or coppiced wood (e.g. Late Bronze Age Runnymede Gale 1991d, 231). As discussed above in §3.3.3, careful analysis of age and diameters of wood can provide useful information on whether the wood was likely to have been collected from unmanaged or managed woodland.

Although wood fuels are often dominated by oak, a wide variety of wood is used for domestic and industrial purposes. The heating properties of many species of wood are well known today, and were most likely as well, if not better, known in the past. As a result, it is likely that the selection of wood fuels was linked to the heating requirements of the activity. In addition to understanding the use of mixtures of wood fuels, including scrub, there is also a need to clarify why mixtures of wood fuels and non-wood fuels are used. At present, most wood analyses are reported independently of the archaeobotanical analysis, which artificially separates those contexts where both wood and non-wood fuels were intentionally used together as fuel. Integrated approaches to the study of fuel, regardless of whether the fuels were wood or non-wood, is the only way we can begin to comprehend the decision making processes and activities behind the selection of fuels for industrial purposes.

### 3.3.5 Selection of wood fuels for ritual purposes

Over 10,000 cremation burials have been excavated in Britain since the late 1890s, yet perhaps only as many as 100 funerary pyres (the majority of which are Bronze Age in date) have been identified (McKinley 1997, 132). Cremation pyres would have required a great deal of wood fuel, perhaps as much as 300 – 500 kg of wood to cremate a single body (McKinley 1994, 80). Given the quantities of wood fuel required, the obvious research questions for any cremation are:

- did they burn anything that was to hand?
- were ancient peoples particular about the wood fuels they selected as fuel for a funerary pyre?

The ritual use of wood in cremation burials and/or inhumations is well known, but often not studied in any particular detail. In a forthcoming review of the use of wood in cremations, Campbell (forthcoming) suggests that several issues concerning cremation fuel should be considered by wood analysts at archaeological sites:

- The type of deposits (i.e. burial or pyre debris) should be identified (e.g. Campbell forthcoming)
- The mixture of charcoal and plant remains may imply that the pyre was built over a pit, especially in cases where tubers are present (e.g. Barrow Hills, Radley – Moffett 1999; Thompson 1999).
- It is possible that the recovery of only one type of wood from a cremation may have some ritual, or ‘magical’ significance (e.g. Challinor 1999; Gale 1997b; Thompson 1999).
- The choice of wood may be linked with site type, status, or with gender or age (e.g. Campbell forthcoming; Thompson 1999).

Collection of charcoal from cremations is commonplace on archaeological sites, however, the sampling (see §3.1) and analysis of wood and non-wood pyre fuels is often quite rudimentary. Sampling deposits vertically and horizontally has been shown to yield extremely useful information about the selection and use of wood for cremations (e.g. Thompson 1999). Detailed sampling of deposits associated with cremation pyres (including sampling vertically and horizontally through a deposit) must be carried out during the course of excavation if we are to develop datasets that will allow us to answer some of the research questions regarding the selection of wood for the cremation rite.

## 4 Conclusions

Approximately 380 archaeological wood analyses from sites in southern England were considered in this review. This base-line data set not only establishes where and in which archaeological periods these analyses have taken place, but has attempted to address wider issues concerning the quality of existing data and set out some suggestions for improving future research into archaeological wood.

Several outcomes are obvious as a result of reviewing this data:

- There are clear spatial and temporal biases in archaeological wood data from southern England. For example, there is a particularly strong bias towards the Somerset Levels for waterlogged wood in the Neolithic and Bronze Age periods and towards Sussex for charcoal from Roman period sites.
- Basic information on sampling strategy/ methods is not always provided in the reports reviewed. This information is crucial and should be presented, at least in summary, in published reports.
- There is no consistent approach to recording data on archaeological wood, which as a result, makes comparison between sites difficult. At present, best practice is to record both weight and volume, which allows the greatest flexibility for comparison.
- The type of context is crucial to sampling method and research objectives. As a result, wood analysts should be consulted during the planning and fieldwork stages of an excavation to advise on sampling strategy, and should be invited to visit the site during excavation.
- All of the wood analysis reports reviewed here were not integrated with other forms of environmental evidence from the site, even when various lines of environmental evidence were recovered from the same context. Excavators should encourage the integration of different forms of environmental evidence, especially in situations where integration may improve the understanding of a specific activity on site (i.e. the use of both wood and non-wood fuels in hearth, kiln or funerary pyre contexts at a site) or the nature of the surrounding landscape (i.e. evidence for woodland composition – which could also include plant macrofossil, insect and pollen evidence).

Table 1: Counties and islands included in the southern Region

<b>County/ Island</b>	<b>Code</b>
Berkshire	BRK
Cornwall	COR
Devon	DEV
Dorset	DOR
Gloucestershire	GLO†
Greater London	LON
Hampshire	HMP
Isle of Wight	IOW
Kent	KNT
Oxfordshire	OXF
North Somerset	NSO*
Scilly Isles	IOS
Somerset	SOM
Surrey	SUR
East Sussex	ESU
West Sussex	WSU
Wiltshire	WIL

†For convenience South Gloucestershire is combined with Gloucestershire.

\*All of the county codes, with the exception of NSO (North Somerset) follow those used in the *Environmental Archaeology Database* (EAB). North Somerset, formerly Avon, appears as AVN in the EAB.

Table 2: Chronological periods used

<b>Date range</b>	<b>Archaeological period</b>	<b>Code</b>
500,000 – 50,000 BP	Early humans (Broadly Lower – Middle Palaeolithic)	0
50,000 – 10,000 BP	Early hunter-gatherers (Broadly Upper Palaeolithic)	1
8050 – 3500 cal BC (10,000 – 5,500 BP)	Late hunter-gatherers (Broadly Mesolithic)	2
3500 – 1350 cal BC (5500 – 3300 BP)	The rise of agriculture (Broadly Neolithic / Early Bronze Age)	3
<i>ca.</i> 2200 – 800 cal BC	Transitional Bronze Age (sites dated to the Bronze Age but not clearly identified as Early, Middle or Late Bronze Age)	3/4
1350 – 0 cal BC (3300 – 1950 BP)	Diversification and intensification (Broadly Middle Bronze Age – Iron Age)	4
<i>ca.</i> 800 cal BC – 100 cal AD	Transitional Iron Age to Roman (Sites spanning the transition from Iron Age to Roman periods)	4/5
0 – 400 cal AD (1950 – 1550 BP)	Roman	5
400 – 850 cal AD (1550 – 1100 BP)	Early Medieval (Broadly Early – Middle Saxon)	6
<i>ca.</i> 400 – 1100 cal AD	Transitional Saxon (sites dated to the Saxon period but not clearly identified as Early, Middle or Late Saxon)	6/7
850 – 1350 cal AD (1100 – 600 BP)	Medieval to the Black Death (Broadly Late Saxon – Early Medieval)	7
<i>ca.</i> 1100 – 1650 cal AD	Transitional Medieval (sites dated to the Medieval period but not clearly identified as Early, Middle or Late Medieval)	7/8
1350 – 1900 cal AD (600 BP – <i>ca.</i> 50 BP)	Late Medieval – Early Modern	8

Table 3: Modes of preservation of archaeological wood

<b>Preservation type</b>	<b>Code</b>
Carbonized	c
Mineralized	m
Preserved	p
Waterlogged	w

Table 4: Archaeological contexts

<b>Archaeological context</b>	<b>Code</b>
wood fuel (hearth, kiln, furnace, etc...)*	f
refuse/ midden (including secondary contexts & occupation debris)	m
structural deposits	s
fluvial deposits	r
burials	b
tree bole	t
soil profile (sample from section of undefined deposit/ deposits)	p
unknown	u

\*domestic and industrial fuels have not been separated because it has not always been possible to clearly make such a distinction in the site reports consulted for this review.



Table 5: Security of context and/or levels of identifications used

<b>Security of context</b>	<b>Code</b>
question as to whether material is securely ancient	?a

<b>Level of identification</b>	<b>Code</b>
provisional or uncertain identification	?
fully identified	x

Table 6: Archaeological wood from Early human sites (500,000 – 50,000 BP) (Text: §2.1, Figure 1)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Conifer (indeterminate)	Reference
1	Boxgrove 89-91	0	WSU	492000	108500	m	P	?	(Robinson 1997a)

Unpublished results from Boxgrove:

Cartwright (pers. comm.) – *Pinus* sp. and *Betula* sp.

Robinson (pers. comm.) – *Alnus* sp. and *Pinus sylvestris* sp.

Table 7: Archaeological wood from Early Hunter-Gatherer sites (50,000 – 10,000 BP) (Text: §2.2, Figure 2)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Birch ( <i>Betula</i> sp.)	Blackthorn ( <i>Prunus</i> cf. <i>spinosa</i> L.)	Bog myrtle ( <i>Myrica</i> gale L.)	Oak ( <i>Quercus</i> sp.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference
1	Tornewton Cave	1	DEV	281700	67300	c	F					x		(Cartwright 1996)
2	Montefiore Halls 92	1	HMP	443700	115500	c	M	?		x				(Gale 1995)
3	Brook, nr Ashford	1	KNT	607600	145200	c	P	x				x	x	(Levy 1964)
4	Brook, nr Ashford	1	KNT	607600	145200	w	P	x		?		x		(Levy 1964)

Table 8: Archaeological wood from Late Hunter-Gatherer sites (8050 – 3500 cal BC) (Text: §2.3, Figure 3 and Radiocarbon: Table 27, Figure 14)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus</i> sp.)	Apple ( <i>Malus</i> sp.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackberry/Raspberry ( <i>Rubus</i> sp.)	Blackthorn ( <i>Prunus</i> cf. <i>spinosa</i> L.)	Broom ( <i>Cytisus</i> sp.)	Buckthorn ( <i>Rhamnus cathartica</i> L.)	Clematis ( <i>Clematis</i> sp.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elder ( <i>Sambucus nigra</i> L.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Hornbeam ( <i>Carpinus</i> sp.)	Ivy ( <i>Hedera helix</i> sp.)	Lime ( <i>Tilia</i> sp.)	Oak ( <i>Quercus</i> sp.)	Poplar ( <i>Populus</i> sp.)	Poplar/Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Rose ( <i>Rosa</i> sp.)	Scots pine ( <i>Pinus sylvestris</i> L.)	Spindle tree ( <i>Euonymus europaeus</i> L.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference		
1	Selmeston 81	2	ESU	551000	106000	c	U			?a	?a											x															(Cartwright 1985e)	
2	Broken Cave	2	DEV	281700	67300	c	F		x		x										x																	(Cartwright 1996)
3	Three Holes Cave	2	DEV	281700	67300	c	F		x				x			x		x			x																	(Cartwright 1996)
4	Montefiore Halls 92	2	HMP	443700	115500	c	M		x				?										x															(Gale 1995)
5	Oakhanger 58	2	HMP	477000	135200	c	M						x		x								x															(Dimbleby 1960)
6	Barrow Hills	2	OXF	451600	198300	c	T																															(Thompson 1999)
7	Court Hill 82	2	WSU	491400	114400	c	M																															(Cartwright 1984)
8	Pyecombe	2	WSU	528300	111800	c	MB		x		x											x																(Cartwright 1991a)
9	Sweet Track	2	SOM	343500	139000	w	S	x	?	x	x																											(Coles, J. M. <i>et al.</i> 1973; Coles, J. M. and Orme 1976b, 1979, 1984)
10	Westward Ho! 83-4	2	DEV	242900	129400	w	ST	x																														(Balaam <i>et al.</i> 1987)







Table 10: Mineralised and waterlogged wood from rise of agriculture sites (3500 – 1350 cal BC)  
(Text: §2.4, Figure 4 and Radiocarbon: Table 28, Figure 15)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Buckthorn ( <i>Rhamnus cathartica</i> L.)	Clematis ( <i>Clematis</i> sp.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Gelder Rose/ Wayfaring tree ( <i>Viburnum</i> sp.)	Hawthorn ( <i>Crataegus</i> sp.)	Hazel ( <i>Corylus</i> sp.)	Holly ( <i>Ilex aquifolium</i> L.)	Hornbeam ( <i>Carpinus</i> sp.)	Oak ( <i>Quercus</i> sp.)	Pine ( <i>Pinus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Rowan/ Whitebeam ( <i>Sorbus</i> spp.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference	
59	Wingham 58	3	KNT	624000	157200	m	S	x																						(Farmer 1961)
60	New Shide Bridge 72	3	IOW	450500	88300	w	R	x	x						x	x	x													(Shackley 1976)
61	Bellot St (1)	3	LON	539360	178400	w	S	x	x							x	x													(Boxwijk 1994)
62	Bramcote Green 92	3	LON	534934	178061	w	S	x	x														x							(Thomas and Rackham 1996)
63	Abbot's Way	3	SOM	342000	142000	w	S	x	x		x				x			x												(Coles, J. M. and Hibbert 1968; Coles, J. M. and Orme 1976a, 1980)
64	Baker	3	SOM	343000	141300	w	S	x	x	x																				(Coles, J. M. <i>et al.</i> 1980)
65	Bell A	3	SOM	343000	141500	w	S		x	x																				(Coles, J. M. and Hibbert 1968)
66	Bell B	3	SOM	343000	141600	w	S		x		x																			(Coles, J. M. and Hibbert 1968)
67	Bisgrove	3	SOM	346000	138200	w	S				x																			(Orme <i>et al.</i> 1982)
68	Blakeway	3	SOM	343000	144500	w	S				x																			(Clapham and Godwin 1948; Godwin 1960)
69	Burtle Bridge Track	3	SOM	343900	140100	w	S					x																		(Orme and Coles 1985: 19)
70	Chilton	3	SOM	343800	139400	w	S				x																			(Coles <i>et al.</i> 1970)
71	East Moors	3	SOM	343800	138200	w	S																							(Orme <i>et al.</i> 1980)
72	Eclipse	3	SOM	345000	140000	w	S	x	x						x	x	x	?												(Coles <i>et al.</i> 1982; Coles, Orme and Hibbert 1975)
73	Garvin's	3	SOM	346000	137800	w	S	x	x		x																			(Coles, J. M. and Orme 1977a)
74	Honeybee	3	SOM	340500	142700	w	S																							(Coles <i>et al.</i> 1985b)
75	Honeycat	3	SOM	340500	142750	w	S				x																			(Coles <i>et al.</i> 1985b)
76	Honeydew	3	SOM	340500	142650	w	S				x																			(Coles <i>et al.</i> 1985b)
77	Honeygore	3	SOM	341000	142800	w	S				x																			(Coles and Hibbert 1975; Coles <i>et al.</i> 1985b; Godwin 1960)
78	Jones	3	SOM	346000	138000	w	S		x	x																				(Orme <i>et al.</i> 1982)
79	Meare Heath	3	SOM	344500	139000	w	S	x	x		x	x	x	x																(Coles, J. M. and Orme 1976a, 1978a)
80	Rowland's	3	SOM	344800	137800	w	S	x			x																			(Coles, J. M. and Orme 1977b, 1977c)
81	Signal Pole	3	SOM	341000	140300	w	S				x																			(Orme <i>et al.</i> 1985b)
82	Walton	3	SOM	345500	138500	w	S	x			x					x														(Coles, J. M. and Orme 1977b, 1977c)
83	Walton 83	3	SOM	345400	138600	w	S		x																					(Orme <i>et al.</i> 1985b)
84	Runnymede 78	3	BRK	501800	171800	w/c	SM	x	x			x																		(Gale 1991d)



Table 11: Charcoal evidence from transitional Bronze Age sites (ca. 2200 – 800 cal BC)  
(Text: §2.5, Figure 5 and Radiocarbon: Table 29, Figure 16)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Buckthorn ( <i>Rhamnus cathartica</i> L.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elder ( <i>Sambucus nigra</i> L.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Gorse ( <i>Ulex</i> sp.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.)	Holly ( <i>Ilex aquifolium</i> L.)	Hornbeam ( <i>Carpinus</i> sp.)	Fabaceae	Maple/ Sycamore ( <i>Acer</i> sp.)	Oak ( <i>Quercus</i> sp.)	Pine ( <i>Pinus</i> sp.)	Poplar ( <i>Populus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Rowan/ Whitebeam ( <i>Sorbus</i> spp.)	Sweet chestnut ( <i>Castanea sativa</i> Mill.)	Yew ( <i>Taxus baccata</i> L.)	Reference		
1	Field Farm 85	34	BRK	467400	170500	c	BM	?	?		x	x							x	x														(Gale 1992b)	
2	Cataclews 39-44 (St. Eval Aerodrome)	34	COR	186880	68570	c	BM																	x	x										(Cartwright 1985f)
3	Cataclews 39-44 (Penhale Barrow)	34	COR	167650	46270	c	BM													x				x	x										(Cartwright 1985d)
4	Cataclews 39-44 (Cataclews)	34	COR	186940	76050	c	BM																	x	x										(Cartwright 1985b)
5	Rosecliston	34	COR	181400	59300	c	MB																		x										(Dimbleby 1965a)
6	Tregulland Burrow	34	COR	222000	867000	c	B																		x										(Levy 1958b)
7	Upton Pyne	34	DEV	291400	98900	c	BM																		x										(Sheldon 1969)
8	Canford Heath 51	34	DOR	407180	101750	c	BM	x																	x										(Levy 1954)
9	Hurn 41	34	DOR	412000	96000	c	MS														x				x										(Hyde 1943)
10	Litton Cheney 74	34	DOR	355600	91700	c	MB	x																	x	x									(Keepax 1976)
11	Poole Barrows 49	34	DOR	405700	194400	c	BM																		x										(Orr 1952)
12	Shearplace Hill 58	34	DOR	364000	986000	c	MP	x			x														x		x								(Patterson, D. G. 1962)
13	Black Patch 77-9	34	ESU	549500	108600	c	MB									x	x								x										(Cartwright 1982b)
14	Itford Hill 49-53	34	ESU	544700	105300	c	U			x						x	x								x										(Salisbury 1957)
15	Ranscombe Camp 60	34	ESU	543200	108900	c	MS	x																	x										(Ede 1995)
16	West Heath Harting 73-5	34	ESU	500000	100000	c	BS			x															x										(Cartwright 1976b)
17	Cow Common 74-5	34	GLO	413500	226200	c	B																		x										(Keepax 1979b)
18	Hook 54	34	HMP	451100	105500	c	M	x								x									x										(Morgan, G. C. 1987)
19	Swanwick	34	HMP	451000	109000	c	M	x													x				x										(Hyde 1928b)
20	Greenhill 70	34	KNT	554100	160300	c	U	x			x																	x							(Keepax 1981b)
21	Cassington	34	OXF	448000	209000	c	MB																		x										(Chalk 1947)
22	Rollright Stones 82-6	34	OXF	430500	230500	c	BPM	x													x				x										(Straker 1988)
23	Ben Bridge	34	SOM	355616	159225	c	U																												(Metcalf and Levy 1977)
24	Chew Park	34	SOM	356950	159530	c	U	x																	x			x							(Metcalf and Levy 1977)

Table 11: Charcoal evidence from transitional Bronze Age sites continued... (Text: §2.5, Figure 5 and Radiocarbon: Table 29, Figure 16)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Buckthorn ( <i>Rhamnus cathartica</i> L.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elder ( <i>Sambucus nigra</i> L.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Gorse ( <i>Ulex</i> sp.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.)	Holly ( <i>Ilex aquifolium</i> L.)	Hornbeam ( <i>Carpinus</i> sp.)	Fabaceae	Maple/ Sycamore ( <i>Acer</i> sp.)	Oak ( <i>Quercus</i> sp.)	Pine ( <i>Pinus</i> sp.)	Poplar ( <i>Populus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Rowan/ Whitebeam ( <i>Sorbus</i> spp.)	Sweet chestnut ( <i>Castanea sativa</i> Mill.)	Yew ( <i>Taxus baccata</i> L.)	Reference			
25	Ham Hill	34	SOM	348000	117000	c	U	x																										(Lyell 1926)		
26	Moreton	34	SOM	355800	159500	c	U																												(Metcalfé and Levy 1977)	
27	Amesbury (Barrow 51) 60	34	WIL	411400	142700	c	BM	x																											(Cutler 1978)	
28	Clarendon Park 61	34	WIL	417800	132700	c	MB	x	x	x					x																				(Carruthers 1985)	
29	Down Farm Pewsey 58	34	WIL	418700	156600	c	BMF	x							x	x																			(Western, A. C. 1960)	
30	Knighton Hill	34	WIL	404900	124000	c	BM	x																											(Biek 1970)	
31	Milton Hill	34	WIL	419900	157900	c	B				x					x																			(Haddon-Reece 1986)	
32	Pound Field Barrow	34	WIL	413460	168190	c	P																												(Gale 1996d)	
33	Stonehenge Environs 80-6	34	WIL	412300	142200	c	U	x		x	x	x			x	x																				(Gale 1990b)
34	Wessex Linear Ditches	34	WIL	421500	150500	c	U	x																												(Gale 1994)
35	Barkhale Down 78	34	WSU	497600	112700	c	U																												(Cartwright 1983a)	
36	Chanctonbury Hill 58-9	34	WSU	512800	112000	c	MB	x																												(Anonymous 1968)
37	Cross Ln 76	34	WSU	512450	108120	c	P	x																												(Cartwright 1979a)

Table 12: Mineralised and waterlogged wood from transitional Bronze Age sites (ca. 2200 – 800 cal BC)  
 (Text: §2.5, Figure 5 and Radiocarbon: Table 29, Figure 16)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Athus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn ( <i>Prunus cf. spinosa</i> L.)	Buckthorn ( <i>Rhamnus cathartica</i> L.)	Clematis ( <i>Clematis</i> sp.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elm ( <i>Ulmus</i> sp.)	Gelder Rose/ Wayfaring tree ( <i>Viburnum</i> sp.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Lime ( <i>Tilia</i> sp.)	Oak ( <i>Quercus</i> sp.)	Pine ( <i>Pinus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Rowan/ Whitebeam ( <i>Sorbus</i> spp.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference	
38	Amesbury (Barrow 51) 60	34	WIL	411400	142700	m	B														x							(Cutler 1978)
39	Ben Bridge	34	SOM	355616	159225	w	U										x											(Metcalf and Levy 1977)
40	Chew Park	34	SOM	356950	159530	w	U	x									x	x			x		x					(Metcalf and Levy 1977)
41	Meare Heath	34	SOM	344500	139000	w	S	x	x	x	x	x	x	x	x	x			x		x		x	x	x			(Coles, J. M. and Orme 1976a, 1978a)
42	Moreton	34	SOM	355800	159500	w	U														x							(Metcalf and Levy 1977)
43	Wilsford Shaft 60-2	34	WIL	410800	141400	w	M	x	x	x				x			x	x	x	x	x	x						(Squirrell 1989)







Table 14: Waterlogged wood evidence from diversification and intensification sites (1350 – 0 cal BC)  
(Text: §2.6, Figure 6 and Radiocarbon: Table 30, Figure 17)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Alder buckthorn ( <i>Frangula alnus</i> Mill.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn ( <i>Prunus cf. spinosa</i> L.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Bog myrtle ( <i>Myrica gale</i> L.)	Buckthorn ( <i>Rhamnus cathartica</i> L.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Gelder Rose/ Wayfaring tree ( <i>Viburnum</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.)	Holly ( <i>Ilex aquifolium</i> L.)	Lime ( <i>Tilia</i> sp.)	Oak ( <i>Quercus</i> sp.)	Poplar ( <i>Populus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Rose ( <i>Rosa</i> sp.)	Rowan/ Whitebeam ( <i>Sorbus</i> spp.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference	
54	Heathrow Airport AML 3552	4	LON	507200	175600	w	U																										(Watson 1981a)	
55	Farmoor, Upper Thames	4	OXF	444300	205700	w	M							x																			(Robinson 1979)	
56	Lower Bolney 91	4	OXF	477000	181000	w	M			x																							(Campbell 1992)	
57	Godwin's	4	SOM	346800	138300	w	S	x				x																					(Coles <i>et al.</i> 1985a)	
58	Meare West	4	SOM	345000	141000	w	S	x	x		x	x	x																				(Bulleid and Gray 1911, 1917, 1948; Gray 1966; Gray and Bulleid 1953; Orme <i>et al.</i> 1981; Orme <i>et al.</i> 1983; Orme <i>et al.</i> 1979)	
59	Nidon's	4	SOM	342800	138000	w	S																											(Godwin 1960)
60	Platform	4	SOM	342600	138000	w	S	x					x																					(Coles, J. M. 1972)
61	Shapwick	4	SOM	343600	138500	w	S	x		x	x									x	x												(Godwin 1960)	
62	Skinner's	4	SOM	341600	140300	w	S	x					x																					(Orme and Coles 1985)
63	Stileway	4	SOM	345800	140700	w	S	x					x																					(Coles and Orme 1978c; Orme <i>et al.</i> 1985a)
64	Tinney's	4	SOM	347000	138100	w	S	x	x	x		x																						(Coles and Orme 1978b, 1980; Coles, Orme <i>et al.</i> 1975a)
65	Tollgate	4	SOM	343000	143200	w	S																											(Godwin 1960)
66	Viper's	4	SOM	342400	138000	w	S						x																					(Godwin 1960)
67	Westhay	4	SOM	342000	140000	w	S						x																					(Godwin 1960)
68	Withy Bed	4	SOM	343500	139400	w	S	x		x																								(Coles, Orme <i>et al.</i> 1975b)
69*	Runnymede 78	4	BRK	501800	171800	w/c	SM	x	x				x	x	x	x	x	x	x	x	x													(Gale 1991d)

\* Runnymede 78 – This report did not always clearly distinguish whether identifications were from charcoal or waterlogged wood, therefore, I have left the identifications as combined waterlogged wood and charcoal.

Table 15: Charcoal and waterlogged wood from transitional Iron Age to Roman period sites (ca. 800 cal BC – 100 cal AD)  
(Text: §2.7, Figure 7 and Radiocarbon: Table 31, Figure 18)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Apple ( <i>Malus</i> sp.)	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Birch ( <i>Betula</i> sp.)	Blackberry/Raspberry ( <i>Rubus</i> sp.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Guelder Rose/ Wayfaring tree ( <i>Viburnum</i> sp.)	Hawthorn ( <i>Crataegus</i> sp.)	Hazel ( <i>Corylus</i> sp.)	Heather ( <i>Erica</i> sp./ <i>Calluna vulgaris</i> (L.) Hull)	Fabaceae	Oak ( <i>Quercus</i> sp.)	Pine ( <i>Pinus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Willow ( <i>Salix</i> sp.)	Reference
1	Lordington 84	45	WSU	478200	110100	c	M												x	x				(Cartwright 1986a)
2	Ounces Barn 82-3	45	WSU	492200	108450	c	U			x	x		x			x	x	x	x	x		x		(Cartwright 1995b)
3	Glastonbury	45	SOM	348000	142500	w	S	x	x	x	x	x		x	x					x			x	(Bulleid and Gray 1911, 1917, 1948; Gray 1966; Gray and Bulleid 1953; Orme <i>et al.</i> 1981; Orme <i>et al.</i> 1983; Orme <i>et al.</i> 1979)
4	Borough High St (201-11)*	45	LON	532500	179800	c/w	M		x	x					?	x				x	?			(Dean 1978)

\* Borough High St (201-11) – This report did not always clearly distinguish whether identifications were from charcoal or waterlogged wood, therefore, I have left the identifications as combined waterlogged wood and charcoal.





Table 16: Charcoal from Roman sites (0 – 400 cal AD) continued... (Text: §2.8, Figure 8)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Apple ( <i>Malus</i> sp.)	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Alder buckthorn ( <i>Frangula alnus</i> Mill.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn ( <i>Prunus cf. spinosa</i> L.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Broom ( <i>Cytisus</i> sp.)	Broom/ Gorse ( <i>Cytisus</i> sp./ <i>Ulex</i> sp.)	Conifer (indeterminate)	Dogwood ( <i>Cornus sanguinea</i> L.)	Douglas fir ( <i>Pseudotsuga</i> sp.)	Elder ( <i>Sambucus nigra</i> L.)	Elder/ Ivy ( <i>Sambucus nigra</i> L./ <i>Hedera</i> sp.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Gorse ( <i>Ulex</i> sp.)	Gaulther Rose/Wayfaring tree ( <i>Viburnum</i> sp.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn/ willow ( <i>Crataegus</i> sp./ <i>Salix</i> sp.)	Hawthorn group (Pomoideae)	Hawthorn group/ Elder (Pomoideae/ <i>Sambucus nigra</i> L.)	Hazel ( <i>Corylus</i> sp.)	Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.)	Heather ( <i>Erica</i> sp./ <i>Calluna vulgaris</i> (L.) Hull)	Holly ( <i>Ilex aquifolium</i> L.)	Hornbeam ( <i>Carpinus</i> sp.)	Horse Chestnut ( <i>Aesculus hippocastanum</i> L.)	Ivy ( <i>Hedera helix</i> L.)	Fabaceae	Lime ( <i>Tilia</i> sp.)	Maple/ Sycamore ( <i>Acer</i> sp.)	Maple/ Sycamore/ Dogwood ( <i>Acer</i> sp./ <i>Cornus</i> sp.)	Oak ( <i>Quercus</i> sp.)	Oak/ chestnut ( <i>Quercus</i> sp./ <i>Castanea sativa</i> Mill.)	Poplar ( <i>Populus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Poplar/ Willow/ or Birch ( <i>Populus</i> sp./ <i>Salix</i> sp./ <i>Betula</i> sp.)	Rose family (Rosaceae - includes Pomoideae, <i>Prunus</i> spp., <i>Rosa</i> spp., and <i>Rubus</i> spp.)	Spindle tree ( <i>Enonymus europaeus</i> L.)	Spruce/ Larch ( <i>Picea</i> sp./ <i>Larix</i> sp.)	Sweet chestnut ( <i>Castanea sativa</i> Mill.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference
25	Witcombe 38-9	5	GLO	389900	214200	c	MSF	x	x					x			x																																				(Anonymous 1955)
26	Neatham 69-79	5	HMP	473800	141200	c	S																																													(Rhodes 1986)	
27	Halangy Down	5	IOS	91000	12400	c	SM	?						x			x		?	x						x																									(Gale 1996f)		
28	Chalk 61	5	KNT	567700	173000	c	S						x																																					(Morgan, G. C. 1972)			
29	Springhead 51	5	KNT	561700	172500	c	M																																											(Balfour-Browne 1957)			
30	Gracechurch St. 68-9	5	LON	532500	181000	c	U																																											(Stant 1977)			
31	Jewsons Yard 93-4	5	LON	505500	184500	c	M								x																																			(Robinson 1995)			
32	Barrow Hills	5	OXF	451600	198300	c	M																																											(Thompson 1999)			
33	Callow Hill	5	OXF	440900	219500	c	M		x	x																																								(Balfour-Browne 1958)			
34	Dorchester (Roman defences)	5	OXF	457400	194500	c	M																																											(Blackburn 1937)			
35	Gravelly Guy 84-6 AML 196/88	5	OXF	440200	205300	c	MB		x						x																																			(Gale 1988, forthcoming)			
36	Shakenoak Farm 60-72	5	OXF	437400	213800	c	U						x																																						(Dimbleby 1971a; Shaw 1972)		
37	Ben Bridge	5	SOM	355616	159225	c	U		x																																									(Metcalf and Levy 1977)			
38	Chew Park	5	SOM	356950	159530	c	F		x																																									(Metcalf and Levy 1977)			
39	Chew Park Well 54	5	SOM	356900	159300	c	M		x	x				x																																			(Metcalf and Richardson 1977)				
40	Herriott Bridge	5	SOM	357000	158100	c	U		x																																									(Metcalf and Levy 1977)			
41	Low Ham	5	SOM	343000	129000	c	M						x																																					(Metcalf and Levy 1977)			
42	Hurst Park 91	5	SUR	514500	168900	c	F																																											(Gale 1996b)			
43	Eyewell Farm	5	WIL	397100	132500	c	F																																											(Gale 1998)			
44	Winterbourne	5	WIL	410390	168430	c	M		x				x																																					(Gale 1996e)			
45	Bignor Villa 85-90	5	WSU	498700	114600	c	U		x					x																																					(Cartwright 1995a)		
46	Burgess Hill 96	5	WSU	529600	118800	c	MF							x																																						(Seel 1999)	

Table 16: Charcoal from Roman sites (0 – 400 cal AD) continued... (Text: §2.8, Figure 8)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Context	Reference
47	Carnes Seat 84	5	WSU	488760	109450	c	M	Apple ( <i>Malus</i> sp.) Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.) Alder buckthorn ( <i>Frangula alnus</i> Mill.) Ash ( <i>Fraxinus excelsior</i> L.) Beech ( <i>Fagus sylvatica</i> L.) Birch ( <i>Betula</i> sp.) Blackthorn ( <i>Prunus cf. spinosa</i> L.) Blackthorn/ Cherry ( <i>Prunus</i> sp.) Broom ( <i>Cytisus</i> sp.) Broom/ Gorse ( <i>Cytisus</i> sp./ <i>Ulex</i> sp.) Conifer (indeterminate) Dogwood ( <i>Cornus sanguinea</i> L.) Douglas fir ( <i>Pseudotsuga</i> sp.) Elder ( <i>Sambucus nigra</i> L.) Elder/ Ivy ( <i>Sambucus nigra</i> L./ <i>Hedera</i> sp.) Elm ( <i>Ulmus</i> sp.) Field maple ( <i>Acer campestre</i> L.) Gorse ( <i>Ulex</i> sp.) Gaulther Rose/ Wayfaring tree ( <i>Viburnum</i> sp.) Hawthorn ( <i>Crataegus</i> sp.) Hawthorn/ willow ( <i>Crataegus</i> sp./ <i>Salix</i> sp.) Hawthorn group (Pomoideae) Hawthorn group/ Elder (Pomoideae/ <i>Sambucus nigra</i> L.) Hazel ( <i>Corylus</i> sp.) Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.) Heather ( <i>Erica</i> sp./ <i>Calluna vulgaris</i> (L.) Hull) Holly ( <i>Ilex aquifolium</i> L.) Hornbeam ( <i>Carpinus</i> sp.) Horse Chestnut ( <i>Aesculus hippocastanum</i> L.) Ivy ( <i>Hedera helix</i> L.) Fabaceae Lime ( <i>Tilia</i> sp.) Maple/ Sycamore ( <i>Acer</i> sp.) Maple/ Sycamore/ Dogwood ( <i>Acer</i> sp./ <i>Cornus</i> sp.) Oak ( <i>Quercus</i> sp.) Oak/ chestnut ( <i>Quercus</i> sp./ <i>Castanea sativa</i> Mill.) Poplar ( <i>Populus</i> sp.) Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.) Poplar/ Willow/ or Birch ( <i>Populus</i> sp./ <i>Salix</i> sp./ <i>Betula</i> sp.) Rose family (Rosaceae - includes Pomoideae, <i>Prunus</i> spp., <i>Rosa</i> spp., and <i>Rubus</i> spp.) Spindle tree ( <i>Euonymus europaeus</i> L.) Spruce/ Larch ( <i>Picea</i> sp./ <i>Larix</i> sp.) Sweet chestnut ( <i>Castanea sativa</i> Mill.) Willow ( <i>Salix</i> sp.) Yew ( <i>Taxus baccata</i> L.)	(Cartwright 1986b) (Cartwright 1985a) (Cartwright 1987) (Porter 1980) (Greig 1971) (Gale 1997b) (Morgan, G. C. 1974)
48	Copse Farm 80-3	5	WSU	490000	105000	c	M	x	
49	Dell Quay 84	5	WSU	483200	101900	c	F		
50	Elsted 75	5	WSU	481300	119100	c	M	x	
51	Fishbourne 61-9	5	WSU	483000	104000	c	U		
52	Westhampnett Bypass	5	WSU	489553	106709	c	B	x	
53	Wiggonholt 64	5	WSU	506400	117500	c	MF	x	

Table 17: Mineralised and waterlogged wood from Roman sites (0 – 400 cal AD) (Text: §2.8, Figure 8)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn ( <i>Prunus cf. spinosa</i> L.)	Blackthorn/cherry ( <i>Prunus</i> sp.)	Bog myrtle ( <i>Myrica gale</i> L.)	Box ( <i>Buxus</i> sp.)	Cedar ( <i>Cedrus</i> sp.)	Cedar/ Silver fir ( <i>Cedrus</i> sp./ <i>Abies</i> sp.)	Cork oak ( <i>Quercus suber</i> L.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elder ( <i>Sambucus nigra</i> L.)	Elder/ Ivy ( <i>Sambucus nigra</i> L./ <i>Hedera</i> sp.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.)	Larch ( <i>Larix</i> sp.)	Maple/Sycamore ( <i>Acer</i> sp.)	Maple/sycamore/dogwood ( <i>Acer</i> sp./ <i>Cornus</i> sp.)	Norway spruce ( <i>Picea abies</i> (L.) H. Karst.)	Oak ( <i>Quercus</i> sp.)	Oak/ Chestnut ( <i>Quercus</i> sp./ <i>Castanea sativa</i> Mill.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Rose ( <i>Rosa</i> sp.)	Silver fir ( <i>Abies alba</i> Mill.)	Spruce/ Larch ( <i>Picea</i> sp./ <i>Larix</i> sp.)	Sweet chestnut ( <i>Castanea sativa</i> L.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference			
54	Poundbury 68-76 AML 3245	5	DOR	368500	91100	m	B																																					(Keepax 1980e)
55	St Thomas St AML 1924	5	LON	532700	180000	m/w	U																																				(Keepax 1975)	
56	Brownsea Island 78-9	5	DOR	403100	88100	w	M	x	x																																		(Gale 1992c)	
57	Bon Marche 58-9	5	GLO	380000	210000	w	S																																				(Rendle 1963)	
58	East Gate (Gloucester) 74-81	5	GLO	383000	218000	w	M	x	x	x																																	(Frost 1983)	
59	Frocester Court Well 80	5	GLO	378500	202900	w	M				x	x																														(Morgan, G. C. 1983)		
60	North Gate (Gloucester) 74-81	5	GLO	383000	218000	w	S																																			(Frost 1983)		
61	Silchester 74-80	5	HMP	462500	162100	w	S	x			x														x																		(Morgan, R. A. 1984)	
62	Silchester 79-85	5	HMP	462500	162100	w	S						x																														(Watson 1989)	
63	Winchester AML 19/89	5	HMP	319400	133500	w	S	x																																			(Watson 1988)	
64	Stembrook 56	5	KNT	631900	141400	w	S																																				(Levy and Biek 1959)	
65	Billingsgate 82 AML 55/87	5	LON	530000	180000	w	U			x																																		(Gale 1987c)
66	Christ's Hospital 08-9	5	LON	530000	180000	w	MU	x			x																																(Lyell 1912)	
67	London Port (wood)	5	LON	530000	180000	w	S																																				(Straker 1985)	
68	24 London Sites AML 60/87	5	LON	530000	180000	w	U			x					x		x	x																									(Gale 1987a)	
69	London Wall (52-62)	5	LON	530000	180000	w	S																																				(Nayling 1991)	
70	Peters Hill	5	LON	532000	180900	w	S																																			(Anonymous 1993)		
71	Farnmoor, Upper Thames	5	OXF	444300	205700	w	MP	x				x																															(Robinson 1979)	
72	Ben Bridge	5	SOM	355616	159225	w	U	x																																			(Metcalfe and Levy 1977)	
73	Chew Park	5	SOM	356950	159530	w	F	x																																		(Metcalfe and Levy 1977)		
74	Chew Park Well 54	5	SOM	356900	159300	w	M	?	x				x		x																											(Metcalfe and Richardson 1977)		
75	Difford's	5	SOM	344500	140200	w	S	x	x		x	x																															(Coles, J. M. and Orme 1978c)	
76	Herriott Bridge	5	SOM	357000	158100	w	U	x																																			(Metcalfe and Levy 1977)	
77	Low Ham	5	SOM	343000	129000	w	M	x																																			(Metcalfe and Levy 1977)	

Table 18: Charcoal, mineralised and preserved wood from Early Medieval sites (400 – 850 cal AD) (Text: §2.9, Figure 9)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Apple ( <i>Malus</i> sp.)	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Alder buckthorn ( <i>Frangula alnus</i> Mill.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn ( <i>Prunus</i> cf. <i>spinosa</i> L.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Blackthorn/Bramble/Raspberry/Rose ( <i>Rubus</i> spp./ <i>Rosa</i> spp.)	Broom/ Gorse ( <i>Cytisus</i> sp./ <i>Ulex</i> sp.)	Elder ( <i>Sambucus nigra</i> L.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.)	Heather ( <i>Erica</i> sp./ <i>Calluna vulgaris</i> (L.) Hull)	Hornbeam ( <i>Carpinus</i> sp.)	Horse Chestnut ( <i>Aesculus hippocastanum</i> L.)	Lime ( <i>Tilia</i> sp.)	Maple/ Sycamore ( <i>Acer</i> sp.)	Oak ( <i>Quercus</i> sp.)	Poplar ( <i>Populus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Rose family (Rosaceae - includes Pomoideae, <i>Prunus</i> spp., <i>Rosa</i> spp., and <i>Rubus</i> spp.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	References	
1	Field Farm 85	6	BRK	467400	170500	c	B			x																										(Gale 1992b)	
2	Wickhams Field 94	6	BRK	467500	169700	c	M			x																											(Gale 1996c)
3	Tintagel Island 90-4	6	COR	204700	89200	c	MF		x	x		x	x	x	x	x	x	x																			(Gale and Straker 1997)
4	Bishopstone 72-5	6	ESU	546700	100700	c	FMS												x																	(Cartwright 1977)	
5	St. Annes Rd. 73	6	ESU	560600	96800	c	B																													(Cartwright 1983c)	
6	Bourton-on-the-Water	6	GLO	418000	221000	c	MS																													(Maby, J. C. 1932)	
7	Romsey Abbey AML 3089	6	HMP	434900	121200	c	B																													(Keepax 1980b)	
8	Six Dials AML 3718	6	HMP	442800	112200	c	U				x																									(Haddon-Reece 1982)	
9	Barrow Hills	6	OXF	451600	198300	c	M														x															(Thompson 1999)	
10	Hurst Park 91	6	SUR	514500	168900	c	MS						x																							(Gale 1996b)	
11	Kingston upon Thames 95	6	SUR	518170	169200	c	F				x	x																								(Davis 1999)	
12	Ramsbury 74	6	WIL	427000	171000	c	F				x												x	x												(Keepax 1980a)	
13	Beckets Barn 74	6	WSU	588500	97500	c	M		x				x																							(Cartwright 1976a)	
14	Botolphs 85	6	WSU	519000	109100	c	U			x	x			x													x									(Cartwright 1990)	
15	Old Erringham 64	6	WSU	520400	107500	c	M	?				x	x																							(Myerscough 1976)	
16	Buckland 51-3	6	KNT	631000	143000	c/p	BS				x	x																								(Cutler 1987)	
17	Portway AML 3143	6	HMP	400000	100000	c/m	B																													(Keepax 1980d)	

Table 19: Waterlogged wood from Early Medieval sites (400 – 850 cal AD) (Text: §2.9, Figure 9)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Hazel ( <i>Corylus</i> sp.)	Hops ( <i>Humulus</i> sp.)	Oak ( <i>Quercus</i> sp.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	References
18	North Gate (Gloucester) 74-81	6	GLO	383000	218000	w	S								x			(Frost 1983)
19	Northgate St. (sewer) 76	6	GLO	382600	219000	w	M								x			(Morris 1983)
20	Graveney Boat 70	6	KNT	606500	163800	w	S	x	x				x	x	x	x		(Wilson and Connolly 1978)
21	Polhill 64-7	6	KNT	555000	115900	w	B		x				x		x			(Anonymous 1973)
22	Swallowcliffe Down AML 3707	6	WIL	396700	125500	w/m	B		x	x	x	x					x	(Lyell 1927)

Table 20: Charcoal from transitional Saxon sites (ca. 400 – 1100 cal AD) (Text: §2.10, Figure 10)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Ash ( <i>Fraxinus excelsior</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Oak ( <i>Quercus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Spindle tree ( <i>Euonymus europaeus</i> L.)	Sweet chestnut ( <i>Castanea sativa</i> Mill.)	Reference
1	Selmeston 78	67	ESU	551250	106880	c	U					x			x				(Cartwright 1979b)
2	Gloucester Castle 83-4	67	GLO	383000	218000	c	U				?		x	x	x		?		(Straker 1998)
3	Eltham Palace AML 2558	67	LON	542190	173890	c	MF			x	x		x	x	x				(Keepax 1978a)
4	Ben Bridge	67	SOM	355616	159225	c	U								x			x	(Metcalfé and Levy 1977)
5	Chew Park	67	SOM	356950	159530	c	U	x					x						(Metcalfé and Levy 1977)
6	Moreton	67	SOM	355800	159500	c	M					x		x	x	x			(Metcalfé and Levy 1977)
7	St Cross Nunnery	67	SOM	356400	360200	c	M	x					x		x	x			(Metcalfé and Levy 1977)
8	Testers 85	67	WSU	518000	111000	c	M		x						x			x	(Cartwright 1988b)

Table 21: Waterlogged wood from transitional Saxon sites (ca. 400 – 1100 cal AD) (Text: §2.10, Figure 10)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	cf. Anisoptera ( <i>Anisoptera</i> sp.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Box ( <i>Buxus</i> sp.)	Cork oak ( <i>Quercus suber</i> L.)	Elder ( <i>Sambucus nigra</i> L.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.)	Maple/ Sycamore ( <i>Acer</i> sp.)	Oak ( <i>Quercus</i> sp.)	Pine ( <i>Pinus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Spruce/ Larch ( <i>Picea</i> sp./ <i>Larix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference	
9	24 London Sites AML 60/87	67	LON	530000	180000	w	U			x		x	x							x			x			x				(Gale 1987a)
10	Billingsgate 82 AML 55/87	67	LON	530000	180000	w	U	?	?	x		?	x		x	x					x	x	?	x	x		x	x		(Gale 1987c)
11	Cutler St 78 AML 56/87	67	LON	533100	181500	w	U																x							(Gale 1987b)
12	Ben Bridge	67	SOM	355616	159225	w	U																x							(Metcalf and Levy 1977)
13	Chew Park	67	SOM	356950	159530	w	U			x										x										(Metcalf and Levy 1977)
14	Moreton	67	SOM	355800	159500	w	M												x	x			x		x					(Metcalf and Levy 1977)
15	St Cross Nunnery	67	SOM	356400	360200	w	M			x										x			x		x					(Metcalf and Levy 1977)
16	Baynards Castle AML 4943	67	LON	530000	180000	w/c	U	x	x	x			x	x				x	x	x			x	x	x	x	x	x		(Gale 1986)



Table 22: Charcoal from Medieval to Black Death period sites (850 – 1350 cal AD) (Text: §2.11, Figure 11)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Apple/ Pear ( <i>Malus</i> sp./ <i>Pyrus</i> sp.)	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn ( <i>Prunus</i> cf. <i>spinosa</i> L.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elder ( <i>Sambucus nigra</i> L.)	Elder/ Ivy ( <i>Sambucus nigra</i> L./ <i>Hedera</i> sp.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Gorse ( <i>Ulex</i> sp.)	Guelder Rose/ Wayfaring tree ( <i>Viburnum</i> sp.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Hazel/ Birch family (Corylaceae or Betulaceae)	Hornbeam ( <i>Carpinus</i> sp.)	Maple/ Sycamore ( <i>Acer</i> sp.)	Oak ( <i>Quercus</i> sp.)	Poplar ( <i>Populus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	<i>Pyrus</i> type (various spp.)	Sweet chestnut ( <i>Castanea sativa</i> Mill.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference	
1	Anslows Cottages 85-6	7	BRK	469000	171000	c	M			x				x																						(Gale 1992a)
2	Dean Moor 56	7	DEV	267900	65400	c	MF															?														(Levy and Taylor 1958)
3	Rowden 77-84	7	DOR	361600	89100	c	M			x				x									x	x												(Carruthers and Thomas 1991)
4	Barnetts Mead	7	ESU	544000	112000	c	F				x	x																								(Cartwright 1981)
5	Bramble Bottom 53	7	ESU	557500	97800	c	U												x																	(Maby, J. C. 1955)
6	Broomans Ln 79	7	ESU	541500	110500	c	U	x	x	x	x											x	x													(Cartwright 1983b)
7	Church St. (Seaford) 70	7	ESU	548500	99000	c	M		x	x	x				x							x	x													(Cartwright 1978c)
8	Cliffe 87-8	7	ESU	542000	110000	c	FM		x	x	x													x												(Cartwright 1991b)
9	Michelham Priory 71-6	7	ESU	555800	109300	c	U				x											x				x										(Cartwright 1991c)
10	Northolt Manor 53-8	7	LON	512000	185000	c	MF		x	x														x		?										(Levy 1961)
11	Montefiore Halls 92	7	HMP	443700	115500	c	M			x		x		x									x	x												(Gale 1995)
12	Christchurch Oxford 72	7	OXF	450000	200000	c	B					?																								(Franklin 1973)
13	Seacourt 58-9	7	OXF	446000	208000	c	M		x	x			x	x		x											x	x								(Dimpleby 1963)
14	Alsted 68-73	7	SUR	529300	155900	c	MF		x					x								x														(Western, A. C. 1976)
15	Brooklands 64-71	7	SUR	506800	163200	c	MS	x					x										x													(Keepax 1977)
16	Clacket Ln 92	7	SUR	538000	152600	c	F				x												x		x											(Robinson 1997b)

Table 23: Mineralised, preserved and waterlogged wood from Medieval to Black Death period sites (850 – 1350 cal AD)  
(Text: §2.11, Figure 11)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackberry/Raspberry ( <i>Rubus</i> sp.)	Elder ( <i>Sambucus nigra</i> L.)	Hawthorn ( <i>Crataegus</i> sp.)	Hazel ( <i>Corylus</i> sp.)	Lime ( <i>Tilia</i> sp.)	Oak ( <i>Quercus</i> sp.)	Poplar ( <i>Populus</i> sp.)	Scots pine ( <i>Pinus sylvestris</i> L.)	Walnut ( <i>Juglans</i> sp.)	Whitebeam ( <i>Sorbus latifolia</i> agg.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference	
17	Tote Copse Castle	7	WSU	492000	105000	m	M								x	x	x							(Morgan, G. C. 1969)	
18	Lewes Priory 69-82	7	ESU	541000	110000	m/p	BM									x		x							(Gale 1997c)
19	Michelham Priory 71-6	7	ESU	555800	109300	w	TS	x		x						x									(Cartwright 1991c)
20	East Gate (Gloucester) 74-81	7	GLO	383000	218000	w	M	x	x	x				x	x	x	x				x	x			(Frost 1983)
21	Bankside Power Station 60	7	LON	531000	180000	w	U				x					x									(Taylor, G. 1971)
22	Stogursey Castle 83 AML 43/90	7	SOM	320000	140000	w	M	x	x			x				x							x		(Straker 1990c)
23	Hampton Court AML 2603	7	SUR	515500	168500	w	U								x										(Keepax 1978c)
24	Hampton Court Palace AML 3462	7	SUR	515500	168500	w	U													x					(Watson 1981b)

Table 24: Charcoal, preserved and waterlogged wood from transitional Medieval sites (ca. 1100 – 1650 cal AD) (Text: §2.12, Figure 12)

No	Site	Date	County	Grid Reg E	Grid Ref N	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Alder buckthorn ( <i>Frangula alnus</i> )	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn ( <i>Prunus cf. spinosa</i> L.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Box ( <i>Buxus</i> sp.)	Cork oak ( <i>Quercus suber</i> L.)	Field maple ( <i>Acer campestre</i> )	Hawthorn group (Pomoideae)	Hawthorn group/ Elder (Pomoideae/ <i>Sambucus nigra</i> L.)	Hazel/ Alder ( <i>Corylus</i> sp./ <i>Alnus</i> sp.)	Holly ( <i>Ilex aquifolium</i> )	Lime ( <i>Tilia</i> sp.)	Oak ( <i>Quercus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Purging buckthorn ( <i>Rhamnus cathartica</i> L.)	Sweet chestnut ( <i>Castanea sativa</i> Mill.)	Yew ( <i>Taxus baccata</i> L.)	Reference	
1	Wyth Farm (East of Wyth Moor)	78	DOR	397000	84000	c	M							x															(Gale 1991a)
2	Wyth Farm (Ower Farm)	78	DOR	397000	84000	c	M															x	x						(Gale 1991a)
3	Battle Abbey 78-80	78	ESU	574500	115500	c	PM	x		x	x	x	?							x	?		x	x					(Keepax 1985)
4	Lewes Friary 85-9	78	ESU	540000	110000	c	RMS				x	x						x					x	x		x			(Dobinson 1996)
5	Botolphs 85	78	WSU	519000	109100	c	U			x													x	x					(Cartwright 1990)
6	Winchester Reliquary	78	HMP	319400	133500	p	S				?																		(Keepax 1981e)
7	London AML 26/92	78	LON	530000	180000	w	U							x		x	x										x		(Carruthers 1992)
8	Trig Ln AML 59/87	78	LON	530000	180000	w	U				x					x							x	x					(Gale 1987d)
9	Taunton AML 2616	78	SOM	322700	125200	w	M	x	x	x	x			x									x	x	x				(Hillam 1978)

Table 25: Charcoal from Late Medieval – Early Modern sites (1350 – 1900 cal AD) (Text: §2.13, Figure 13)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Apple ( <i>Malus</i> sp.)	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Alder buckthorn ( <i>Frangula alnus</i> Mill.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Dogwood ( <i>Cornus sanguinea</i> L.)	Elm ( <i>Ulmus</i> sp.)	Hawthorn ( <i>Crataegus</i> sp.)	Hawthorn group (Pomoideae)	Hazel ( <i>Corylus</i> sp.)	Holm oak ( <i>Quercus ilex</i> L.)	Honeysuckle ( <i>Lonicera</i> sp.)	Holly ( <i>Ilex aquifolium</i> L.)	Hornbeam ( <i>Carpinus</i> sp.)	Lime ( <i>Tilia</i> sp.)	Oak ( <i>Quercus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Pyrus type (various spp.)	Sweet chestnut ( <i>Castanea sativa</i> L.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference
1	Rowden 77-84	8	DOR	361600	89100	c	M							x	x			x	x												(Carruthers and Thomas 1991)
2	Batsford 78	8	ESU	563000	112000	c	F	x	x	x			x	x	x									x			x	x			(Cartwright 1980a)
3	Broomans Ln 79	8	ESU	541500	110500	c	U			x	x	x					x		x					x							(Cartwright 1983b)
4	Lordship Wood 81	8	ESU	579500	124500	c	F	x			x	x					x		x				x	x							(Jones 1983)
5	Lower Parrock 77	8	ESU	547000	135000	c	UF	x		x	x	x	x		x	x					x	x		x			x				(Cartwright 1979d)
6	Maynards Gate 75-6	8	ESU	553900	129800	c	F	?		x	x	x		x					x				x			x	x				(Cartwright 1978e)
7	East Gate (Gloucester) 74-81	8	GLO	383000	218000	c	MS	x			x																				(Frost 1983)
8	Billingsgate 82 AML 55/87	8	LON	530000	180000	c	U																x								(Gale 1987c)
9	Eltham Palace AML 3242	8	LON	542190	173890	c	M			x		x								?	x			x					x		(Keepax 1981a)
10	Legges Mount AML 2594	8	LON	530000	180000	c	F			x	x	x						x	x				x	x							(Keepax 1978b)
11	Northolt Manor 53-8	8	LON	512000	185000	c	F			x	x								x				?	x		x	x				(Levy 1961)
12	Betchworth 86	8	SUR	521100	149500	c	S	x												x				x	x						(Miles 1992)
13	Ardingly 75-6	8	WSU	533400	128900	c	FM	x		x	x			x				x						x	x		x				(Cartwright 1976d)

Table 26: Waterlogged wood from Late Medieval – Early Modern sites (1350 – 1900 cal AD) (Text: §2.13, Figure 13)

No	Site	Date	County	NGR Easting	NGR Northing	Mode of Preservation	Context	Alder ( <i>Alnus glutinosa</i> (L.) Gaertn.)	Ash ( <i>Fraxinus excelsior</i> L.)	Beech ( <i>Fagus sylvatica</i> L.)	Birch ( <i>Betula</i> sp.)	Blackthorn/ Cherry ( <i>Prunus</i> sp.)	Box ( <i>Buxus</i> sp.)	Ebony ( <i>Diospyrus</i> sp.)	Elder ( <i>Sambucus nigra</i> )	Elder ( <i>Sambucus nigra</i> )/ Ivy ( <i>Hedera</i> sp.)	Elm ( <i>Ulmus</i> sp.)	Field maple ( <i>Acer campestre</i> L.)	Guelder Rose/ Wayfaring tree ( <i>Viburnum</i> sp.)	Grape vine ( <i>Vitis vinifera</i> L.)	Gum tree ( <i>Eucalyptus</i> sp.)	Hawthorn group/ Elder (Pomoideae/ <i>Sambucus nigra</i> L.)	Hazel ( <i>Corylus</i> sp.)	Holly ( <i>Ilex aquifolium</i> L.)	Lignum vitae ( <i>Guaiacum</i> sp.)	Lime ( <i>Tilia</i> sp.)	Oak ( <i>Quercus</i> sp.)	Oak/ chestnut ( <i>Quercus</i> sp./ <i>Castanea</i> sp.)	Pine ( <i>Pinus</i> sp.)	Poplar/ Willow ( <i>Populus</i> sp./ <i>Salix</i> sp.)	Purpleheart ( <i>Peltogyne</i> sp.)	Sandalwood ( <i>Santalum</i> sp.)	Scots pine ( <i>Pinus sylvestris</i> L.)	Spruce/ Larch ( <i>Picea</i> sp./ <i>Larix</i> sp.)	Sweet chestnut ( <i>Castanea sativa</i> L.)	Walnut ( <i>Juglans</i> sp.)	Willow ( <i>Salix</i> sp.)	Yew ( <i>Taxus baccata</i> L.)	Reference					
14	Abbey Wharf	8	BRK	471000	173000	w	S	x	x	x	x			x		x	x					x																						(Carruthers 1997)
15	Jennings Yd	8	BRK	495400	176800	w	S	x	x	x					x													x																(Morris and Gale 1993)
16	Maynards Gate 75-6	8	ESU	553900	129800	w	SM		x																		x																(Cartwright 1978e)	
17	Acton Court AML 97/90*	8	GLO	367600	184200	w	U																																				(Gale 1990a)	
18	East Gate (Gloucester) 74-81	8	GLO	383000	218000	w	MS	x	x		x	x				x	x		?				x	x									x		x							(Frost 1983)		
19	24 London Sites AML 60/87	8	LON	530000	180000	w	U		x	x			x									x								x												(Gale 1987a)		
20	Billingsgate 82 AML 55/87	8	LON	530000	180000	w	U	x	x	x													x				x	x	x	x												(Gale 1987c)		
21	Cutler St 78 AML 56/87	8	LON	533100	181500	w	U			x			x	x										x			x	x	x													(Gale 1987b)		
22	Ardingly 75-6	8	WSU	533400	128900	w	S			x	x						x								x	x																(Cartwright 1976d)		

\*Acton Court, formerly located in the county of Avon, is now located in South Gloucestershire. For convenience, the counties of South Gloucestershire and Gloucestershire have been combined.

Table 27: Radiocarbon determinations for Late Hunter-Gatherer sites (10,000 – 5500 BP/ 8050 – 3500 cal BC)  
 (Text: §2.3, Data: Table 8, Figure 3, and Radiocarbon: Figure 14)

No	Site	Date	County	Radiocarbon result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
2	Broken Cave	2	DEV	4930	90	OxA 3205	3800-3640 cal BC	3960-3520 cal BC
2	Broken Cave	2	DEV	5015	80	OxA 3207	3950-3700 cal BC	3980-3640 cal BC
2	Broken Cave	2	DEV	4885	90	OxA 3206	3770-3540 cal BC	3940-3380 cal BC
3	Three Holes Cave	2	DEV	5060	70	OxA 4493	3970-3770 cal BC	3990-3660 cal BC
3	Three Holes Cave	2	DEV	5020	70	OxA 4495	3950-3700 cal BC	3970-3650 cal BC
5	Oakhanger 58	2	HMP	6300	110	F-67	5460-5070 cal BC	5470-4950 cal BC
6	Barrow Hills	2	OXF	8100	120	OxA-1883	7310-6830 cal BC	7500-6650 cal BC
7	Court Hill 82	2	WSU	5240	180	I-12, 893	4330-3800 cal BC	4460-3650 cal BC
8	Pyecombe	2	WSU	7520	140	GU 2574	6470-6220 cal BC	6650-6070 cal BC
9	Sweet Track	2	SOM	5218	75	Q 963	4220-3960 cal BC	4230-3800 cal BC
9	Sweet Track	2	SOM	5159	70	Q 966	4040-3820 cal BC	4220-3790 cal BC
9	Sweet Track	2	SOM	5150	65	Q 962	4040-3810 cal BC	4220-3790 cal BC
9	Sweet Track	2	SOM	4887	90	Q 991	3770-3540 cal BC	3940-3380 cal BC
9	Sweet Track	2	SOM	5140	100	Q 1102	4040-3790 cal BC	4230-3700 cal BC
9	Sweet Track	2	SOM	5103	100	Q 1103	3990-3780 cal BC	4220-3660 cal BC
9	Sweet Track	2	SOM	5224	75	Q 968	4220-3960 cal BC	4250-3800 cal BC
9	Sweet Track	2	SOM	5108	65	Q 967	3980-3790 cal BC	4040-3710 cal BC
10	Westward Ho! 83-4	2	DEV	6100	200	HAR 5632	5300-4730 cal BC	5480-4500 cal BC
10	Westward Ho! 83-4	2	DEV	6320	90	HAR 5645	5460-5140 cal BC	5480-5050 cal BC
10	Westward Ho! 83-4	2	DEV	6810	140	Q 1212	5840-5560 cal BC	5990-5470 cal BC
10	Westward Ho! 83-4	2	DEV	6955	140	Q 1211	5990-5710 cal BC	6160-5560 cal BC
10	Westward Ho! 83-4	2	DEV	5200	120	HAR 5640	4230-3810 cal BC	4330-3700 cal BC
10	Westward Ho! 83-4	2	DEV	5740	100	HAR 5641	4770-4450 cal BC	4830-4350 cal BC
10	Westward Ho! 83-4	2	DEV	4840	70	HAR 5642	3700-3530 cal BC	3770-3380 cal BC
10	Westward Ho! 83-4	2	DEV	5630	80	HAR 5630	4550-4350 cal BC	4690-4330 cal BC
10	Westward Ho! 83-4	2	DEV	6100	100	HAR 5631	5210-4810 cal BC	5300-4730 cal BC
10	Westward Ho! 83-4	2	DEV	5004	105	IGS 42	3960-3650 cal BC	4040-3540 cal BC
10	Westward Ho! 83-4	2	DEV	1600	80	HAR 6440	cal AD 380-560	cal AD 250-640

Table 28: Radiocarbon determinations for rise of agriculture sites (3500 – 1350 cal BC)  
 (Text: §2.4, Data: Tabs 9-10, Figure 4 and Radiocarbon: Figure 15)

No	Site	Date	County	Radiocarbon result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
2	Field Farm 85	3	BRK	3650	80	HAR-9139	2140-1880 cal BC	2280-1770 cal BC
2	Field Farm 85	3	BRK	3560	70	HAR-9142	2020-1770 cal BC	2140-1690 cal BC
2	Field Farm 85	3	BRK	2890	60	HAR 9143	1210-940 cal BC	1290-900 cal BC
2	Field Farm 85	3	BRK	3690	120	HAR-9140	2280-1890 cal BC	2470-1740 cal BC
3	Knights Farm 74-8	3	BRK	3630	50	BM 1593	2120-1910 cal BC	2140-1820 cal BC
4	Lambourn Barrows	3	BRK	3440	90	HAR 3818	1890-1620 cal BC	2010-1520 cal BC
84	Runnymede 78	3	BRK	4630	70	HAR 6132	3520-3350 cal BC	3640-3100 cal BC
84	Runnymede 78	3	BRK	4920	80	HAR 6128	3780-3640 cal BC	3940-3530 cal BC
84	Runnymede 78	3	BRK	4830	70	HAR 6130	3660-3530 cal BC	3760-3370 cal BC
84	Runnymede 78	3	BRK	4930	90	HAR 6131	3800-3640 cal BC	3960-3520 cal BC
84	Runnymede 78	3	BRK	4270	110	HAR 6136	3020-2700 cal BC	3320-2500 cal BC
6	Chysauster	3	COR	3280	120	HAR-6927	1730-1420 cal BC	1880-1260 cal BC
6	Chysauster	3	COR	3430	80	OxA-822	1880-1620 cal BC	1940-1520 cal BC
6	Chysauster	3	COR	3740	90	HAR-6652	2290-1980 cal BC	2470-1880 cal BC
6	Chysauster	3	COR	3790	120	HAR-6549	2460-2030 cal BC	2570-1880 cal BC
6	Chysauster	3	COR	3680	80	HAR-6651	2200-1940 cal BC	2300-1780 cal BC
6	Chysauster	3	COR	3650	80	HAR-6548	2140-1880 cal BC	2280-1770 cal BC
6	Chysauster	3	COR	3330	80	OxA-821	1740-1510 cal BC	1880-1430 cal BC
6	Chysauster	3	COR	3110	70	HAR-6654	1440-1260 cal BC	1520-1130 cal BC
6	Chysauster	3	COR	3150	90	HAR-6926	1520-1310 cal BC	1680-1130 cal BC
7	Crig-a-minnis 57	3	COR	3515	90	NPL 193	1950-1690 cal BC	2130-1620 cal BC
9	Davidstow (Site I)	3	COR	3520	70	HAR 6634	1940-1740 cal BC	2040-1660 cal BC
10	Davidstow (Site III)	3	COR	3740	95	HAR 6640	2290-1980 cal BC	2470-1880 cal BC
11	Davidstow (Site V)	3	COR	3580	70	HAR 6635	2030-1780 cal BC	2140-1730 cal BC
12	Davidstow (Site XXVI)	3	COR	4130	70	HAR 6643	2880-2570 cal BC	2890-2470 cal BC
13	Trethellan Farm	3	COR	3088	40	UB 3109	1410-1310 cal BC	1440-1210 cal BC
13	Trethellan Farm	3	COR	3110	40	UB 3115	1430-1310 cal BC	1490-1260 cal BC
13	Trethellan Farm	3	COR	2981	40	UB 3118	1300-1120 cal BC	1380-1040 cal BC

Table 28: Radiocarbon determinations for rise of agriculture sites (3500 – 1350 cal BC) continued...  
(Text: §2.4, Data: Tabs 9-10, Figure 4 and Radiocarbon: Figure 15)

No	Site	Date	County	Radiocarbon result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
15	A30 Honiton (Castle Hill)	3	DEV	4220	60	Beta 78183	2900-2700 cal BC	2920-2600 cal BC
15	A30 Honiton (Castle Hill)	3	DEV	4630	50	AA 30670	3510-3350 cal BC	3630-3130 cal BC
17	A30 Honiton (Pattersons Cross)	3	DEV	3040	45	AA 30668	1390-1210 cal BC	1420-1120 cal BC
17	A30 Honiton (Pattersons Cross)	3	DEV	3120	50	AA 30667	1440-1310 cal BC	1520-1260 cal BC
17	A30 Honiton (Pattersons Cross)	3	DEV	3280	45	AA 30666	1620-1510 cal BC	1690-1430 cal BC
17	A30 Honiton (Pattersons Cross)	3	DEV	3630	45	AA 30669	2120-1920 cal BC	2140-1830 cal BC
20	Cowleaze 77-84	3	DOR	3390	100	HAR 5617	1880-1520 cal BC	1940-1440 cal BC
20	Cowleaze 77-84	3	DOR	3110	90	HAR 5618	1500-1260 cal BC	1600-1120 cal BC
20	Cowleaze 77-84	3	DOR	2670	150	HAR 5623	980-670 cal BC	1260-400 cal BC
20	Cowleaze 77-84	3	DOR	3410	80	HAR 5622	1880-1610 cal BC	1920-1510 cal BC
20	Cowleaze 77-84	3	DOR	4080	140	HAR 5619	2880-2460 cal BC	2930-2200 cal BC
20	Cowleaze 77-84	3	DOR	3120	120	HAR 5620	1520-1210 cal BC	1690-1020 cal BC
20	Cowleaze 77-84	3	DOR	failed due to low CO2		HAR 5261		
21	Knighton Heath 71	3	DOR	3155	49	BM 870	1500-1320 cal BC	1530-1310 cal BC
21	Knighton Heath 71	3	DOR	3134	34	BM 875	1440-1320 cal BC	1500-1310 cal BC
21	Knighton Heath 71	3	DOR	3073	49	BM 871	1410-1260 cal BC	1440-1130 cal BC
21	Knighton Heath 71	3	DOR	3128	52	BM 872	1440-1310 cal BC	1520-1260 cal BC
21	Knighton Heath 71	3	DOR	3139	50	BM 873	1490-1320 cal BC	1520-1260 cal BC
21	Knighton Heath 71	3	DOR	3052	40	BM 874	1400-1220 cal BC	1420-1130 cal BC
21	Knighton Heath 71	3	DOR	3118	52	BM 876	1440-1310 cal BC	1520-1220 cal BC
24	Little Piddle Down 85	3	DOR	3170	80	HAR 11059	1520-1320 cal BC	1680-1220 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	5040	60	BM-2449	3950-3710 cal BC	3970-3660 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	5030	40	BM 2450	3940-3770 cal BC	3960-3700 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	5030	80	OxA 1337	3960-3700 cal BC	3980-3640 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4810	80	OxA 1148	3660-3520 cal BC	3760-3370 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4550	80	OxA 1144	3490-3090 cal BC	3520-2930 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4830	60	BM 2454	3660-3530 cal BC	3710-3380 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4800	45	BM 2447	3650-3520 cal BC	3660-3380 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4730	80	OxA 1143	3640-3370 cal BC	3650-3350 cal BC



Table 28: Radiocarbon determinations for rise of agriculture sites (3500 – 1350 cal BC) continued...  
 (Text: §2.4, Data: Tabs 9-10, Figure 4 and Radiocarbon: Figure 15)

No	Site	Date	County	Radiocarbon result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
23	Maiden Castle 85-6 (a)	3	DOR	4710	70	BM 2448	3640-3370 cal BC	3650-3350 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4690	80	OxA 1147	3640-3360 cal BC	3650-3130 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4650	80	OxA 1146	3620-3350 cal BC	3640-3100 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4660	80	OxA 1145	3630-3350 cal BC	3640-3100 cal BC
23	Maiden Castle 85-6 (a)	3	DOR	4660	80	OxA 1349	3630-3350 cal BC	3640-3100 cal BC
25	Mount Pleasant 70-1	3	DOR	3734	41	BM 645	2200-2030 cal BC	2290-1980 cal BC
25	Mount Pleasant 70-1	3	DOR	3728	59	BM 646	2210-2030 cal BC	2300-1940 cal BC
25	Mount Pleasant 70-1	3	DOR	3619	55	BM 790	2110-1880 cal BC	2140-1770 cal BC
25	Mount Pleasant 70-1	3	DOR	4058	71	BM 792	2840-2470 cal BC	2880-2450 cal BC
25	Mount Pleasant 70-1	3	DOR	3630	60	BM 668	2130-1880 cal BC	2200-1770 cal BC
25	Mount Pleasant 70-1	3	DOR	3956	45	BM 794	2560-2400 cal BC	2580-2300 cal BC
27	Rowden 77-84	3	DOR	4860	70	HAR 5248	3710-3540 cal BC	3790-3510 cal BC
27	Rowden 77-84	3	DOR	4940	70	HAR 5247	3790-3640 cal BC	3940-3540 cal BC
27	Rowden 77-84	3	DOR	5250	140	HAR 5246	4320-3950 cal BC	4400-3700 cal BC
27	Rowden 77-84	3	DOR	4970	70	HAR 5245	3900-3650 cal BC	3960-3640 cal BC
27	Rowden 77-84	3	DOR	2940	70	HAR 5548	1290-1010 cal BC	1390-920 cal BC
27	Rowden 77-84	3	DOR	2920	80	HAR 5698	1260-990 cal BC	1390-900 cal BC
27	Rowden 77-84	3	DOR	2920	80	HAR 5249	1260-990 cal BC	1390-900 cal BC
29	Bishopstone 72-5	3	ESU	4460	70	HAR 1662	3350-2930 cal BC	3370-2910 cal BC
29	Bishopstone 72-5	3	ESU	withdrawn		HAR 1660		
29	Bishopstone 72-5	3	ESU	withdrawn		HAR 1661		
32	Varley Halls 92	3	ESU	3130	50	BM 2936	1440-1310 cal BC	1520-1260 cal BC
32	Varley Halls 92	3	ESU	3050	50	BM 2917	1400-1210 cal BC	1430-1120 cal BC
60	New Shide Bridge 72	3	IOW	4210	80	Birm 360 a	2900-2630 cal BC	3010-2500 cal BC
60	New Shide Bridge 72	3	IOW	4180	60	Birm 360 b	2890-2620 cal BC	2910-2570 cal BC
62	Bramcote Green 92	3	LON	3570	60	Beta 68572	2020-1780 cal BC	2130-1740 cal BC
62	Bramcote Green 92	3	LON	3350	60	Beta 70410	1740-1520 cal BC	1860-1510 cal BC
62	Bramcote Green 92	3	LON	3410	70	Beta 70411	1860-1620 cal BC	1890-1520 cal BC
62	Bramcote Green 92	3	LON	3370	60	Beta 70412	1740-1530 cal BC	1880-1510 cal BC

Table 28: Radiocarbon determinations for rise of agriculture sites (3500 – 1350 cal BC) continued...  
 (Text: §2.4, Data: Tabs 9-10, Figure 4 and Radiocarbon: Figure 15)

No	Site	Date	County	Radiocarbon result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
62	Bramcote Green 92	3	LON	3500	80	Beta 70413	1930-1690 cal BC	2040-1620 cal BC
37	Abingdon 63	3	OXF	4910	110	BM 350	3800-3540 cal BC	3970-3380 cal BC
37	Abingdon 63	3	OXF	5060	130	BM 351	3980-3700 cal BC	4230-3540 cal BC
37	Abingdon 63	3	OXF	4710	135	BM 352	3650-3350 cal BC	3770-3030 cal BC
37	Abingdon 63	3	OXF	4970	130	BM 353	3950-3640 cal BC	4040-3380 cal BC
37	Abingdon 63	3	OXF	2500	145	BM 354	810-400 cal BC	970-200 cal BC
37	Abingdon 63	3	OXF	2510	140	BM 355	820-400 cal BC	970-230 cal BC
38	Barrow Hills	3	OXF	3830	90	BM 2706	2470-2140 cal BC	2560-1980 cal BC
38	Barrow Hills	3	OXF	3940	60	BM 2715	2560-2340 cal BC	2620-2200 cal BC
38	Barrow Hills	3	OXF	4270	100	BM 2709	3010-2700 cal BC	3260-2570 cal BC
38	Barrow Hills	3	OXF	4470	70	BM 2714	3350-3020 cal BC	3370-2910 cal BC
38	Barrow Hills	3	OXF	4600	70	BM 2716	3500-3140 cal BC	3630-3090 cal BC
38	Barrow Hills	3	OXF	5140	100	OxA 1881	4040-3790 cal BC	4230-3700 cal BC
38	Barrow Hills	3	OXF	3510	80	OxA 1873	1940-1690 cal BC	2110-1620 cal BC
38	Barrow Hills	3	OXF	3600	70	OxA 1889	2110-1820 cal BC	2150-1740 cal BC
38	Barrow Hills	3	OXF	3860	80	BM 2712	2470-2190 cal BC	2570-2040 cal BC
38	Barrow Hills	3	OXF	3950	80	BM 2713	2570-2310 cal BC	2840-2200 cal BC
38	Barrow Hills	3	OXF	2820	40	BM 2896	1010-910 cal BC	1130-830 cal BC
39	City Farm 64	3	OXF	3440	60	GrN 1686	1880-1660 cal BC	1890-1600 cal BC
61	Bellot St (1)	3	LON	3200	60	CIB 326	1530-1410 cal BC	1620-1310 cal BC
63	Abbot's Way	3	SOM	4040	90	GaK 1940	2840-2460 cal BC	2880-2300 cal BC
63	Abbot's Way	3	SOM	4018	80	Q 926	2660-2460 cal BC	2870-2300 cal BC
63	Abbot's Way	3	SOM	3940	65	Lu 298	2560-2340 cal BC	2620-2200 cal BC
63	Abbot's Way	3	SOM	3934	111	BM 386	2580-2200 cal BC	2860-2050 cal BC
63	Abbot's Way	3	SOM	3975	60	Q 908	2580-2450 cal BC	2660-2290 cal BC
64	Baker	3	SOM	4520	70	HAR 2920	3370-3090 cal BC	3500-2920 cal BC
64	Baker	3	SOM	4540	80	HAR 2919	3370-3090 cal BC	3550-2900 cal BC
65	Bell A	3	SOM	4570	80	Q 927	3500-3100 cal BC	3620-3020 cal BC
65	Bell A	3	SOM	4266	131	BM 382	3030-2670 cal BC	3340-2490 cal BC

Table 28: Radiocarbon determinations for rise of agriculture sites (3500 – 1350 cal BC) continued...  
 (Text: §2.4, Data: Tabs 9-10, Figure 4 and Radiocarbon: Figure 15)

No	Site	Date	County	Radiocarbon result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
65	Bell A	3	SOM	4021	103	BM 383	2840-2450 cal BC	2880-2200 cal BC
66	Bell B	3	SOM	4840	100	GaK 1600	3710-3520 cal BC	3900-3370 cal BC
66	Bell B	3	SOM	3975	92	BM 384	2620-2340 cal BC	2870-2200 cal BC
67	Bisgrove	3	SOM	4880	100	HAR 4078	3770-3530 cal BC	3940-3370 cal BC
67	Blakeway	3	SOM	4280	130	Q 460	3080-2690 cal BC	3350-2490 cal BC
42	Brean Down 83-7	3	SOM	3390	90	HAR 8993	1860-1520 cal BC	1920-1450 cal BC
42	Brean Down 83-7	3	SOM	3460	80	HAR 8547	1890-1660 cal BC	2010-1520 cal BC
42	Brean Down 83-7	3	SOM	3810	90	HAR 8990	2460-2060 cal BC	2550-1970 cal BC
42	Brean Down 83-7	3	SOM	4720	140	HAR 7023	3650-3350 cal BC	3790-3030 cal BC
69	Burtle Bridge Track	3	SOM	4335	60	Q 1035	3020-2880 cal BC	3100-2870 cal BC
69	Burtle Bridge Track	3	SOM	4231	60	Q 1036	2900-2700 cal BC	2920-2600 cal BC
69	Burtle Bridge Track	3	SOM	4370	60	Q 1037	3090-2900 cal BC	3330-2880 cal BC
69	Burtle Bridge Track	3	SOM	4327	60	Q 1038	3020-2880 cal BC	3100-2870 cal BC
70	Chilton	3	SOM	4760	65	Lu 327	3650-3380 cal BC	3660-3360 cal BC
70	Chilton	3	SOM	4760	80	HAR 649	3650-3370 cal BC	3710-3360 cal BC
71	East Moors	3	SOM	3870	80	HAR 3347	2470-2200 cal BC	2600-2040 cal BC
71	East Moors	3	SOM	3770	80	HAR 3348	2300-2030 cal BC	2470-1940 cal BC
71	East Moors	3	SOM	3750	80	HAR 3449	2290-2030 cal BC	2460-1920 cal BC
72	Eclipse	3	SOM	3460	60	HAR 680	1880-1680 cal BC	1930-1620 cal BC
72	Eclipse	3	SOM	3600	70	HAR 3838	2110-1820 cal BC	2150-1740 cal BC
72	Eclipse	3	SOM	3230	70	HAR 4868	1610-1420 cal BC	1690-1320 cal BC
73	Garvin's	3	SOM	4460	90	HAR 1219	3350-2920 cal BC	3500-2890 cal BC
73	Garvin's	3	SOM	4380	70	HAR 682	3100-2900 cal BC	3340-2880 cal BC
73	Garvin's	3	SOM	4280	70	HAR 1222	2920-2870 cal BC	3090-2670 cal BC
73	Garvin's	3	SOM	4340	80	HAR 3387	3090-2880 cal BC	3330-2700 cal BC
74	Honeybee	3	SOM	4610	90	HAR 5722	3520-3130 cal BC	3640-3030 cal BC
74	Honeybee	3	SOM	4500	70	HAR 5723	3360-3030 cal BC	3500-2920 cal BC
74	Honeybee	3	SOM	4300	70	HAR 5727	3010-2880 cal BC	3100-2700 cal BC
75	Honeycat	3	SOM	4560	80	HAR 5724	3500-3100 cal BC	3520-3020 cal BC

Table 28: Radiocarbon determinations for rise of agriculture sites (3500 – 1350 cal BC) continued...  
 (Text: §2.4, Data: Tabs 9-10, Figure 4 and Radiocarbon: Figure 15)

No	Site	Date	County	Radiocarbon result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
75	Honeycat	3	SOM	4440	70	HAR 653	3340-2920 cal BC	3360-2900 cal BC
75	Honeycat	3	SOM	4370	80	HAR 652	3100-2890 cal BC	3350-2870 cal BC
75	Honeycat	3	SOM	4326	130	Q 427	3100-2780 cal BC	3400-2570 cal BC
75	Honeycat	3	SOM	4215	130	Q 429	2920-2580 cal BC	3260-2460 cal BC
75	Honeycat	3	SOM	4065	130	Q 320	2880-2460 cal BC	2950-2200 cal BC
76	Honeydew	3	SOM	4640	70	HAR 6699	3520-3350 cal BC	3640-3100 cal BC
76	Honeydew	3	SOM	4460	90	HAR 651	3350-2920 cal BC	3500-2890 cal BC
77	Honeygore	3	SOM	4780	50	Q 1028	3650-3520 cal BC	3660-3370 cal BC
77	Honeygore	3	SOM	4773	80	Q 909	3650-3380 cal BC	3710-3360 cal BC
77	Honeygore	3	SOM	4760	65	Lu 297	3650-3380 cal BC	3660-3360 cal BC
77	Honeygore	3	SOM	4757	60	Q 999	3640-3380 cal BC	3660-3370 cal BC
77	Honeygore	3	SOM	4750	130	Q 431	3660-3360 cal BC	3790-3100 cal BC
77	Honeygore	3	SOM	4742	50	Q 1027	3640-3380 cal BC	3650-3370 cal BC
77	Honeygore	3	SOM	4610	90	HAR 5721	3520-3130 cal BC	3640-3030 cal BC
78	Jones	3	SOM	4590	70	HAR 3078	3500-3130 cal BC	3620-3090 cal BC
78	Jones	3	SOM	4420	80	HAR 3386	3330-2910 cal BC	3360-2880 cal BC
80	Rowland's	3	SOM	4210	90	HAR 1383	2910-2620 cal BC	3020-2490 cal BC
81	Signal Pole	3	SOM	4580	70	HAR 4739	3500-3120 cal BC	3520-3030 cal BC
82	Walton	3	SOM	4420	90	HAR 1471	3340-2910 cal BC	3370-2880 cal BC
82	Walton	3	SOM	4260	80	HAR 1470	2920-2700 cal BC	3090-2600 cal BC
82	Walton	3	SOM	4160	100	HAR 1220	2890-2570 cal BC	2930-2460 cal BC
82	Walton	3	SOM	4330	90	HAR 1467	3090-2880 cal BC	3340-2690 cal BC
82	Walton	3	SOM	4250	90	HAR 1468	2920-2700 cal BC	3090-2580 cal BC
83	Walton 83	3	SOM	4680	70	HAR 5726	3630-3360 cal BC	3640-3340 cal BC
47	Amesbury (Barrow 39) 60	3	WIL	3620	90	HAR 1237	2140-1830 cal BC	2280-1740 cal BC
46	Amesbury 56	3	WIL	3310	80	HAR 6226	1690-1510 cal BC	1860-1410 cal BC
46	Amesbury 56	3	WIL	3550	80	HAR 6225	2020-1740 cal BC	2140-1680 cal BC
46	Amesbury 56	3	WIL	3520	100	HAR 6227	2010-1690 cal BC	2140-1600 cal BC
48	Easton Down 91	3	WIL	4610	60	OxA 3759	3500-3340 cal BC	3620-3100 cal BC

Table 28: Radiocarbon determinations for rise of agriculture sites (3500 – 1350 cal BC) continued...  
 (Text: §2.4, Data: Tabs 9-10, Figure 4 and Radiocarbon: Figure 15)

No	Site	Date	County	Radiocarbon result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
48	Easton Down 91	3	WIL	4730	65	OxA 3760	3640-3370 cal BC	3650-3360 cal BC
48	Easton Down 91	3	WIL	4535	65	OxA 3762	3370-3090 cal BC	3500-3020 cal BC
48	Easton Down 91	3	WIL	3860	60	OxA 3761	2470-2200 cal BC	2480-2130 cal BC
50	Knap Hill 61	3	WIL	4710	115	BM 205	3650-3360 cal BC	3710-3100 cal BC
50	Knap Hill 61	3	WIL	3790	130	BM 208	2470-1980 cal BC	2580-1820 cal BC
52	Milton Hill	3	WIL	3400	110	HAR 6471	1880-1520 cal BC	2010-1430 cal BC
52	Milton Hill	3	WIL	3420	80	HAR 6456	1880-1620 cal BC	1930-1520 cal BC
52	Milton Hill	3	WIL	3590	190	HAR 6472	2200-1680 cal BC	2470-1450 cal BC
52	Milton Hill	3	WIL	3380	80	HAR 6455	1750-1520 cal BC	1890-1460 cal BC
52	Milton Hill	3	WIL	3580	80	HAR 6453	2040-1770 cal BC	2150-1690 cal BC
52	Milton Hill	3	WIL	3780	80	HAR 6454	2310-2040 cal BC	2470-1950 cal BC
52	Milton Hill	3	WIL	3590	90	HAR 6457	2120-1770 cal BC	2200-1680 cal BC
52	Milton Hill	3	WIL	3460	80	HAR 6458	1890-1660 cal BC	2010-1520 cal BC
52	Milton Hill	3	WIL	3410	80	HAR 6470	1880-1610 cal BC	1920-1510 cal BC
56	Wilsford Shaft 60-2	3	WIL	2450	60	OxA 1210	770-400 cal BC	800-390 cal BC
56	Wilsford Shaft 60-2	3	WIL	2320	80	OxA 1211	410-230 cal BC	760-170 cal BC
56	Wilsford Shaft 60-2	3	WIL	2360	60	OxA 1212	480-380 cal BC	760-230 cal BC
56	Wilsford Shaft 60-2	3	WIL	2480	60	OxA 1213	790-410 cal BC	800-400 cal BC
56	Wilsford Shaft 60-2	3	WIL	3130	70	OxA 1214	1500-1310 cal BC	1530-1130 cal BC
56	Wilsford Shaft 60-2	3	WIL	3130	60	OxA 1215	1490-1310 cal BC	1520-1220 cal BC
56	Wilsford Shaft 60-2	3	WIL	3160	60	OxA 1216	1520-1320 cal BC	1530-1260 cal BC
56	Wilsford Shaft 60-2	3	WIL	3150	60	OxA 1217	1500-1320 cal BC	1530-1260 cal BC
56	Wilsford Shaft 60-2	3	WIL	3200	80	OxA 1229	1530-1400 cal BC	1690-1260 cal BC
56	Wilsford Shaft 60-2	3	WIL	4640	70	OxA 1089	3520-3350 cal BC	3650-3100 cal BC

Table 29: Radiocarbon determinations from transitional Bronze Age sites (*ca.* 2200 – 800 cal AD)  
 (Text: §2.5, Data: Tables 11-12, Figure 5 and Radiocarbon: Figure 16)

No	Site	Date	County	Radiocarbon Result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
13	Black Patch 77-9	34	ESU	2780	80	HAR 2939	1010-830 cal BC	1210-800 cal BC
13	Black Patch 77-9	34	ESU	3020	70	HAR 2940	1390-1120 cal BC	1440-1010 cal BC
13	Black Patch 77-9	34	ESU	2970	70	HAR 2941	1370-1040 cal BC	1410-940 cal BC
13	Black Patch 77-9	34	ESU	2970	80	HAR 3735	1370-1040 cal BC	1410-930 cal BC
13	Black Patch 77-9	34	ESU	3080	70	HAR 3736	1430-1220 cal BC	1520-1120 cal BC
13	Black Patch 77-9	34	ESU	2850	70	HAR 3737	1190-910 cal BC	1260-830 cal BC
13	Black Patch 77-9	34	ESU	3830	80	HAR 3976	2460-2140 cal BC	2550-2030 cal BC
13	Black Patch 77-9	34	ESU	2790	40	BM 1643	1000-890 cal BC	1020-830 cal BC
22	Rollright Stones 82-6	4	OXF	3370	40	BM 2427	1740-1610 cal BC	1750-1520 cal BC
22	Rollright Stones 82-6	4	OXF	3480	50	BM 2428	1890-1690 cal BC	1930-1660 cal BC
22	Rollright Stones 82-6	4	OXF	3320	90	BM 2429	1740-1510 cal BC	1880-1410 cal BC
41	Meare Heath	34	SOM	3220	80	HAR 6606	1600-1410 cal BC	1690-1310 cal BC
41	Meare Heath	34	SOM	3120	80	HAR 6607	1500-1260 cal BC	1530-1130 cal BC
41	Meare Heath	34	SOM	3290	70	HAR 683	1690-1460 cal BC	1740-1410 cal BC
41	Meare Heath	34	SOM	2980	70	HAR 943	1370-1050 cal BC	1410-990 cal BC
41	Meare Heath	34	SOM	2840	110	Q 52	1210-830 cal BC	1380-800 cal BC

Table 30: Radiocarbon determinations for diversification and intensification sites (1350 – 0 cal BC)  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Figure 17)

No	Site	Date	County	Radiocarbon Result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
1	Anslows Cottages 85-6	4	BRK	2570	70	HAR 9186	810-560 cal BC	840-410 cal BC
69	Runnymede 78	4	BRK	2690	80	HAR 3114	910-790 cal BC	1010-760 cal BC
69	Runnymede 78	4	BRK	2720	80	HAR 3115	970-800 cal BC	1050-780 cal BC
69	Runnymede 78	4	BRK	2690	80	HAR 3120	910-790 cal BC	1010-760 cal BC
69	Runnymede 78	4	BRK	2970	70	HAR 3752	1370-1040 cal BC	1410-940 cal BC
69	Runnymede 78	4	BRK	2800	60	HAR 3751	1010-840 cal BC	1190-820 cal BC
69	Runnymede 78	4	BRK	3090	120	HAR 3116	1500-1130 cal BC	1680-1000 cal BC
69	Runnymede 78	4	BRK	2700	70	HAR 3117	910-800 cal BC	1010-780 cal BC
69	Runnymede 78	4	BRK	2650	70	HAR 4257	890-790 cal BC	970-590 cal BC
69	Runnymede 78	4	BRK	2820	70	HAR 4275	1050-890 cal BC	1220-820 cal BC
69	Runnymede 78	4	BRK	2750	70	HAR 4268	1000-820 cal BC	1050-790 cal BC
69	Runnymede 78	4	BRK	2790	90	HAR 4413	1050-830 cal BC	1260-790 cal BC
69	Runnymede 78	4	BRK	2780	80	HAR 4341	1010-830 cal BC	1210-800 cal BC
69	Runnymede 78	4	BRK	2770	90	HAR 4274	1010-820 cal BC	1210-790 cal BC
69	Runnymede 78	4	BRK	2690	70	HAR 4269	910-800 cal BC	1000-780 cal BC
69	Runnymede 78	4	BRK	2730	70	HAR 4277	970-800 cal BC	1020-790 cal BC
69	Runnymede 78	4	BRK	2640	70	HAR 4267	840-790 cal BC	920-560 cal BC
69	Runnymede 78	4	BRK	2920	90	HAR 4273	1290-940 cal BC	1400-840 cal BC
69	Runnymede 78	4	BRK	2630	60	HAR 4265	830-790 cal BC	900-590 cal BC
69	Runnymede 78	4	BRK	2810	90	HAR 4340	1110-830 cal BC	1260-800 cal BC
69	Runnymede 78	4	BRK	2640	70	HAR 4264	840-790 cal BC	920-560 cal BC
69	Runnymede 78	4	BRK	2580	80	HAR 4270	820-560 cal BC	900-400 cal BC
69	Runnymede 78	4	BRK	2690	80	HAR 4272	910-790 cal BC	1010-760 cal BC
69	Runnymede 78	4	BRK	2580	60	HAR 3762	810-670 cal BC	840-520 cal BC
69	Runnymede 78	4	BRK	2540	70	HAR 3759	800-540 cal BC	830-400 cal BC
69	Runnymede 78	4	BRK	2530	70	HAR 3761	800-520 cal BC	830-400 cal BC
69	Runnymede 78	4	BRK	2690	80	HAR 3750	910-790 cal BC	1010-760 cal BC
69	Runnymede 78	4	BRK	2830	80	HAR 6138	1130-890 cal BC	1260-810 cal BC
69	Runnymede 78	4	BRK	2670	80	HAR 3113	900-790 cal BC	1000-590 cal BC

Table 30: Radiocarbon determinations for diversification and intensification sites (1350 – 0 cal BC) continued...  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Figure 17)

No	Site	Date	County	Radiocarbon Result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
69	Runnymede 78	4	BRK	2700	70	HAR 3112	910-800 cal BC	1010-780 cal BC
69	Runnymede 78	4	BRK	2720	90	HAR 3118	980-800 cal BC	1110-760 cal BC
69	Runnymede 78	4	BRK	2710	130	HAR 3119	1000-790 cal BC	1260-510 cal BC
3	Carn Euny 64-72	4	COR	2370	70	HAR 238	520-390 cal BC	770-230 cal BC
3	Carn Euny 64-72	4	COR	2080	80	HAR334	200 cal BC-cal AD 20	360cal BC-cal AD 80
3	Carn Euny 64-72	4	COR	1860	100	HAR 335	cal AD 20-320	cal AD 50-410
3	Carn Euny 64-72	4	COR	1740	70	HAR 237	cal AD 230-400	cal AD 120-430
4	A30 Honiton (Blackhorse)	4	DEV	2000	50	GU 7227	50 cal BC-cal AD 70	160 cal BC-cal AD 130
4	A30 Honiton (Blackhorse)	4	DEV	2065	45	AA 30659	170-1 cal BC	200 cal BC- cal AD 60
4	A30 Honiton (Blackhorse)	4	DEV	2120	45	AA 30661	210-50 cal BC	360-1 cal BC
4	A30 Honiton (Blackhorse)	4	DEV	2125	45	AA 30660	210-50 cal BC	360-1 cal BC
4	A30 Honiton (Blackhorse)	4	DEV	2175	50	AA 30662	360-160 cal BC	390-50 cal BC
4	A30 Honiton (Blackhorse)	4	DEV	2370	60	GU 7840	520-390 cal BC	760-260 cal BC
5	A30 Honiton (Castle Hill)	4	DEV	3060	55	AA 30671	1410-1210 cal BC	1440-1120 cal BC
5	A30 Honiton (Castle Hill)	4	DEV	2985	50	AA 30673	1370-1120 cal BC	1390-1020 cal BC
5	A30 Honiton (Castle Hill)	4	DEV	3035	50	AA 30674	1390-1130 cal BC	1420-1120 cal BC
5	A30 Honiton (Castle Hill)	4	DEV	3115	50	AA 30675	1440-1310 cal BC	1520-1260 cal BC
5	A30 Honiton (Castle Hill)	4	DEV	2765	50	AA 30672	980-830 cal BC	1010-800 cal BC
6	A30 Honiton (Hayne Lane)	4	DEV	2715	50	AA 30679	910-810 cal BC	980-790 cal BC
6	A30 Honiton (Hayne Lane)	4	DEV	2730	55	AA 30680	970-820 cal BC	1010-790 cal BC
6	A30 Honiton (Hayne Lane)	4	DEV	2725	50	AA 30676	920-820 cal BC	1000-800 cal BC
6	A30 Honiton (Hayne Lane)	4	DEV	2980	50	AA 30677	1300-1120 cal BC	1390-1010 cal BC
6	A30 Honiton (Hayne Lane)	4	DEV	3125	50	AA 30678	1440-1310 cal BC	1520-1260 cal BC
7	A30 Honiton (Langland Lane)	4	DEV	2295	45	AA 30665	400-260 cal BC	410-200 cal BC
8	A30 Honiton (Long Range)	4	DEV	2090	45	AA 30663	180-40 cal BC	350 cal BC-cal AD 20
8	A30 Honiton (Long Range)	4	DEV	2100	50	GU 7847	200-40 cal BC	360 cal BC-cal AD 20
8	A30 Honiton (Long Range)	4	DEV	2220	70	GU 7845	390-170 cal BC	410-50 cal BC
8	A30 Honiton (Long Range)	4	DEV	2275	45	AA 30664	400-230 cal BC	410-200 cal BC
15	Wytych Farm (East of Corfe River)	4	DOR	3081	51	UB 3219	1410-1260 cal BC	1490-1130 cal BC



Table 30: Radiocarbon determinations for diversification and intensification sites (1350 – 0 cal BC) continued...  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Figure 17)

No	Site	Date	County	Radiocarbon Result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
4	Harting Beacon 77	4	ESU	2220	80	HAR 2411	400-170 cal BC	410-40 cal BC
25	Uley Bury 76	4	GLO	2250	80	HAR-2289	400-200 cal BC	410-90 cal BC
26	Danebury 78	4	HMP	2180	70	HAR 963	370-110 cal BC	400-1 cal BC
26	Danebury 78	4	HMP	2040	80	HAR 1425	170 cal BC-cal AD 60	360 cal BC-cal AD 130
26	Danebury 78	4	HMP	2160	70	HAR 1440	360-90 cal BC	400-1 cal BC
26	Danebury 78	4	HMP	2090	90	HAR 1442	350 cal BC-cal AD 20	390 cal BC-cal AD 120
26	Danebury 78	4	HMP	1980	80	HAR 2028	50 cal BC-cal AD 130	200 cal BC-cal AD 230
26	Danebury 78	4	HMP	2530	110	HAR 2029	810-410 cal BC	900-390 cal BC
26	Danebury 78	4	HMP	2370	80	HAR 2032	760-380 cal BC	770-200 cal BC
26	Danebury 78	4	HMP	2460	60	HAR 2033	770-400 cal BC	800-390 cal BC
26	Danebury 78	4	HMP	2200	80	HAR 2034	390-120 cal BC	410-1 cal BC
26	Danebury 78	4	HMP	2260	80	HAR 2035	400-200 cal BC	490-110 cal BC
26	Danebury 78	4	HMP	2100	90	HAR 2036	350 cal BC-cal AD 10	390 cal BC-cal AD 80
26	Danebury 78	4	HMP	2060	80	HAR 2037	200 cal BC-cal AD 50	360 cal BC-cal AD 130
26	Danebury 78	4	HMP	2090	70	HAR 2038	200-1 cal BC	360 cal BC-cal AD 70
26	Danebury 78	4	HMP	2420	80	HAR 2039	770-390 cal BC	800-260 cal BC
26	Danebury 78	4	HMP	2210	60	HAR 2567	390-170 cal BC	400-90 cal BC
26	Danebury 78	4	HMP	2160	80	HAR 2581	360-50 cal BC	400 cal BC-cal AD 20
26	Danebury 78	4	HMP	2330	60	HAR 2585	410-380 cal BC	760-200 cal BC
26	Danebury 78	4	HMP	2120	70	HAR 2969	350-40 cal BC	380 cal BC-cal AD 50
26	Danebury 78	4	HMP	2060	60	HAR 2970	170 cal BC-cal AD 20	350 cal BC-cal AD 80
26	Danebury 78	4	HMP	2110	70	HAR 2971	350-1 cal BC	370 cal BC-cal AD 60
26	Danebury 78	4	HMP	2170	70	HAR 2972	360-110 cal BC	400-1 cal BC
26	Danebury 78	4	HMP	1990	70	HAR 2974	50 cal BC-cal AD 80	180 cal BC-cal AD 140
26	Danebury 78	4	HMP	2370	70	HAR 2975	520-390 cal BC	770-230 cal BC
26	Danebury 78	4	HMP	2210	70	HAR 3021	390-170 cal BC	410-50 cal BC
26	Danebury 78	4	HMP	2210	70	HAR 3022	390-170 cal BC	410-50 cal BC
26	Danebury 78	4	HMP	2450	80	HAR 3026	770-400 cal BC	800-380 cal BC
26	Danebury 78	4	HMP	2040	70	HAR 3901	170 cal BC-cal AD 60	350 cal BC-cal AD 130

Table 30: Radiocarbon determinations for diversification and intensification sites (1350 – 0 cal BC) continued...  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Figure 17)

No	Site	Date	County	Radiocarbon Result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
26	Danebury 78	4	HMP	2250	70	HAR 4243	400-200 cal BC	410-110 cal BC
26	Danebury 78	4	HMP	2120	80	HAR 4244	360-1 cal BC	390 cal BC-cal AD 60
26	Danebury 78	4	HMP	2470	90	HAR 4278	790-400 cal BC	810-380 cal BC
26	Danebury 78	4	HMP	2280	70	HAR 4279	410-200 cal BC	490-170 cal BC
26	Danebury 78	4	HMP	2270	90	HAR 4325	410-200 cal BC	800-90 cal BC
26	Danebury 78	4	HMP	2120	70	HAR 4327	350-40 cal BC	380 cal BC-cal AD 50
26	Danebury 78	4	HMP	2330	90	HAR 4328	480-230 cal BC	770-170 cal BC
26	Danebury 78	4	HMP	2140	80	HAR 4329	360-40 cal BC	400 cal BC-cal AD 50
26	Danebury 78	4	HMP	2580	80	HAR 4330	820-560 cal BC	900-400 cal BC
26	Danebury 78	4	HMP	2340	100	HAR 4331	520-230 cal BC	790-170 cal BC
26	Danebury 78	4	HMP	2380	90	HAR 4339	760-380 cal BC	790-200 cal BC
26	Danebury 78	4	HMP	2300	70	HAR 4464	410-230 cal BC	520-170 cal BC
26	Danebury 78	4	HMP	2220	90	HAR 4466	400-160 cal BC	410-1 cal BC
27	Meon Hill 32-3	4	HMP	2150	70	HAR 2770	360-50 cal BC	390 cal BC-cal AD 10
28	Micheldever Wood (MARC3 M27)	4	HMP	1930	70	HAR 2693	cal AD 1-140	90 cal BC-cal AD 250
28	Micheldever Wood (MARC3 M27)	4	HMP	2070	90	HAR 2780	200 cal BC-cal AD 50	370 cal BC-cal AD 130
28	Micheldever Wood (MARC3 M27)	4	HMP	2290	70	HAR 2799	410-210 cal BC	520-170 cal BC
28	Micheldever Wood (MARC3 M27)	4	HMP	2290	110	HAR 2604	410-200 cal BC	770-50 cal BC
30	Nornour 69-73	4	IOS	3260	280	HAR 239	1890-1130 cal BC	2290-830 cal BC
30	Nornour 69-73	4	IOS	2690	90	HAR 240	920-790 cal BC	1020-590 cal BC
30	Nornour 69-73	4	IOS	2990	100	HAR 457	1390-1040 cal BC	1490-920 cal BC
30	Nornour 69-73	4	IOS	3020	70	HAR 460	1390-1120 cal BC	1440-1010 cal BC
31	Oldbury 83-4	4	KNT	2310	50	BM 2290	410-260 cal BC	480-200 cal BC
31	Oldbury 83-4	4	KNT	1840	40	BM 2291	cal AD 120-240	cal AD 70-320
31	Oldbury 83-4	4	KNT	1910	80	BM 2292	cal AD 1-220	cal BC 90-cal AD 330
55	Farmoor, Upper Thames	4	OXF	2060	70	HAR 1926	180 cal BC-cal AD 30	360 cal BC-cal AD 80
55	Farmoor, Upper Thames	4	OXF	2410	100	HAR 1374	770-390 cal BC	800-200 cal BC
57	Godwin's	4	SOM	3060	70	HAR 5086	1410-1210 cal BC	1500-1120 cal BC

Table 30: Radiocarbon determinations for diversification and intensification sites (1350 – 0 cal BC) continued...  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Figure 17)

No	Site	Date	County	Radiocarbon Result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
58	Meare West	4	SOM	2200	70	HAR 3489	390-160 cal BC	400-40 cal BC
58	Meare West	4	SOM	2200	70	HAR 2654	390-160 cal BC	400-40 cal BC
58	Meare West	4	SOM	2190	70	HAR 3719	380-120 cal BC	400-40 cal BC
58	Meare West	4	SOM	2170	70	HAR 3693	360-110 cal BC	400-1 cal BC
58	Meare West	4	SOM	2130	90	HAR 2668	360 cal BC-cal AD 70	400-70 cal BC
58	Meare West	4	SOM	2130	60	HAR 3492	350-50 cal BC	370 cal BC-cal AD 10
59	Nidon's	4	SOM	2585	100	Q 313	830-540 cal BC	970-400 cal BC
60	Platform	4	SOM	2410	100	Q 311	770-390 cal BC	800-200 cal BC
60	Platform	4	SOM	2460	110	Q 311 bis repeat of Q 311	800-390 cal BC	830-230 cal BC
61	Shapwick	4	SOM	2470	110	Q 39	800-400 cal BC	830-260 cal BC
61	Shapwick	4	SOM	2220	150	Q 43	410-50 cal BC	770 cal BC-cal AD 80
62	Skinner's	4	SOM	2630	70	HAR 650	840-780 cal BC	920-540 cal BC
63	Stileway	4	SOM	3210	80	HAR 5710	1600-1400 cal BC	1690-1310 cal BC
63	Stileway	4	SOM	3050	70	HAR 1221	1410-1130 cal BC	1490-1050 cal BC
63	Stileway	4	SOM	2810	90	HAR 4477	1110-830 cal BC	1260-800 cal BC
64	Tinney's	4	SOM	3040	70	HAR 681	1410-1130 cal BC	1440-1040 cal BC
64	Tinney's	4	SOM	3040	70	HAR 945	1410-1130 cal BC	1440-1040 cal BC
64	Tinney's	4	SOM	3020	70	HAR 684	1390-1120 cal BC	1440-1010 cal BC
64	Tinney's	4	SOM	2950	80	HAR 946	1300-1010 cal BC	1410-910 cal BC
64	Tinney's	4	SOM	3020	70	HAR 948	1390-1120 cal BC	1440-1010 cal BC
64	Tinney's	4	SOM	2960	70	HAR 947	1300-1040 cal BC	1400-930 cal BC
64	Tinney's	4	SOM	2920	60	HAR 2429	1260-1000 cal BC	1370-920 cal BC
64	Tinney's	4	SOM	2960	70	HAR 2773	1300-1040 cal BC	1400-930 cal BC
65	Tollgate	4	SOM	2600	110	Q 306	840-540 cal BC	1000-400 cal BC
66	Viper's	4	SOM	2630	110	Q 312	900-670 cal BC	1010-400 cal BC
66	Viper's	4	SOM	2520	110	Q 7	810-400 cal BC	900-380 cal BC
67	Westhay	4	SOM	2800	110	Q 308	1130-820 cal BC	1300-790 cal BC
68	Withy Bed	4	SOM	2740	70	HAR 944	980-820 cal BC	1050-790 cal BC
68	Withy Bed	4	SOM	2630	80	HAR 3446	840-780 cal BC	970-540 cal BC

Table 30: Radiocarbon determinations for diversification and intensification sites (1350 – 0 cal BC) continued...  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Figure 17)

No	Site	Date	County	Radiocarbon Result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
40	Petters Sports Field 76-7	4	SUR			BM 1620	date removed see Radiocarbon 32(10, 79)	
40	Petters Sports Field 76-7	4	SUR			BM 1621	date removed see Radiocarbon 32(10, 79)	
40	Petters Sports Field 76-7	4	SUR			BM 1623	date removed see Radiocarbon 32(10, 79)	
40	Petters Sports Field 76-7	4	SUR	2630	70	BM 1624	840-780 cal BC	920-540 cal BC
40	Petters Sports Field 76-7	4	SUR			BM 1622	date removed see Radiocarbon 32(10, 79)	
40	Runnymede Bridge	4	SUR	2620	60	BM 2771	830-780 cal BC	900-560 cal BC
41	Runnymede Bridge	4	SUR	2590	50	BM 2651	810-760 cal BC	830-540 cal BC
41	Runnymede Bridge	4	SUR	2710	90	BM 2769	970-800 cal BC	1050-760 cal BC
41	Runnymede Bridge	4	SUR	2740	60	BM 2770	970-820 cal BC	1010-790 cal BC
41	Runnymede Bridge	4	SUR	2570	50	BM 2650	810-670 cal BC	830-540 cal BC
41	Runnymede Bridge	4	SUR	2530	45	BM 2813	800-540 cal BC	810-410 cal BC
41	Runnymede Bridge	4	SUR	2490	60	BM 2649	790-410 cal BC	800-400 cal BC
41	Runnymede Bridge	4	SUR	2560	50	BM 2648	800-590 cal BC	820-520 cal BC
47	Wessex Linear Ditches	4	WIL	2090	75	OxA 3043	210 cal BC-cal AD 1	360 cal BC-cal AD 80
47	Wessex Linear Ditches	4	WIL	2460	90	OxA 3044	790-400 cal BC	810-380 cal BC
52	Rackham 70	4	WSU	2300	100	HAR 359	410-200 cal BC	770-110 cal BC
52	Rackham 70	4	WSU	2000	140	HAR 360	200 cal BC-cal AD 140	390 cal BC-cal AD 340

Table 31: Radiocarbon determinations for transitional Iron Age to Roman period sites (*ca.* 800 cal BC – 100 cal AD)  
 (Text: §2.7, Data: Table 15, Figure 7 and Radiocarbon: Figure 18)

No	Site	Date	County	Radiocarbon Result (BP)	Error	Lab no	Calibrated date range (68% confidence)	Calibrated date range (95% confidence)
3	Glastonbury	45	SOM	1975	70	Q 2618	50 cal BC-cal AD 130	170 cal BC-cal AD 220
3	Glastonbury	45	SOM	1920	70	Q 2619	cal AD 1-140	50 cal BC-cal AD 250

Figure 1: Distribution map of Lower – Middle Palaeolithic sites (500,000 – 50,000 BP) (Text: §2.1, Table 6)

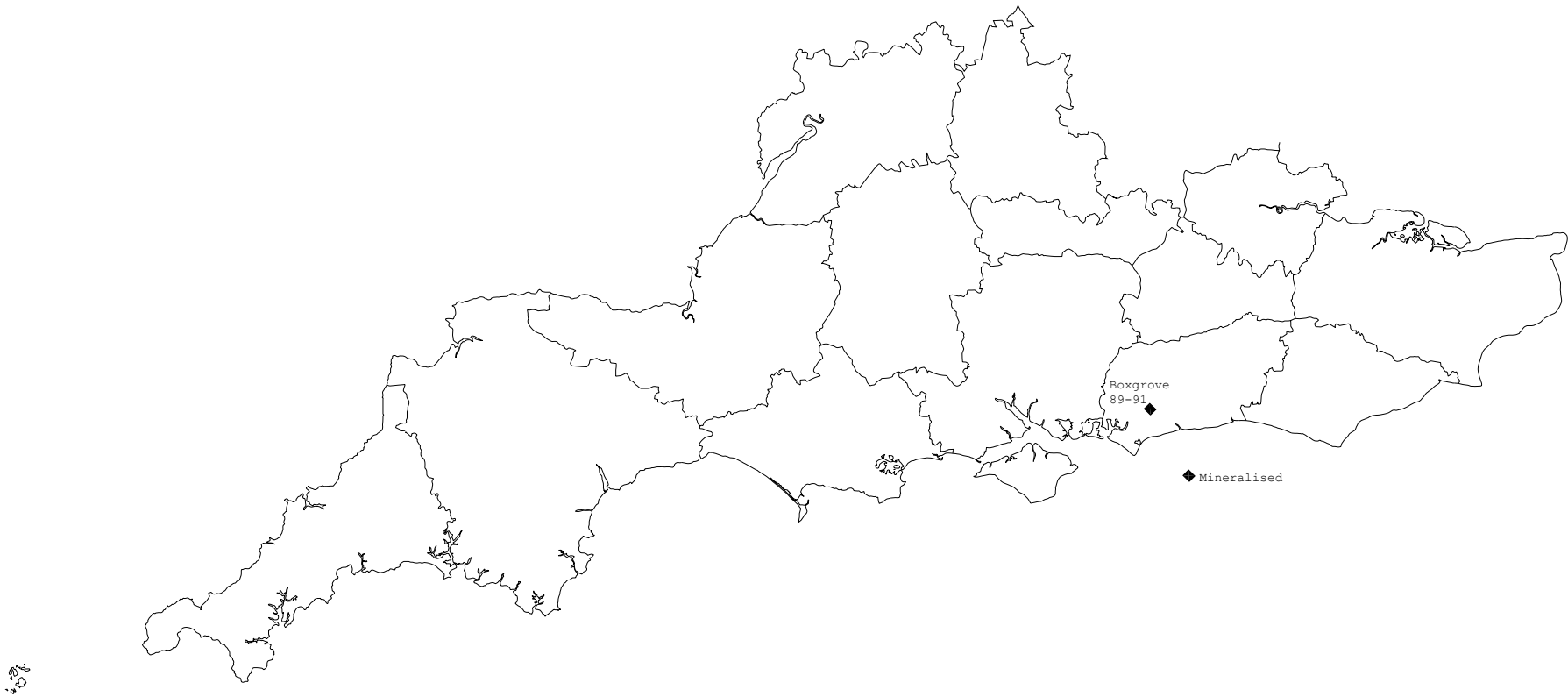


Figure 2: Distribution map of Early Hunter-Gatherer sites (50,000 – 10,000 BP) (Text: §2.2, Table 7)

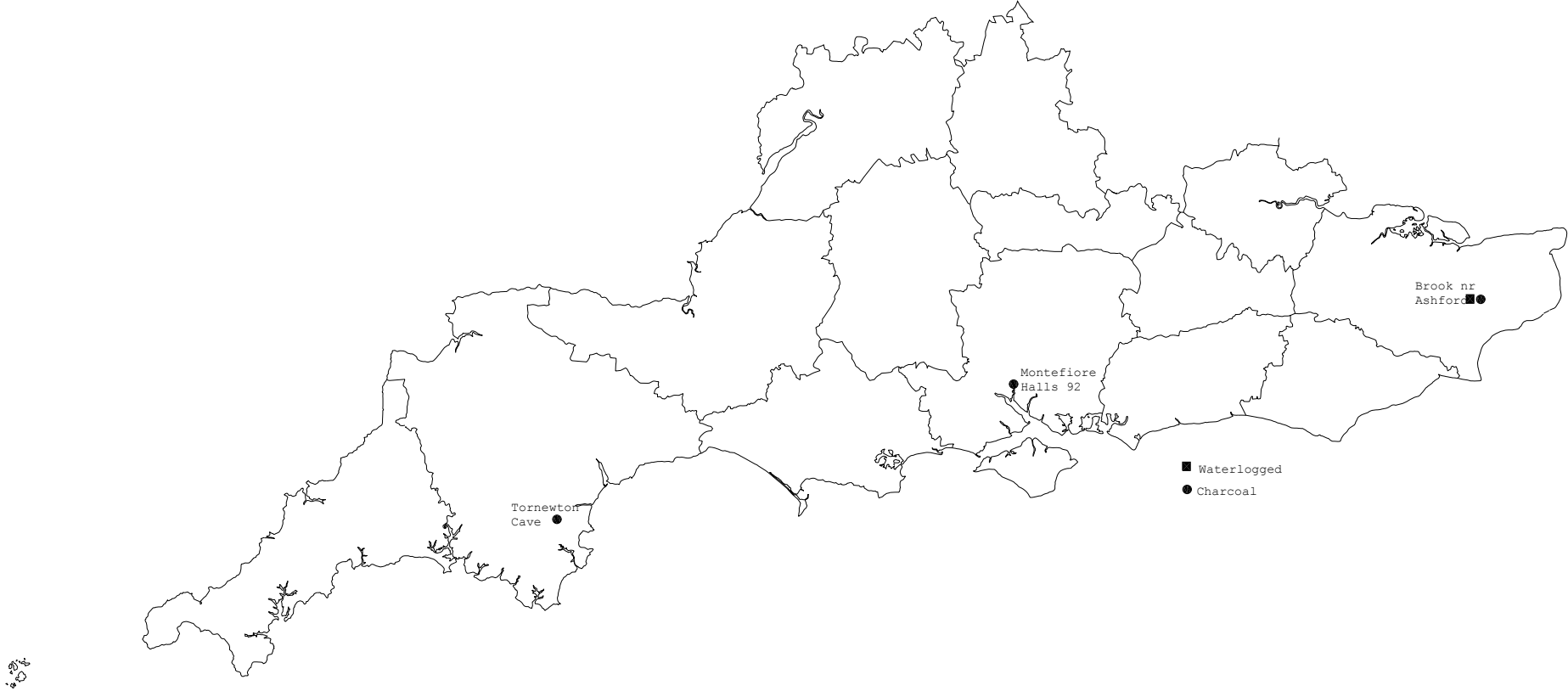


Figure 3: Distribution map of Late Hunter-Gatherer sites (8050 – 3500 cal BC) (Text: §2.3, Table 8 and Radiocarbon: Table 27, Figure 14)



Key to sites:

1	Selmeston 81	6	Barrow Hills
2	Broken Cave	7	Court Hill 82
3	Three Holes Cave	8	Pyecombe
4	Montefiore Halls 92	9	Sweet Track
5	Oakhanger 58	10	Westward Ho! 83-4



Figure 4: Distribution map of the rise of agriculture sites (3500 – 1350 cal BC)  
 (Text: §2.4, Tables 9-10 and Radiocarbon: Table 28, Figure 15)

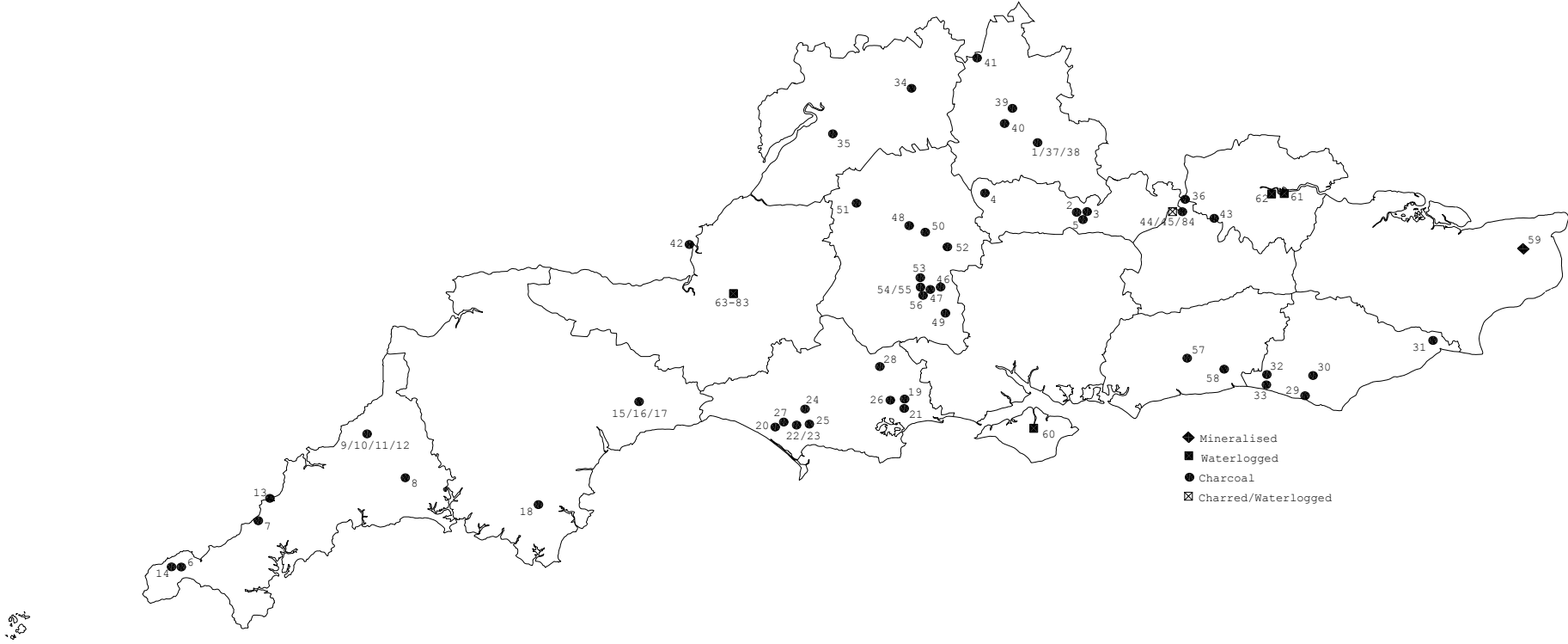
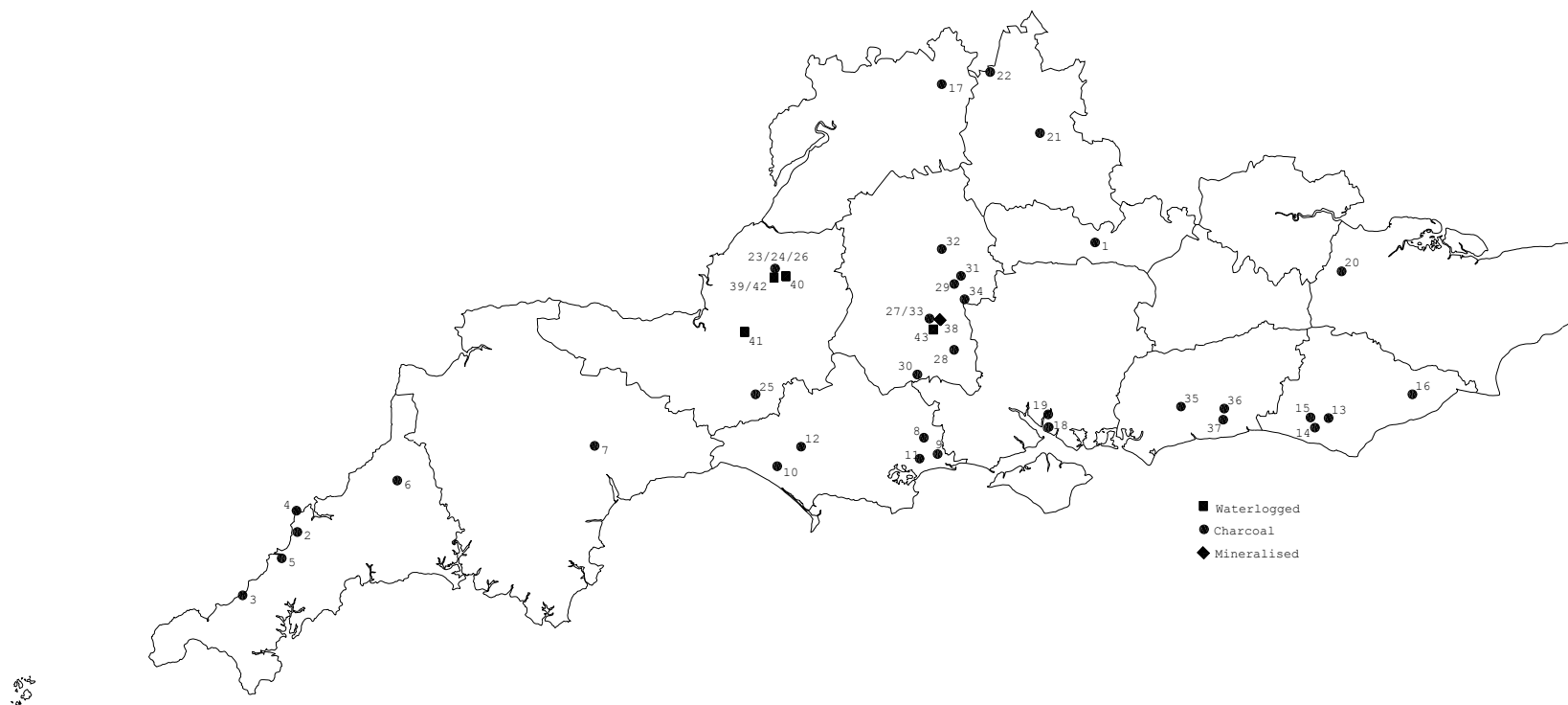


Figure 4: Distribution map of the rise of agriculture sites (3500 – 1350 cal BC) continued

Key to sites:

1	Abingdon Camp 54	26	Pamphill Parish	51	Lanhill 63	76	Honeydew
2	Field Farm 85	27	Rowden 77-84	52	Milton Hill	77	Honeygore
3	Knights Farm 74-8	28	Thickthorn Down	53	Robin Hoods Ball 1	78	Jones
4	Lambourn Barrows	29	Bishopstone 72-5	54	Stonehenge 66	79	Meare Heath
5	Wickhams Field 94	30	Black Patch 77-9	55	Stonehenge AML 3210	80	Rowland's
6	Chysauster	31	Playden	56	Wilsford Shaft 60-2	81	Signal Pole
7	Crig-a-minnis 57	32	Varley Halls 92	57	Rackham 70*	82	Walton
8	Davidstow (Fore Down St. Cleer)	33	Whitehawk Camp 32-3	58	Testers 85	83	Walton 83
9	Davidstow (Site I)	34	Hazleton North 79-82	59	Wingham 58	84	Runnymede 78
10	Davidstow (Site III)	35	Nympsfield 74	60	New Shide Bridge 72		
11	Davidstow (Site V)	36	Staines 61-3	61	Bellot St (1)		
12	Davidstow (Site XXVI)	37	Abingdon 63	62	Bramcote Green 92		
13	Trethellan Farm	38	Barrow Hills	63	Abbot's Way		
14	Try Farm 58-62	39	City Farm 64	64	Baker		
15	A30 Honiton (Castle Hill)	40	Gravelly Guy 84-6 AML 196/88	65	Bell A		
16	A30 Honiton (Long Range)	41	Rollright Stones 82-6	66	Bell B		
17	A30 Honiton (Pattersons Cross)	42	Brean Down 83-7	67	Bisgrove		
18	Hazard Hill Totnes 50	43	Hurst Park 91	68	Blakeway		
19	Canford Magna 93-94	44	Petters Sports Field 76-7	69	Burtle Bridge Track		
20	Cowleaze 77-84	45	Runnymede Bridge	70	Chilton		
21	Knighton Heath 71	46	Amesbury 56	71	East Moors		
22	Maiden Castle 40	47	Amesbury (Barrow 39) 60	72	Eclipse		
23	Maiden Castle 85-6 (a)	48	Easton Down 91	73	Garvin's		
24	Little Piddle Down 85	49	Fussells Lodge 57	74	Honeybee		
25	Mount Pleasant 70-1	50	Knap Hill 61	75	Honeycat		

Figure 5: Distribution map of transitional Bronze Age sites (*ca.* 2200 – 800 cal BC)  
 (Text: §2.5, Tables 11-12 and Radiocarbon: Table 29, Figure 16)



Key to sites:

1	Field Farm 85	9	Hurn 41	17	Cow Common 74-5	25	Ham Hill	33	Stonehenge Environs 80-6	41	Meare Heath
2	Cataclews 39-44 (St. Eval Aerodrome)	10	Litton Cheney 74	18	Hook 54	26	Moreton	34	Wessex Linear Ditches	42	Moreton
3	Cataclews 39-44 (Penhale Barrow)	11	Poole Barrows 49	19	Swanwick	27	Amesbury (Barrow 51) 60	35	Barkhale Down 78	43	Wilsford Shaft 60-2
4	Cataclews 39-44 (Cataclews)	12	Shearplace Hill 58	20	Greenhill 70	28	Clarendon Park 61	36	Chanctonbury Hill 58-9		
5	Rosecliston	13	Black Patch 77-9	21	Cassington	29	Down Farm Pewsey 58	37	Cross Ln 76		
6	Tregulland Burrow	14	Itford Hill 49-53	22	Rollright Stones 82-6	30	Knighton Hill	38	Amesbury (Barrow 51) 60		
7	Upton Pyne	15	Ranscombe Camp 60	23	Ben Bridge	31	Milton Hill	39	Ben Bridge		
8	Canford Heath 51	16	West Heath Harting 73-5	24	Chew Park	32	Pound Field Barrow	40	Chew Park		

Figure 6: Distribution map of diversification and intensification sites (1350 – 0 cal BC)  
(Text: §2.6, Tables 13-14 and Radiocarbon: Table 30, Figure 17)

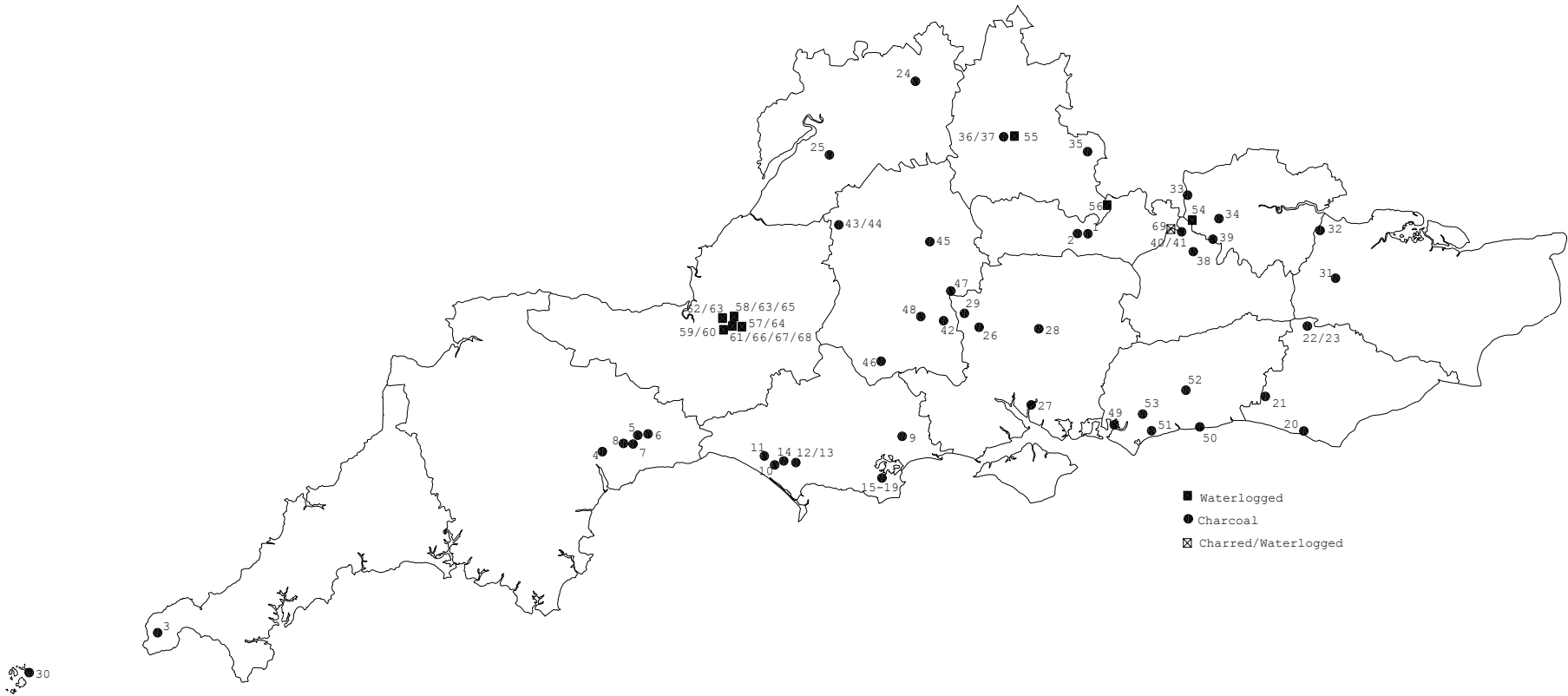


Figure 6: Distribution map of diversification and intensification sites (1350 – 0 cal BC) continued...

Key to sites:

1	Anslows Cottages 85-6	24	Guiting Power 74	47	Wessex Linear Ditches
2	Field Farm 85	25	Uley Bury 76	48	Wilsford Shaft 60-2
3	Carn Euny 64-72	26	Danebury 78	49	Chidham 78
4	A30 Honiton (Blackhorse)	27	Meon Hill 32-3	50	Findon Park
5	A30 Honiton (Castle Hill)	28	Micheldever Wood (MARC3 M27)	51	North Bersted 75-6
6	A30 Honiton (Hayne Lane)	29	Quarley Hill 38	52	Rackham 70
7	A30 Honiton (Langland Lane)	30	Nornour 69-73	53	Westhampnett Bypass
8	A30 Honiton (Long Range)	31	Oldbury 83-4	54	Heathrow Airport AML 3552
9	Canford Magna 93-94	32	Wilmington Gravel Pit AML 3268	55	Farmoor, Upper Thames
10	Cowleaze 77-84	33	Jewsons Yard 93-4	56	Lower Bolney 91
11	Litton Cheney 56	34	Snowy Fielder Waye 96	57	Godwin's
12	Maiden Castle 40	35	Chinnor	58	Meare West
13	Maiden Castle 85-6 (a)	36	Gravelly Guy 84-6 AML 196/88	59	Nidon's
14	Rowden 77-84	37	Stanton Harcourt 61	60	Platform
15	Wytych Farm (East of Corfe)	38	Brooklands 70-1	61	Shapwick
16	Wytych Farm (Furzey Island)	39	Hurst Park 91	62	Skinner's
17	Wytych Farm (Ower Peninsula)	40	Petters Sports Field 76-7	63	Stileway
18	Wytych Farm (West Creech)	41	Runnymede Bridge	64	Tinney's
19	Wytych Farm (West of Corfe River)	42	Boscome Down West	65	Tollgate
20	Bishopstone 72-5	43	Bury Wood Camp	66	Viper's
21	Ditchling Beacon	44	Bury Wood Camp 60	67	Westhay
22	Harting Beacon 76	45	Fifield Bavant Down 22	68	Withy Bed
23	Harting Beacon 77	46	Swallowcliffe Down	69	Runnymede 78

Figure 7: Distribution map of transitional Iron Age to Roman period sites (ca. 800 cal BC – 100 cal AD)  
(Text: §2.7, Table 15 and Radiocarbon: Table 31, Figure 18)



Figure 8: Distribution map of Roman sites (0 – 400 cal AD) (Text: §2.8, Tables 16-17)

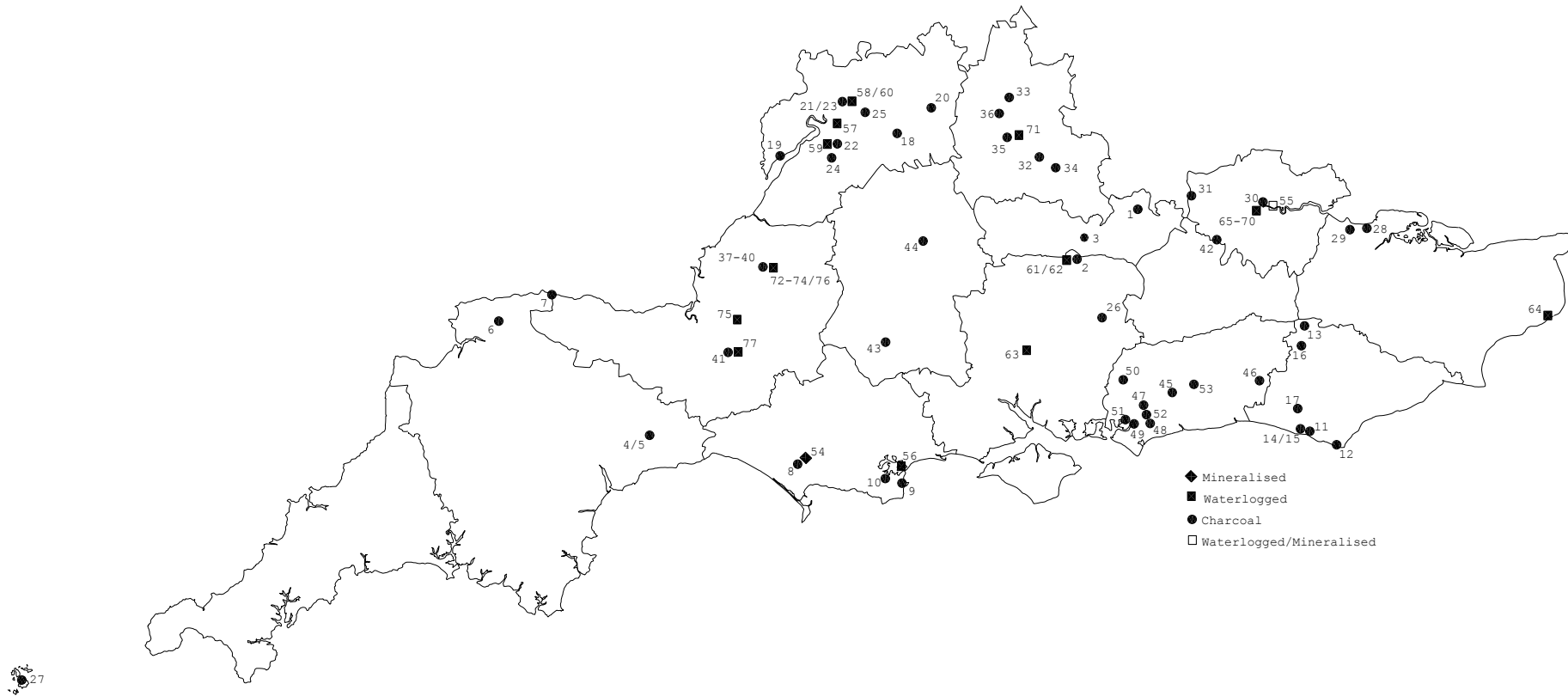


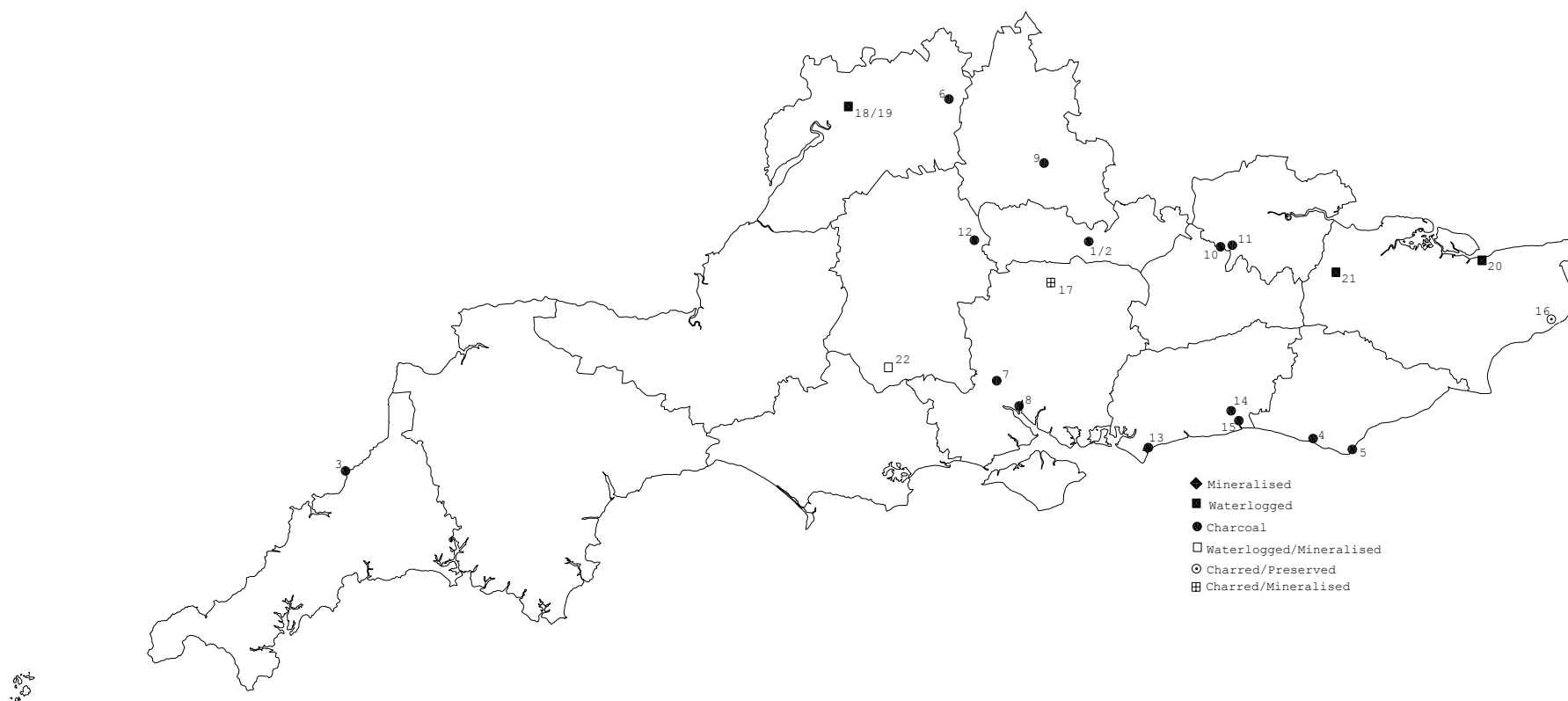
Figure 8: Distribution map of Roman sites (0 – 400 cal AD) continued...

Key to sites

1	Cox Green 59	27	Halangy Down	53	Wiggonholt 64
2	Silchester	28	Chalk 61	54	Poundbury 68-76 AML 3245
3	Wickhams Field 94	29	Springhead 51	55	St Thomas St AML 1924
4	A30 Honiton (Gittisham Forge)	30	Gracechurch St. 68-9	56	Brownsea Island 78-9
5	A30 Honiton (Pomeroy Wood)	31	Jewsons Yard 93-4	57	Bon Marche 58-9
6	Martinhoe	32	Barrow Hills	58	East Gate (Gloucester) 74-81
7	Old Burrow	33	Callow Hill	59	Frocester Court Well 80
8	Maiden Castle 85-6 (a)	34	Dorchester (Roman defences)	60	North Gate (Gloucester) 74-81
9	Studland 52-8	35	Gravelly Guy 84-6 AML 196/88	61	Silchester 74-80
10	Wyth Farm (East of Corfe River)	36	Shakenoak Farm 60-72	62	Silchester 79-85
11	Bishopstone 72-5	37	Ben Bridge	63	Winchester AML 19/89
12	Frost Hill 77-9	38	Chew Park	64	Stembrook 56
13	Great Cansiron Farm 82-3	39	Chew Park Well 54	65	Billingsgate 82 AML 55/87
14	Hartfield	40	Herriott Bridge	66	Christ's Hospital 08-9
15	Newhaven 71-4	41	Low Ham	67	London Port (wood)
16	Pippingford 69	42	Hurst Park 91	68	24 London Sites AML 60/87
17	Ranscombe Hill 76	43	Eyewell Farm	69	London Wall (52-62)
18	Bagendon 54-6	44	Winterbourne	70	Peters Hill
19	Chesters Villa	45	Bignor Villa 85-90	71	Farmoor, Upper Thames
20	Clear Cupboard 64-7	46	Burgess Hill 96	72	Ben Bridge
21	East Gate (Gloucester) 74-81	47	Carnes Seat 84	73	Chew Park
22	Frocester Court Well 80	48	Copse Farm 80-3	74	Chew Park Well 54
23	Kings School Gardens 64	49	Dell Quay 84	75	Difford's
24	West Hill	50	Elsted 75	76	Herriott Bridge
25	Witcombe 38-9	51	Fishbourne 61-9	77	Low Ham
26	Neatham 69-79	52	Westhampnett Bypass		



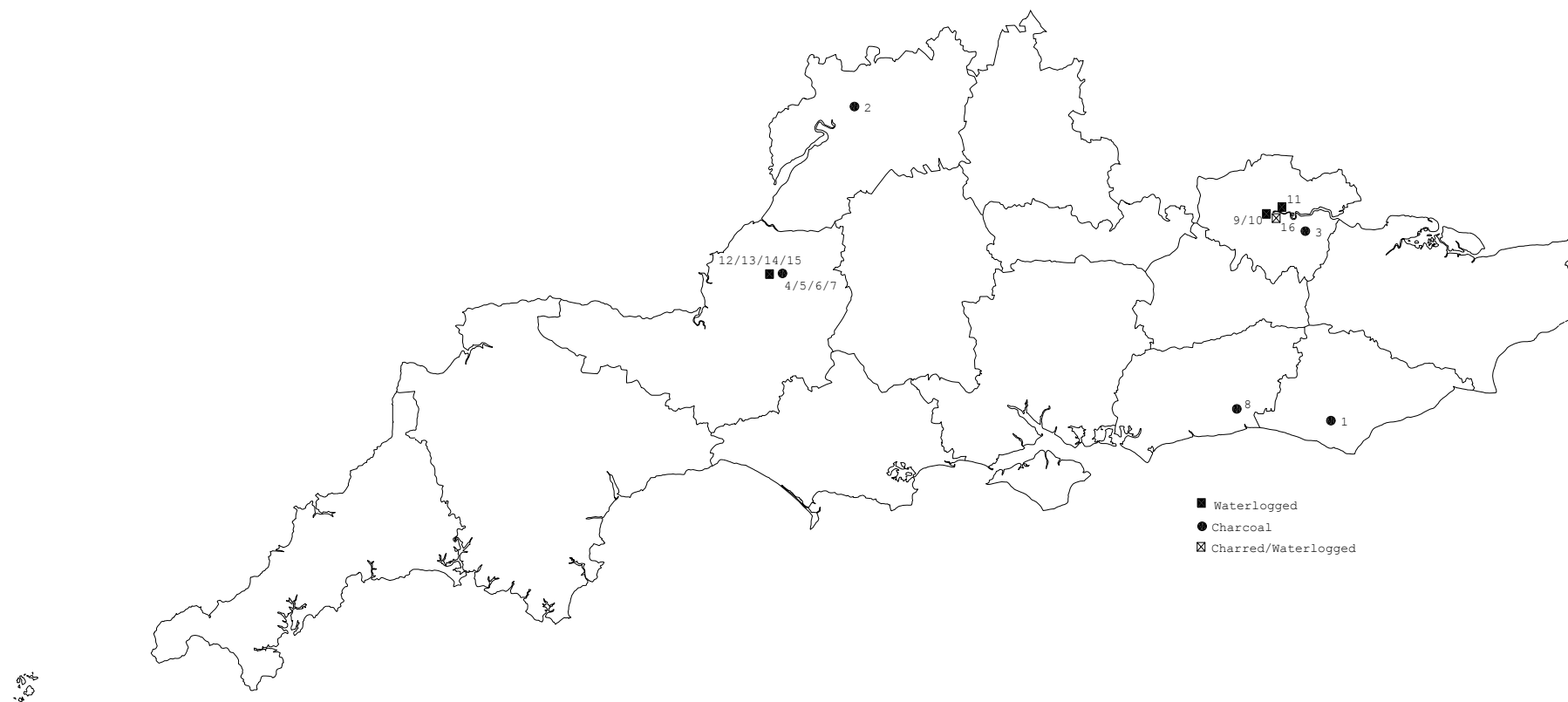
Figure 9: Distribution map of Early Medieval sites (400 – 850 cal AD) (Text: §2.9, Tables 18-19)



Key to sites:

1	Field Farm 85	7	Romsey Abbey AML 3089	13	Beckets Barn 74	19	Northgate St. (sewer) 76
2	Wickhams Field 94	8	Six Dials AML 3718	14	Botolphs 85	20	Graveney Boat 70
3	Tintagel Island 90-4	9	Barrow Hills	15	Old Erringham 64	21	Polhill 64-7
4	Bishopstone 72-5	10	Hurst Park 91	16	Buckland 51-3	22	Swallowcliffe Down AML 3707
5	St. Annes Rd. 73	11	Kingston upon Thames 95	17	Portway AML 3143		
6	Bourton-on-the-Water	12	Ramsbury 74	18	North Gate (Gloucester) 74-81		

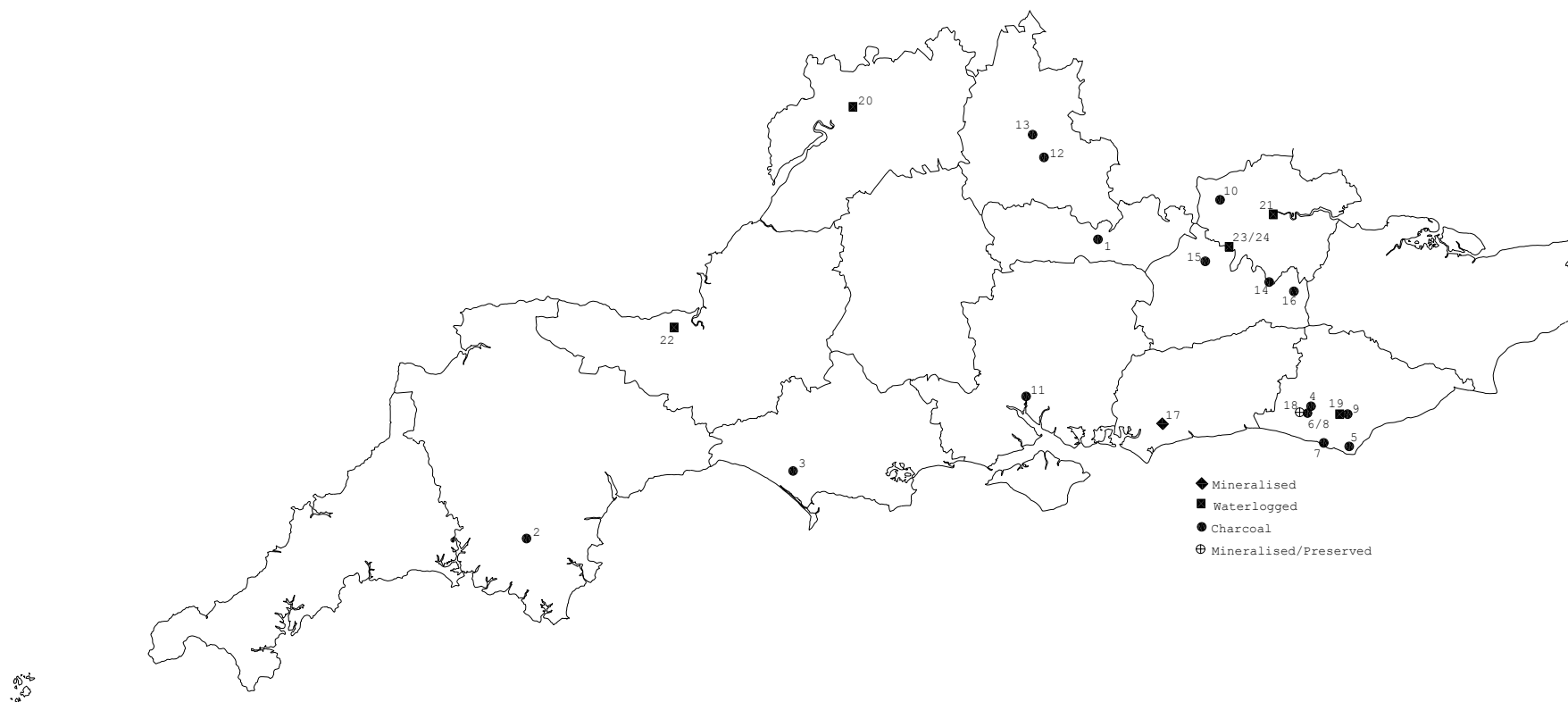
Figure 10: Distribution map of transitional Saxon sites (ca. 400 – 1100 cal AD) (Text: §2.10, Tables 20-21)



Key to sites:

1	Selmeston 78	7	St Cross Nunnery	13	Chew Park
2	Gloucester Castle 83-4	8	Testers 85	14	Moreton
3	Eltham Palace AML 2558	9	24 London Sites AML 60/87	15	St Cross Nunnery
4	Ben Bridge	10	Billingsgate 82 AML 55/87	16	Baynards Castle AML 4943
5	Chew Park	11	Cutler St 78 AML 56/87		
6	Moreton	12	Ben Bridge		

Figure 11: Distribution map of Medieval to Black Death period sites (850 – 1350 cal AD) (Text: §2.11, Tables: 22-23)



Key to sites

1	Anslows Cottages 85-6	7	Church St. (Seaford) 70	13	Seacourt 58-9	19	Michelham Priory 71-6
2	Dean Moor 56	8	Cliffe 87-8	14	Alsted 68-73	20	East Gate (Gloucester) 74-81
3	Rowden 77-84	9	Michelham Priory 71-6	15	Brooklands 64-71	21	Bankside Power Station 60
4	Barnetts Mead	10	Northolt Manor 53-8	16	Clacket Ln 92	22	Stogursey Castle 83 AML 43/90
5	Bramble Bottom 53	11	Montefiore Halls 92	17	Tote Copse Castle	23	Hampton Court AML 2603
6	Broomans Ln 79	12	Christchurch Oxford 72	18	Lewes Priory 69-82	24	Hampton Court Palace AML 3462

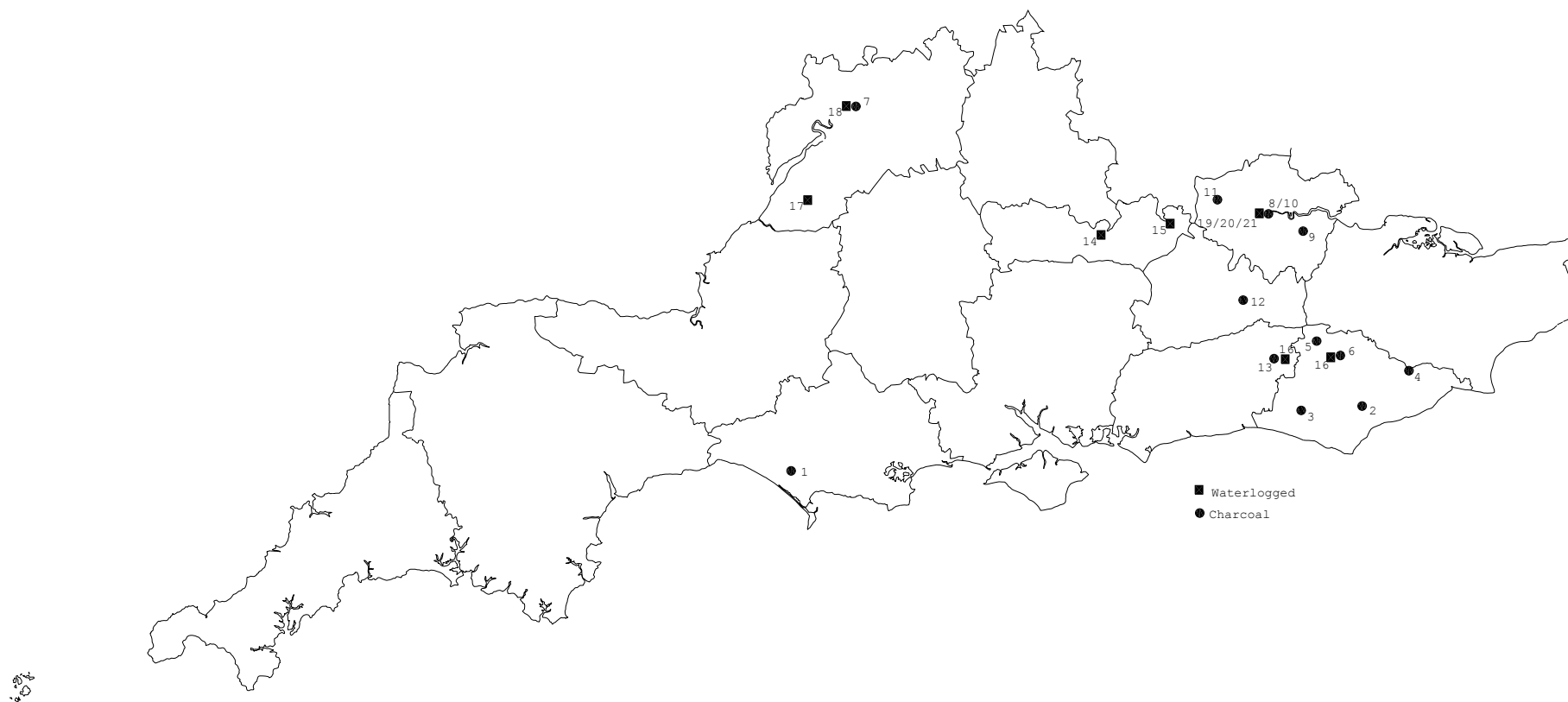
Figure 12: Distribution map of transitional Medieval sites (ca. 1100 – 1650 cal AD) (Text: §2.12, Table 24)



Key to sites:

1	Wyтч Farm (East of Wyтч Moor)	6	Winchester Reliquary
2	Wyтч Farm (Ower Farm)	7	London AML 26/92
3	Battle Abbey 78-80	8	Trig Ln AML 59/87
4	Lewes Friary 85-9	9	Taunton AML 2616
5	Botolphs 85		

Figure 13: Distribution map of Late Medieval to Early Modern period sites (1350 – 1900 cal AD) (Text: §2.13, Tables 25-26)



Key to sites:

1	Rowden 77-84	7	East Gate (Gloucester) 74-81	13	Ardingly 75-6	19	24 London Sites AML 60/87
2	Batsford 78	8	Billingsgate 82 AML 55/87	14	Abbey Wharf	20	Billingsgate 82 AML 55/87
3	Broomans Ln 79	9	Eltham Palace AML 3242	15	Jennings Yd	21	Cutler St 78 AML 56/87
4	Lordship Wood 81	10	Legges Mount AML 2594	16	Maynards Gate 75-6	22	Ardingly 75-6
5	Lower Parrock 77	11	Northolt Manor 53-8	17	Acton Court AML 97/90		
6	Maynards Gate 75-6	12	Betchworth 86	18	East Gate (Gloucester) 74-81		

Figure 14: Radiocarbon determinations from Late Hunter-Gatherer sites  
 (Text: §2.3, Data: Table 8, Figure 3, Radiocarbon: Table 27)

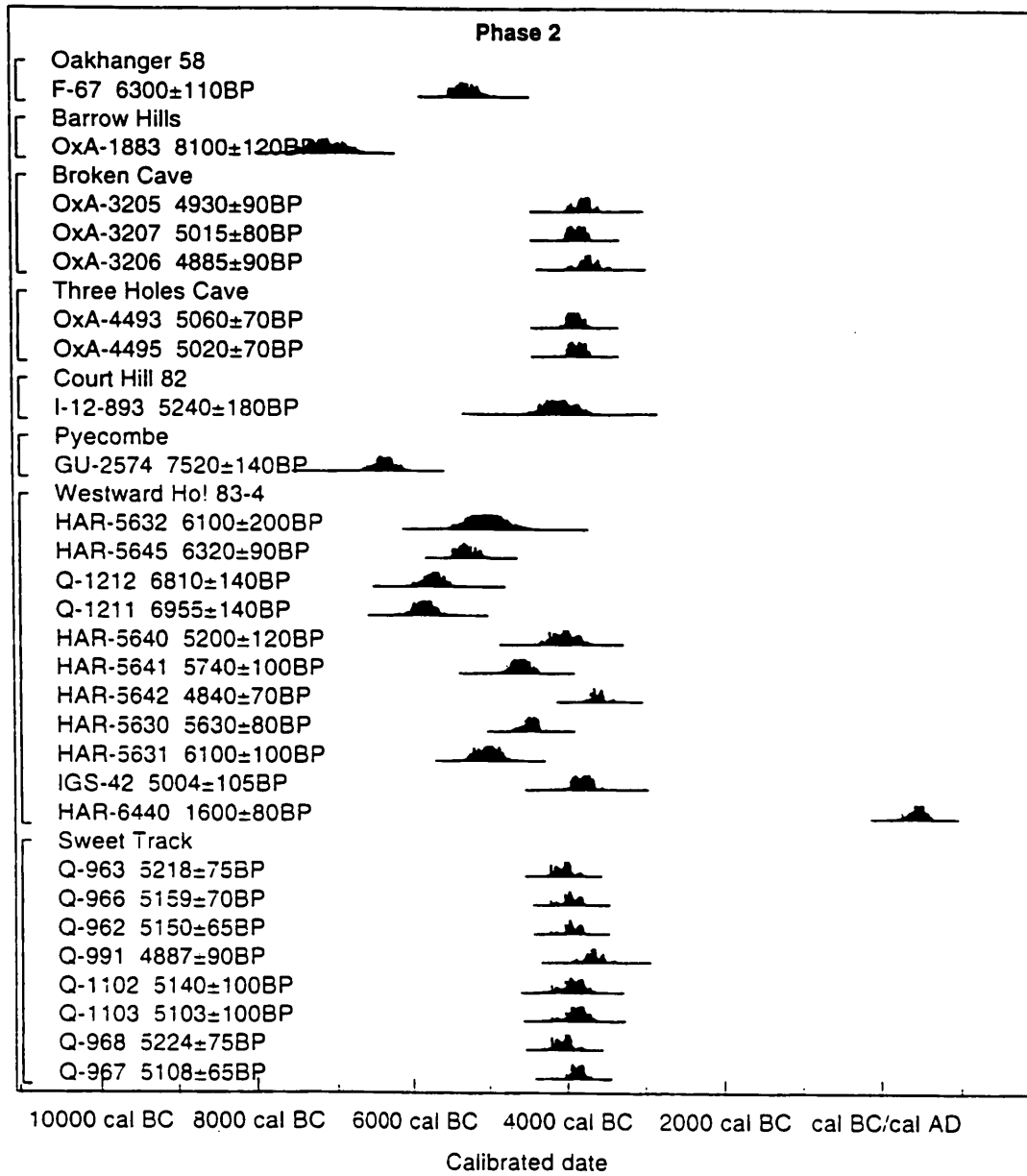


Figure 15: Radiocarbon determinations from rise of agriculture sites  
 (Text: §2.4, Data: Tables 9-10, Figure 4 and Radiocarbon: Table 28)

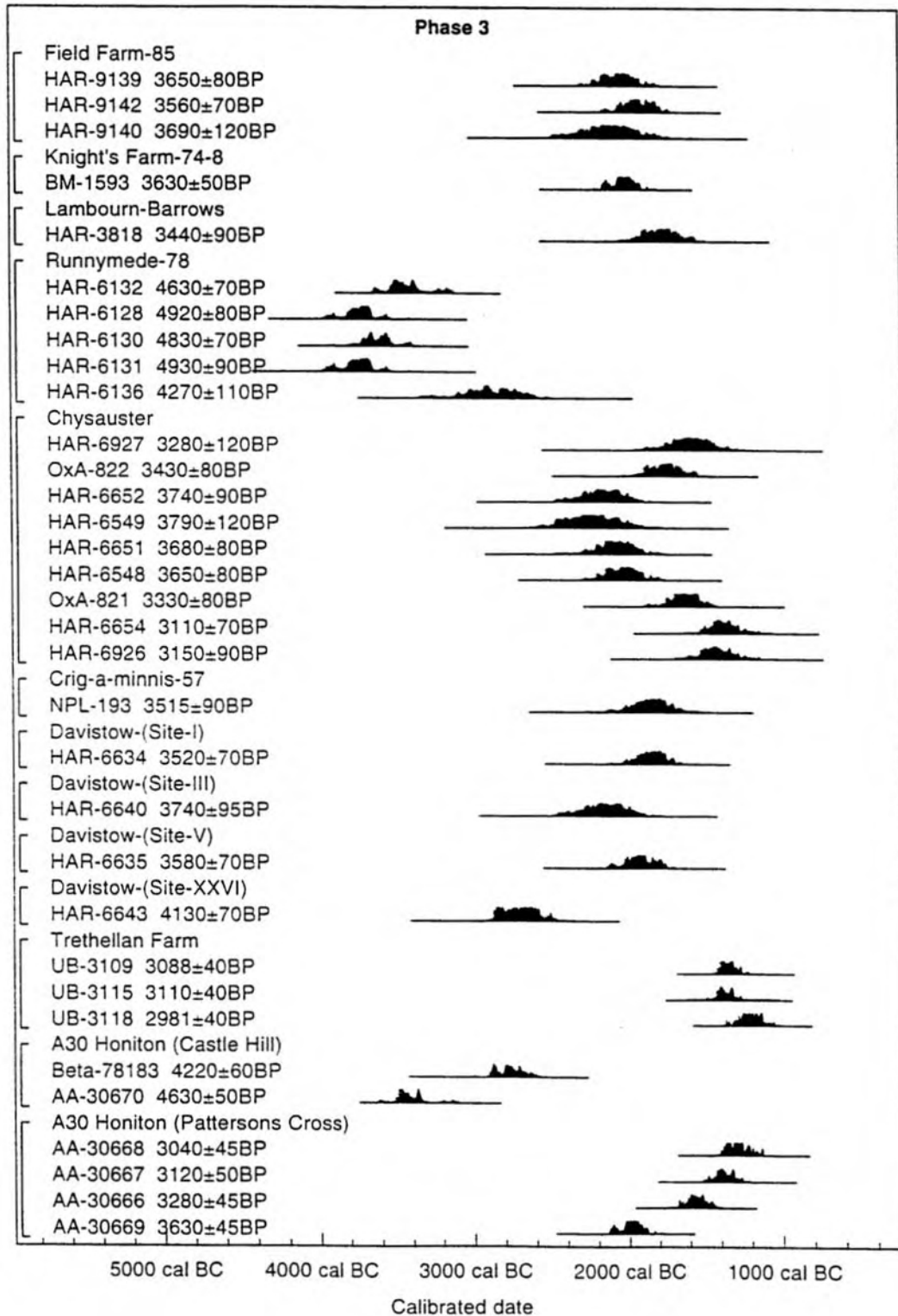


Figure 15: Radiocarbon determinations from rise of agriculture sites  
 (Text: §2.4, Data: Tables 9-10, Figure 4 and Radiocarbon: Table 28)

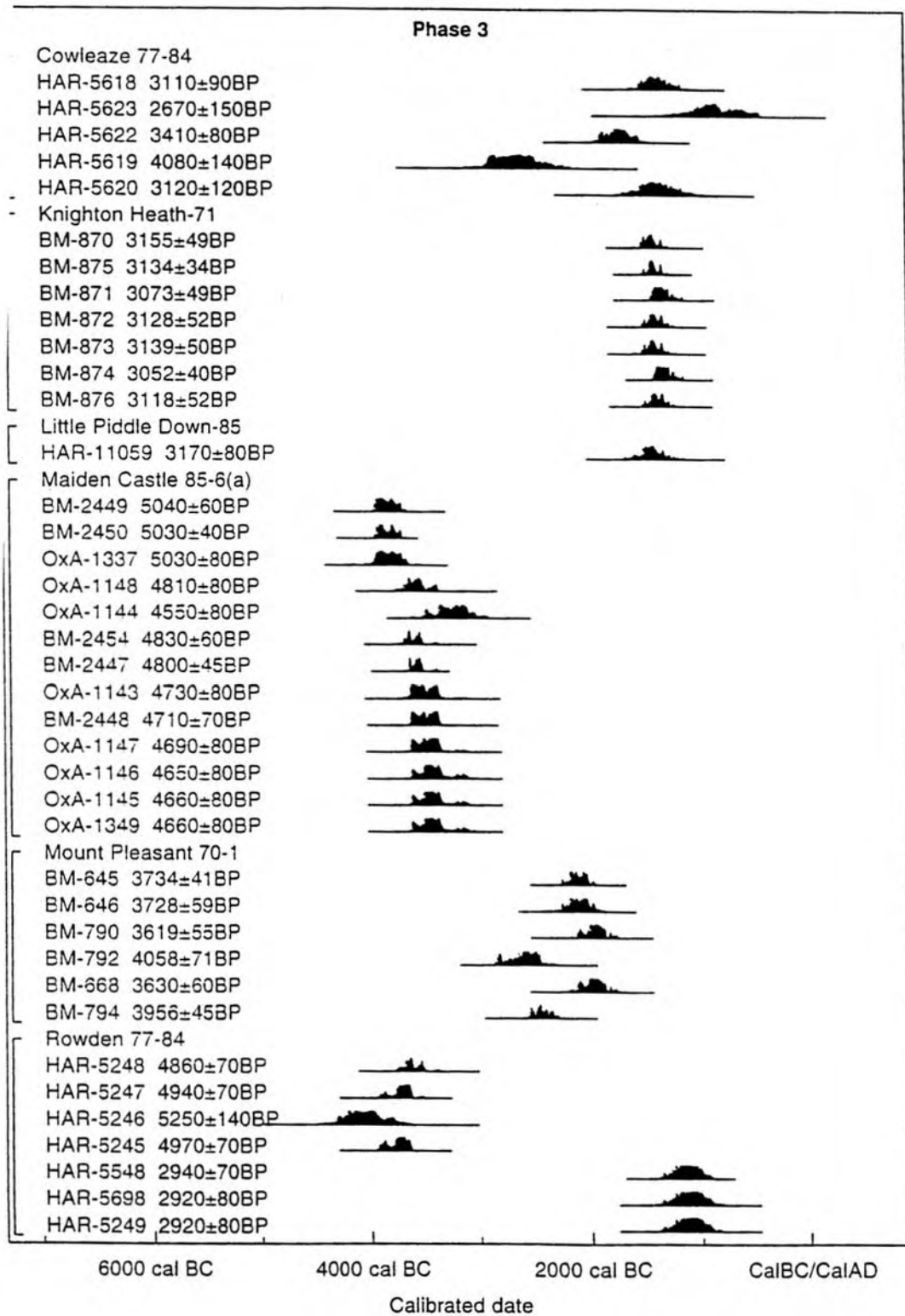




Figure 15: Radiocarbon determinations from rise of agriculture sites  
 (Text: §2.4, Data: Tables 9-10, Figure 4 and Radiocarbon: Table 28)

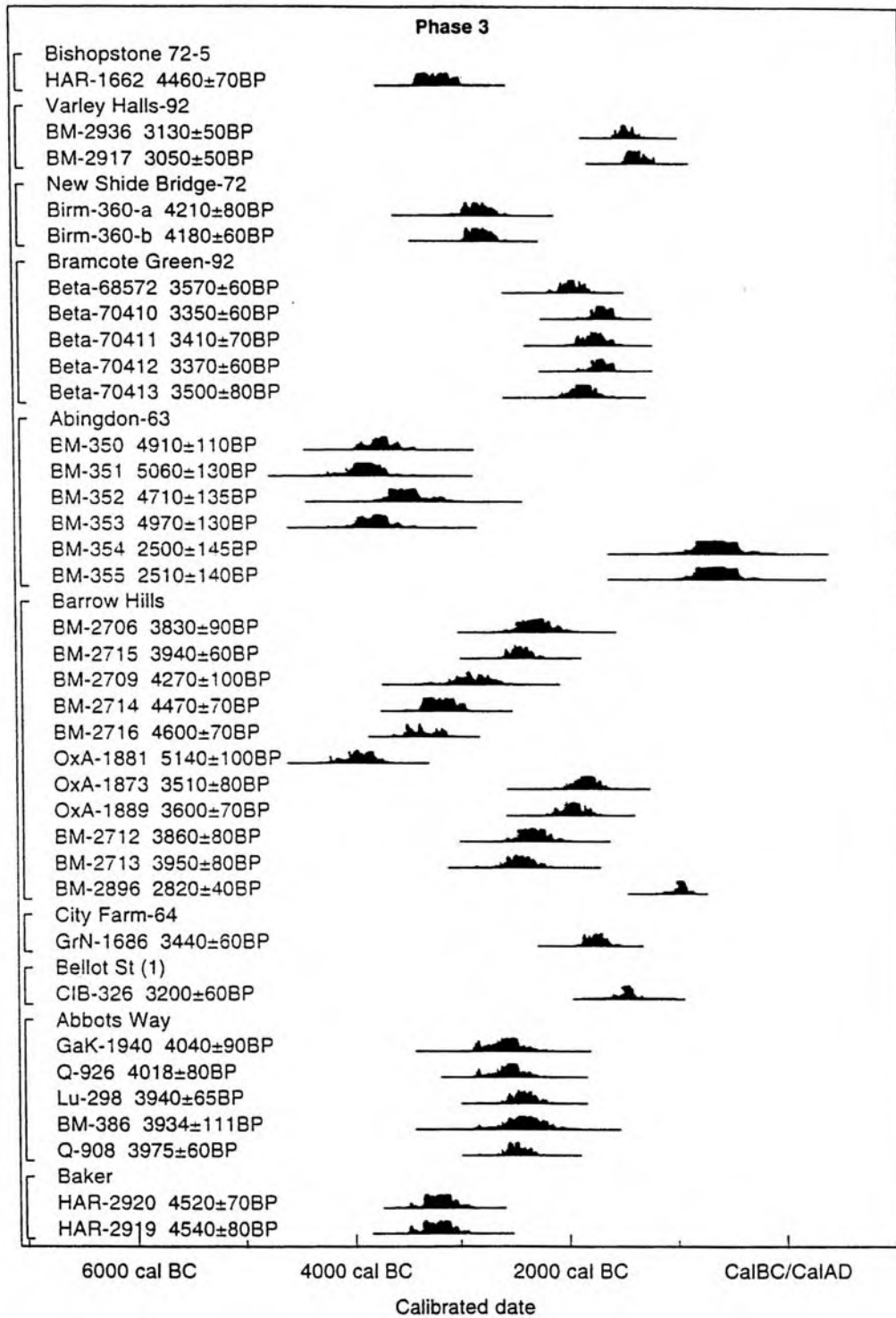


Figure 15: Radiocarbon determinations from rise of agriculture sites  
 (Text: §2.4, Data: Tables 9-10, Figure 4 and Radiocarbon: Table 28)

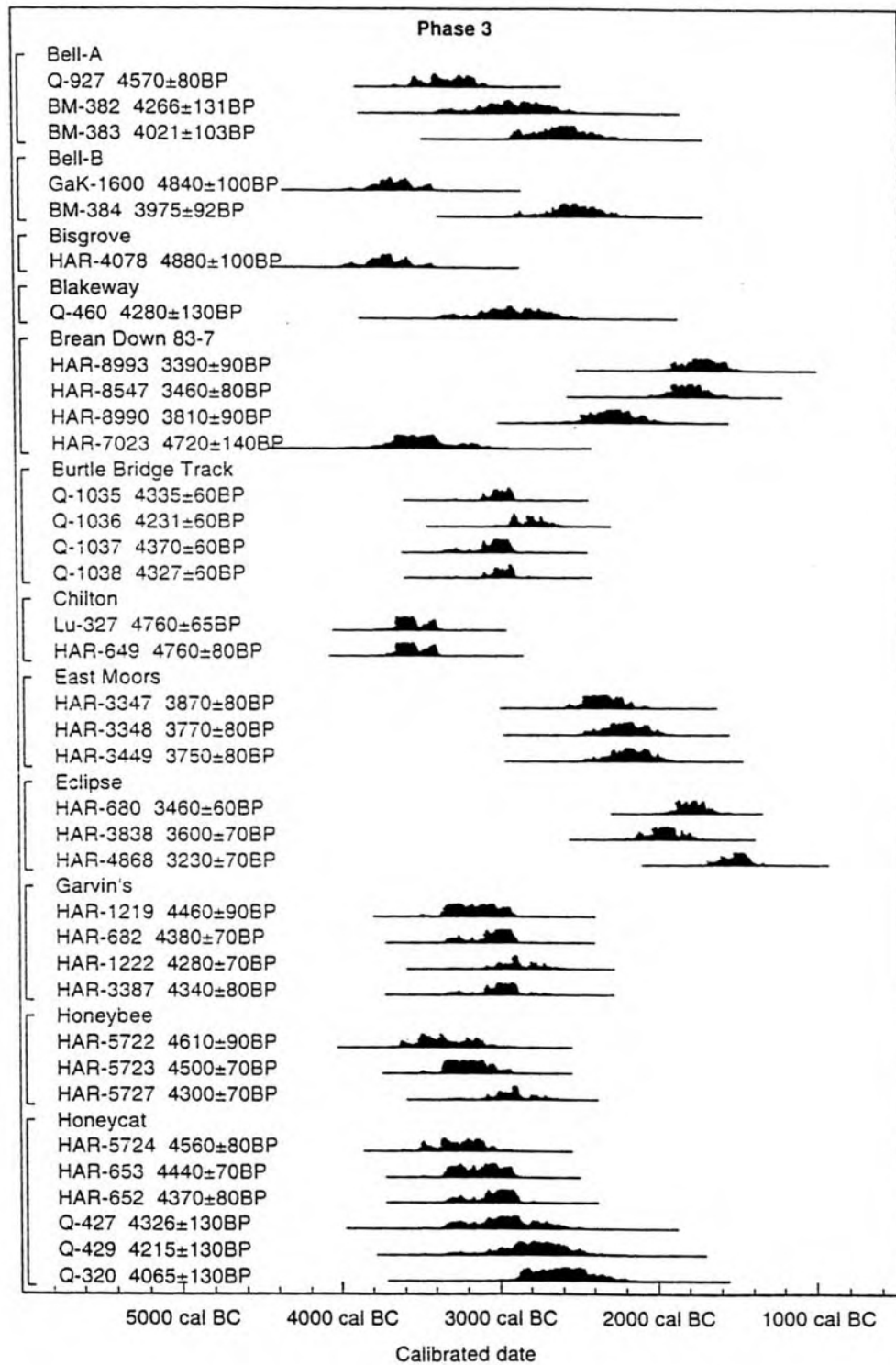


Figure 15: Radiocarbon determinations from rise of agriculture sites  
 (Text: §2.4, Data: Tables 9-10, Figure 4 and Radiocarbon: Table 28)

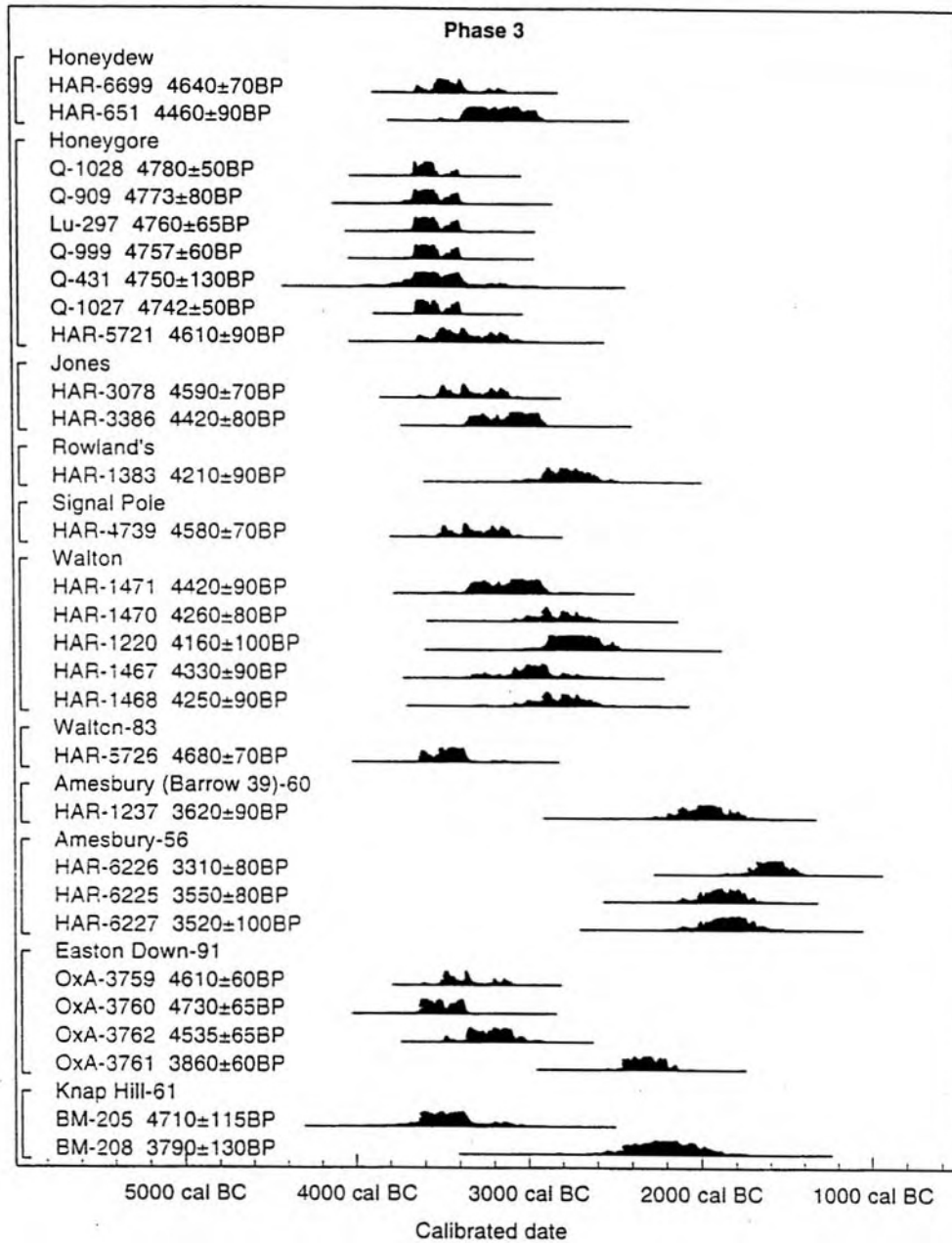


Figure 15: Radiocarbon determinations from rise of agriculture sites  
 (Text: §2.4, Data: Tables 9-10, Figure 4 and Radiocarbon: Table 28)

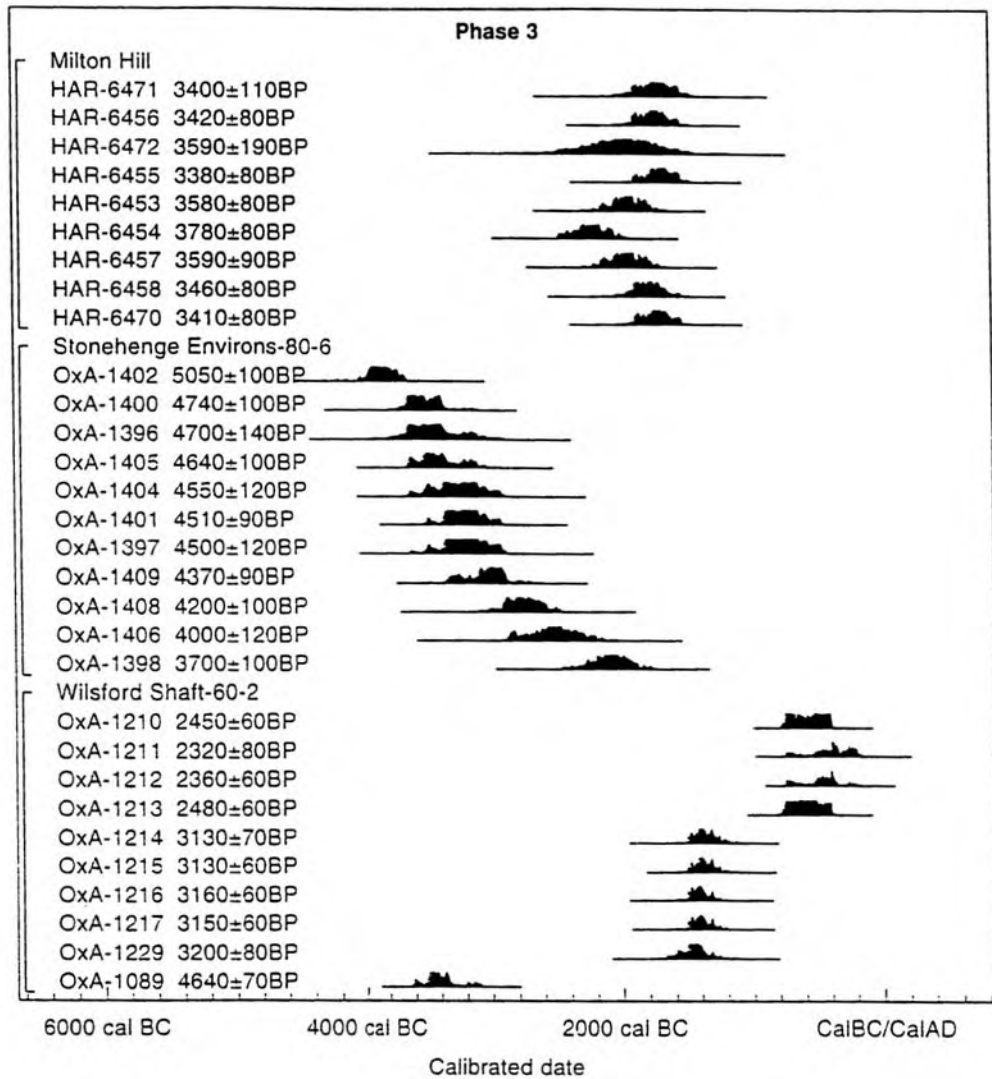


Figure 16: Radiocarbon determinations from transitional Bronze Age sites  
 (Text: §2.5, Data: Tables 11-12, Figure 5 and Radiocarbon: Table 29)

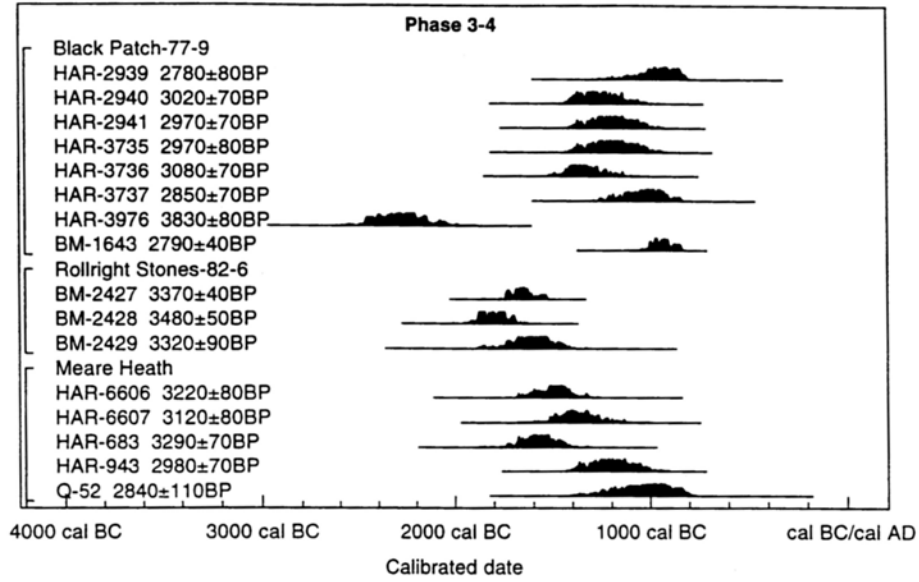


Figure 17: Radiocarbon determinations from transitional Bronze Age sites  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Table 30)

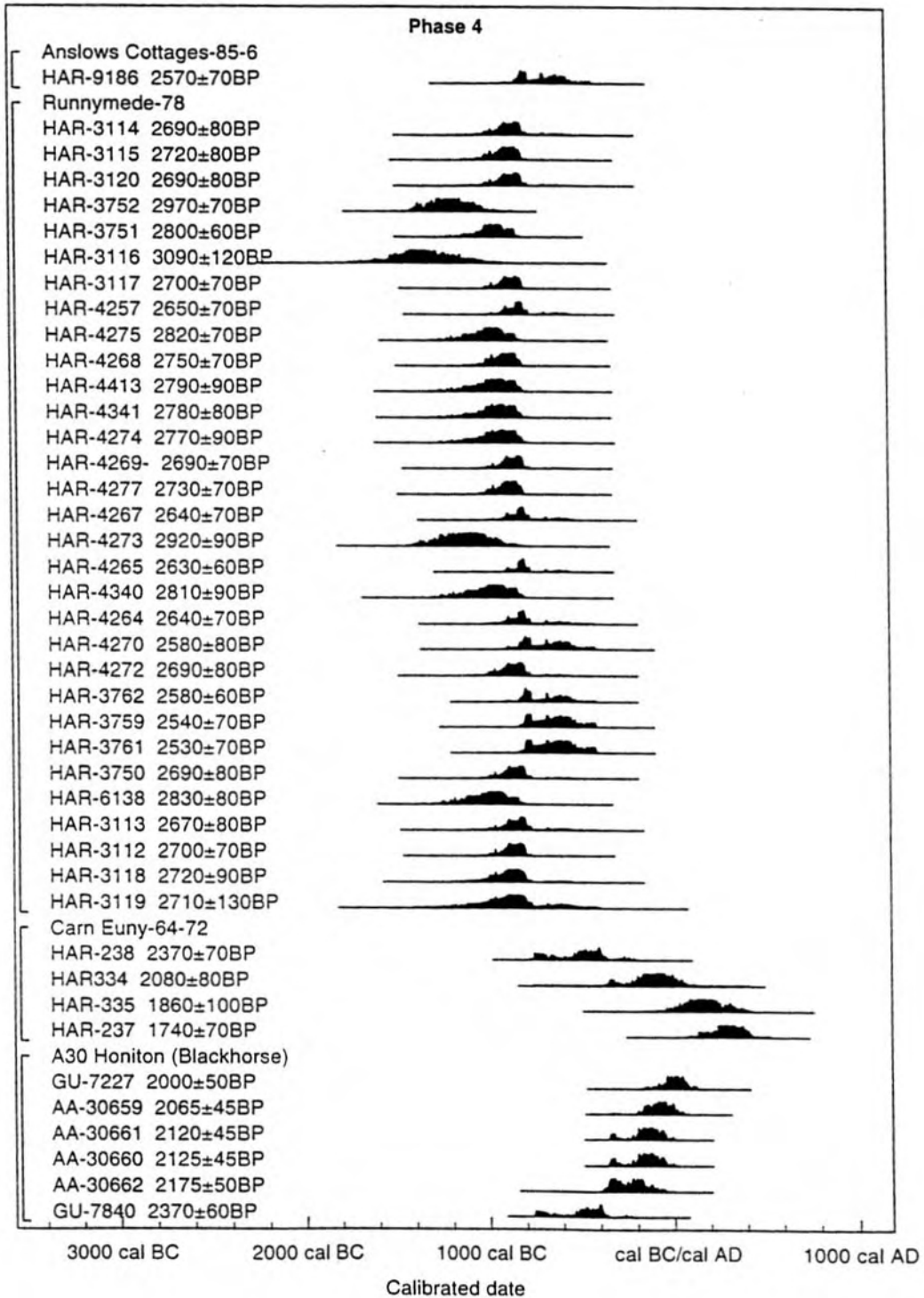


Figure 17: Radiocarbon determinations from diversification and intensification sites  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Table 30)

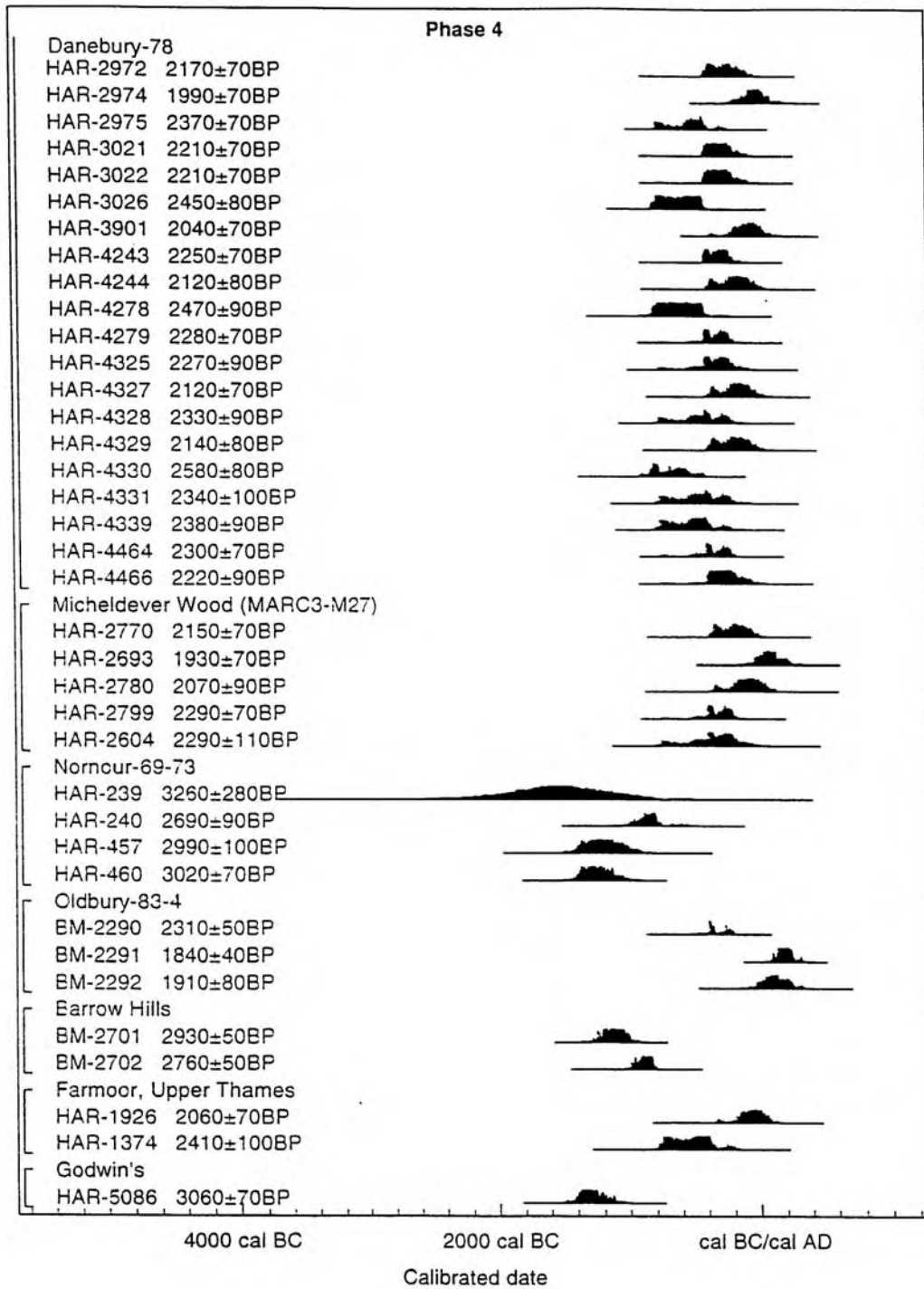


Figure 17: Radiocarbon determinations from diversification and intensification sites  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Table 30)

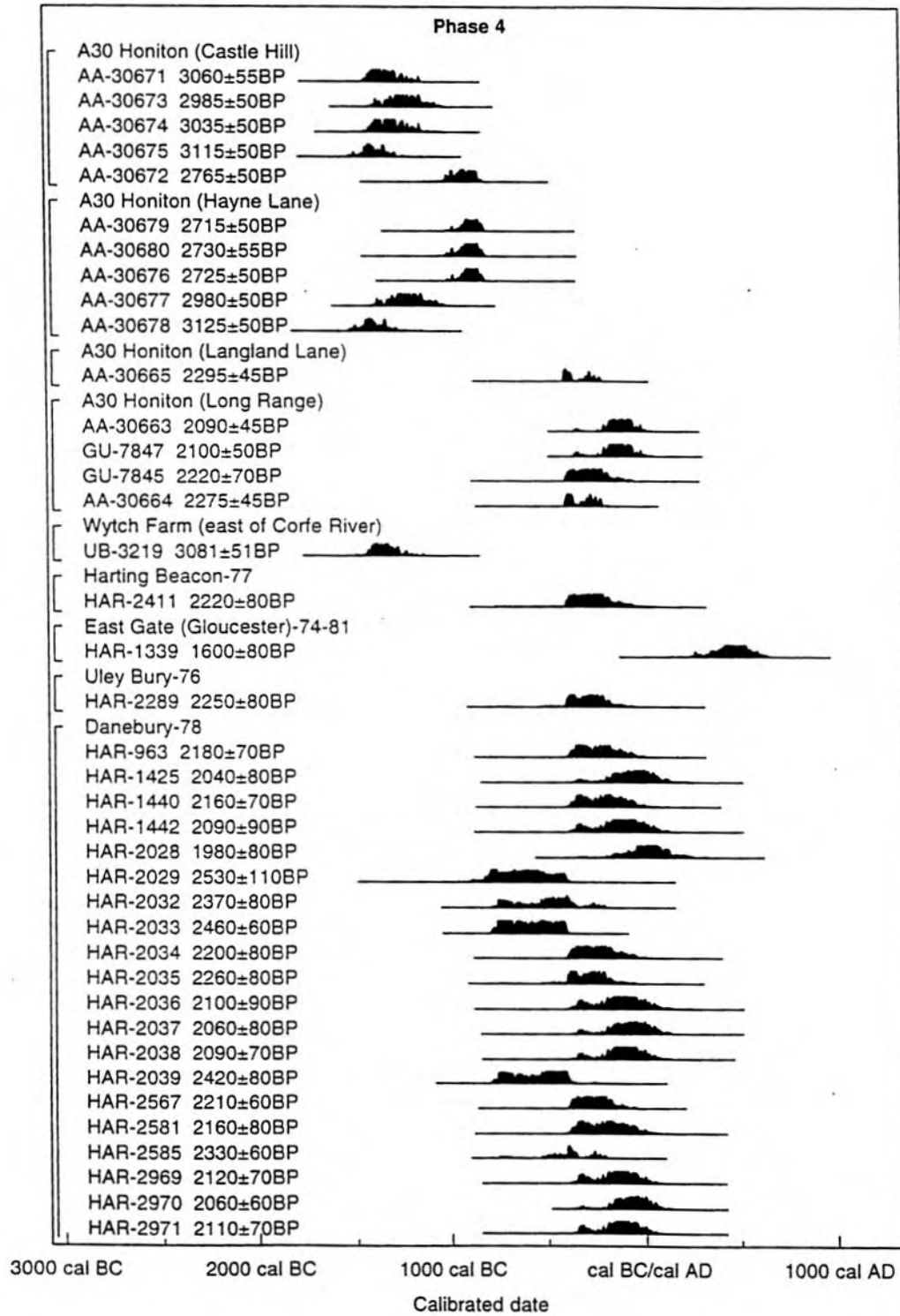




Figure 17: Radiocarbon determinations from diversification and intensification sites  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Table 30)

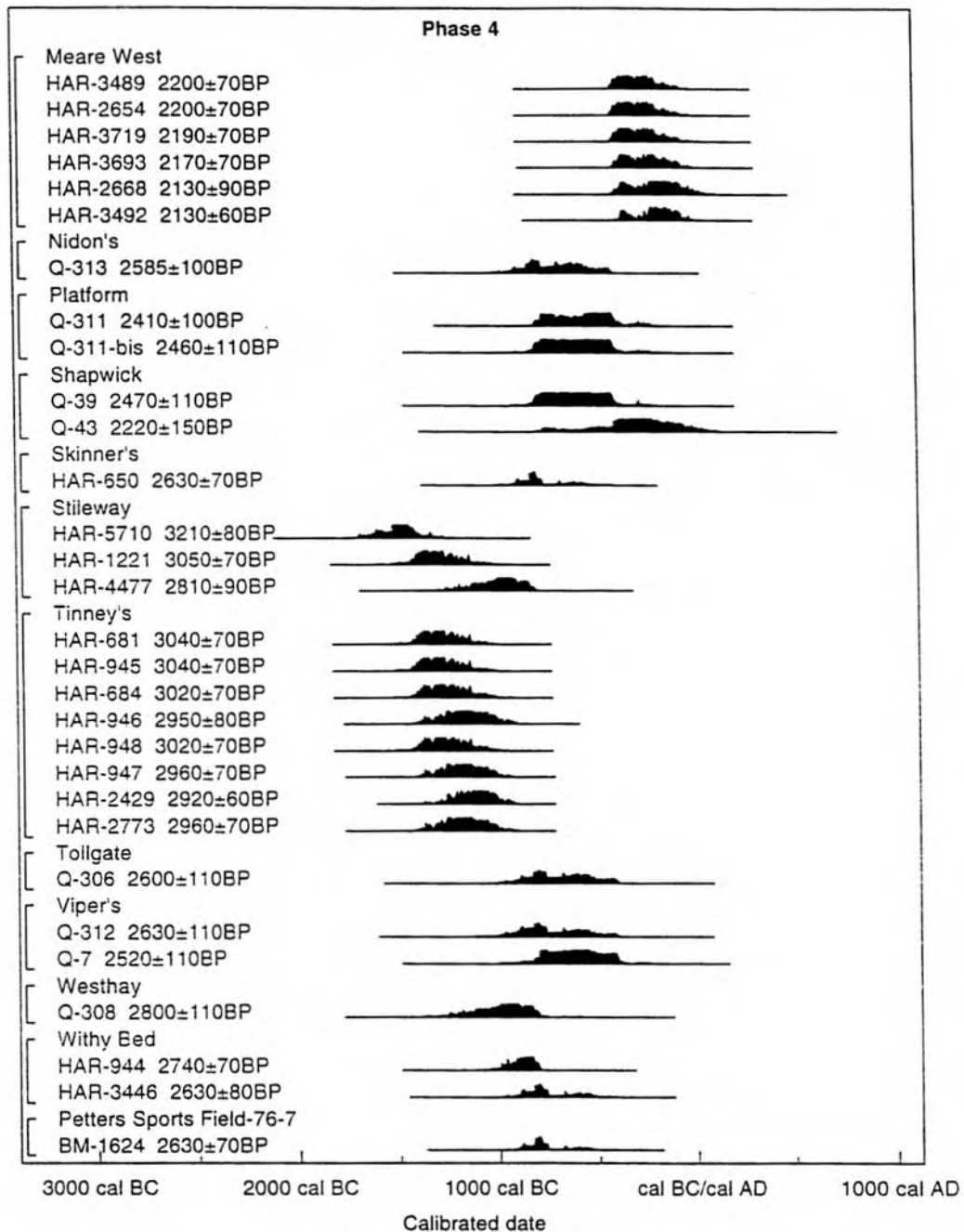


Figure 17: Radiocarbon determinations from diversification and intensification sites  
 (Text: §2.6, Data: Tables 13-14, Figure 6 and Radiocarbon: Table 30)

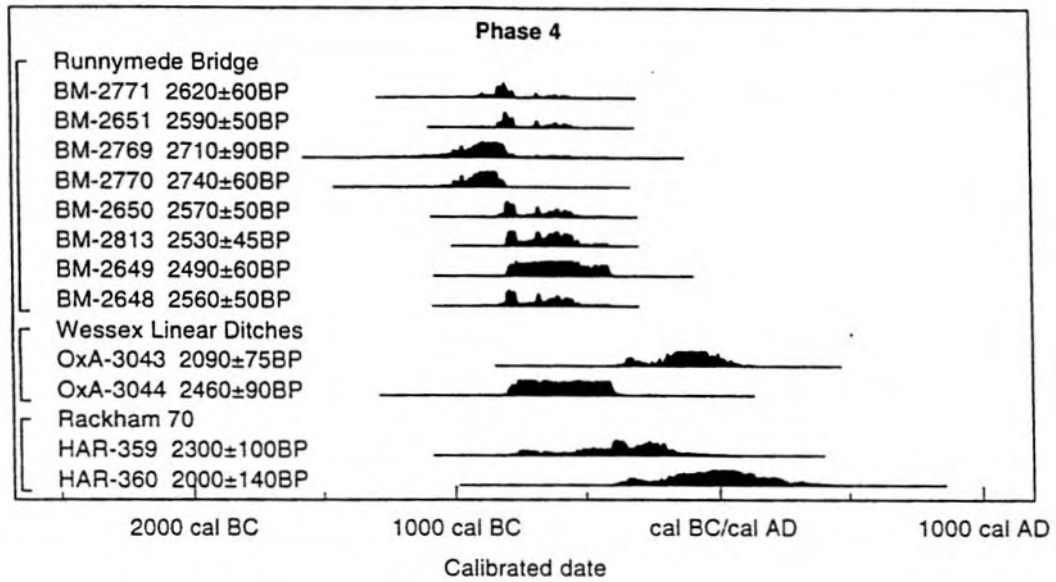
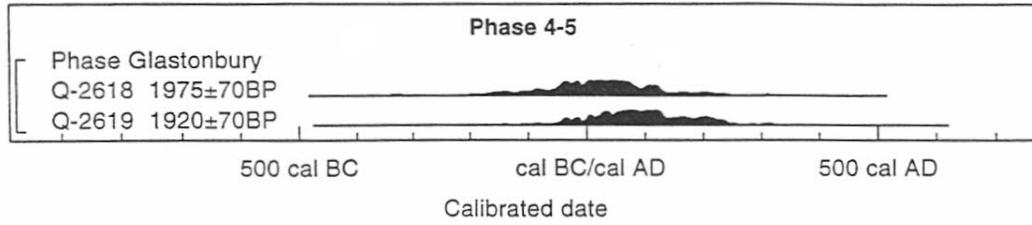


Figure 18: Radiocarbon determinations from transitional Medieval sites  
(Text: §2.7, Data: Table 15, Figure 7 and Radiocarbon: Table 31)



## ACKNOWLEDGEMENTS

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