1. INTRODUCTION

1.1 This document has been prepared as part of the East Midlands Regional Research Frameworks Project (Cooper, 1999) to provide a brief statement of the current state of knowledge for the 1st millennium BC in Northamptonshire. It also includes an appendix containing a preliminary statement of issues for a research agenda and strategy (appendix 4).

1.2 The period of study covers the late Bronze Age to the Roman conquest, that is from the Ewart Park metalwork phase (c. 1020-800BC - after Needham, 1997) to c. 43-47AD. The Northamptonshire Sites and Monuments Record (NSMR) currently contains 518 records related to the Iron Age which comprise 7.4% of the total records. However, Late Bronze Age sites and a large proportion of the undated cropmark sites should be added to this total to more accurately reflect the recorded archaeological resource for the first millennium BC. In Northamptonshire, this period is characterised by evidence for large-scale organisation of the landscape related to the expansion of agricultural production; the construction of hillforts and other defended sites and, at least from the middle Iron Age onwards (MIA), numerous domestic settlements. There is a considerable increase in evidence from the late Bronze Age/early Iron Age (LBA/EIA) to the Late Iron Age (LIA) which is suggestive of substantial demographic growth. Discrete formal ceremonial and burial sites are very rare but there are signs of ritual activity on "domestic" settlements. At the end of the IA most sites show a seamless transition into the early Romano-British (RB) period.

1.3 The physical geography of Northamptonshire is dominated by the valley of the river Nene and its tributaries which are associated with a swathe of river gravels which have been favoured for settlement since the Neolithic. Other sizeable areas of light free-draining soils are provided by the Northampton Sands, which outcrop over large areas around Northampton and in the northeast of the county, and by Jurassic limestones which are found primarily in the extreme southwest and northeast of the county. The higher ground in the southern, western and central parts of Northamptonshire are dominated by glacial deposits, primarily boulder clay. Substantial areas of Northamptonshire's claylands were wooded in the Middle Ages, although it is unclear how much of this woodland was the result of regeneration in the Saxon period. Whilst the majority of Northamptonshire lies within the Nene river catchment its northern, western and southern peripheries are situated within the catchments of the rivers Welland, Avon, Cherwell and Ouse. The county's eastern limits were historically defined by the Fens but now stop short of Peterborough.

1.4 It is generally held that the British climate deteriorated at the beginning of the 1st millennium BC with the onset of colder and wetter conditions which did not ameliorate until the middle of the millennium (Cunliffe, 1991, 23). In the Fens there is evidence of increasing wetness with marine transgression in the north and extensive freshwater wetland in the south (Hall and Coles, 1994, 92). The implications of these changes for Northamptonshire is debatable but it seems possible that the increasing marginality of
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life in Britain's uplands and wetlands may have increased the attractiveness of less obviously vulnerable areas such as Northamptonshire.

1.5 Aerial survey, fieldwalking, geophysical survey, earthwork survey, metal-detecting and excavation have all made significant and distinctive contributions to Northamptonshire's later prehistoric archaeological record but each has its own biases and limitations.

**Earthwork survey**

The surviving earthworks of Northamptonshire's major defended sites have been surveyed by the Royal Commission for Historic Monuments (RCHME, 1981, 1982, 1985, 1993). A few other possible IA earthworks have survived in historic woodland such as the Egg Rings enclosure in Salcey Forest (Woodfield, 1980) and the scheduled triple ditches at "The Larches", Stowe-Nine-Churches (Moore, 1973; RCHME, 1981, 179-181) whilst an earthwork ditch and bank in former heathland at Harlestone Firs appears to be a continuation of an adjacent pit alignment cropmark (Cadman, 1995).

**Aerial survey**

A long-term programme of aerial survey undertaken by Glenn Foard is providing invaluable extensive landscape coverage on permeable geologies under arable cultivation but results are patchy on claylands and the technique is of little value in areas of permanent pasture and woodland. The National Mapping Programme has completed its work on roughly _ of the county.

**Fieldwalking**

Fieldwalking has been widely undertaken in Northamptonshire by both professionals and amateurs, although few results have yet been fully published - the most notable examples are the Brigstock Survey (Foster, 1988), the Raunds Area Survey (Parry, forthcoming) and the work of David Hall and Paul Martin. The technique is restricted to arable land where the friability of much IA pottery means that even major sites sometimes fail to produce distinctive ploughsoil signatures (e.g. RPS Clouston, 1997, 6).

**Geophysical survey**

Recent experiences of developer-funded evaluations have demonstrated that magnetometer and magnetic susceptibility surveys are often an effective method of rapid ground survey for identifying M/LIA settlements (e.g. RPS Clouston, 1997 and supplementary data), although such surveys may not be reliable in relation to less substantial LBA/EIA sites.

**Metal-detecting**

Properly recorded amateur metal-detecting has greatly enhanced our understanding of LIA coinage in Northamptonshire (Curteis, 1996a and 1997) but problems of non-reporting remain, as with a LBA hoard recently unearthed at Ecton.

**Excavation**

Many archaeological excavations and intensive watching briefs have been undertaken in the county and have provided a wide range of detailed data unobtainable by other methods. In this respect, particular mention should be made of Dennis Jackson's invaluable work, primarily on the ironstone quarries of northeast Northamptonshire, and his exemplary publication record (see bibliography). Recent and current major excavations at Wollaston (Meadows, 1995), Crick (Chapman, 1995, Hughes, 1998 and...
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Roy Kings, pers comm) and Courteenhall (Simon Buteux, pers comm) promise to transform our understanding of Northamptonshire’s Iron Age.

1.7 The general state of preservation of Northamptonshire's pre-medieval landscape may be estimated using data available on the NSMR's Geographical Information System. Potential states of structural preservation can be mapped as "condition zones" defined as follows:

A. "Unploughed zone": Land which has remain unploughed and undeveloped during medieval and modern times and thus has potential for surviving pre-medieval earthworks. A provisional plan has been prepared of surviving historic woodland and former heathland which has subsequently been wooded but other areas such as unploughed meadowland and deer parks have yet to be mapped.

B. "Ploughed zone": Land which has been ploughed in the medieval and/or modern period. Three levels of potential survival of buried features can be identified:

B1. Land where features may have been protected beneath alluvium or colluvium.

B2. Surviving earthwork ridge and furrow where preservation will better than where the ridges have been levelled by modern cultivation.

B3. Ridge and furrow which has been levelled by modern cultivation.

C. "Destroyed zone": Quarries and built-up areas where most remains will have been badly damaged or destroyed.

A more sophisticated assessment of survival would also take account of environmental potential, especially waterlogging. A rough estimate based on the admittedly incomplete data held on the NSMR suggests that the proportion of each condition zone is as follows:

- A 2-3%
- B1 6%
- B2 5%
- B3 74-5%
- C 12%

The main agencies responsible for degrading the Iron Age resource can be identified as medieval open field agriculture and modern agriculture, urban development and quarrying. Despite numerous authoritative recommendations for preservation, for example in the Royal Commission Inventories, there are still only ten scheduled Iron Age sites in Northamptonshire.

2. CHRONOLOGY

2.1 The basic framework of ceramic chronology for the IA in Northamptonshire is provided by David Knight’s PhD thesis and subsequent research (Knight, 1984 & forthcoming) supplemented for the LIA by Roy Friendship-Taylor’s M.Phil thesis (Friendship-Taylor, 1998). The period begins with the supplanting of the Deverel-Rimbury tradition by Post Deverel-Rimbury (PDR) "plainwares" around the beginning of the 1st millennium BC. PDR "plainwares" are replaced by LBA/EIA styles during the course of the Ewart Park phase and continue until the 4th or 5th centuries BC when earlier La Tene
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LT wares appear. From the mid-1st century BC to the mid-1st century AD late LT style ceramics are present, often alongside a continuing early LT tradition. The recently excavated "ringfort" at Thrapston is so far unique in Northamptonshire in preserving a possible stratigraphic sequence from plain to decorated PDR wares (Hull, 1998; Knight, forthcoming). Other key pottery assemblages for the LBA/EIA have been recovered from Gretton (Jackson and Knight, 1985). For the early LT tradition there are important assemblages from Twywell (Jackson, 1975), Weekley (Jackson and Dix, 1986-7) and antiquarian collection at Hunsbury hillfort (Fell, 1936). Weekley (Jackson and Dix, 1986-7), Irchester (Hall and Nickerson, 1967), Rushden (Woods and Hastings, 1984), Duston and Piddington (Friendship-Taylor, 1998) are perhaps the most significant late LT assemblages.

2.2 Although a basic ceramic sequence has been established there remain serious problems with closely dating LBA/IA sites in Northamptonshire. Pottery fabrics are dominated by shell throughout the period and are rarely diagnostic of a particular style. Most ceramic forms are long-lived and examples of diagnostic forms and decoration are rare in most assemblages. Other issues are differing views over the date range of some diagnostic types such as early LT curvilinear pottery (Knight, forthcoming, 13-15) and difficulties in recognising distinctive LBA ceramics (Dennis Jackson, pers comm). These problems are exacerbated by concerns that differences in ceramic assemblages between some sites may reflect social or functional distinctions rather than chronology, as for example at Wollaston (Ian Meadows, pers comm).

2.3 Dating methods other than ceramics have so far made only a modest contribution to Northamptonshire's IA chronology. Diagnostic non-ceramic artefacts are not common and only rarely found with useful associations. Radiocarbon dates in the 1st millennium BC have been obtained from at least 9 sites (appendix 1). However, consideration of the wide range of dates (from the 4th century BC to 4th century AD) obtained from five samples from a single ditch at Weekley illustrates the difficulties inherent in radiocarbon dating (Friendship-Taylor, 1998; Jackson and Dix, 1986-7; Knight, forthcoming) whilst further problems derive from radiocarbon calibration platform in the EIA (c 800-400 cal BC). Thus far the main contribution of radiocarbon dating has been to provide some measure, however imprecise, of an absolute chronology as well as dating specific features such as the timber-strengthened ramparts at Hunsbury and Rainsborough hillforts and a pit burial at Brackmills.

2.4 Recently, sizeable well stratified LBA/IA assemblages have been recovered from long-lived settlements at Crick (Hughes, 1998) and Wilby Way, Wellingboro ugh (Enright and Thomas, 1998). It is hoped that analysis of these assemblages will advance our understanding of the period's ceramic chronology. A consistent regional set of standards for cataloguing LBA/IA ceramics would assist comparison between assemblages whilst a high priority should be accorded to supporting experimental scientific dating programmes such as optically stimulated luminescence (Barnett, in press) and AMS dating of lipids extracted from ceramics. Radiocarbon dating should continue to be used where no other dating is available or where reliable samples are closely associated with well stratified ceramics, for example in burial groups or structured deposits.

3. THE ARCHAEOLOGICAL LANDSCAPE

3.1 Late Bronze Age/Early Iron Age (LBA/EIA)

Evidence for LBA/EIA occupation in Northamptonshire is relatively uncommon compared to the later IA. The main concentration of sites is on the permeable geologies along the Nene valley, although the majority of defended sites lie on the higher ground in the west of the county. A few sites occur on the claylands but a strong bias towards permeable geologies is evident. West and South Northamptonshire appear under-represented, probably due to the greater prevalence of permanent pasture and lower development pressures in these areas.
Defended sites

The earliest defended sites are a 100m diameter circular enclosure at Thrapston (Hull, 1998) and, probably, the 54 hectare contour hillfort on Borough Hill, Daventry (Jackson, 1993-4b and 1996-97; RCHME, 1981, 63-65). The Thrapston enclosure has a single radiocarbon date centred on the 8th century BC associated with LBA/EIA ceramics and is comparable to the LBA Springfield-style “ringforts” of Eastern England. Although the defences of the large multivallate contour hillfort on Borough Hill remain undated their general character is comparable to the LBA/EIA hill-top enclosures of Wessex (Cunliffe, 1991, 346-348 & 357) whilst LBA/EIA ceramics and Ewart Park phase metalwork has been found in the interior. Another possible LBA defended site is a 150m diameter roughly circular earthwork at Thenford which is loosely associated with a LBA metalwork hoard (RCHM, 1982, 143-144).

Timber-strengthened hillfort ramparts, which are generally taken to be indicative of an EIA date (Cunliffe, 1991, 329), have been observed at Hunsbury (Jackson, 1993-4a), Rainsborough (Avery et al, 1967), Guilsborough (Cadman, 1989), Castle Yard, Farthingstone (Knight, 1986-7) and possibly, Crow Hill, Irthlingborough (Parry, forthcoming, 361- 386). The earliest ramparts at Hunsbury and Rainsborough hillforts have been dated to the EIA but the evidence from the other sites is equivocal. Several other undated earthwork enclosures in the county have also been interpreted, more or less plausibly, as Iron Age hillforts (see appendix 2) whilst other potential defended sites may be indicated by placenames, cropmarks and other earthworks (Foard, 1985 and pers comm; Charmian Woodfield, pers comm).

At present the county has a total of 11 confirmed or possible hillforts and ringforts but experience of the discovery within the past 15 years of three previously unrecognised sites, at Guilsborough, Crow Hill and Thrapston, suggests that others remain to be found.

Settlements

Undefended domestic settlements of the LBA/EIA are not well represented, probably because they are difficult to detect being typically small unenclosed sites comprising a handful of post-built structures and pits. Examples have been excavated at Gretton (Jackson and Knight, 1985), Great Oakley (Jackson, 1982) and Weekley Wood (Jackson, 1976). Unenclosed LBA/EIA sites apparently also represent the earliest phases of the long-lived settlements at Crick (Hughes, 1998) and Wilby Way, Wellingborough (Enright and Thomas, 1999). In contrast, it is notable that the extensively investigated IA landscape at Wollaston is devoid of LBA/EIA settlements (Ian Meadows, pers comm).

A rather wider distribution of domestic activity may be suggested by a plot of all LBA/EIA sites, including ceramics derived from the Prehistoric Ceramics Research Group (PCRG) database. Although the greatest concentration of known sites lies on the permeable geologies along the Nene valley there are also examples of settlement penetrating into the claylands (e.g. Great Oakley) which had hitherto probably only been sparsely utilised (Chapman, 1999). It is possible, but difficult to prove, that these small sites are related to a dispersed and mobile settlement pattern.

Land boundaries

The earliest evidence for land boundaries in Northamptonshire comes from Stanwick where a possibly MBA field system comparable to Fengate underlay the Roman villa complex (Neal, 1989; Parry, forthcoming).

136 pit alignments have been recorded, primarily by aerial survey. Most lie on the permeable geologies of Nene valley whilst smaller numbers are also known on the permeable geologies of the southwest and northeast of the county. Few pit alignments have been recorded on clay geologies but the recent discovery during excavation of a previously unknown pit alignment on clay at Crick suggests that they could be more widespread than the aerial evidence might suggest. Pit alignments have been excavated at Briar Hill (Bamford, 1985), Crick (Gwylm Hughes, pers comm), Grendon (Jackson, 1995 and Claire
Halpin (pers comm), Gretton (Jackson, 1974), Ringstead (Jackson, 1978) and Wollaston (Meadows, 1995 & pers comm). They are invariably found to be earlier than MIA settlements and, where dating evidence is available, a LBA/EIA date is usually indicated. Whilst pit alignments can appear as isolated features they often occur in clusters as elements of complex long-lived landscapes. The best understood example of such a complex landscape is at Wollaston where a co-axial pit alignment system covering an area of about 2.5km² was laid out during the LBA/EIA.

Linear ditch systems made up of single, double and, more rarely, triple parallel ditches are another common feature on aerial photographs but are not closely dateable without excavation. At Gretton, single and double linear ditches have been dated to the LBA/EIA (Jackson, 1974; Jackson and Knight, 1985) whilst a group of triple ditches which cut off spurs of higher ground in the Brampton/Pitsford area to the northwest of Northampton might be contemporary with a complex of pit alignments (NSMR). A short stretch of another triple ditch system survives as an earthwork at "The Larches", Stowe-Nine-Churches (RCHM, 1981, 179-181).

### 3.2 Middle Iron Age (MIA)

Evidence for MIA occupation is fairly common and widespread across Northamptonshire with the greatest concentration of sites along the Nene and Ise valleys and some sites present on the claylands. West and South Northamptonshire is noticeably under-represented, probably due to the greater prevalence of permanent pasture and lower development pressures.

#### Developed hillforts

The hillforts at Crow Hill (Parry, forthcoming) and Castle Yard (Knight, 1986-7) may have been constructed during the MIA whilst the defences at Hunsbury (Jackson, 1993-4a), Rainsborough (Avery et al, 1967) and, probably, Guilsborough (Cadman, 1989) were refurbished with dump ramparts. On morphological grounds, the unexcavated northern fort at Borough Hill (RCHM, 1981, 63-65) is also likely to have been occupied at this time. Information about hillfort interiors is sparse. Nineteenth century antiquarian recording during quarrying inside Hunsbury hillfort recorded large numbers of pits and recovered a wide range of artefacts indicating the sort of intensive occupation expected of a "developed hillfort" (Baker, 1891; Dryden, 1885; Fell, 1936; George, 1917; RCHM, 1985). Survey and small-scale excavation at Crow Hill and Rainsborough have also demonstrated occupation in the MIA. For the other sites there is simply insufficient information to indicate whether they were major centres or merely short-lived refuges.

#### Settlements

Non-hillfort settlements are found across the whole county and are especially common along the Nene and Ise valleys. They can be divided into the following broad morphological categories:

1. Open settlements
2. Enclosed settlements
3. Agglomerated settlements

Open settlements comprise groups of roundhouses with associated ancillary structures and pits but lack substantial enclosing ditches. They appear to be more characteristic of the LBA/EIA than the MIA but because they are less easily discovered than enclosed sites open settlements are poorly understood and under-represented in the archaeological record. The best example of an open settlement dating to the M/LIA is the fully excavated site at "The Lodge", Crick (Chapman, 1995).
Settlements comprising ditched enclosures, each usually less than 0.5 hectares in extent, containing one or more roundhouses with associated ancillary structures and pits are the most common M/LIA settlement type. Large numbers of this class of settlement have been recorded by aerial photography and field survey, notably in the Raunds Area (Parry, forthcoming, 155-166). Where excavated these enclosures normally prove to have M/LIA origins but with occupation sometimes continuing into the RB period (e.g. Blackthorn: Williams, 1974; Weekley: Jackson and Dix, 1986-7). A distinctive sub-type of enclosed settlement are the so-called "Wootton Hill style enclosures" which have been described as a localised mainly late Iron Age monument class consisting of "small enclosures, each surrounded by an exceptionally deep ditch and additionally strengthened by banks, stockades and elaborate gateways" (Dix and Jackson, 1989, 158) which normally lie on the sites of earlier settlements situated on higher ground and may be associated with hillforts and/or Roman villas. Sixteen confirmed or possible examples of this monument class can now be identified. Although Wootton Hill style enclosures have previously been described as being primarily of LIA date it is notable that many of the excavated examples (e.g. Aldwincle, Brigstock, Stanwell Spinney) are associated with early LT ceramics and so, in view of the uncertainties over chronology outlined above, it seems preferable to see them as a M/LIA phenomenon.

Agglomerated settlements are characterised by their much greater extent which ranges from about 5 hectares at Wilby Way to at least 12 hectares at Crick, by the presence of both enclosed and unenclosed settlement elements and apparently by greater longevity of occupation and diversity of function within the settlement. This type of settlement had not been widely recognised or understood in Northamptonshire until the recent use of extensive geophysical survey in development-led evaluations and the subsequent excavations at Crick (Chapman, 1995; Hughes, 1998; Roy Kings, pers comm) and Wilby Way, Wellingborough (Enright and Thomas, 1998 and 1999). Agglomerated settlements are probably much more common than is currently appreciated as reliance on aerial survey and partial excavation may lead to their mis-classification as open or, more often, enclosed settlements. Other likely examples can be identified from survey at Kingsheath, Northampton (Shaw, Webster and O'Hara, 1990), at the partially excavated site at Twywell (Jackson, 1975) and perhaps beneath Stanwick villa where the current post-extraction programme is suggesting that the large IA settlement was much longer-lived than had hitherto been recognised (V. Crosby, pers comm).

Land boundaries and field systems

Many excavations have revealed evidence for field systems and trackways of MIA date (e.g. Weekley: Jackson and Dix, 1986-7) but only through aerial survey and recent investigation in the gravel quarries at Wollaston (Meadows, 1995) has it been possible to begin to understand the extensive agricultural landscapes which existed in the MIA and continued to operate into the RB period. On the permeable geologies, linear ditch systems stretching for several kilometres with associated axial boundaries and settlements are a common feature. Good examples are known from Ecton/Sywell (RCHME, 1979, 47-50 & 144-145) and the Bramptons (RCHME, 1981, 16-21) in the Nene valley, and near Rainhorough hillfort (NSMR). Dating evidence for these systems is often limited but at Wollaston the regular blocks of land defined by EIA pit alignment system continued to be used, albeit apparently now defined by hedges, into the MIA. Settlement and ancillary enclosures were inserted into this landscape and are associated with a changeover from pastoral to mixed agriculture (Meadows, 1995 and pers comm). A rather different and less regular landscape may emerge from current work at Courteenhall where a localised cluster of five M/LIA enclosures with associated field systems has been identified situated on outcrops of glacial sand overlooking a brook on the edge of the boulder clay plateau (Ovenden-Wilson, 1997; Thomas, 1998). The MIA landscapes of the clayland plateaus are less well known but enclosures have been recorded and a linear system apparently similar to those on permeable geologies is known at Brigstock (Foster, 1988).

3.3 The Late Iron Age/Roman transition
The LIA is characterised by a very great degree of landscape continuity from the MIA. Most settlements which originated in the MIA continued to be occupied into the LIA whilst newly founded settlement enclosures such as that at Clay Lane (Windell, 1983) follow established MIA traditions. Hill (1987) has suggested that the terms Middle and Late Iron Age should be used as cultural, rather than chronological, designations and that there is considerable overlap between these cultures in Eastern England. The term LIA is therefore used here to apply to the advent in Northamptonshire of the distinctive material culture which arose in Southern and Eastern England at the end of the first millennium BC.

Settlements

The only evidence for LIA refortification of a hillfort is the insertion of a palisade at Crow Hill (Parry, forthcoming, 369-370). The lack of evidence from other hillfort sites suggests they had been largely abandoned by this time. Large LIA nucleated settlements are known at Duston (Friendship-Taylor, 1998, 148-170; RCHME, 1985, 252-257) and perhaps Stanwick (Neal, 1989) but unfortunately the former was largely destroyed in the 19th century whilst proper consideration of the latter site must await its full publication. There is also evidence for LIA occupation of uncertain character accompanied by burials on the sites of the Roman towns at Towcester (Walker, 1992) and Irchester (Hall and Nickerson, 1967). Smaller sites such as Weekley (Dix and Jackson, 1986-7) and Piddington (Friendship-Taylor, 225-247) appear to have been of high-status as indicated by the construction of Wootton Hill style enclosures at the former and presence of imported pottery at the latter. Villas were later constructed at both Weekley and Piddington following a general trend for villas to be constructed on sites occupied during the LIA.

Material culture

Considerable numbers of IA coins have been found in Northamptonshire with the most significant groups coming from Duston, Evenley, Oundle, Stanwick and Weekley. The earliest coins found in the county are Gallo-Belgic E staters, which are dated to the early/mid 1st century BC. Subsequent coinages suggest that central and southern Northamptonshire had come within the orbit of the Catuvellauni by the late 1st century BC. A concentration of Corieltauvian coins in the northeast of the county suggests this part of Northamptonshire may have fallen within their territory whilst in the southwest the Cherwell may have marked the boundary with the Dobunni (Curteis, 1996a, 1997 and pers comm; Cunliffe, 1991, 110-118 & fig 7.9).

The advent of late LT style ceramics is tentatively dated to the mid/late 1st century BC, although it is only in the 1st century AD that typical Aylesford-Swarling forms make their appearance. Pre-conquest imported Gallo-Belgic pottery is only known from Piddington (Friendship-Taylor, 1998; Knight, 1984 and forthcoming).

Landscape

By the end of the IA it is clear that most of the Northamptonshire landscape was densely populated and intensively utilised by a mixed agricultural economy. Considerable clearance and colonisation had taken place on the formerly wooded claylands, especially to the south of the Nene and in the Rockingham Forest area, but the extent of residual woodland is uncertain. Most settlements and landscapes continued to evolve rather than display radical change well into the Roman period. However, an apparent exception to this rule can be found at Crick where the agglomerated MIA settlement pattern broke down in the LIA or early RB period to be replaced by a dispersed pattern of small settlements.

4. SOCIETY AND ECONOMY
4.1 **Agriculture**

The IA was a time of major population growth as evidenced, for example by the dramatically larger numbers of sites producing MIA or LIA ceramics compared to LBA or EIA ceramics (source: PCRG database). This increasing population will have generated a requirement for greater agricultural production. Other pressures which ought to be considered are the climatic downturn of the early 1st millennium BC and a possible increase in the non-food producing elite and craft specialists in the M/LIA.

Published analyses of carbonised plant assemblages are very limited and it is notable that no Northamptonshire Iron Age sites feature in the recent English Heritage regional review of macro plant remains (de Moulins, forthcoming). Spelt wheat and six-row hulled barley were found in MIA pits at Twywell (Jackson, 1975, 90-91) whilst moderate quantities of charred plant remains have been recovered by larger scale sampling strategies at Crick (Hughes, 1998) and Wilby Way (Enright and Thomas, 1999). Excavated animal bone assemblages have been small and are only published in summary form. At present it is only possible to note that the most common species are usually cattle and sheep/goat whilst pig, horse and dog are of secondary importance and other species rare.

Unfortunately, with the exception of unpublished material from the Stanwick villa site, Iron Age environmental data from the Raunds Area Project was sparse (Parry, forthcoming, 35) and so it is to recent work at Wollaston that we must look for the most significant contribution to understanding the agricultural economy. The picture emerging primarily from the sampling of palaeochannel fills and other waterlogged deposits at Wollaston is one of Bronze Age woodland clearance followed by an open pastoral landscape in the LBA/EIA then the development of a mixed agricultural regime in the M/LIA (Brown and Meadows, 1996-97; Meadows, 1995). Further evidence for an open landscape on the higher ground overlooking the Nene valley in the MIA is provided by mollusc assemblages from Blackthorn (Williams, 1974) and Wilby Way (Enright and Thomas, 1998). Although the main phase of alluviation in the valley is dated to the early medieval period (Robinson, forthcoming, 42-45) alluvial deposits recently found in the fills of a pit alignment at Grendon may be related to increased arable cultivation during the IA.

Away from the Nene valley there is very little comparable environmental data and obtaining such information, especially the clay plateaus, should be accorded a high priority. However, a model of seasonal occupation has been suggested at Crick (Jackson and Hughes, pers comm) which, if borne out by further work, might suggest a more mobile settlement pattern in northwestern Northamptonshire than is apparent in the Upper Nene valley.

As we have seen, sufficient information is available to enable morphological analysis of the IA/RB landscape over wide areas of the Upper Nene valley. However, the great challenge in understanding the changing nature of Iron Age agriculture lies in moving towards an understanding of processes of woodland clearance and the expansion of agricultural production. In particular, following the framework provided van der Veen and O'Connor (1998) more attention should be paid to identifying the archaeological correlates of expansion related to demographic growth, agricultural extensification and intensification, changes in crops, cultivation and management regimes and shifts towards more specialised production. To properly understand how landscapes functioned as agricultural land units it will be necessary to integrate morphological analyses with excavated data, especially environmental data, and details of the natural landscape to generate models of IA land use. We should also be open to new, or less widely used, techniques such as phosphate or multi-element soil analysis (Aston, Martin and Jackson, 1998; Clogg and Taylor, nd) which may assist in identifying functional zones within field systems - for example intensively manured fields. Such studies are currently being undertaken at Courteenhall, Crick and Wollaston. Other techniques which could usefully be employed are the analysis of lipid residues in ceramics and stable isotope analysis of human bone which might provide quantifiable methods for investigating the relative importance of pastoral and arable agriculture.
4.2 Craft Production

Northamptonshire sites have provided evidence for iron and bronzeworking, the spinning and weaving of wool, the preparation of skins and leatherworking and possibly the manufacture of objects of bone, antler, horn, lead, jet, glass, wood and basketry (Knight, 1984). Pottery was also undoubtedly produced in the county throughout this period but possible evidence for pre-conquest bonfire kilns is limited to Weekley (Dix and Jackson, 1986-7). By far the greatest range of evidence for craft production comes from Hunsbury hillfort suggesting that this was an important local manufacturing centre (Knight, 1984, 187) but it is unclear whether any other sites had such a specialist function. The small quantities of craft-related artefacts and materials recovered suggest that the only industry likely to be operating on a more than local level was the iron industry. Excavations at Great Oakley have shown that the nodular ores which outcrop in northeast Northamptonshire were being extracted and smelted in the EIA (Jackson, 1982). Possible IA smelting furnaces have been recorded at Great Oakley, Wakerley (Jackson and Ambrose, 1987) and Harringworth (Jackson, 1981) whilst some of the slag scatters of the Rockingham, Salcey and Whittlewood Forest areas probably date to this period. Elsewhere in Northamptonshire, large quantities of iron-smelting slag have been found at Castle Yard hillfort (Knight, 1986-7) whilst small quantities of smelting or smithing slag are commonly found on settlements. Finally, specific mention should be made of unusual finds of a hoard of currency bars from Gretton (Jackson, 1974) and an iron bloom at Crick (Hughes, 1998).

4.3 Ritual and Religion

Late Bronze Age to Middle Iron Age

In common with the E/MIA across most of Britain, Northamptonshire has hardly any discrete ritual or burial monuments - the only likely excavated example is square barrow situated between two Bronze Age barrow cemeteries at Grendon for which radiocarbon dates are awaited (McDonald and Last, 1999). However, partly inspired by Hill's "rethinking" of the Wessex Iron Age (Hill, 1995), evidence for ritual activities is increasingly being recognised both in the orientation and layout of structures and in the structured patterning of deposits of artefacts and human and animal bone on domestic settlements. Possible ritual structures can be tentatively identified within settlements at Crick (Chapman, 1995), Weekley (Gwilt, pers comm), Stanwell Spinney (Dix and Jackson, 1989) and Wilby Way, Wellenborough (Enright and Thomas, 1998 and 1999). Placed deposits of antler, burnt pig bone and pottery have been observed in the ditch fills at the LBA ringfort at Thrapston (Hull, 1998). Most MIA sites have some apparently structured deposits such as the widespread tendency for ceramics to be concentrated at the termini of roundhouse ring gullies. In contrast, other structured deposition shows more distinct patterning between sites - examples include human and animal inhumations in pits and the deposition of decorated pottery, querns and, rarely, metalwork. Human burials in pits have been recorded at Twywell (Jackson, 1975), Wilby Way (Enright and Thomas, 1998), Brackmills, Northampton (Chapman, 1998) and possibly Hunsbury hillfort (Baker, 1891; George, 1917; Knight, 1984, 115). The burials at Twywell and Brackmills were associated with dog burials in nearby pits whilst the latter was accompanied by a lead torc. The possibility of a cart burial within Hunsbury hillfort is suggested by Baker's reference to a burial accompanied by a horse, horse-gear and an iron tire. Early LT curvilinear decorated pottery probably had a specialised function and selective distribution. It was deposited in large quantities in association with the putative ritual enclosure at Weekley from which three iron spearheads were also recovered. A placed quern was found at the centre of the supposed ritual structure at Crick whilst the large numbers of querns recovered from the pits inside Hunsbury hillfort might also have been placed deposits. The deliberate deposition of fine metalwork seems to have come to an end in the LBA and does not recur until the LIA when, although still rare, mention should be made of a LT III sword recovered from a palaeochannel at Aldwincle (Megaw, 1976) and the famous Desborough mirror, which may have derived from a high-status burial (RCHM, 1979, 33). The proximity of Northamptonshire to Flag Fen may be significant in understanding the paucity of fine metalwork finds.
Late Iron Age

Two small LIA cemeteries are known in Northamptonshire situated just outside the Roman town defences at Irchester and Towcester respectively. The Irchester cemetery contained at least four Aylesford-Swarling style cremations (Hall and Nickerson, 1967) whilst at Towcester an apparently LIA inhumation cemetery appears to be situated within a ditched enclosure which has been compared to continental Vierereckshanzen (Walker, 1992). Although hillforts and Romano-Celtic temples are widely recognised to often be associated with IA shrines (Cunliffe, 1991, 510-518), the only substantial evidence so far available is provided by the considerable numbers of LIA coins recovered from a putative Roman temple site at Evenley (Curteis, 1996a and 1996b).

4.4 Iron Age Society and social relations

This broad heading covers issues such as the scale and nature of social and political units and the relationships between them. We should expect the archaeological record to be complex as it is structured by such diverse factors as religious belief, kinship, clientage and political alliances as well as more immediately practical needs such as effective land management and exchange of specialist products. Nevertheless, it seems reasonable to ask what progress currently available data might allow us to make towards a social archaeology of Iron Age Northamptonshire.

Northamptonshire's location in the centre of England resulted in its IA societies absorbing influences from various different directions. In the LBA the Thrapston ringfort forms part of an Eastern England tradition whilst the parallels for the contour hillfort on Borough Hill can be found to the south and west. The paucity of information for the LBA/EIA restricts meaningful analysis but the collapse of the bronze exchange networks combined with the construction, and sometimes destruction, of hillforts in the EIA would be consistent with a more isolated, fragmented and unstable society. Hillforts are fairly common to the west of Northampton but rare to the east. This dichotomy is recognised by the boundary between Cunliffe's Eastern and Central Southern Zones (Cunliffe, 1991, 527).

The ubiquitous enclosed farmsteads of the MIA suggest a more stable society based, at its lowest level, on discrete family units. Intermediate levels of social organisation, perhaps kin or clientage based, are suggested by the regular ordering of settlements within the co-axial system at Wollaston, by the clustering of some settlement enclosures into neighbourhood groups (e.g. Courtencote) and by the grouping together of open and enclosed elements in the agglomerated settlements. By analogy with better known hillforts in southern England, developed hillforts such as Hunsbury could have occupied the highest social level and performed specialised functions such as craft manufacturing, storage, defence and perhaps the regulation of external trade. The distribution of Northamptonshire early LT style curvilinear pottery is focused on central Northamptonshire in the Upper Nene and Ise valleys where there are several very localised sub-styles suggestive of distinct production and distribution areas (Jackson and Dix, 1986-7, 77-78; Knight, forthcoming, fig 5). This distribution could be consistent with the hierarchical social model outlined above and would suggest that Hunsbury hillfort was the highest status site for the Upper Nene and Ise Valleys with subsidiary centres at sites such as Weekley and Wilby Way.

Demonstrably imported artefacts are very rare in MIA contexts in Northamptonshire but examples include querns (Ingle, 1993-4), salt briquetage (Hughes, 1988) and pottery with granodiorite (Hughes, 1998; Knight, forthcoming) and gabbroic temper (Jackson and Dix, 1986-7). Although salt briquetage is present at Crick its absence from other sites may imply that the bulk of the county's salt was imported from the saltworks in the Fens and/or along the Lincolnshire coast. The square barrow may also attest to social contacts with East Yorkshire. The likely sources of these contacts cover a roughly triangular zone across Southern and Midland England with its apexes in Cornwall, Kent and East Yorkshire which can be interpreted in terms of Northamptonshire's integration within the regional exchange networks of
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the MIA (Cunliffe, 1991, 444-497). Northamptonshire's main contribution to these networks was probably iron but unfortunately the products of this industry cannot be traced to source.

In the LIA there is relatively little indication of the sort of major social changes which are such a distinctive feature of the South East and South Midlands, although a shift in the location of high status sites is indicated from hillforts to nucleated open settlements which subsequently developed into Roman towns or major estate centres. This is a time when Northamptonshire appears to have become politically marginalised and divided between competing tribal groups.

5. CONCLUSIONS

Northamptonshire is fortunate in having a wealth of information for the IA, indeed the recently completed PCRG database places Northamptonshire fourth out of all the English county's in terms of the number of its IA pottery collections. Despite this favourable position there are, of course, many inadequacies with the available data and many unanswered questions - the challenge for the 21st century is not simply to reiterate old agendas and data collection techniques, which could be a danger in the world of PPG16, but to apply more integrated theoretically driven approaches and to embrace new research techniques and directions, such as those proposed by post-processual paradigms. It is suggested that a key objective for this period should be to develop and test models of the operation and development of Iron Age society particularly with reference to the motive forces which formed that society - the natural environment, population and agricultural productivity. To this end a simple model is provided here (appendix 3) along with a provisional agenda for future research priorities for the Northamptonshire Iron Age (appendix 4).

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Appendix 1: First Millennium BC radiocarbon dates from Northamptonshire

Brackmills (Northampton) MIA crouched inhumation: 1 (Andy Chapman, pers comm)
2320±60 BP (Beta-116571)

Great Oakley EIA settlement: 2 (Jackson, 1982)
2630±100 BP (Har-4494)
2500±80 BP (Har-4064)

Gretton LBA/EIA double linear ditch: 4 (Jackson and Knight, 1985)
2410±80 BP (Har-3015)
2390±60 BP (Har-2760)
2240±70 BP (Har-3014)
2210±70 BP (Har-2761)

Hunsbury hillfort: 3 (Jackson, 1993-4a)
2390±70 BP (Har-10568)
2420±100 BP (Har-10569)
2310±70 BP (Har-10570)

Rainsborough hillfort: 4 (Cunliffe, 1991, 605)
2460±70 BP (UB-736)
2490±35 BP (UB-737)
2430±75 BP (UB-853)
2305±115 BP (UB-854)
2450±75 BP (UB-855)

Tansor Neolithic/Bronze Age mortuary enclosure/oval barrow: 2 (+4 pre-1st millennium dates) (Chapman, 1996-97)
2700±70 BP (Beta-84661)
2840±80 BP (Beta-89835)

Thrapston LBA ringfort: 1 + further dates awaited (Hull, 1998)
2630±50 BP (BM-3113)

Twywell MIA settlement: 1 (Jackson, 1975)
2230±90 BP (NPL-225)

Weekley M/LIA settlement: 5 (Jackson and Dix, 1986-7)
2050±70 BP (HAR-1725)
1910±80 BP (HAR-1779)
2120±90 BP (HAR-1844)
2160±70 BP (HAR-2007)
2000±70 BP (HAR-2008)
Appendix 2: Key First Millennium BC sites in Northamptonshire

Abbreviations

LBA = Late Bronze Age
EIA = Early Iron Age
MIA = Middle Iron Age
LIA = Late Iron Age
RB = Romano-British

NSMR = Northamptonshire Sites and Monuments Record
SAM = Scheduled Ancient Monument
WH enclosure = Wootton Hill style small defended enclosure (after Dix and Jackson, 1989 with additions).

Hillforts and other major defended sites


Arbury Hill, Badby (RCHM, 1981, 8-9): undated hillfort? Earthworks interpreted as medieval and/or natural by RCHM but referred to in Anglo-Saxon charter.


Borough Hill, Daventry - northern hillfort (RCHM, 1981, 63-65): undated hillfort. SAM.


Crow Hill, Irthingborough (Parry, forthcoming, 361-386): ?E/M/LIA hillfort. SAM.

Egg Rings, Salcey Forest (Woodfield, 1980): undated small hillfort?


Hunsbury (Baker, 1891; Dryden, 1885; Elsdon, 1976; Fell, 1936; George, 1917; Ingle, 1993-4; Jackson, 1993-4a; RCHM, 1985): E/MIA hillfort. Large artefact collection from 19th century quarrying of the interior in Northampton Museum. Antiquarian reports of pit burials including a ?cart burial in the interior. SAM.


Thenford (RCHM, 1982, 143-144): ?LBA/EIA ringfort or small hillfort.

Warden Hill, Chipping Warden (Glenn Foard, pers comm; NSMR): undated 1.9ha cropmark ?hillfort enclosure respected by a triple ditch.

Settlements

Aldwincle (Jackson, 1977a): MIA WH enclosure. LT III sword found in nearby palaeochannel (Megaw, 1976).


Borough Hill (Jackson, 1996-97): undated ?WH enclosure outside SE corner of contour hillfort. SAM.
Brigstock (Jackson, 1983): Small M/LIA circular WH enclosure and EIA features. Well preserved site with in-situ occupation surfaces. Part of an extensive and long-lived settlement on the boulder clay. See below for landscape survey.

Clay Lane, Ecton (Northamptonshire Archaeology Unit, nd; Windell, 1983): M/LIA enclosed settlement and field system.


Grange Park, Courteenhall (Ovenden-Wilson, 1997; Thomas, 1998): "Neighbourhood group" of five M/LIA/RB enclosed settlements with associated field systems and trackways. Four of the settlements and their landscape context are currently being investigated by BUFAU. An RB villa situated inside a ?LIA enclosure recently found <1km to the north may also be part of this complex.

Great Oakley (Jackson, 1982): EIA small open settlement on boulder clay associated with iron-smelting.

Irchester (Hall and Nickerson, 1967): MIA ?WH enclosure. At least 4 Aylesford-Swarling style cremation burial groups situated just outside the Roman town defences.


Stanwick (Neal, 1989; V. Crosby, pers comm): ?BA droveway, ?LIA nucleated settlement but apparently a longer-lived site than described in the interim report. Part of Raunds Area Project (see below).

Twywell (Jackson, 1975): MIA agglomerated settlement. Three crouched inhumations, two pig and two dog burials in pits.


Wakerley Hall Wood (Jackson, 1976): small EIA open settlement comprising posthole structures including 6 4-posters.

Wilby Way, Great Doddington (Enright and Thomas, 1998 and 1999; Windell, 1981): E/M/LIA agglomerated settlement including WH enclosure and ritual site. Human pit burials and cremations. Molluscs indicate woodland in Neolithic/Bronze Age giving way to open landscape in IA.

Wollaston (Meadows, 1995 and pers comm): MIA settlement enclosures set at regular intervals within a coaxial field system (see Wollaston/Grendon below).

Wootton Hill Farm (Jackson, 1988-9): MIA WH enclosure close to Hunsbury hillfort.

Landscapes and land boundaries

**Bramptons/Dallington and Harlestone Heaths** (Cadman, 1995; NSMR; RCHME, 1981, 16-21; Windell, 1989): Extensive landscape of enclosures, pit alignments and linear ditch systems on Northampton Sand known from aerial survey supplemented by field evaluations. Pit alignment (re-cut as ditch) survives as an earthwork in Harlestone Firs. Associated with Kingsheath agglomerated settlement (see above).

**Brigstock Park** (Foster, 1988): Intensive fieldwalking survey of c 400 hectares on the boulder clay plateau supplemented by air photograph plotting and excavation. IA linear systems and settlements indicate area was intensively utilised by MIA, and possibly before.

**Ecton/Sywell** (Meadows, 1993; NSMR; RCHME, 1979, 47-50 and 144-145): Extensive linear ditch systems and enclosures running along spurs of higher ground defined by minor tributaries of the Nene. Known from aerial survey supplemented by small-scale excavation.

**Gretton** (Jackson, 1974; Jackson and Knight, 1985): Watching brief during mineral extraction. LBA/EIA double linear ditch containing much pottery associated with small LBA/EIA open settlement. Also separate linear ditch respected by pit alignment which had a hoard of currency bars cut into it.

**Geddington** (Bellamy, 1994): Fieldwalking survey of part of a tributary valley in the Nene catchment and its adjacent boulder clay plateau shows dense IA occupation on the plateau.

**Ise valley** (NSMR; RCHME, 1979, 79-89 and 166-170): Cropmark enclosures and linear systems/trackways situated along ridges of Northampton Sand and Estuarine Series Limestone on the west side of the Ise valley. Includes the Stanwell Spinney site (see above).

**Pitsford/Moulton** (NSMR; RCHME, 1979, 110-112): Cropmark complex on ironstone ridge to north of Northampton - a continuation of the Brampton complex (see above).

**Rainsborough** (NSMR): Linear ditch systems recorded by aerial survey to the northeast of Rainsborough hillfort but centred on an undated settlement not the hillfort.

**Raunds Area** (Parry, forthcoming): Fieldwalking survey (accompanied by aerial photography, geophysics and limited trial trenching) of 2800 hectares of the Nene valley examining valley floor, side and boulder clay plateau. Survey identified 16 enclosed settlements (inc 3 WH enclosures), 3 possible open settlements and Crow Hill hillfort. Three sites on valley floor/side have EIA occupation but most are M/LIA.


**Wollaston/Grendon** (Brown and Meadows, 1996-97; Jackson, 1995; Meadows, 1995 and pers comm): Excavation and watching briefs in response to mineral extraction within a cropmark complex in the floor of the Nene valley. Co-axial pit-alignment system originated in LBA/EIA and continued into the MIA when settlement enclosures were inserted. Environmental evidence indicate forest clearance to create open grassland in...
LBA/EIA giving way to mixed agriculture in MIA. Landscape continues into RB apparently without clearly defined LIA phase.

Other sites


**Grendon** (McDonald and Last, 1999): ?IA double-ditched square barrow situated between two Bronze Age barrow cemeteries and containing a central crouched inhumation. Pit alignment and IA enclosures associated. C14 dates awaited.


Appendix 3: A simple model of social and economic development in 1st millennium BC Northamptonshire

**Earlier Bronze Age**

Low population densities.

Mobile wood-pasture economy on permeable geologies?

Forest on clayland? - hunting?

**Late Bronze Age/Early Iron Age**

Climatic downturn/Inundation of the Fens

Population growth

Mobile settlement pattern?

Woodland clearance and ?intensification of pastoral agriculture on permeable geologies

Limited expansion onto claylands

Defended sites - social tension?

**Later Iron Age**

Population growth

Sedentary settlement pattern

Shift to mixed agriculture on permeable geologies - further intensification.

Major expansion on claylands

Specialised iron production for regional trade?

Hunsbury dominates central Northants until absorbed into growing Catuvellaunian polity
Appendix 4: Provisional Research Agenda/Strategy Priorities for Northamptonshire's Late Bronze Age and Iron Age

1 Ceramics and chronology

**Clarify terminology, improve accuracy and precision.**

Establish a common classificatory/terminological system for IA ceramics based on David Knight's definitions and guidelines (Knight, 1998 and forthcoming).

Review the potential for scientific dating and issue guidelines for proper implementation through PPG16.

Encourage and support research into new scientific dating techniques.

1 Settlement and landscape

**Improve understanding of how the Iron landscape developed and functioned and the restrictions imposed by the natural environment.**

Continue aerial survey and morphological analysis through NMP. Aim towards integration with excavation, survey and environmental data.

Recognise the scale of study required to investigate landscape change and ensure the integrated analysis and publication of projects undertaken through PPG16 (e.g. in the Upper Nene valley and at Crick) and major backlog projects (e.g. Stanwick villa).

Seek further environmental data for landscape change, especially woodland clearance on the claylands.

Research and apply new techniques such as multi-element analysis to enhance understanding of landscape function.

Identify specific topics requiring detailed research e.g. pit alignments.

1 Social and economic

**Improve understanding of the organisation of social and economic relationships.**

Apply new techniques such as lipid and stable isotope analyses to improve understanding of the relative importance of pastoral and arable production.

Encourage further research into Northamptonshire's iron industry.

Encourage further research into the social and economic role of Northamptonshire's hillforts, including a comprehensive modern restudy of Hunsbury hillfort and its museum archive.

Encourage further research into the social and economic significance of distinct settlement types e.g. agglomerated settlements, neighbourhood groups.

Explore sub-regional identity and diversity e.g. are Rockingham Forest or northwest Northants socially and/or economically distinct from the better understood Upper Nene valley/Ise valley?
Utilise GIS and spatial analysis to integrate structural, finds and environmental data in a move towards an "archaeology of inhabitation".

Identify specific topics requiring detailed research e.g. ritual structures and practices.

1 Conservation and Management

Preserve the most important elements of the IA landscape and develop a management framework for the total landscape.

Assess the archaeological potential of Northamptonshire's Iron Age landscape and define broad landscape zones to assist development control policies.

Undertake rapid survey of ancient woodlands to identify surviving prehistoric earthworks and to assess environmental potential.

Schedule all surviving Iron Age earthworks and other key sites such as the agglomerated settlement at Kingsheath, Northampton; the putative temple/shrine at Evenley and the surviving parts of the sites at Weekley and Wilby Way.

Target conservation grant schemes towards "at risk" sites (e.g. major monuments at risk of plough damage; instability of earthworks at Hunsbury hillfort).

Encourage reporting of portable antiquities by continuing the Finds Liaison post beyond its trial period.