Once upon a time in the west: Neolithic enclosures in the Walton basin

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This article provides a résumé of the significant advances that have been made in our understanding of the complex of Neolithic enclosures in the Walton basin in eastern Radnorshire since the pioneering work carried out by Alex Gibson in the 1990s. Vital to this progress has been the goodwill, support and encouragement of the local community, Cadw's Ancient Monuments Inspectorate, and Frances Lynch in her capacity of chairman of the Clwyd-Powys Archaeological Trust throughout this period.

The chronological depth and complexity of the archaeology of the Walton basin is virtually unparalleled in an area of a comparable size elsewhere in the British Isles and is more and more coming to resemble an archaeological theme park designed to showcase the archaeology of the Welsh Marches. The Neolithic enclosures in the eastern part of the basin shown in Figure 1 form the focus of the present article. These include two cursus monuments (one of which is perhaps the second longest cursus known in Britain), a causewayed enclosure, three palisaded enclosures (one of which is the largest such enclosure known in Britain and another of which may be associated with a double pit alignment), and a large ring-ditch or 'formative henge'. What have been omitted from this drawing for the sake of clarity, however, are up to six standing stones, about forty barrows or ring-ditches (including a number of exceptionally large monuments), over fifteen rectilinear or trapezoidal enclosures likely to be mostly of early prehistoric to Roman date, an Iron Age hillfort, a possible Roman signal station, four or perhaps as many as six Roman marching camps, a Roman fort and associated *vicus* settlement, Roman roads, a stretch of Offa's Dyke, various early medieval church settlements, nine medieval mottes, a planted medieval castle borough, relict medieval field systems, and even the site of the earliest post-Conquest miracle recorded in Wales (Bannister 1904, 388; Ross and Jancey 1987, 1590).

The location of the basin on an ancient routeway linking the lowland valleys of the English midlands and the Welsh uplands of Radnor Forest is undoubtedly of key importance in understanding its archaeological complexity. The hills surrounding the basin rise dramatically to heights of between 300–600 metres above sea level, creating a natural amphitheatre a mere 4 to 6 kilometres across. The floor of the basin, between 180–230 metres in height, is generally fairly flat but is punctuated by fluvioglacial landforms such as drumlins, gravel ridges and meltwater channels (cf. Dwerryhouse and Miller 1930, 96), which have had a pronounced impact upon the pattern of early settlement and land use.

The presence of streams and springs was evidently also of considerable significance. Despite the high annual rainfall in the Radnor Forest the Summergil, true to name, runs dry each summer as it crosses the basin, taking on the appearance of a metalled if somewhat meandering trackway wending its way towards the Welsh hills (see Fig. 2). The second element of the brook's name is derived from Old English *gelde* 'barren' and thus has the same meaning as the Welsh *hafesp* and the 'winterbournes' of Wessex (Ekwall 1960, 453, 524). In the summer months the brook disappears

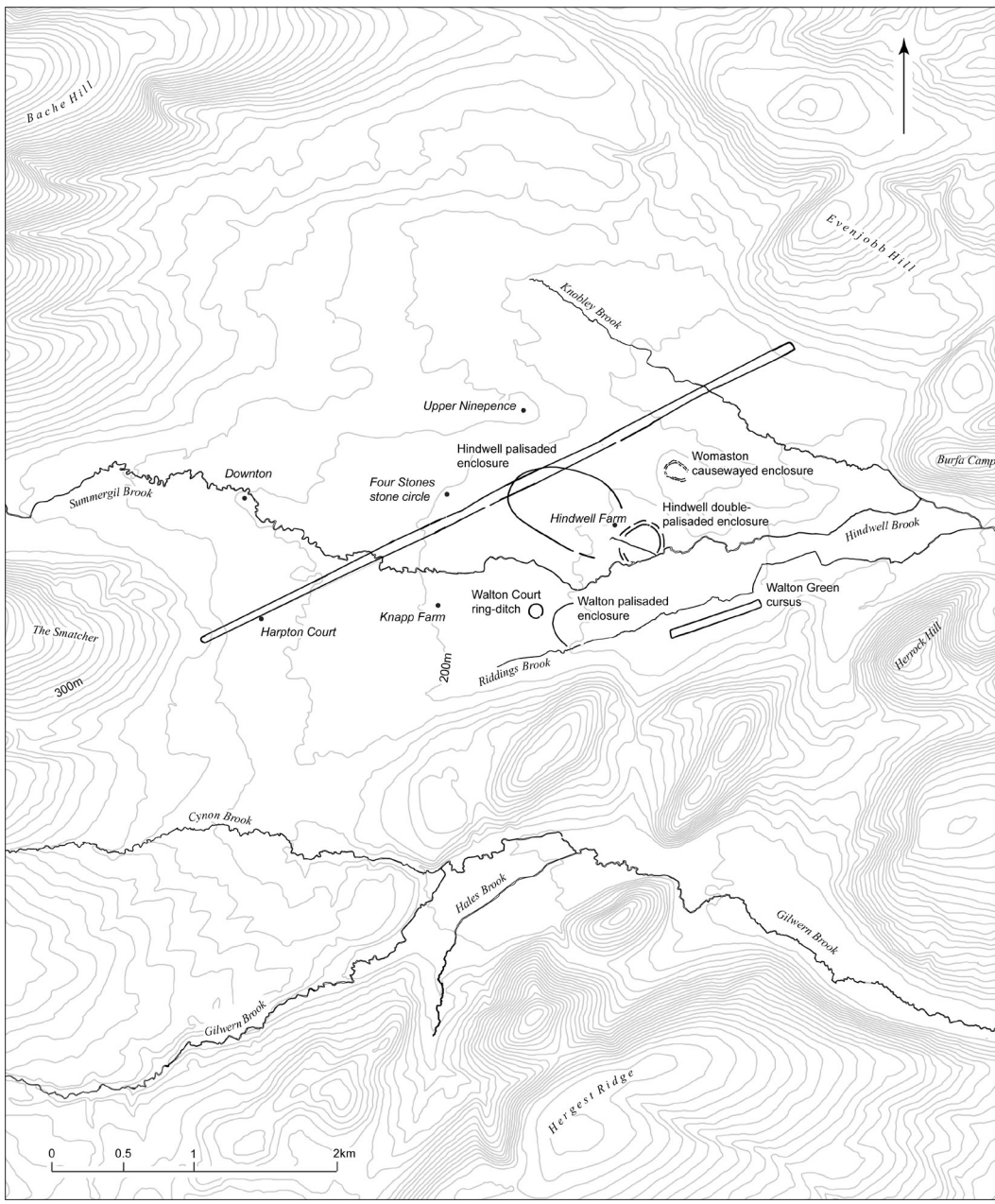


Fig. 1. **Neolithic enclosures in the Walton Basin**
The two cursuses (Hindwell and Walton Green), a causewayed enclosure (Womaston), three palisaded enclosures (Hindwell, Hindwell double-palisaded enclosure, Walton), and a large ring-ditch or 'formative henge' in the eastern part of the Walton Basin, are shown here in relation to streams and topography (contours at 10m intervals, with some reconstruction of the original form of quarried hills in the Old Radnor area).

into what is described as ‘a great gravel soakaway, the bottom of a glacial lake’ (Rodd 1958, 4), though ‘on reaching a bed of clay it re-appears’ (Lewis 1849), most notably at Hindwell Pool on the eastern side of the basin. Natural springs form a large shallow pool representing the source of the Hindwell Brook (visible to the right of Hindwell Farm on Fig. 7, top), which is a tributary of respectively the Llugwy (the Herefordshire Lugg), the Arrow and the Wye. Today, the pool covers about 1.5 hectares but has been artificially enlarged by an earthen dam on its eastern side, creating the ornamental feature much admired by the Wordsworths (Hill 1993, letter dated 11 August 1810). The pool is just one of a number of springs in the vicinity, however (John Goodwin, pers. comm.): a more reliable spring feeds an un-named stream several hundred metres to the north-east, and the Summergil Brook continues to be fed by a spring several hundred metres to the south-east even when the remainder of the stream has dried up (Fig. 7).

From his intimate local knowledge, Lord Rennell observed in the 1950s that the farms in the basin ‘in a dry summer are hard put to find water for their stock. Their fields dry out over the gravel and the often shallow surface soil gets parched. The gravel bottom and light topsoil are important historically: they account for the long permanent settlement of the district’ (Rodd 1958, 4). Because of the absence of springs, the western side of the basin thus tends to be drier than the eastern side, especially during the summer, which is no doubt the source of the folk tale that relates how the stones of the Four Stones stone circle (Fig. 1) ‘every night . . . went down to Hindwell Pool to drink’ (Howse 1949, 204). No doubt from the earliest times the Hindwell Pool and other springs on the eastern side of the valley were a magnet for both wildfowl and mammals, as reflected in its name,

Fig. 2. The dried-up bed of the Summergil Brook, just to the south-west of Hindwell Farm, looking westwards to the hills of Radnor Forest in late September 2011. *Photograph: Bill Britnell, CPAT.*

derived from the Old English *hind* 'female deer' and *wella* 'well, spring, stream'.

Current perceptions of the Neolithic landscape of the Walton basin is based on the piecing together of information from aerial photography, supplemented by geophysical survey and excavation. Only snippets of evidence are visible from the air in any one year, however; this, combined with a lack of emphasis on the analysis of cropmark evidence has meant that it has taken over forty years to appreciate the full significance of some of the Neolithic enclosure sites.

NEOLITHIC ENCLOSURES IN THE WALTON BASIN

Walton Green cursus

The monument was first tentatively identified by Chris Musson in July 1979 when cropmarks revealing the western terminal and an overlapping sub-rectangular enclosure were photographed from the air. Further elements of the monument were recorded in 1984, 1986 and 1989, but it was not until 1993 that the full extent of the cursus was finally confirmed when the plotting of a short length of curving ditch from a 1984 photograph showed this to be part of the eastern terminal, rather than a possible Roman 'practice camp' as had been previously thought (Musson 1994, 128). Geophysical survey over part of the eastern terminal in 1995 confirmed the cropmark evidence (Stratascan 1995).

The cursus lies on fairly level ground at about 185m above sea level (Fig. 3), hugging the southern edge of the valley floor between the Riddings Brook and the base of slopes rising southwards to Stanner Rocks just to the east of Walton village. The cursus is 673m long with side ditches between 55–58m apart, with roughly squared terminals at each end, enclosing an area of around 3.6 hectares. It lies on a bearing of 68 degrees east of grid north and has the appearance of being orientated on the gap between Burfa Bank and Herrock Hill, some 1.4 kilometres from the eastern end, where the Riddings Brook joins the Hindwell Brook before escaping from the basin.

Three trenches were excavated across the ditches in 1998, two at the eastern terminal and one across the northern ditch, which showed that they were between 2.8–3.0m wide and about 0.8m deep (Gibson 1999a, 11–14). Excavation also confirmed the presence of an entrance gap at the eastern end suggested by cropmark evidence. The only dating evidence currently available is a possibly Neolithic flint scraper from the upper ditch fill. The relationships of the cursus to the three small rectilinear enclosures between about 50–80m across which lie along its length and to a further enclosure and a round barrow just beyond its western end are unknown.

Hindwell cursus

The first record of the existence of the cursus was the discovery of the cropmarks of two parallel ditches about 80 metres long near the Four Stones stone circle photographed by J. K. St Joseph in July 1967 which were first interpreted as a possible water meadow and subsequently as part of a possible cursus (Gibson 1996, 341; 1999a, 154; 1999c, 139). Re-examination of existing air photographs between 2008–11 led to the identification of a number of additional stretches to the south-west and north-east which suggested that the cursus might extend beyond the Knobley Brook to the north-east and beyond the Summergil Brook to the south-west. Geophysical survey and trial excavation were also undertaken during this period to the south and south-west of the Four Stones stone circle (Jones 2009b; 2011a). Sections were excavated across the southern ditch in 2009 and across the northern ditch in 2010 (Fig. 4, top right). Trial work just to the south of the Summergil Brook in 2011 confirmed the presence of both ditches. Additional geophysical survey was also

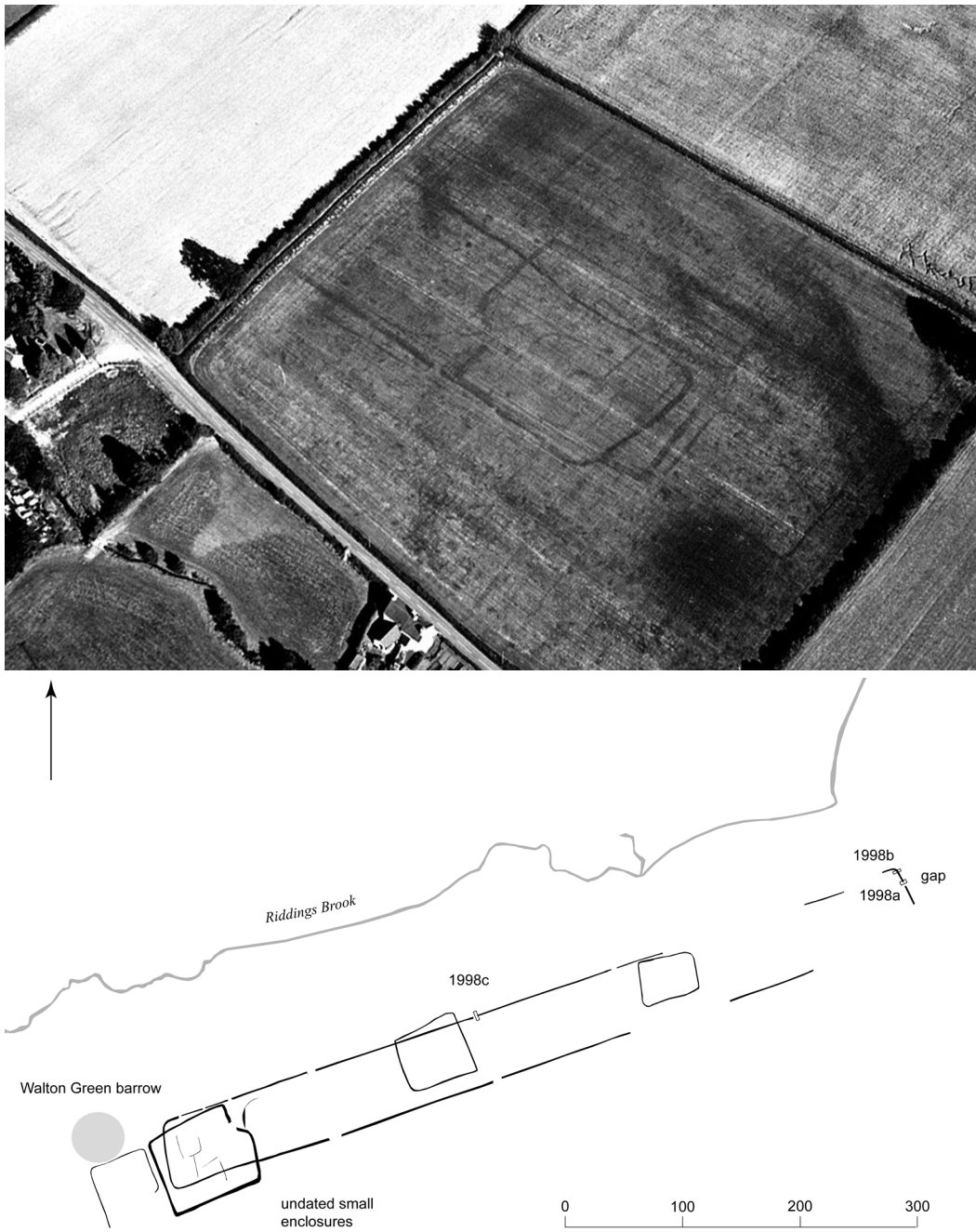


Fig. 3. **Walton Green cursus**
Top: aerial photograph of the western terminal of the cursus in 1984, viewed from the north-west. *Photograph: Chris Musson, CPAT.* ***Bottom***: plan of cursus, small enclosures and round barrow from aerial photography, showing the location of trial work in 1998.

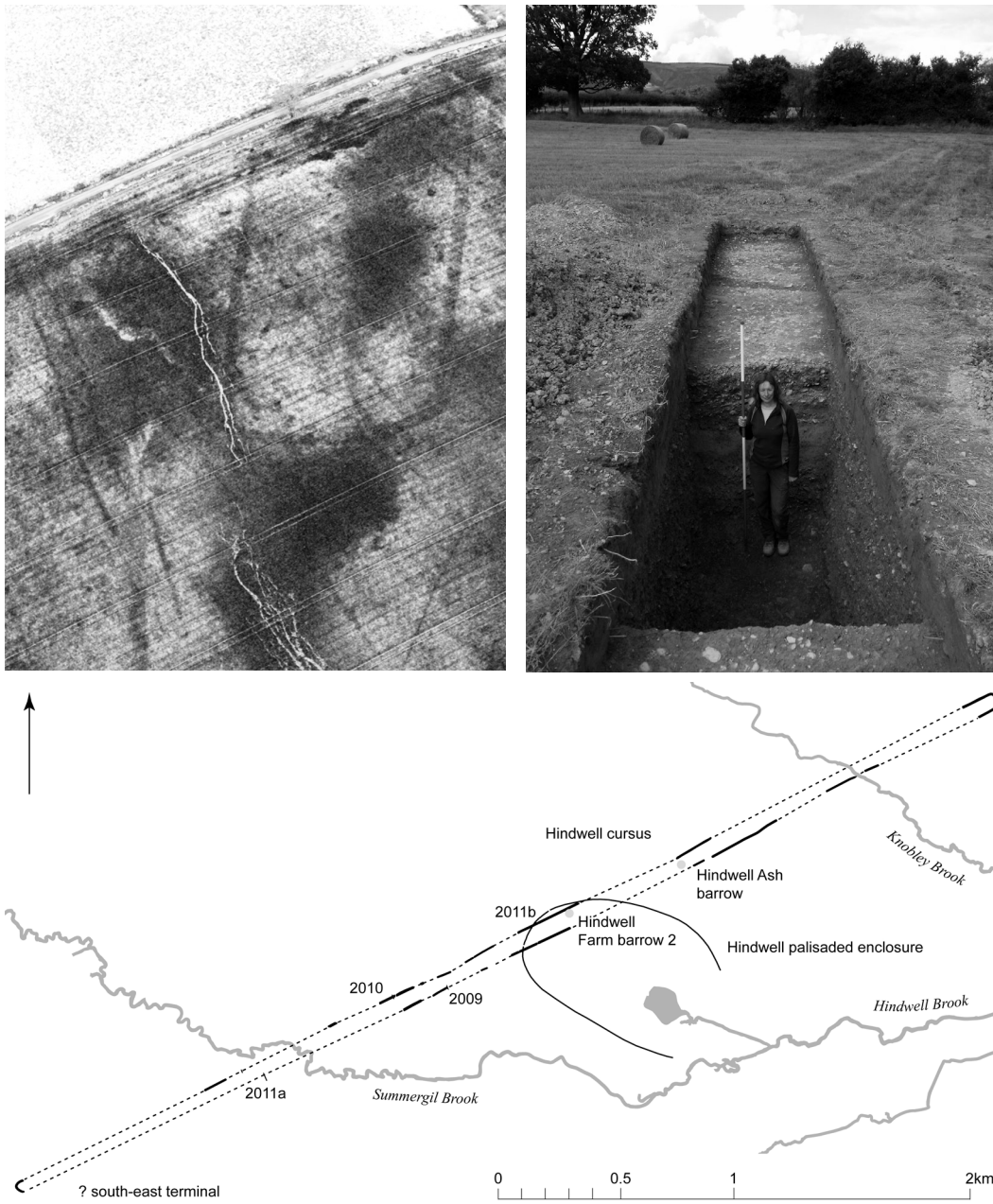


Fig. 4. **Hindwell cursus**
Top left: aerial photograph of the eastern terminal of the cursus in April 2011, viewed from the north-east (with undated parallel ditches to the left). *Photograph: Toby Driver, © Crown copyright: RCAHMW.* ***Top right***: section across the northern ditch, excavated in 2010, viewed from the south. *Photograph: Nigel Jones, CPAT*. ***Bottom***: plan of cursus identified by geophysical survey, aerial photography and excavation.

carried out during the same year to the south-west of Harpton Court, and although the results are inconclusive, there are suggestions that the western end of the cursus may be found here, on the lower slopes of the hill known as The Smatcher. The well-defined north-eastern terminal of the cursus was discovered from the air on the lower slopes of Evenjobb Hill by Toby Driver of the Royal Commission in 2011 (Fig. 4, top left).

The combined evidence obtained from aerial photography, geophysical survey and trial excavations suggests that the Hindwell cursus forms a single monument running for a distance of 4,660m across the full width of the Walton basin, crossing the course of the Knobley Brook and Summergil Brook on its way (Fig. 4). The plan of the monument is still far from complete, however, and only about a quarter of both ditches have so far been positively identified. In common with other cursus monuments, there is some variation in the distance between the ditches, which are 63m apart at the eastern terminal, and between 54m and 74m apart elsewhere. The cursus is aligned on a bearing of 63 degrees east of grid north and encloses an area of about 27 hectares. Sections excavated across the two ditches indicate that they are up to 3.9m wide and 1.8m deep, with steeply sloping sides and a flat base. The pattern of silting in fully excavated ditch sections suggests that the accompanying banks were more likely to have been on the interior.

The excavation of the two complete ditch sections in 2009 and 2011 provided samples for five radiocarbon dates (see Table 1 and Fig. 11). Despite uncertainties about the taphonomy of the dated samples, the weight of evidence suggests a date of construction in the period after 3950–3520 cal. BC. Trial excavations at the intersection of the northern ditch of the cursus and the Hindwell palisaded enclosure in 2011 confirmed that the cursus was the earlier of the two (Jones 2012a), which corroborates the radiocarbon dating evidence that shows that the palisaded enclosure was built between about 2870–2470 cal. BC (see below). Observations 'in plan' showed that the cursus ditch at this point had become completely infilled with relatively clean gravel, deliberately or otherwise, by the time the palisade was constructed. It may be significant that both of the cursus ditches appear to be essentially filled with gravel where they cross the area occupied by the Hindwell palisaded enclosure: they are barely visible on geophysical surveys of this area (see Gibson 1999b, fig. 19) and are shown 'in reverse' on cropmark photographs (see Fig. 7, top).

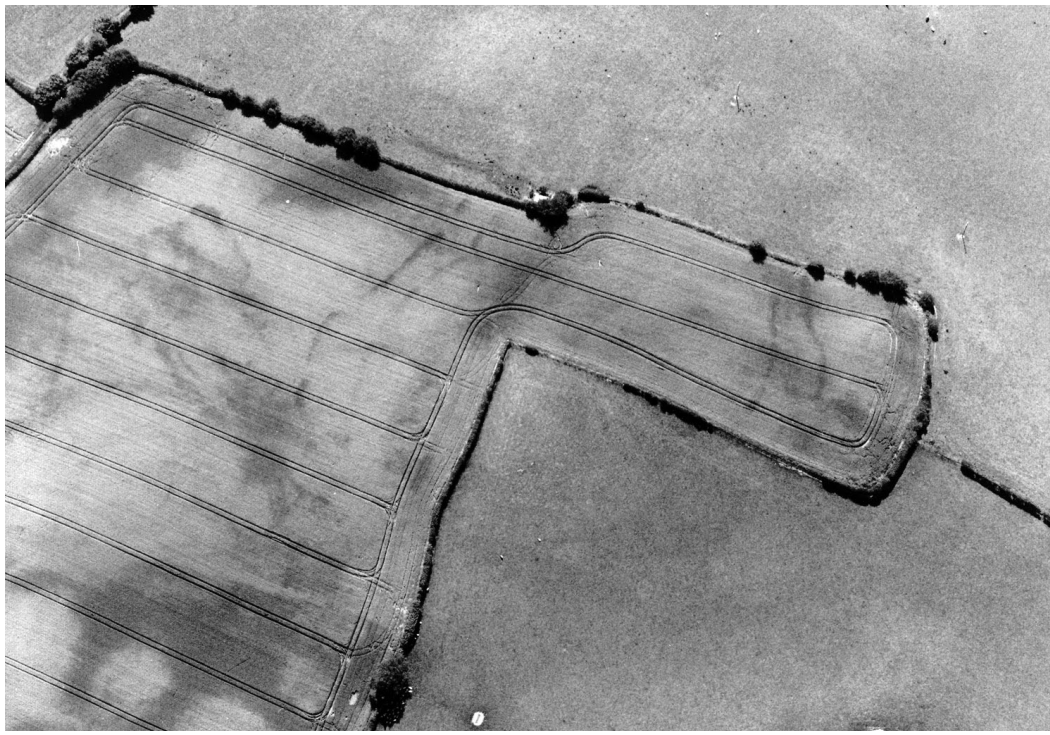
Two probably later round barrows fall within the line of the cursus. The Hindwell Farm barrow 2 is unexcavated but has a complex internal structure including a possible timber circle (Becker 1999, fig. 25; Gibson *et al*. 2001, fig. 8.5) indicated by geophysical survey and air photography. The Hindwell Ash round barrow, further to the north, was partially excavated in 1993–93, but neither the barrow nor the structural remains which underlie it are closely dated (Gibson 1999a, 25, 159).

Cropmark photography just to the north of the Summergil Brook (Fig. 13) shows that the northern ditch of the cursus at this point is overlain and partly obscured by later palaeochannels originating on slightly higher ground to the north which then broadly follow the line of the ditch. This suggests that the construction of the cursus had a significant impact upon local drainage patterns within the basin.

Womaston causewayed enclosure

Cropmarks of parts of the causewayed enclosure were first recorded from the air by J. K. St Joseph in 1970, though the exact nature of the site was not appreciated until July 2006 when it was photographed firstly by Chris Musson (Fig. 5, top) and subsequently by Toby Driver of the Royal Commission. Geophysical survey by CPAT in 2008 on the western and eastern sides helped to fill in some missing parts of the plan.

The enclosure is up to 180m by 130m across; it covers an area of 1.8 hectares and has two roughly



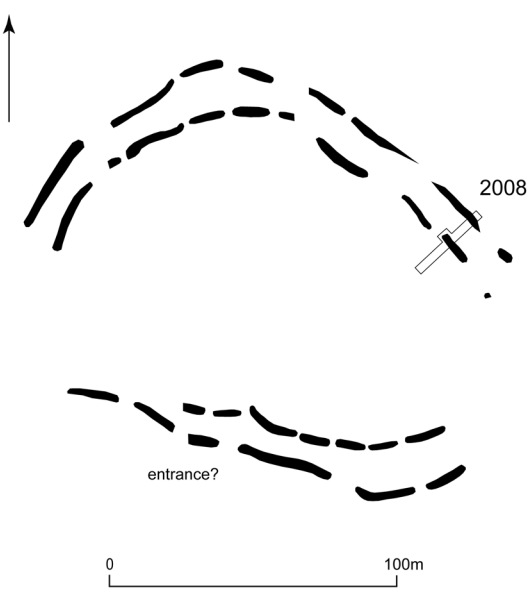


Fig. 5. **Womaston causewayed enclosure**
Top: aerial photograph in July 2006 from the north-east. *Photograph: Chris Musson.* ***Bottom left***: plan from geophysical survey and aerial photography, showing the location of trial work in 2008. ***Bottom right***: butt-end of one of the inner ditch segments in 2008. *Photograph: Nigel Jones, CPAT.*

concentric interrupted ditches, between about 5–14m apart with a possible entrance on the southern side at a point where the inner ditch is markedly inturned. The enclosure occupies a low hillock (probably a glacial drumlin) which forms one of the few prominent landmarks in the middle of the valley, and though it rises to no more than 25m above the valley floor this is sufficient to provide a panoramic view of almost the entire basin.

Trial excavations in 2008 showed that the ditch segments had U-shaped profiles about 2.5m across and up to 1.8m deep, with evidence of recutting suggesting a number of periods of activity (Jones 2009a; 2010a). Three radiocarbon dates for charcoal of short-lived species from the ditches fall between about 3685–3342 cal. BC (see Table 1 and Fig. 11). The excavations produced a number of sherds of Early Neolithic pottery and a few lithics. A significant number of lithics was also recovered from fieldwalking in the vicinity of the site in the 1950s, before the existence of the site was known (Noble 1953, 17; 1954, 80).

Hindwell palisaded enclosure

The plan of the enclosure has been pieced together from a combination of cropmark evidence and geophysical survey. It covers an area of about 34 hectares, making it by far the largest such site in Britain. Parts of the enclosure were first recorded from the air by J. K. St Joseph in 1969 when the overlying Roman Hindwell marching camp was being photographed, though its significance was not appreciated until its western side was identified from the air by Alex Gibson (Gibson 1994; 1999b, 33–4). In 1994 the north-eastern section of the enclosure was recorded as a cropmark by Chris Musson to the north of Hindwell Roman fort and further cropmark evidence was identified in 1996. Several programmes of geophysical survey have been undertaken, commencing with a number of small areas in 1995 (Gibson 1997, 51–4; 1998a, 4.12–13) which were generally inconclusive. More extensive surveys along parts of the palisade and the interior of the enclosure were undertaken by Helmut Becker in 1998 (Becker 1999).

The enclosure forms an oval at least 750m long and up to 540m wide with the long axis aligned approximately north-west to south-east and encompasses Hindwell Pool, at the spring forming the source of the Hindwell Brook. The enclosure generally lies on flattish ground, sloping gently

Fig. 6. Four of the post pits and post ramps on the northern side of the Hindwell palisaded enclosure during excavation in 1995. *Photograph: Alex Gibson, CPAT.*

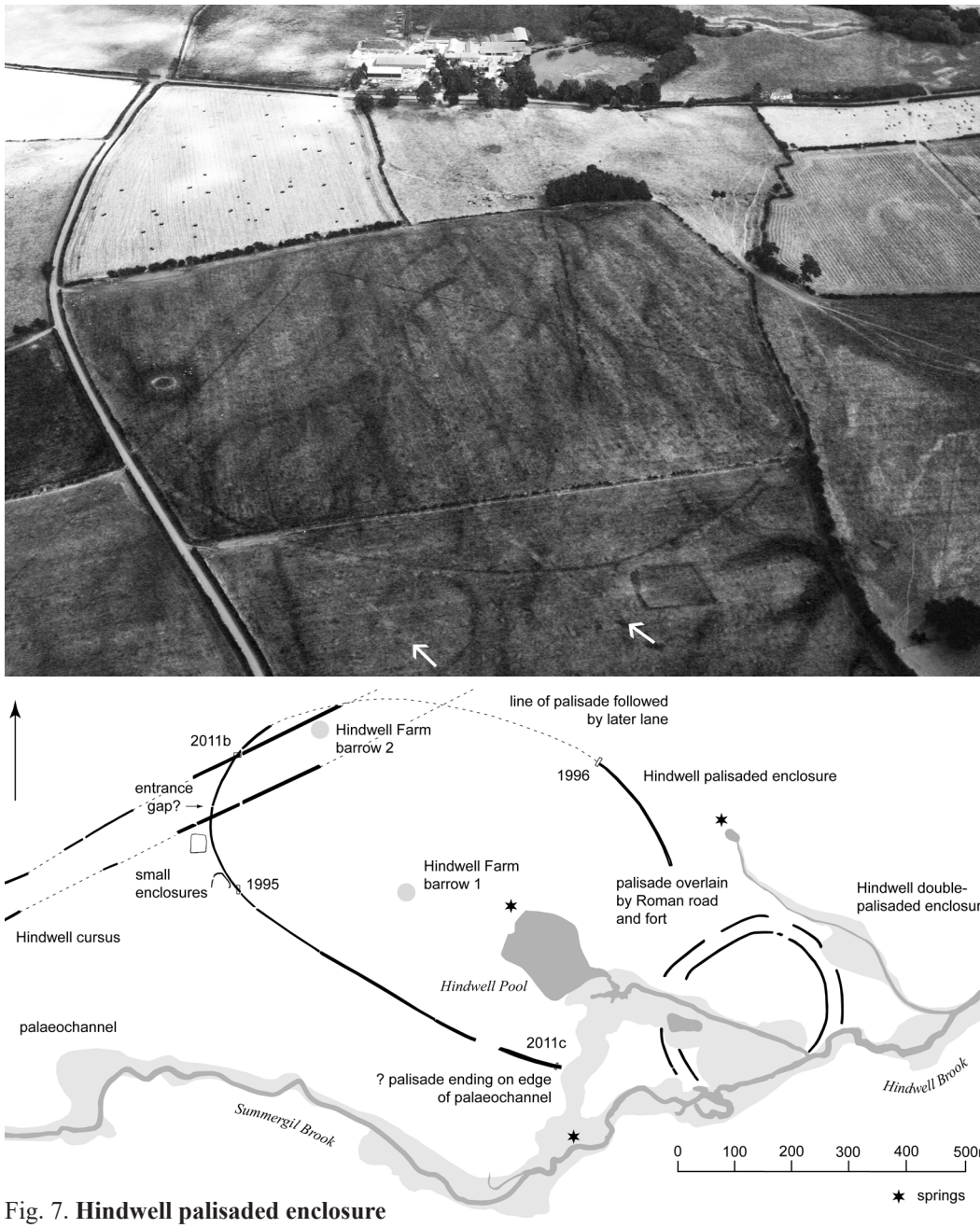


Fig. 7. **Hindwell palisaded enclosure**
Top: air photograph in 2006 from the north-west looking towards Hindwell Farm and Pool. Part of the palisaded enclosure and the paler ditches of the Hindwell cursus (arrowed) are visible in the foreground, with Roman marching camp and Roman road in the middle distance. *Photograph: Toby Driver, © Crown copyright: RCAHMW.* ***Bottom***: plan from geophysical survey and air photography, showing the location of trial work in 1995–96 and 2011.

downwards to the east, though on the southern side it drops down several metres over the edge of a terrace thought to mark the northern edge of the late-glacial lake in the valley bottom (Jones 1999, 40), before possibly mirroring the course of the Summergil Brook.

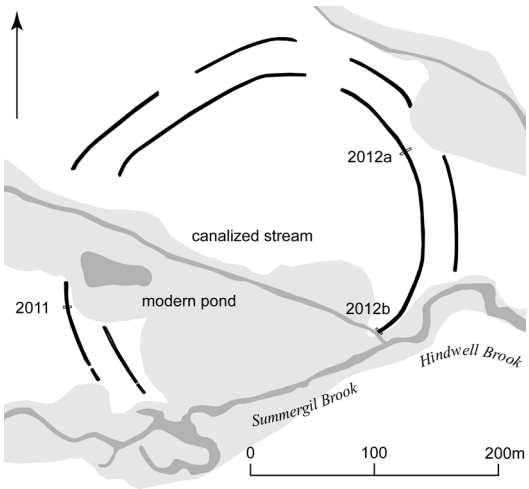
Excavations in 1995–96 have shown that the palisade was constructed of oak posts between 0.6–1.0m in diameter, set in post-pits up to about 2m deep with external post-ramps, the total width of post-pits and post-ramps being between about 5–6m (Fig. 6). Gaps between adjacent posts are generally about 0.8m wide, though geophysical survey suggests an entrance gap about 2m wide at the western end, flanked by two larger posts (Becker 1999, 44 and fig. 19; Gibson *et al*. 2001, 106 and fig. 8.4). Geophysical survey suggests that the north-eastern arc of the enclosure may represent two phases (Becker 1999, 44), or perhaps alternatively that the post-ramps were on the inside rather than the outside of the enclosure along this stretch. The outer faces of all the posts had been charred, four of which have been dated, combining to give a date range of between about 2870–2470 cal. BC (see Table 1 and Fig. 11; Gibson 1999a, 14–19). Small-scale excavations in 2011 (Fig. 7) confirmed that the palisaded enclosure post-dated the Hindwell cursus on the north-west side of the enclosure and pre-dated a ditch recently interpreted as marking the southern annex of the Roman fort (Becker 1999, 44 and fig. 20; Jones 2011a; 2012a). Geophysical evidence also suggests that short stretches of the north-eastern and south-eastern sides of the palisade may have been burnt *in situ* (ibid., 44, figs 20, 23).

Currently, 1805m of the perimeter of the enclosure is known or can be reliably inferred. The northern side of the enclosure is followed by a lane of unknown antiquity whose course is assumed to have followed a curving hollow visible at ground level after the posts had decayed. To the north-east the line of the palisade trench is lost to view where it is overlain by the Hindwell Roman fort and Roman road running northwards from the fort (Burnham and Davies 2010, 248 and fig. 7.74), though it can possibly be traced in the geophysical evidence below the Roman fort running southwards for about a further 100m from the point shown in Figure 7 (Becker 1999, 49). Excavations in 2011 confirmed the line of the palisade on the south-east suggested by geophysical survey but its course is then lost on the edge of a prominent and probably pre-existing palaeochannel (Jones 2011a; Jones 2011b). The palisade has failed to show up on either air photographs or geophysical survey on the far side of the palaeochannel, 40–50m further east, which raises the possibility that the enclosure was open-ended on its eastern side. The relationship with the Hindwell double-palisaded enclosure has not yet been established.

The only certain structures of antiquity inside the enclosure are two round barrows whose mounds are still visible. In the case of the Hindwell Farm barrow 2 the monument has a complex internal structure, possibly including a circular timber setting, revealed by aerial photography and geophysical survey (Becker 1999, 44, fig. 25; Gibson *et al*. 2001, fig. 8.5). There are also hints of pits and a possible timber circle on its north-east side (Gibson 1999, fig. 23). The location of two small enclosures just outside the western side of the palisade (Fig. 7), in the vicinity of the suggested entrance, suggests that they may be contemporary with or later than the enclosure. As well as being partly overlain by Hindwell Roman fort, the palisaded enclosure is also partly overlain by one and possibly two Roman marching camps (Davies and Jones 2006, fig. 87).

Hindwell double-palisaded enclosure

The partial plan of the enclosure is known from geophysical survey, aerial photography and excavation (Fig. 8). Traces of the eastern side of the enclosure were first recorded incidentally from the air by J. K. St Joseph in June 1970, while photographing the Hindwell Roman fort, but were not commented upon at the time. The western and northern sides of the enclosure were identified



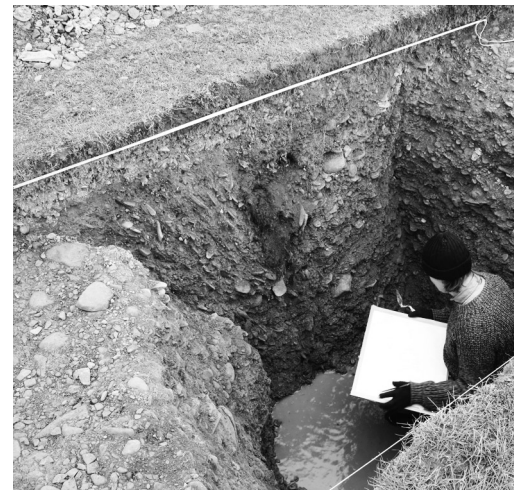


Fig. 8. **Hindwell double-palisaded enclosure**
Top: aerial photograph of the eastern side of the enclosure in 2006, viewed from the east (outer palisade arrowed), with the triple ditches of the Hindwell Roman fort annex beyond. The lines of trees to the left mark the confluence of the canalized Hindwell Brook and Summergil Brook. *Photograph: Toby Driver, © Crown copyright: RCAHMW.* ***Bottom left***: plan known from geophysical survey, aerial photography and excavation, showing the location of trial work in 2011 and 2012. ***Bottom right***: section (2012a) across the inner palisade trench in 2012, which showed that it had held close-set timbers about 0.35–0.4m across. *Photograph: Bill Britnell, CPAT.*

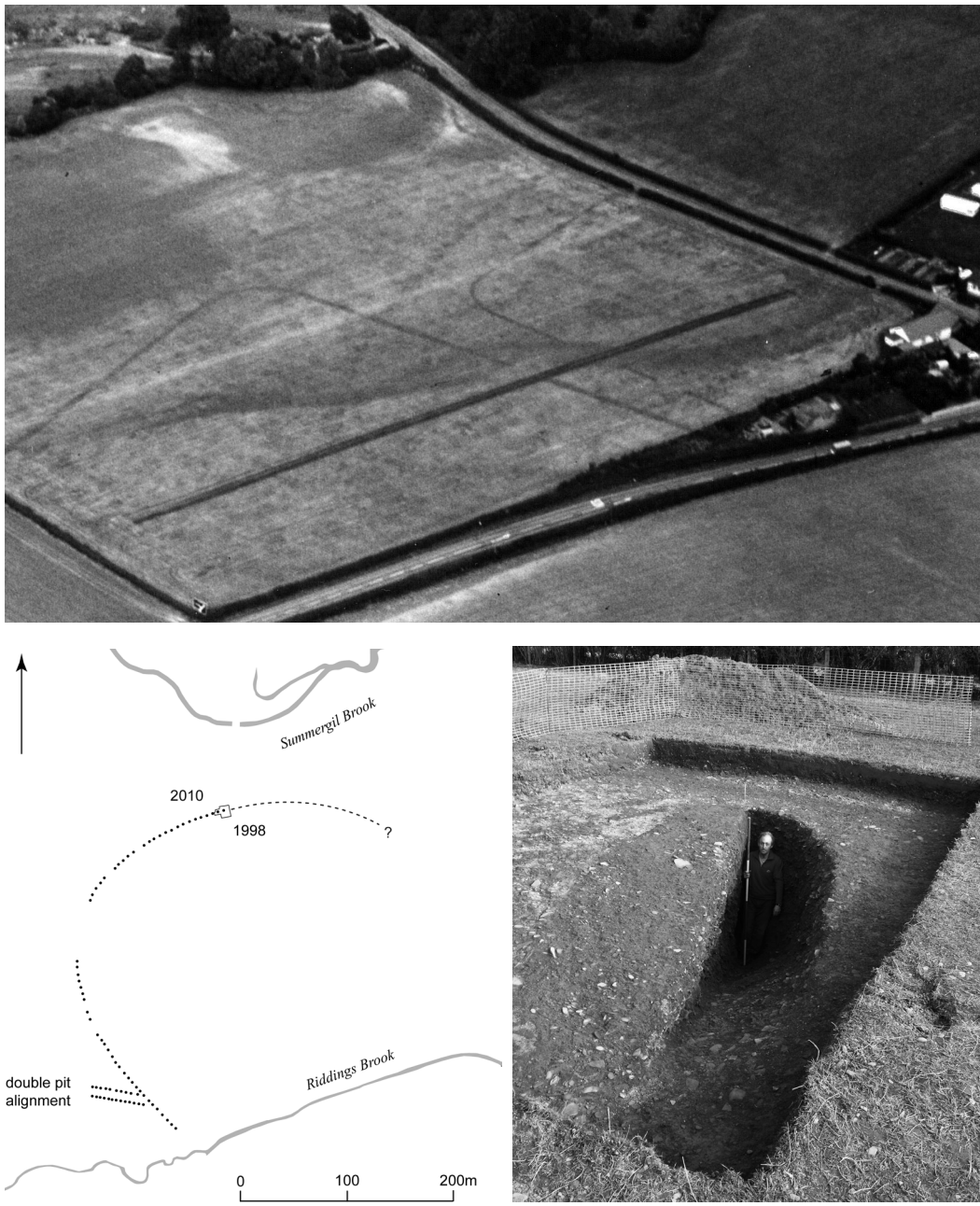


Fig. 9. **Walton palisaded enclosure**
Top: aerial photograph in 1979 from the south. A segment of the enclosure is visible curving between the two roads, overlain by two adjacent Roman marching camps. *Photograph: Chris Musson, CPAT*. ***Bottom left***: plan from aerial photography, showing location of trial work in 1998 and 2010. ***Bottom right***: post-pit exavated in 2010. *Photograph: Wendy Owen, CPAT.*

during geophysical survey of the Hindwell Roman fort and part of the associated *vicus* settlement by Helmut Becker in 1998. (The western side of the double-palisaded enclosure was considered at this time to be part of the same monument as a triple-ditched enclosure identified by aerial photography further to the east (Becker 1999, 49 and fig. 24; Burnham and Davies 2010, 249 and fig. 7.74), which trial excavations in 2012 (Jones 2012b) have now shown to be an eastern annex of the Roman fort.) Aerial reconnaissance by Toby Driver of the Royal Commission in 2006 and geophysical survey by CPAT in 2010 (Hankinson 2011) revealed further details of the eastern side of the double-palisaded enclosure.

The two palisade trenches, which are between 25–30m apart, cover an area of over 6.9ha, measuring 300m by more than 250m across. The double-palisaded enclosure is only 20 per cent of the area of the Hindwell palisaded enclosure, but the combined length of its inner and outer palisades was probably over 80 per cent of that of the larger enclosure. On the south-west the palisade trenches run along the scarp of what is almost certainly an earlier palaeochannel which slopes down markedly towards the interior of the enclosure, whilst to the north and east they run along the crest of a slope which drops down towards the confluence of the Hindwell Brook and a small, un-named stream to the north. It seems significant that the southern side of the enclosure runs more or less along the line of the Summergil and Hindwell Brooks though its relationship with them is uncertain. Was the enclosure partly open on this side? Or have the streams moved, seeking out a line of weakness presented by the palisade trenches? The relationship of this enclosure to the Hindwell palisaded enclosure just to the west is also open to speculation though, as noted above, there are hints that the latter may have been open on the east.

A partial trial trench across the outer palisade in 2011 (Jones 2011a, 13–17) had to be abandoned because of waterlogging. The palisade here appeared to have been dug as a series of intercutting steep-sided pits, up to 2.7m wide and over 0.8m deep, which had held close-set oak timbers about 0.25m across. The presence of charcoal and burnt soil within the weathering cone above the posts suggests that the posts had been burnt *in situ*. Oak charcoal from what is assumed to be the charred outer face of one of the timbers has been dated to 2866–2574 cal. BC (see Table 1 and Fig. 11). The weathering cone above the post-pipes produced Roman finds, which suggests that the position of the enclosure remained visible long after its abandonment. Two sections across the inner palisade were recorded in 2012. One section (Fig. 8, lower right), which again had to be abandoned when it hit the water-table, revealed four or more close-set posts up to 0.35–0.4m across set in a foundation trench up to about 2.8m across and over 1.7m deep. The foundation trench had similarly been dug as a series of steep-sided, intercutting pits, without post-ramps. The outer faces of the posts here had clearly been burnt *in situ,* resulting in the intense reddening of the earth and stones packed against the outer faces of the posts. (It is anticipated that additional radiocarbon dates will be obtained for samples from this trench in due course.) Burnt bone and a large sherd of Grooved Ware were found within the lower weathering cones of one of the posts, matching the patterns of deposition noted at West Kennet and elsewhere (Whittle 1997, 117). A partial section (2012b) was also recorded in the northern bank of the canalised stream running from Hindwell Pool to the Hindwell Brook. This revealed the base of the palisade trench at a depth of about 1.8m below the modern ground surface and suggested that the bases of the posts had been set in shallow pits dug into the base of the palisade trench.

Walton palisaded enclosure and double pit alignment

The enclosure lies on reasonably level ground between the Summergil Brook and the Riddings Brook. It was first discovered by J. K. St Joseph in 1975 who recorded a 410m arc of pits spaced at intervals

of about 6m with a double pit alignment on its western side, overlain by a line of three Roman marching camps (St Joseph 1980, 48–50; Davies and Jones 2006, fig. 88). Geophysical survey, undertaken in 1995, 2009 and 2010 (Gibson 1997; Jones 2010c), has been largely unsuccessful in elucidating the plan of the enclosure though there are hints, as yet unconfirmed, that it may extend for at least a further 100m or more to the east. At present the minimum dimensions of the enclosure are therefore about 200m by 280m across, enclosing an area of more than 5 hectares, though St Joseph suggested that if it had been symmetrical in shape then it might have extended to about 325m across, enclosing an area of up to 8 hectares (St Joseph 1980). The relationship of the enclosure to the Riddings Brook is uncertain, but it might have been open to both the south and east (cf. Burrow 2011, 44). The pit alignment consists of two rows of pits between 44–50m long, set about 9m part, each of the rows having 10–13 pits, spaced at intervals of about 4m. The pit alignment and palisaded enclosure appear to be associated, but the lack of an obvious change in the spacing of the pits of the palisade at the point where the alignment and the palisade meet raises a note of caution.

Single post-pits on the northern side of the enclosure were excavated in 1998 and 2010. The pit excavated in 1998 was 4.3m long and 2m wide, with a post-ramp on the south-west side for a post 0.4m or more in diameter, set up to 1.3m into the ground (Dempsey 1998). The adjacent pit excavated in 2010 excavations was 1.1m in diameter and up to 2.05m in depth with a post-ramp about 3.6m long and up to 1.5m deep again on the south-west side, for a post up to 0.7m in diameter. The upper fill of the post-pipe had a weathering cone, which suggests that the post had rotted *in situ*. Oak charcoal from the post-pipe of the posthole excavated in 1998 and hazel charcoal from the post-ramp excavated in 2010 have been dated to 2836–2480 cal. BC and 2570–2290 cal. BC respectively (see Table 1 and Fig. 11), which provide *termini post quos* for the construction of the monument.

Walton Court ring-ditch

This unusually large ring-ditch was first recognized as a cropmark during aerial reconnaissance by J. K. St Joseph in July 1967. Aerial photography, including that by Chris Musson in 1984 (Fig. 10, top), suggests an entrance causeway about 14m wide on the south-east side. The ring-ditch is just under 100m in diameter and encloses an area of about 0.77 hectares. It lies on fairly level ground between the Summergil Brook and the Riddings Brook, about 80m to the west of the Walton palisaded enclosure, and is overlain by two of a row of three Roman marching camps (Davies and Jones 2006, 139 and fig. 88). Small-scale excavations in 2009 confirmed that it pre-dated one of the marching camps. The ditch proved to be about 2m wide and 1.4m deep, with steeply sloping sides and a narrow base, but the ditch sections provided no conclusive evidence for the existence or position of an original bank. A *terminus post quem* for the construction of the monument is provided by a fragment of hazel charcoal from near base of the ditch which has been dated to 2569–2308 cal. BC (see Table 1 and Fig. 11).

DISCUSSION

Significant progress has been made in the study of the remarkable complex of Neolithic enclosures in the Walton basin, but many fundamental questions remain to be addressed by future work. How do the monuments relate to each other in time and space? How do they compare with monuments elsewhere? What is their landscape and palaeoenvironmental context? What are their cultural associations and what was their purpose? It is anticipated that these and many other questions will continue to be addressed as part of a new initiative focusing on a community, survey and management

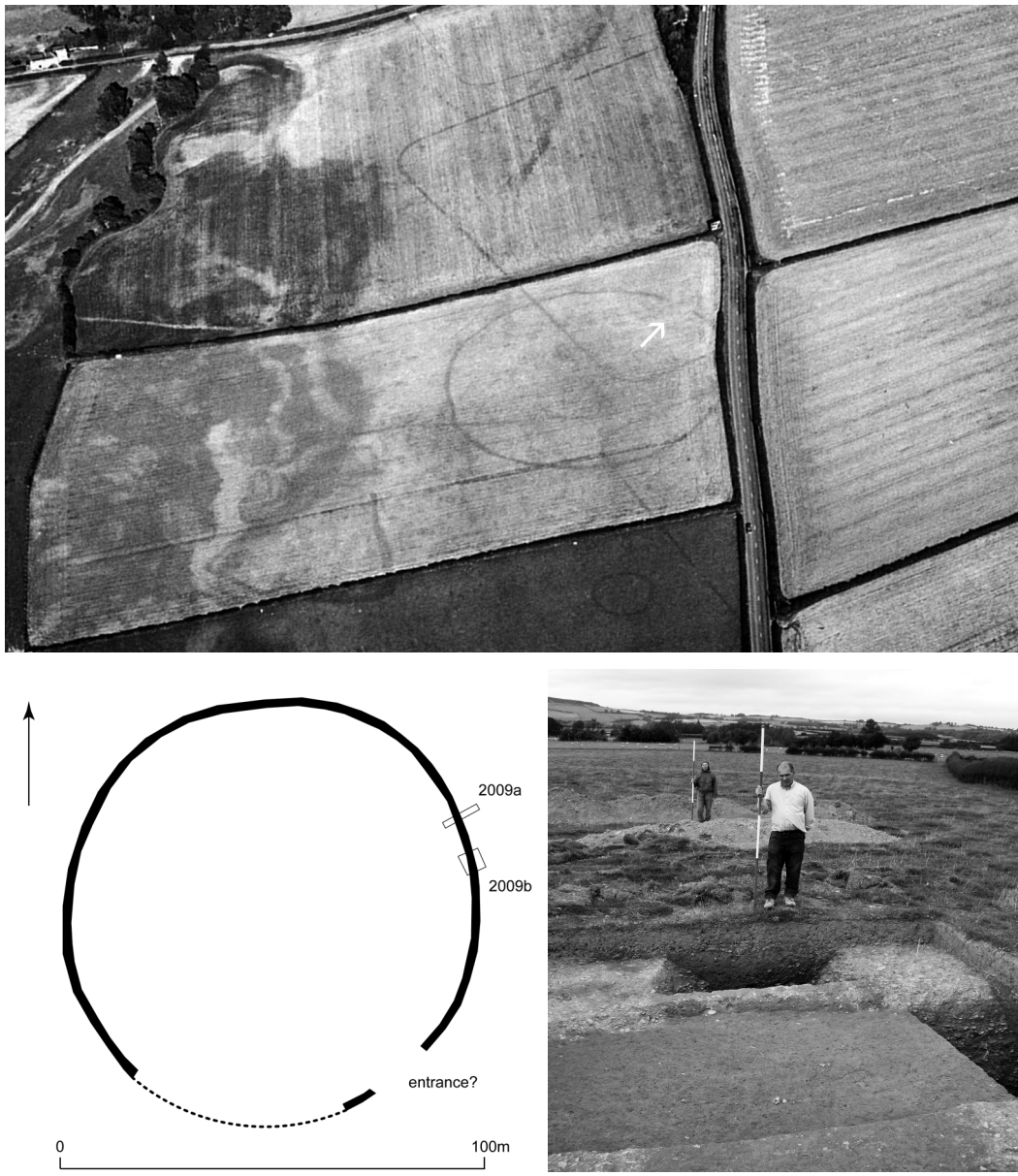


Fig. 10. **Walton Court ring-ditch**
Top: aerial photograph in 1984, from the west, showing the ring-ditch (possible entrance arrowed) overlain by two Roman marching camps. The Summergil Brook and palaeochannels are visible to the left. In the right foreground is a ring-ditch of a more usual size and in the left foreground an undated trapezoidal enclosure. *Photograph: Chris Musson, CPAT.* ***Bottom left***: plan from aerial photography, showing location of trial work in 2009. ***Bottom right***: trial trenches in 2009 at the intersection with one of the Roman marching camps. *Photograph: Nigel Jones, CPAT.*

project for which funding is currently being sought.

Other elements of the Neolithic landscape no doubt await discovery. Two other possible cursuses are hinted at by other parallel ditch settings known from cropmark evidence, one just to the south of Downton Farm (Fig. 1) which had previously been thought to be the south-western end of the Hindwell cursus and a second close to the north-east terminal of the Hindwell cursus (Fig. 4, top left). An undated 5.5m-high mound at Knapp Farm (Fig. 1) possibly belongs to the class of large or 'aggrandised' barrows of later Neolithic to earlier Bronze Age date (Gibson 1999a, 9–10; Leary 2011; Woodward 2000, 139–42), some of which are thought to have served as contemporary viewing platforms (Barber *et al*. 2010, 169). In view of the apparent association of mounds of this kind with henges as well as palisaded enclosures, its relative proximity to the Walton Court Farm ring-ditch may be significant. Few if any four-poster stone circles are well dated though it seems likely that the date of the Four Stones falls between the later Neolithic to early Bronze Age transition (Burl 1988).

Relationships

The radiocarbon dates currently available for Neolithic sites in the Walton basin are given in Table 1 and shown on Figure 11 (the calibrated dates quoted there and in the text below are at 95% probability). Although considerable caution must be exercised in interpreting these results, the dates have nonetheless have gone some way towards elucidating the dating and sequence of the Neolithic enclosures. The overall range of radiocarbon dates suggests periodic monument construction over a period of a millennium or more between about the middle of the fourth millennium and the middle of the third millennium BC.

The difficulties of dating cursus monuments are well known (Barclay and Bayliss 1999), and it might be argued that, like many before us who lacked more suitable material, we have fallen into the trap of using radiocarbon samples which are taphonomically imprecise. But is there any safety in numbers? Of the five radiocarbon dates that are currently available for the Hindwell cursus (which are all from generally short-lived timber species), one (SUERC-34213) is clearly derived from residual material, but the other four provide a *terminus post quem* for the construction of the monument of between about 3946–3521 cal. BC. A *terminus ante quem* for the monument is provided by the radiocarbon determinations for posts belonging to the Hindwell palisaded enclosure which have provided a construction date of about 2870–2470 cal. BC, by which stage some or all of the cursus ditches had become or had been deliberately infilled. As noted above, the Walton Green cursus is undated. This chronology, whilst imprecise, is fully compatible with the Middle Neolithic dating evidence for cursus monuments elsewhere in Britain which it is suggested began in 3915–3545 cal. BC and possibly continued into the third millennium BC (Barclay and Bayliss 1999, 25; Whittle *et al*. 2011, 724).

Radiocarbon dates for the Womaston causewayed enclosure fall between 3658–3342 cal. BC, which falls within the date range of similar enclosures elsewhere in southern Britain and their 'spread' to south Wales and the Marches (Whittle *et al.* 2011, figs. 14.10, 14.16). This indicates, as would be expected, that Womaston is earlier than the Hindwell palisaded enclosure, but its relationship with the Hindwell cursus, which runs to within about 300m to the north-west, is uncertain. Similar problems of establishing the priority of cursus monuments and causewayed enclosures are encountered elsewhere in southern Britain, though where sequences have been determined elsewhere the latter have been found to precede the former (ibid. 724, 907).

As noted above, the construction of the Hindwell palisaded enclosure, which at its closest point is 370m to the south-west of the Womaston causewayed enclosure, is dated to 2870–2470 cal. BC.

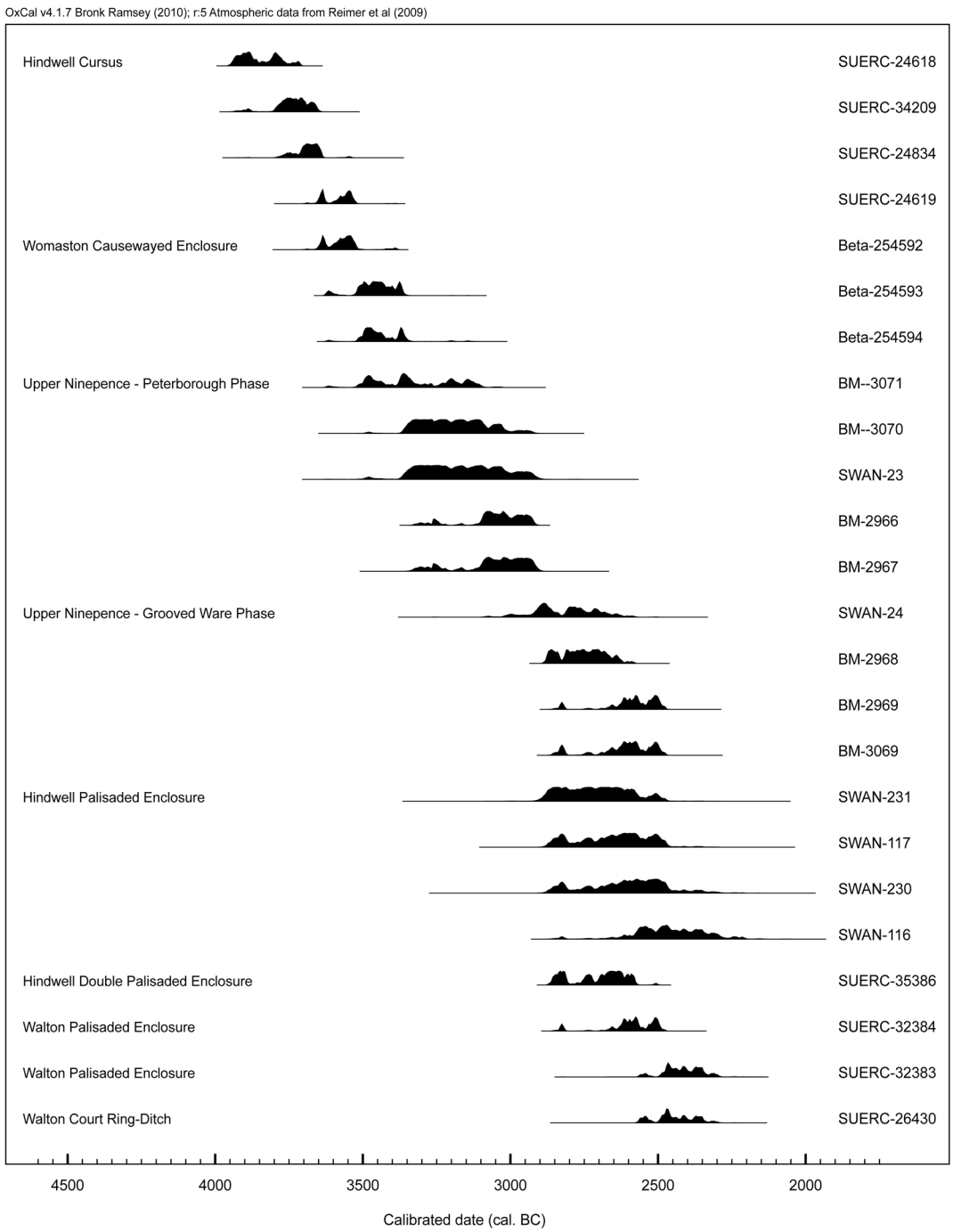


Fig. 11. Radiocarbon dates from Neolithic sites in the Walton basin.

Table 1. Radiocarbon dates from Neolithic sites in the Walton basin (see also Figure 11)

Site / Context	Sample	Lab. number	Date BP	cal. BC 95.4% probability[1]	Reference
Hindwell cursus					
Upper fill of southern ditch	hazel charcoal	SUERC-24618	5030±30	3946–3714	Jones 2012
Lower fill of northern ditch	unident. charcoal	SUERC-34209	4955±40	3906–3648	
Upper fill of southern ditch	hazel charcoal	SUERC-24834	4900±45	3782–3635	
Lower fill of southern ditch	hazel charcoal	SUERC-24619	4815±35	3660–3521	
Upper fill of northern ditch[2]	alder charcoal	SUERC-34213	6225±35	5303–5062	
Womaston causewayed enclosure[3]					
Basal fill of inner ditch recut	hazel charcoal	BETA-254592	4800±40	3658–3384	Jones 2010a
Lower fill of inner ditch	hazel charcoal	BETA-254593	4660±40	3625–3360	
Cut in upper fill of outer ditch	hazel charcoal	BETA-254594	4630±40	3621–3342	
Upper Ninepence					
Peterborough Ware pit		BM-3071	4590±60	3520–3098	Gibson 1999a
Peterborough Ware pit		BM-3070	4490±60	3365–2942	
Peterborough Ware pit		SWAN-23	4470±80	3360–2924	
Peterborough Ware pit		BM-2966	4410±35	3321–2914	
Peterborough Ware pit		BM-2967	4400±50	3328–2906	
Grooved Ware pit		SWAN-24	4240±70	3021–2620	
Grooved Ware pit		BM-2968	4160±35	2880–2627	
Grooved Ware pit		BM-2969	4050±35	2840–2472	
Grooved Ware pit		BM-3069	4060±40	2852-2476	
Hindwell palisaded enclosure					
Charred post	oak charcoal	SWAN-231	4130±80	2892–2491	Gibson 1999a
Charred post	oak charcoal	SWAN-117	4070±70	2872–2471	
Charred post	oak charcoal	SWAN-230	4040±80	2876–2348	
Charred post	oak charcoal	SWAN-116	3960±70	2835–2208	
Hindwell double-palisaded enclosure					
Charred post	oak charcoal	SUERC-35386	4110 ± 30	2866–2574	unpublished
Walton palisaded enclosure					
Fill of post-pit	oak charcoal	SUERC-32384	4055 ± 30	2836–2480	Jones 2010c
Fill of post ramp	hazel charcoal	SUERC-32383	3930 ± 35	2562–2298	
Walton Court ring-ditch					
Secondary ditch fill	hazel charcoal	SUERC-26430	3945±35	2569–2308	Jones 2010b

Notes
1. Calibrations derived from OxCal v4.1.7 Bronk Ramsey (2010), using atmospheric data from Reimer *et al.* (2009), quoting the overall range of the calibrations.
2. This date is clearly from residual material and is not shown on Figure 14.
3. A sample with an Iron Age date for a pit in the interior of the enclosure is omitted.

The relationship of this monument to the Hindwell double-palisaded enclosure, no more than 80m beyond its eastern side, is again uncertain and as noted in the previous section there are hints that the Hindwell palisaded enclosure may have been open-ended. A single charred oak post from the palisade of the Hindwell double-palisaded enclosure has been dated to 2866–2574 cal. BC, but there is less certainty than in the case of the Hindwell palisaded enclosure that this represents a reliable date of construction. Further dates are clearly needed to be able to be certain which of the monuments is the earlier or indeed whether the two are contemporary.

Termini post quos for the construction of the Walton palisaded enclosure, about 300m to the south of the Hindwell enclosure, are provided by two dates, one of 2836–2480 cal. BC from the lower fill of a post-pit and one of 2562–2298 cal. BC, which leave open the question of its temporal relationship with the Hindwell palisaded enclosure and the Hindwell double-palisaded enclosure.

A radiocarbon date for charcoal from low down in the secondary fill of the Walton Court ring-ditch has been dated to 2570–2300 cal. BC which hints that it is so far the latest monument in the sequence.

It appears that the monuments were grouped within a relatively restricted area of the basin, to one side of the Hindwell cursus which bisects the valley. Despite the time frame, the monuments appear to have been set out in relation to each other. The only known overlap is where one end of the Hindwell palisaded enclosure overlies the Hindwell cursus, though this only took place after the cursus ditches were completely filled in, possibly deliberately, at least at this point. But is it significant that this appears to have been almost precisely at the mid point of the cursus, and that the only known entrance into the palisaded enclosure falls within the line of the cursus? Is there a pairing of monument types, linking the Walton palisaded enclosure and Walton Green cursus to the south of the Summergil Brook and the Hindwell palisaded enclosures and cursus to the north?

Comparisons

All the monument types in the Walton basin are readily paralleled at widespread locations throughout Britain. Similar grouping of monuments are also known elsewhere, such as the multiple cursus complex at Rudston, East Yorkshire (Harding 1999, fig, 3.1) and the pairing of palisaded enclosures at West Kennet, Wiltshire (Whittle 1997, 156), whose tangential relationship is reminiscent of the two Hindwell enclosures.

The general form of the Hindwell and Walton Green cursuses can be closely matched elsewhere but the Hindwell cursus appears to fall within Loveday's category of major sites, which include the Dorset Cursus (the associated Gussage and Pentridge cursuses), the greater Stonehenge cursus, Wiltshire, the Stanwell cursus, Middlesex, and the Rudston A and D cursuses, East Yorkshire (Loveday 2006, 157–61, 203). Indeed, if the tentative identification of the south-eastern end of the Hindwell cursus is correct, it is potentially the second or third longest cursus known in Britain. The cursus ditches are also exceptionally large (cf. Loveday 2006, fig. 19).

The form of the Womaston causewayed enclosure is closely paralleled at other sites in southern Britain, clearly recognizable in surviving earthwork sites such as Robin Hood's Ball, Wiltshire (Oswald *et al*. 2001, fig. 1.4), and in terms of size lies at the lower end of the spectrum (ibid. 72–3). The monument type is now known as far north as Mavesyn Ridware and Alrewas in the Trent valley (ibid. 81) and in increasing numbers in southern Wales and the Marches (Burrow *et al*. 2001; Jones 2010a; Whittle *et. al.* 2011, 521–53), its nearest neighbour being Dorstone, Herefordshire (Oswald *et al*. 2001, 152). A few poorly preserved cereal grains and a hazelnut fragment were recovered from the Womaston causewayed enclosure (Caseldine and Griffiths 2009).

Palisaded enclosures are widely distributed throughout Britain (Gibson 2002b, 15; Hale *et al*. 2009, fig. 9). They appear to be tightly clustered both geographically and chronologically (Nobel

and Brophy 2011) and generally appear to have been constructed in the centuries after *c*. 2800 cal. BC. The Hindwell double-palisaded enclosure and the Walton palisaded enclosure probably both fall within the normal size range of palisaded enclosures in Britain, but the Hindwell enclosure is remarkable in being two or three times larger than any other known example (Whittle 1997, 284, table 4).

Three distinct types of palisades have been recognized (Gibson 1998b), all of which are now represented in the Walton basin: Type 1, with spaced posts in separate postholes (as in the Walton palisaded enclosure); Type 2 with more closely set but not contiguous posts (as in the Hindwell palisaded enclosure); and Type 3 with contiguous posts set in a palisade trench (as in the Hindwell double-palisaded enclosure). Close parallels can be drawn with widely scattered sites across the British Isles. The Walton enclosure is closely paralleled at Meldon Bridge, Peeblesshire (Burgess 1976; Speak and Burgess 1999), and the Forteviot (Driscoll *et al*. 2010; Nobel and Brophy 201) and Leadketty enclosures (Barclay 2001, fig. 11.5), Perth and Kinross, where similar pit alignments or 'avenues' are also known. Double palisades such as the Hindwell double-palisaded enclosure are paralleled at Ballynahatty, Co. Down, Blackhouse Burn, Lanarkshire, Dunragit, Dumfries and Galloway, and West Kennet 1, Wiltshire (cf. Hale *et al*. 2009, 282). The possible pairing of the single and double-palisaded enclosures at Hindwell is paralleled at West Kennet (Whittle 1997).

As in the case of palisaded enclosures elsewhere in Britain there is no certain evidence of whether the close-set posts of the Hindwell double-palisaded enclosure or the more widely spaced posts of the Hindwell and Walton palisaded enclosures were freestanding posts or had held any cladding (cf. Whittle 1997, 154)

As elsewhere, some of the enclosures in the Walton basin demonstrate an association with the use of fire. Several different kinds of process appear to be involved, however, though the small number of posts excavated at each of the Walton basin enclosures makes it difficult to generalize about the events affecting an entire monument. Charcoal encircling the post-pipes of the Hindwell enclosure suggest that the posts here had been charred before being set in the ground, following which they had rotted *in situ*. In the case of the double-palisaded enclosure there was clear evidence that posts of both the inner and outer palisades had been burnt *in situ*, suggesting the possibly deliberate burning down of palisades as recorded at a number of palisaded enclosures elsewhere (cf. Hale *et al.* 2009, 286). As noted above, intense geophysical anomalies suggest that parts of the north-eastern and south-eastern sides of the Hindwell palisaded enclosure may also have been burnt *in situ*. The excavated postholes of the Walton palisaded enclosure, by contrast, showed no signs of burning, and here the posts had evidently simply rotted *in situ*.

The Walton Court ring-ditch is potentially the latest and smallest of the ceremonial enclosures identified in the Walton basin, and with a *terminus post quem* of 2569–2308 cal. BC falls into the twilight zone between the later Neolithic and the earlier Bronze Age. The form and dimensions of the monument—and, indeed, the absence of any other monument of henge or henge-like form in the Walton basin—had encouraged parallels to be drawn with the earliest phase at Stonehenge, dated to *c*. 2950–2900 cal. BC (Cleal *et al.* 1995, 63–114), though it has now been disowned by proponents of both 'formative henges' and 'henges' (Burrow 2010, 194; Harding and Lee 1987; Gibson 2012). Though it dwarfs most if not all of them in size, the best parallels appear to be the small and as yet poorly understood class of super-sized ring-ditches, over about 30–40m in diameter, that regionally are principally known in the major river valleys of the Welsh borderland and in the West Midlands (Gibson 2002c, 30; Garwood 2007, 142; Jones 2010b; 2011b; 2011c). A parallel might also be drawn with the smaller penannular ring-ditch at Llandegai D in north-west Wales, dated to *c*. 2840–2460 cal. BC (Lynch and Musson 2004, 81–3, 120).

Landscape and palaeoenvironmental context

The Walton basin—also known as the Radnor Valley or Vale of Radnor—forms an important communications corridor between Herefordshire and west Wales. Until the eighteenth and early nineteenth centuries it lay on an important drovers' road (Moore-Colyer 2002, Map 6), by means of which the animal trade based on the extensive upland grazing in mid Wales could be exploited. The remarkable multiperiod complex of sites within the basin clearly demonstrates that its strategic and economic significance as a routeway extends back to the medieval, Roman, Iron Age, Bronze Age and Neolithic periods. The topography of the valley floor and natural features such as springs, streams, hillocks and ridges also seem to have influenced the siting of monuments in the basin. There is also some evidence to suggest that the creation of the Neolithic monuments was to have a profound and long-lasting impact upon the environment.

The two cursus monuments have distinctive yet contradictory relationships with the valley. The Walton Green cursus, like examples elsewhere (Loveday 2006, 133), lies parallel to the valley side and an adjacent stream or river, in this instance the Riddings Brook. Significantly, it also appears to be aligned on the gap between Burfa Bank and Herrock Hill, where the Hindwell Brook escapes from the valley. The Hindwell cursus, by contrast, points at nothing obvious in the landscape; it cuts across both the Summergil Brook and the Knobley Brook, bisecting the valley like a vast barrier and terminating on rising ground to either side. The crossing of streams and valleys is also evident elsewhere, including a number of the larger cursuses. Parallels include the Drayton cursus, Oxfordshire (Barclay *et al.* 2003, 95), the Stonehenge cursus, Wiltshire (Richards 1990, fig. 3),

Fig. 12. Active erosion scar on the dried-up bed Summergil Brook in September 2011 at about the point where it is crossed by the Hindwell cursus. View looking north-eastwards across the valley bottom towards Evenjobb Hill, where the cursus terminates at the foot of the slope. *Photograph: Bill Britnell, CPAT.*

Fig. 13. The line of the Hindwell cursus (arrowed) as it approaches the Summergil Brook to the east of Downton, viewed from the south-west, in 2009. The arrow to the left shows the north ditch of the cursus as it enters a probably earlier (darker) palaeochannel. The cursus ditch evidently affected subsequent palaeochannel formation, shown by paler cropmarks, which probably represent gravel-filled stream beds. *Photograph: © 2011 Google © 2011 Bluesky, Infoterra Ltd & COWI A/S.*

the Dorset cursus (Johnston 1999, fig 4.1), and perhaps especially Rudston, East Yorkshire, which similarly straddles what must have been a major routeway (Harding 1999, 34 and fig. 3.1). One of the few things that the Walton Green and Hindwell cursuses share is a similar orientation, which may be fortuitous or have some as yet undetermined astronomical significance.

The Womaston causewayed enclosure occupies perhaps the most topographically distinctive feature on the valley floor, a possible drumlin with unbroken views of almost the whole of the basin. It lies between the confluence of the Summergil Brook and Knobley Brook but has no close association with either.

In common with Neolithic enclosures elsewhere (e.g. Darvill and Thomas 2001, 15–16), the three palisaded enclosures, at least today, display a more intimate relationship with water, depending upon the season in which they were built. The Hindwell palisaded enclosure encompasses the source of the Hindwell Brook at Hindwell Pool; its straighter southern side appears to respect the course of the Summergil Brook and, if open to the east, may have butted up against a former palaeochannel between Hindwell Pool and the Summergil Brook (Fig. 7). The Hindwell double-palisaded enclosure is bisected by the now canalized Hindwell Brook and butts up against the Summergil Brook on the south (Fig 8). The Walton palisaded either butted up against or spanned the Riddings Brook (Fig. 9). Closely similar relationships are evident elsewhere, as in the case of the possible Waulud's Bank henge, Bedfordshire (Leary and Field 2011, 27), which encloses the spring forming the source of the river Lea, the Meldon Bridge palisaded enclosure which butts up against streams (Speak and Burgess 1999), and the West Kennet 1 palisaded enclosure which is bisected by the river Kennet and observes an earlier palaeochannel (Whittle 1997, 90).

Evidence is accumulating that the development of floodplains elsewhere in Britain accelerated during prehistory as a result of silting caused by woodland clearance, subsequent agriculture and increased water run-off (Brown 1997). Air photographic evidence suggests that similar processes were taking place within the Walton basin, with stream channels replacing more braided watercourses and increased run-off resulting in the rejuvenation and lowering of stream beds. Further study of the relationship of the enclosures to streams and palaeochannels is vital to a better understanding of their landscape context and it is anticipated that further analysis of both conventional aerial photography and LiDAR will begin to answer some of these questions. There are even hints that the construction of a number of the enclosures probably contributed to or precipitated the process of landscape change. The Hindwell cursus had evidently so disrupted local drainage patterns that its ditches may have become stream beds (Fig. 13), which resonates with suggestions that cursuses may have symbolized rivers (Barclay and Hey 1999; Brophy 1999). The felling of the vast quantities of timber required for the three palisaded enclosures, wherever the timber was obtained within or around the basin (see below), must have contributed to increased run-off. The southern side of the Hindwell double-palisaded enclosure may either have been open against the Summergil Brook or the brook may subsequently have adopted the course of the palisade trenches.

None of the Walton basin Neolithic enclosures remains visible at ground level today, but this has evidently not always been the case. The pattern of what are assumed to be later small enclosures overlying the Walton Green cursus (Fig. 3), the manner in which the northern side of the Hindwell palisaded enclosure is overlain by a later lane (Fig. 7, top), and the recovery of Roman finds from the weathering cone above the posts of the outer palisade of the Hindwell double-palisaded enclosure suggest that these enclosures remained visible in the landscape into the later prehistoric and Roman periods.

No suitable pollen sites have yet been identified within the Walton basin and consequently environmental reconstruction is largely dependent upon the charred plant remains and wood charcoal recovered from excavated sites. There is growing evidence, however, that the Neolithic enclosures on the floor of the Walton basin were built within a predominantly shrubby grassland environment, with some evidence of cereal cultivation. Charred plant remains from the cursus ditches include grass rhizomes, vetch and cinquefoil, as well as hazelnuts, apple pips and fragments of acorn shell, but with general scarcity of wood charcoal and an absence of cereals (Caseldine and Griffiths 2012a; 2012b). A few poorly preserved cereal grains and a hazelnut fragment were recovered from the Womaston causewayed enclosure (Caseldine and Griffiths 2009). Other archaeobotanical evidence from the basin includes charred plant remains from pits dating to the Peterborough Ware phase at Upper Ninepence (location shown on Fig. 1; Caseldine and Barrow 1999). Here hazelnut fragments were present in much greater quantities and there was some evidence for cereal and a possible acorn cupule.

The question of where the considerable quantities of timber used in the construction of the three palisaded enclosures came from remains unresolved. The fluvioglacial sands and gravels in the valley floor are possibly too well drained to support dense oak woodland—there being few, if any, native oaks in the basin at the present day (Anne Goodwin, pers. comm.). This raises the possibility that the timber was acquired from woodland on the surrounding hillslopes.

Cultural context and function

A relatively small amount of diagnostic cultural material has been found in direct association with the Walton Neolithic enclosures. The associated pottery, however, which includes a handful of plain earlier Neolithic sherds from the Womaston causewayed enclosure (Gibson 2010) and a single sherd

of Grooved Ware from the Hindwell double-palisaded enclosure (Jones 2012b), is consistent with the available dating evidence. Radiocarbon dating suggests that the Hindwell palisaded enclosure was broadly contemporary with the Grooved Ware (Later Neolithic) settlement at Upper Ninepence which overlooked it from the north (Gibson 1999a), though at present none of the monuments can be associated with the preceding Peterborough Ware (Middle Neolithic) phase, which might arguably fall in the interval between the construction of the Hindwell cursus and Womaston causewayed enclosure and the construction of the Hindwell palisaded enclosure (see Fig. 11).

Economic evidence is slight: as noted above there is evidence for cereals associated with the Womaston causewayed enclosure and with the Middle Neolithic phase at Upper Ninepence but less so in the Later Neolithic phase. Animal remains are absent because of high soil acidity but lipid analysis of an admittedly small sample of the pottery suggests a change in diet from a predominantly

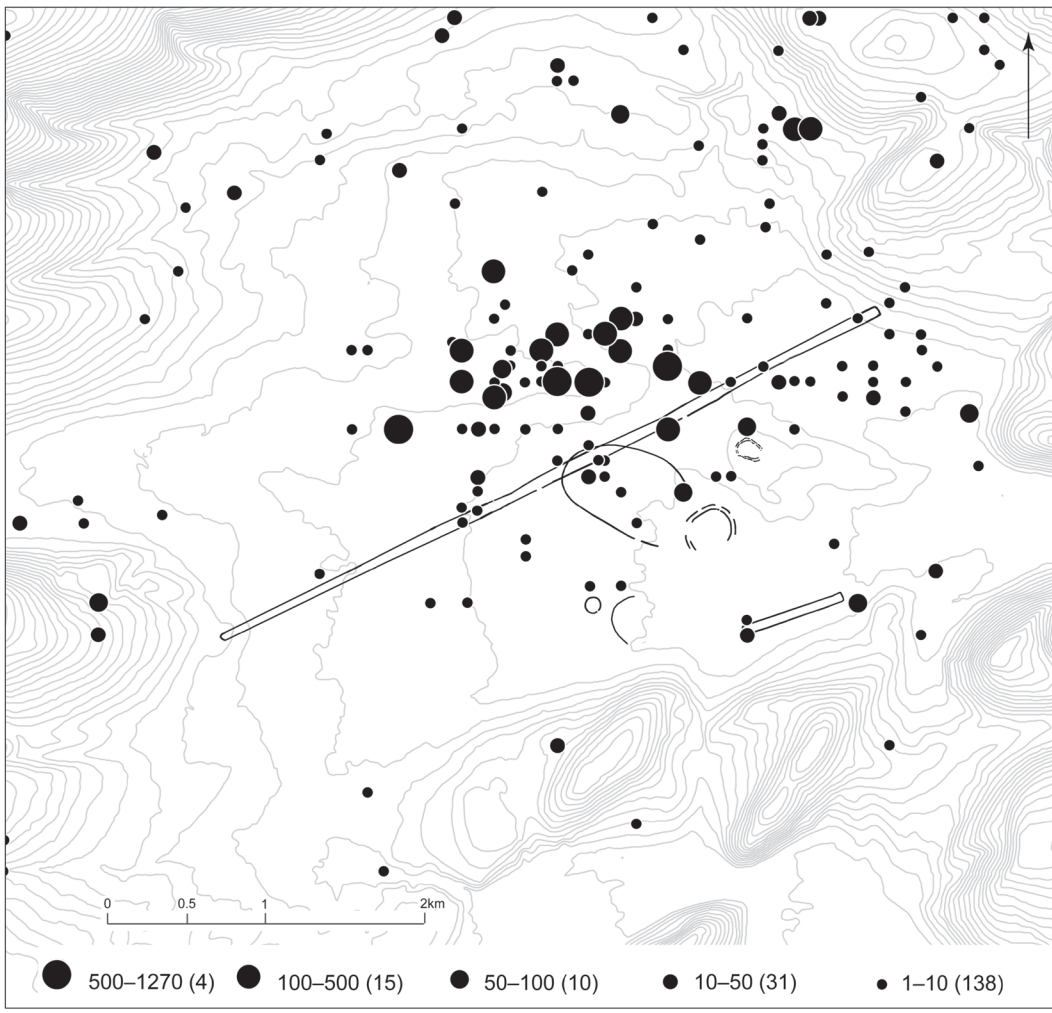


Fig. 14. Distribution of flintwork of all periods (Mesolithic, Neolithic, Bronze Age and undated) found during fieldwalking. *Source: CPAT Historic Environment Record.*

lamb and cattle diet in the Middle Neolithic to a pig-based diet during the Later Neolithic. Cattle are undetected in the lipid evidence for the Later Neolithic sherds, which is unusual for this period, though their presence may possibly be inferred from the need to haul such vast quantities of timber during the Later Neolithic (cf. Gibson 1998b, 78).

The question of whether the Middle and Late Neolithic evidence from Upper Ninepence represents all-year-round settlement or seasonal, animal-based transhumance, is unclear, though restrictions on the mobility of some portion of the community is implied in the cereals associated with Early and Middle Neolithic contexts and perhaps to some extent by pig keeping in the Late Neolithic.

Long-distance contacts with the Midlands and southern England are suggested by ceramic fillers and lithic finds of the Middle Neolithic (cf. Burrow 2011, 26–7). Recent strontium isotope analysis of cattle teeth hints that long-distance contacts may have been maintained by means of 'invisible exports' during the Later Neolithic. A proportion of the cattle remains from domestic and/or ceremonial contexts at Durrington Walls, Wiltshire, dated to the period between 2515 and 2460 cal. BC, have been shown to have arrived 'on the hoof' from parts of Wales or the South West (Viner *et al.* 2010, 2818), echoing Derek Webley's (1976) speculations about animal movements in the borderland during the Neolithic.

There is insufficient independent evidence to be certain about the function of any of the Neolithic enclosures in the Walton basin, though for want of a clear functional interpretation elsewhere a ceremonial or symbolic purpose has often been preferred. The marked differences in size and location (for example between the Hindwell and Walton Green cursuses) suggests that the activities associated with them may have changed radically over time. The question of how long any one site remained in use is unresolved. As noted above, there are suggestions that some of the sites may have been deliberately 'decommissioned'—by the infilling of at least parts of the ditches of the Hindwell cursus and the burning in situ of parts of the two Hindwell palisaded enclosures—even though they were to remain visible in the landscape for many centuries to come.

The distribution of flintwork in the basin (a material not naturally occurring in the region) points to a long-lasting functional division between the north-west and the south-east sides of the basin along the line of the Hindwell cursus (Fig. 14), arguably one of the earliest monuments in the complex. This suggests a clear separation between activities which might be considered 'secular' and 'ceremonial' (cf. Gibson *et al.* 2001, 108–9), or 'domesticated' and 'wild' (cf. Bradley 1993). Similar patterning has been observed in the case of the Rudston cursus and the Dorset cursus (Harding 1999, 32 and fig. 3.2) though further study of the Walton basin is needed to test whether the apparent distribution of both monuments and artefacts is real.

Many questions remain unanswered, but a number of interim conclusions appear to be pertinent to the Neolithic enclosures of the Walton basin, many of which can be paralleled in similar complexes widely scattered throughout Britain:

- The available dating evidence suggests a sequence of large monument building over a period of up to a millennium from the earlier to later Neolithic period, between about the mid fourth and mid third millennium BC.
- The monuments appear to be confined to a restricted area of the basin and may have been sited in areas separated from settlement activity.
- The predominantly contiguous arrangement of enclosures suggests a deliberate and well-organised use of space.
- The presence of so many different forms of the monuments is consonant with 'a continuing desire for innovation and difference' (cf. Whittle *et al*. 2011, 907).

- Close parallels with monuments elsewhere indicate long-lasting contacts over long distances.
- The construction of the monuments involved a large and well-organized community, assembled on either a seasonal or permanent basis.
- Both large-scale topographical features (such as valley sides and routeways between lowland and upland) and smaller landforms (such as drumlins, palaeochannels, streams and springs) appear to have been important factors in the siting of the enclosures.
- Woodland clearance and monument construction had a long-lasting impact upon the environment, to the extent that some either interacted with local drainage patterns or influenced the siting of minor roads.
- Like geoglyphs, both earthwork and timber monuments had an enduring presence in the landscape following abandonment (cf. the West Kennet enclosures; Whittle 1997, 158).

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BIBLIOGRAPHY

Bannister, A. T., 'The Hereford miracles', *Transactions of the Woolhope Naturalists' Field Club* 1904, 377–86.

Barber, M., Winton, H., Stoertz, C., Carpenter, E. and Martin, L., 2010. 'The brood of Silbury? A remote look at some other sizeable Wessex Mounds', in Leary, Darvill and Field (eds) 2010, 152–73.

Barclay, A. and Bayliss, A., 1999. 'Cursus monuments and the radiocarbon problem', in Barclay and Harding 1999, 11–29.

Barclay, A. and Harding, J. (eds), 1999. *Pathways and Ceremonies: the cursus monuments of Britain and Ireland*, Neolithic Studies Group Seminar Papers 4 (Oxford: Oxbow Books).

Barclay, A. and Hey, G., 1999. 'Cattle, cursus monuments and the river: The development of ritual and domestic landscapes in the Upper Thames Valley', in Barclay and Harding (eds) 1999, 67–76.

Barclay, A., Lambrick, G., Moore, J. and Robinson, R., 2003. *Lines in the Landscape. Cursus monuments in the Upper Thames Valley*, Thames Valley Landscapes Monograph No. 15 (Oxford: Oxford Archaeology).

Barclay, G., 2001. 'Neolithic enclosures in Scotland', in Davill and Thomas (eds) 2001, 144–54.

Becker, H., 1999. 'The geophysical survey: high resolution caesium-magnetometry prospection at the Hindwell palisade enclosure', in Gibson 1999b, 40–53.

Bradley, R., 1993. *Altering the Earth: the origins of monuments in Britain and Continental Europe*, Society of Antiquaries of Scotland Monograph Series No. 8 (Edinburgh).

Brophy, K., 1999. 'Seeing the cursus as a symbolic river', *British Archaeology* 44.

Brown, A. G., 1997. *Alluvial Geoarchaeology: floodplain archaeology and environmental change*

(Cambridge: Cambridge University Press).
Burgess, C. B., 1976. 'Meldon Bridge: a Neolithic defended promontory complex near Peebles', in C. B. Burgess and R. F. Miket (eds), *Settlement and Economy in the Third and Second Millennia BC*, British Archaeological Reports, British Series 33, 151–80 (Oxford).
Burl, H. A. W., 1988. *Four-Posters. Bronze Age Stone Circles of Western Europe*, British Archaeological Reports, British Series 195 (Oxford).
Burnham, B. C. and Davies, J. L., 2010. *Roman Frontier in Wales and the Marches* (Aberystwyth: RCAHMW).
Burrow, S., 2010. 'The formative henge: speculations drawn from the circular traditions of Wales and adjacent counties', in Leary, Darvill and Field (eds) 2010, 182–96.
——2011. *Shadowland. Wales 3000–1500 BC* (Oxford: Oxbow Books and National Museum Wales).
Burrow, S., Driver, T., and Thomas, D., 2001. 'Bridging the Severn Estuary: two possible earlier Neolithic enclosures in the Vale of Glamorgan', in Darvill and Thomas (eds) 2001, 91–100.
Caseldine, A. E. and Barrow, C. J., 1999. 'The charred plant remains from Walton', in Gibson 1999a, 141–53.
Caseldine, A. E. and Griffiths, C. J., 2009. 'Charcoal and charred plant remains', in Jones 2009, 31–4.
——2012a, 'Charred plant remains from Hindwell cursus', in Jones 2012.
——2012b, 'Charcoal identification from from Hindwell cursus', in Jones 2012.
Cleal, R. M. J., Walker, K. E. and Montague, R., 1995. *Stonehenge in its Landscape: twentieth-century excavations*, English Heritage Archaeology Report 10 (London: English Heritage).
Darvill, T., and Thomas, J. (eds), 2001a. *Neolithic Enclosures in Atlantic Northwest Europe*, Neolthic Studies Group Seminar Papers 6 (Oxford: Oxbow).
——2001b. 'Neolithic enclosures in Altlantic northwest Europe: some recent trends', in Darvill and Thomas (eds) 2001a, 1–23.
Davies, J. L. and Jones, R. H., 2006. *Roman Camps in Wales and the Marches* (Cardiff: University of Wales Press).
Dempsey, J., 1998. 'Walton Pit Circle, Radnorshire: trial excavation 1998', unpublished report, Clwyd-Powys Archaeological Trust Report No. 298.
Driscoll, S., Brophy, K. and Noble, G., 2010. 'The Strathearn Environs and Royal Forteviot Project (SERF)', www.antiquity.ac.uk/projgall/driscoll323/
Dwerryhouse, A. R., Miller, A. A., 1930. 'Glaciation of the Clun Forest, Radnor Forest and some adjoining districts', *Quarterly Journal of the Geological Society of London* 86, 96–129.
Ekwall, E., 1960. *Concise Oxford Dictionary of English Place-Names* (Oxford: Oxford University Press, 4th edn).
Garwood, P. , 2007. 'Late Neolithic and Early Bronze Age funerary monuments and burial traditions in the West Midlands', in P. Garwood (ed.), *The Undiscovered Country. The earlier prehistory of the West Midlands*, The Making of the West Midlands, Volume 1 (Oxford: Oxbow Books), 134–65.
Gibson, A., 1994. 'Aerial photography in Powys', *Archaeology in Wales* 34, 33.
——1996. 'A Neolithic enclosure at Hindwell, Radnorshire, Powys', *Oxford Journal of Archaeology* 15.3, 341–48.
——1997. 'Survey in the Walton Basin (Radnor Valley), Powys', *Transactions of the Radnorshire Society* 67, 20–62.
——1998a. 'The Walton Basin Project 1993–1997', unpublished report, Clwyd-Powys Archaeological Trust Report No. 283.
——1998b. 'Hindwell and Neolithic palisades of Britain and Ireland', in A. Gibson and D. Simpson (eds), *Prehistoric Ritual and Religion: essays in honour of Aubrey Burl* (Stroud: Sutton), 68–79.
——1998c. 'The Walton Basin Project', in H. Clevis and Jan de Jong (eds), *Archaeology and Landuse, three case studies* (Gemeente Zwolle Monumenten: Zwolle), 8–31.
——1999a. *The Walton Basin Project: Excavation and Survey in a Prehistoric Landscape 1993–7*, Council for British Archaeology Research Report 118 (York: Council for British Archaeology).

——1999b. *The Walton Basin, Powys, Wales. Survey at the Hindwell Neolithic Enclosure* (Welshpool: Clwyd-Powys Archaeological Trust).
——1999c. 'Cursus monuments and possible cursus monuments in Wales: avenues for research (or roads to nowhere?)', in Barclay and Harding 1999, 130–40.
—— (ed.) 2002a. *Behind Wooden Walls. Neolithic palisaded enclosures in Europe*, British Archaeological Reports, International Series 1013 (Oxford: Archaeopress).
——2002b. 'The later Neolithic palisaded sites of Britain', in Gibson (ed.) 2002a, 5–23.
——2002c. 'Earlier prehistoric funerary and ritual sites in the Upper Severn Valley', *Montgomeryshire Collections* 90, 1–40.
——2010. 'Neolithic pottery', in Jones 2010a, 28–30.
——2012. 'What's in a name? A critical review of Welsh 'henges' ', this volume.
Gibson, A., Becker, H., Grogan, E., Jones, N. and Masterton B., 2001. 'Survey at Hindwell enclosure, Walton, Powys, Wales', in Darvill and Thomas (eds) 2001, 101–10.
Hale, D., Platell, A. and Millard, A., 2009. 'A Late Neolithic palisaded enclosure at Marne Barracks, Catterick, North Yorkshire', *Proceedings of the Prehistoric Society* 75, 265–304.
Hankinson, R., 2011. 'Hindwell Roman Fort and Vicus, Walton, Powys: Archaeological Investigations 2010–11', unpublished report, Clwyd-Powys Archaeological Trust Report No. 1092
Harding, A. F. with Lee, G. E., 1987. *Henge Monuments and Related Sites of Great Britain. Air Photographic Evidence and Catalogue*, British Archaeological Reports, British Series 175 (Oxford).
Harding, J., 1999. 'Pathways to new realms: cursus monuments and symbolic territories', in Barclay and Harding 1999, 30–8.
——2003. *Henge Monuments of the British Isles* (Stroud: Tempus).
Hill, A. G. (ed.), 1993. *The Letters of William and Dorothy Wordsworth. 8. A supplement of new letters* (Oxford: Clarendon Press).
Howse, W. H., 1949. *Radnorshire* (Hereford: E. J. Thurston).
Johnston R., 1999. 'An empty path? Processions, memories and the Dorset cursus', in Barclay and Harding (eds) 1999, 39–48.
Jones, N. W., 1999. 'The ground survey', in Gibson *et al.* 1999, 38–40.
——2009a. 'Womaston Causewayed Enclosure: survey and excavation 2008', unpublished report, Clwyd-Powys Archaeological Trust Report No. 959.
——2009b. 'Potential Cursus Monuments in Mid and North-east Wales. Geophysical Survey and Excavation 2008–09', unpublished report, Clwyd-Powys Archaeological Trust Report No. 981.
——2010a. 'Womaston Neolithic causewayed enclosure, Powys: survey and excavation 2008', *Archaeologia Cambrensis* 158, 19–42.
——2010b. 'Walton Court Farm Ring Ditch: Trial Excavation and Survey 2009–10', unpublished report, Clwyd-Powys Archaeological Trust Report No. 1025.
——2010c. 'Walton Palisaded Enclosure, Geophysical Survey and Excavation 2009–10', unpublished report, Clwyd-Powys Archaeological Trust Report No. 1026.
——2011a. 'Excavations at Hindwell, Radnorshire, 2010–11', unpublished report, Clwyd-Powys Archaeological Trust Report No. 1089.
——2011b. 'Causeway Lane Ring-ditch, Llanymynech, Powys. Trial Excavation and Survey', unpublished report, Clwyd-Powys Archaeological Trust Report No. 1079.
——2011c. 'Pentrehobin Ring-ditch, Mold, Flintshire. Trial Excavation and Survey', unpublished report, Clwyd-Powys Archaeological Trust Report No. 1078.
——2012a. 'Hindwell Cursus, Radnorshire: excavation and geophysical survey 2011', unpublished report, Clwyd-Powys Archaeological Trust Report No. 1114.
——2012b. 'Hindwell Double Palisaded Enclosure and Roman vicus, Powys', unpublished report, Clwyd-Powys Archaeological Trust Report No. 1138.
Leary, J., 2011. 'It's official – the Marlborough Mound is prehistoric', *Past* (Newsletter of the Prehistoric Society) 68, 4–5.

Leary, J., Darvill, T. and Field, D., (eds), 2010. *Round Mounds and Monumentality in the British Neolithic and Beyond*, Neolithic Studies Group Seminar Paper 10 (Oxford: Oxbow Books).
Leary, J. and Field, D., 2011. 'Sacred waters', *British Archaeology* 120, 26–31.
Lewis, S., 1849. *A Topographical Dictionary of Wales* (London: Samuel Lewis and Co., 2nd edn).
Loveday, R., 2006. *Inscribed Across the Landscape. The Cursus Enigma* (Stroud: Tempus).
Lynch, F., Aldhouse-Green, S. and Davies, J. L., 2000. *Prehistoric Wales* (Stroud: Sutton Publishing).
Lynch, F. and Musson, C., 2004. 'A prehistoric and early medieval complex at Llandegai, near Bangor, North Wales', *Archaeologia Cambrensis* 150 (2001), 17–142.
Moore-Colyer, R., 2002. *Welsh Cattle Drovers: agriculture and the Welsh cattle trade before and during the nineteenth century* (Ashbourne: Landmark).
Musson, C. R., 1994. *Wales from the Air – Patterns Past and Present* (Aberystwyth: RCAHMW).
Nobel, G., and Brophy, K., 2011. 'Big enclosures: the later Neolithic palisaded enclosures in Scotland in their northwestern European context', *European Journal of Archaeology* 14.1–2, 60–87.
Noble, F., 1953. 'Archaeological finds and other acquisitions of Knighton Secondary School Museum from local sources in 1953', *Transactions of the Radnorshire Society* 23, 16–21.
——1954. 'Radnorshire finds acquired by Knighton Secondary School Museum, October 1953 – October 1954', *Transactions of the Radnorshire Society* 24, 71–82.
Oswald, A., Dyer, C., and Barber, M., 2001. *The Creation of Monuments. Neolithic Causewayed Enclosures in the British Isles* (Swindon: English Heritage).
Richards, J., 1990. *The Stonehenge Environs Project*, English Heritage Archaeological Report no.16 (London: HBMCE).
Rodd, Francis James Rennell [Lord Rennell], 1958. *Valley on the March* (Oxford: Oxford University University Press).
Ross, J. H. and Jancey, M., 1987. 'The miracles of St Thomas of Hereford', *British Medical Journal* 295, 1590–4.
Speak, S. and Burgess, C., 1999. 'Meldon Bridge: a centre of the third millennium BC in Peeblesshire', *Proceedings of the Society of Antiquaries of Scotland* 129, 1–118.
St Joseph, J. K., 1980. 'Air reconnaissance: recent results, 49', *Antiquity* 54, 47–51.
Stratascan 1995. 'A Report for University of Staffordshire on a Geophysical Survey carried out at Watery Lane, Walton Green (east end of cursus)', unpublished report, Stratascan.
Viner, S., Evans, J., Albarella, U. and Parker Pearson, M., 2010. 'Cattle mobility in prehistoric Britain: strontium isotope analysis of cattle teeth from Durrington Walls (Wiltshire, Britain)', *Journal of Archaeological Science* 37 (1020), 2812–20.
Webley, D. P., 1976. 'How the west was won: prehistoric land-use in the Southern Marches', in G. C. Boon and J. M. Lewis, *Welsh Antiquity* (Cardiff: National Museum of Wales).
Whittle, A. W. R., 1997. Sacred Mound, Holy Rings. *Silbury and the West Kennet palisade enclosures: a later Neolithic complex in north Wiltshire*, Oxbow Monograph 74 (Oxford: Oxbow Books).
Whittle, A., Healy, F. and Bayliss, A., 2011. *Gathering Time: Dating the Early Neolithic Enclosures of Southern Britain and Ireland* (Oxford: Oxbow Books), 2 vols.
Woodward, A., 2000. *British Barrows: a matter of life and death* (Stroud: Tempus).