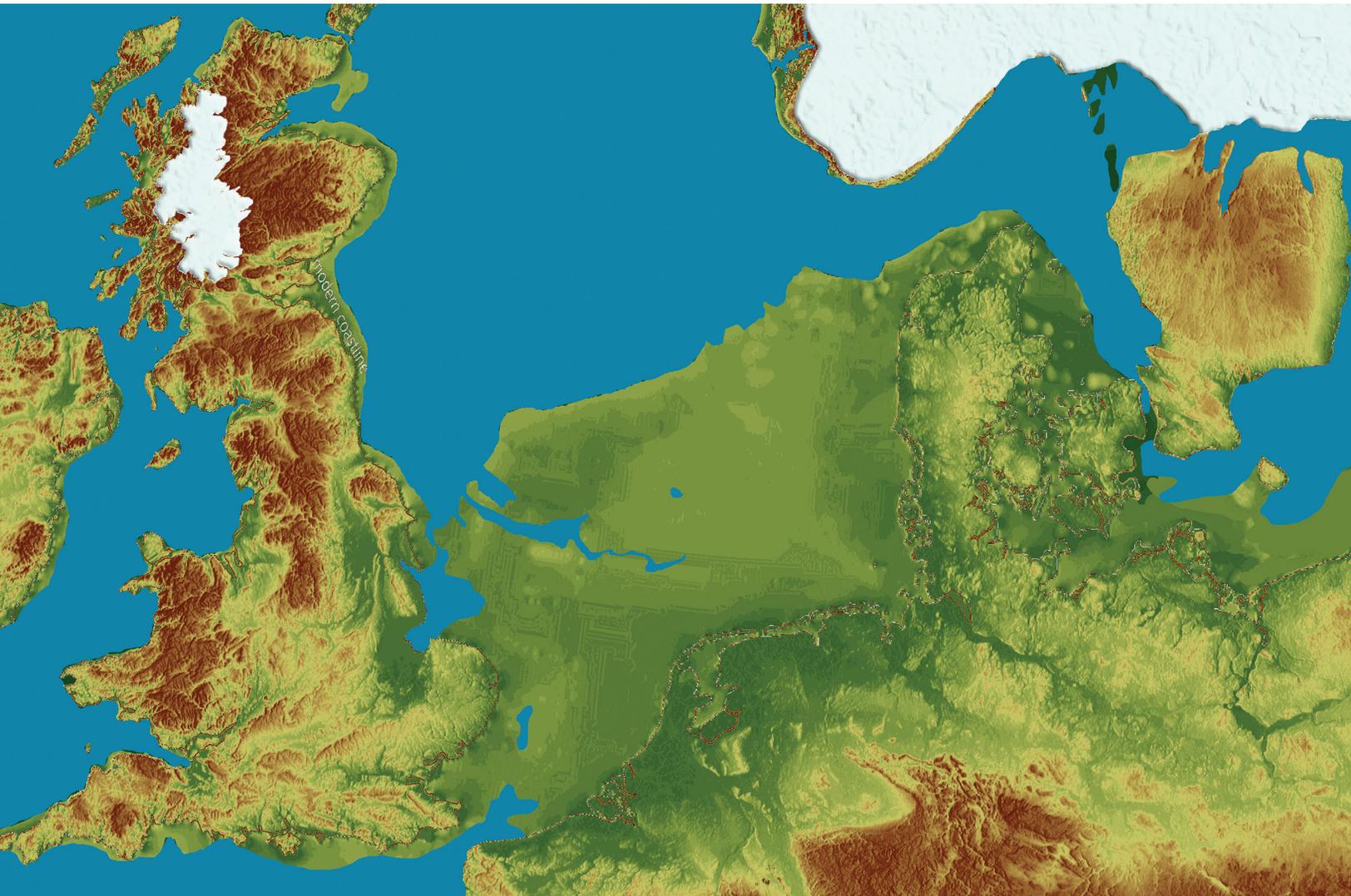


PART 5

Star Carr inside and outside Mesolithic Europe

'To judge from the exiguous contemporary finds and from indications from the fuller material on sites of Boreal age, the culture represented at Star Carr extended over the bed of the present North Sea at least as far as Zealand.'

(Clark 1954, 191)



CHAPTER 11

The British Mesolithic Context

Chantal Conneller and Nick J. Overton

Introduction

The occupation of Star Carr took place between c. 9300 and c. 8500 cal BC (Figure 9.1). During this period there appears to have been relatively little Mesolithic occupation in the rest of Britain. This statement does need to be qualified as reliable radiocarbon dates for the British Mesolithic are rare (Conneller et al. 2016) and typo-chronologies are less refined than elsewhere in northern Europe. However, current evidence permits us to state that while Star Carr was occupied, Mesolithic groups were present in Southern England, focused almost entirely on the riparian affordances of the Thames and its tributaries (the Lea, the Colne and the Kennet). In the North, the main source of evidence for occupation contemporary with Star Carr comes from the Vale of Pickering itself. Typologically early sites on the North York Moors and the Pennines – the classic upland hunting camp counterpart to Star Carr’s basecamp (Clark 1972; Jacobi 1978; Rowley-Conwy 1994; Simmons 1996) – are either undated, or have dates on bulked, un-identified charcoal that provide only *termini post quos* for the occupation. This latter evidence suggests that some of the Pennine sites could be contemporary with Star Carr but may also be rather later.

From around c. 8700 cal BC, at the time that Star Carr appears to have seen less intensive occupation, we begin to see changes in the nature of Mesolithic occupation in Britain. The period c. 8700 to 8000 cal BC was a time of intense change with evidence for the movement of Mesolithic groups into upland locations and into areas of Britain that had previously seen little occupation: Scotland, Wales, the Midlands and South-west England. Microlith forms became more diverse with increased regionalisation and the probable appearance of industries with small scalene triangles (traditionally heralding the start of the Late Mesolithic) towards the end of this period. New practices also appear, such as the deposition of human remains into caves.

Figure 11 (page 273): Map of Northern Europe including Doggerland. The map was drawn by Daniel Groß, prepared after Grimm 2009, based on Björck 1995; Boulton et al. 2001; Brooks 2006; Clark et al. 2004b; Ivy-Ochs et al. 2006; Lundqvist & Wohlfarth 2001; Weaver et al. 2003 (Copyright Daniel Groß, CC BY-NC 4.0).

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Early Mesolithic chronology

This chapter will focus on sites with radiocarbon dates that indicate they were occupied between c. 9300 cal BC and c. 8500 cal BC and were thus broadly contemporary with Star Carr, with some discussion of sites in the following centuries (Figure 11.1). To the rather short list of radiocarbon-dated sites will be added others that can be suggested to belong to this period on typological or pollen-stratigraphic grounds. At least three Early Mesolithic assemblage types have been identified on the basis of microlith typology and various technological features (Clark 1934; Radley and Mellars 1964; Reynier 2005): Star Carr assemblages are characterised by short obliquely blunted points, trapezes and large triangles; Deepcar assemblages are characterised by elegant, elongated obliquely blunted points often with retouch on the leading edge, partially backed points and rhomboids; and basally modified assemblages are characterised by short obliquely blunted points and a range of regionally diverse basally retouched forms. Our understanding of the chronology of these types has been enhanced through Bayesian modelling of existing dates as part of this project (Conneller et al. 2016).

This work suggests that Star Carr type assemblages appeared first in 9805–9265 cal BC (95% probability; *start Star Carr-type*; see Conneller et al. 2016, figure 4), probably in 9495–9290 cal BC (68% probability). Star Carr type assemblages disappeared in 8230–7520 cal BC (95% probability; *end Star Carr-type*; Conneller et al. 2016, figure 4), probably in 8165–7835 cal BC (67% probability) or 7830–7815 cal BC (1% probability). Star Carr assemblages thus represent pioneer Mesolithic populations in both Northern and Southern



Figure 11.1: Map of main sites discussed in this chapter. 1: Vale of Pickering (Star Carr, Seamer C, K, D, L, VPD, VPE, Flixton School Field, Flixton School House Farm, Flixton 1, No Name Hill, Barry's Island). 2: North Yorkshire Moors (Pointed Stone 2 and 3). 3: Pennines (Warcock Hill N and S, Turnpike, Lominot 2 and 3, Windy Hill, Pule Hill Base). 4: Deepcar. 5: Rushy Brow. 6: Kelling Heath. 7: Great Melton. 8: Lackford Heath. 9: Lea Valley (Rikof's Pit, Broxbourne 102, 104, 106). 10: Colne Valley (Three Ways Wharf, Former Sanderson Site). 11: Eton Rowing Lake. 12: Kennet Valley (Thatcham, Greenham Dairy Farm/Faraday Road, Wawcott XXX) (Copyright Nick Overton, CC BY-NC 4.0).

England, moving into landscapes that were empty of people; however, the rarity of sites in the south suggest a short-lived incursion only.

Deepcar type assemblages first appeared in 9460–8705 cal BC (95% probability; start Deepcar-type; see Conneller et al. 2016 figure 5), probably in 9090–8775 cal BC (68% probability). Deepcar type assemblages disappeared in 8200–7240 cal BC (95% probability; end Deepcar-type; Conneller et al. 2016, figure 5), probably in 8075–7620 cal BC (68% probability). It is 95% probable that Deepcar type assemblages first appeared after the first Star Carr type assemblages but it is 100% probable that their use overlapped in time. Deepcar assemblages probably appeared around half a millennium after the first Star Carr type assemblages (Conneller et al. 2016, figure 8). Deepcar assemblages represent both initial pioneer and subsequent residential occupation in the south (see Housley et al. 1997). In the north, the presence of a few Deepcar style microliths at Star Carr in the latest context of the site might suggest a more gradual adoption of these forms by groups residing in this area.

Finally, our models suggest basally modified microlith type assemblages first appeared in 9280–8305 cal BC (95% probability; start basal modified; Conneller et al. 2016, figure 6), probably in 8690–8335 cal BC (68% probability). Basally modified microlith type assemblages disappeared in 7030–5845 cal BC (95% probability; end basal modified type; Conneller et al. 2016, figure 6), probably in 6960–6460 cal BC (68% probability). These assemblages certainly overlapped with the use of Star Carr type assemblages and Deepcar type assemblages (100% probable), at least in certain areas of the country. The appearance of basally modified forms coincides with a diversification and regionalisation of the Mesolithic with new areas of Britain occupied; a shift made by all Mesolithic groups in Britain, independent of the microlith forms they favoured.

Based on these models, the following review will include discussion of all Star Carr type sites on the basis that these are broadly contemporary with Star Carr itself, with the exception of the southern Welsh Star Carr type sites that are likely to post-date its occupation. Deepcar type sites will also be included in the discussion as these overlap with Star Carr's occupation. However, because many Deepcar type sites are likely to post-date Star Carr, those that have late radiocarbon dates or typologically fit the profile of late Deepcar sites (see Jacobi 1981) will be excluded from the discussion.

The following account focuses on excavated sites and is based on a combination of analysis of the original artefactual and faunal material by the two authors, site archives, the Jacobi archive and review of published literature.

The Vale of Pickering

Introduction

The only securely dated sites in Northern England that are known to be contemporary with Star Carr come from the immediate environs of the Vale of Pickering (Figure 11.2). In the course of excavations and palaeoenvironmental survey around Lake Flixton between 1976 and 2005, undertaken by Tim Schadla-Hall and the Vale of Pickering Research Trust, a total of 24 additional sites were found around the lakeshore and on islands in the middle of the lake. Most of these are entirely Early Mesolithic in date or have a significant Early Mesolithic component (Conneller 2000). The most extensively excavated sites were those located in the rescue campaign of 1976 to 1985 in advance of the Seamer area being used for landfill. Subsequently, a sampling strategy based on the location of the Seamer sites led fieldwork to focus on the excavation of 2 × 2 m test pits located along the 24.5 m OD contour. Some areas underwent further exploration but never on the scale of the Seamer sites (Schadla-Hall 1987; Schadla-Hall 1989).

Seamer K

Seamer K is located on the northern shore of Lake Flixton, focused on a small lagoon behind the main body of water, known as the western embayment (see Figure 11.2). The site contains both Final Palaeolithic and Early Mesolithic settlement debris (Conneller and Schadla-Hall 2003), separated in the southern part of the site by a late glacial coversand, and more ephemeral Late Mesolithic activity (David 1998). Radiocarbon dates show that the Mesolithic activity at the site is broadly contemporary with activity at Star Carr (Conneller et al. 2016, figure 4).

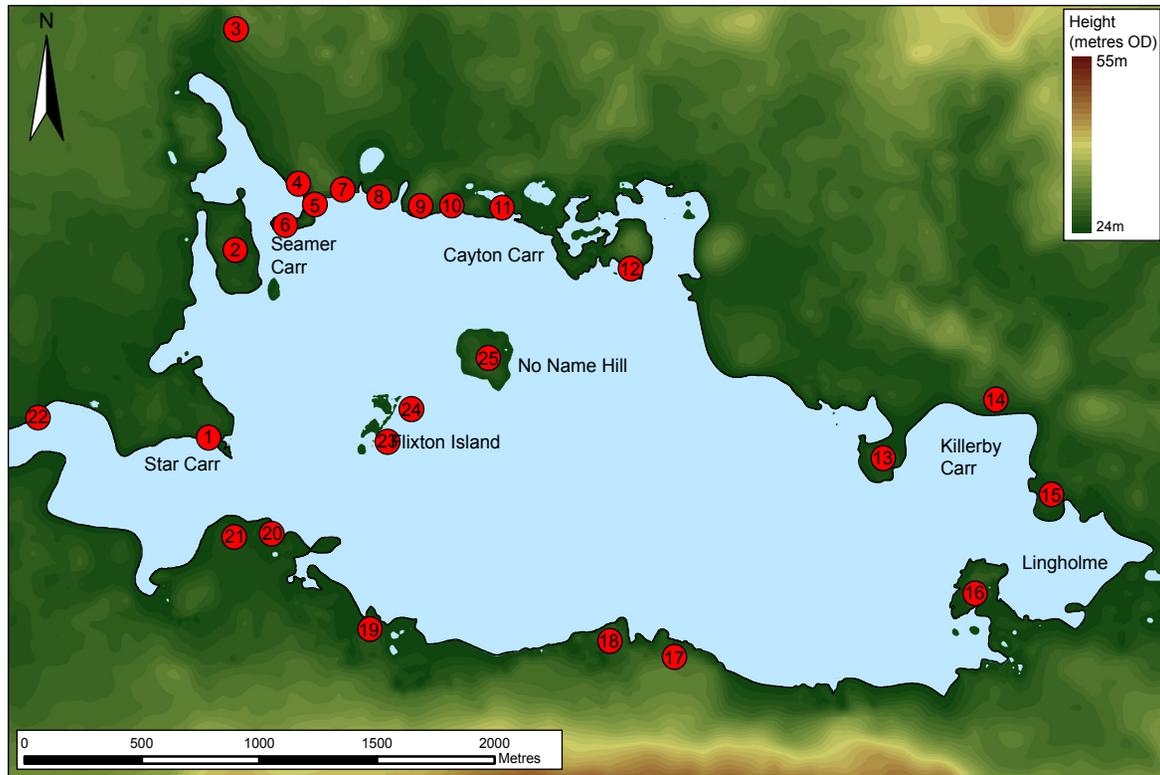


Figure 11.2: 1. Star Carr; 2. Ling Lane; 3. Seamer Carr Site F; 4. Seamer Carr Sites L and N; 5. Seamer Carr Site K; 6. Seamer Carr Site D; 7. Seamer Carr Site B (Rabbit Hill); 8. Seamer Carr Site C; 9. Manham Hill; 10–12. Cayton Carr; 13. Lingholme Site B; 14. Killerby Carr; 15. Lingholme Site A; 16. Barry's Island; 17. Flixton School Field; 18. Flixton School House Farm; 19. Woodhouse Farm; 20. VP Site E; 21. VP Site D; 22. Flixton Site 9; 23. Flixton Island Site 1; 24. Flixton Island Site 2; 25. No Name Hill (Reprinted from Milner et al. 2013b).

Six major lithic scatters of Early Mesolithic date have been identified at Seamer K (Figure 11.3). Scatter 5, though containing some Final Palaeolithic material from the adjacent scatter 4, is mainly Mesolithic in date and is probably the densest Mesolithic scatter on the site. A wide range of activities appear to have occurred here. Burins were made, used and resharpened (14 burins, 36 burin spalls), mainly in the eastern part of the scatter. A total of 24 scrapers were recovered and two awls. Microlith manufacture and retooling was also a major task with equal numbers of microliths and microburins ($n=12$) forming a discrete cluster within the south-eastern part of the scatter and refitting to two imported till cores. Burnt flint is very common at 22.7% and not dissimilar to levels for the eastern structure at Star Carr (Chapter 8). No clustering can be discerned, possibly due to disturbance.

In contrast, scatter 30 in the western part of the site is highly specialised, focused on microlith production around a small hearth and dated to 9255–8625 cal BC (95% probability; HAR-5241 Conneller et al. 2016, figure 4). Here three cores were imported and used to produce microliths. Production was intense with 40 microburins recovered and 11 microburins fitting back into a single core sequence. Twenty-one microliths were also recovered, indicating repair of composite tools as well as production. Other tools are rare: a single notch could be related to haft production and two truncations could also have served as components in composite tools. This scatter is associated with poorly preserved faunal remains of which only a red deer humerus could be identified to species. Scatter 7 in the south-west of the site is similarly microlith dominated ($n=15$) though microburins ($n=6$) are rarer. Production/discard took place mainly in the western part of the scatter. Burins ($n=5$) and burin spalls ($n=7$) are also common. A broad range of other tools are represented at low levels: three scrapers, two truncations, an awl and a notch.

Scatter 2 in the north-west of the site consists of a small knapping scatter to the north of a small hearth involving the reduction of two beach pebbles. To the south of the hearth is a dump/cache of 16 exhausted or

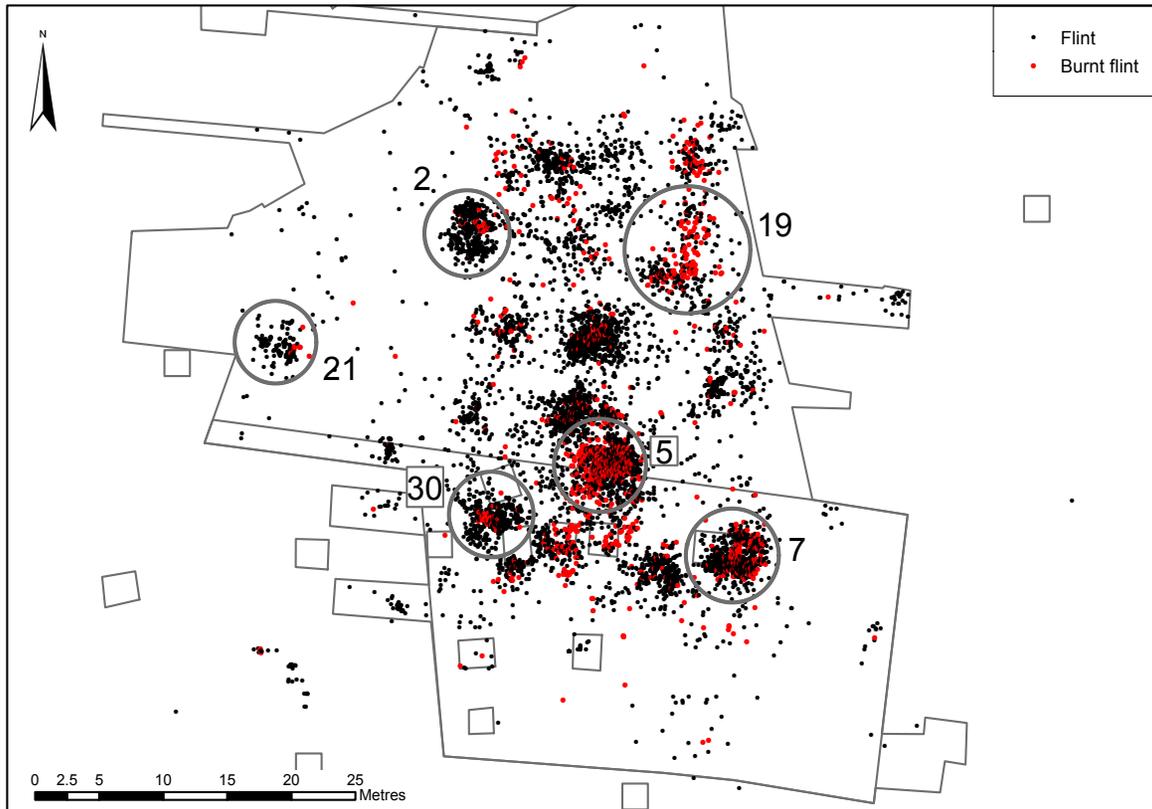


Figure 11.3: Early Mesolithic scatters (circled) at Seamer K (Copyright Star Carr Project, CC BY-NC 4.0).

flawed nodules and six unmodified nodules that are too small to be worked. Also present are a range of tools and debitage that were not knapped within this scatter. It is likely that scatter 2 represents a midden where material was cleared from the surrounding area. This scatter contains a worn core made of Scottish southern uplands chert, a rare possible instance of long-distance transfer of raw material.

More ephemeral activity is also represented at the site. Scatter 21 in the far west represents an isolated area where a small lithic assemblage of 158 pieces was recovered. Here a single nodule was reduced and tools made both for immediate use (scrapers) and for future use (microliths). This scatter does have a range of associated fauna: within the scatter is a cut marked goose bone; on the north-eastern edge was a large groove-and-splintered antler and an unmodified antler; to the north-west a red deer tibia and metatarsal.

Tool-use task areas can also be identified. In the north, the west and south-eastern parts of the site, areas of tool use are indicated by the absence of knapping debris and the presence of tools and large, edge-damage flakes and blades, such as a cluster of three scrapers associated with blades and fragments in the south-eastern corner of the site.

Site K is composed of a series of lithic scatters, indicative of a range of different tasks, some more specialised and intense, others more ephemeral and more generalised. There are no obvious refits between the Early Mesolithic scatters on the site, possibly indicating a lack of contemporaneity; we can instead imagine repeated occupation of this area for a variety of different purposes.

Seamer C

Seamer C is located around 250 m to the east of Seamer C. The site is also of mixed date containing both a Long Blade and an Early Mesolithic component. The Early Mesolithic material consists of two large scatters,

H and K, and two smaller scatters B2 and G (see Figure 11.4). Radiocarbon dates exist for scatters H, K and G. Radiocarbon measurements for scatter H and K, obtained in the 1970s, have large standard deviations. Bayesian modelling reveals that occupation of Seamer C was broadly contemporary with Star Carr and that it is likely to have been visited on more than one occasion (Conneller et al. 2016, figure 4).

Scatter H can be divided into two sub-scatters: a northern and a southern one. The southern scatter is 4.5 m in diameter and has a very pronounced edge, suggesting it was enclosed by a boundary, either a tent or built structure (Figure 11.5). Within this a tight, central cluster of burnt flint can clearly be discerned that is likely to indicate a hearth. Adjacent to this are two clusters of flint likely to represent knapping scatters. This spatial integrity suggests a relatively short-lived structure.

Within this possible structure large quantities of scrapers were recovered: 71 examples were recovered with quantities of other tools low. A total of 11 microliths were recovered along with a microburin, a single burin and two burin spalls. Refitting demonstrates that many of the scrapers were manufactured here. This appears to be an area intensely focused on a specific task. The northern scatter by contrast is almost entirely focused on knapping with only a couple of scrapers and burins associated (Conneller and Schadla-Hall 2003). Fauna is sparse consisting of a handful of unidentifiable fragments.

Only 4 m to the north of scatter H is a small scatter, B2. This also can be broken down into two sub-scatters, a northern and a southern one. Within the northern scatter is a cluster of 20 aurochs bones, most within a 2 m area, with meaty limb bones well represented as well as mandibular fragments; pieces that might need processing for marrow (Uchiyama 2015). This area also yielded two microliths and a small knapping scatter consisting of the reduction of a nodule(s) of Wolds flint. The southern sub-scatter of B2 is more diffuse with more tools: a burin and three burin spalls, two awls and two scrapers attest to its use for craft activities.

Scatter K is located in the central part of the site (Figure 11.4). This is an area that has been disturbed and a number of tree-boles were recorded. This disturbance is reflected in the spatial distribution and stratigraphic reversal of radiocarbon dates. The scatter is characterised, as was scatter H, by the focus on scraper production

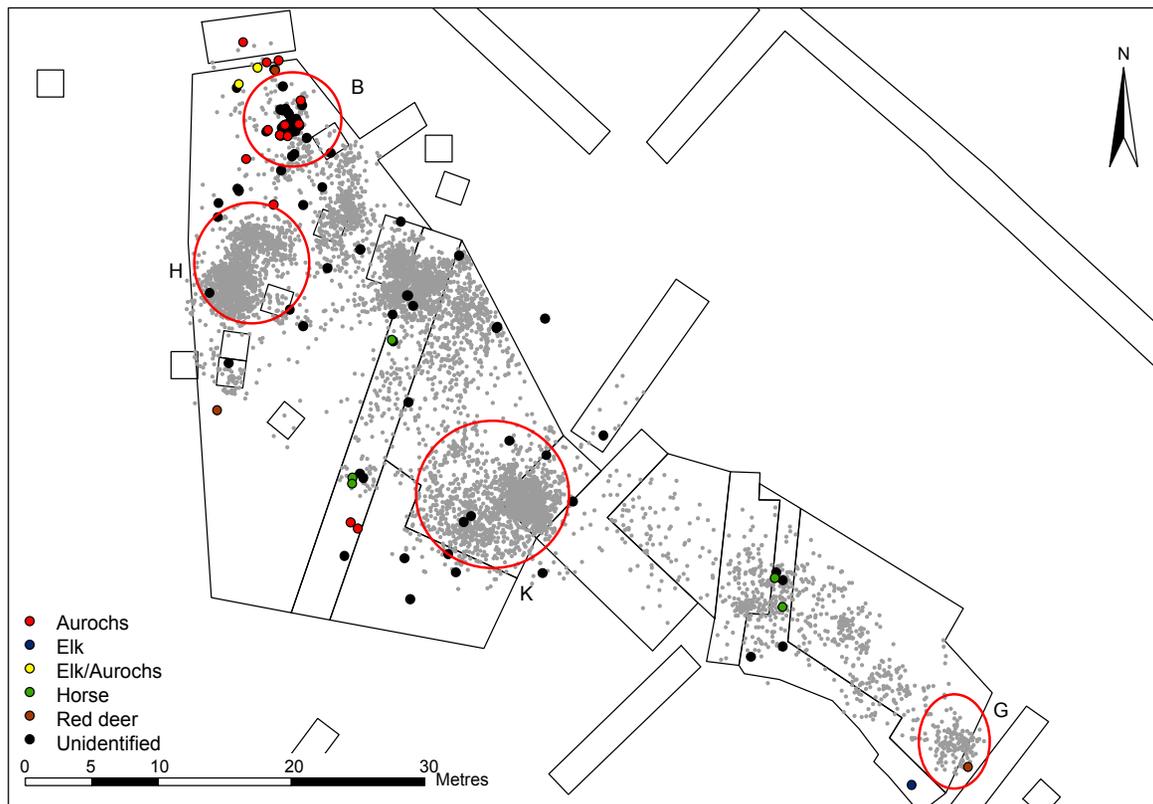


Figure 11.4: Plan of Seamer C, showing faunal remains (Copyright Star Carr Project, CC BY-NC 4.0).

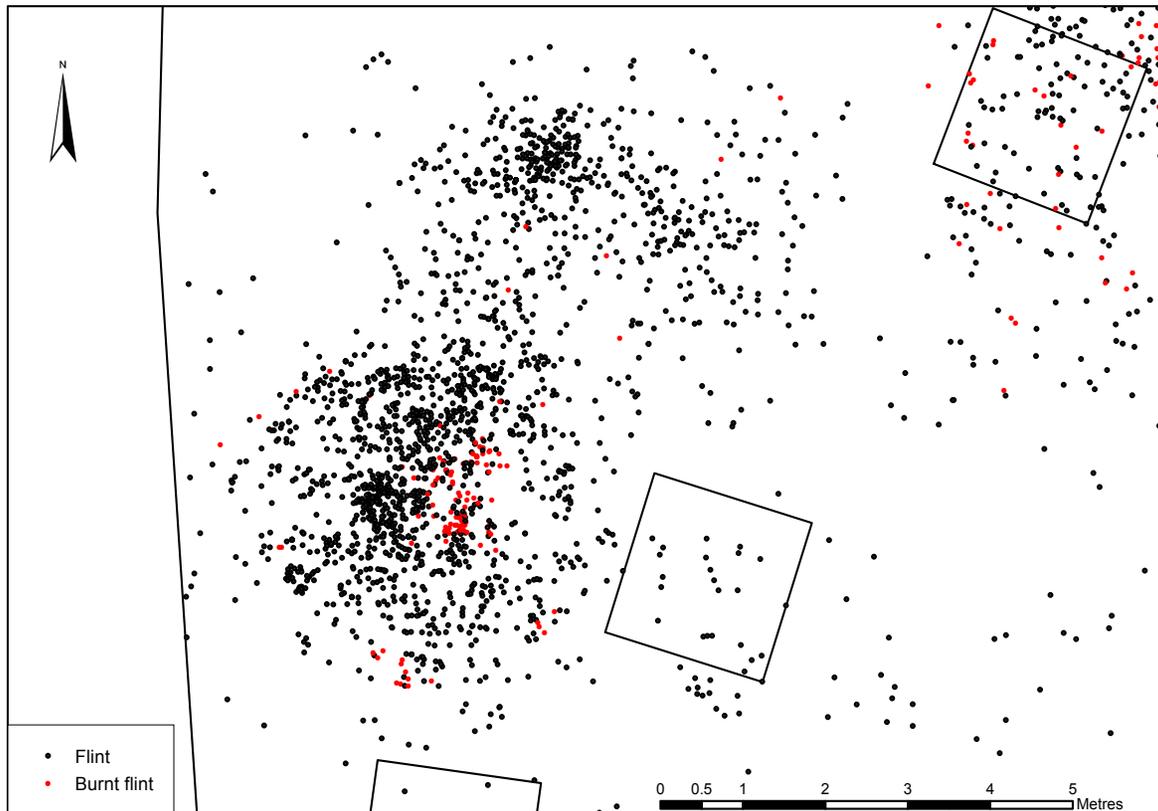


Figure 11.5: Possible structure at Seamer C, scatter H (Copyright Star Carr Project, CC BY-NC 4.0).

with 36 examples found in a 3.3×2 m area. Other tools are similarly rare with only three microliths and a burin found in the same small area. The similarity in composition of the Scatter H and K assemblages and the presence of three refits between the two scatters may suggest that they are broadly contemporary. The major difference between the two scatters is knapping quality. Scatter K is produced on extremely poor quality raw material and possibly by inexperienced knappers.

Finally at the eastern end of the site is scatter G, another small scatter. This scatter consists of several small scatters of lithic debris associated with small numbers of scrapers and microliths. Scatters of animal bone were also found here, with red deer and elk both identified. There is no evidence to suggest this scatter is contemporary with others at the site.

Lake Flixton: northern shore

Several smaller excavations in the Seamer area and further to the east located Mesolithic material on the northern shore of Lake Flixton. In general this is known only from small test pits and is poorly dated. However, all are potentially contemporary with Star Carr on typological grounds. In the Seamer area, Seamer L is a small lithic scatter of mixed date containing both Long Blade and Early Mesolithic material. The Mesolithic material suggests an area focused on microlith production and re-tooling. Seamer D is another small scatter located on the West Island peninsula consisting of 214 lithic artefacts. No radiocarbon dates are available but on stratigraphic grounds it is likely to be broadly contemporary with Seamer C and K. Flint knapping including the production of microliths and the use of imported scrapers took place around a hearth. To the north-west of the hearth was a cache of flint nodules found placed in a small pile of around 0.4 m diameter (Figure 11.6). All are tested or partially reduced; none are substantially worked. This seems to be a cache for raw material very similar to the AC8 cache found associated with tree roots at Star Carr (Chapters 8 and 35). The nodules at Seamer D are very similar

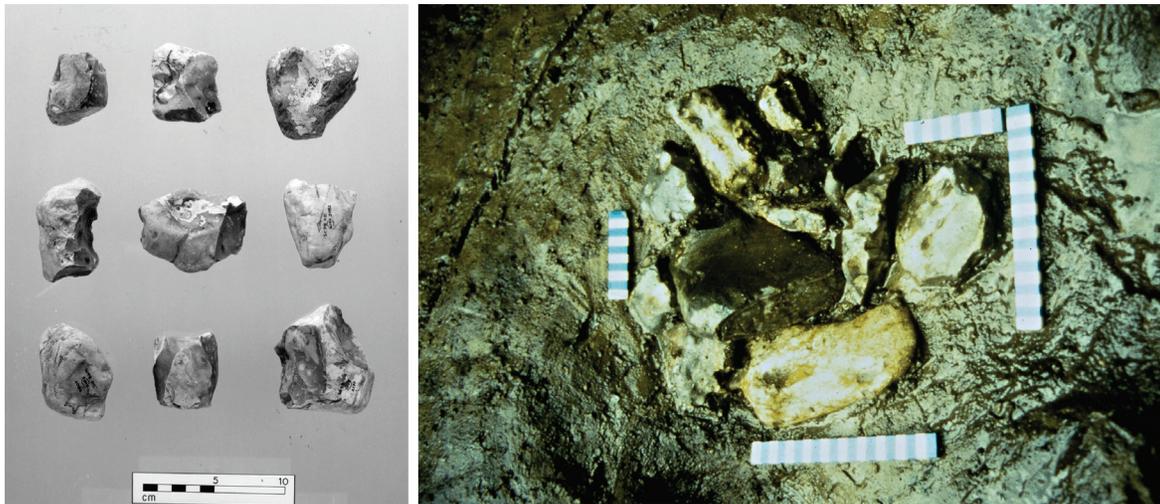


Figure 11.6: (left) Slide of nodules from Seamer D cache; (right) slide of the Flixton School cache (left: Copyright Gwil Owen, CC BY-NC 4.0; right: Copyright Vale of Pickering Research Trust, CC BY-NC 4.0).

raw material types, though unlike Star Carr there is no evidence they refit. Beyond the Seamer area, to the east at Cayton Carr, further Mesolithic material was recovered. In general this area did not seem to see much occupation; the greatest concentration of lithic and faunal material encountered was not in primary context but instead redeposited by a stream. Finally in the easternmost part of the northern shore material was recovered from Lingholme Farm. This is mainly a fieldwalked assemblage with both Early and Late Mesolithic material represented.

Lake Flixton: southern shore

Four sites have been located along the southern shore of Lake Flixton, immediately opposite Star Carr. The most westerly of these, VPD, consists of a 20 m² area, and two adjacent 2 m² test pits excavated in 1986 and 1988. These excavations located the northern part of an extremely dense lithic scatter, one of the densest in the Vale, and is thus likely to be an area of some significance. A cluster of burnt flint indicates a hearth on the southernmost edge of the trench. Fauna was present, of which 33 pieces could be identified to species: red deer and roe deer dominated but isolated elements of aurochs, elk, wild boar and wild cat were also present; an extremely diverse range for such a small area. The lithic assemblage is dominated by microliths (n=33) (one of which refits into a core sequence), though burins (n=11) and scrapers (n=16) are also well represented, with awls (n=2) and truncations (n=4) rarer. Retouched and utilised flakes and blades are well represented (n=94). Tool manufacture seems to have been a major task: microburins (n=34) and burin spalls (n=25) were recovered. Wolds material and some small till pebbles were worked but large blades also seem to have been imported to the site. There is some spatial variation evident with more varied activities carried out in the larger excavated area, and greater focus on microlith production in test pit VPQ, around seven metres to the south-west. 150 m to the east of VPD is VPE, another series of 2 m² test pits which located a series of relatively low-density lithic scatters. The largest of these, test pit VPJ yielded three microliths, three burins and a scraper.

Just over 1 km to the east is Flixton School House Farm where evidence of both Early and Late Mesolithic activity has been recovered. In 1999 a test pit located aurochs remains from a small, peat-filled hollow at the site. Later excavations uncovered a discrete area of activity directly adjacent to the hollow including substantial quantities of flint, posthole arrangements and intentionally constructed hollows (Taylor and Gray Jones 2009). Further excavation was also undertaken in the hollow with the aurochs remains but failed to uncover any further archaeological material, indicating the initially recovered faunal material was a single, discrete episode of deposition (Overton and Taylor forthcoming). Whilst attempts to directly date the bones failed, a pollen profile from the same trench (Cummins and Simmons 2013) places the deposition of the assemblage well before the expansion of hazel, dated locally to 8300–7780 cal BC (8940±90 BP, OxA-4377) (Mellars and Dark 1998).

The faunal assemblage formed a discrete deposit, less than 0.3 m across, with many elements in close association; macro-botanical analysis indicates the deposition was into a shallow pool of water amongst beds of *Phragmites* reeds and sedges (Taylor 2012). The faunal assemblage is comprised of three aurochs thoracic vertebrae, thirteen ribs, six from the left side of the body and seven from the right and a fragment of the right pelvis (Overton and Taylor forthcoming). These remains were originally considered to be an articulated portion of an animal; however, closer analysis indicates this is not the case. The morphology of the ribs indicates they originated from both the front and back half of the rib cage (see Figure 11.7) and whilst the three thoracic vertebrae

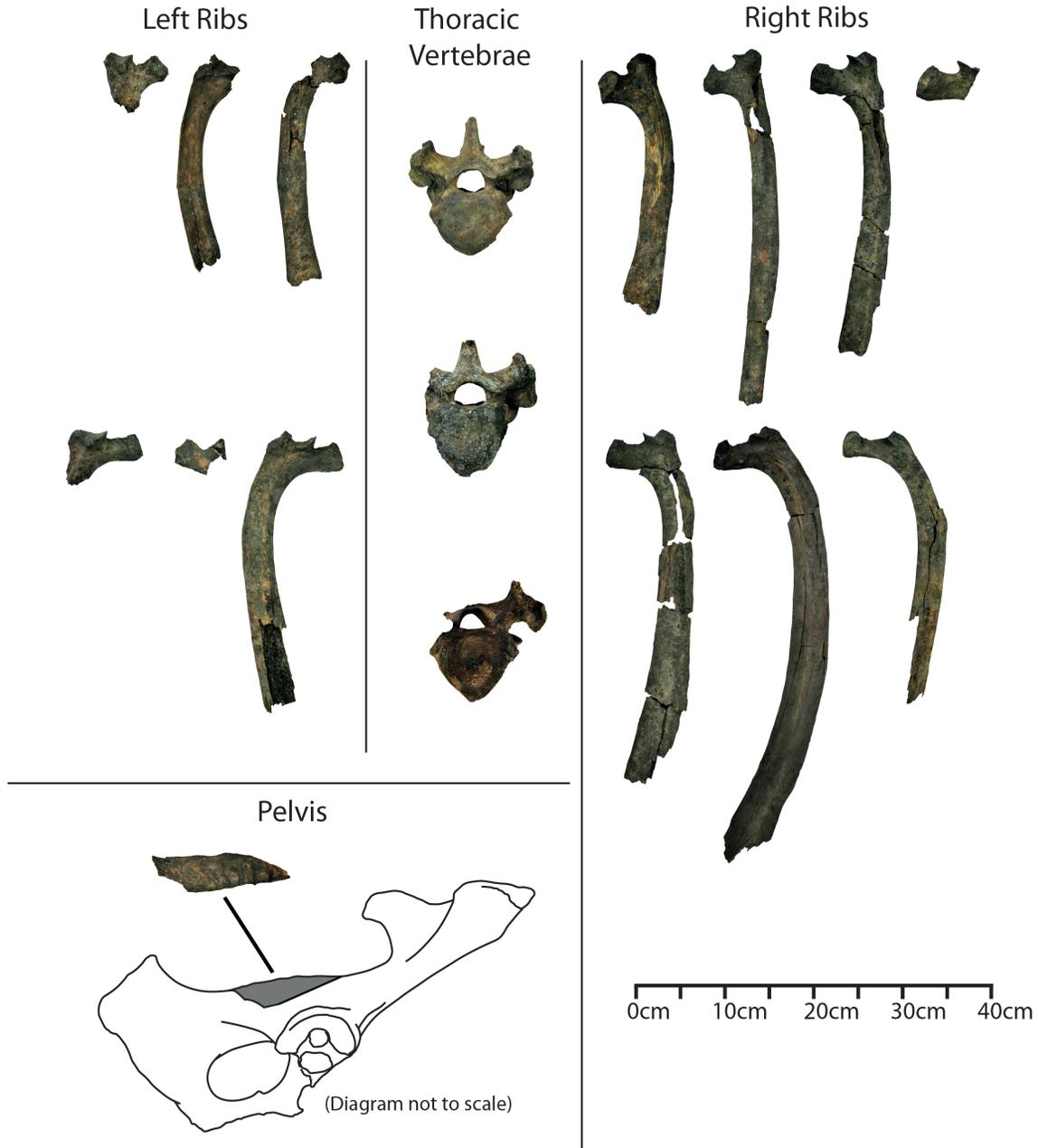


Figure 11.7: The Flixton School House Farm aurochs assemblage (Copyright Nick Overton, CC BY-NC 4.0).

may have been articulated and supported three pairs of the ribs, there is clearly still an over-abundance of ribs from other parts of the individual. Furthermore, the fragment of pelvis originates from a skeletal element that does not articulate directly with either the ribs or thoracic vertebrae; in both cases they are separated by the lumbar vertebrae and sacrum. Therefore, this represents a collection of skeletal elements from across a broad area of the skeleton. Given the watery context, it is unlikely this represents the remains of in situ butchering but instead can be considered as remains gathered together from a potentially larger assemblage and intentionally deposited together. Furthermore, given the close spatial proximity of these elements, they may have been wrapped up together or deposited in a bag (Overton and Taylor forthcoming), akin to discrete depositional practices evidenced at Early Holocene Danish sites (Leduc 2014b; Jessen et al. 2015; also Chapter 12).

Around 250 m to the east, situated on the adjacent peninsula, is the site of Flixton School Field. Here a series of test pits yielded Mesolithic material that on typological grounds represent a range of dates. Two adjacent dryland to wetland trenches OH and OI yielded moderate assemblages of flint; OH dominated by scrapers and OI by microliths. Both had wetland portions dominated by tools and larger utilised pieces where animal bone was common. A cache of five cores and tested nodules was located in the wetlands on the eastern edge of OI, extending into the section (thus possibly part of a larger cluster). This cache was located amongst lithic and faunal material; however, a second cache recovered from test pit PB was found isolated from other finds (Figure 11.6). This cache consisted of 12 extremely large but poor-quality nodules collected both direct from the till and from the beach.

Barry's island is the most easterly of the southern shoreline sites. A large assemblage of flint and animal bone was recovered from a series of test pits along the shore of the island excavated between 1992 and 1996. This site has been reported in the literature as a basecamp based on its faunal assemblage (Rowley-Conwy 1994; Uchiyama 2015). However, the evidence is very clear that the vast majority of material from this site was redeposited by a stream channel (as previously reported by Conneller and Schadla-Hall 2003). The wide scatter of radiocarbon dates reveals that the stream has redeposited material from a number of sites from a range of different periods spanning the late Palaeolithic to Late Mesolithic with the majority of the material dated belonging to the Late Mesolithic. The vast majority of the lithic material is heavily worn, compatible with water action. The only clearly in situ area is the lower contexts of trench LAO, where a refitting assemblage reveals decortification of several large nodules and shaping of material into preforms; in other words, a specialist task area located in reedswamp at the water's edge.

Lake Flixton Islands

Two islands were located in Lake Flixton: Flixton Island (consisting of two sites, Flixton 1 and 2), and No Name Hill. Flixton 1 was first excavated by John Moore between 1947 and 1948. A long trench across the gravel island located two areas of high lithic densities divided by a channel creating northern and southern areas. Several hearths were located within the scatters. Moore noted differences between the microlithic component of the two areas and suggested that the northern one might be earlier. Certainly the presence of more elongated obliquely blunted points than typical for the area may support the idea of chronological differences. Overall the assemblage is dominated by scrapers (n=165), though microliths are also common (n=78), and burins rather rarer (n=19). Microlith production occurred on the island, as did the rejuvenation of the two axes recovered. Utilised flakes and blades are common (n=185) and awls were also recovered, including the classic *mèche de foret* form found at Star Carr (Moore 1950). Fauna was relatively sparse though a barbed point was recovered. In all, the impression is of varied activity areas with some temporal depths.

Further excavations by the Vale of Pickering Research Trust across Flixton Island in 1986–1987 and 1993 located high densities of flint in test pits in the immediate area of Moore's trench. Test pit AH, only 0.8 m to the west of Moore's trench yielded a similarly dense flint scatter, evenly balanced between scrapers and microliths. Burins were similarly rare and axe resharpening was also noted. By contrast test pit AC to the south-west was dominated by burins but microliths and scrapers were rare, though microburins indicate that microliths were produced here. To the east of Moore's trench notable densities of flint were also present in test pit AJ.

No Name Hill is located to the east of Flixton Island, surrounded by some of the deepest water in Lake Flixton. A test pitting campaign in the late 1980s and early 1990s delineated the shoreline of the island, while fieldwalking and test pitting revealed that occupation on the top of the island, away from the shoreline, had been destroyed by ploughing. A radiocarbon date on a fragment of worked antler at the base of a sequence

of deposits containing worked Mesolithic flint gave a date of 9160–8700 cal BC (Beta-104484, 9530±60 BP) (Cummins 2003). Of the small 2 m² test pits excavated along the shoreline, most yielded very small assemblages. Unit NC on the south-west shore was the only exception, with 385 pieces; a moderate-sized assemblage for this size test pit. Awls, microliths and scrapers were all represented and burin manufacture and resharpening was undertaken. Test pit BJ with 149 pieces of flint, including an awl and two scrapers is located on the western shore of the island. Nearly half of this assemblage was burnt, indicating the presence of a hearth. Other test pits yielded assemblages that are indicative of more ephemeral tool-use areas, lacking small debitage and burnt flint and characterised by high percentages of utilised pieces and formal tools. Many of these were recovered from the northern shore of the island, near to the water's edge. The evidence indicates that activities on the island were only ever small-scale, focused on low-level flint knapping and tool-use activities.

Star Carr and the Vale of Pickering

It is evident that Lake Flixton was a major focus of activity in the Early Mesolithic. Sites are numerous and there is evidence for considerable temporal depths. There are similarities between Star Carr and the other Mesolithic sites in the Vale. We see similar patterns of caching till flint nodules, as well as the association of wetland areas with tool-use assemblages. However, there are also differences. Many of these are likely to be amplified by the differential focus on Star Carr and the large areas excavated. Star Carr certainly seems different from the large open-area excavations at Seamer, but other sites which have had more spatially restricted excavation may be more similar.

Overall, many of the sites around Lake Flixton are characterised by more specialised occupation; for example, the intensive production of microliths or scrapers. Such areas are missing at Star Carr, either never present or elided by repeated reoccupation. Star Carr also seems to have more evidence of site maintenance: the middening of material, the clearance of material from structures and the scavenging of usable flint during later occupations; this is relatively rare elsewhere. There appears to have been a small midden present at Seamer K, scatter 2, though the coherence of material deposited on it argues for a relatively short use. The assemblage from the possible structure at Seamer C, scatter H, is coherent, focused on scraper production, refits well and does not seem to have undergone clearance. Structures are also rarer elsewhere with this example from Seamer C the only possible comparator. Neither postholes nor a central hollow were noted here suggesting it may have been a lightweight tent-like structure.

It is more difficult to comment on patterns of animal deposition, one of the major features that marks out Star Carr as special (Conneller and Schadla-Hall 2003; Conneller 2004). The artefacts made from antler that are so common at Star Carr are rare or absent elsewhere. No further frontlets are found beyond Star Carr and barbed points are rare, with three examples found at No Name Hill and one at Flixton Island. There are wetland areas beyond Star Carr that saw the deposition of animal bone such as Flixton School Field OH/OI and there are even instances of patterned deposition of fauna such as the aurochs described for Flixton School House Farm but thus far the intensity appears much less. However, this is an issue that is likely to have been affected by the VPRT sampling strategy where the majority of test pitting has occurred at the 24.5 m OD contour, rather than the submerged areas where this material is concentrated. To date, Star Carr clearly stands out in terms of its longevity and the intensity of deposition of animals and special artefacts; however, this is a situation that may change with further fieldwork around Lake Flixton.

Northern England and beyond

Introduction

Both Star Carr and Deepcar sites are found elsewhere in Northern England. Beyond the Vale of Pickering, Star Carr sites are relatively rare, consisting of Pointed Stone 2 and 3 in the North York Moors, Warcock Hill South/Turnpike and Rushy Brow in the Pennines and Manton Warren I and V and Manton Pond on the Lincolnshire Edge. Deepcar type sites are more common, being widespread across the Pennines, on the North York Moors, the Vale of Mowbray and the Lincolnshire edge. Unfortunately all these sites are undated or are associated with legacy dates that can at best be considered *termini post quos* (Conneller et al. 2016, table 1). In

Scotland, typologically Early Mesolithic material is either undated or has yielded surprisingly late dates. None of these dates can currently be relied upon: for example, the date from Morton A representing a measurement on bulked charcoal from a site with both typologically late and early material. These potentially early sites in Scotland (Morton A, Glenbatrick Waterhole and Lussa Bay) have often been compared to Star Carr type sites; however, these are dominated by triangles which are not typical for these industries. The undated broad microlith assemblage from the base of An Corran in Skye is probably most similar to a typical Star Carr type assemblage. This might make sense if the northern Star Carr groups in the north were moving along the early postglacial shoreline but currently the chronological position of these industries remains to be confirmed.

The North York Moors

In 1972, despite the fact that no Early Mesolithic sites were known from the North York Moors, Clark suggested that the people who wintered at Star Carr followed their prey and spent their summers on these uplands. In 1978 Jacobi provided support for Clark's hypothesis; the sites of Pointed Stone 2 and 3, located 20 m apart on the eastern flank of Bilsdale Moor East at 410 m OD, excavated by himself and Mr and Mrs Taylor. Both are Star Carr type assemblages characterised by similar typology and raw material use to Star Carr itself (Jacobi 1978). These two sites had a high proportion of microliths and microburins, while percentages of other tools were negligible. Jacobi suggested, again on the basis of putative red deer movement (for fauna was not preserved on either site) that the uplands would have been primarily exploited in the summer months. Such arguments were linked also to the contrasting composition of the assemblages at Star Carr and the Pointed Stone sites. Large numbers of burins (presumably tools for the manufacture of antler point blanks) were found at Star Carr; while only one dubious burin fragment was recovered from the upland sites. Since red deer shed their antlers in April, Jacobi equated the lack of burins at Pointed Stone with a lack of available raw material, thus placing occupation in the summer and so suggesting that the upland sites may have represented part of a complementary settlement system with Star Carr.

The Pennines

Mesolithic material has been recovered from the Pennines since the late nineteenth century and this rich history of excavation continues to the present day. Unfortunately much of the Pennine material is poorly dated. The area was the focus of Jacobi and Switsur's radiocarbon programme in the 1970s when archived charcoal from Francis Buckley's excavations in the 1920s was dated (Switsur and Jacobi 1975). Unfortunately the majority of conventional dating at that time required large quantities of bulked charcoal, which often could not be identified to species, so the dates acquired must be considered at best *termini post quos*. As a result it is impossible to state for certain that the Pennine assemblages are contemporary with Star Carr, though on typological grounds it is highly likely that at least some of them are.

Both Star Carr and Deepcar type assemblages are present in the Pennines (Radley and Mellars 1964). Published Star Carr type sites are known from Warcock Hill South/Turnpike, West Yorkshire (Stonehouse 1992), and at Rushy Brow, Anglezarke Moor, Lancashire (Howard-Davis et al. 1996). Major Deepcar type assemblages are represented at the sites of Warcock Hill North (Stonehouse 1992), Lominot sites 2, 3 and C (Spikins 1999), Windy Hill 3 and Deepcar itself (Radley and Mellars 1964); all in, or near, the Pennines. In their original articulation of the differences between Star Carr and Deepcar type assemblages, Radley and Mellars (1964) highlight the differential raw material use of the two groups, with Star Carr assemblages characterised by the use of east coast till flint and Deepcar assemblages by opaque white Wolds flint (Radley and Mellars 1964), though chert was employed to produce the majority of the assemblage at the more recently excavated site of Rushy Brow (Howard-Davis 1996).

The distribution of Star Carr sites currently appears more restricted than Deepcar sites, being only found in the area of Warcock Hill south and in the Anglezarke Uplands. At Warcock Hill are the sites of Warcock Hill South and Turnpike. Warcock Hill South was excavated by Francis Buckley who recovered at least 714 pieces of lithic material. The majority of the material was recovered from an area of four square yards, and also small patches near this concentration, though a small group of tools and debitage was located 50 yards from the main site and Star Carr type material was also recovered from exposed surfaces within 400 m of the

site (Buckley 1924). The Turnpike site may represent one of these smaller concentrations (Stonehouse 1992). Turnpike was excavated in 1973 by Pat Stonehouse, who recovered 1688 pieces from a concentration measuring about 53 m². Both Warcock Hill South and Turnpike reveal similar raw material quantities (Table 11.1). Translucent flints dominate, with smaller amounts of Wolds material and black chert. Both sites are microlith dominated though microburin ratios vary dramatically. At Turnpike, microburins outnumber microliths, indicating extensive manufacturing activities. At Warcock Hill south the ratio is 21:9. This may reflect different excavation standards or may be a real pattern, picking up different activity areas along the ridge. Both sites have smaller quantities of other tools (Table 6.2). Scrapers, truncations and *mèches de foret* are fairly equally represented at Turnpike, while scrapers are more common at Warcock Hill south, though two truncations, two *mèches de foret* and a burin are also represented.

By contrast the tool assemblage recovered from Rushy Brow is dominated by microliths (Table 11.2), while large numbers of microburins indicate manufacture of microliths and repair of composite tools. The site is located on Anglezarke Moor, a western outlier of the Pennine chain, and is situated with unimpeded views over the southern Lancashire Plain (Howard-Davies 1996). The lithic scatter was associated with a semi-circular stone setting c. 1.5 m in diameter which may represent a windbreak. Though some glacial till flint was used, it represents only 3.2% of the entire assemblage (13 pieces). Of these, seven are microliths and another, an utilised flake, indicating transportation of this material as finished tools. Gearing up and replacement of broken till microliths took place using relatively poor quality Pennine chert, as indicated by microliths and microburins of this material. Thirteen cores of chert were recovered, all still relatively productive, suggesting either caching or that this material was insufficiently valued to be curated and transported elsewhere. If the Pennine sites and the sites in the Vale of Pickering are part of a single system of mobility (or exchange), it is telling that though till flint is imported to the Pennines, Pennine chert certainly does not return to the Vale. A notable find at Rushy Brow, and one that potentially connects the site to Star Carr, is a shale bead, found in four fragments (see Chapter 33).

Deepcar type assemblages are more common in the Pennines. Several of these were also excavated by Francis Buckley. Lominot 2 and 3 appear to have consisted of adjacent scatters or 'two round emplacements' (Petch 1924), although possibly representing a single occupation. Though microlith dominated, these two scatters also yielded a variety of different tool types, scrapers in particular being relatively common (see Table 6.1), while cores and microburins demonstrate core reduction and microlith production activities. Further small-scale excavation at Lominot (site C) was undertaken by Penny Spikins as part of the March Hill Mesolithic project (Spikins 1999), where a 15 m² trench surrounded by additional test pits were excavated. The material recovered was of mixed Early and Late Mesolithic date but differences in raw material use mean some Early Mesolithic activities, involving microlith production and burin use, could be discerned. Raw material quantities appear

Site	Wolds%	Till Flint%	Chert%
Deepcar type			
Deepcar	95.9	0.6	3.5
Lominot 2 and 3	92.0	5.0	1.0
Pike Low I	99.2	0.8	0
Pule Hill Base	94.0	4.5	0.7
Warcock Hill North	97.0	2.0	1.0
White Hill I	95.0	5.0	0
Windy Hill	94.0	2.0	4.0
Star Carr type			
Rushy Brow	0	3.5	96.5
Turnpike	4.2	80.3	10.2
Warcock Hill South	10.0	85.0	5.0

Table 11.1: Proportions of raw materials at Pennine Early Mesolithic sites.

Site	Assemblage type	Microliths	Scrapers	Burins	Axes	Saws	Microburin ratio
Warcoock Hill S.	Star Carr	61.8	35.3	2.9	0	0	0.43
Turnpike	Star Carr	76.7	16.7	0	0	6.7	1.04
Rushy Brow	Star Carr	100	0	0	0	0	0.4
Deepcar	Deepcar	58.6	31.9	6.9	0.9	0.9	1.42
Lominot 2	Deepcar	52.5	36.8	10.5	0	0	–
Lominot 3	Deepcar	58.6	41.4	0	0	0	–
Pule Hill Base	Deepcar	76.2	16.9	0	0	6.9	0.04
Warcoock Hill N.	Deepcar	60.1	32.3	5.1	0	2	0.37
Windy Hill	Deepcar	50.8	36.9	12.3	0	0	0.69

Table 11.2: Essential tool frequencies of key Pennine Early Mesolithic assemblages.

similar in all three Lominot scatters: Wolds material dominates, with a smaller percentage of clear brown flint. However, chert which was present in very small quantities at Lominot 2 and 3 is absent from trench C.

Other nearby sites of Deepcar type include Pule Hill Base and Windy Hill, situated roughly two miles south and north respectively of Lominot. Pule Hill Base was excavated in 1983 by Pat Stonehouse. This excavation yielded a large and dense assemblage of 7439 pieces of flint. Though proportions of the different raw materials (see Table 6.2) were remarkably similar to those of Lominot 2 and 3, activity patterns were rather different. Pule Hill Base is microlith dominated, though scrapers are also common (see Table 6.1). The assemblage is unusual in that though 99 Deepcar type microliths were recovered, the site yielded only four microburins. The deposition of microliths at the site thus appears unrelated to their manufacture, and if they represent pieces discarded during retooling, the replacement elements must have been manufactured elsewhere. The microliths may well represent cached material.

Windy Hill, a site excavated by Francis Buckley in 1922–3, represents a more balanced industry (Table 6.1). Though microliths again dominate, scrapers are common and burins more frequent than at other Pennine sites. The ratio of microliths to microburins is also more balanced indicating on-site microlith manufacture as well as deposition. Again raw material proportions are very similar to the other Deepcar type sites (Table 6.2), with Wolds material dominating and smaller amounts of brown translucent flint and minimal quantities of black chert.

Finally, around 30km to the south-west of the Central Pennine cluster, on the Pennine edge, is Deepcar itself. Located at c. 150 m OD on a spur overlooking the confluence of the rivers Don and Porter, the site was excavated in 1962 (Radley and Mellars 1964). Here three hearths were located, partly surrounded by exotic stones. A line of water-worn quartzite pebbles formed a line to the north of the hearths, while an arc of rounded grit-stone on the edge of a hollow encircled two of the hearths. This may represent a dug feature or an elaborated natural hollow. Given that quarrying truncates this possible feature and areas of disturbance, it is difficult to understand the significance of this evidence. A series of tent rings with associated stones scavenged to create hearths appears likely, though a dug structure or elaborated natural feature is also possible.

The area of the hollow corresponds with the greatest concentration of lithic material. In all an extremely dense assemblage was recovered numbering over 23,000 pieces from an area of 70 m². Activities appear focused on microlith production with microburins very common, as were microliths (68 examples, almost all broken). Other tools are rarer: 37 scrapers, 21 notches and eight burins. The assemblage is dominated by Wolds material indicating connections to the east. All evidence suggests Deepcar is a camp dedicated to gearing up for hunting activities, probably accompanied by hide processing. The lithic densities and arrangement of stones suggest a repeatedly occupied camp.

Early Mesolithic Deepcar sites are generally much larger in size than Later Mesolithic activity sites. Pule Hill Base has been estimated at 250 m² (Stonehouse 1992) and appears to represent one super-dense concentration of material spreading outwards. Lithic production appears so frequent an activity at the site that individual knapping scatters have been obscured. Stonehouse (1992) notes that this type of site may not be unusual, as

several such sites (i.e. Pule Hill North, White Hassocks I and II and Windy Hill) have yielded lithic artefacts in their thousands. The Star Carr type sites appear to be configured rather differently: Warcock Hill South (at 4 square yards) and Turnpike (at 53 m²) are smaller than many Deepcar sites, less dense and appear to represent a series of synchronic or diachronic activity areas along a ridge. This pattern is similar to the Star Carr type sites in the Vale of Pickering (excepting Star Carr) and on the North York Moors. Here large, dense sites such as Star Carr and Flixton 1 are rare and even these are not as dense as the central part of the Pule Hill Base site. The pattern of activity is more typical of small, discrete knapping scatters and activity areas. This distinction is likely to have bearing on the different ways in which lithic-focused activities were organised in the landscape and in relation to occupation sites.

Though the Pennine sites are microlith dominated, their status as 'upland hunting camps' is not unproblematic. A broad range of other tools are also represented and though such incidences are usually explained as 'boredom reducing activities' whilst awaiting prey (e.g. Legge and Rowley-Conwy 1988), the activities represented in the Pennines appear more substantial than other potential hunting camps (e.g. Barton et al. 1995). If differential resharpening practices are taken into consideration (Myers 1986), most of the assemblages discussed appear more balanced between scraping tools and the cutting/piercing tools represented by the microlithic components. Scrapers are particularly abundant at several of the sites discussed (see Table 6.1) and are also found in large numbers at Pike Low 1 (Radley and Mellars 1964) and Waystone Edge Hassocks site 1 (Stonehouse 1992). Burins are rarer, with Windy Hill being a notable exception, though this is the case for almost all Early Mesolithic sites except Star Carr. However, this may be particularly true of the Pennine Early Mesolithic, a fact noted by Petch (1924, 19).

The Pennine sites thus appear to represent visits from relatively substantial groups associated with the procurement and subsequent processing of particular resources, possibly occurring at a particular season of the year. Jacobi (1978) argues that sites lacking burins may represent summer activities when antler was not available. However, burins are present in numbers at Windy Hill and a certain amount of variability is present in the manufacturing and depositional activities represented at the Pennine sites. These sites are thus unlikely to represent an inflexible set of activities or 'site type' which was part of an unchanging seasonal round.

Early Mesolithic settlement in Northern England

Early Mesolithic upland sites in the Pennines and the North York Moors have frequently been described as summer hunting camps (Clark 1972; Jacobi 1978; Smith 1992; Rowley-Conwy 1994; Donahue and Lovis 2006). This originally derives from the work of Clark (1972) who borrowed the seasonal transhumance models of his Cambridge colleagues to describe Star Carr within its broader seasonal round. Mesolithic people, he argued, would follow their main prey animal, red deer, on its seasonal migration to the uplands. As such, in the following decades upland sites became relegated to logistical satellites of Star Carr.

In the same way that Clark's pioneering work on seasonality and site function focused subsequent interpretations on similar themes (see Chapter 2), so Clark's model of seasonal mobility has spawned seasonal settlement models of increasing complexity, but all based on the same premise: that Mesolithic people were seasonally mobile and replicated a single mobility pattern throughout the Early Mesolithic. However, the relationship of upland sites (as well as the remainder of the sites in the Vale of Pickering) to Star Carr very much depends on interpretations of what Star Carr actually represents; so for those who saw Star Carr as a winter base camp, small sites dominated by microliths in adjacent upland areas could be interpreted as summer hunting camps to form a neat, coherent seasonal round. Jacobi's (1978) observation that the same till flint sources were employed in the Vale of Pickering as well as at Star Carr type sites on the North York Moors and the Pennines reinforced a sense that these sites were connected.

However, if Star Carr represented neither a base camp nor a winter settlement, the nature of the upland sites as well as the remainder of the sites in the Vale of Pickering became more problematic. More recent work has also indicated red deer are unlikely to have undertaken upland migration during the Early Mesolithic and, in any case, they were not the dominant meat source (Caulfield 1978, Legge and Rowley-Conwy 1988). Interpreting Star Carr as a summer hunting camp, Legge and Rowley-Conwy (1988) suggest that a relationship with the (presumed) also summer sites on the North York Moors is thus less likely, instead hypothesising a relationship between Star Carr, other sites in the Vale of Pickering and the coast. Rowley-Conwy (1994) posited a more

complex model following preliminary analysis of the faunal assemblage from Barry's Island. He suggests the existence of different site types in the Vale of Pickering – the 'hunting camp' at Star Carr and a possible winter base camp at Barry's Island (though this is now known to represent redeposited material of different ages). He related these to the hypothetical summer residential sites on the now-submerged coastline. Movement between the coast and the Vale of Pickering would be undertaken at various times of the year by hunting parties and whole groups. In this model, the role of the upland sites remains unclear.

The most recent attempt to elucidate seasonal settlement systems in Northern England once again suggests Star Carr represents a residential (in this case summer) basecamp (Donahue and Lovis 2006), with a relationship to logistical autumn/winter sites in the Vale of Pickering and to spring/summer residential, logistical and special extraction sites on the coast. In this scenario, upland sites represent autumn/winter logistical and extraction sites.

Given that models of Early Mesolithic mobility in Northern England are very much predicated on interpretations of Star Carr, what light can the current excavations throw on settlement patterns in Northern England more broadly? Lessons can perhaps be learnt from highlighting the temporal depth of the site and the evidence for shifts in the ways it was used over time. We should perhaps not expect particular places in Northern England to be used in the same way over the entire span of the Mesolithic. Despite the lack of dating of the Pennine sites, we can, using typochronological evidence, already see some broad differences in the way this area was occupied over time. Star Carr type sites are relatively few, smaller and lower densities and probably cluster in a few favoured areas. These are likely to represent pioneer incursions into these areas (Conneller et al. 2016); even so, with the possible exception of Rushy Brow, they cannot be dismissed as purely hunting camps as other activities, particularly involving scrapers, took place there. Deepcar type sites are more numerous, larger and denser and appear to represent the debris of groups with greater knowledge/focus on this area. As with other Deepcar tool assemblages across the country, in both upland and lowland contexts, these are dominated by a combination of scrapers and microliths with burins rare. Given Myers' (1986) well-made point that composite tools would incorporate many microliths while scrapers could be resharpened and reused many times, these sites do not seem particularly focused on hunting activities, even if projectile points were the predominant function of microliths. The use of Wolds flint on these Deepcar type sites in contrast to the glacial till of Star Carr type sites also indicates shifting mobility and procurement strategies.

Various commentators (Pitts 1979; Rowley-Conwy 1992; Donahue and Lovis 2006) have rightly highlighted the potential significant role of the coast for groups occupying Star Carr. It is likely that the early date of the Star Carr occupation came about as a result of rapid colonisation by groups moving along the coast. The coast was also the main source of flint for groups using the Vale of Pickering, as well as other items such as amber, while the canine remains from Seamer L also reveal a marine signature. However, there is unlikely to have been a consistent relationship with the coast throughout the entire time Star Carr was occupied. For example, there are possible indications that beach flint may have been exchanged rather than obtained directly and this may reflect temporal changes in people's relationship to the coast (see Chapter 35). The morphology of Doggerland was undergoing rapid change and marine influences were working their way through the area closest to Star Carr at around this time (Jelgersma 1979). It is likely to have been impossible to maintain any form of stable coastal settlement system in such an unstable area, and it is tempting to suggest the long-term focus on Star Carr as a fixed location in the landscape might represent a counterpoint to rapid transformations affecting familiar landscapes elsewhere (Conneller 2000).

The use of similar flint sources may suggest contacts between groups using the Vale of Pickering, the North York Moors and the central Pennines. It is reasonable, given similarities in tool form and raw material (Jacobi 1978), to suggest that the Star Carr type sites on the North York Moors represent logistical sites generated by groups also visiting the Vale of Pickering. It should be pointed out though that Pointed Stone 2 and 3 appear rather less focused on gearing up for hunting than some sites in the Vale of Pickering. The essential tool assemblage at scatter 30, Seamer K, consists of 100% microliths and a microburin ratio of 1.9, compared with 94.7% microliths and a microburin ratio of 1:1.75 at Pointed Stone 2 and 83.6% microliths and a microburin ratio of 1:1.04 at Pointed Stone 3. Binford (1978) outlines the huge range of sites generated by a single group in a single season, with hunting occurring (amongst other activities) on a range of short-term and longer-term sites occupied by a range of different people: from overnight camps occupied by male hunters to longer-term seasonal 'lovers' camps' occupied by young couples. Given the range of tools and the quantities of lithic material on Pointed Stone 2 and 3, it seems reasonable to suggest they represent camp sites of moderate duration. Jacobi

has suggested that the rarity of burins (only a single example on Pointed Stone 3) may indicate these sites were occupied at a time of year when antlers were shed or in velvet. Pointed Stone 2 and 3 are the only excavated sites amongst 10 find-spots of Star Carr type material, suggesting persistent use of the North York Moors. Further excavation may reveal greater variation in use of these areas, as suggested by reports of an extremely large Star Carr type site near Osmotherley on the western edge of the Moors excavated in the 1990s (Lee Cherry pers. comm. 1995).

Star Carr type sites on the North York Moors also reveal variability with Rushy Brow dominated by microliths and microburins and evidence for a broader range of activities at Warcock Hill South and Turnpike. While use of mainly glacial till material on the two central Pennines sites suggests some connection with sites to the east, the use of chert at Rushy Brow indicates connections to the north or south, rather than the east. In addition, the site's location so far to the west on a western outlier of the Pennine Chain raises the possibility that this site has connections to the Lancashire coastal plain. Again this variation may have a temporal dimension.

The current evidence indicates logistical use of the landscape by Star Carr groups with sites of longer and shorter duration and with greater and lesser degrees of specialisation. Ethnographic accounts indicate northern latitude hunter-gatherers generate a wide range of sites and that seasonal movement varies on a year by year basis, and on the basis of personal decisions by individuals and family groups (Jochim 1991). The variability evident in the Vale of Pickering and adjacent upland areas is likely to reflect the product of a variety of decisions and actions produced by a variety of groups and group members in a variety of seasons and over several hundred years. The evidence indicates archaeologists should not continue to attempt to reconstruct a single, stable seasonal round for the Early Mesolithic.

Southern England

Introduction

The Mesolithic groups of the north of England seem to have moved into Britain along the coast of Doggerland. By contrast the colonisation of Southern England is likely to have occurred via movement along river systems by groups focused on the Channel/Manche River and its tributaries. In the absence of earliest Mesolithic sites from the Midlands (with no evidence for activity prior to the appearance of groups with basally modified microliths, sometime after c. 8700 cal BC, see Conneller et al. 2016, figure 6) there was probably little connection between these groups. While we need to look east for the broader cultural context for Star Carr (see Chapter 12), the Early Mesolithic of Northern France, with its strong riparian focus, seems a more appropriate comparator for the groups moving into Southern England.

In Southern England the Thames and its tributaries were the major focus of Early Mesolithic occupation. In contrast to the coastal/lacustrine focus of northern groups, in the south the Mesolithic world was focused on rivers, initially as route ways for colonisation, then as foci for settlement. At this time rivers were changing their behaviour from the braided, high-energy systems of the Loch Lomond Stadial, to meandering, anastomosing, and then single channel systems as watercourses stabilised in the Early Holocene (Chapter 4). As part of this process, older channels were cut off, creating levees and oxbow lakes that gradually infilled with peat. These often served as foci for occupation during the Early Mesolithic.

The Thames

One of the earliest reliable dates for a Mesolithic site in Southern England comes from the Middle Thames at the Eton Rowing Lake. Here, numerous Mesolithic occupation sites were located on a gravel island forming one edge of a shallow lake formed from a former channel of the Thames. This lake gradually filled with peat, creating an area of reedswamp dominated by bulrush and reedmace and fringed by birch and willow (Allen et al. 2013, 35). Some charred stems of bulrush, suggesting similar burning practices to Star Carr, date to 9180–8750 cal BC (OxA-9411, 9560±55 BP). The single date obtained for settlement activities is similar to that for the burning. This derives from an aurochs sacrum from an evaluation trench (180) and indicates settlement probably occurred between 9120 and 8655 cal BC (9120–8970 cal BC (14% probability) or 8945–8705 cal BC (80% probability) or 8670–8655 cal BC (1% probability) (OxA-14088, Conneller et al. 2016, figure 5).

Also within this trench was a small scatter of 160 pieces of flint including four microliths (three obliquely blunted points and a trapeze), a scraper and an awl. Two further evaluation trenches were located along the gravel island and recovered additional, slightly larger, undated Early Mesolithic scatters. That from trench 166 contained two axes, five scrapers, two burins and a range of miscellaneous retouched and utilised pieces. The assemblage from trench 173 is balanced between scrapers and burins. Though not fully excavated, the evidence suggests a range of different sites, used for different tasks, situated along the wetland edge during the Mesolithic.

The Lea Valley

The Lea is the easternmost tributary of the Thames and the location of a series of Early Mesolithic sites. In the upper Lea Valley, a complex of important Early Mesolithic sites was located in the Broxbourne area, just to the north of London, where fieldwork by Samuel Hazzledine Warren in the early years of the twentieth century, and by Roger Jacobi in the early 1970s, uncovered evidence for four Early Mesolithic sites. More recent developer-funded excavations have also provided evidence for Mesolithic occupation in the Lower Lea (Corcoran et al. 2011; Grant et al. 2012). In the Upper Lea, Broxbourne 102 was located on a former gravel bar, rising above a wetland area. The site, at Rikof's gravel pit, was excavated by Warren in 1932, who located a fairly dense but concentrated scatter of nearly 2000 artefacts within a cluster around 4.5 m in diameter. Tasks seem particularly focused on the use of notches and denticulates, possibly for woodworking, a suggestion which is reinforced by the presence of two axes and resharpening flakes. Numbers of utilised blades are also high. The production of microliths and retooling composite tools and use of scrapers were also important tasks. Only one animal bone was found but this was too poorly preserved for identification (Warren et al. 1934).

Further work was undertaken in the early 1970s by Jacobi, with a series of small sites excavated in an area of old gravel workings around 1.2 km to the north of Rikof's pit. Broxbourne 104 and 106 dated to the Early Mesolithic. Relatively little information is available for site 106: a date of 9150–8290 cal BC (9360±150 BP, Q-1146) was obtained on bulked unburnt hazelnuts from a thin peat layer (Switsur and Jacobi 1979). This layer also contained a scatter of Early Mesolithic flints including obliquely blunted microliths and cores and splinters of animal bone. Rather more archive information is available for site 104. Here an area of c. 15 × 8 m was excavated on the edge of a flooded gravel pit (Jacobi n.d.). The lithic assemblage was found within peaty gravel lying on top of a gravel bank (Reynier 2005), with occupation debris extending off the bank and out into the peats of an adjacent channel. This layer was dated to 9660–9570 cal BC (1% probability) or 9560–8420 cal BC (94% probability; 9610±200 BP Q-1096) through a measurement on bulked animal bone (Switsur and Jacobi 1975). Analysis of the distribution of lithic artefacts across the excavated area indicates one main scatter with an area around 2.5–3 m in diameter where lithic densities exceed 100 pieces of flint per square metre. A noticeable feature of the assemblage is the extremely high densities of burnt flint. In several squares more than 30% of flint recovered was calcined. While burnt flint is common across the site, densities are generally higher in the area of greatest flint concentration and the area immediately surrounding this. This may represent repeated clearing out of a central hearth, but another possibility is that the area of high lithic debris, which has an especially high drop-off rate in the north, represents a small structure which has been burnt down.

The assemblage recovered from site 104 is balanced between a number of different tasks, with only scrapers poorly represented. Most tools are concentrated in the central area of the possible structure with the exception of axe production and use of notches which occurred outside. Microliths were the most common formal tool with 25 recovered. Microburins were even more common (n=33), indicating microlith production and retooling was an important component of activities. No axes were recovered, yet axe manufacture seems to have been an important task focused particularly in the northern part of the site. A total of 56 axe thinning flakes were identified, with several refitting. Burins are represented in moderate numbers (n=15) and scrapers are relatively rare. Broxbourne 104 can be characterised as a single occupation site, possibly focused on some form of structure. A wide range of tasks were carried out in the area of the possible structure, involving cutting, the manufacture of composite weapons and the use of burins and scrapers. To the north of this area axes were manufactured and a range of tasks including use of burins, notches and microlith manufacture occurred. Red deer and aurochs remains were brought to site possibly for tool manufacture and processed outside the area of the main concentration (Jacobi n.d.).

The Colne Valley

A series of Mesolithic sites have been located along the Colne, mostly in the vicinity of Uxbridge. From early collections and excavations from railway cuttings (Denham) and gravel pits (100 acres (Boyer's) Pit, Denham and Sandstone, Iver) (Lacaille 1963), to more recent developer-funded work at Three Ways Wharf, the Former Sanderson site, Cowley Mill Road and Preferred Area 4, the Colne was a favoured place for Mesolithic groups. A similar situation to the Lea pertained with areas of wetland developing around cut-off channels of the braided river, surrounded by fen vegetation with drier areas colonised by pine, birch, willow and aspen (Lewis and Rackham 2011).

Three Ways Wharf

Three Ways Wharf, in the centre of modern day Uxbridge, lies on the eastern edge of the Colne floodplain. The site contained four main scatters of flint and animal bone relating to both Late Glacial/Early Holocene Long Blade occupation and Early Mesolithic occupation phases. Only scatter C contained Mesolithic material; a concentration of burnt and unburnt lithic and faunal material in scatter C west indicate a Mesolithic phase of occupation around a hearth or fire with the steep fall-off of lithic material possibly suggesting a tent. Samples on tooth dentine suggest a date in the 86th or 85th century cal BC (Conneller et al. 2016, figure 5).

Scatter C West had lithic densities of around 150 m per square metre, generally indicative of a medium-density site, which has been suggested to represent a single occupation, possibly occurring in winter (Lewis and Rackham 2011). Bone densities were high: over 33,000 specimens of animal bone were recovered, the majority as a result of an intensive sieving program. The total number of fragments identified to species was much lower; just below 1200 specimens. The assemblage is dominated by red deer making up 80% of all identified specimens, followed by roe deer making up 18% of identified specimens, followed by isolated elements of beaver, fox, pine marten and wildcat. The red deer assemblage is dominated by limb elements suggesting deer were being killed and butchered elsewhere and the isolated limbs were then transported to Three Ways Wharf. Furthermore, equally high frequencies of meat-rich upper limb elements and meat-poor lower limb elements suggest these elements may have been brought to the site for marrow extraction over meat removal or consumption and may even have been introduced after defleshing (Lewis and Rackham 2011; Overton 2014). The extraction of marrow is supported by high levels of fragmentation, including evidence for direct percussion and this has also been suggested as evidence for the extraction of bone grease (Lewis and Rackham 2011).

Formal tools are dominated by scrapers, which cluster on the margins of the scatter. The dense southern part of the scatter also seems to have been the main manufacture and tool-use area. Microlith production took place here and a high density of tools with woodworking traces in the same area might be related to haft manufacture. Burins were also made here, though mainly used to the north. Hideworking and antler working were also carried out in this area. The northern part of the scatter is lower density and seemingly associated with more specialised activities. In the north-west a cluster of scrapers was found in an area where microwear evidence suggests bone and antler working took place. In the north-east a cluster of burins was associated with an area focused on woodworking but where butchery, antler working and hideworking also took place. Axe production debris is common compared to other southern English Mesolithic sites, mainly concentrated to the south and west of the main scatter.

Distribution of bone specimens demonstrate a concentration in the south-west portion of the site (Figure 11.8), which has been interpreted as a 'midden' or intentional collection of the osseous material (cf. Lewis and Rackham 2011). However, using the distribution of burnt bone and flint specimens to identify the location of the hearth, it appears that this collection or 'midden' of bone partially overlaps the hearth, yet the bones themselves are not burnt. This suggests that whilst these specimens originated from marrow extraction around the fire, the remains were later collated and deposited together after the hearth fire had died and cooled (Overton 2014).

Former Sanderson Site

The site of the Former Sanderson Site factory is located 200 m north of Three Ways Wharf, also on the eastern edge of the River Colne; excavation between 2002 and 2004 uncovered an in situ occupation layer on the

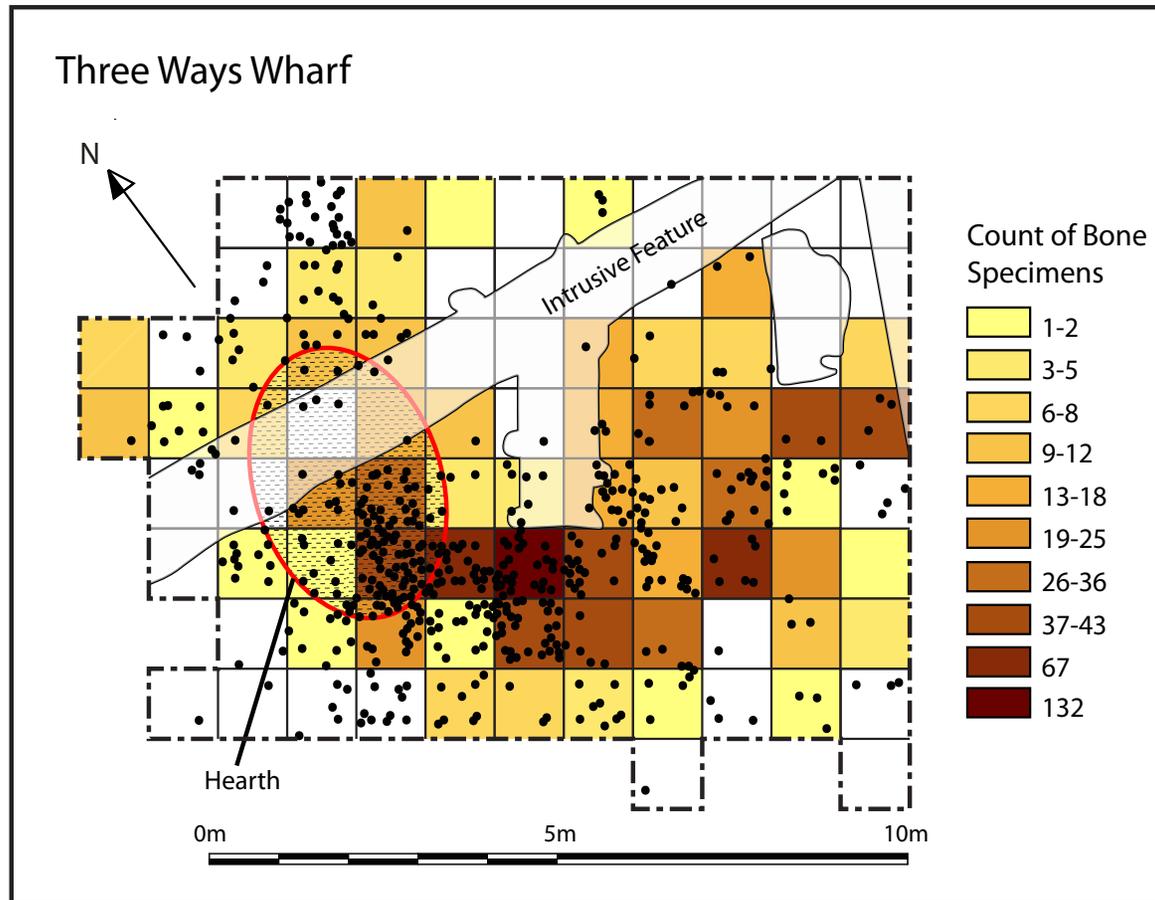


Figure 11.8: Distribution and density of faunal remains at Three Ways Wharf. Shaded squares represent specimen frequency per square recovered through sieving, and black dots represent individual 3D-located specimens. Position of hearth indicated by concentration of burnt lithic and osseous material (redrawn from Lewis and Rackham 2011, density and distribution data from Overton 2014) (Copyright Nick Overton, CC BY-NC 4.0).

western side of a gravel ridge with four scatters yielding over 3000 Early Mesolithic lithics and 1200 bone specimens (Halsey 2006). To the east of these scatters, a patch of densely burnt gravel on the top of the ridge was interpreted as a hearth area, forming a focal point of the Mesolithic activity. A date from charred hazelnut shell returned a date of 8600–8300 cal BC (Beta-200075, 9230±50 BP, Halsey 2006), placing occupation at the Former Sanderson Site within the Early Mesolithic.

A large central flint scatter represents a varied series of tasks including flint knapping, the use of flakes and blades for cutting, and retooling of composites. Single examples of saws, scrapers and burins were also recovered. The northernmost scatter seems more focused on flint knapping than tool use. Immediately to the north of this scatter is a cluster of cores which may represent a cache or midden, while to the east is an area of tool use distinguished by the presence of utilised flakes and blades and axe resharpening flakes. Most of the fauna is associated with the two southern scatters. This area is associated with a cluster of scrapers in the south-west part and microliths and an axe from the south-east part.

The faunal assemblage contains just over 1000 specimens and is dominated by red deer in terms of the number of identified specimens with slightly lower frequencies of wild boar, infrequent beaver remains, and a single specimen identified as otter. However, minimum number of individual frequencies indicate a dominance of wild boar, with a minimum of four in contrast to just one red deer. This discrepancy is the result of very poor preservation and high levels of post depositional fragmentation leading to the differential destruction of the

smaller wild boar elements. Skeletal element frequencies indicate the introduction of whole wild boar to the site that were butchered before some, but not all, of the limbs were removed. In contrast, the red deer assemblage contained fore and rear limb elements and a single skull with antlers and mandible but no elements of the axial skeleton. This may suggest the limb elements and skull were introduced to the site after initial butchery elsewhere. Furthermore, the tight spatial grouping of these remains, the vast majority within a single square metre, suggests these remains may represent the intentional collation and deposition of red deer remains, including the antlered skull of a young male (Overton 2014).

The Kennet Valley

The Kennet Valley is another area which has yielded large quantities of Early Mesolithic material. One Star Carr type site is present at Thatcham IIIB (patinated series) and several sites have a low presence of basally modified microliths; however, it is Deepcar type sites that the Kennet is associated with, both in the middle Kennet, in the Thatcham/Newbury area, and further upstream, around Wawcott/Kintbury (Froom 2012). Fieldwork in adjacent upland areas has yielded relatively little material (Richards 1978) indicating that this concentration around the Kennet is a genuine pattern, rather than simply the result of land use and research history.

Thatcham

Located on the north bank of the River Kennet, just downstream from Newbury, evidence for Early Mesolithic occupation at Thatcham was first recorded in 1920 (Peake and Crawford 1922) and later greatly expanded upon through Wymer's excavations in the 1950s and 1960s (Figure 11.9) (Wymer 1962). These uncovered extensive scatters of lithics and animal bone from five trenches (described as 'sites') along the edge of the floodplain terrace (sites I–III, of which II is the most substantial) and into the adjacent wetland deposits (sites IV and V) (see Figure 11.10). Environmental data indicate occupation was within rich birch/pine woodlands with willow, aspen and occasional alder growing on the terrace edge and a rich and complex marsh flora in the

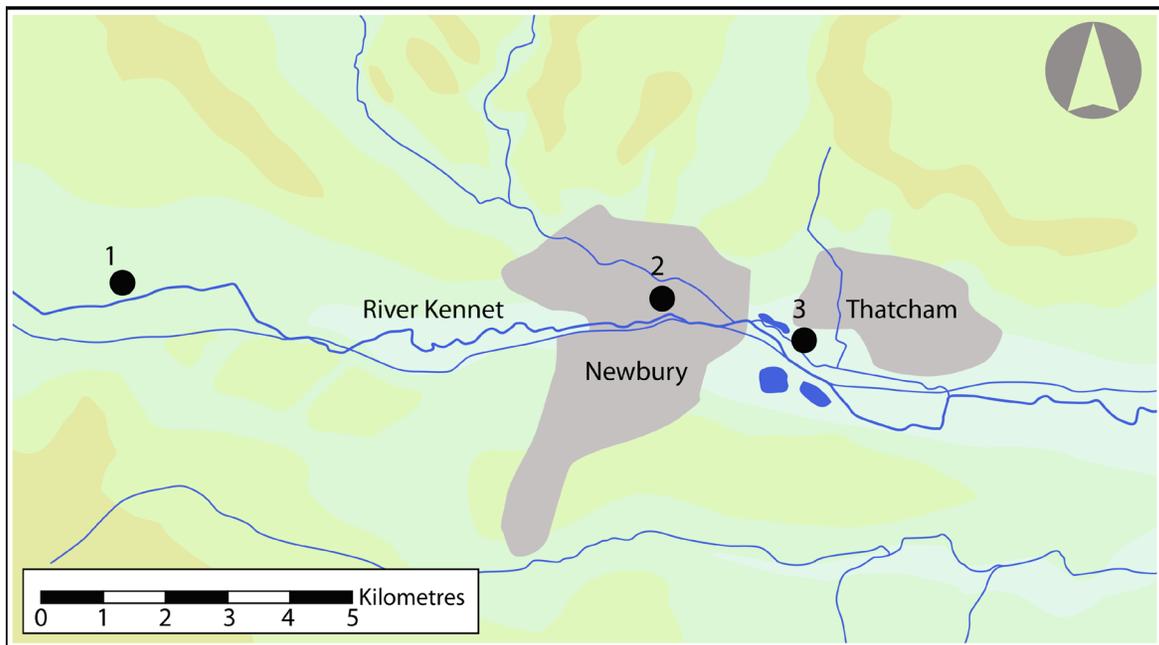


Figure 11.9: Map of sites in the Kennet Valley. 1. Wawcott XXX; 2. Faraday Road/Greenham Dairy Farm; 3. Thatcham I–IV (Copyright Nick Overton, CC BY-NC 4.0).

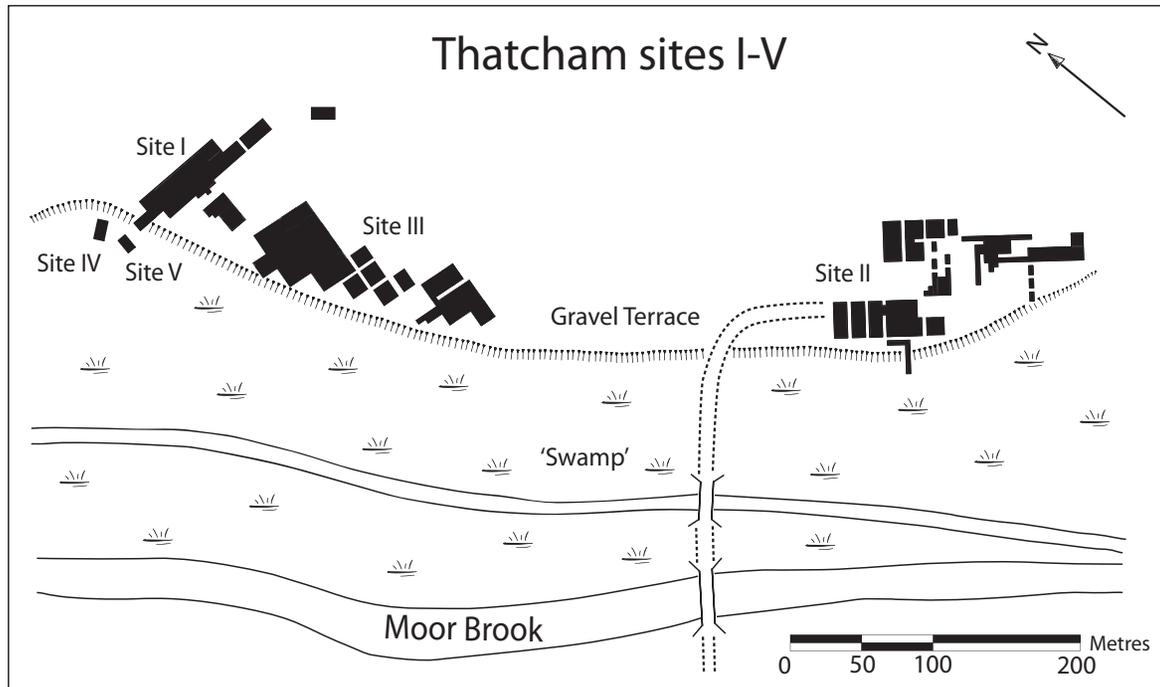


Figure 11.10: Trench plan of the Thatcham sites (Redrawn from Overton 2014).

floodplain wetlands (Chisham 2004, 186–7). Reliable dating of dryland activities at Thatcham is particularly poor. Thatcham III has returned a single reliable date on resin of 8640–8260 cal BC (OxA-2848; Conneller et al. 2016, figure 5).

Better evidence is available for areas of wetland activity. The deposition of faunal material into a small pond at Thatcham V started in 9265–9915 cal BC (64% probability) or 9075–9055 cal BC (1% probability) or 9015–8910 cal BC (24% probability) or 8910–8845 cal BC (6% probability) (OxA-26540, 9675±45 BP, Conneller and Higham 2015). This means Thatcham V probably represents the earliest dated evidence for activity in Southern England. Two further AMS dates from microcharcoal interpreted as originating from anthropogenic fire or clearance events within the local Thatcham environ also returned relatively early dates of 9190–8640 cal BC (9528±80 BP, AA-55303) and 9140–8670 cal BC (15% probability) or 8940–8530 cal BC (79% probability) or 8510–8480 cal BC (1% probability; 9436±81 BP, AA-55305) (Chisham 2004, 191), indicating activity at Thatcham broadly contemporary with Star Carr. Unfortunately we cannot tell whether this wetland activity belongs with the small patinated Star Carr occupation at Thatcham III or with the more extensive Deepcar occupation.

All five 'sites' returned faunal material, though recent analysis of the Thatcham assemblages has identified discrepancies between archived faunal material and records of specimen frequencies made at the time of excavation that suggest a number of the site assemblages are only partial (Overton 2014). Although these assemblages are of limited use in providing detailed interpretations of Early Mesolithic activity, they do indicate a wide range of hunted species dominated by red deer and wild boar, notably high frequencies of beaver (making up 10% of the identified specimens), followed by roe deer and then very low frequencies of aurochs, elk, badger, dog, fox, pine marten, wild cat and wolf.

On stratigraphic grounds (Reynier 2005), the earliest occupation of the Thatcham complex is the Star Carr type site (Thatcham IIIB) located to the south of the complex and consisting of lithic material clustered around a hearth. No fauna is preserved from this area of the site, apart from a couple of pieces of roe deer antler from the northernmost area. The tools recovered from this area are a small, relatively varied assemblage with microliths (n=8), awls (n=6) and retouched and utilised blades (n=6) most common. Other tools (two burins, three saws, a scraper, a notch and an axe) indicate a wide variety of activities were carried out.

Much more extensive occupation debris is associated with the northern, Deepcar type scatters (Thatcham IIIA). Comparison of extant and archived faunal material indicates that of the sites originally excavated by Wymer; only the Thatcham site IIIA assemblage still contains the majority of the material originally recorded. The density and distribution of lithic and faunal material (Figure 11.11) indicate a general spread of material along the gravel terrace, continuing into Thatcham I, made up of a number of discrete concentrations often focused around hearths. Distributions of flint indicated two major scatters at Thatcham IIIA, one to the eastern side and a second to the north-west corner (see Wymer 1962), the former associated with eight hearths, the latter with seven, suggesting repeated occupations of the same area of the gravel terrace. The faunal assemblage from Thatcham IIIA is dominated by wild boar and red deer making up 22% and 17% of the identifiable specimens respectively, followed by beaver making up 13%, and much lower frequencies of roe deer, aurochs, elk, badger, fox, wild cat and wolf. The presence of skeletal elements from across the body in the red deer, wild boar and beaver assemblages indicate the introduction of whole individuals to the site; however, notably low frequencies of wild boar limb elements suggest that after whole individuals were introduced and processed at the site, the meat-rich limb elements were then removed. Other ungulate species are too infrequent to present any clear patterning; however, the remains of carnivore species indicate they were introduced to the site as single, potentially defleshed elements (cf. Overton 2016).

The spatial distribution of wild boar and red deer suggest the remains of these two species relate to separate events with the wild boar concentrated in the eastern scatter and the red deer in the north-west scatter. The

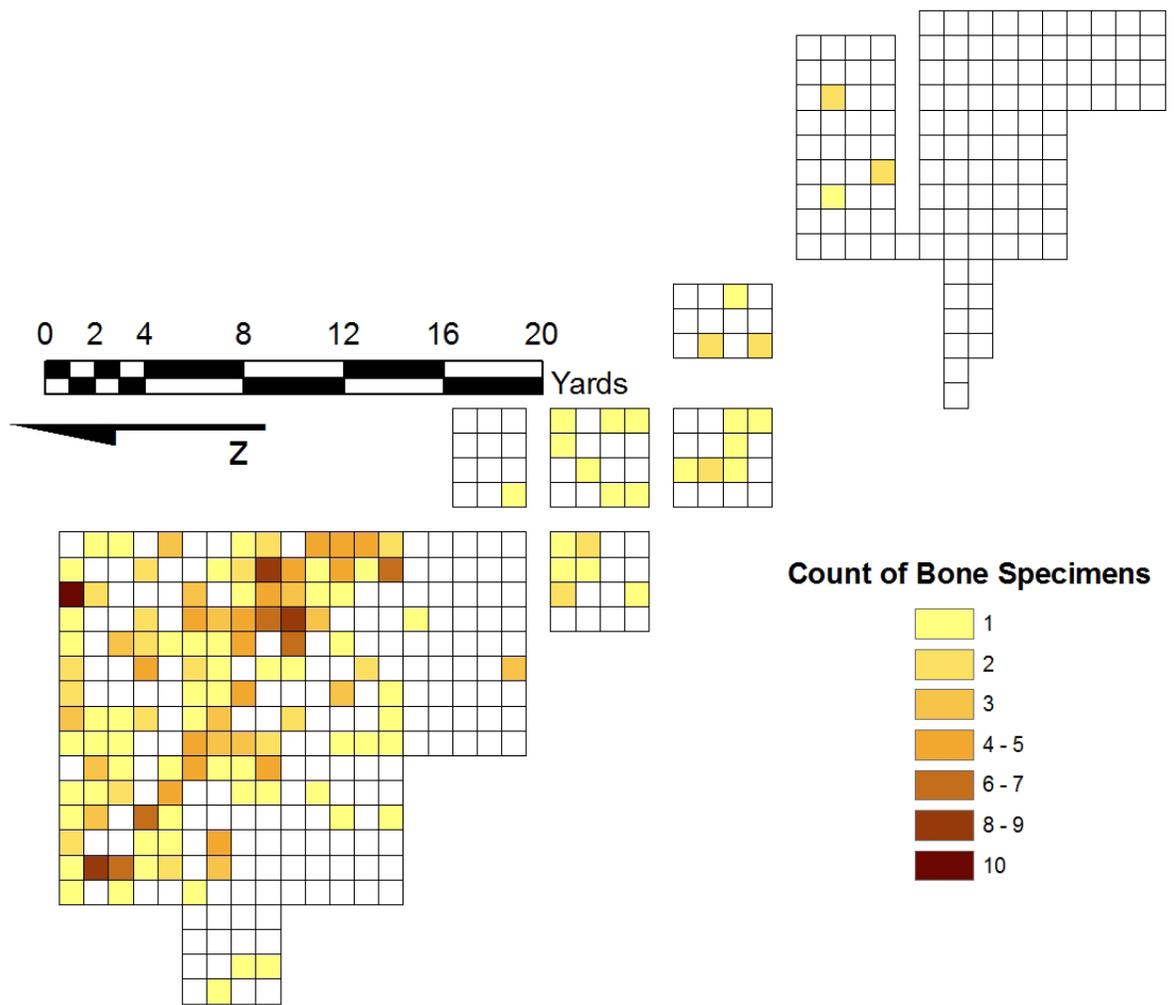


Figure 11.11: Density and distribution of faunal material at Thatcham site III (Reprinted from Overton 2014).

seasonality data derived from this material further supports this, indicating the wild boar remains originate from a hunting event in the late summer to autumn and the red deer from winter (Overton 2014). The lithic artefacts also suggest diverse activities in these two areas. The eastern area is where both lithic densities and occupation features are at their greatest. Eight hearths were excavated in a 35 m² area. This evidence suggests a series of partially superimposed occupations with people returning to very specific locations in a way rarely seen in the Vale of Pickering.

This creates some problems for understanding how space was used at the site as lithic material was undoubtedly scavenged and re-used in successive occupations. However, there is some spatial patterning to the material that can be glimpsed. Discarded microliths and evidence for microlith production are clustered around all hearths present in this area, as is evidence for production/use of burins, though these latter are at much lower numbers. Within this large area more discrete activities such as the production of bone and antler tools and axe production can also be discerned. In the north-western area a separate series of lithic scatters around these hearths can be more readily differentiated than in the eastern area. These are associated with varied activities such as processing wild boar remains or retooling. The densest of these scatters is more varied with evidence for the manufacture of microliths and the use of burins, awls and scrapers.

Two bone tools were also found in this area; a large spear and a small point or awl (Wymer 1959; Jacobi n.d.), both shaped from large ungulate metapodials. These are two of only a handful of Mesolithic bone points, alongside specimens from Brandesburton, Holderness, and most recently Star Carr (Clark and Godwin 1956; Bartlett 1969; Elliott 2012; also see Chapter 25) and the only examples of securely dated unbarbed bone points in the British Mesolithic. Furthermore, two fragments of antler point were also recovered from the Thatcham excavations (cf. Elliott 2012); however, unlike the uniserial points from Star Carr, these too were unbarbed. This presents a notable contrast between the osseous technologies recovered from Thatcham and the sites in Northern England (Overton 2014). One final osseous artefact of note was a pair of unshed red deer antlers, attached to a skull fragment, which appear to have been deposited points down into the Mesolithic land surface. The edges of the skull fragment, made up of the frontal bones, exhibit evidence of anthropogenic manipulation to remove this antler-bearing portion from the rest of the skull. The specimen lacks the reduction of the antlers which characterise the Star Carr frontlets and perforations which are present on some of the Star Carr specimens and a number of other examples from continental Europe (Chapter 26). However, the Thatcham specimen can still be seen as sitting within a broader pattern of intentional isolation, manipulation and deposition of red deer antlers and frontal bones in the Early Mesolithic.

To the north is the contiguous area of Thatcham I where three small scatters can be discerned, associated with hearths. In general lithic densities in this area are lower and fauna was relatively poorly preserved (Wymer 1959, 21). Scatter 1 in the western part of the site is a low-density knapping scatter associated with microlith production and retooling, the use of scrapers, awls, serrated blades and burins; the latter located next to two antler tines and a small bone point. Extant fauna from this scatter consists of red deer, roe deer, aurochs and pine marten. Scatter 2 in the eastern part of the site is focused on microlith production and retooling and use of scrapers and notches; the latter possibly associated with shaft preparation. To the west and north of scatter 1 and the east of scatter 2 were areas with extremely low flint densities where finished tools are common. These appear to be areas of tool use where tasks were undertaken and fauna including pig, red deer, roe deer and fox were found, possibly suggesting a butchery area. Seasonality evidence is available for this scatter in the form of a juvenile red deer which was killed in January/February (Carter 2001).

Scatter 3, the area of greatest flint densities at Thatcham I is located mainly in the southern trench (Wymer's grid 2). In contrast to the more generalised scatters to the north and to the south at Thatcham III, activities here appear more specialised and intense with a concentration of 29 microliths and eight awls in a 12 m² area. Little fauna was associated with this scatter; however, it is bounded to the south by an ancient channel from which the remains of red deer, roe deer and wild boar were recovered (Overton 2014). The recovery of specimens throughout the stratigraphic sequence indicates they were deposited whilst the channel was active, suggesting it may have been used as a dump for faunal remains; alternatively they may have been transported by water action.

The data suggests that the material at Thatcham Site III and the material spread more broadly over the five sites are a palimpsest of repeated activity, establishing the floodplain terrace at Thatcham to be a place in the landscape that was reoccupied at numerous times throughout the year, where groups were undertaking a range of tasks and hunting a range of different species within a mosaic of wetland and woodland habitats.

Faraday Road/Greenham Dairy Farm

The sites of Faraday road and Greenham Dairy Farm are located within the town of Newbury on the River Kennet's northern bank, upstream from the Thatcham Sites. Although the two sites are directly next to one another, a gap of over 30 years between excavations (Sheridan et al. 1967, Ellis et al. 2003) has led to the sites retaining separate names. However, it is extremely likely that the artefactual material from both sites is part of the same Mesolithic spread. Environmental evidence suggests the local environs were very similar to that of the Thatcham sites with occupation taking place on a gravel terrace surrounded by birch/pine woodland, overlooking a floodplain with more open vegetation.

At Greenham Dairy Farm a small area of around seven square metres was excavated and an assemblage of 2495 flint artefacts and one antler pick were recovered. As Froom (2012, 127) points out this is a remarkable density of lithic material compared to other Early Mesolithic sites in the Kennet Valley. The assemblage is dominated by microliths (n=117), and their production and retooling activities appears to have been a major task. Scrapers (n=27), utilised blades (n=13) and notches (n=8) played a more minor role. A small faunal assemblage includes wild boar, red deer, roe deer and aurochs which are represented mainly by head and foot remains.

The more recent excavations at Faraday Road by Wessex Archaeology uncovered in situ Mesolithic flint and over 3000 bone specimens sitting within a slight hollow; dating of a charred hazelnut returned a date of 9120–8500 cal BC (9418±60 BP, NZA-11038, Ellis et al. 2003, Conneller et al. 2016), indicating activity within the Early Holocene. The lithic assemblage recovered is similar to that from Greenham Dairy Farm in the dominance of microliths (n=65), with smaller numbers of retouched/utilised blades (n=55) and scrapers (n=22), and other tools fairly negligible.

The faunal assemblage was dominated by wild boar making up 82% of identified specimens from a minimum of 12 individuals with much lower frequencies of red deer, roe deer, aurochs, beaver and wild cat (cf. Overton 2014). The sub-assemblages for most species were too small to provide any clear patterns of treatments from skeletal element frequencies, aside from the wild cat remains that indicate the introduction of single defleshed element to the site (Figures 11.12 and 11.13) (cf. Overton 2016). However, the large wild boar assemblage indicates the introduction of whole individuals to the site that were systematically disarticulated and defleshed before the bones were collected within a discrete deposit within a natural hollow. Ageing data from the remains indicate a range of ages from yearlings to mature adults of both sexes. This patterns is somewhat expected as wild boar form large mixed age and sex groups (Truve and Lemel 2003, 52), but it also suggests that humans may have hunted as groups and killed multiple boar in each event leading to a demographic cross section in the faunal remains. However, seasonality data derived from the wild boar ages indicated potential activity throughout the year (Overton 2014) and the remains from Faraday road were from multiple, temporally discrete hunting events. This suggests that the remains from Faraday Road are the result of a series of repeated deposition events in which humans returned to the site and intentionally collated the remains of multiple individuals together with the remains from previous hunting events.

Wawcott XXX

Further up river to the west lies the Wawcott/Marsh Benham complex of sites excavated by Roy Froom from the early 1960s and located mainly on the floodplain gravels (Reynier 2011). Wawcott XXX is the most extensive of the Early Mesolithic sites investigated by Froom. A total of 7260 worked flints were recovered, associated with a faunal assemblage of which 43 elements could be identified to species. The assemblage is unusual in the wide range of species represented: wild boar and red deer, the staples of the Kennet Valley sites, are relatively rare with six and seven elements recovered respectively. Elk is represented by eight elements and aurochs by 15, the only assemblage within the Kennet where these species are most frequent (Froom 2012).

The excavated areas are composed of a series of separate lithic scatters some of which are likely to represent reoccupation of the same area, others which may be contemporary. Scatter 3, though small, is the main area that shows connections to other areas of the site where blanks were produced for use elsewhere. Microlith production and retooling seems to have been a major task accompanied by smaller scale production of a range of other tools. Two scrapers were recovered and several burins, or at least blanks for their production, seem to have been made at the scatter though the burins themselves were used in scatter 4. Scatter 2 was focused on microlith production, while scatter 4 appears focused on axe and burin production. The three central scatters

and each other. Both are large in comparison with the other two. Scatter 6 is focused on burin production and use. Scatter 5 has few tools or tool spalls apart from a few microliths and an axe flake.

East Anglia

East Anglia has three major Early Mesolithic sites: Lackford Heath, Kelling Heath and Great Melton. Of these only Lackford Heath has a radiocarbon date, on resin, indicating the site was occupied in 8740–8270 *cal BC* (OxA-2342; Conneller et al. 2016, figure 5). Typologically Great Melton probably belongs to the Boreal period. Kelling is a large site, most of which is Early Mesolithic of some form but underwent early excavation (Sainty 1924; 1925; 1927) and as a result is difficult to understand in any greater detail. Kelling now has a near-coastal location but in the Early Mesolithic would have probably been located near to a river system which ran across Doggerland.

Lackford is located on the west bank of the river Lark, a tributary of the Great Ouse. The site was excavated in 1947: lithic material was found within a hollow, filled with dark sediments, originally interpreted as a structure with a central and peripheral hearth (Jacobi 1984). An extremely high density of flints (c. 5000) was recovered from a 9 m² area. The homogeneity of the microliths probably suggests a single occupation. Only a small proportion of the assemblage survives; within this collection microliths and scrapers dominate and are found in fairly equal numbers. Saws, truncations, a reworked axe, a piercer and a notch were also found. How representative this is of the broader assemblage is difficult to say.

Southern Britain at the time of Star Carr

The numerous sites located in Southern England with relatively well preserved faunal assemblages offer a unique window into the lives of people in the Early Mesolithic. Much like the northern sites, the southern assemblages highlight a concern for intentional actions of collating materials into meaningful deposits, including the ‘middens’ at Faraday Road and Three Ways Wharf, and the potential red deer skull and limb collection at the Former Sanderson Site. Furthermore, the remains within them clearly demonstrate that Mesolithic hunter-gatherers did not focus on hunting any one species. The differences in species frequencies between sites in close proximity to one another, such as the dominance of red deer at Three Ways Wharf, but the dominance of wild boar at the Former Sanderson site, demonstrates specific sites were occupied to hunt specific species at specific times. This presents a picture of humans living and moving within the river valleys of Southern England, occupying and re-occupying a network of sites to undertake a range of tasks that included hunting specific species, from a large variety of ungulates to smaller species such as beaver. This range of species, including the notable dominance of wild boar at many of the sites, stands in stark contrast to previous narratives of Early Mesolithic red deer economies (e.g. Jarman 1972; cf. Overton and Taylor forthcoming).

The faunal assemblages from sites in Northern Britain also demonstrate hunting practices that targeted a wide range of species over any single one (Overton and Taylor forthcoming), no more so than Star Carr; however, there are noteworthy differences between the northern and southern sites. Firstly, the high frequency of wild boar at the southern sites is in sharp contrast to the absence or extremely low frequencies of the species at northern sites. Conversely, elk and aurochs are either absent or extremely infrequent at the southern sites, aside from Wawcott XXX which is an extremely small assemblage: yet these species make up a substantial or even a dominant portion of the assemblages from northern sites such as Star Carr, Seamer Carr and Flixton School House Farm. These differences in species frequency are most likely a reflection of differing environmental conditions in the early postglacial landscape including the local dominance of pine in the Kennet and Colne Valleys and the earlier colonisation of Southern Britain by denser vegetation providing conditions favoured by wild boar but pushing the larger, open-woodland adapted elk and aurochs, further north. However, this would lead to differences in Mesolithic lifeways; hunting either smaller gregarious wild boar or much larger and predominantly solitary elk or aurochs, all living within their own preferred habitats, would have required different hunting methods and strategies both in the context of the hunt and more broadly through the changing seasons. In building a picture of Early Mesolithic activity in Britain it is important that we avoid presenting a single, homogenous account of life, in favour of a picture that highlights the dynamic differences between communities across Britain that is reflected in the archaeological record.

Into the west...and the north

Towards the end of the period that Star Carr was occupied and in the centuries following its abandonment, broadly between c. 8700 and c. 8000 cal BC, there is a change in the archaeological record with evidence for the expansion of Mesolithic groups into new areas and the appearance of new practices. For the first time there is evidence for occupation in Wales, the Southwest, the Midlands and Southern Scotland. Though such sites are poorly dated, this may also be the period in which Deepcar groups moved into the upland areas of Southern England to focus on springs and smaller watercourses: for example, Oakhanger, Hampshire, dating to the second half of the ninth millennium BC (Conneller et al. 2016, figure 5). It should be noted that this late appearance may be artificial, the result of the difficulty of gathering organic samples away from the river valleys. There are sites that typologically would be compatible with an earlier date, such as Dozmary Pool on Bodmin or the Star Carr type assemblage from Waun Fignen Felen in the Black Mountains. Early dates might also be expected for the Southwest as groups moved into Britain along the coastline of the Channel/Manche embayment.

This expansion in settlement was accompanied by increased typological diversity: Late Deepcar sites with crescents date to the second half of the ninth millennium BC at Oakhanger (Conneller et al. 2016, figure 5); assemblages with a range of basally modified points from c. 8500 cal BC (Conneller et al. 2016, figure 6); and Welsh Star Carr type sites (similar to Star Carr but with large, elongated scalene triangles) from c. 8500 cal BC (Conneller et al. 2016, figure 4). These appear to reflect increased regionalisation as Britain infilled with Mesolithic groups. While broad similarities with Continental Europe remain, these are articulated very differently at the regional level: for example in Northern France, large crescents (segments) are found with basally modified 'Beurronian B' Industries; in Britain with Deepcar type industries.

At the same time new practices occur, particularly relating to the deposition of human remains. In South-west England, South Wales and Northwest England human remains, often isolated elements, were deposited in caves. The earliest evidence for this practice probably comes from Badger Hole (Somerset) and from a collective burial at Worm's Head (Gower). However, it becomes more widespread in the following centuries with continued deposition at Badger Hole and Worm's Head and new sites at Mewslade Bay (Gower), Greylake, Gough's Cave and Aveline's Hole (all in Somerset) and Kent's Bank Cavern (Cumbria). The appearance of these new practices suggests, in some parts of Britain at least, new ways of marking human relationships with place. At Star Carr, and elsewhere in Britain during the first centuries of the Mesolithic, this had been undertaken in part through depository practices focused on animal remains, with human remains noticeably absent. The focus on the deposition of human remains, accompanied with regionalisation, could indicate a reconfiguration of worldview, with ancestors rather than animals becoming important.

Conclusions

Star Carr has come to be seen as representative of Early Mesolithic Britain, following Clark's belief that what he had excavated was typical of any site with good organic preservation. Previous work has argued that Star Carr played a unique role within the Vale of Pickering, with Star Carr a major, long-term focus of repeated wetland deposition in contrast to the more ephemeral sites, focused on specific, but temporally shifting tasks, found elsewhere around Lake Flixton (Conneller and Schadla-Hall 2003). Borrowing terminology from the French Magdalenian, we might perhaps see Star Carr as a 'super-site' (Bahn 1982): a residential site, but not just a base camp; a place where people met up, but not simply an aggregation site; a place where people made and/or exchanged objects (such as axes and beads), including art objects, and where people performed ceremonies and other ritual acts. Could we perhaps then see this particular articulation of sites as 'typical' with other 'super-sites' in the British Mesolithic record with similar relationships to adjacent short-term logistical and residential campsites?

The answer, currently, is no. The Early Mesolithic upland sites of northern England, while more varied than currently credited, are rather different in scale and diversity of activities. In Southern England people appear to have used the landscape rather differently. The nearest to a 'super-site' would perhaps be Thatcham III, but the impression of this site is that it has been generated through repeated small-scale visits to the same place with occupations, including hearths, superimposed over a long period. It seems simply a scaled-up version of the kinds of occupation present along different stretches of the Kennet. It might thus be considered a 'persistent

place' (Barton et al. 1995), but one that seems different in nature from Star Carr. There are hints, perhaps, of some form of patterning in deposition, in the recovery of faunal remains from the small pond of Thatcham IV/V, and in the human bone recovered from overlying tufa deposits at Thatcham III, but how these relate temporally to adjacent dryland evidence is currently uncertain. The occupation evidence in the Kennet and other Thames tributaries seem similar to patterns in Northern France, with small-scale, repeatedly occupied sites on the lower terraces and floodplains of major rivers. Elaborate organic artefacts are rare and when recovered come from the major rivers themselves rather than settlement sites. To what extent this represents human action or the results of the destruction of Mesolithic sites through channel migration remains to be determined.

The presence of 'super-sites' that are currently unidentifiable due to lack of faunal preservation also needs to be taken seriously. Super-dense Early Mesolithic sites such as Oakhanger V/VII are possible candidates, though on current evidence this is later than Star Carr and the product of a different set of landscape values. Other 'super-sites' may remain to be discovered. In Northern England, other palaeolakes might provide possible locations. The recovery of several barbed points from Holderness, though apparently unassociated with other artefactual evidence, certainly points to an Early Mesolithic presence in the area. Barbed points are rare in the Vale of Pickering, apart from Star Carr, and the Holderness examples are likely to indicate more extensive occupation nearby. However, Star Carr's most immediate connections lie to the east, both in the raw materials employed and in the likely route taken by the first Mesolithic colonisers. If any site similar to Star Carr does exist, its most likely location is the submerged landscape to the east of the Vale of Pickering and, beyond this, to the land bordering the North Sea, where shared traditions of technology, material culture and ritual practice can be glimpsed (Chapter 12).

