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Transforming the Trent Valley: Cultural Heritage Audit Report

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Transforming the Trent Valley: Cultural Heritage Audit

ArcHeritage Campo House, 54 Campo Lane, Sheffield, S1 2EG

Phone: +44 (0)114 2728884 Fax: +44 (0)114 3279793
archeritage@yorkat.co.uk www.archeritage.co.uk

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EXECUTIVE SUMMARY

This report describes the results of a cultural heritage audit undertaken by ArcHeritage for Transforming the Trent Valley Project. The project has collated data from numerous sources to produce a GIS and gazetteer of known heritage assets and landscapes with the study area. It has reviewed the available data to characterise the heritage of the study area and its development. The study identified an extensive cultural heritage resource in the study area, with 2274 individual heritage assets ranging in date from early prehistory through to the modern day. A number of major themes have been identified relating to the landscape and human occupation and use of the landscape, and the principal threats to the preservation of the cultural heritage resource are discussed.

The mobility of the rivers has had a major impact on the landscape and the development and character of settlement and land use. This has influenced the pattern of dispersed farmstead settlement from the Neolithic to the early medieval period. There has also been a strong tradition of pastoral economy from Neolithic onwards.

Elite residences are only visible from the medieval periods onwards, a period that also saw increased nucleation of settlement. These developments continued into the post medieval period.

The area has a high concentration of assets related to 20th-century military activity. The majority are related to the World War II Stop Line No.5, designed to counter the effect of a German invasion but other military features include former RAF airfields, military camps and many memorials to the fallen.

Key industries of the valley include brewing and mineral extraction, which provide the most visible remains of industrial activity within the study area. There is also some limited visibility of industries significant in the wider region such as iron working and glass manufacture, as well as corn mills and textile production.

The visibility of the cultural heritage resource related to the identified themes and periods varies within the landscape, due to changes in the river courses and land use, mineral extraction and modern development, with assets from the medieval period onwards being generally more likely to be preserved as earthworks or built heritage. Features such as the rivers and the extensive industrial period transport network form a connective link between settlements and can provide a focus for heritage interpretation across the study area.

1 INTRODUCTION

This report presents the results of a cultural heritage audit into an area covering the middle Trent Valley and parts of the valleys of its tributaries, the Dove and Tame, within the counties of Staffordshire and Derbyshire. The cultural heritage audit forms part of the development phase of the Transforming the Trent Valley Landscape Partnership's HLF bid, in association with an audit of natural heritage environmental opportunities and a visitor experience and facilities audit. The data produced by these audits will inform interpretation and spatial strategies for the project area, as well as the development of a landscape conservation action plan.

The cultural heritage audit catalogued and analysed all recorded heritage assets within the study area, and provides of a synthesis of the cultural heritage resource by period and theme.

2 STUDY AREA LOCATION & GEOLOGY

The study area encompasses 200km^2, centred on NGR SK 2310 2200 and covering the part of the Upper and Middle Trent Valley between Colwich, Staffordshire in the southwest and Shardlow, Derbyshire in the northeast. It also covers two major tributaries, the River Tame from Hopwas in the south to its confluence with the Trent at Alrewas, and the River Dove from Rocester in the northwest to its confluence with the Trent just north of Burton upon Trent (Figure 1). The Upper Trent Valley covers the southwest arm of the study area, to just northeast of Alrewas, whilst the central and northeast arms fall within the area known as the Middle Trent Valley. The largest conurbation is Burton upon Trent, located just north of the central point of the study area. Other settlements within the study area comprise villages and hamlets.

The bedrock geology of the study area largely comprises Triassic mudstone, siltstone and sandstone formed between 200 and 251 million years ago (BGS online). Specific formations include Gunthorpe Member mudstone and siltstone, formed in hot, dry environments and found across much of the northeast and southeast arms of the study area and intermittently in the central and southwest areas; Taporley Siltstone Formation mudstone and siltstone, formed in lacustrine environments and largely found to the southeast of the Trent around Newton Solney and around Mavesyn Ridware in the southwest arm; Mercia Mudstone group found throughout the northeast arm and in the northern part of the southwest arm; with Helsby Sandstone Formation pebbly sandstone towards the northeast and southwest ends of the study area, Edwalton Member mudstone found in the central park to the north and south of Burton upon Trent and Helsby Sandstone Formation in part of the southwest arm. A variation is Chester Formation sandstone and conglomerate found to the south of the Trent in the northeast arm around Ingleby, of Permian date (251-299 million years ago).

The superficial geology largely comprises River Terrace Deposits sand and gravel formed during the Quaternary period, overlain by Holocene alluvium in the lowest parts of the valley and floodplain, comprising river-deposited clay, silts and sands (BGS online). The river terrace deposits were formed in association with the retreat of glacial ice sheets of the Anglian and later glaciations, through the outwash of sands and gravels. Though dating of the gravel terraces is complex, the most recent models (based on scientific dating and the character, composition, stratigraphic relationship and relative height of the mapped deposits) suggest that the Sandiacre and Etwall terraces were deposited as outwash during the putative post-Anglian,

pre-Devensian 'Wragby' glaciation, whilst the Egginton Common and Beeston formations developed during subsequent cold and temperate periods, up to the end of the Middle Palaeolithic period (see Table 1). Within the study area, these terraces (Plate 1) are mostly found along the stretch of the Middle Trent heading east from its confluence with the Dove.

Table 1: Terrace deposits within the study area by period

Quaternary stage	MIS	Approx. start date	Archaeological period	Terrace/deposit	Location within study area
Holocene	1	11,700 years ago	Mesolithic to modern	Floodplain alluvium	Throughout river valleys
				Hemington	Around the Dove/Trent confluence and eastwards to Barrow-upon-Trent
DEVENSIAN	2 2	29,000	Upper Palaeolithic	Holme Pierrepoint	Found through most of the study area
				Beeston	North of Willington area, Middle Trent; Rugeley area, Upper Trent
	3	57,000	Middle Palaeolithic		
	4	71,000			
	5a-d	109,000			
IPSWICHIAN	5e	123,000			
	6	191,000		Egginton Common	North side of the Dove
Aveley interglacial	7	243,000			
	8	300,000		Etwall	North of Middle Trent and Dove
WRAGBY GLACIATION				Sandiacre/Eagle Moor	North of Middle Trent and Dove (outside study area)
				Oadby Till	North of Middle Trent (Willington to Aston)
Purfleet interglacial	9	337,000	Lower Palaeolithic		
	10	374,000			
HOXNIAN	11	424,000			
ANGLIAN	12	478,000			

(Adapted from Howard and Knight 2004, fig.2.3 and Bridgland *et al*. 2014, table 1.3 and plate 2.) Colours relate to Plate 1. MIS: Marine Oxygen Isotope Stage; approx. start dates from Lisiecki and Raymo (2005)

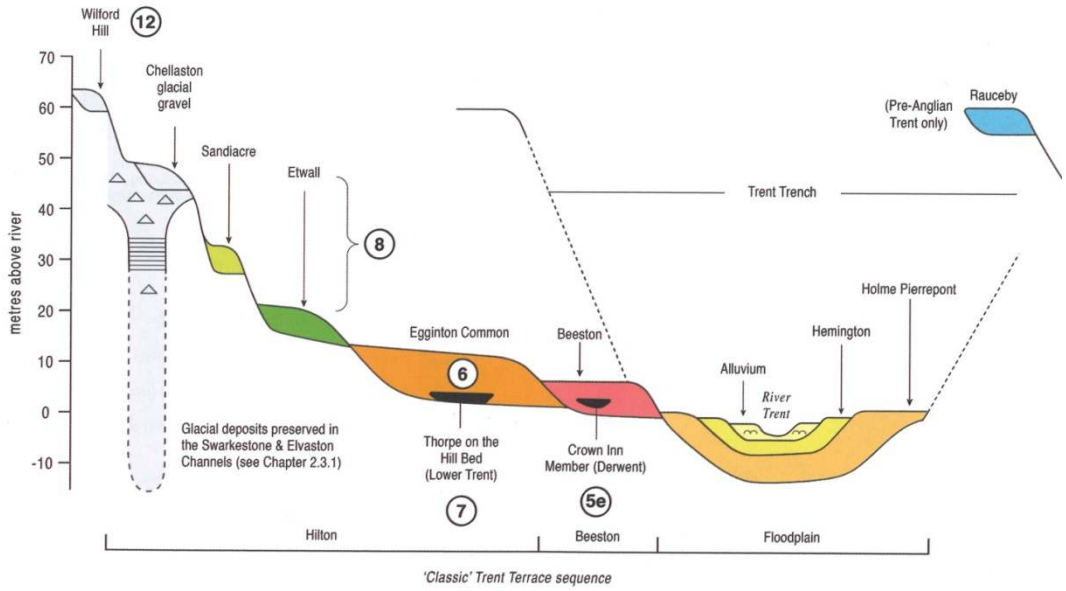


Plate 1: Idealised transverse section through the Middle Trent river terrace sequence

(Reproduced from Bridgland *et al*. 2014, plate 4)

The Holme Pierrepoint sand and gravel forms the main and lowest part of the floodplain terraces within the Middle and Upper Trent, and dates to the latest Devensian (Upper Palaeolithic) period. This is found throughout the study area, and is the main terrace mapped along the Trent and Tame valleys south of Burton on Trent. Within the northern reach of the study area, parts of the Holme Pierrepoint terrace were reworked by river action during the Holocene, producing the Hemington sand and gravel formation, which contains archaeological remains of up to medieval date (Bridgland *et al.* 2014, 179).

These river terraces have been intensively extracted for sand and gravel extraction during the 20th century and into the present day, with active quarrying at Willington, Barrow and Shardlow in Derbyshire, and Uttoxeter, Branston, Tucklesholme, and Catholme in Shropshire.

3 AIMS AND METHODOLOGY

3.1 Aims

The 'Transforming the Trent Valley' HLF Landscape Partnership Scheme celebrates the waterways, industries and communities that form the focus of a rapidly evolving river valley landscape, and aims to create wildlife-rich rivers, waterways and wetlands at the heart of a revitalised, resilient and beautiful landscape. The aims of the scheme include inspiring local communities and visitors to engage and reconnect with the valley. Raising awareness of cultural heritage can contribute significantly to these aims by helping people reconnect with their common past and rebuild a sense of place and identity. Cultural heritage can also provide links between disparate communities, linking them through common heritage.

Archaeology, history and geology underpin the formation of our physical landscapes, and the way that people understand and engage with them in the present day. The aims of the cultural heritage audit were to produce a comprehensive catalogue of heritage assets (built heritage, historic features, buried remains and landscapes) within the study area, drawing together existing documentation and recorded information. The results will help to identify actions to be taken forward over the delivery phase of the project and will inform existing heritage-specific delivery phase projects. The audit also provides information that will assist in identifying opportunities for the enhancement and interpretation of the historic environment, identify key themes and areas of interest and significant gaps in knowledge, as well as conservation management priorities and ways of engaging local people in the study and management of the cultural heritage resource.

3.2 Methodology

3.2.1 Data gathering

The first stage of data collection for the compilation of the gazetteer and GIS comprised a search of information held by the Staffordshire and Derbyshire HERs for all archaeological sites, findspots and buildings within the study area, as defined on Figure 1. Shapefile data was obtained from the HERs to facilitate the production of the gazetteer and GIS. In addition, the National Heritage List for England databases of listed buildings, scheduled monuments, registered parks and gardens and registered battlefields were downloaded from the Multi-Agency Geographic Information for the Countryside (MAGIC) website.

Information on historic landscape character and conservation areas was provided by Staffordshire HER. Conservation area shapefiles were provided by Derbyshire HER. Online information on conservation areas has been accessed from district council websites. The Defence of Britain archive was downloaded from ADS and cross-referenced with the HER data to identify any additional features relating to 20th-century military activity.

Lidar 2m DTM data for the entire area was downloaded from the Environment Agency and processed using SAGA GIS and the Relief Visualisation Toolbox developed by the Scientific Research Centre of the Slovenian Academy of Sciences and Arts. Processed imagery was output as GeoTIFF files for incorporation in the GIS. Features recorded from aerial photographs as part of the National Mapping Project were provided as shapefiles by Staffordshire HER. OS Mastermap base map data was provided under licence by Staffordshire County Council, with OS StreetView mapping used for wider scales of visualisation. Recent aerial photograph imagery was also provided by Staffordshire County Council, as a WMS link for incorporation in the GIS.

Sources consulted comprised:

- Historic Environment Records for Staffordshire and Derbyshire;
- Historic Landscape Characterisation data);
- Historic England National Heritage List for England;
- Historic England National Mapping Project;
- Environment Agency Lidar data (available from data.gov.uk);
- Archaeology Data Service (ADS, online source);
- Data from Trent Valley Geoarchaeology Group, including palaeochannel mapping and bibliographic database;
- Data from the Canal and Rivers Trust, relating to assets in their ownership;
- Defence of Britain data;
- Reports and publications of archaeological investigations and research within the study area, available from the HERs;
- 'Where Rivers Meet' project publication (University of Birmingham and English Heritage);
- War Memorials Online;
- Academic syntheses relating to the project area;
- Regional archaeological resource assessments and research agendas;
- Conservation Area information;
- Historic and current OS mapping available online;
- Google Earth;
- ArcHeritage and Trent and Peak Archaeology libraries.

3.2.2 Data collation

The data was collated as shapefiles or georeferenced images for entry directly into the project GIS to assist in the spatial and thematic analysis of the data. Features and assets are displayed as points, polylines and polygons depending on the nature and extent of the asset and the reliability of source information.

Each cultural heritage asset has been assigned its own unique reference number in an overall gazetteer linked to the GIS. The information fields in the gazetteer include:

- asset ID
- asset name
- broad asset type (building, monument, site, findspot, landscape)
- asset class (using Historic England's FISH Thesaurus categories)
- designation (where applicable)
- National Grid Reference
- source reference and identifier (e.g. HER, NHLE, NMP)
- period
- broadclass (general theme utilising FISH categories)
- palimpsest (freetext field for sites with multiple periods or themes)
- condition of asset

Based on the information in the overall gazetteer, separate shapefiles were created for each identified period and theme. The periods assigned are listed in Table 2 below:

Table 2: Period classification

Period name	Date range
Early prehistoric	500,000-4000 BC
Later prehistoric	4000-BC - AD 43
Roman	AD 43-450
Early Medieval	450-1066
Medieval	1066-1485
Post-medieval	1485-1750
Industrial	1750-1900
Modern	1901-2016
Unknown	No dating evidence

Many assets are multi-period, particularly extensive cropmark landscapes where activity may include later prehistoric to modern ritual, agriculture and settlement. Where this is the case, a freetext sub-category for palimpsest sites has been created, to identify the date ranges and broad themes represented. This can then be interrogated to create overall mapping showing sites by period. The 'unknown' period category covers sites where there is no dating evidence. This again mainly relates to sites recorded only as cropmarks, though some excavated sites also have not produced any dating material.

Themes were initially broadly defined using Forum on Information Standards in Heritage (FISH) broadclass categories where possible. Additional classes have been created where findspots or features do not easily fit into these categories. Broadclass types used are listed in Table 3 below:

Table 3: Broadclass types

Broadclass	Examples
Agriculture and subsistence	Field systems, field boundaries, ridge and furrow, water meadows, stock enclosures, stone tools relating to prehistoric subsistence activity (hunting, gathering, and clearance).
Boundary	Landscape division not definitively associated with agriculture.
Civil	Town hall, parish boundary, almshouse, workhouse.
Commemorative	War memorial.
Commercial	Shop, inn, market hall, coin finds.
Defence	WWI & II infrastructure, castles, hillforts, defensive earthworks, weapon finds.
Domestic	House, settlement, farmstead/farmhouse, manor, country house, settlement enclosure, moated site.
Education	School, reading room.
Gardens & Parks	Deer park, landscape park, formal garden, walled garden, municipal park, and associated features (ha-ha, pavilion, orangery, etc.).
Health and welfare	Hospital, infirmary.
Industrial	Kiln, forge, mill, brewery, factory, works, evidence for industrial activity, salt works.
Palaeoenvironmental	Faunal remains not associated with human activity, palaeochannels, palaeoenvironmental remains.
Personal	Brooch, ring, garment accessory, etc.
Recreational	Rifle range (non-military), club, playing field, theatre/cinema.
Religious, ritual & funerary	Cursus, causewayed enclosure, ring ditch, burial mound/barrow, henge, timber circle, church, graveyard/churchyard, grave monument, burial.
Transport	Trackway, hollow way, road, canal, railway, and associated infrastructure (bridge, milepost, toll house, signal box).
Water supply and drainage	Weir, river revetment, sewage/water works.
Unassigned	Asset that is insufficiently understood to interpret.

Some assets which have only limited information (e.g. 'linear feature', 'enclosure') have been assigned an 'unassigned' broadclass. This indicates that their purpose and function are currently unknown and no class or category can be assigned. A 'Personal' category not in the FISH thesaurus was also created, used for artefacts that could not be easily related to other classes.

3.2.3 Analysis and synthesis

A review meeting was held with Louise Morris, Suzy Blake and Sarah Bentley of the project steering group after the initial data gathering phase. This finalised the themes for analysis and the form of the outputs.

The agreed themes comprise:

- Early prehistoric environment and activity, and evolution of the river valley;
- Evolution of the agricultural landscape;
- Ritual and religion;
- Settlement evolution;
- Transport networks and development of the road, canal and railway system;
- Industrial development and key industries of the valley;
- The evolution of elite landscapes;
- The 20th-century military and defence landscape;
- Heritage at Risk.

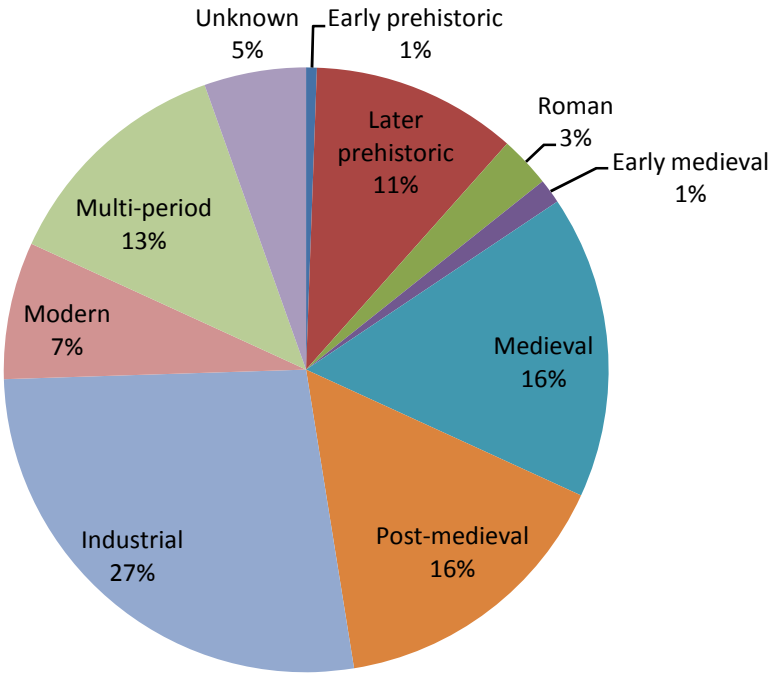
For each theme and period the following were created:

- a description of the evidence base and summary of information;
- GIS layers for each theme and broad period;
- identification of gaps in knowledge and suggested further work to address this;
- a list of priority sites for conservation management, based on condition and vulnerability;
- suggested interpretation opportunities and methods, with key sites identified.

Within the period-based layers, each asset was assigned a category, defined more tightly than the broadclass, to assist with creating theme layers. These categories vary according to the period, and are not included on the overall gazetteer, due to conflicts in multi-period sites, where different categories may have been assigned to different periods within the same overall archaeological site. For example, Repton Priory is assigned to the religious category in the medieval period, but to the education category in the post-medieval to modern periods.

4 SUMMARY BY PERIOD

This section provides a summary of the cultural heritage resource of the study area by historic period from the early prehistoric period to the modern day. Individual assets are referred to by their Project ID code (four figures, starting from 1001). A total of 2274 individual assets have been recorded in the gazetteer.



Graph 1: Percentage of assets by period

4.1 Early prehistoric (500,000 to 4000 BC)

Within the study area, only 17 assets or findspots relate to this period. These largely comprise finds of redeposited stone tools, with only two possible sites of settlement activity, and one burial that has been interpreted as being of Mesolithic date.

4.1.1 Palaeolithic (500,000 to 10,000 BC)

The Palaeolithic period was characterised by glacial and interglacial periods, with periods of hominid hunter-gatherer activity occurring in warmer periods when the ice sheets retreated. Hominid activity has been recorded in Britain prior to the major Anglian glaciation (*c*.500,000-450,000 years ago), but so far none has been recorded within the Trent Valley area. During this glaciation the ice sheets extended as far south as London and obliterated the earlier river and drainage network in the Midlands, as well as any potential surface archaeology pre-dating the ice (Knight and Howard 2004, 14).

After the Anglian ice sheets retreated, there followed a period of interleaved warm (interglacial) and cold stages. Though ice sheet coverage was less extensive in the cold periods than during the Anglian glaciation, the study area appears to have been impacted by the edge of an ice sheet in the early part of the Middle Palaeolithic, *c*.300,000-250,000 years ago (Bridgland *et al*. 2014, 312-315). The first clear evidence of hominid (Neanderthal) activity in

the area comes from the period after this glaciation, between 250,000 and 150,000 years ago, in the period of tool technology change known as the Lower and Middle Palaeolithic transition (Knight and Howard 2004, 14-15). After this, the country appears to have been largely abandoned during a prolonged period of climatic deterioration, with re-colonisation around 60,000 years ago, towards the end of the Middle Palaeolithic period and start of the Early Upper Palaeolithic. Again, these were almost certainly Neanderthals, utilising a stone tool technology of small handaxes. Though such tools are rare within the study area, remains have been recorded in cave sites at Creswell Crags to the north, possibly 'field camps' occupied for short periods, and in general very small populations are thought to have visited the area during this period, perhaps on a seasonal basis (Bridgland *et al*. 2014, 329). It has been argued that the cool, mammoth steppe environment would have made for precarious conditions for human survival; though there was a good large mammal resource, vegetation sources were very limited, including wood for making fires and spears (White 2006).

The Upper Palaeolithic saw the first appearance of modern humans (homo sapiens) in Britain, around 30,000 years ago. The final glaciation period was the Devensian, around 26,000 years ago, with the return of modern humans to the area occurring around 15,000 years ago, following the glacial maximum; a period known as the Late Upper Palaeolithic.

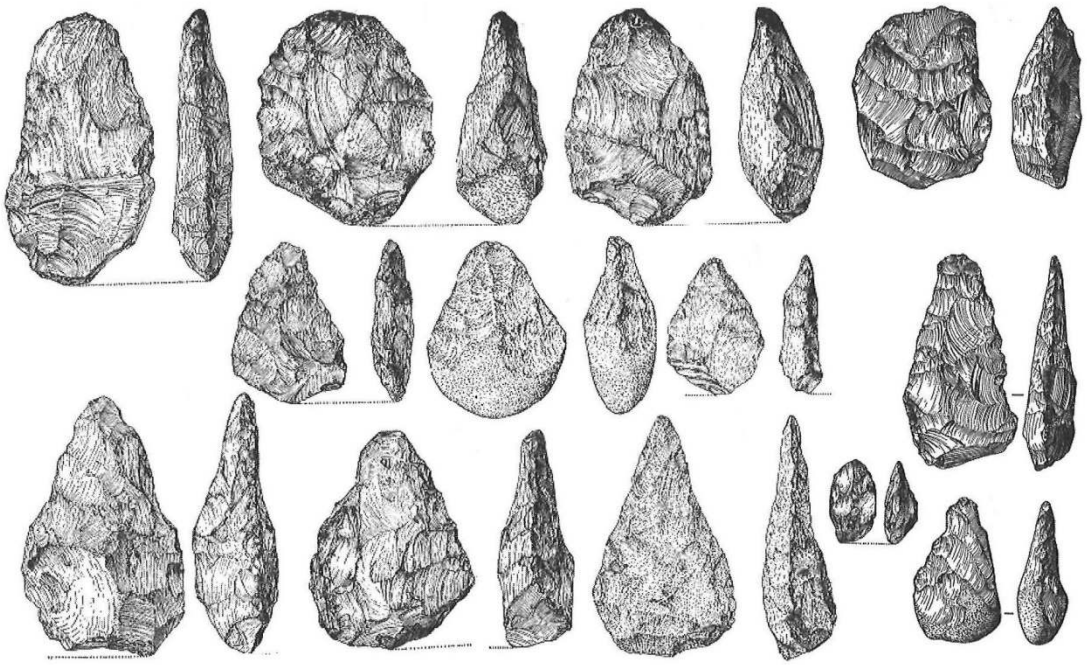


Plate 2: Flint and quartzite handaxes from Willington gravel pits (asset 3100)

(Reproduced from Posnansky 1963)

The remains of hominid activity from the Palaeolithic period are characterised by finds of stone tools (Figure 3). The earliest archaeological remains from the study area appear to date to the end of the Lower Palaeolithic period. These comprise handaxes in a style known as Acheulean, supplemented by a later prepared core technology known as Levallois. A group of around 50 handaxes and Levallois flake tools recovered from Willington Quarry in the 1940s are thought to date to this period (asset 3100; Plate 2), as well as individual finds of Acheulean handaxes from Egginton, Willington and Foston. Handaxes found during fieldwalking at King's Bromley and Whittington in Staffordshire may be of Lower to Middle Palaeolithic date.

The Lower Palaeolithic finds from within the study area are sparse, and most have been found in the Etwall and Egginton Common sand and gravel formations deposited as outwash from later glacial activity, meaning that the artefacts have been disturbed and moved from their original location and context (Bridgland *et al*. 2014, 288).

The only study area site where *in situ* Palaeolithic deposits have been recorded is on the Holme Pierrepoint terrace at Tucklesholme Quarry, where a scatter of Late Upper Palaeolithic flints demonstrated toolmaking activities on low-lying land between braided river channels (asset 2520; Francis and Richmond 2015). The rarity of this site makes it very significant for studies of the Palaeolithic in the region.

Another significant Palaeolithic resource recorded within the study area comprises faunal remains. These again are sparse and recovered during sand and gravel quarrying largely of the Beeston and Holme Pierrepoint terraces, but the *in situ* remains of a woolly rhino from Whitemoor Hayes Quarry (asset 2003) and a mammoth tusk from Shardlow Quarry (asset 2529), as well as plant remains, pollen and insects from preserved organic deposits in former river channels (palaeochannels), provide significant information on the environment and types of animals within the area during the Palaeolithic period.

4.1.2 Mesolithic (10,000 to 4000 BC)

Similarly to the Palaeolithic period, the cultural heritage resource of the Mesolithic period within the study area, and the Trent Valley as a whole, is largely represented by finds of lithic (stone) artefacts, both individual lithics and artefact scatters. The tool technology of this period became increasingly intricate and specialised, characterised by small blade types known as microliths. Within the study area, these tend to be made of Wolds-type flint largely sourced from local redeposited glacial tills, though chert sourced from limestone sources in the White Peak was also found at Swarkestone (Knight and Howard 2004).

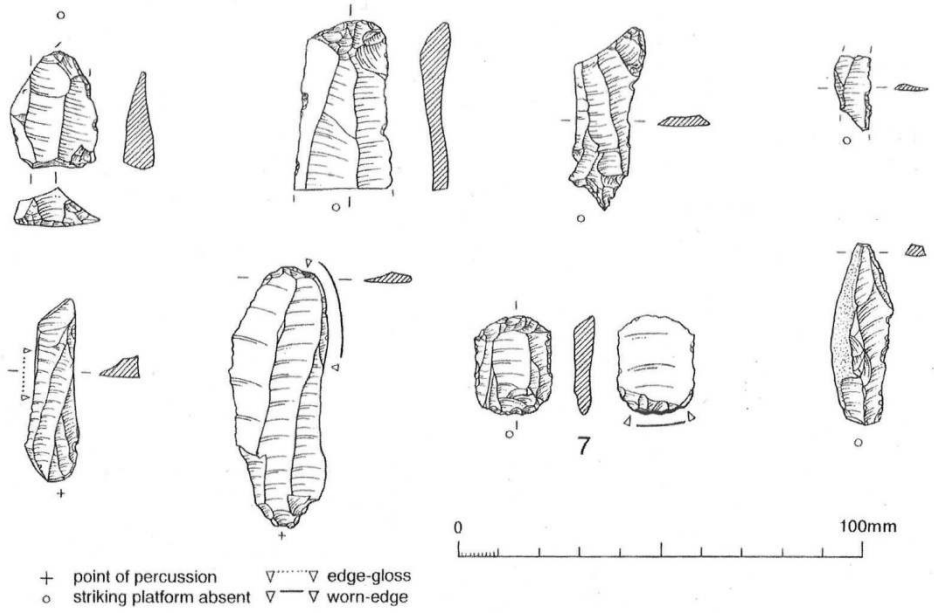


Plate 3: Early Mesolithic flint tools from Swarkestone Lowes (asset 2535)

Reproduced from Elliott and Knight (1999, Fig. 11)

Human activity in the Mesolithic period continued to be based on a mobile hunter-gatherer economy, and only one site with *in situ* Mesolithic deposits has been recorded within the study area. Excavations on the top of an Etwall terrace ridge at Swarkestone Lowes in Derbyshire recovered a significant Early Mesolithic tool industry, characterised by the knapping of large blades and by a restricted tool kit (asset 2535; Plate 3). The scatters suggested several foci of activity along the ridge, possibly indicating multiple visits to the site over a period of years (Elliott and Knight 1999).

A problematic, though potentially significant site within the study area is that of a human burial of possible Mesolithic date discovered in the 1940s at Branston (asset 1033). The remains comprised most of a female skeleton, in association with microliths and remains of a wooden structure, possibly a platform over an old channel of the River Trent. Mesolithic human remains are very rare nationally, with only one other single bone recorded in the Trent Valley, from Staythorpe, Nottinghamshire; however, the HER record suggests that little further detail is known of the Branston burial and the latest reference is from the 1950s. It was reported that the remains were to be displayed at Burton museum, but it is unclear whether their current location is known. The lack of information on the remains means that it is currently uncertain whether the burial was Mesolithic or of a later date and this attribution should be treated with caution.

4.2 Later prehistoric (4000 BC to AD 43)

There are 366 sites or findspots of probable later prehistoric date within the study area (Figure 4). The majority relate to agriculture and subsistence (including casual finds of lithic artefacts) and ritual and funerary sites. Many of the sites have been recorded as cropmarks, and are therefore interpreted and dated only on morphological grounds. For sites that have been subject to archaeological investigation, diagnostic artefacts such as pottery, metalwork and flint tools, and scientific dating methods can be used provide a more secure date.

4.2.1 Neolithic (4000-2100 BC)

Fundamental changes in the character of the landscape and human activity occurred during the Neolithic period, which is characterised by changes in flint tool technology, the introduction of ceramics and the first evidence for large-scale earthwork monuments, as well as the transition from a mobile hunter-gatherer economy to a more settled agricultural system. In some areas of the country, Neolithic monuments continue to be visible features in the landscape; however, none have survived as earthworks within the study area due to subsequent activity and land use. A number have been recorded as cropmark features on land that has been cultivated, where differential crop growth reflects the buried remains of ditches or structures. These sites began to be recognised and recorded through aerial photography in the later 20th century. Some have since been archaeologically investigated, largely in advance of sand and gravel extraction or development.

These monuments form a substantial aspect of the Neolithic resource within the study area. Significant groupings of monuments with a ritual interpretation have been recorded in the vicinity of Catholme (assets 1009-1010, 1132), Alrewas (1081) and Mavesyn Ridware (1229) in Staffordshire, and at Potlock (2690, 2956-7, 3967, 3081) and Aston on Trent (2521, 2527) in Derbyshire, all on the Holme Pierrepoint terrace. These groupings, including causewayed enclosures, possible mortuary enclosures or long barrows, cursus monuments, henges or

hengiform monuments, and elaborate post-settings, are all located in proximity to confluences of the Trent and its tributaries, and suggest the significance of the river in a ceremonial context, as well as a major landscape feature. These ceremonial landscapes were altered and added to over time, with post-settings and henges forming the latest aspect (Buteux and Chapman 2009). By the late Neolithic/Beaker period, these monuments appear to have ceased to be constructed, though they would have continued to be visible in the landscape, and some reuse as places of burial is evidenced in the Catholme complex. At this time, the focus of monument construction switched to round barrows, circular burial mounds often with an outer ditch or bank, covering one or more primary burials. This tradition continued through much of the Bronze Age.

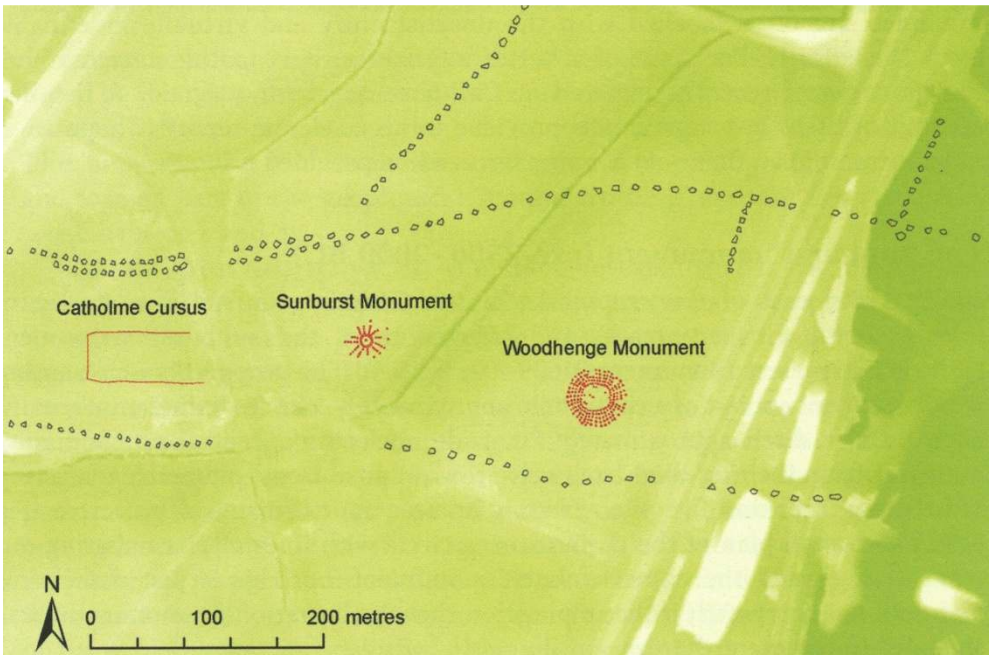


Plate 4: Catholme ceremonial complex cropmarks, enclosed by later pit alignments

Reproduced from Buteux and Chapman (2009, Fig. 5.4)

Some evidence for middle to late Neolithic settlement has been recorded within the study area, though this is still sparse. A small number of pits found during evaluations at Spath Farm, Uttoxeter (assets 2276-7) contained middle Neolithic pottery and may indicate settlement in the vicinity; further fieldwork is likely in this area in association with ongoing quarrying. Pits probably associated with settlement were also during excavations found at Catholme (1188) and Fisherwick (1017). Evidence for middle to late Neolithic occupation activity was found as artefactual material disturbed by an Iron Age settlement at Aston Hall Hospital (asset 3063), with Late Neolithic occupation layers found below barrows at Swarkestone Lows (2925), including remains of possible structures and animal pens, and at Aston upon Trent (2521), whilst remains of houses, occupation layers and hearths have been excavated prior to quarrying in the area between Willington and Eggington (assets 3084, 3102 and 3110).

The occupation activity is not confined to one river terrace: Aston Hall Hospital and Swarkestone are on the Beeston terrace; Aston, one of the Willington sites and Catholme are on the Holme Pierrepoint terrace, as are probably Spath Farm and Fisherwick; and one Willington site is on the Hemington terrace. The distribution suggests a general preference for

raised ground above the flood plain, although this may be partially due to bias in the excavated sample; the Willington site on the Hemington terrace (3110) was located on a raised 'island' in the valley floor, surrounded by braided channels.

4.2.2 Bronze Age (2100-700 BC)

The most extensive Bronze Age resource within the study area comprises the remains of circular burial mounds (barrows) and ring ditches, the two generally indistinguishable as cropmark features. These remains are found through most of the study area, though predominantly within the Trent valley. There are no clear examples alongside the Tame within the study area, and only rare examples along the Dove, though it is likely that further examples are located outside the study area in this region, much of which was dominated by river channels. Only two clearly visible earthwork barrows are thought to survive within the study area: one forming part of a group of around seven otherwise plough-reduced barrows at Swarkestone Lowes (asset 2922), the other is Round Hill, a more isolated barrow mound within a cropmark hengiform enclosure to the east of Twyford (asset 2967). Both are Scheduled Monuments. A further barrow recorded as an earthwork and Scheduled Monument adjacent to Bishton Hall appears to have been largely levelled, and is not clear on Lidar data (asset 1011).

Plate 5: Swarkestone Lowes western barrow, viewed facing north

Around 100 further Bronze Age funerary sites are recorded in the gazetteer through cropmark and excavation evidence. This number also includes individual cremations and cremation cemeteries, which are frequently located adjacent to barrows. As at Swarkestone, many of the barrows are located in groups known as barrow cemeteries. Further evidence for ritual activity within the study area includes votive deposition of metalwork (bronze weapons and axes) at the edges of rivers or lakes, recorded at Shardlow Quarry (asset 2531). This practice appears to have begun in the Bronze Age, though earlier examples of this practice would be less visible

archaeologically, as the metalwork from Shardlow has largely been recovered from conveyors during quarrying activities, using metal detectors, and stone artefacts are less likely to be identified in this fashion.

Remains of Bronze Age settlement activity are rare within the study area, but some evidence has been recorded at Fisherwick (asset 1212) and Catholme (1187), on the Holme Pierrepoint terrace. Excavation of a limited area at Fisherwick revealed the remains of a gully and pits that may be associated with a middle Bronze Age round house; the relatively small size of the excavation means that it is uncertain whether this was an isolated house or part of a larger settlement (Smith 1976). At Catholme, at least eight round houses and associated structures of late Bronze Age to early Iron Age date were found underlying remains of an Anglo-Saxon settlement (Losco-Bradley and Kinsley 2002). There is little clear evidence for Bronze Age land division in the study area, though fields from this period have been recorded to the east in Lincolnshire and Cambridgeshire, and to the north in the Peak District uplands. At Spath Farm, Uttoxeter (asset 2278), sinuous, often interrupted linear ditches recorded during soil stripping prior to quarrying were interpreted as part of a possible Bronze Age field system, though dating material was sparse. Further ditched field boundaries have been identified as cropmarks in the vicinity of the Bronze Age house at Fisherwick (1218), but there is currently no direct evidence for association between these features and some of the cropmark boundaries may be of Iron Age to medieval date.

Burnt mounds may be associated with at least temporary settlement, and several have been recorded in the study area, through excavation at Willington Quarry (asset 3110) and northeast of Uttoxeter (2775), and through earthwork and geophysical survey at Lount Farm, north of Wolseley (1427-1430). The principal features of burnt mounds are a dump of burnt stones interspersed with charcoal, a hearth, and a water-tight trough or pit in close proximity to a water source. The stones appear to have been heated in the hearth and dumped in the pit to heat the water, possibly for boiling food, or perhaps as a form of sauna or sweat lodge used for ritual purification. A further theory is that they may have been associated with brewing beer (Topping 2011). Few mounds have associated evidence for food debris, though one of the Bronze Age examples at Willington has remains of probable feasting activity. The mounds are predominantly located at a distance from contemporary settlements, which has led to the suggestion that they were used for special activities, or were visited by mobile groups exploiting seasonal resources (Topping 2011). These are largely interpreted as Bronze Age in date, though earlier and later examples have been recorded, such as a late Neolithic mound at Willington.

Other remains of Bronze Age date within the area include finds of individual artefacts, either through field walking or metal detecting, including bronze weapons and axes and lithics. Evidence for river transport has been recovered in the form of log boats, two from Shardlow Quarry and one from just south of Burton upon Trent. The Shardlow boats appear to date from the middle Bronze Age, and one was found close to a timber and stone structure that may have been a causeway through a boggy area.

4.2.3 Iron Age (700 BC to AD 43)

The majority of the Iron Age resource within the study area comprises extensive rectilinear field systems interspersed with trackways and enclosed farmstead settlements with round houses. The settlement and activity areas are generally enclosed by single ditches, possibly with an

associated bank (perhaps topped by hedges), and most are roughly rectangular in shape, though occasional sub-oval enclosures have been recorded within the area, such as at Swarkestone Lowes. The settlement enclosures contain round houses, defined by ring ditches with structures supported by wooden posts. Other post-built structures may have included granaries. Within the study area, the enclosure of farmstead settlements seems to have started in the middle Iron Age period (Buteux and Chapman 2009) .

The field and enclosure remains are visible as cropmarks in well-drained, cultivated areas, or have been recorded through excavation in advance of quarrying or development, and are located through the majority of the study area. They are largely on sand and gravel terraces above the active river, though some are in close association with areas of palaeochannels, such as in the area around Newton Solney, Barrow- and Aston-upon-Trent. Excavated sites include examples at Whitemoor Haye (1004), Fisherwick (1017), Willington (3106) and Swarkestone Lowes (2535). Some sites recorded as cropmarks have been lost to subsequent quarrying, road building and development after the aerial photographs were taken, as at Clay Mills (1148), where only limited remains were excavated during road construction. Relatively blank areas include the urban area of Burton upon Trent, where Industrial to Modern development is likely to have removed or covered any remains, and much of the Dove valley, where the breadth of palaoechannel remains suggests a dearth of cultivable land in the prehistoric period, and where there has been limited quarrying to date. There is also greater survival of medieval earthworks in this area, suggesting that the land use is unlikely to be suitable for the formation of cropmarks. Recent quarrying northeast of Uttoxeter has revealed remains of later prehistoric field systems on land to the west of the dense palaoechannel activity, suggesting that similar remains are likely to have been located throughout this area.

No obvious larger-scale or higher status settlements of this period have been recorded within the study area. A single possible hillfort is located on the eastern edge of the study area, at Borough Hill, Walton on Trent (asset 3009). This Scheduled Monument is recorded as a univallate (single banked) hillfort, though survey has suggested that the earthworks are more complex and the hillfort interpretation has been questioned (Guilbert 2004). Casual finds of Iron Age artefacts appear to be rare within the study area, and include a quern for grinding cereals, a bronze torc or bracelet and three probably unfinished gold torcs bound together by a wire.

Further boundary features of Iron Age date include pit alignments, linear rows of fairly closely-spaced pits which formed extensive boundaries across the landscape. There are numerous examples of these across the study area. Many are likely to have pre-dated the field systems, though dating is generally difficult due to a lack of material culture within the pits. One exception is a double pit alignment at Whitemoor Haye, where Iron Age pottery and the remnants of feasting were found in a group of pits, probably associated with the digging or re-digging of the pits (Buteux and Chapman 2009, 105); Iron Age pottery was also found in the pits of an alignment at Swarkestone Lowes (Elliot and Knight 1999). The pit alignments have been interpreted as major landscape divisions, possibly territorial or 'parish' divisions, enclosing resource areas that may have been 'owned' or worked by particular groups or families (Buteux and Chapman 2009, 102; Willis 2006, 123). At Catholme and Swarkestone, some of the pit alignments appear to mark the edge of earlier (Neolithic to Bronze Age) ceremonial complexes, elements of which would still have been visible as earthwork monuments in the landscape (see

Plate 4). It has been suggested that some of these pit alignments may have fossilised earlier boundaries defined in ways which are not archaeologically visible (such as a hedge line); in some cases they continued to be used as boundaries well after the Iron Age period, as at Catholme, where a pit alignment was converted into a ditched boundary still extant in the early medieval period (asset 1184; Losco-Bradley and Kinsley 2002, 15).

4.3 Roman (AD 43 to 450)

The Roman resource within the study area again largely comprises the remains of settlement and field systems (Figure 5). As much of this resource has been recorded as cropmark evidence, the dating is based on morphological grounds, and it is likely that many of the field systems classed as later prehistoric in the HER may include Roman elements. This means that the Roman period is probably under-represented in the current data.

Plate 6: Earthwork remains of Ryknield Street in Beans Covert, Branston (asset 2385)

A single Roman fort and associated civilian settlement (*vicus*) extend into the northwest tip of the study area, at Rocester (asset 1239). Remains associated with a possible shrine and industrial activity associated with the fort and *vicus* have been recorded in excavations at Orton's Pasture (2394-5 and 2397). Roman roads running through the area include the roughly northeast-southwest route of Ryknield Street, running from the West Country to Yorkshire, roughly on the line of the current A38 through the study area, linking forts at Wall to the southwest and Derby to the northeast. This is likely to have been established *c*.AD 60. A short stretch of this major military road is visible as an earthwork at Beans Covert, Branston (2831, 2835-6; Plate 6), and at Stretton (1875), but its route elsewhere is largely extrapolated. Northwest to southeast aligned roads between the forts at Derby and Rocester (3164), and

from Ibstock to Hoar Cross (2077-2078), are also based on projected routes rather than archaeological evidence.

The military roads and forts would have had a significant impact on the surrounding landscape, the forts and their civilian settlements requiring supplies of food and resources from their hinterland. No villas have been recorded within the study area, and excavated occupation evidence comes only from Fisherwick (1017), Whitemoor Haye (1004), Tucklesholme (2520), Alrewas (1126), Willington (3106) and Swarkestone (2535). The southern examples (Fisherwick, Whitemoor Haye, and Tucklesholme) revealed evidence for probable temporary settlement associated with stock rearing, with occupation from the 1st to the 3rd centuries AD (Buteux and Chapman 2004; Francis and Richmond 2015). The edge of a possible settlement enclosure at Whitemoor Haye was investigated (1004), lying closer to the river than the stock enclosure and largely covered by later alluvium (Francis and Richmond 2015). Evidence for more permanent settlement was recorded at Alrewas, where remains of timber buildings were revealed in association with ditched enclosures. Two probable farmstead sites were recorded at Willington Quarry, and a third at Swarkestone Lowes, though again no clear evidence of dwellings were recorded.

Remains of industrial activity are sparse, and include slag fragments found in a pit fill at Swarkestone Lowes that may indicate Romano-British metalworking (asset 2535). At Orton's Pasture near Rocester an area of metalworking activity included successive working floor or yard surfaces, hearths and a possible structure, with remains of iron smithing slag, copper alloy and a crucible, all of 3rd to 4th century date (asset 2397). This activity was associated with a late Roman phase of development of the civilian settlement following the abandonment of the fort at Rocester. Kilns possibly for pottery production were found during excavations near Doveridge (2601), whilst a probable small-scale kiln of uncertain function had been constructed in a pre-existing gully at Tucklesholme in the mid-to late 2nd century (asset 2520).

Casual finds of Roman material are more common than for the prehistoric period, probably due to greater use of metals meaning a higher rate of recovery by metal detectorists. There are currently 14 findspots of Roman coins and brooches recorded in the HER, with a significant concentration near Kings Bromley that probably represents the work of a particularly active individual or group of metal detectorists.

4.4 Early medieval (450 to 1065)

The early medieval period covers the era following the collapse of Roman control of the country and lasting until the Norman Conquest. This period was marked by interactions between native British populations and Anglo-Saxon and Norse invaders and colonists from Europe. This was a time of major upheaval, mostly poorly documented, but the early medieval resource within the study area is largely associated with small-scale settlement remains, cemeteries and isolated burials, and religious foundations (Figure 6). The exception is at Repton, in the northeast part of the study area, which was a major centre of the Mercian kingdom, with royal burials recorded in the Saxon crypt of St Wystan's church (asset 2829). There is also evidence for a Viking over-wintering site at Repton, including a defended settlement and cemetery (2846-7). The Domesday Survey provides a documentary record of early medieval origins for a number of villages within the study area, though associated archaeological remains have not been found

for all of these. Casual finds of coins, brooches, strap ends, pottery and loomweights have also been recovered.

There are no clear remains associated with the period between the end of the Roman period and the emergence of Anglo-Saxon material within the area in the 6th century. It is thought that the collapse of Roman control ushered in a period of social and economic collapse, with the loss of mass-production techniques and other technology, resulting in a culture of low archaeological visibility including the use of materials such as wood and bone, which are less likely to survive in depositional contexts (Knight and Howard 2004, 162). A deterioration in the climate may have led to increased flooding in the valley, possibly resulting in settlement moving up to more elevated sites.

Settlement remains excavated at Willington revealed sunken-floored buildings of 6th century date, located within an area formerly occupied by Roman farmstead enclosures (asset 3106), and suggestive of some re-use of the Roman-period field system. It appeared to be an agricultural settlement, possibly stock-based, with cattle and horse bones represented. A fair quantity of pottery was present at the site, some of it fine wares, suggesting that although small, the settlement was not impoverished (Wheeler 1979, 133). A larger settlement was located at Catholme in the same period, in a very similar topographic situation, though this site had post-built houses as well as sunken-feature structures and appears to have been occupied from the 6th to 10th centuries (asset 1184), again located within an area of Iron Age to Roman fields that may have been reused. Though up to 65 buildings were found, these are not likely to have been occupied simultaneously. Groups of buildings were located within distinct ditched enclosures, suggesting that around half a dozen families or households occupied the site at any one time, rebuilding the houses or adding new structures as required over the centuries (Losco-Bradley and Kinsley 2002).

The majority of recorded early medieval settlement has come from the area around Catholme, with cropmark evidence suggesting that the settlement may extend to the west (asset 1491), and further Saxon settlement activity dated to 600 to 800 AD was recorded during archaeological work at Barton Quarry to the southwest (asset 2365). This included two small enclosures, a post-built structure and several pits containing remains suggesting crop processing, horse and cattle rearing and metal working in the vicinity. Late Saxon (11th- to late 12th-century) activity was also documented at this site, in the form of a large, rectangular ditched enclosure (asset 2368). Three probable sunken-feature buildings and a substantial quantity of Anglo Saxon pottery were found during recent excavations at Tucklesholme Quarry (asset 2520). Pottery and a radiocarbon date from one sunken-feature building dated it to late 4th to 5th centuries AD, which would make it a very early example of this type of building (Francis and Richmond 2014, 88). At Fatholme, post holes indicated the location of a building of probable early medieval date (asset 1015). Evidence for industrial activity from this period is slight, with the manufacture of loomweights recorded at the Willington settlement, whilst slag from metal smelting and smithing was found at Catholme.

The early medieval cremation cemeteries within the study area all appear to have been found in the 19th and early 20th centuries and not all have been accurately dated. Branston and Wychnor have date ranges of 550-650 AD (asset 1032), and 6th to early 7th century (asset 1050) respectively. Those at Tucklesholme/Rylance Farm and Stretton (assets 1048 and 1022) are

identified only as Anglo Saxon, though probably with a similar date range (Knight and Howard 2004, 163). In Derbyshire, pagan Anglo-Saxon graves and probable cremation remains were recorded adjacent to one of the excavated Bronze Age barrows at Swarkestone Lows (asset 2922).

There is a subsequent gap in the burial record until the 10th century, apart from at Repton, though Christianity was established in the area during the mid-7th century. Documentary sources indicate that the Mercian royal family were baptised at Repton in 653, with an abbey established at the site around 660 (asset 2860; Biddle and Kjølbye-Biddle 2001). Other religious establishments with an early medieval origin include Burton Abbey and a nearby chapel and holy well of St Andrew at Modwen's Orchard (assets 1016, 1241 and 1895), and the parish churches of Kings Bromley and Alrewas (1055 and 1713).

Repton Abbey was damaged by the Great Heathen Army of Vikings, who over-wintered at the site in 873-4. Excavations at the site from the 1970s-1990s recorded a defensive ditch forming a D-shaped enclosure around the Viking's winter camp, open to the river on the north side (Biddle and Kjølbye-Biddle 2001). Four graves of Viking individuals have been found at Repton, along with a mass charnel pit containing disarticulated remains of around 264 individuals, mostly male and radiocarbon dated to no later than the late 9th century, therefore quite likely to be members of the Viking camp (asset 2847). Evidence from a similar but larger site downstream at Torksey indicated that several thousand individuals may have over-wintered at these camps (Hadley and Richards 2016, 26). The incursions of the Great Army led to the demise of Mercia as a separate kingdom (Hadley and Richards 2016, 24). Currently, new research excavations are being carried out at Repton to take advantage of new scientific techniques and to reassess the results of the earlier excavations in light of the Torksey evidence (Jesch 2017).

4.5 Medieval (1066 to 1485)

The post-Norman Conquest medieval period sees the first evidence for elite residences within the study area, with up to 16 possible moated sites and three further un-moated manor houses scattered throughout the region (Figure 7). Many of the extant churches within the area originated in the medieval period (Plate 7), as did the majority of current settlements. There is also evidence for deserted and shrunken medieval settlements as either earthworks or cropmarks, the best preserved being the Scheduled earthworks at Wychnor (asset 1002), with a moated site (1049) and fishpond near the river in the valley bottom and the earthwork remains of former building platforms, field boundaries and ridge and furrow found around the church on elevated ground to the north. Only one possible castle has been recorded within the study area, in the vicinity of Burton (asset 1075), though this is only known from a reference in the Domesday Survey and it has been argued that this is likely to refer to Tutbury Castle, located just outside the study area boundary. Nine medieval hunting parks associated with elite residences are recorded within or just outside the study area.

Remains of medieval open field systems are common throughout the area, with 362 assets recorded in the gazetteer. These may be preserved as either earthwork ridge and furrow remains from ploughing (see Plate 18), or as cropmark features and associated buried remains. Comparison of surveys of 20th-century aerial photographs and modern Lidar data indicates that a large proportion of the earthwork remains have been levelled in the later 20th century

through intensive ploughing. The ridge and furrow remains indicate that arable cultivation formed a significant part of the agricultural regime in the area for at least part of the medieval period, though there appears to have been a shift to pasture or meadow land use in the area in the 14th century, perhaps in association with the population crash following the plague outbreak in the early part of this century (Knight and Howard 2004, 161). This is likely to have contributed to the preservation of the ridge and furrow remains until the expansion of arable cultivation in the second half of the 20th century.

Plate 7: St Wilfrid's Church, Egginton, 14th-century and later

In addition to the general settlement records, several extant houses and barns are thought to have originated in the medieval period, along with 16 water-powered corn mills and five medieval weirs on current and former channels of the Trent. Earthwork remains of a possible medieval salt works were recorded at Whitemoor Haye (asset 1339), though have since been destroyed by quarrying. Other industrial activity is represented by two former gravel pits near Kings Bromley thought to be of medieval date (assets 1201, 1204). Remains associated with transport networks comprise bridges over the river, with eleven extant stone bridges originating in this period, including the bridge and extensive causeway at Swarkestone (asset 2888) and two other Scheduled bridges at Stretton and Doveridge, these two now on roads largely superseded by modern routes. Remains of an earlier timber bridge have also been recorded at Tutbury as wooden piles in the river.

Casual finds of medieval date from the area are largely metal objects such as coins, rings, horse harness and other personal items, mainly recovered by metal detectorists. A substantial hoard of up to 300,000 medieval coins found near Tutbury Bridge in 1831 is thought to be related to an episode in 1322, when Thomas, Earl of Lancaster fled from Tutbury Castle to Pontefract when an army was led against him by Edward II. He is said to have lost a large part of his treasure during the journey, of which the coins may form part (asset 1023).

4.6 Post-medieval (1485 to 1750)

There are 18 elite residences (halls or country houses) recorded within the study area for the post-medieval period, varying in size (Figure 8). Many are close to or superseded medieval manor houses. The monastic sites of Burton Abbey and Repton Priory were converted into elite residences after the Dissolution of the monasteries in 1535-39, the latter becoming part of Repton School in the 18th century. Sixteen of the residences have associated landscape parks or gardens, along with various associated features such as stables, lodges, gatepiers and walls, dovecotes, and other park and garden outbuildings.

Plate 8: The 17th-century Sudbury Hall (asset 2897)

There are many more records for non-elite buildings for this period, with 137 assets, mostly still extant and the majority being listed buildings. Around 44 of these relate to farms, with the remainder mainly being houses and some outbuildings. There is a strong tradition of timber-framed houses from this period within the area, with 45 listed in the gazetteer. These are found in many settlements throughout the study area, though there appear to be particular concentrations surviving in Alrewas and King's Bromley. Two 16th-century schools are recorded, at Repton (asset 2827) and Burton Free Grammar School (1464). Apart from the closure of the monastic sites and conversion to the Anglican religion, the pattern of churches within the study area saw few changes in the post-medieval period. Transport-related features include seven bridges built in this period, not all still extant, and five trackways or possible pre-enclosure roads, recorded as cropmark features. In addition to farmsteads, agricultural remains include extensive areas of water meadows, particularly in the Staffordshire area, though this distribution may affected by a county-wide survey of water meadows which has not been undertaken in Derbyshire. The extent of water meadows in the area, some converted from existing ridge and furrow cultivation earthworks, indicates a prevailing stock-based agricultural system in the area.

Industrial remains are relatively sparse and mostly small-scale, with many of the medieval corn mills likely to continue in use through this period, as well as possible new ones built. A single salt works site has been recorded at Dunstall from documentary evidence, established *c*.1620

and operating until the 18th century (asset 1481). Alabaster and gypsum quarrying has been recorded at the edge of the study area, as well as three probable sand and gravel quarry pits, and a brickworks at Shobnall is also likely to originate in this era. Evidence for small-scale post-medieval metalworking followed by brewing activity was found in an excavation at Horninglow Street in Burton, with a tannery recorded at Repton and a wheelwright's workshop at Pipe Ridware (asset 1780). Individual finds include coins, personal decorative items, a sword and lead ammunition. A possible Civil War battlefield has been recorded through documentary evidence near Egginton, though the actual site of the battle is not known.

4.7 Industrial (1750 to 1900)

Transport, industry and the growth of settlement form major aspects of the Industrial period resource. This period saw the creation of toll-based turnpike roads through the area, the construction of a canal network and the establishment of railway lines (Figure 9). There are 184 gazetteer assets relating to transport features, including the roads, canals and railways themselves, as well as associated mileposts, bridges, aqueducts, toll houses, locks, wharfs and warehouses.

Plate 9: Fradley Junction on the Trent and Mersey Canal and Coventry Canal (asset 1291)

There are 78 records relating to industrial activity, including water-powered mills, some for grinding corn, others converted or purpose-built for new uses. Ironworks were constructed at Wychnor Forge and Clay Mills, on the site of medieval mills, in the early 18th century. One of the watermills at Elford was in use as a paper mill by the late 18th century. Alrewas Mill was largely rebuilt as a cotton mill in the late 18th century. Cotton mills owned by the Peel family were situated near Bond End and Winshill in Burton upon Trent from the late 18th century, including End Cotton Mill, the Upper Mills (formerly a medieval corn mill), the tape mill and Forge Mill, a

17th-century fulling mill briefly used as a forge then adapted to cotton manufacture from the early 19th century. A saw mill at Kings Bromley was in existence by the late 19th century. A lace mill was also located in Burton. Tutbury Mill was a purpose-built late 18th-century cotton mill, converted to plaster manufacture in 1888. Plaster mills were also located at Barton under Needwood and Alrewas.

Thirty-one records relate to the brewing industry, including breweries, malt houses, and associated office buildings. These features are all located in the Burton area, where brewing of ale appears to have originated in the medieval period, in association with the priory. The water of Burton, supplied by artesian wells, is considered to have excellent properties for brewing, and changing preferences for lighter beers in the 19th century led to a massive expansion of the industry in the district, with many London companies setting up new breweries here (Palmer *et al*. 2012, 65). The union system of fermentation was developed in Burton, utilising long ranges of up to 2000 150 gallon casks in a single fermentation in large single-storey buildings (ibid., 66). Brewing became the major industry in the town in the 19th century, and continues to the present day, though now largely monopolised by the Coors company. Other industries in the area include the continuing alabaster and gypsum quarrying near Hanbury, gravel extraction, and glass works.

Plate 10: Ind Coope Burton Brewery (asset 1750), Station Street, Burton-upon-Trent

Assets associated with settlement largely comprise individual buildings, many listed, with up to 162 records, including houses, shops and inns. Civic buildings and institutions are also represented, including town halls, market halls, clubs, and workhouses, of which three were located in the Burton area. The substantial Clay Mills sewage works was built in this period, to deal with the increasing population of the Burton area. The development of education is notable, with 22 schools listed in this period, many of them national and board schools, reflecting the increasing concerns around the education of the population. There was also a substantial increase in the number of churches in this period, including Anglican churches built to cater for the increased urban population, and chapels built for the new strains of religion established in the 18th century, such as Baptists and various types of Methodists.

Around 60 records relating to farms are also present on the gazetteer for this period. Some water meadows are likely to date to this period, though these have been categorised as post-medieval as a whole, due to a lack of clear phasing evidence in the HER records. Two osier beds and two sets of field drains have been dated to this period. Enclosure of open fields and commons is likely to have occurred during the Industrial period, but this is not referenced in the HERs and is difficult to display graphically.

4.8 Modern (1901 to present)

Over half of the records relating to modern activity are associated with wartime defence, mainly the Second World War, for which there are 109 records. The majority of these features are pillboxes, most forming part of Stop Line no.5, which ran along the Tame, Trent and Dove, and was constructed in 1940. The stop line was one of a number of defensive measures designed to prevent German military advance in the event of invasion of Britain (Graham-Kerr 1993). More widely spaced pillboxes are also present along the Trent west of the confluence with the Tame. The line of pillboxes is clear in the data (Figure 19), and it appears that the majority are still extant. Some of the pillboxes are sited along the river bank, others on or near road, railway and canal bridges at river crossings. Many were disguised to look like sheds or buttresses, or had attached camouflage. An anti-tank obstruction is recorded on a railway bridge in the northeast part of the survey area in the Defence of Britain archive, though it is unclear whether this still survives.

Plate 11: WW2 pillbox (asset 1518) on the Clay Mills canal aqueduct (asset 2651)

Other Second World War features include two airfields, two depot sites, the site of army camps, air raid shelters and aircraft obstructions. Many of these features are largely invisible in the current landscape, though Lidar suggests some remains of building platforms and trackways exist in woodland on the site of the Melbourne depot (asset 3156), and some hangar buildings and pillboxes appear to survive at the former RAF Lichfield airfield at Fradley (asset 1816). Occasional Nissen huts are also noted in areas near former military sites, often reused as farm outbuildings, such as at Egginton and Sudbury (Plate 12).

Plate 12: Reused Nissen hut to the east of School Lane, Sudbury (asset 1244)

The main feature attributable to the First World War is the Branston Machine Gun Factory, later converted to a pickle factory. This was built during the war, which had ended by the time the factory was complete. Several historic (grade II listed) buildings survive within the factory complex, including the office block, pump house and canteen, with the complex surrounded by a high brick wall featuring design motifs represented on the buildings. The historic buildings all appear to be currently disused, and the site is occupied by a B & Q depot. Second World War pillboxes and air raid shelters have been recorded within the factory from historic aerial photographs, though it is uncertain whether these survive to the present day. A large army barracks at Whittington, home of Staffordshire regiments from the late 19th century onwards, is located just outside the study area to the west of Hopwas, and Cannock Chase, to the southwest of the study area, was extensively used for military training in the First World War.

A further asset type associated with 20th-century military conflicts is memorials, of which 25 are recorded within the study area. These take various forms, from commemorative plaques in churches and offices, or on church lychgates, to standalone monuments in churchyards or village centres, and memorial gardens, culminating in the National Memorial Arboretum at Alrewas, which features many hundreds of monuments to 20th-century conflicts. Most of the village memorials commemorate both the First and Second World Wars, with the Barrow upon Trent memorial being unusual in commemorating the volunteers for the First World War rather than the dead. This memorial was awarded to the village in 1916 as part of a competition sponsored by the Duke of Devonshire, which rewarded the Derbyshire village with the highest proportion of volunteers.

Other modern features largely relate to early 20th-century civic, educational or recreational buildings, and a public park at Stapenhill. Two modern power stations are recorded, both now

defunct but with surviving cooling towers, with other industrial sites including individual examples of modern maltings, a brickworks and a textile mill, as well as a gravel pit near Doveridge. Several mileposts are of 20th-century date, including some replacement canal mileposts installed in the late 20th century. The Trent and Mersey and Coventry/Birmingham and Fazeley Canals had become largely disused during the 20th century, prior to being restored for recreational use. A number of mid- to late 19th-century railway lines became disused and dismantled in the second half of the 20th century, though most of the routes survive as visible features in the landscape, some reused as bridlepaths.

5 CULTURAL HERITAGE THEMES

5.1 Evolution of the river valley landscape

5.1.1 Palaeolithic

After the Anglian glaciation, *c.*424,000 years ago, the drainage system that developed was very different from the current Trent system, and was essentially a Derwent-Soar system, flowing from northwest to southeast into a newly formed Fen basin in the Wash area. The earliest recorded river terrace deposits from the study area are thought to date from the 'Wragby' glaciation, when the edge of an ice sheet impacted on the study area, roughly between 350,000 and 250,000 years ago (see Section 2). The most recent theory suggest that during this glaciation, an ice lobe extended southeast across the northern part of the study area, up to the area north of Alrewas (Bridgland *et al*. 2014, 312-3). Following this glaciation, the west to east route of the Trent through Derbyshire was largely established.

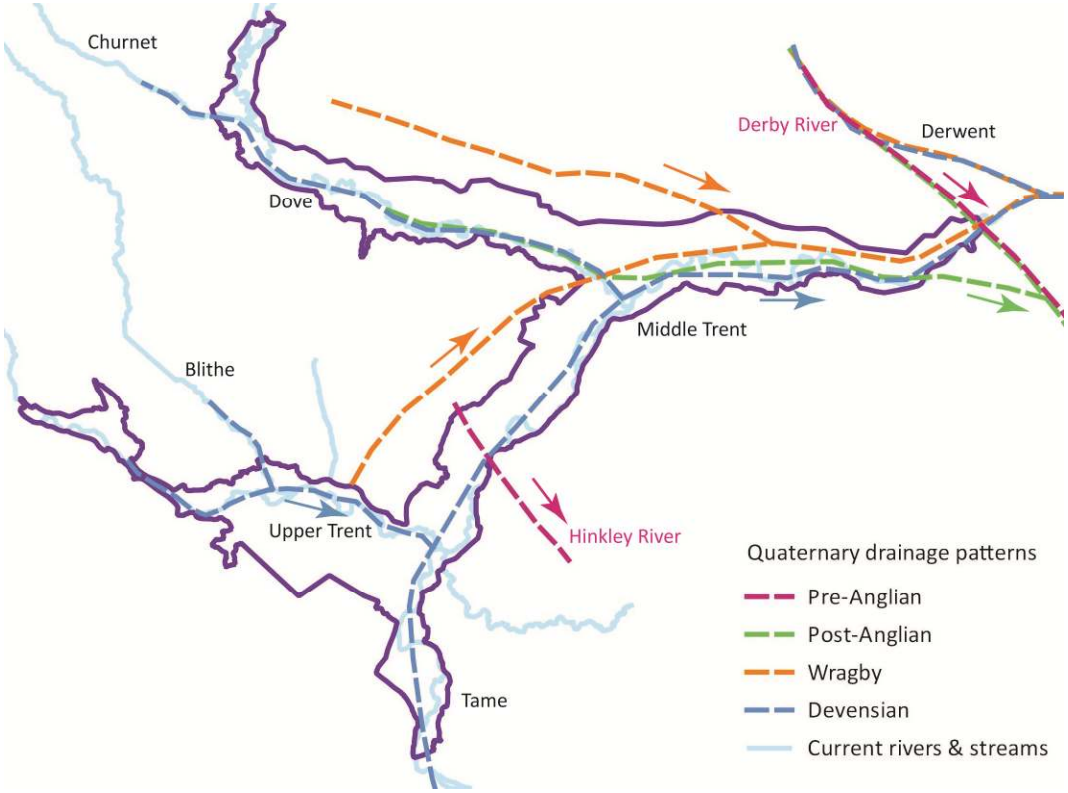


Plate 13: Theorised changes in river drainage patterns within the study area

(Based on Bridgland *et al.* 2014, Chapter 6; routes are approximate)

Further impacts on the route of the river occurred during the final Devensian glaciation (26,000-12,000 years ago), though only the southwest edge of the study area was directly impacted by ice sheets in this period, during which the ice sheets advanced along the east and west sides of the country, leaving the central Pennine spur ice-free. The western (Irish Sea) ice lobe is thought to have extended as far east as Rugleley, and fed outwash into the upper Trent headwaters. The eastern (North Sea) lobe blocked existing drainage systems and formed large ice-dammed lakes in current lowland areas, including the Humberhead Levels and possibly the Fens. Overflow south from Lake Humber may have created the channel used by the Trent after

the glaciation, when it assumed its modern route to the Humber. Prior to this, the Trent had no connection to the Humber and its outflow was via Lincoln (Bridgland *et al*. 2014).

After the retreat of glacial ice sheets, much of the study area is likely to have become dominated by wide, multi-channel (braided) river systems with a high degree of channel mobility. The river valleys would have provided useful movement corridors for animals and hunter-gatherers during temperate phases, with environments largely fluctuating between arctic steppe grassland conditions and more temperate marsh and woodland (Bridgland *et al.* 2014; Howard and Knight 2004).

Faunal and palaeoenvironmental remains from the Palaeolithic period are currently rare for the study area, though beetles and plant remains from palaeochannel deposits at Whitemoor Hayes indicate that by 30,000 years ago, the area was dominated by a cool, dry, open steppe-type grassland with arctic-alpine plant types, with mean temperatures probably ranging from -15°C to 10°C (Buteux and Chapman 2009, 44-46). This type of environment was known as 'mammoth steppe', and occurred throughout Eurasia and part of North America during this period. The aquatic vegetation types recorded suggested the water channel in which they were deposited was shallow and slow moving (Schreve *et al.* 2013). In addition, large mammals including woolly rhinoceros, mammoth, reindeer, horse, bison and wolf remains were recovered from Whitemoor Haye from the periods between 43-38,000 years ago (Schreve *et al.* 2013). The scientific dating suggests that the fossils from Whitemoor Hayes came from Beeston terrace deposits, rather than the later Holme Pierrepoint formation (Bridgland *et al*. 2014, 80).

No equivalent faunal and palaeoenvironmental remains have been recovered from Holme Pierrepoint gravels in the study area, but remains from the type-site quarry in Nottinghamshire suggests a largely open floodplain landscape at the end of the Devensian glaciation, around 11,000 years ago, with some woodland in the wider area, primarily birch, as well as hazel, pine, willow and oak. Aquatic species again suggested still or slow-flowing water less than 2m deep, with tall herb-fen vegetation at the water's edge and a local grassland landscape, with evidence for large herbivores grazing in the valley, including musk ox and Irish elk. Mean July temperatures may have been around 14°C at this period (Bridgland *et al.* 2014, 179-186).

5.1.2 Mesolithic to Roman

From around 11,500 years ago, the climate became warmer and more stable, with the landscape gradually colonised by birch and pine woodland, succeeded by hazel and alder and eventually oak, elm, ash and lime 'wildwood' (Knight and Howard 2004, 32). Animals such as deer, elk and aurochs migrated north into the area, with hunter-gatherers following. The start of the Holocene roughly equates to the Mesolithic period in Britain. As the climate ameliorated, the decrease in glacial run-off led to a gradual stabilisation of the drainage system from powerful, unstable braided river system to a more established braided system, with stabilised islands of raised ground formed between the channels (Figure 10; Buteaux and Chapman 2009, 50-51). Some deliberate use of fire to create temporary clearings in dense woodland has been postulated during the later Mesolithic period, to increase the diversity of vegetation both for food and to provide grazing areas to encourage game animals, though no definitive evidence for this has so far been recovered from the study area (Knight and Howard 2004).

By the beginning of the Neolithic period, much of the study area would have been covered by a closed-canopy mixed oak 'wildwood', with progressively greater tree clearance occurring during

this era. The river channels in the Middle Trent Valley appear to have had significant lateral mobility, with environmental evidence from palaeochannel fills at Shardlow indicating sediment accumulation in abandoned channels that formed areas of shallow, slow-flowing or standing water surrounded by dense marshy vegetation, with a cleared landscape near the river including evidence for pastoral and cultivation activity and a mixed oak woodland at a greater distance, possibly on the higher terraces (Howard and Knight 2004, 52-3). Further south, environmental evidence from a palaeochannel at Tucklesholme indicated a riverine landscape dominated by oak, hazel and lime woodland in the Neolithic period, with evidence of deliberate tree clearance for agriculture and pasture during the Neolithic and particularly the middle Bronze Age (Francis and Richmond 2014, 39).

At Willington, a series of small raised islands between braided river channels were a focus for Neolithic occupation (asset 3110), with evidence for tree clearance over several centuries in the later Neolithic. Occupation on the islands seems to have ceased in the late Neolithic, with only limited subsequent activity, possibly seasonal, and this seems to have coincided with an increase in deposition of alluvium across the area (Beamish 2009). The Neolithic period coincided with a phase of gradual climatic deterioration and probable increased rainfall, resulting in an increasingly unstable floodplain environment in the Middle Trent Valley, with alluviation probably exacerbated by soil erosion resulting from tree clearance (Howard and Knight 2004, 53).

There is currently little evidence for Neolithic environmental conditions in the Upper Trent Valley, though given the monuments revealed as cropmarks west of Alrewas, it is likely that significant areas of clearance had been created in this area by the late Neolithic. There is also currently no palaeoenvironmental evidence from the part of the Dove valley within the study area. The palaeochannels mapped by Trent and Peak Archaeology (Malone and Stein 2017) indicate that braided channels cover the breadth of a significant proportion of this part of the Dove Valley (Figure 10). This is likely to have impacted on human activity in the area, with the majority of recorded settlement and fields situated on river terrace gravels adjacent to the main river channels, though it is possible that exploitation of the raised islands between the channels may have occurred in this area, such as the Neolithic activity at Willington, where a series of around 14 palaeochannels were recorded, varying in date from the early Post Glacial period until at least the Roman period, the channels becoming more aggressive and deeply incised over time (Beamish 2009, 20). Later prehistoric alluvial deposition at this site had led to good preservation of earlier deposits, which may also have occurred in the Dove Valley.

The climate improved in the early Bronze Age, but appears to have become significantly cooler and wetter from *c.*1500-500 BC. This is likely to have affected the Trent catchment area through increased flooding, deposition of alluvium and development of wetland environments on the floodplains. The climate and flooding episodes may have contributed to an increased concentration on stock management over arable farming in the valley during the Iron Age and Roman periods.

5.1.3 Medieval to modern

Slight climatic fluctuations continued through the medieval period, with cooler, wetter periods likely to have occurred in the early medieval period and in the 14th century. Again, this is likely to have affected the rivers, with more periods of flooding and channel mobility. Palaeo-

environmental data for the medieval and later periods is rare, though more documentary records survive. Documentary and archaeological evidence indicate that the general pattern of fairly mobile river channels appears to have remained the norm into at least the 18th century (Buteux and Chapman 2004). The current river channels appear to have become established by the late 19th century, with some evidence for deliberate alterations to its course in association with the construction of the railway system. In the main, this has resulted in a single river channel, though some fossilised old channels survive, partly silted up. Some more recent changes to the route of the Trent are likely to have occurred in association with adjacent 20th-century gravel quarrying, which has also created large ponds and wetland environments in former pits.

5.1.4 Access and interpretation

The visual impact of the modern landscape can make it difficult to understand the changes to the river valley landscape over a period of thousands of years. Some palaeochannels survive as earthworks or water-filled loops cut off from the main part of the current river, such as the course of the Old Trent Water channel, north of Repton (Plate 14). This is a significant landscape element as it would have been the route up which the Viking ships travelled to the winter camp in the 9th century. Other palaeochannels function as historic parish and field boundaries. Interpretation associated with the palaeochannels could include panels or be included in guided trails.

Plate 14: Part of the course of the Old Trent Water, north of Repton Church

Information on the formation of the landscape through the successive glaciations and interstadials during the Quaternary period could be presented through reconstruction images and animations based at visitor centres, hosted online, or provided through smartphone apps. There is the potential to combine this with geological and wetland information at former sand

and gravel quarry sites converted into wetland nature reserves and activity centres, such as at Willington and Tucklesholme. Visualisations of past landscapes, based on archaeological and palaeoenvironmental evidence, allow people to experience and understand the changing shape of the valley and the river channels, the different types of vegetation associated with the changing climate, and the nature of human activity within the landscape.

Plate 15: Visualisation of a Neolithic house and trackway in a marsh landscape

(Part of an animation produced by ArcHeritage for the South West Heritage Trust)

5.2 Settlement evolution

See Figures 11-12.

5.2.1 Mesolithic to Roman

The only clear evidence for Mesolithic occupation activity within the study area has been recorded from excavations in the vicinity of Swarkestone Lowes. The evidence largely comes from a widespread scatter of early Mesolithic flint artefacts, which suggest tool manufacture on the site. Several groupings of flints were noted, possibly indicating multiple visits to the site over a period of years. This site is located on a ridge overlooking the Trent and appears to have been a focus for activity throughout the prehistoric period, with two quartzite tools of possible Middle Palaeolithic date also recovered, as well as evidence for Neolithic to Iron Age activity (asset 2944). It has been noted that the majority of Mesolithic sites and findspots within the wider Trent Valley have been found on ridge-top locations, possibly suggesting that the river valley itself had become too densely wooded for easy access and the elevated ground offered longer-distance views and more convenient routeways (Knight and Howard 2004, 38). Alternatively, valley-bottom activity may have been disturbed by later erosion or covered by alluvial deposits (Knight and Howard 2004, 38; Myers 2007).

Excavated evidence for Neolithic settlement activity within the survey area largely comprises groups of pits, flint scatters, or occupation layers disturbed by later settlement, such as at Aston

Hall Hospital (asset 3063), but clearer evidence of settlement has been found in the area between Willington and Egginton in excavations undertaken in advance of quarrying. In the 1970s, several groups of post holes forming at least three probable houses and other structures were found at Willington Quarry, in direct association with late Neolithic pottery (asset 3084). More recent excavations at the quarry revealed low gravel islands surrounded by active streams, forming foci of settlement activity in the early Neolithic period (asset 3102 and 3110). Evidence of dairying was recorded, though plant remains appeared to be from wild sources rather than cultivated, perhaps indicating a largely pastoral economy (Beamish 2009). Late Neolithic Beaker period settlement activity has also been recovered from Swarkestone, where well-preserved occupation layers were preserved beneath an early Bronze Age barrow (asset 2925). The remains included rows of post holes and stake holes, interpreted as part of a house and animal pens.

Burnt mounds, piles of fire-cracked stones that have clearly been used to heat water in an associated trough, are thought to be associated with at least temporary settlement and activity. They may be associated with cooking and feasting activity, or perhaps functioned as a type of sauna or steam lodge associated with ceremonial activity. Two mounds excavated at Willington Quarry dated from the late Neolithic and early Bronze Age, the former in association with tree clearance, whilst the latter had associated evidence of probable feasting events. This mound may have been used during seasonal herding or resource gathering activity on the island areas, since no associated contemporary settlement evidence was revealed in the vicinity. The remains of a possible burnt mound recorded at Spath Farm, Uttoxeter (asset 2275) appeared to be of middle to late Bronze Age date, and was found close to ditches interpreted as possible Bronze Age fields. Four possible burnt mounds have been identified as earthworks at Lount Farm, north of Wolseley (assets 1427-30).

Evidence for Bronze Age to early Iron Age settlement has predominantly been found on the Holme Pierrepoint gravels in the southwest part of the study area, where a probable middle Bronze Age settlement at Fisherwick, identified as cropmarks, has been partially excavated (asset 1212), with associated ditches perhaps forming part of a contemporary field system. Further cropmark remains at nearby Hademore and Comberford Hall may be associated with contemporary settlement or agriculture (1217, 1219). Excavations at Catholme (asset 1187) revealed an unenclosed settlement of late Bronze Age to early Iron Age date, with at least eight roundhouses and post-built structures, possibly granaries (Buteux and Chapman 2009, 101). Settlements of this period appear to have been typically unenclosed, making the remains more difficult to identify from cropmark evidence, since unenclosed round houses may appear indistinguishable from ring ditches or barrows as cropmarks.

From the middle Iron Age period, enclosure of settlements and fields makes these landscapes more visible as cropmarks. The pattern indicates a landscape of dispersed farmsteads of round houses within a sub-rectangular ditched enclosure, set in a system of roughly square or rectangular fields and trackways also defined by ditches (Buteux and Chapman 2009, 110; Plate 16). It is possible that hedges may have been grown on banks adjacent to the ditches, though currently this is only conjectural. These farmsteads and fields are largely found on river terraces, and are visible as cropmarks across the southern part of the study area as far as Mavesyn Ridware in the west, and in the northern part from Scropton in the west to Aston upon Trent in the east. The enclosure of settlements and fields may indicate an increase in

human and stock populations, and more pressure on resources, in particular pasture land (Knight and Howard 2004, 107). This also coincides with a period of deterioration in the climate, which may have caused a shorter growing season and an increase in the economic importance of pastoral activity (Buteux and Chapman 2009). Evidence from settlements around Whitemoore Haye suggested that by the later Iron Age, settlement on the gravel terraces may have been largely abandoned for permanent dwellings, with the area increasingly given over to more intensive stock rearing and management, with seasonal occupation by herders. The main focus of settlement appears to have moved elsewhere, as yet unlocated (Buteux and Chapman 2009, 127).

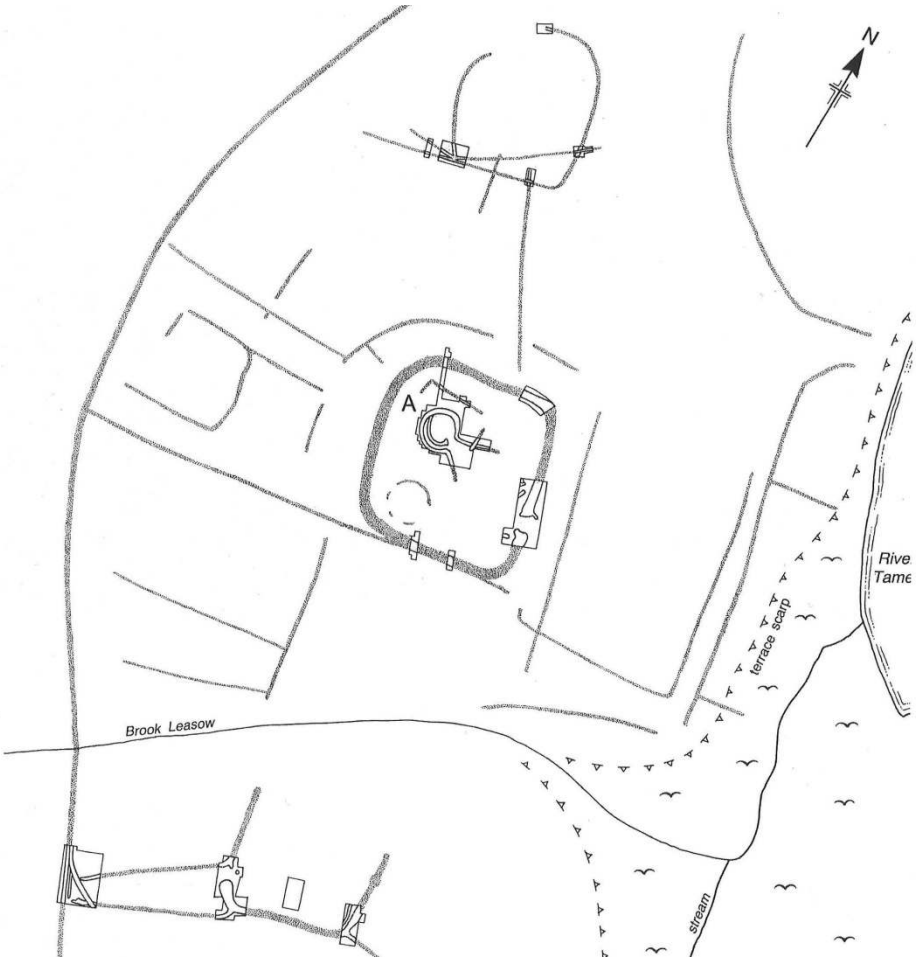


Plate 16: Plan of Iron Age enclosure and field systems at Fisherwick (asset 1017)

(Reproduced from Howard and Knight 2004, based on Smith 1978)

In the Roman period, excavated evidence for settlement has been found at Fisherwick, Whitemoor Haye, Tucklesholme, Alrewas, Willington and Swarkestone. The excavations at Fisherwick, Whitemoor Haye and Tucklesholme revealed a linear arrangement of enclosures associated with a drove road and only limited evidence for settlement, possibly on a seasonal basis, continuing the pattern of late Iron Age occupation in this area. It has been argued that this indicates an intensified stock-rearing economy (horse and cattle) in this area, possibly to supply the forts or a landed elite (Buteux and Chapman 2004). Similar evidence was found at Willington and Swarkestone, with the quantity of pottery associated with enclosures suggesting settlement in the vicinity, but no clear evidence for domestic structures found. One possible

settlement enclosure at Whitemoor Haye was partially excavated, and was located closer to the river, covered by a thick deposit of later alluvium.

Despite the presence of at least one major Roman road running through the area, no evidence for villa settlement has been recorded within the study area, though at least three such sites have been identified further south along Ryknield Street, heading towards the fort at Wall (Buteux and Chapman 2004). The only non-farmstead type of settlement recorded within the study area is a civilian town established around a military fort at Rocester.

5.2.2 Medieval to Modern

The excavators at Catholme suggested a model of continuous but migrating settlement along the edge of the river terrace from the Iron Age to Saxon periods (Losco-Bradley and Kinsley 2002). Excavated examples of early medieval farmstead to small village size settlements appear to have been located in the vicinity of middle to late Iron Age settlement and Roman enclosures at Willington, Catholme and Tucklesholme. Knight and Howard (2004, 155) suggest that a period of climatic deterioration in the late Roman to early medieval periods may have led to a contraction of settlement to prime agricultural areas on the river terraces. There is currently only limited evidence for early medieval settlement, all relating to small, dispersed clusters of houses set within areas of often earlier fields, focused on the river terraces adjacent to the Trent, and recorded through excavation in advance of quarrying.

After the Norman Conquest, the current pattern of more nucleated villages appears to have been established, though some medieval villages have subsequently been abandoned or have shrunk over time. The medieval villages tend to be associated with a church and/or manor house, and are generally situated on more elevated ground above the rivers. Some of these settlements may have originated in the early medieval period (or earlier), particularly in the case of churches with probable early medieval origins; however, subsequent development has made this difficult to see archaeologically. These villages developed over the post-medieval to modern periods, with houses and farms of occasional medieval and more frequent post-medieval to industrial origin surviving, illustrating the evolution in regional building styles and construction.

In the late 18th to 19th centuries, the advent of factory-based industries, coupled with changes in agricultural practices, led to increased migration to areas where industry was focused. The main industrial centre within the study area is Burton upon Trent, and this settlement increased substantially in size over the Industrial and Modern periods, the urban area eventually merging with former surrounding villages. Outside this area, the settlements within the study area have largely remained villages, with relatively limited modern development probably associated with commuters to Burton, Lichfield, Rugeley and other urban centres outside the boundaries of the study area.

5.2.3 Access and interpretation

The prehistoric to early medieval sites recorded within the gazetteer are either visible only from the air under specific conditions, or have been excavated and destroyed by development and quarrying. Interpretation of these features could be based on existing visitor attractions, such as nature areas in former quarry sites, or the National Memorial Arboretum. Interpretation

materials could include traditional information panels and virtual reality apps allowing people to visualise the prehistoric to medieval landscape on their smartphones or online.

Many of the historic villages within the area have attractive buildings and settings and would be suitable for visits. Historic trails could be developed from Conservation Area information and presented as leaflets or smartphone apps. The most easily accessible deserted medieval village appears to be at Wychnor, where the Scheduled earthworks survive in association with public footpaths and a canal towpath route forming a short, pleasant walk from Alrewas, which itself has interesting medieval to post-medieval buildings. Wychnor is sited on a ridge, with a small but prominent church, whilst an associated moated manor site is located in the valley bottom. Wychnor would benefit from improved interpretation, as an extant information panel near the church does not include a good plan of the earthworks allowing people to understand the features and their location within them. Interpretation or signage near the canal would also be useful to direct walkers towards the DMV.

Plate 17: Interpretation panel at Wychnor DMV (asset 1002)

5.3 The spread of agriculture

5.3.1 Agricultural evolution

The clearance of woodland in the Neolithic period has been demonstrated in palaeo-environmental deposits from several sites along the Trent, with some evidence for both pasturage and arable cultivation on the river terraces. The grazing and cultivation is likely to have occurred in unenclosed clearings within woodland, with the extent of clearance increasing throughout the later Neolithic and Bronze Age periods. Whilst some enclosure of fields may have begun during the Bronze Age period, the majority of enclosed field systems recorded within the study area have been interpreted as originating in the middle Iron Age (Buteux and Chapman 2009). As many have been recorded only as cropmarks, dating is subjective and based on morphological grounds, so it is possible that the interpretation has missed some examples of earlier fields. It has been suggested that the rarity of enclosed Bronze Age fields in the area indicates a generally undivided landscape, with shared use of resources and perhaps seasonal movement to upland pastures (Knight and Howard 2004).

Cropmarks and excavation indicate that the middle Iron Age period was characterised by an agricultural landscape of fields interspersed by small, enclosed farmsteads, found through the majority of the study area (Figure 13). The gaps in this agricultural landscape are probably due to later development (the Burton upon Trent urban area), a lack of conditions suitable for the recording of cropmarks, or the density of river channel activity within much of the Dove valley west and north of Foston.

Pit alignments, which may at least partially pre-date the middle to late Iron Age field systems, formed extensive boundaries across the landscape, and have been interpreted as possible territorial divisions, as well as possibly marking off sacred areas containing Neolithic to Bronze Age monuments. Pit alignments excavated at Tucklesholme contained well-preserved remains of wooden posts, which would have made the boundaries visible over long distances (Francis and Richmond 2015, 39). No posts are mentioned in the pit alignments investigated at Catholme and Whitemoor Hayes, and it is possible that some of the alignments may have had an adjacent bank formed by material removed from the pits, though no evidence for this survives (Buteux and Chapman 2009, 102).

Environmental evidence from Fisherwick suggests that by the middle to late Iron Age the gravel terraces had been extensively cleared of woodland for grassland and arable farming. Some regenerated woodland species included hazel and alder, possibly managed as coppice woodland, with elder and willow also represented, perhaps as hedges. The floodplain would have provided summer pastures and hay meadows, as well as wetland resources such as reeds (Smith 1979, 102). At a greater distance, there is evidence for some remaining mature woodland on the higher terraces during the Bronze Age, as at Yoxall to the northwest of the study area (Smith *et al.* 2001).

From the late Iron Age and into the Roman period, excavations in quarry sites suggest a subtle change in the pattern of agriculture, with increasing concentration of probable stock enclosures alongside drove roads, and settlement evidence suggesting more temporary, seasonal occupation of the areas where farmsteads had previously been located. It has been argued that this indicates a more intensified use of the river terraces for stock rearing and management, including horses and cows, with the main settlements having moved elsewhere, as yet

unidentified (Buteux and Chapman 2009). This change in use may have occurred in association with the growth of larger settlements outside the study area, or possibly with greater control over the agricultural economy by an elite class. The pattern appears to have been intensified in the Roman period, perhaps to supply forts and associated civilian settlements at Wall and Rocester. In the early medieval period, there is evidence for possible reuse of the Roman enclosures and fields, with settlement moving back onto the river terraces in the Catholme and Willington area (Buteux and Chapman 2009). This may be due to climatic deterioration resulting in a shorter growing period and increasing the difficulty in farming more marginal areas (Knight and Howard 2004, 155).

Plate 18: Lidar image of ridge and furrow remains, Egginton

Environment Agency Lidar, 2m DTM, multi-angle hillshade

Arable cultivation is indicated within the study area in the post-Norman Conquest medieval period, through the widespread remains (earthwork and cropmark) of ridge and furrow, resulting from the ploughing of open fields (Plate 18). These indicate a typical medieval agricultural practice, where villagers were allocated strips of land to cultivate, distributed through two or more common fields. The preservation of many of these remains into the mid-20th century indicate that the economy of the area switched to a more pastoral focus, probably in the 14th century in association with a cooler, wetter climate and a substantial reduction in the population after the Black Death outbreak of 1314. A significant aspect of the post-medieval valley landscape was water meadows, where a system of drains, carriers and sluices were used to flood fields in the winter period, keeping the ground warmer and allowing a rich growth of grass and hay for fodder in the spring. This suggests that pastoralism continued to be a major part of the agricultural economy into the later Industrial period.

Evidence for field drainage in the Industrial period may be associated with the general trend towards agricultural improvements in the late 18th and early 19th centuries. Surviving common lands tended to be enclosed in this period and allotted in parcels to the major landowners and small holders, to enable the improvement of waste lands and more efficient working of agricultural land. This generally led to significant changes in the landscape layout, and ultimately to 20th-century field expansion and removal of historic field boundaries. Due to their relatively recent origin, Industrial-period field boundaries and drains have not been systematically recorded on the HER so are probably under-represented in the available data. By the second half of the 20th century, a mixed farming regime is evident across the study area, with some pasture land remaining, but also large areas under arable cultivation. Modern ploughing techniques have resulted in the loss of earthwork remains in the fields, as well as damage to buried archaeological deposits.

5.3.2 Access and interpretation

As with settlement sites, the surviving remains of prehistoric to early medieval agriculture are not typically visible on the ground. Interpretation would be best adapted to visual recreations, virtual reality apps and interpretation panels based at visitor sites in former quarries or perhaps at the National Memorial Arboretum. The results of the major archaeological excavations at Whitemoor Haye, Fisherwick and Willington would provide useful data on which to base visualisations and interpretative material.

Plate 19: Ridge and furrow forming part of a water meadow, Uttoxeter (asset 2064)

Medieval to post-medieval ridge and furrow and water meadow remains do survive as earthworks in places within the study area. Several of these areas were visited, and it was concluded that they are generally difficult to appreciate from current public footpaths; even the

water meadows defined as 'exceptional' in the Staffordshire Water Meadows project are of limited visibility on the ground, or are not conveniently located for current public footpaths. It was suggested in that project (Breeze *et al*. 2008) that water meadow remains at the Willows, to the northeast of Uttoxeter (asset 2064), could in the future form the focus of a heritage trail. The earthworks in this area are at least partially accessible by a public footpath and there are also some remains of stone-built sluices associated with the system, as well as at least one palaeochannel earthwork. It was notable that the clearest earthworks visible from the footpath relate to earlier ridge and furrow, perhaps incorporated into the later water meadow system (Plate 19).

Extensive ridge and furrow earthworks around Egginton (Plate 18) have limited visibility from publicly-accessible land, and anti-trespassing signs in the village suggest that the potential for developing a trail in this area is currently low. Some earthwork ridge and furrow is visible at Wychnor, from the Trent and Mersey Canal towpath, in association with a moated manor site, fishponds and deserted medieval remains. An interpretation panel currently exists near the church at Wychnor, but interpretation located on the towpath would allow more casual visitors to understand and appreciate the nature of the earthworks. In the wider study area, a more focused survey of extant earthworks, utilising the Environment Agency Lidar data as a starting point, may be able to identify areas where a public trail or interpretation material would be suitable.

5.4 Ritual and religion

5.4.1 Neolithic to Bronze Age

The first visible evidence for ritual activity within the study area dates from the early Neolithic period, with the construction of substantial earthwork monuments (Figures 14-15). The earliest included sub-rectangular long barrows or chamber tombs and mortuary enclosures, as well as causewayed enclosures, generally a sub-rounded area up to 200m wide, surrounded and enclosed by two to three ditch circuits interrupted by causeways. These are of uncertain function, but are thought to have been used for primarily non-domestic purposes, such as meeting places for dispersed and mobile groups, potentially for a variety of social and economic transactions, ceremonial and/or funerary purposes (Oswald *et al.* 2001, 120-132). Two probable causewayed enclosures have been recorded as cropmarks in the southern part of the study area, at Alrewas/Fradley (asset 1081) and Mavesyn Ridware (1229), with further possible sites at Fatholme (asset 1015) and Echills/Handsacre (1231). Possible early Neolithic mortuary enclosures or long barrows have been recorded as cropmarks at Pipe Ridware (asset 1228) and Branston (1415) in Staffordshire, and at Aston upon Trent (asset 2521) in Derbyshire, though the date and nature of these has not been confirmed by excavation.

In the middle and later Neolithic, new monument types included long parallel ditched enclosures known as cursus monuments, stone and timber circles, and circular enclosures with an outer ditch and bank known as henges or hengiform monuments. These all appear to be associated with ritual or ceremonial activities, and such monuments have been recorded as cropmarks and through archaeological investigation within the study area. There appear to be three principal groups, a major collection of monuments in the Catholme area east of Alrewas in Staffordshire, and smaller groups at Aston upon Trent and Potlock/Twyford in Derbyshire. These concentrations of monuments suggest that the Middle Trent valley had a particular

significance to Neolithic communities. It is also notable that most of the monuments are located close to river confluences (between the Trent, Tame, Dove and Derwent); elsewhere in the country a strong connection between cursus monuments and rivers has been noted (Loveday 2006). It is possible that the rivers formed boundaries and meeting places between traditional territories, or significant landscape features in themselves. Water may also have formed a significant aspect in ritual practices (Buteux and Chapman 2009, 65).

The Aston and Potlock sites have cursus monuments (assets 2956-7, 2522, 2883 and 3026) associated with henges of possible later Neolithic date, whilst the Catholme area has one partially investigated probable cursus and three possible ones recorded as cropmarks (assets 1010, 1013), as well as a timber circle of multiple concentric rings of posts, a group of pits in a radiating 'sunburst' pattern, and at least one hengiform monument. Further possible cursus monuments have been recorded at Tucklesholme (1014, 2520) and at Hill Ridware (1226).

Excavations at Catholme revealed that the cursus was the first element to be constructed, oriented towards the river, with the sunburst pits cut subsequently (around 2500 BC), and the 'woodhenge' post circles set slightly later (see Plate 4). The nearby causewayed enclosure from the earlier Neolithic may also indicate ritual behaviour in this area, and indicates that these landscapes were the focus of evolving ritual activity for a period of several centuries. Subsequent behaviour included the placing of a human burial in the centre of a ring ditch within the sunburst monument around 2000 BC, and the construction of burial mounds (barrows) in the vicinity. The earthwork elements of the Neolithic monuments are likely to have still been visible in the Bronze Age to early Iron Age, when the 'ritual' area at Catholme was marked out by linear boundaries of posts set in pits (Buteux and Chapman 2009).

A new tradition involving the interment of bodies or cremated remains below burial mounds known as barrows was introduced towards the end of the Neolithic and continued into the Bronze Age, within the period *c*.2400-1700 BC. This was associated with distinctive new ceramic drinking vessel types and the first evidence for metal working, and was known as the Beaker period after the pottery. This tradition is found widely across Britain and Europe, and reflects the spread of new ideas and ritual practice, possibly through large-scale migration or an invasion from the continent (Callaway 2017). The henges and cursus monuments seem to have ceased to be constructed by this time, and the ceremonial landscape is marked by individual and groups of burial mounds that suggest a strong connection between communities of the living and the dead, and possibly the assertion of ancestral claims to areas of land. Barrows continued to be constructed at least into the middle Bronze Age period, but even with associated cremation cemeteries, do not appear to represent the full population, indicating that not all individuals were buried in this manner.

Only two clearly visible earthwork barrows are known to survive within the study area, the westernmost barrow of a Scheduled cemetery group on the hogback ridge of Swarkestone Lowes (asset 2922; Plate 5), and a more isolated barrow mound within a plough-levelled hengiform enclosure at Round Hill, Twyford (asset 2967). A further six plough-reduced barrows are recorded in a roughly linear grouping along the edge of the ridge of the gravel terrace at Swarkestone Lowes (asset 2944), two of which have been excavated and at least three of which survive as slight earthworks in Lidar data. The excavations demonstrated that both barrows had middle Bronze Age elements, one superimposed on a primary burial and mound of early Bronze

Age date, itself constructed over Beaker-period occupation layers (asset 2925; Greenfield 1960). Barrows or ring ditches (not all necessarily burial related) have been recorded throughout the study area, with notable concentrations along the Trent Valley. In addition to Swarkestone, probable barrow cemeteries are recorded at Echills, north of Handsacre (assets 1965-8, 1985-7, 1990-2), King's Bromley (1201), Wynchnor Junction (1008), Alrewas (1124, 1127), Tucklesholme (1014) Barton-under-Needwood (1157, 1170), and Weston-on-Trent (3031).

The deliberate deposition of artefacts in water also appears to be a ritual practice undertaken during the Bronze Age. Many such finds have been made in the wider Trent Valley area, mostly in the Nottinghamshire and Lincolnshire area (Davis 2006, 32), but one clear example has been recorded within the study area, with around 19 bronze artefacts recovered during quarrying operations at Shardlow Quarry over a period of 30 years. These comprised swords, spearheads, axes and chisels found in palaeochannel or palaeolake deposits. The good condition of the metalwork is suggestive of votive deposition. The date of the artefacts spanned the whole of the Bronze Age period, though only one was of early Bronze Age date (Davis 2006, 32). Further bronze weapons and tools have been found individually, some by metal detectorists, five from Staffordshire (mainly between King's Bromley and Horninglow) and three from Derbyshire (Drakelow, Ingleby and Barrow-on-Trent). Additionally, three apparently unfinished gold torcs, bound together by a strip of wire, were found by a metal detectorist at Alrewas, probably of Iron Age date. As these items were found in disturbed situations, it is uncertain whether they were deliberately deposited and no *in situ* examples of Iron Age votive deposition have been recovered from the area, though this practice has been found elsewhere in the country.

5.4.2 Iron Age to Early Medieval

There is little evidence of ritual activity in the Iron Age and Roman periods within the study area, apart from a probable shrine at Orton's Pasture, Rocester, likely associated with the Roman fort. No evidence for Christian activity in the Roman period has been found within the study area. In the early medieval period, the first evidence for ritual comes in 6th- to 7th-century burials, predominantly cremation cemeteries but with inhumations recorded in flat graves adjacent to a Bronze Age burial mound at Swarkestone Lows. These burials were associated with grave goods, including brooches and weapons, and are indicative of a pagan Anglo-Saxon funerary tradition. After the 7th century, when Christianity began to be introduced, there is a distinct gap in recorded burials, apart from probable 9th-century Viking graves at Repton, at least some likely to be associated with the over-wintering camp of 873-4. From the 10th century onwards, burial in churchyards without accompanying grave goods appears to have become the norm for most members of the population (Hadley 2002).

5.4.3 Medieval to Modern Christianity

Documentary sources state that Christianity was introduced into the area in 653, when the Mercian royal family were baptised at Repton as a condition of the marriage between the king's son and a daughter of the Christian Northumbrian king. Though it is likely that the spread of the religion throughout the population was relatively slow, a minster church and abbey were founded at Repton in this period, as well as a chapel and holy well at Burton, with churches at Kings Bromley and Alrewas also recorded as being in existence at the time of the Norman

Conquest. Burton Abbey was initially founded in 1002, later becoming a Benedictine establishment.

Plate 20: All Saints, Alrewas (asset 1713), medieval church on a 9th-century foundation

By the medieval period, churches are the main indicator of religious activity, along with occasional churchyard crosses. Most medieval manors had a church, and these largely appear to have formed the focus of medieval villages. Many of the churches within the study area have medieval origins, though there have been major restorations and occasionally complete rebuilds in the industrial period, resulting in the loss of the medieval churches at Burton, Stapenhill, Marchington and Pipe Ridware, as well as changes to the character of many other parish churches. There were two monastic establishments in the area, with Repton Priory established in 1172 and the early medieval Burton Abbey. A grange (farm owned by a monastery) associated with Burton Abbey was located at Bond End in the 13th century.

Following the Dissolution of the Monasteries in 1535-39, the lands and buildings of the abbey and priory were granted to secular landowners, and the buildings demolished or converted into residences. Changes to the decoration and contents of the churches are likely to have occurred with the change from Roman Catholicism to Anglicanism over the subsequent century, but the overall distribution of churches does not seem to have altered significantly during the post-medieval period. During the Industrial period, the growth of alternative branches of religion, such as Baptists and Methodists, is reflected in a significant expansion in the number of places of worship, with new chapels established in many villages and urban centres. New Anglican churches were also constructed in the Burton area during this people to cater for the expanding urban population. Numerous changes to the fabric of existing churches also occurred in the late 19th century through restorations.

5.4.4 *Access and interpretation*

The majority of prehistoric sites recorded within the gazetteer are either visible only from the air under specific conditions, or have been excavated. Only two barrows survive as clearly visible earthworks, one just off Lowes Lane, Swarkestone. This forms part of a barrow cemetery, the other mounds being plough reduced. The preserved barrow is a prominent feature on the skyline from further down the valley; it is clearly visible from Lowes Lane and also distinct from the Trent and Mersey Canal towpath (Plate 21). There is a gate into the small enclosure within which the barrow is situated, but there is no signage, and it is unclear whether public access to the barrow is permitted. An interpretation panel for this site would allow its significance to be appreciated by visitors; the best location would perhaps be on the towpath adjacent to Lowes Lane Bridge, as there is no footpath along Lowes Lane and casual visitors are less likely. The barrow at Round Hill, Twyford, is not in close proximity to a public footpath.

Plate 21: View towards Swarkestone Lowes barrow 1 (asset 2921) from canal towpath

Interpretation associated with the monument complexes at Catholme, Potlock and Aston could be associated with wider interpretation of the prehistoric to early medieval landscape in these areas, perhaps through virtual reality apps or online resources, as well as through more conventional panels at former gravel quarries or local and regional visitor centres.

No public access is possible to the former monastic sites at Repton and Burton. There are existing interpretation panels in a public garden area adjacent to the former abbey at Burton, forming part of an historic trail around the town. Many of the village churches within the study area are interesting and worthy of visiting. Some were open to visitors at the time of the field visits, though this was during the school summer holiday, and they are not likely to be open at

all times. Walks incorporating church visits would be a potential method of interpretation, as this allows an appreciation of their visibility and position in the landscape.

5.5 The development of transport networks

5.5.1 Prehistoric to Roman

The river valleys are likely to have provided convenient transport and communication routes for seasonal movement and wider exchange networks throughout the prehistoric period, but the first evidence for river transport comes from the Bronze Age period. Three log boats have been found within the study area, two of middle Bronze Age date from Shardlow Quarry (assets 2530 and 3067), and one undated example from a gravel pit near Burton upon Trent (asset 1456). One of the Shardlow boats was found adjacent to a stone and timber structure, possibly part of a causeway, which suggests the potential for recovery of further remains of raised trackways crossing marshy areas within the study area, as have been found from Neolithic to Bronze Age contexts in other wetland areas in the country, such as the Fens of East Anglia, and the Humberhead and Somerset Levels.

Prehistoric routes have been recorded as cropmark features and through excavation, particularly the tracks and droveways linking stock-rearing enclosures along the river terraces from the Iron Age to Roman period. After the Roman invasion, military roads were laid out through the area, the main one being Ryknield Street (asset 1073), running from the West Country to Yorkshire along the route now mostly followed by the A38. This demonstrates the longevity of the road, and its continued significance in the post-Roman landscape. The roads would have had a significant impact on the landscape as a constant signifier of the Roman presence, as well as providing a communications link between new settlements developed along its route. Segments of earthwork remains of the road survive to the north and south of Burton upon Trent.

5.5.2 Medieval to post-medieval transport features

The Roman roads are likely to have continued to be used in the post-Roman period, along with new roads developed between medieval towns, villages and monastic institutions. No medieval roads are recorded as features on the HERs, but medieval bridges survive at several river crossings, and these would have provided fixed points for routes through the area. Remains of earlier wood and stone bridges have been recorded on the Dove at Tutbury and Doveridge, and there is the potential for the recovery of remains of bridges associated with former routes of the rivers, similar to the three phases of medieval bridge piers found along the Trent at Hemington in Leicestershire (Lewis 2006, 209-210). Old weirs and revetments of post-medieval to industrial date have been found along former routes of the Trent in the Burton, Catholme and Barrow upon Trent areas, and possible 'wing dams' to improve the navigation of the Trent for river traffic were recorded in excavations near Twyford and Melbourne (assets 2697-8, 3157).This indicates that some river transport is likely to have been possible on the Middle Trent, perhaps as far upstream as Burton.

In the 18th century, the need for improved transport links led to the institution of toll roads, with the fees paid for use of the road utilised to fund their upkeep. A series of turnpike roads are recorded within the study area, some utilising the existing road network, others surveyed and laid out in new alignments. Many of these form the basis of the current road network,

though some have been superseded by modern dual carriageways, such as the A50, that have diverted slightly from the earlier routes.

5.5.3 *Canals and railways*

The increase in industrial activity in the later 18th century led to a demand for a method of transport that would allow easy movement of large cargoes. The Trent and Mersey Canal (asset 1255) was authorised in 1766, and designed by James Brindley and Hugh Henshall. It opened between Shardlow and Shugborough in June 1770 and was finally completed along its full route by 1777. The Trent and Mersey was the first of the major inland waterways, linking the ports of Hull and Liverpool. It was promoted by a group including major landowners and manufacturers, and was a vital aspect in the rapid development of the industries of the area (Staffordshire Borough Council 2014). The Coventry/Birmingham and Fazeley Canal (asset 1257) was authorised in 1768 and completed *c*.1789, to link the Trent and Mersey and Oxford canals. The junction with the Trent and Mersey at Fradley is the focus of a wharf, warehouses, inns and canal workers' cottages (asset 1291; see Plate 9). A short section of a branch of the Derby Canal also falls within the study area, linking to the Trent and Mersey north of Swarkestone.

Plate 22: London & North Western Railway bridge over the Trent & Mersey canal at Colwich

The canals formed the main transport link through the Midlands until the development of the railway in the mid-19th century. Railway lines running through the study area included branches of the North Staffordshire Railway, the Midland Railway, the Great Northern Railway, and the London and North Western Railway (Figure 16). The railways took much of the custom from the canals, which went into decline from the mid-19th-century onwards. The railways in turn were impacted by a 20th-century decline in industry, and by competition from motor vehicles. Several of the lines were closed and dismantled in the later 20th century, though their routes are often

preserved as linear landscape features and at least one has been converted into a public bridleway.

Another interesting transport-related feature is the Stapenhill Viaduct (asset 2118), a raised pedestrian walkway leading over the Trent floodplain from Burton to the Ferry Bridge, a 'semi-suspension' iron footbridge over the Trent, the only one of its design in Europe. Both the bridge (asset 1623) and viaduct were designed and built by a local firm and gifted to the town in 1889 by Lord Burton, the brewing magnate Michael Arthur Bass. Both have been maintained in a good condition.

Plate 23: Ferry Bridge, Stapenhill (asset 1623)

5.5.4 Access and interpretation

The earthwork remains of Ryknield Street Roman road are visible in Bean's Covert, Branston, just south of Burton upon Trent. The earthwork is within a small plantation, open to the public, and visible as a linear raised trackway with slight remains of possible ditches to either side (see Plate 6). The earthwork is in a generally fair condition, although it has had some damage from the roots of trees growing on it, which present an ongoing threat to the integrity of the monument. There is currently no visible interpretation on the site. This monument would be a suitable subject for a community archaeology project with the aim of investigating and recording a section of the monument and assessing the extent of tree root damage. This could also inform conservation of the monument and interpretation at or near the site.

There are a number of medieval and post-medieval stone bridges within the study area, though several are now on roads that have been superseded by modern dual carriageways and are difficult to access by foot (such as Dove Bridge, Monk Bridge and Monks Flood Bridge), though Monk Bridge is visible from the canal aqueduct at Clay Mills. Swarkestone Bridge is an interesting medieval structure, with its associated long causeway leading south across the floodplain to Stanton by Bridge. The bridge is a Scheduled Monument, but is on a live traffic route. It is currently on the Heritage at Risk register, due to damage from traffic knocking into

the structure, but it is noted that a maintenance plan is in place, and it is currently in a fair condition (Historic England 2017a). The bridge is impressive in views from footpaths along the river bank.

Plate 24: Swarkestone medieval bridge (asset 2888)

The Trent and Mersey Canal and Coventry/Birmingham and Fazeley Canal are both open to boats, and are important heritage assets both within the area and nationally, as part of the early transport network fuelling the industrial development of the country. The Trent and Mersey Canal is designated as a Conservation Area. The canals form significant leisure and recreation resources, and have public access along their length, with preserved and restored assets including locks, bridges, wharfs, overflow weirs, and canal-side buildings such as warehouses and lock-keepers' cottages. Currently there appear to be occasional information panels, mainly associated with nearby attractions rather than the canal. More canal-orientated interpretation is present at Fradley Junction, which has visitor facilities, information panels and audio recordings of oral history relating to the canal. At the time of the site visits in August, there were several volunteers from the Canal and River Trust assisting at locks, perhaps due to the high volume of tourist traffic in the summer holiday period.

The canal towpaths provide important walking and cycling routes through the study area, and could be used in combination with existing and newly developed footpaths to link guided heritage trails. In many cases, the lack of connecting public footpaths mean that walks of a moderate length tend to be largely linear. In addition to the towpaths, some dismantled railway tracks are preserved as cycle paths, such as the Midland Railway Derby to Melbourne branch in the northeast part of the study area. These could also form part of guided trails.

5.6 Elite landscapes

5.6.1 Medieval to industrial

No prehistoric to early medieval sites clearly associated with elite occupation have been identified within the study area. The medieval period sees the first evidence for an elite presence, in the form of moated sites and un-moated manorial complexes. These sites form part of a large body of similar sites recorded in the wider Midlands region. It has been noted that little detailed study of manorial complexes and economies has been undertaken from an

archaeological perspective, including how they related to their wider landscapes. In general, moated sites in the West Midlands are considered to be particularly associated with wooded landscapes (Hunt 2011, 196), though the environmental evidence for the study area generally suggests that much of this area was cleared of woodland by the medieval period. In the East Midlands, moated sites are more common on heavy clay subsoils to the east of the region (Lewis 2006, 194). Relatively few moated sites in the wider region have been excavated in detail, and none within the study area appear to have had investigations beyond earthwork survey.

Though moated sites have been designated as 'seignurial' for the purposes of the cultural heritage audit, it is recognised that these monuments may have a variety of origins, some being homesteads or monastic granges rather than manorial centres (Hunt 2011, 198). Where no buildings survive, non-moated manorial complexes are harder to identify in the landscape than moated sites, and are likely to be under-represented in the records for the area. It is likely that they were considerably more numerous than the moated examples.

Manorial complexes formed the administrative centre of manors or estates, usually encompassing at least one village and its surrounding farmland and commons, control over which was held by an hereditary landowner. Many of these manors had been established by the time of the Domesday Survey in 1086, and it was common for higher status landowners to hold more than one manor; in some cases over a hundred were granted to the most influential followers of William I after the Conquest. Some manors, or lands within them, were granted to religious establishments by the landowners; many of these were managed as monastic farms, known as granges.

Plate 25: Swarkestone Pavilion and Cuttle (asset 2930)

Hunting or deer parks were associated with several seignurial sites in the medieval period; these comprised large fenced enclosures, usually on waste ground, where the Crown granted the landowner the right to hunt deer, and contributed to the economy and status of the manorial lord rather than being for aesthetic enjoyment. From the later medieval and early post-medieval period, formal gardens became more common, usually with walks laid out to admire the design of a garden and views across the landscape. Changing fashions in the 18th century led to the creation of extensive landscape parks, where the landscape itself was sculpted and arranged to offer views seen to represent 'romantic' natural ideals. On some occasions, this involved moving villagers that interrupted a desired view, as occurred at Sudbury (asset 2903).

None of the extant elite residences appear to have surviving medieval elements, though Sudbury Home Farm (asset 2595) appears to have originated as a manor house, possibly for the lost village of West Broughton, and contains the remains of a medieval aisled hall at the core of the later farmhouse. Old Hall Farm at Twyford is also a farmhouse with a timber cross-wall of possible 15th-century date (asset 2982), and is thought to have originated as a steward's house or gentry house associated with Twyford Hall. Sudbury Hall (asset 2897) is a fine 16th-century brick-built mansion, and the ruins of stone-built Swarkestone Old Hall are of a similar date (2933). The majority of elite residences within the study area are of post-medieval date, with six constructed or rebuilt in the industrial period. Most are now in private hands, some used as hotels or private schools.

Plate 26: Sudbury gas works (asset 2908), with estate village design detailing

5.6.2 *Access and interpretation*

There are several moated sites within the study area, though the majority are either not accessible to the public, or have been damaged or destroyed. The most accessible site is the former moated manor at Wychnor, which was bisected by the Trent and Mersey Canal. Two

thirds of the site are visible from the towpath, as a substantial earthwork ditch in a pasture field. It is a Scheduled Monument, and its significance is enhanced by lying within a well-preserved complex of contemporary earthworks, including fishponds, ridge and furrow earthworks and a deserted medieval village. This site would benefit from interpretation on the towpath, as the current panel is located within the former village site, off the towpath and at the top of the hill. A moated site adjacent to a canal towpath at Little Colwich is obscured from public view by a hedge.

Plate 27: Wychnor moated site (asset 1049), viewed from the canal towpath

The Scheduled ruins of Swarkestone Old Hall are partially visible from public footpaths, though fenced off and difficult to interpret. They are listed in the 2017 Heritage at Risk register as suffering from ongoing deterioration (Historic England 2017a). To the north of the ruins stand an impressive summerhouse or banqueting house within a walled enclosure (asset 2930; Plate 25). This was formerly associated with the hall and is also clearly visible from public footpaths. It currently appears to be in a good condition. Remains of stone gatepiers, presumably for an access drive to the Old Hall, are preserved on the Swarkestone Road frontage to the northeast of the ruins; one pier appears to have been recently replaced, perhaps due to erosion.

Sudbury has the finest surviving formal gardens and park within the study area, and is the only well-preserved historic park open to the public, being in National Trust ownership. Entry to the grounds is free, and the hall is set on the edge of an estate village, with many interesting buildings and repeated design elements. A former gas works for the hall is located along School Lane (asset 2908); this is currently undergoing renovations with National Lottery funding (Plate 26). The former gardens of Wolseley Hall are now part of the Wolseley Centre, a wildlife park that retains some historic features (garden wall, pavilion, building foundations), though the

landscape has been much altered to create wildlife habitats. Shugborough Park is of high historic interest and is also in National Trust ownership, but only a small portion extends into the study area.

Plate 28: Anchor Chapel exterior (asset 2695)

Plate 29: Graffiti, rubbish and smoke damage within Anchor Chapel

Anchor Chapel near Ingleby is an artificial or enhanced cave on the south bank of a mill race or palaeochannel of the Trent, possibly originating as a hermitage in the medieval period (Plate 28). It was modified and adopted as a novel banqueting room by Sir Robert Burdett of Foremark Hall in the 18th century. The cave is grade II listed, and is isolated but accessible via a public footpath running from Foremark to Ingleby. The footpath has steep and densely vegetated patches, possibly to deter the people who have been using the cave as a drinking shelter, resulting in extensive graffiti and smoke damage (Plate 29).

5.7 Key industries of the valley

5.7.1 Prehistoric to modern

The archaeological evidence has revealed only sporadic traces of Iron Age to early medieval industry within the study area, including small-scale iron working and the manufacture of loom weights. From the medieval period water-powered corn mills were common, most of these surviving in a rebuilt form into the post-medieval to industrial period; the sites of several windmills for grinding corn are also recorded on the HERs. The few surviving remains of medieval corn mills comprise earthwork leats and ponds, most of which are likely to have been modified in the post-medieval period. Several mills were converted for textile production in the late 18th century, particularly at Burton upon Trent, but it appears that few standing remains survive. Iron manufacture also appears to have been a significant industry in the Burton area in the post-medieval to industrial period, but again, there appear to be few visible remains of this industry beyond the iron bridges and pedestrian viaduct in the Washlands area (see Plate 23). Fragmentary traces of a glass manufacturing site have been recorded at Lount, possibly similar to the medieval Wolseley Glass Works in Cannock Chase.

Quarrying is clearly a significant industry in the study area, though historic quarrying activity is rather poorly documented in the HERs. Sites of probable medieval to modern date have been noted from cropmark and earthwork evidence, and it is likely that many remains of earlier extraction have been destroyed by the extensive modern quarrying. In addition to the sand and gravel quarries along the valley, there are remains associated with gypsum mines and quarries in the area around Hanbury and Coton on the Clay (asset 2300).

Other than the quarries, the most visible surviving remains of industry within the valley relate to the brewing industry in the Burton upon Trent area (Figure 18). The Burton brewing industry is nationally significant, developing from small-scale medieval monastic brewing and expanding rapidly in the 19th century. The qualities of the local artesian water led to companies from outside the area developing breweries in the town, and the union fermenting system was developed here. The industry is still significant in the town to the present day, though is more monopolised than in the 19th and much of the 20th centuries.

5.7.2 Access and interpretation

Most surviving post-medieval to industrial water-powered mill buildings are in private hands, and many have been converted to residential use. An impressive cotton mill survives at Alrewas, but is obscured from public view within a gated residential development. The Burton Mill complex near Winshill (asset 1046), with 18th- to 19th-century textile and corn mill buildings incorporating stone probably from a medieval mill owned by Burton Abbey, has also recently been converted into residential use.

The most extensive remains of industrial built heritage are located in the Burton upon Trent area, and principally relate to brewing. Many historic and more recent brewery buildings survive within the town, which still has an active brewing industry. There are visitor attractions related to the industry, including a brewing museum and a heritage trail with wall plaques and occasional interpretation panels. It is unclear where information on the heritage trail can be found, and there are further opportunities for online and app-based interpretation and smartphone trails associated with the brewing industry and the historic development of the town. There are particular concentrations of historic buildings around Horninglow Street, High Street, Station Street and Borough Street, demonstrating the shift in the focus of the expanding town in the 19th and early 20th centuries. A heritage trail around industrial Burton could also include the locally-made iron bridges and viaduct in the Washlands.

Plate 30: Midland Railway grain warehouse at Burton, now a hotel (asset 1554)

Active quarries do not generally encourage visitors, but many of the disused 20th-century quarries in the study area have been, or are being, converted to wetland areas, including nature reserves (e.g. Willington Gravel Pits, Tucklesholme) and water parks (Branston). The National Memorial Arboretum at Alrewas is also converted from a former quarry site. There is the potential for interpretation associated with the quarrying industry at these sites, alongside information on the types of archaeological remains found prior to and during the extraction.

5.8 The 20th century military landscape

The most significant group of modern heritage remains within the study area are associated with military conflict in the 20th century (Figure 19). Just outside the study area is the important military barracks at Whittington, established in the late 19th century but used as a base for Staffordshire regiments throughout the 20th century; whilst nearby Cannock Chase has the remains of important First World War training activity. Only one asset definitively dated to the First World War is recorded within the study area, a machine gun factory at Branston (asset 1460). The factory was incomplete when the war ended, and was converted to food production in the 1920s, becoming the home of Branston Pickle. The impressive office, pump house,

canteen and a tall wall on the south side of the factory enclosure all survive, the buildings being grade II listed.

The majority of the 20th-century defence features are associated with World War II activity, and principally with Stop Line no.5, a series of anti-tank pillboxes constructed in 1940 along transport routes to counter a feared German invasion of Britain. Many pillboxes survive along the west side of the Trent and Tame and south side of the Dove, and close to the locations of road, canal and railway bridges (see Plate 11). The exact location and condition of all the pillboxes is currently uncertain, and there are variations in the records of the HERs and the Defence of Britain archive; neither source appears to include all the structures, though several listed in the DoB archive do not appear on recent aerial photographs at the locations given.

Other Second World War military remains include two RAF airfields, with pillboxes, hangars and possibly air raid shelters surviving at least at Fradley (RAF Lichfield), though the remains of the runway appear to have been largely disguised by recent development. The extensive rail network meant that two army depots and several military camps were located in the northern part of the study area, as well as features such as aircraft obstructions. Most of the structures have been removed, though some huts and associated features may survive.

Plate 31: Repton village war memorial (asset 3272)

The commemoration of the 20th-century conflicts is also well represented within the study area. Many of the villages have war memorials, such as standing monuments in churchyards or village centres, and memorial panels set within church lychgates or inside the churches. A number of memorial plaques for factory workers and former pupils at Repton School have also been recorded, though these have limited public access. The memorial at Barrow upon Trent is

interesting in commemorating volunteers rather than the fallen. It was awarded in 1916 as the result of a competition to find the village with the highest number of volunteers for its size.

5.8.2 Access and interpretation

The nearby presence of Whittington Barracks and Cannock Chase mean that there is the potential to expand military heritage trails into the study area from existing visitor centres on the outskirts. The First World War resource within the study area is limited, and there is currently no public access to the Branston Machine Gun Factory site, which is in use as a B&Q depot and has no accessible interpretative material. The main listed buildings are visible from the entrance and from roads along the south and east sides. It was noted during the site visit that the former canteen is boarded up, and the office building and pump house do not appear to be in use. Though no serious deterioration was noted, some missing roof slates and broken window panes suggest that the listed buildings are at risk of ongoing decay.

Plate 32: Grade II listed canteen buildings at the WWI machine gun factory (asset 1460)

The Second World War stop line survives as pillboxes alongside the rivers. The exact location and condition of all the pillboxes is not currently known, but many are visible or accessible from public footpaths, including the canal towpath, and could be incorporated in heritage trails.There are limited surviving remains of the military camps and airfields within the study area, though some structures survive, such as reused Nissen huts in areas close to former military sites. Lidar suggests some earthwork remains of the Melbourne military depot survive in woodland (asset 3156), but it is not clear if this is accessible to the public.

War memorials are present across the study area, with most villages having at least one, usually displayed in churchyards and village centres. Burton upon Trent has several memorials, whilst St Wystan's Church in Repton has a small group of war graves at the northwest corner of the churchyard, as well as village memorial set into the churchyard wall. The National Memorial Arboretum at Alrewas is a recent establishment, with hundreds of memorials to military and civilians for conflicts across the 20th century. This has a visitor centre and could form the focus of wider trails associated with the 20th-century military history of the area.

6 HERITAGE AT RISK

6.1 Summary of assets assessed as being at risk

Designated assets currently recorded on Historic England's Heritage at Risk register for 2017 are listed in Table 4 below and shown on Figure 20 (Historic England 2017a-b).

Proj ID	Name	Desig Status	Period	NHLE	Condition
1003	Round Barrow, Near the River Tame, Alrewas	SM	Later prehistoric	1006090	Declining
1004	Settlement Site / Farmstead, Sittles	SM	Multi-period	1006091	Unknown
1006	Cropmarks, Bonthorn Farm, Wychnor: Bronze Age barrow cemetery and post-medieval field boundaries	SM	Multi-period	1006094	Unknown
1007	Pit Alignment and Enclosures, Wychnor Bridges	SM	Multi-period	1006095	Unknown
1009	Hengiform Monument, Catholme	SM	Later prehistoric	1019109	Unknown
1010	Enclosure and Cursus, Efflinch, Catholme	SM	Multi-period	1006073	Unknown
1017	Farmstead, Fisherwick	SM	Multi-period	1006100	Unknown
1081	Causewayed Enclosure, Fradley	SM	Later prehistoric	1002964	Unknown
1181	Cropmark Features, Catholme	SM	Multi-period	1019109	Unknown
2654	Coalbrookdale footbridge, former Egginton Park, Egginton	LB II*	Industrial	1140125	Very bad
2888	Swarkestone Bridge and Causeway to Stanton-by-Bridge	SM; LB I	Multi-period	1088337; 1007076	Fair
2931	Swarkestone Old Hall (remains of), Derby Road, Swarkestone	RP; LB II*	Post-medieval	1000685; 1280604	Poor
2944	Swarkestone Lowes Barrow Cemetery and Field System	SM	Multi-period	1019060	Declining
2967	Twyford Henge and Round Hill Bowl Barrow	SM	Later prehistoric	1011436	Declining
3033	Weston Hall and site of homestead moat, Weston Upon Trent	LB II*	Multi-period	1088352	Poor
3142	St Mary's Church (formerly St John's), Marston on Dove	LB I	Multi-period	1334544	Poor

Table 4: Heritage at Risk sites

A total 463 sites are identified as being at risk (Figure 21), of which 118 are assessed as being of national or regional/national significance (listed in Table 6, Appendix 1). These are largely cropmark sites of later prehistoric to Roman settlement and ritual activity, and their value is therefore assessed on morphological grounds and may be subject to change if further information is gathered. Other features of national significance include medieval moated sites and bridges and grade I and II* listed buildings. The primary risk to 86 of these sites is arable cultivation, whilst 17 have been, or are at risk of being, impacted by quarrying. Two have been at least partly built over, and one is assessed as being at risk of animal burrowing. Other notable risks include deterioration of built heritage, or risk from damage caused by human activity (graffiti, vehicle damage, etc.).

There are 59 assets at risk that are considered to be of regional significance, including grade II listed buildings and features associated with Second World War activity, and 24 sites of local/regional significance. A total of 134 features are considered to be of local significance, including unlisted historic buildings and medieval to post-medieval ridge and furrow remains

and field systems. The 126 features of unknown significance assessed as being at risk are mainly undated cropmark features under arable cultivation.

6.2 Risk factors

The risk to heritage assets is primarily related to human activity or inactivity. The most common risks to heritage assets within the study area comprise agricultural activity, minerals extraction, settlement expansion and urban development, and neglect of heritage assets. Animal activity such as grazing and burrowing can also impact on the preservation of heritage assets.

The main threat from agricultural activity is ploughing, as modern methods involving cutting deeply into the topsoil and the top of subsoil deposits. This results in the levelling of earthwork assets and cumulative damage to buried remains. This is a notable threat to sites across the study area, particularly the Trent and Tame valleys, where arable agriculture has been a common landscape use from the mid- to late 20th-century onwards. Many of the sites designated as Scheduled Monuments in these areas are at risk from ploughing, including causewayed enclosures, hengiform monuments, cursuses and barrow cemeteries, as well as prehistoric to early medieval settlement sites and field systems. Ploughing has clearly resulted in the levelling of medieval ridge and furrow remains across the study area, where earthworks present on mid-20th-century aerial photographs are no longer visible on current Lidar data. On some occasions, archaeological evaluation of potential prehistoric to Roman cropmark sites has revealed no remains corresponding with the cropmarks, or very poorly preserved remains. This may be partly due to cropmarks formed by geological conditions, but in some cases it was concluded that the remains had been removed by ploughing (e.g. assets 1104 and 1220).

A further impact from agriculture is that of grazing regimes on sites with earthwork remains. Cattle can be more damaging to earthworks than sheep, as their grazing involves greater disturbance to topsoil, and leads to more extensive erosion. This can also impact on ruined structures, such as at Swarkestone Old Hall. It should be noted, however, that predominantly pastoral regimes lead to a wider preservation of earthworks, such as in the Dove Valley area, where extensive earthwork ridge and furrow remains survive in non-arable areas.

Sand and gravel quarrying leads to the destruction of any archaeological remains within the footprint of the quarry, and can also cause changes in the water level of surrounding areas, impacting on the preservation of organic remains in buried deposits across a wider area. Whilst archaeological remains in upper subsoil deposits can be recorded during pre-extraction activity, remains in deeper gravel deposits can be difficult to monitor or recover due to the mechanisation of modern quarrying methods (English Heritage 2008). Many of the large-scale excavated sites within the study area have been recorded as a result of gravel extraction.

Development activity can damage or destroy earthwork and buried archaeological remains and historic structures on brownfield and greenfield sites, and can impact on the setting of heritage assets through altering the character of historic settlements and landscapes. These impacts can be mitigated through the planning process, particularly if considered at an early stage in the design of development. Mitigation can include preservation *in situ* and preservation by record, and through promoting sympathetic development in historic areas.

Poor management or neglect of heritage assets can impact on built heritage and earthwork sites, as well as on the historic character of conservation areas and historic settlements. This

may be unintended neglect due to a lack of available funds for maintenance, but can be deliberate in some cases, to reduce the value of heritage assets in advance of sale or development of sites. Neglect through lack of vegetation control can result in damage to built structures and the concealment of earthwork features, which can lead to loss of and damage to the features. Vegetation growth can also impact on buried remains through root damage. Neglect can also lead to damage through deliberate human activity, such as vandalism. Some heritage assets are difficult to protect due to their isolation, such as Anchor Chapel, which has been used as a shelter for drinking activity, and has suffered from extensive graffiti and smoke staining from fires within the caves.

6.3 Priority sites for conservation

A total of 28 assets have been identified as a priority for conservation. These are listed in Table 5 and shown on Figure 22, with more details for each asset given in Table 7, Appendix 1.

Table 5: List of priority sites for conservation

Proj ID	NHLE	Name	Desig	Grade	Condition	Potential significance
1003	1006090	Round Barrow, Near the River Tame, Alrewas	SM		Declining	National
1018		Field System, North-East of Row Hill, Hanbury			Poor	Regional
1078		Barrows, Ring Ditch and Linear Features, King's Bromley			Unknown	Regional/ National
1080		Multiperiod Cropmarks Complex, North-West of Alrewas Hayes, Alrewas			Unknown	Regional
1081	1002964	Causewayed Enclosure, Fradley	SM		Unknown	National
1196		Cropmark Complex, South of Crawley, King's Bromley			Unknown	Regional/ National
1197		Cropmark Complex, East of Shaw Lane, King's Bromley			Unknown	Regional/ National
1198		Cropmark Complex, South of Bourne Brook, King's Bromley			Unknown	Regional/ National
1199		Cropmark Complex, West of Common Lane Farm, King's Bromley			Unknown	Regional/ National
1201		Cropmark Complex, Eastfields, Kings Bromley			Unknown	Regional/ National
1460		Branston Machine Gun Factory / Branston Pickle Factory			Declining	Local/ Regional
1494		Cropmark Complex, East of Bagnall Farm, Alrewas			Unknown	Regional/ National
1816		RAF Lichfield / Fradley Airfield			Unknown	Regional
2027		Enclosure, South of Ashby Sitch, King's Bromley			Unknown	Regional
2063		Water Meadow, Rocester			Fair	Local
2385		Roman Road Agger, Bean's Covert, Branston			Fair	Regional
2386		Roman Road Agger and Ditch, South of Bean's Covert, Branston			Unknown	Regional
2521	1003279	Cropmark complex, Aston upon Trent	SM		Unknown	National

Proj ID	NHLE	Name	Desig	Grade	Condition	Potential significance
2527	1007034	Cropmark complex (site of), Hicken's Bridge, Aston upon Trent	SM		Part destroyed	National
2654	1140125	Coalbrookdale footbridge, former Egginton Park, Egginton	LB	II*	Very bad	National
2695	1096534	Anchor Church, Ingleby	LB	II	Declining	Regional
2902		Ridge and furrow between Sudbury and the Dove, Sudbury			Declining	Local
2904		Ridge and furrow, south of Leathersley Lane, Sudbury			Declining	Local
2931	1000685; 1280604	Swarkestone Old Hall (remains of), Derby Road, Swarkestone	RP; LB	II*	Poor	National
2944	1019060	Swarkestone Lowes Barrow Cemetery and Field System	SM		Poor	National
2967	1011436	Twyford Henge and Round Hill Bowl Barrow	SM		Poor	National
3033	1088352	Weston Hall and site of homestead moat, Weston Upon Trent	LB	II*	Poor	National
3142	1334544	St Mary's Church (formerly St John's), Marston on Dove	LB	I	Poor	National

The priority sites include 15 cropmark or earthwork sites associated with later prehistoric settlement, ritual activity and land division. As there are numerous such sites on the heritage at risk list, priority has been given to cropmark complexes that have multiple potential sites of interest, have had little previous investigation and are at risk of damage from arable cultivation. These primarily include groups of features in the area around Kings Bromley and Fradley causewayed enclosure in Staffordshire, and the Aston cursus complex in Derbyshire. Additional sites include the barrow cemetery at Swarkestone, which is becoming degraded through arable cultivation, and round barrows at the National Memorial Arboretum and at Round Hill, Twyford, that are identified as being at risk on the Historic England register.

The earthwork remains of Ryknield Street Roman road at Bean's Covert are identified as priority sites, as these may be suffering damage from tree roots. Selected examples of ridge and furrow and water meadows that are at risk from increased arable cultivation have been included, though there are many more such features in the overall asset gazetteer and alternative examples could be selected.

Buildings include the remains of the First World War machine gun factory at Branston, which are currently in a fair condition but disused, and at risk of deterioration, as well as the surviving World War II airfield buildings at the former RAF Lichfield, Fradley, potentially at risk if further development is carried out on this site. The artificial caves of Anchor Chapel, Ingelby, are also included as this structure is at risk from anti-social activity, including graffiti and smoke damage. Weston Hall, St Mary's Church at Marston on Dove, and the remains of Swarkestone Old Hall are included as these are recorded as being in a poor condition on the Heritage at Risk register. The iron footbridge in the former Egginton Park is listed in the register as being in very bad condition, and is a high priority for conservation.

7 CONCLUSIONS

The cultural heritage audit has indicated that there is an extensive cultural heritage resource within the Transforming the Trent Valley study area, ranging from the Palaeolithic to modern periods. The main themes of the resource comprise: the changing form and character of the river valley; the settlement of the area; changing subsistence strategies and the development of agriculture; the development of ritual activity and religion; changes in the display of elite landscapes; the development of the transport network and industrial activity; and 20th-century defence sites. The visibility of the cultural heritage resource related to these themes varies within the landscape, due to changes in the river courses and land use, mineral extraction and modern development, with assets from the medieval period onwards generally being more likely to be preserved as earthworks or built heritage. Features such as the rivers and the extensive industrial period transport network form a connective link between settlements and can provide a focus for heritage interpretation across the study area.

The audit has produced summaries and GIS layers covering these themes, as well as categorised by period. Threats to the cultural heritage resource have been identified, and potential strategies for interpretation and presentation of the results of the audit have been suggested.

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9 GLOSSARY

Archaeological site: the term is here used to refer to stratified archaeological remains, potentially including artefacts, groups of buried features and deposits, sometimes with associated earthwork or built structures; it does not include individual findspots.

Heritage asset: heritage assets can include individual artefacts; buildings; standing, buried and submerged archaeological remains and landscapes.

Barrow: mound covering a burial, usually of Neolithic to Iron Age date, with some Anglo-Saxon examples or reuse of earlier monuments.

Cropmark: buried feature visible from the air through differential growth of cereal crops; usually crops will grow taller over a buried ditch or pit feature, and will be stunted over stony remains such as walls and paved surfaces. Recorded through aerial photography.

Findspot: place where one or more artefacts have been found, usually not found in association.

HER: Historic Environment Record, a register of known heritage assets maintained by Local Authorities.

Lidar/LiDAR: airborne Light Detection and Ranging, a laser-based technique that measures variations in the height of the ground surface, to provide highly detailed and accurate models of the ground surface, showing earthwork features.

Lithic: stone tool or flake artefact

Palaeochannel: former river/stream channel

Palaeoenvironment: ancient/historic environmental conditions, which may be interpreted through preserved pollen, plant remains, insects and molluscs, in organic deposits

Unassigned: features/assets with no clearly determined function; this mainly comprises cropmark features which cannot be clearly interpreted without excavation, or archaeological sites which have very limited remains

FIGURES

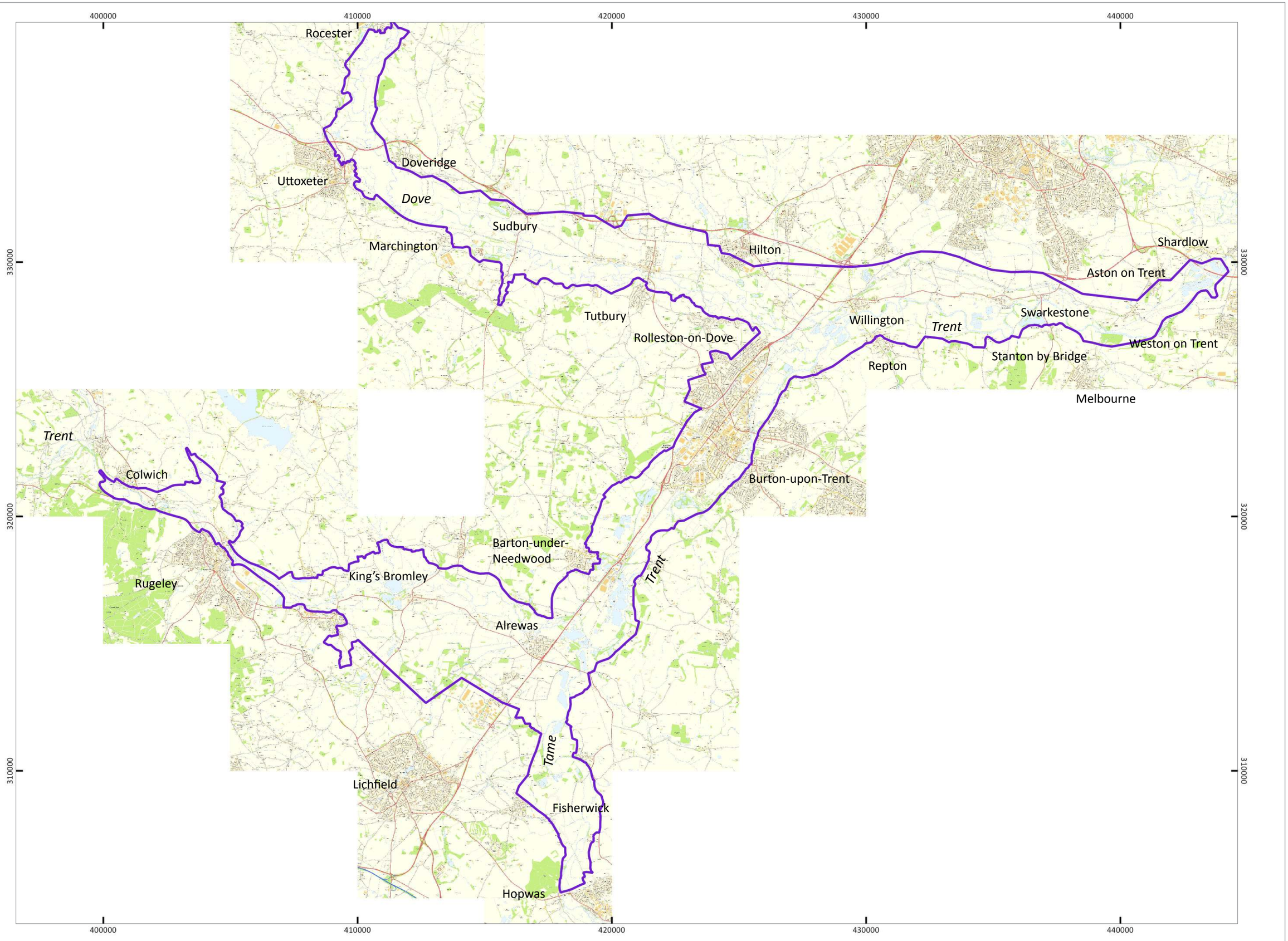


Figure 1: Site location

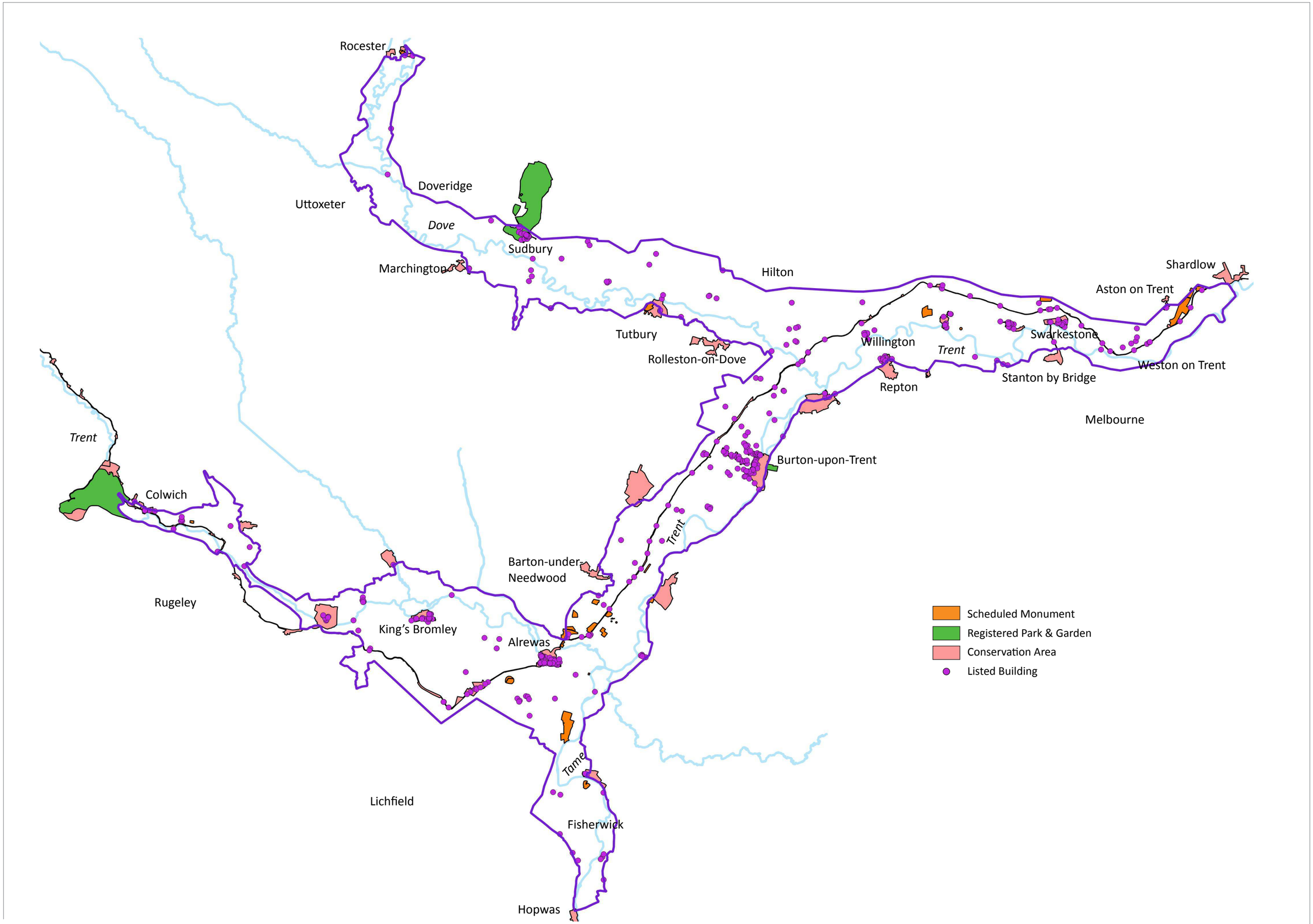


Figure 2: Plan showing designated sites

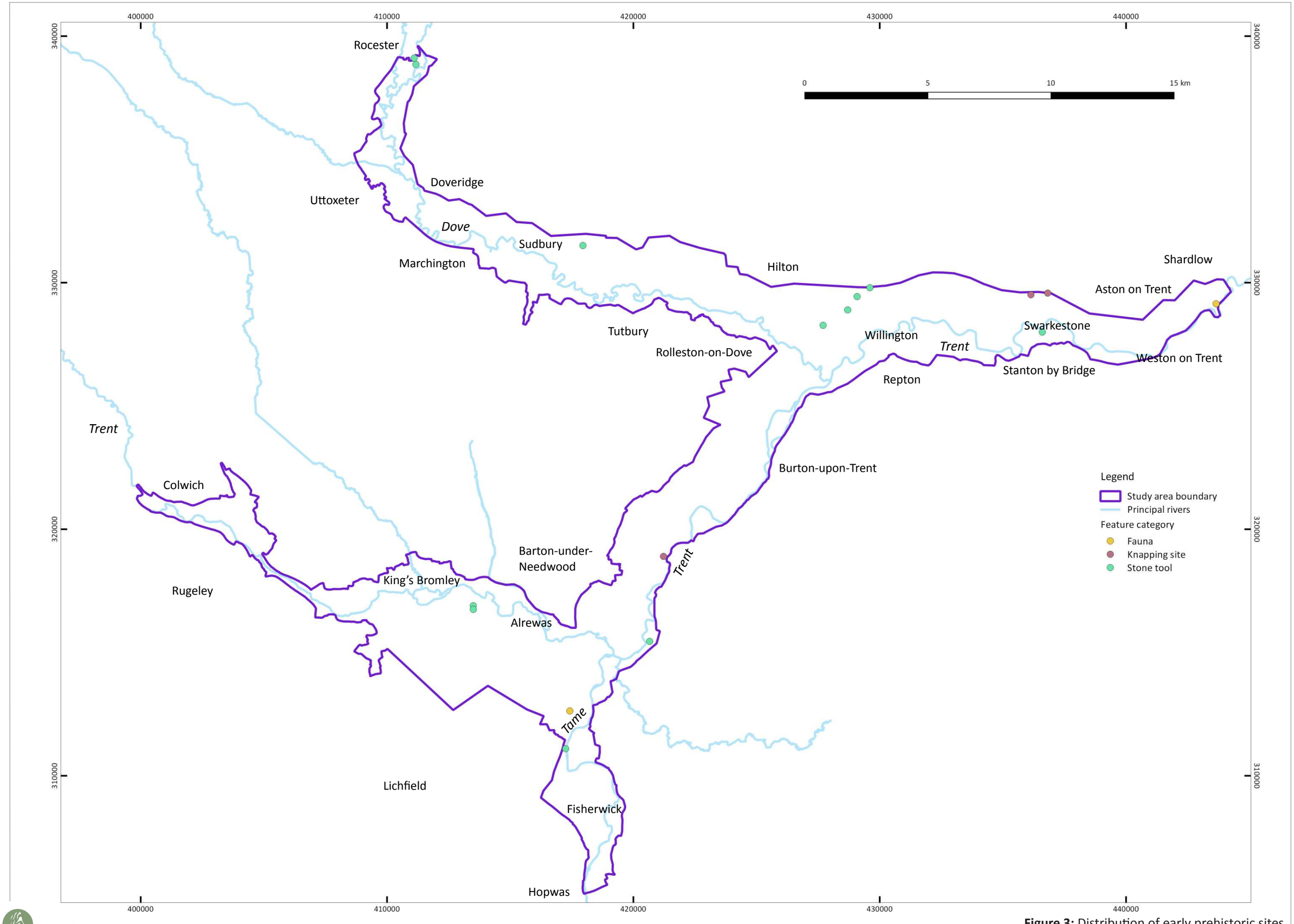


Figure 3: Distribution of early prehistoric sites

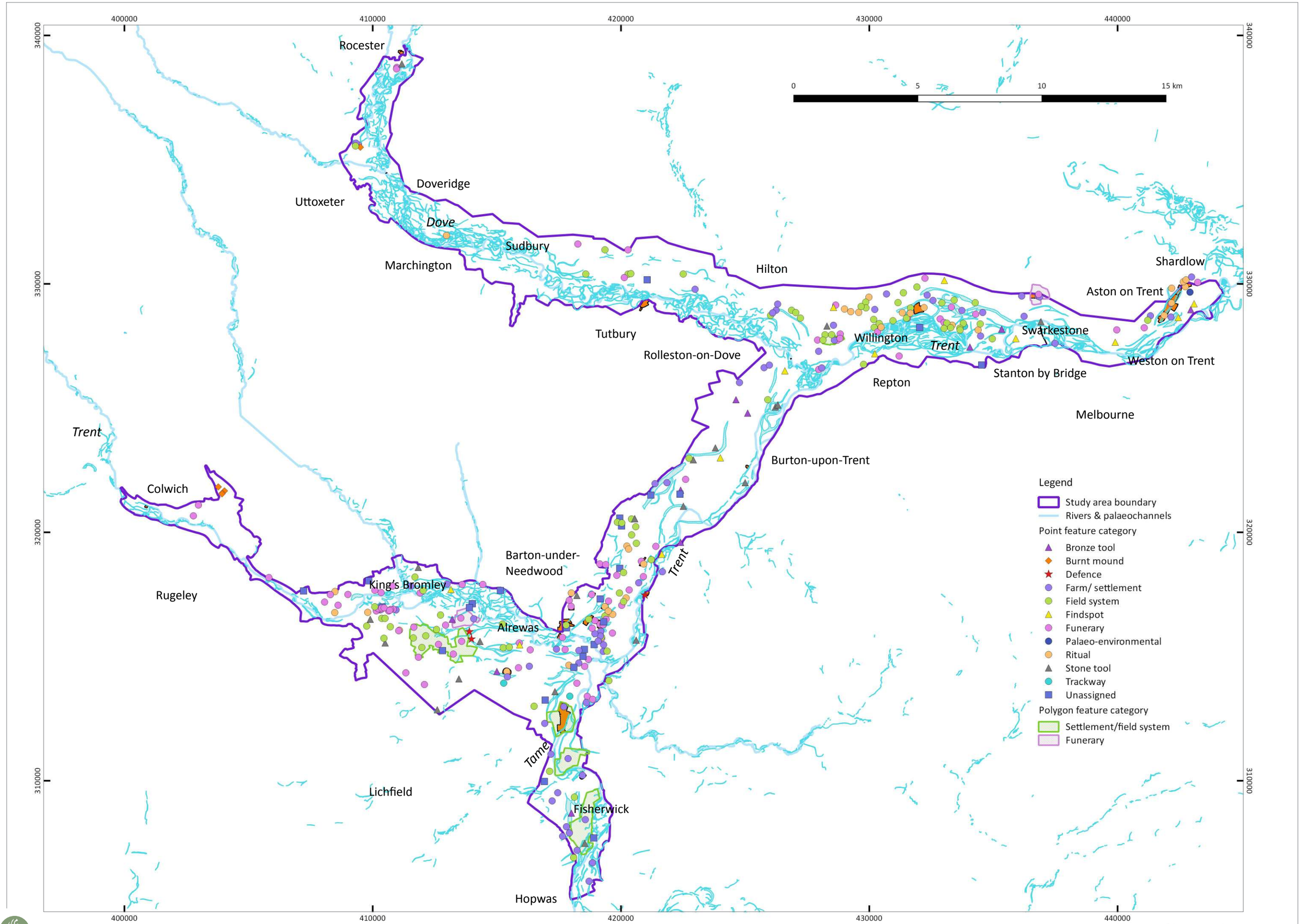


Figure 4: Distribution of later prehistoric sites

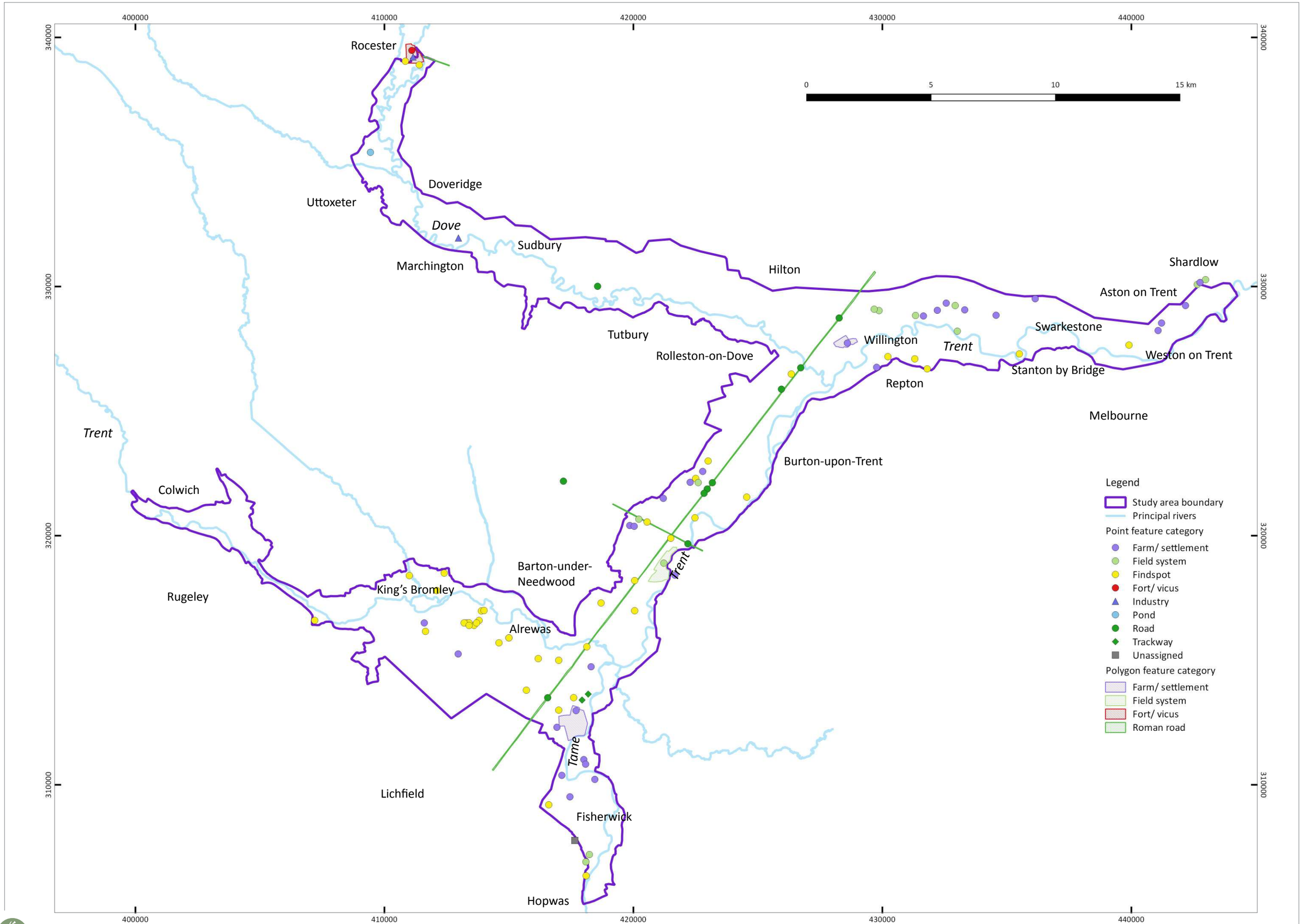


Figure 5: Distribution of Roman sites

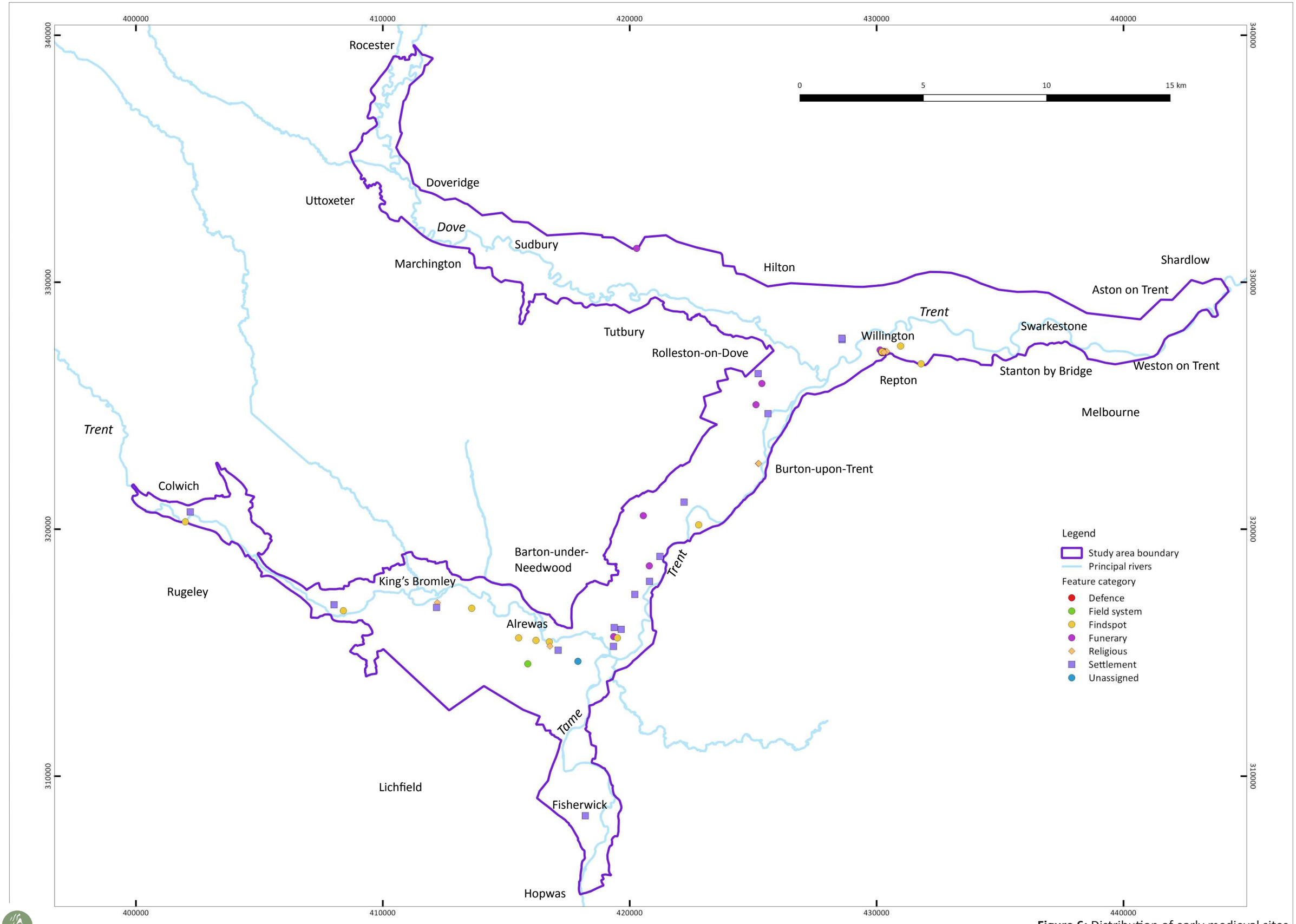
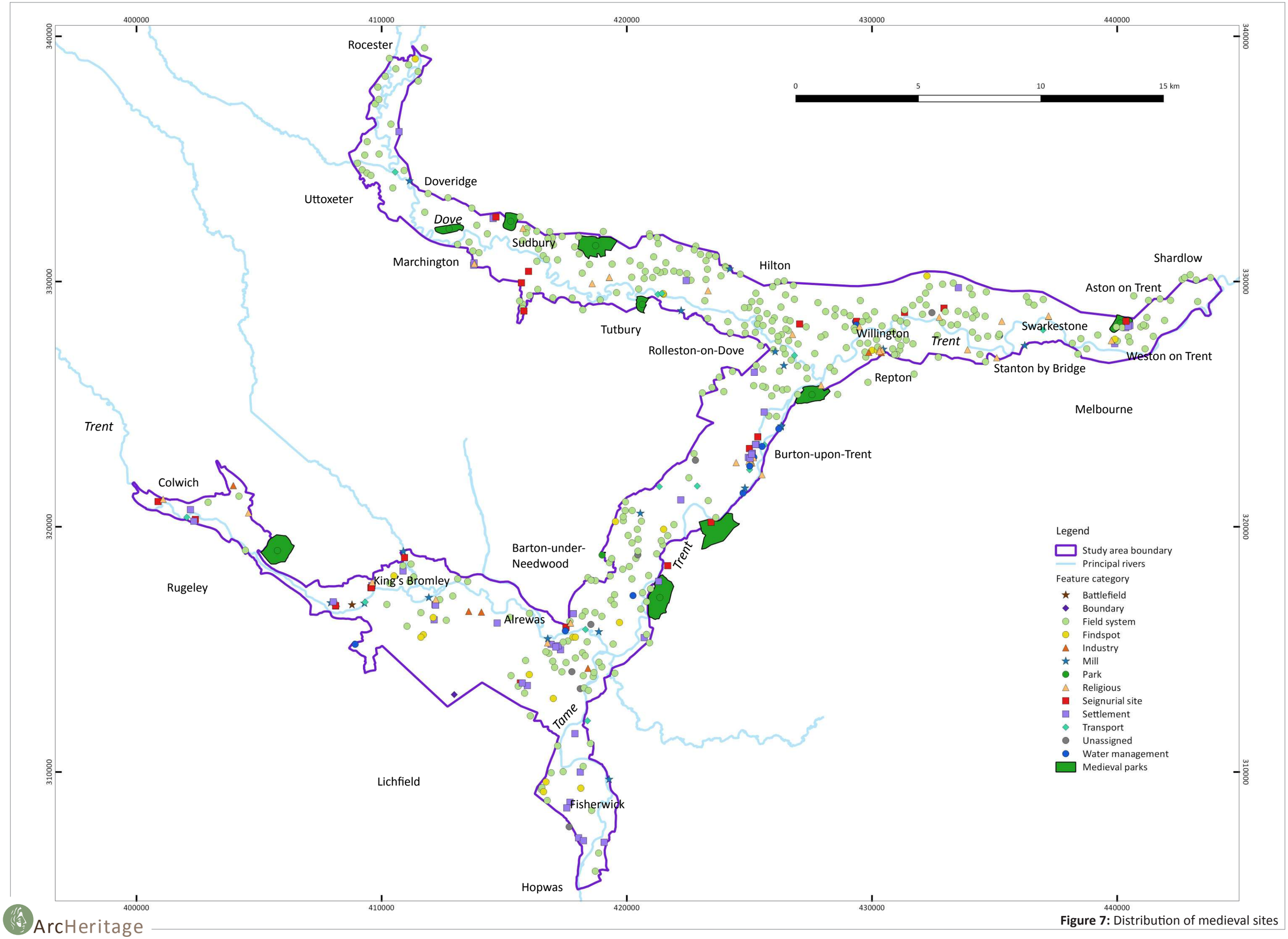


Figure 6: Distribution of early medieval sites



ArcHeritage

Figure 7: Distribution of medieval sites

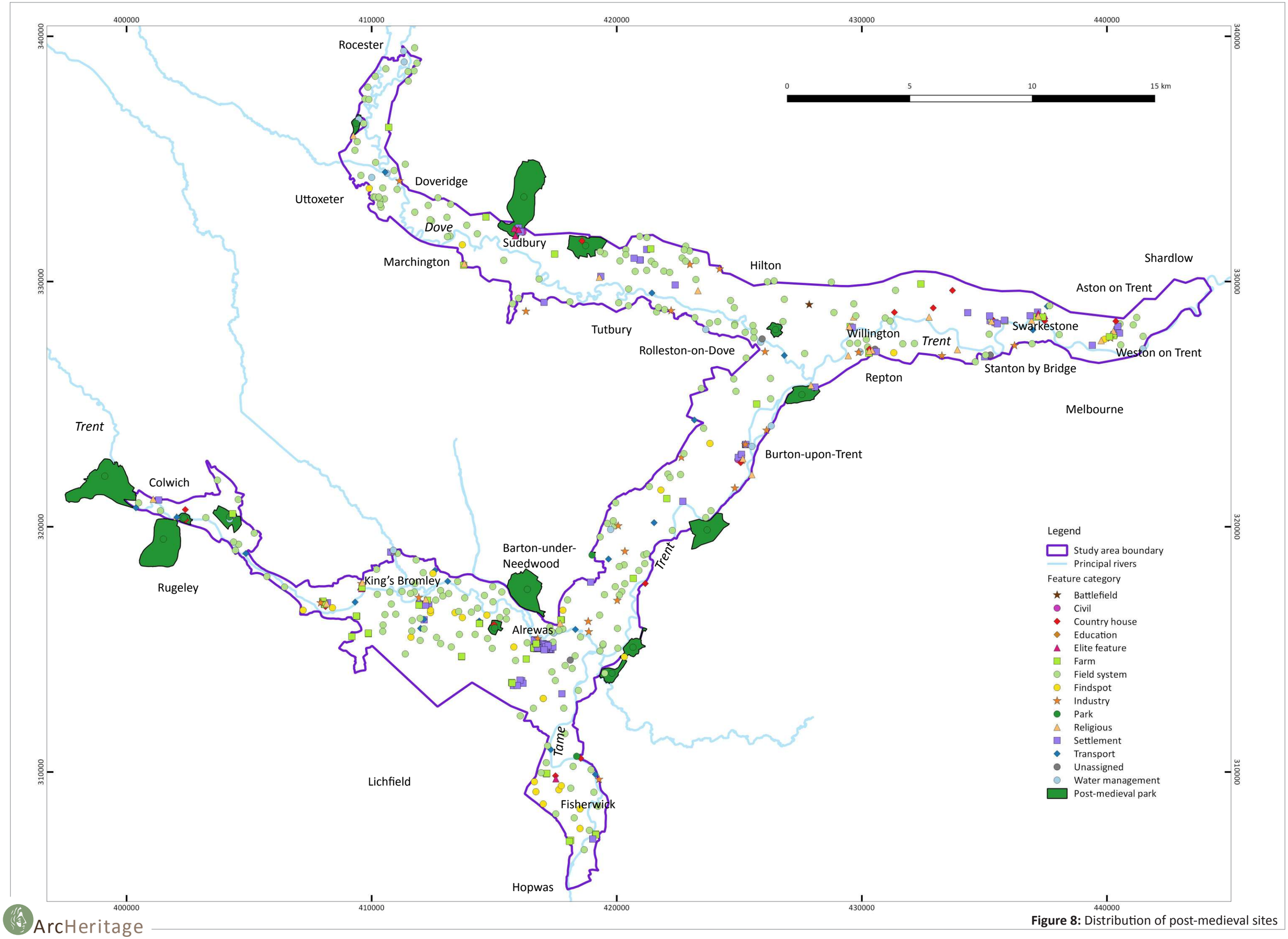


Figure 8: Distribution of post-medieval sites

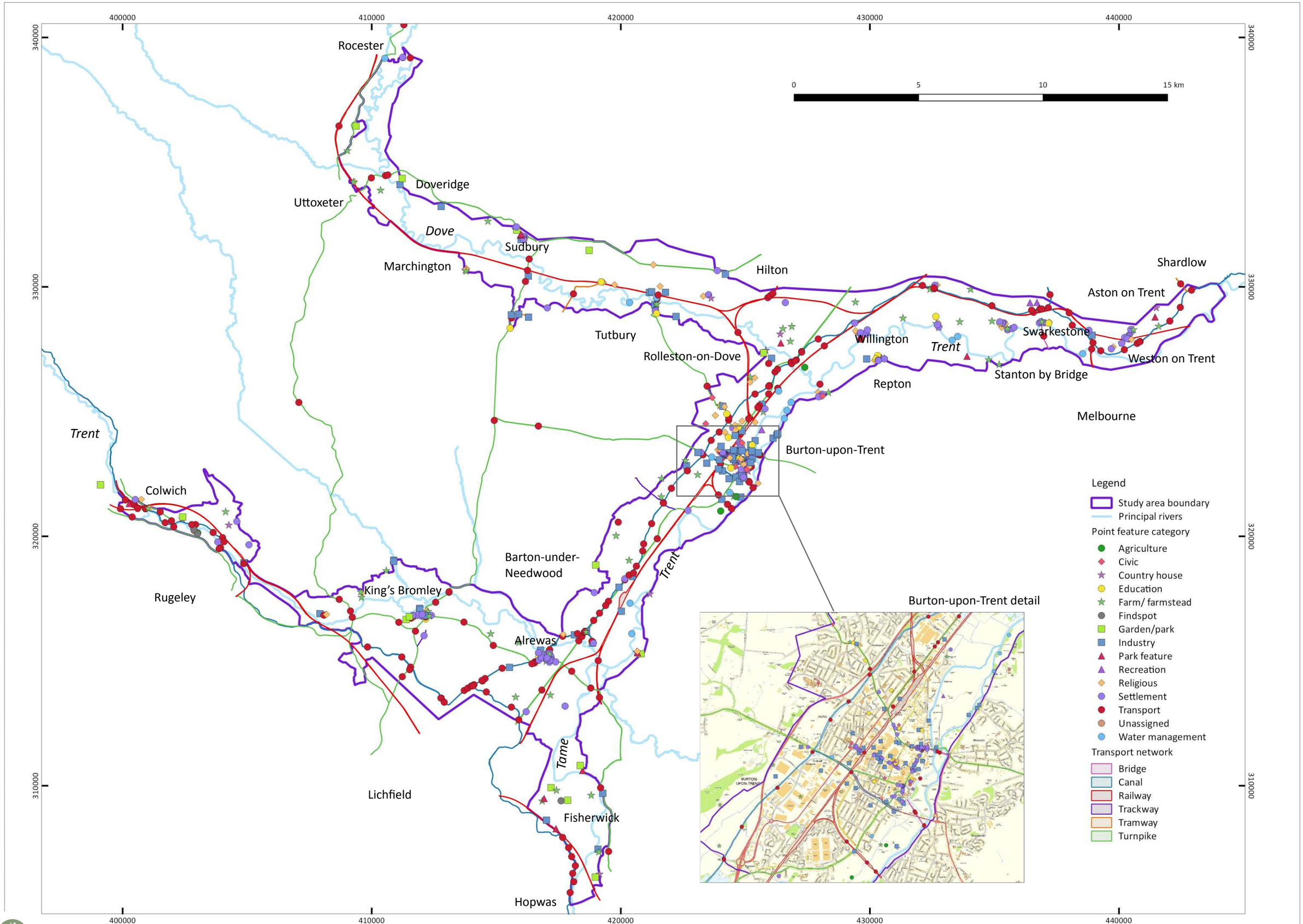


Figure 9: Distribution of industrial period sites

Data from the Palaeochannels of the Trent Catchment project (TPA Archaeology/York Archaeological Trust 2017)

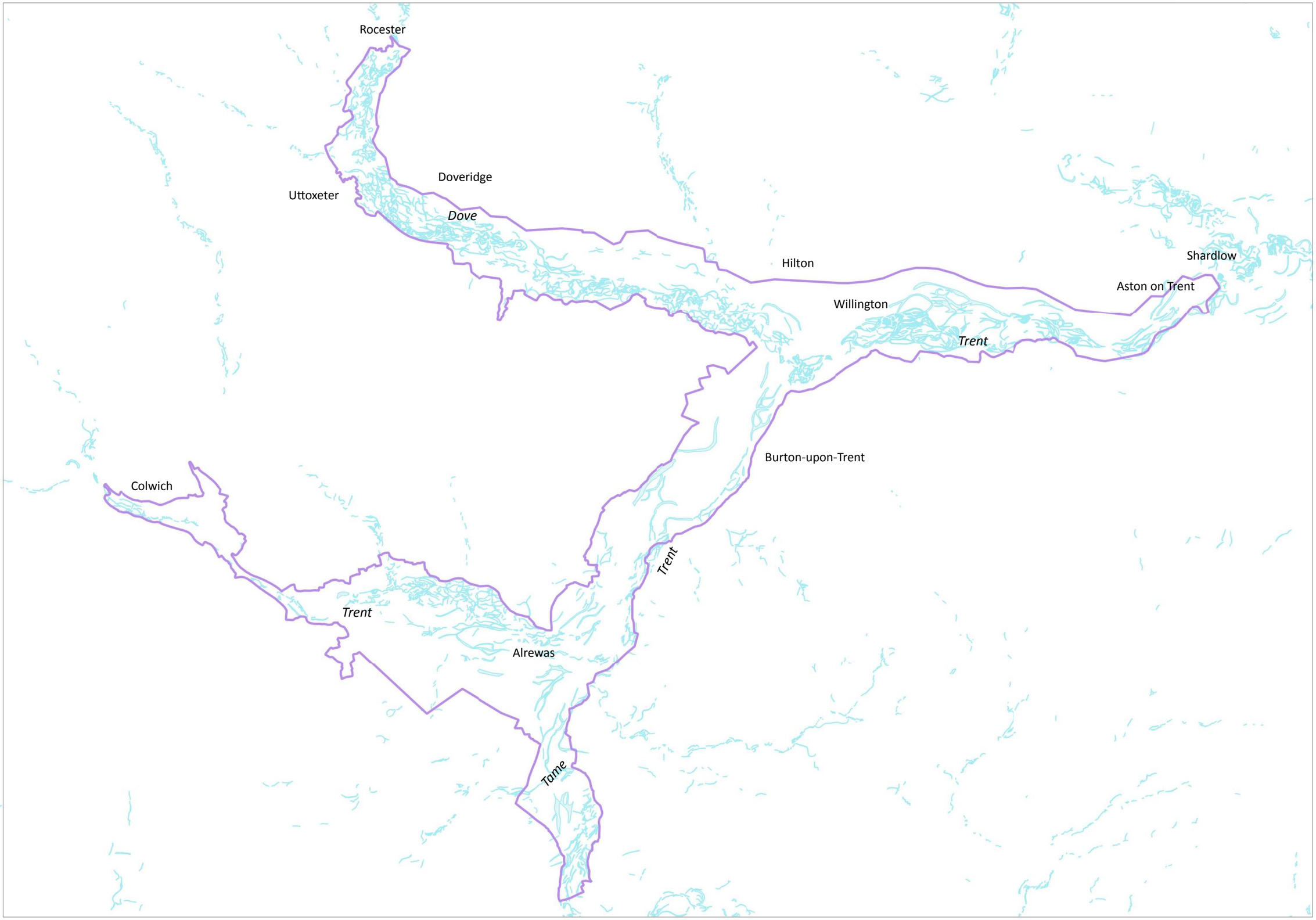
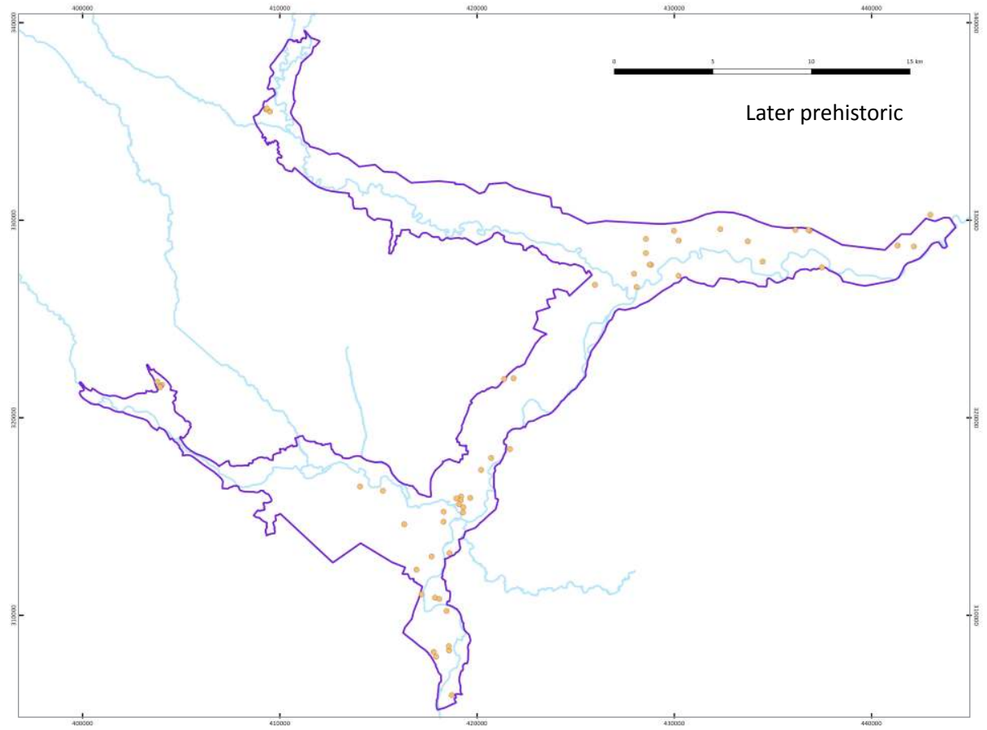
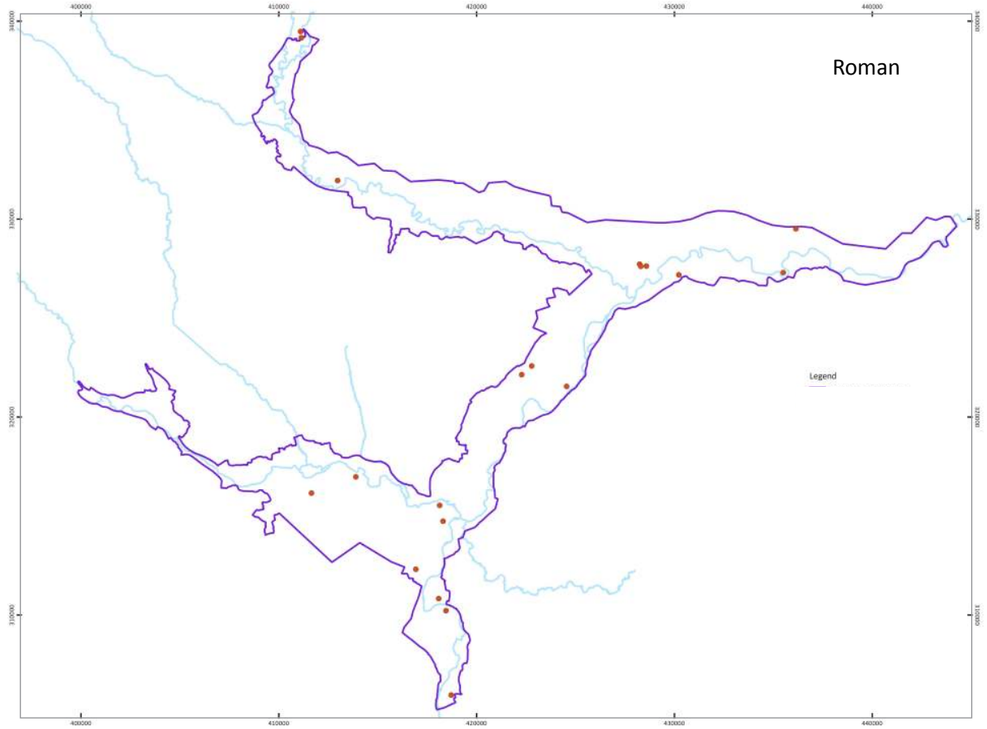
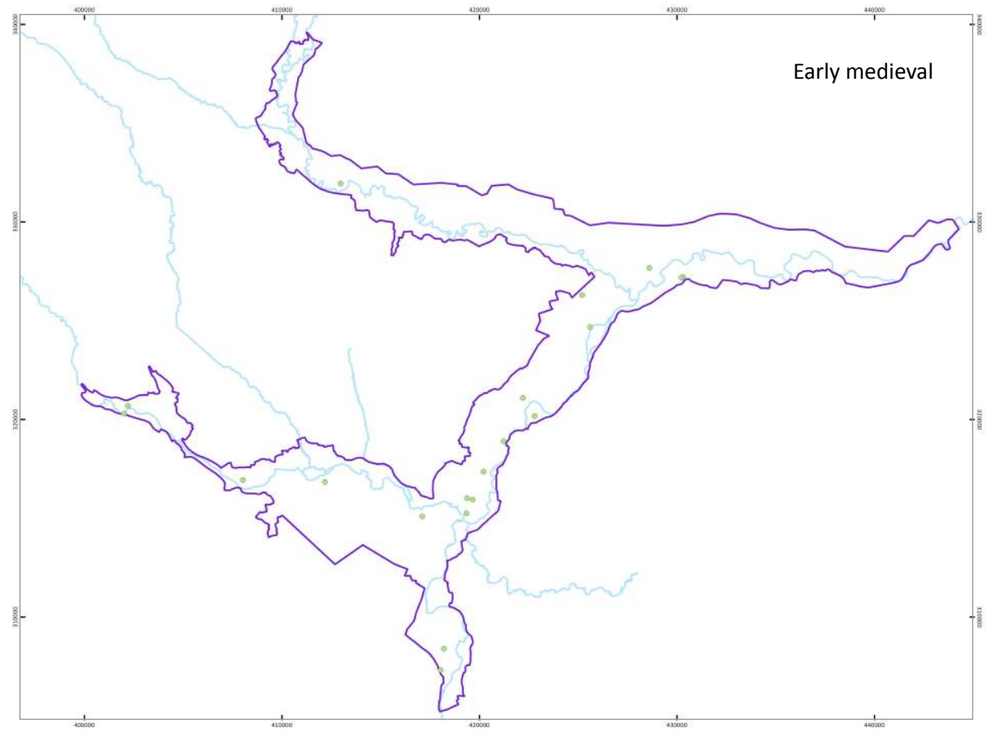


Figure 10: Mapped palaeochannels within the study area







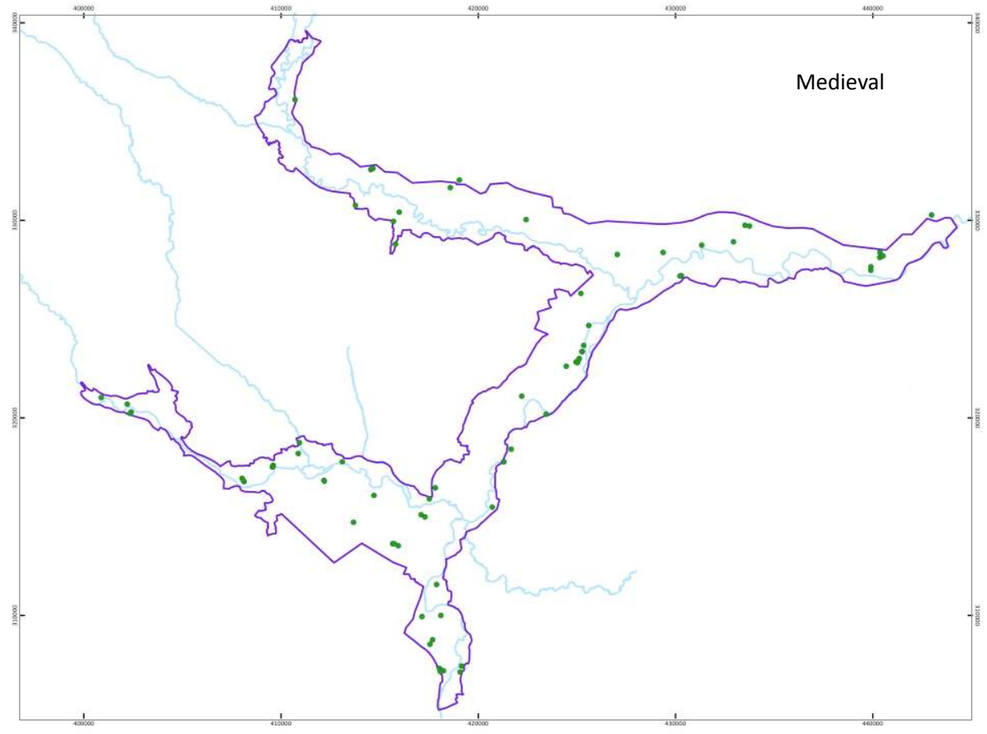
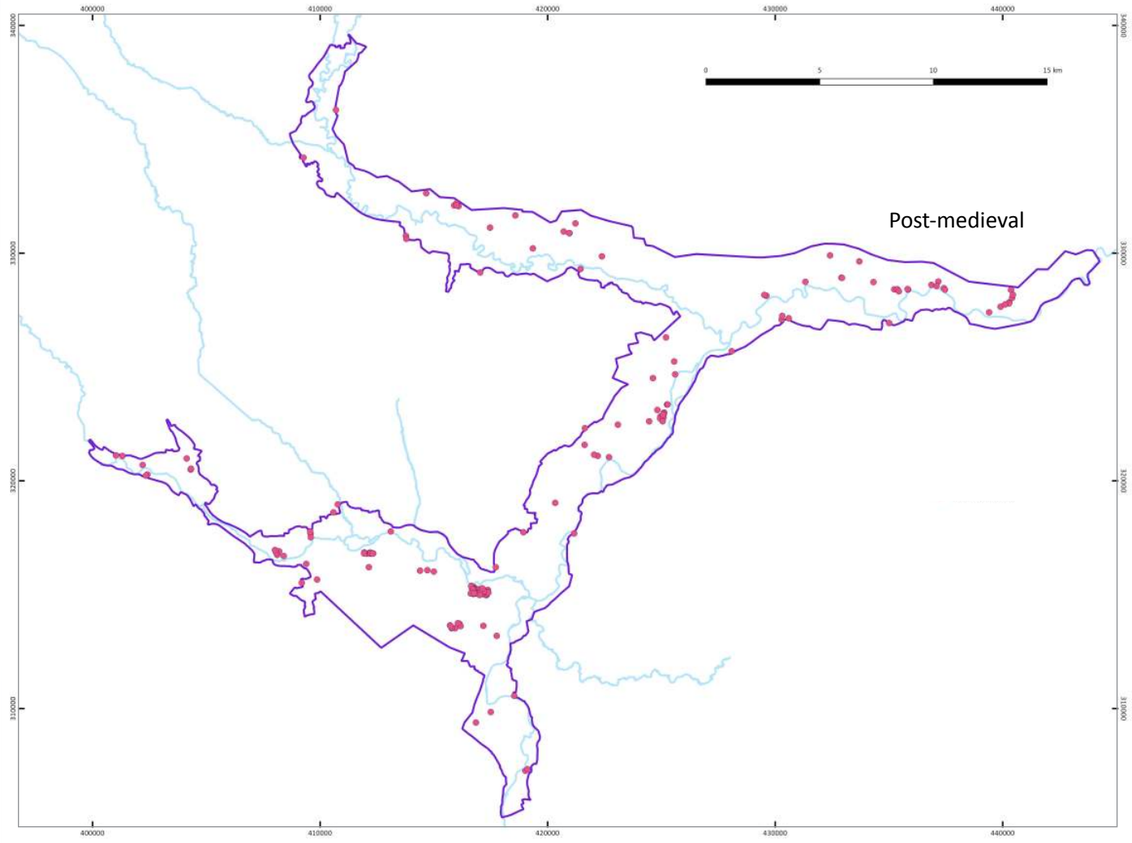


Figure 11: Distribution of settlement sites by period (prehistoric to medieval)



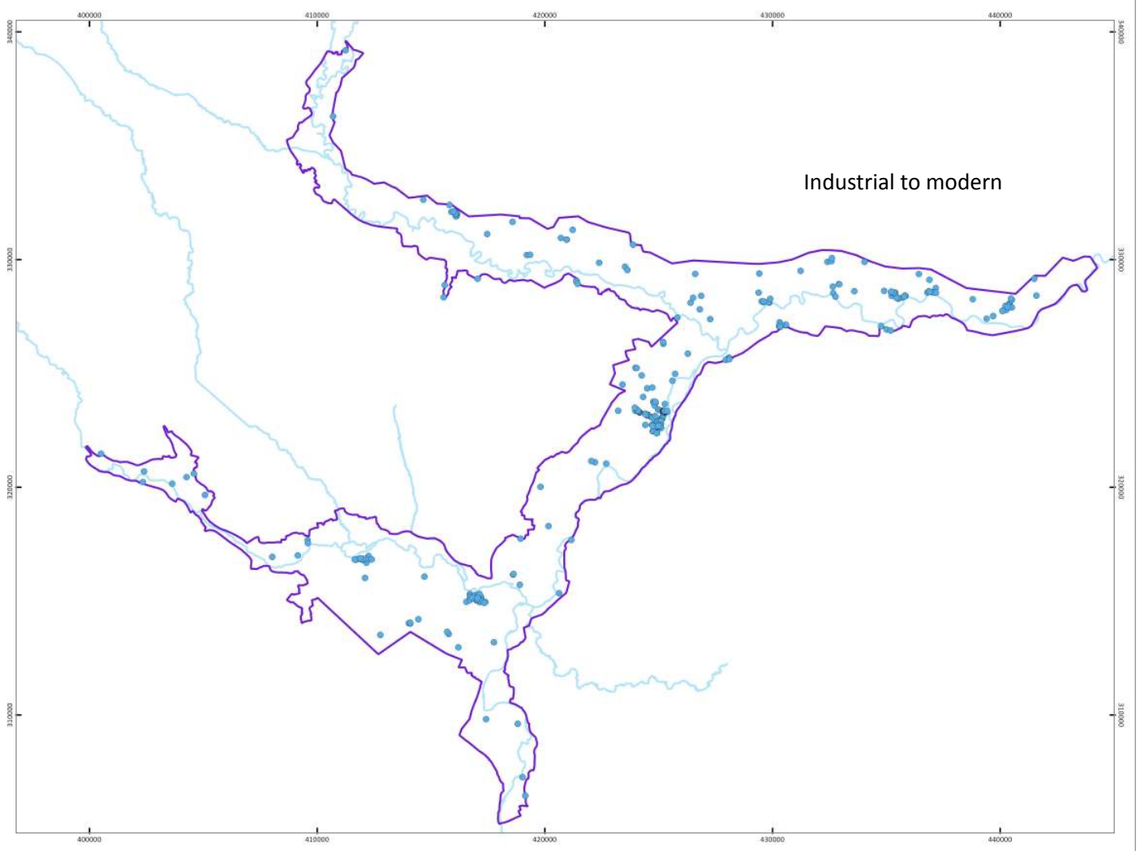
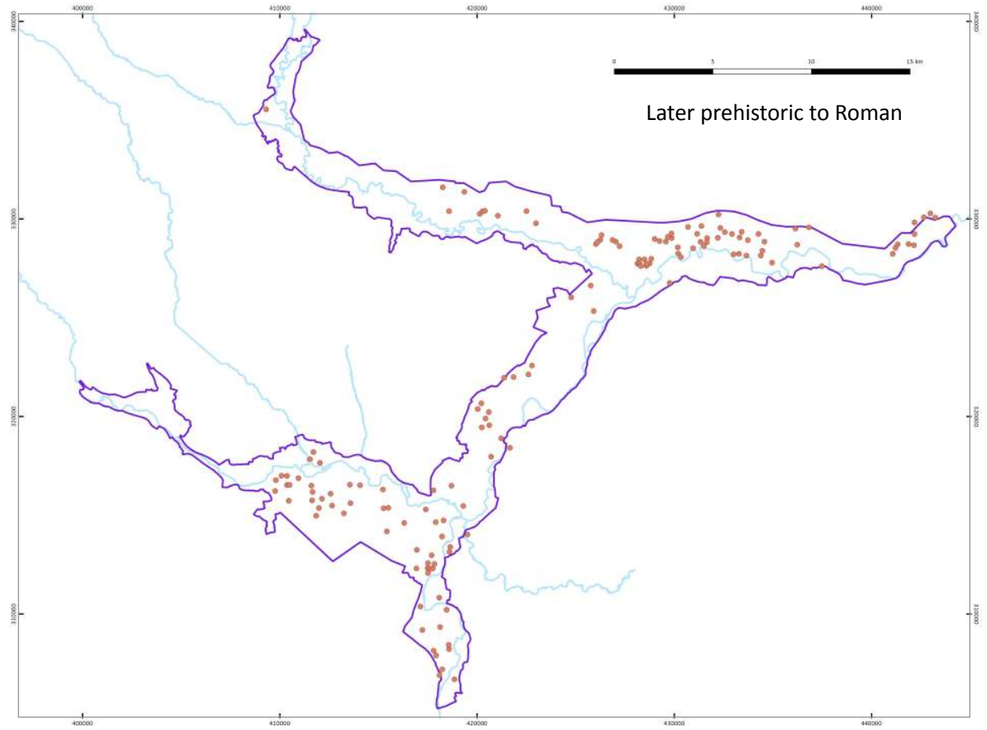
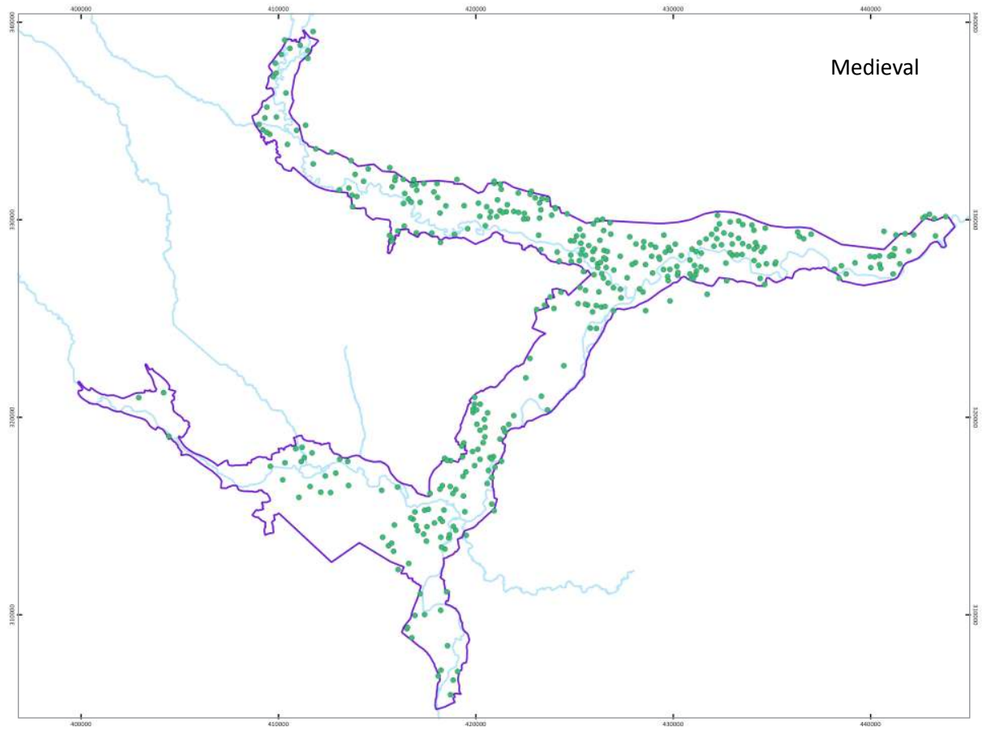
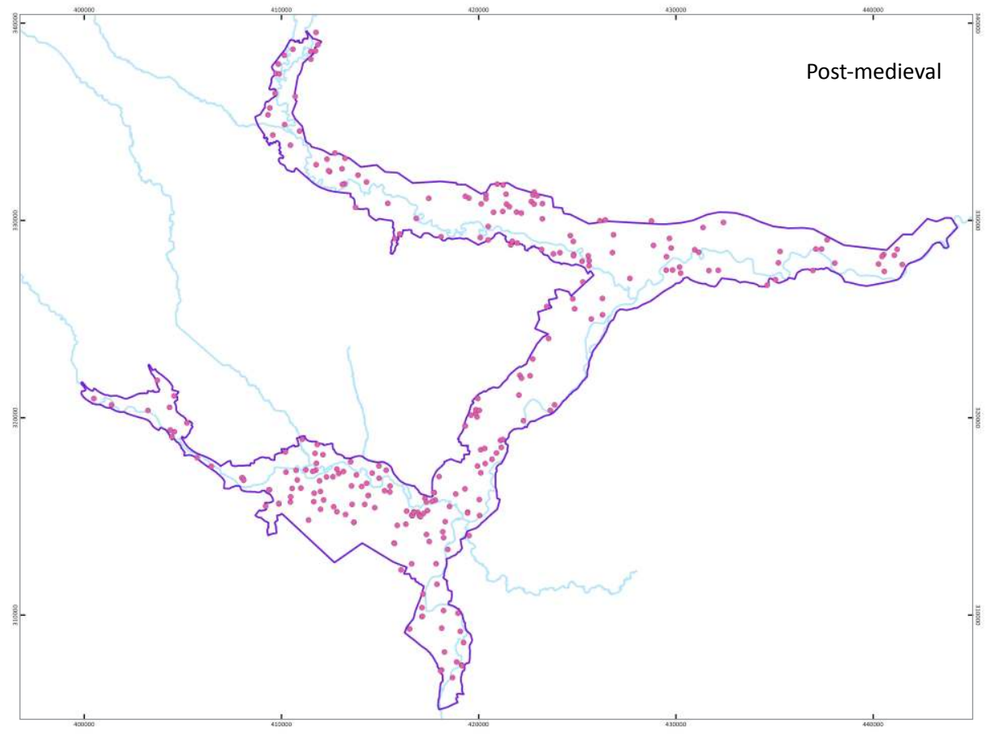


Figure 12: Distribution of settlement sites by period (post-medieval to modern)







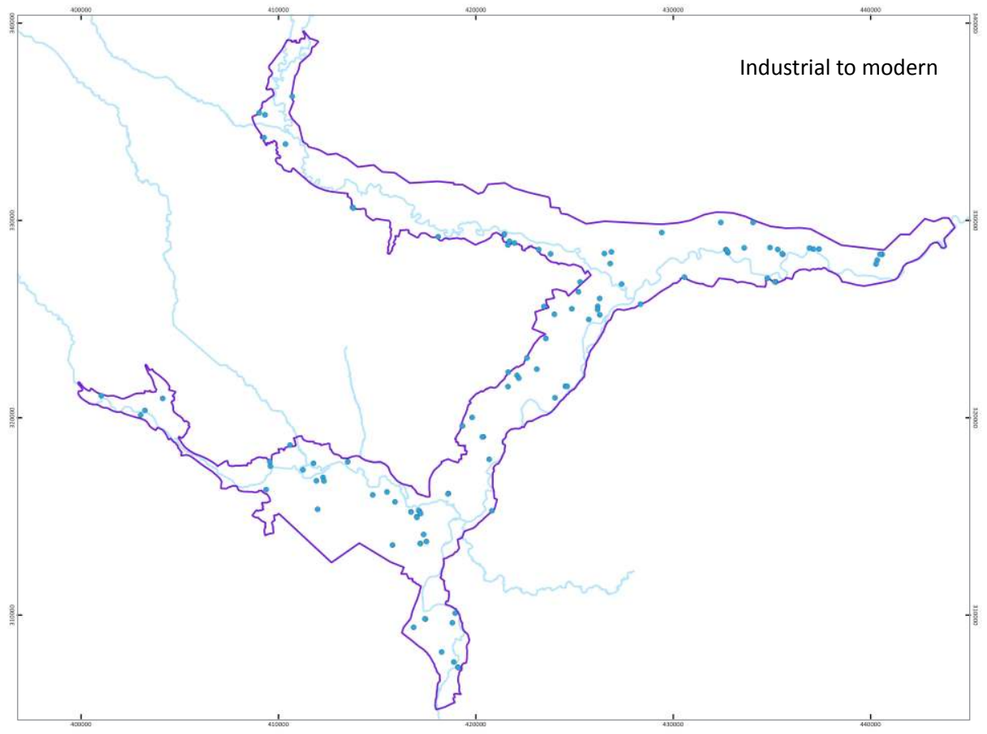


Figure 13: Distribution of agricultural sites by period

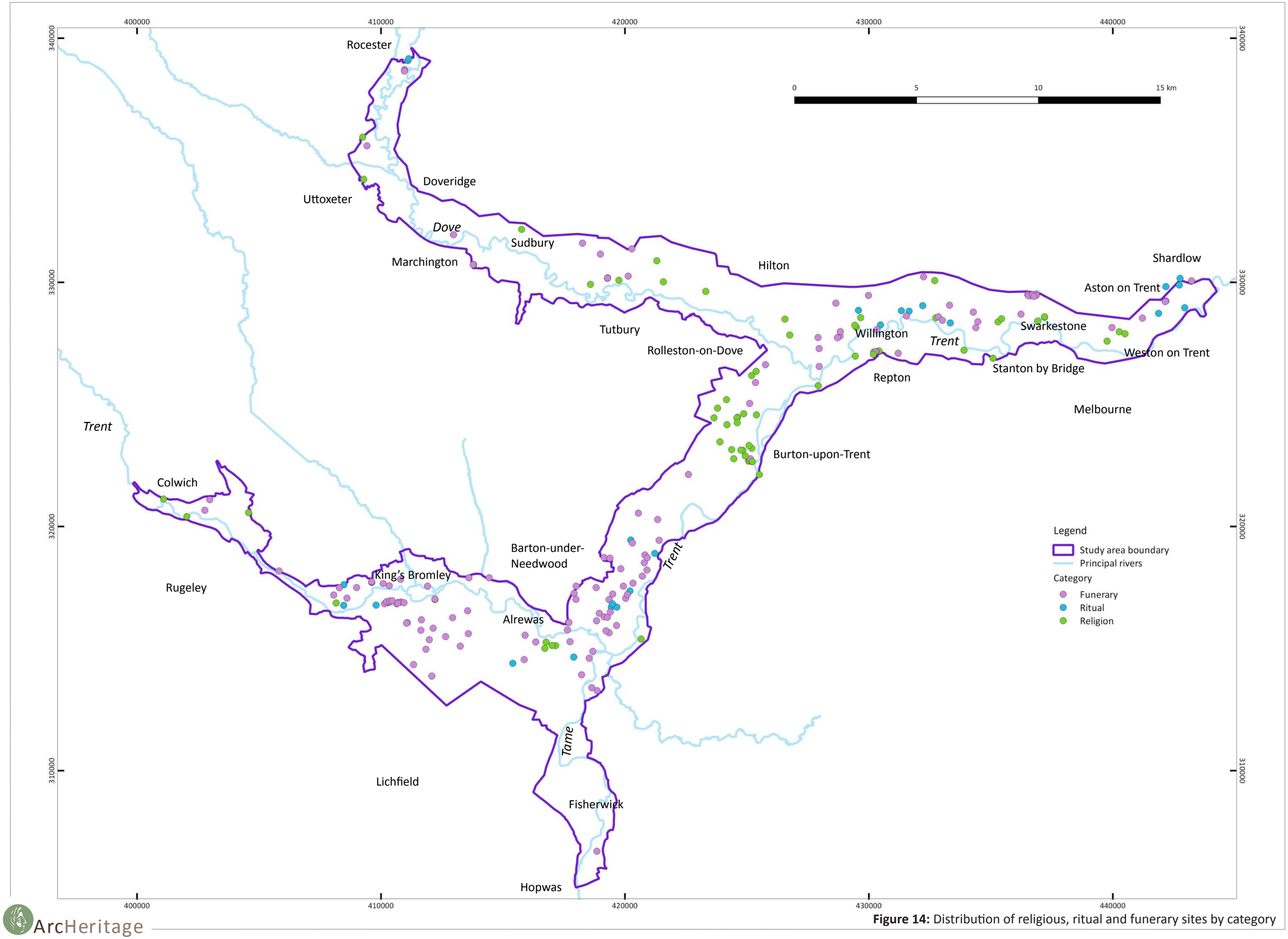
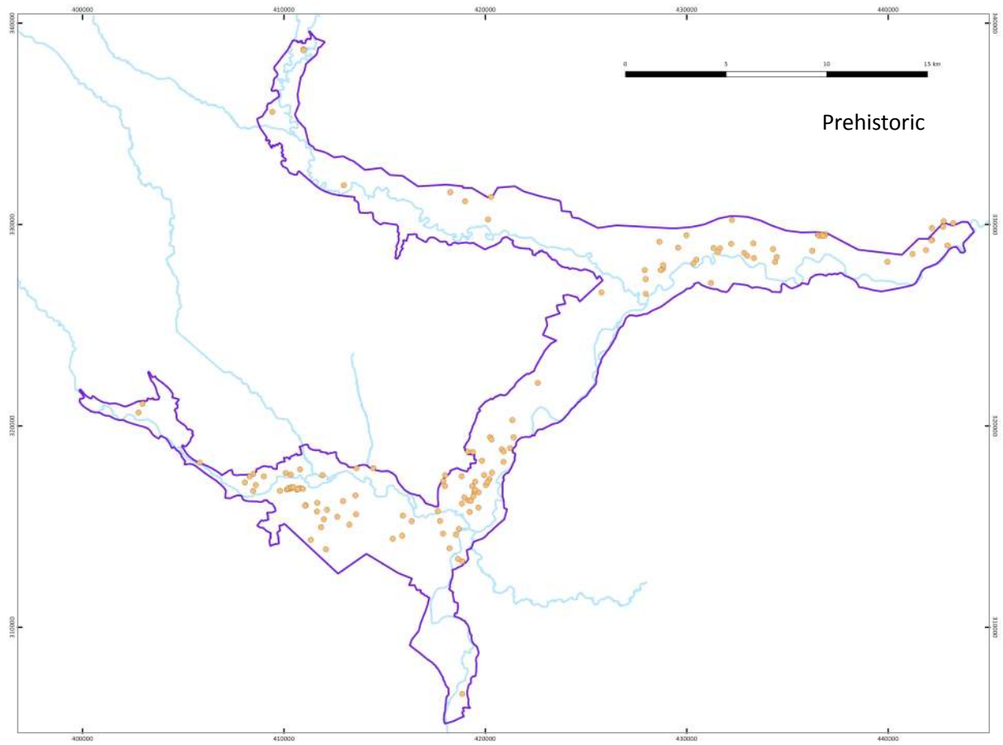
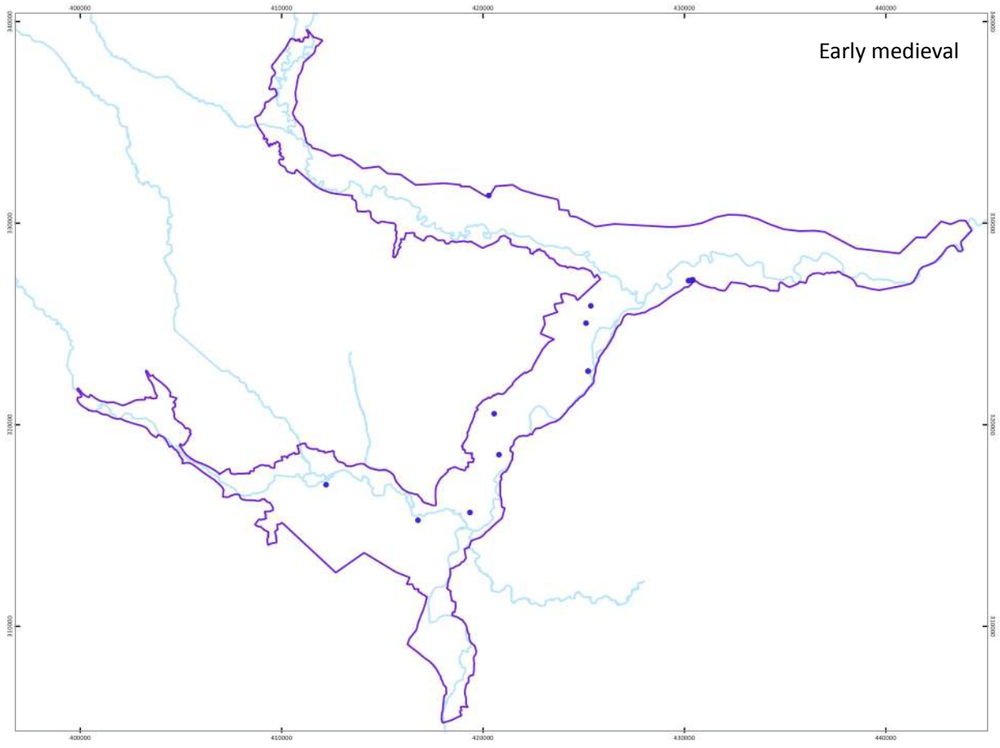
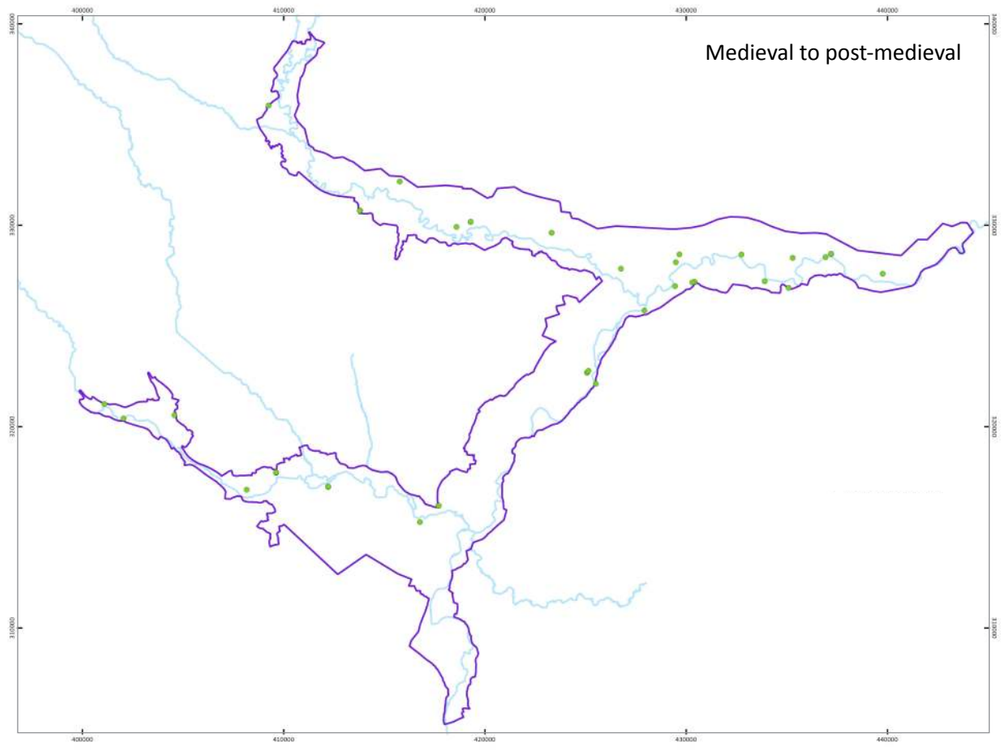


Figure 14: Distribution of religious, ritual and funerary sites by category







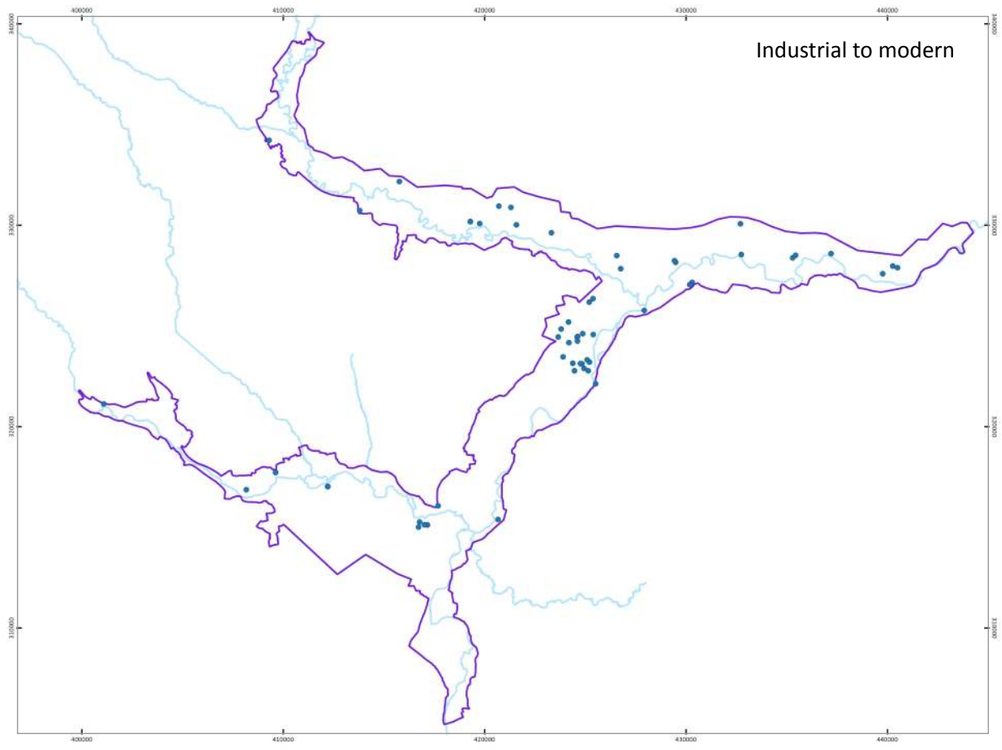


Figure 15: Distribution of religious, ritual and funerary sites by period

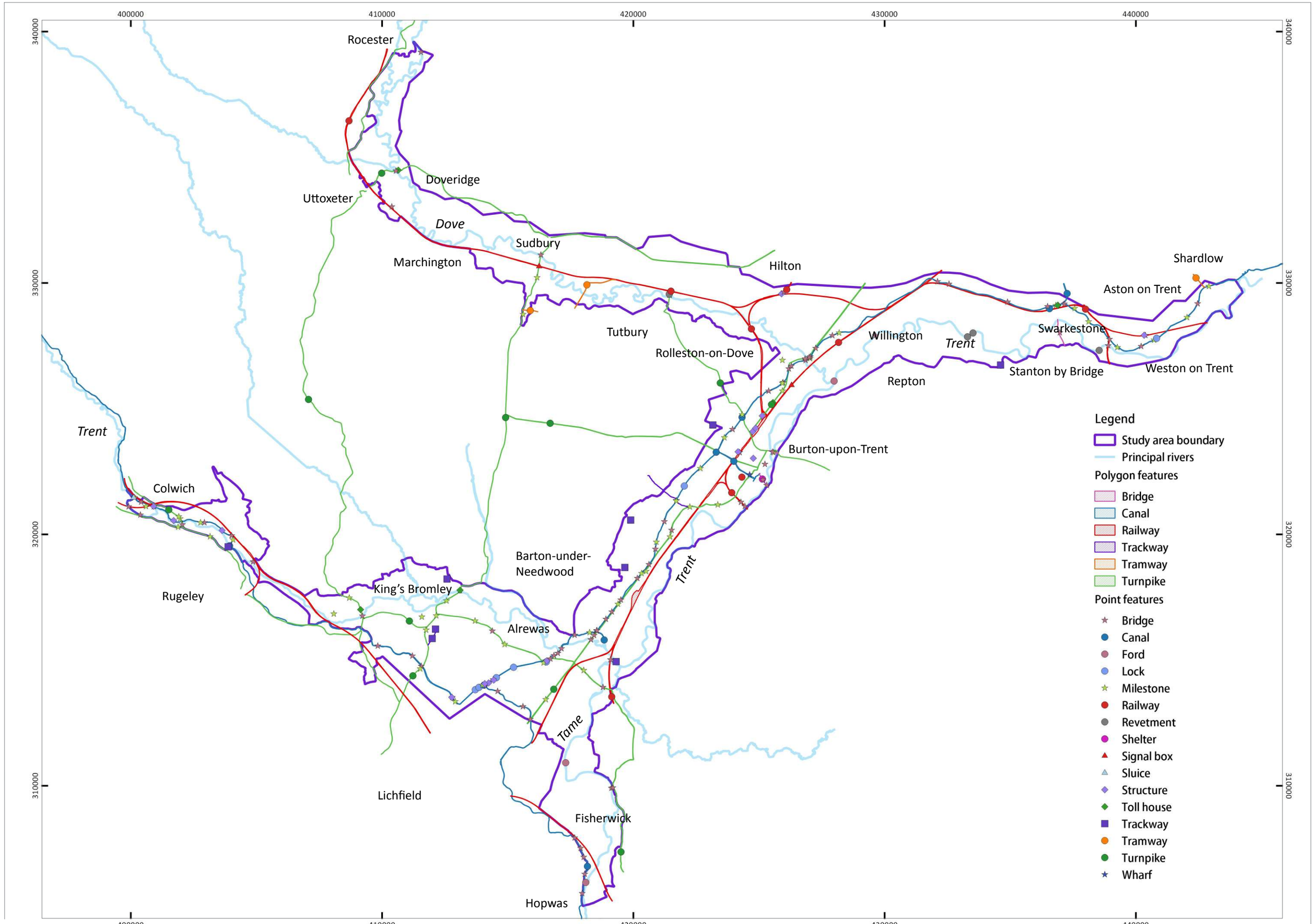


Figure 16: Post-medieval to modern transport network

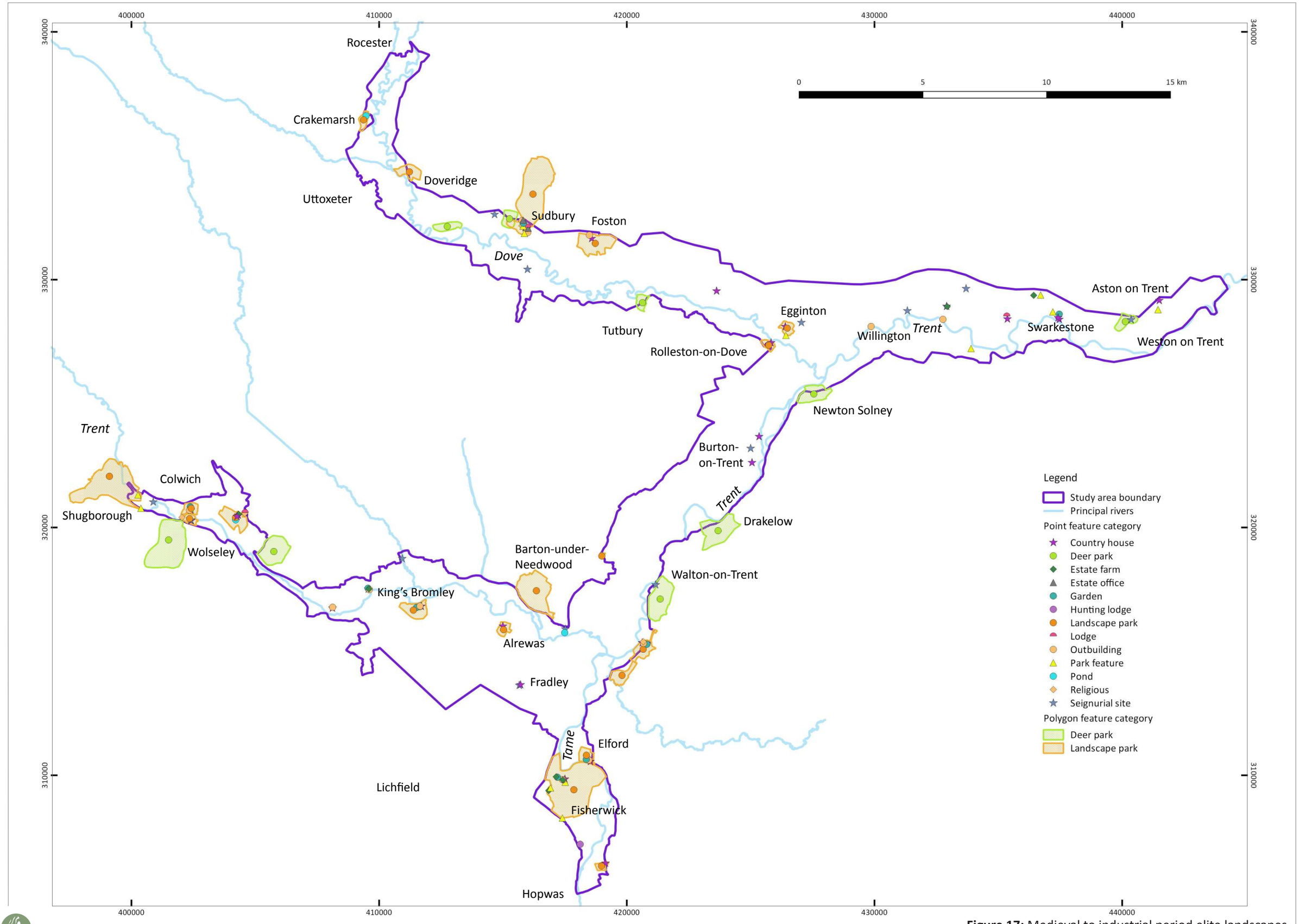


Figure 17: Medieval to industrial period elite landscapes

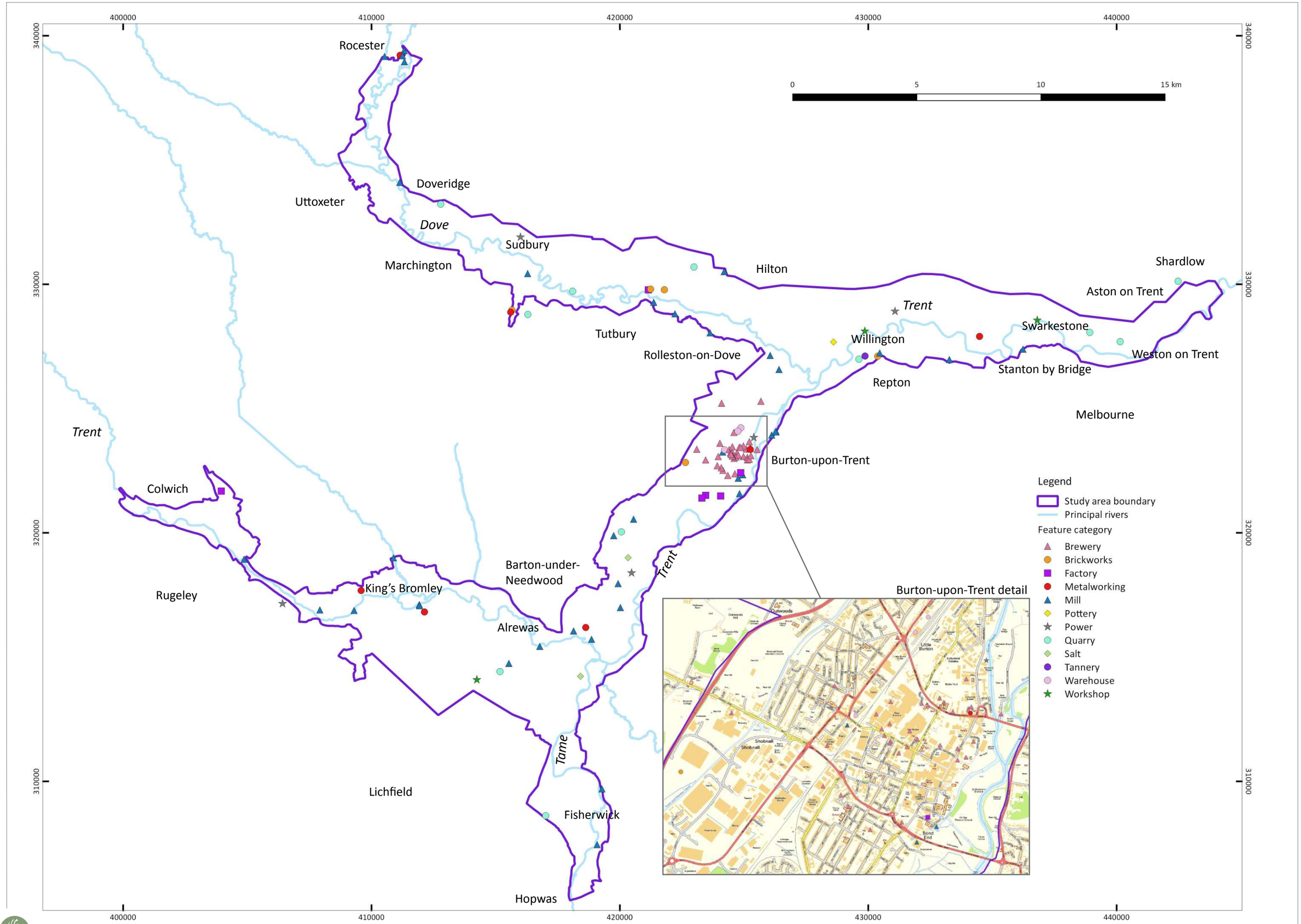


Figure 18: Distribution of industry sites by type

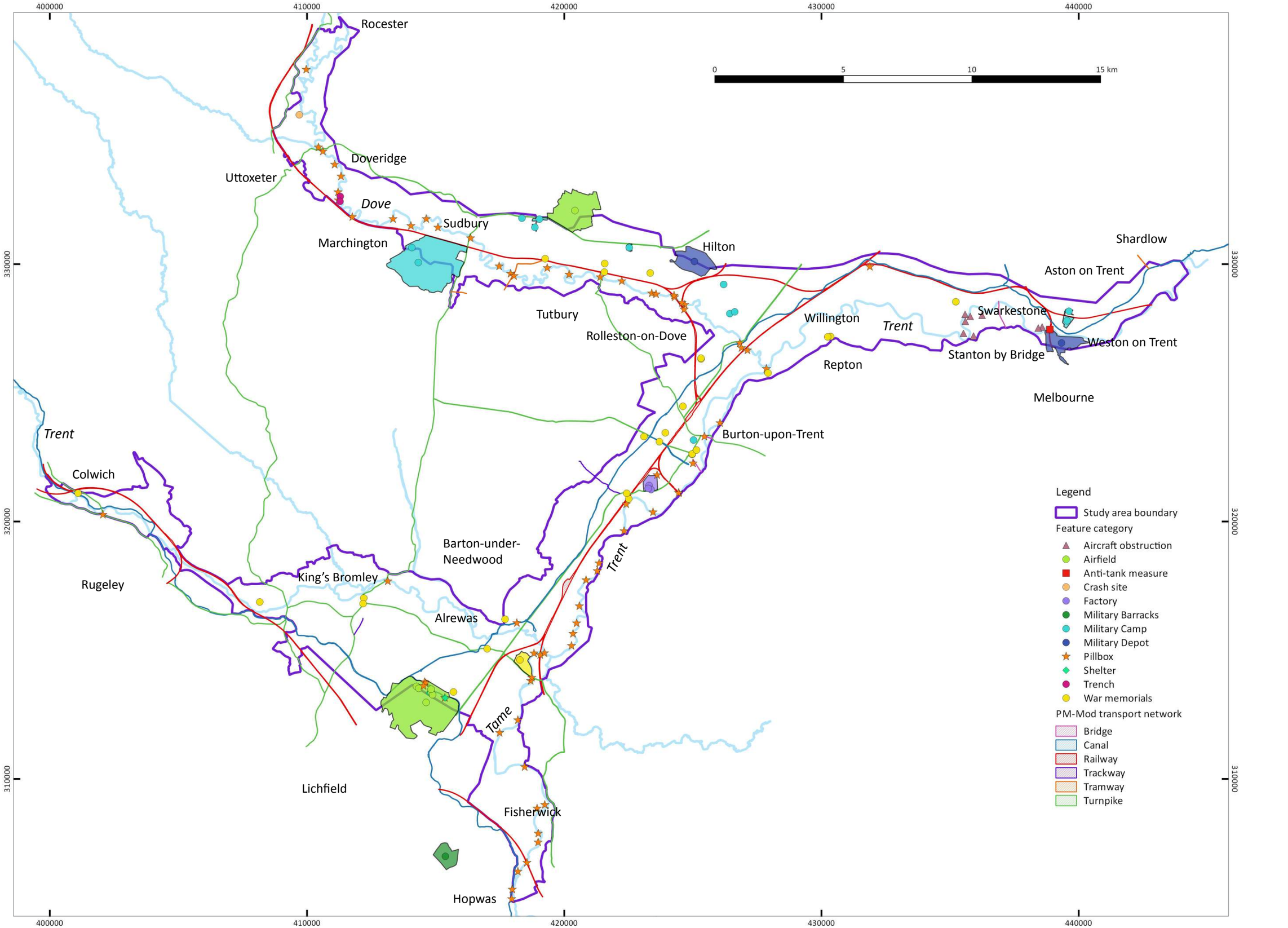


Figure 19: Distribution of 20th-century military sites

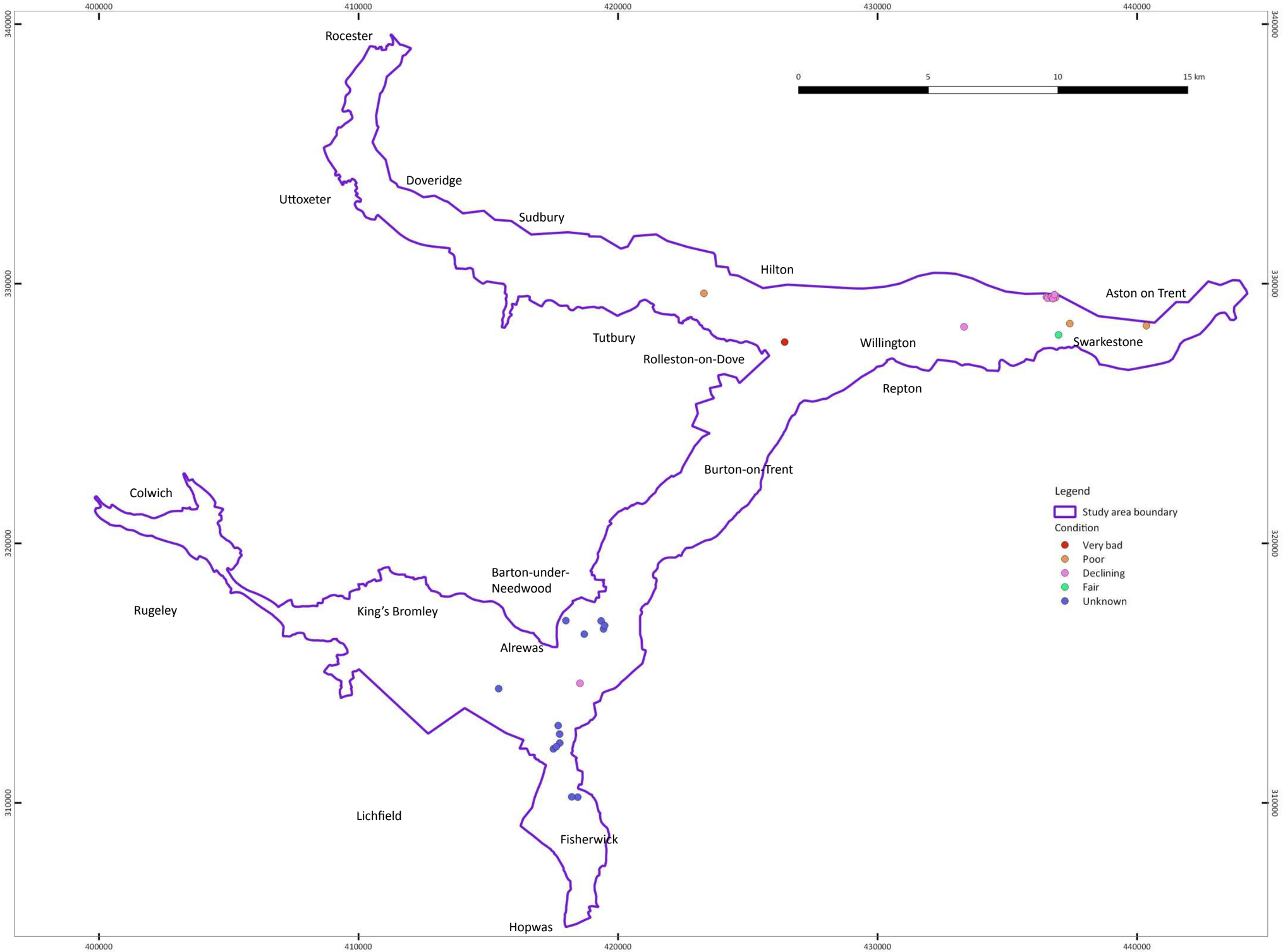


Figure 20: Sites on Historic England's Heritage at Risk register

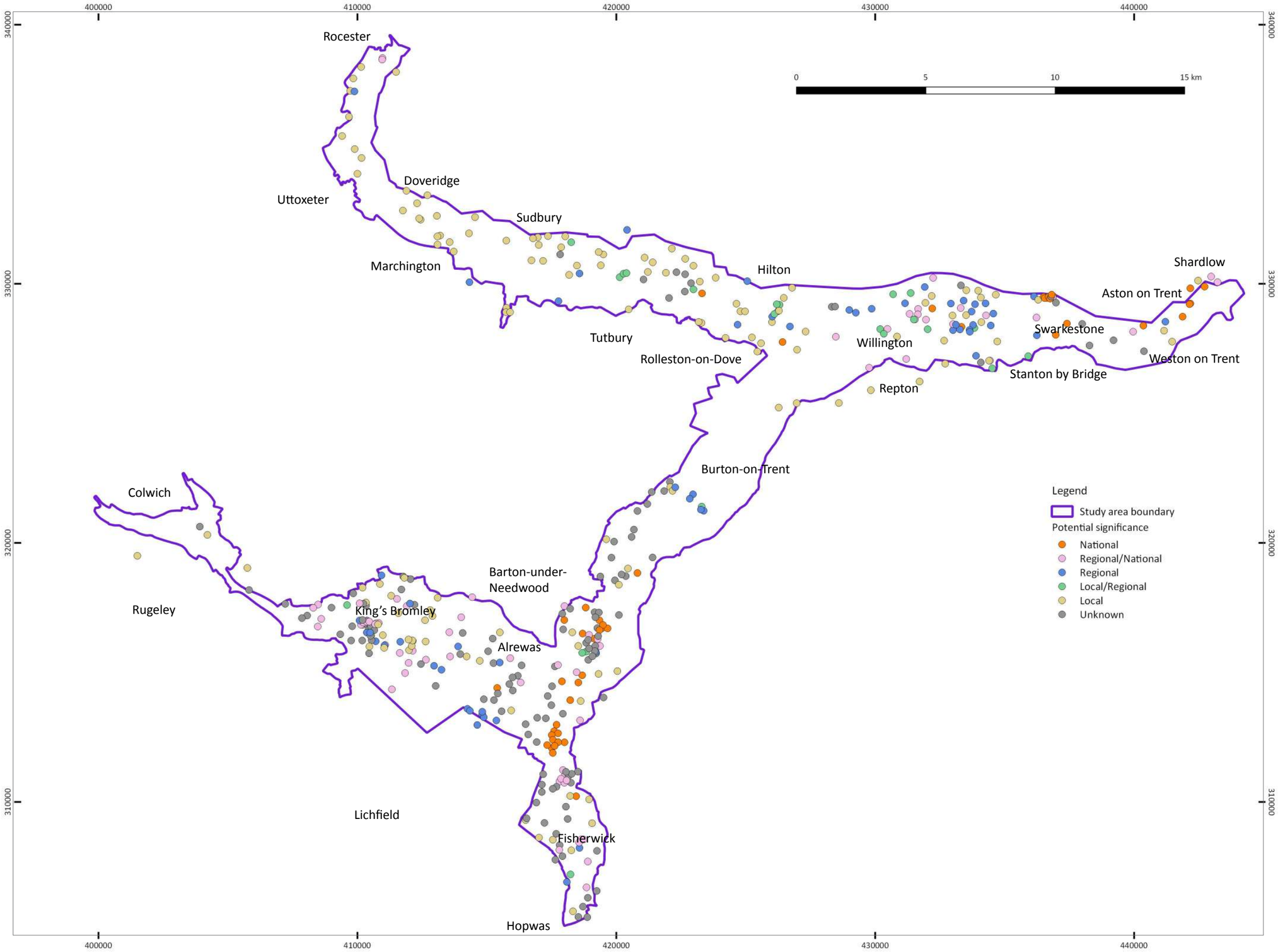


Figure 21: Distribution of all sites identified as being at risk

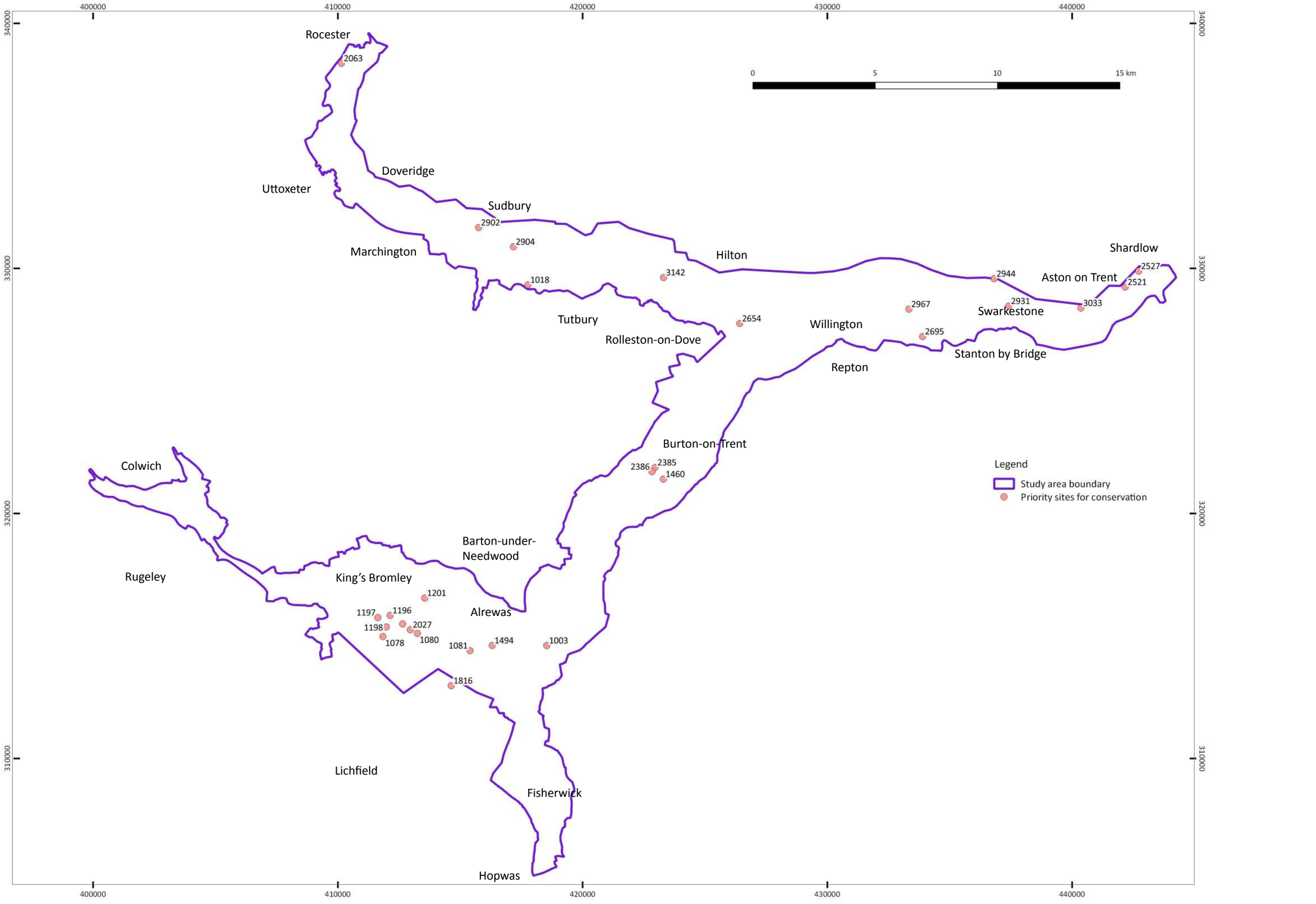


Figure 22: Location of priority sites for conservation

APPENDIX 1: HERITAGE AT RISK & PRIORITY SITES

Table 6: Sites of potential national significance assessed as being at risk

Proj ID	NHLE	Name	Designation	Grade	Period	Condition	Potential significance	Notes
1003	1006090	Round Barrow, Near the River Tame, Alrewas	SM		Later prehistoric	Declining	National	On Heritage at Risk register; within national memorial arboretum
1004	1006091	Settlement Site / Farmstead, Sittles	SM		Multi-period	Unknown	National	Part quarried
1005	1006093	Enclosure and Ring Ditches, Efflinch	SM		Later prehistoric	Unknown	National	Under arable
1006	1006094	Cropmarks, Bonthorn Farm, Wychnor: Bronze Age barrow cemetery and post-medieval field boundaries	SM		Multi-period	Unknown	National	Recently under pasture
1007	1006095	Pit Alignment and Enclosures, Wychnor Bridges	SM		Multi-period	Unknown	National	Under arable
1008	1006072	Possible Barrow Cemetery, Wychnor Junction	SM		Later prehistoric	Unknown	National	Under arable
1009	1019109	Hengi-Form Monument, Catholme	SM		Later prehistoric	Unknown	National	Under arable
1010	1006073	Barrows and Cursus, Efflinch, Catholme	SM		Multi-period	Unknown	National	Under arable
1013		Enclosure and Linear Features, Alrewas Station			Multi-period	Part destroyed	National	Partly built over/quarried, part under arable
1014	1006076	Barrow Cemetery, Tucklesholme Farm, Barton under Needwood	SM		Later prehistoric	Part destroyed	National	At least partly built over
1017	1006100	Farmstead, Fisherwick	SM		Multi-period	Part destroyed	National	Site is likely to have been impacted by quarrying
1078		Barrows, Ring Ditch and Linear Features, King's Bromley			Later prehistoric	Unknown	Regional/National	Under arable
1079		Ring Ditches and Linear Features, South of King's Bromley Wharf, King's Bromley			Later prehistoric	Unknown	Regional/national	One feature possibly destroyed by marina? Rest under arable

Proj ID	NHLE	Name	Designation	Grade	Period	Condition	Potential significance	Notes
1081	1002964	Causewayed Enclosure, Fradley	SM		Later prehistoric	Unknown	National	Under arable
1105	1006091	Cropmarks, Sittles, Alrewas	SM		Unknown	Part destroyed	National	Site is likely to have been impacted by quarrying
1106	1006091	Ditches, Sittles, Alrewas	SM		Later prehistoric	Part destroyed	National	At least partly excavated
1107		Enclosure and Ring Ditch, North-East of Sittles, Alrewas			Multi-period	Unknown	National	At least partly excavated
1110	1006091	Cropmarks, Sittles, Alrewas	SM		Multi-period	Part destroyed	National	At least partly quarried
1111		Cropmarks, Sittles, Alrewas			Multi-period	Unknown	National	Site is likely to have been impacted by quarrying
1112	1006091	Cropmarks, Sittles, Alrewas	SM		Unknown	Unknown	National	Site is likely to have been impacted by quarrying
1114	1006091	Linear Features, Sittles, Alrewas	SM		Multi-period	Unknown	National	Site is likely to have been impacted by quarrying
1116		Linear Features, Elford			Unknown	Unknown	Regional/National	Under arable
1118		Enclosures, Elford Hall Park, Elford			Multi-period	Unknown	Regional/National	Under arable
1119		Circular Cropmark Feature and Pit Alignment, West of Bisphill Plantation, Fisherwick			Later prehistoric	Unknown	Regional/National	Under arable
1124		Ring Ditch and Linear Feature, North of the River Tame, Alrewas			Later prehistoric	Unknown	National	Site may have been impacted by quarrying; potential for tree root damage in NM Arboretum
1125		Ring Ditch or Enclosure, East of Alrewas			Later prehistoric	Unknown	Regional/National	Site may have been impacted by quarrying; potential for tree root damage in NM Arboretum
1127		Cropmark Complex, South-East of Barley Green Lane, Alrewas			Multi-period	Unknown	National	Site may have been impacted by quarrying; potential for tree root damage in NM Arboretum
1132	1019109	Timber Circle, Catholme	SM		Later prehistoric	Unknown	National	Under arable
1170		Ring Ditch and Enclosure, Barton Green			Later prehistoric	Unknown	Regional/National	Under arable

Proj ID	NHLE	Name	Designation	Grade	Period	Condition	Potential significance	Notes
1181	1019109	Cropmark Features, Catholme	SM		Multi-period	Unknown	National	Under arable
1182		Pit Alignment, Catholme			Later prehistoric	Unknown	National	Under arable
1183		Enclosures, Catholme			Later prehistoric	Unknown	Regional/National	Evaluated for quarry expansion; under arable
1190		Ring ditch, North of Echills			Later prehistoric	Unknown	Regional/National	Under arable
1193		Cropmarks, South of Bancroft Farm, Hamstall Ridware			Later prehistoric	Unknown	Regional/National	Under arable
1194		Enclosure, South-West of Kings Bromley			Later prehistoric	Unknown	Regional/National	Under arable
1196		Cropmark Complex, South of Crawley, King's Bromley			Multi-period	Unknown	Regional/National	Under arable
1197		Cropmark Complex, East of Shaw Lane, King's Bromley			Multi-period	Unknown	Regional/National	Under arable
1198		Cropmark Complex, South of Bourne Brook, King's Bromley			Multi-period	Unknown	Regional/National	Under arable
1199		Cropmark Complex, West of Common Lane Farm, King's Bromley			Multi-period	Unknown	Regional/National	Under arable
1200		Cropmarks, South of River Trent, Kings Bromley			Later prehistoric	Unknown	Regional/National	Under arable
1201		Cropmark Complex, Eastfields, Kings Bromley			Multi-period	Unknown	Regional/National	Under arable
1202		Cropmark Complex, East of Common Lane Farm, King's Bromley			Multi-period	Unknown	Regional/National	Mixed arable & pasture regime
1203		Ring Ditches, Yoxall			Later prehistoric	Unknown	Regional/National	Mixed arable & pasture regime
1212		Settlement, Fisherwick			Later prehistoric	Unknown	Regional/National	Under arable
1213		Ring Ditch, West of River Tame, Fisherwick			Later prehistoric	Unknown	Regional/National	Under arable
1218		Prehistoric Cropmark Complex, Fisherwick			Multi-period	Unknown	Regional/National	Under arable

Proj ID	NHLE	Name	Designation	Grade	Period	Condition	Potential significance	Notes
1219		Settlement Enclosure and Field System, North-West of Comberford Hall, Wiggington			Multi-period	Unknown	Regional/National	Under arable
1226		Possible Cursus, North of Ridware Road, Hill Ridware			Later prehistoric	Unknown	Regional/National	Under arable
1229		Causewayed Enclosure, Mavesyn Ridware			Later prehistoric	Unknown	Regional/National	Under arable
1269		Cropmark Features, Rocester			Later prehistoric	Unknown	Regional/National	Under arable
1270		Ring Ditch, South of Rocester			Later prehistoric	Unknown	Regional/National	Under arable
1346		Possible Round Barrow, South of Overley Farm, Alrewas			Later prehistoric	Unknown	Regional/National	Under arable
1348		Ring Ditch, North-East of Tamhorn, Fisherwick			Later prehistoric	Unknown	Regional/National	Mixed arable & pasture regime
1367		Possible Barrow and Linear Features, Wychnor Junction			Later prehistoric	Unknown	Regional/National	Evaluation suggests potential threat from quarrying; under arable
1375		Pit Alignment, Elford			Later prehistoric	Unknown	Regional/National	Under arable
1386	1006091	Enclosure and Ring Ditch, Sittles, Alrewas	SM		Multi-period	Unknown	National	Possibly impacted by quarrying
1393		Round Barrow, South of Bancroft, Hamstall Ridware			Later prehistoric	Unknown	Regional/National	Under arable
1394		Ring Ditch, North of Old Hall, Mavesyn Ridware			Later prehistoric	Unknown	Regional/National	Under arable
1400	1006091	Ring Ditches, Sittles, Alrewas	SM		Later prehistoric	Unknown	National	Possibly impacted by quarrying
1401		Cropmark, Sittles, Alrewas			Later prehistoric	Unknown	National	Possibly impacted by quarrying
1416		Cropmarks, Broadfield, Edingale			Later prehistoric	Unknown	Regional/National	Under arable
1491		Settlement, Catholme			Early medieval	Unknown	Regional/National	Under arable
1494		Cropmark Complex, East of Bagnall Farm, Alrewas			Multi-period	Unknown	Regional/National	Under arable
1965		Barrow, North-East of Handsacre			Later prehistoric	Part destroyed	Regional/National	Part cut by road, part under a plantation

Proj ID	NHLE	Name	Designation	Grade	Period	Condition	Potential significance	Notes
1966		Barrow, North-East of Handsacre			Later prehistoric	Unknown	Regional/National	Under arable
1967		Barrow, North-East of Handsacre			Later prehistoric	Unknown	Regional/National	Under arable
1968		Ring Ditch / Barrow, North-west of Echills			Later prehistoric	Unknown	Regional/National	Under arable
1985		Barrow, North-East of Handsacre			Later prehistoric	Unknown	Regional/National	Within plantation
1986		Barrow, North-East of Handsacre			Later prehistoric	Unknown	Regional/National	Under arable
1987		Barrow, North-East of Handsacre			Later prehistoric	Unknown	Regional/National	Under arable
1990		Barrow, West of King's Bromley			Later prehistoric	Unknown	Regional/National	Under arable
1991		Barrow, West of King's Bromley			Later prehistoric	Unknown	Regional/National	Under arable
1992		Barrow, West of King's Bromley			Later prehistoric	Unknown	Regional/National	Under arable
2055		Cropmark Complex, North-West of Elford			Later prehistoric	Unknown	Regional/National	Under arable
2057		Enclosures, Elford			Multi-period	Unknown	Regional/National	Under arable
2078		Square Cropmark Enclosure, west of Ingleby			Multi-period	Unknown	Regional/National	Under arable
2214		Possible Ring Ditch, West of Eastfield, Hill Ridware			Later prehistoric	Unknown	Regional/National	Under arable
2228		Possible Barrow, North-East of Alrewas			Later prehistoric	Unknown	Regional/National	Under arable
2272		Enclosure, West of River Tame, Fisherwick			Later prehistoric	Unknown	Regional/National	Under arable
2313		Round Barrow, East of Pipe Ridware, Hamstall Ridware			Later prehistoric	Unknown	Regional/National	Under arable
2521	1003279	Cropmark complex, Aston upon Trent	SM		Multi-period	Unknown	National	Under arable
2522	1003279	Aston Cursus Complex, Aston Moor	SM		Later prehistoric	Unknown	National	Under arable

Proj ID	NHLE	Name	Designation	Grade	Period	Condition	Potential significance	Notes
2524	1003279	Aston on Trent 1 & 2 round barrows, Shardlow Road, Aston upon Trent	SM		Later prehistoric	Unknown	National	Under arable
2527	1007034	Cropmark complex (site of), Hicken's Bridge, Aston upon Trent	SM		Later prehistoric	Part destroyed	National	Part destroyed by a pond; remainder under arable
2654	1140125	Coalbrookdale footbridge, former Egginton Park, Egginton	LB	II*	Industrial	Very bad	National	On Heritage at Risk register
2690		Resistivity anomalies and cropmarks, Potlock's House Farm, Willington			Multi-period	Unknown	Regional/National	Mixed arable & pasture regime
2692		Cropmarks, west of Frizhams Lane, Willington			Multi-period	Unknown	Regional/National	Mixed arable & pasture regime
2826		Undated cropmark features, Parsons Hills, Repton			Multi-period	Unknown	Regional/National	Mixed arable & pasture regime
2830		Round barrows (site of), Askew's Hill, Repton			Later prehistoric	Poor	Regional/National	Under arable
2881		Aston Cursus Complex, Shardlow			Multi-period	Unknown	Regional/National	Under arable
2882		Cropmarks and ridge and furrow, south of Aston Lane, Shardlow			Multi-period	Unknown	Regional/National	Under arable
2888	1088337; 1007076	Swarkestone Bridge and Causeway to Stanton-by-Bridge	SM; LB	I	Multi-period	Fair	National	On Heritage at Risk register
2921	1019060	Swarkestone Lows Barrow 1, Lowes Lane, Swarkestone	SM		Later prehistoric	Fair	National	Pasture fields
2922	1019060	Swarkestone Lows Barrow 2, Lowes Lane, Swarkestone	SM		Multi-period	Poor	National	Under arable
2923	1019060	Swarkestone Lows Barrow 3, Lowes Lane, Swarkestone	SM		Later prehistoric	Poor	National	Under arable
2924	1019060	Swarkestone Lows Barrow 4, Lowes Lane, Swarkestone	SM		Later prehistoric	Poor	National	Under arable

Proj ID	NHLE	Name	Designation	Grade	Period	Condition	Potential significance	Notes
2925		Swarkestone Lows Beaker Settlement, Lowes Lane, Swarkestone	SM		Multi-period	Unknown	Regional/National	Under arable
2926	1019060	Ploughed out barrow, Swarkestone Lows, Lowes Lane, Swarkestone	SM		Later prehistoric	Poor	National	Under arable
2927	1019060	Ploughed out barrow, Swarkestone Lows, Lowes Lane, Swarkestone	SM		Later prehistoric	Poor	National	Under arable
2928		Cropmark Complex, Barrow Lane, Swarkestone			Later prehistoric	Unknown	Regional/National	Under arable
2931	1000685; 1280604	Swarkestone Old Hall (remains of), Derby Road, Swarkestone	RP; LB	II*	Post-medieval	Poor	National	On Heritage at Risk register
2936	1019060	Barrow at Swarkestone Lows, Lowes Lane, Swarkestone	SM		Later prehistoric	Poor	National	Under arable
2944	1019060	Swarkestone Lowes Barrow Cemetery and Field System	SM		Multi-period	Poor	National	Under arable
2956		Cropmark Complex East of Frizam's Lane, Twyford and Stenson			Multi-period	Unknown	Regional/National	Under arable
2957	1007028	Prehistoric landscape, Frizams Lane, Twyford and Stenson	SM		Multi-period	Unknown	National	Under arable
2963		Cropmarks, north-east of Old Hall Farm, Barrow upon Trent			Multi-period	Unknown	Regional/National	Under arable
2964		Ring ditch, 650m East of Potlock's House Farm, Twyford			Unknown	Unknown	Regional/National	Mixed arable & pasture regime
2967	1011436	Twyford Henge and Round Hill Bowl Barrow	SM		Later prehistoric	Poor	National	Problems from animal burrowing
2970		Cropmark west of Parsonage House, Barrow upon Trent			Later prehistoric	Unknown	Regional/National	Under arable
2972		Cropmarks and artefact scatter, Stenson Farm, Twyford and Stenson			Multi-period	Unknown	Regional/National	Under arable

Proj ID	NHLE	Name	Designation	Grade	Period	Condition	Potential significance	Notes
2996		Round barrow (site of), Twyford and Stenson			Later prehistoric	Unknown	Regional/National	Under arable
3026	1003279	Cropmarks south of Aston-on-Trent, Weston upon Trent	SM		Later prehistoric	Unknown	National	Under arable
3031		Cropmark features to the west of Weston-on-Trent			Multi-period	Unknown	Regional/National	Under arable
3033	1088352	Weston Hall and site of homestead moat, Weston Upon Trent	LB	II*	Multi-period	Poor	National	On Heritage at Risk register
3090		Cropmarks, south of Bettys Farm, Willington			Multi-period	Unknown	Regional/National	Under arable
3097		Circular cropmarks south of Sealey Close, Willington			Later prehistoric	Unknown	Regional/National	Under arable
3123		Round barrow (site of), Twyford Road, Willington			Later prehistoric	Unknown	Regional/National	Mixed arable & pasture regime
3142	1334544	St Mary's Church (formerly St John's), Marston on Dove	LB	I	Multi-period	Poor	National	On Heritage at Risk register

Table 7: Details of priority sites for conservation

Proj ID	NHLE	Name	Summary	Designation	Grade	Period	Condition	Potential significance	Notes
1003	1006090	Round Barrow, Near the River Tame, Alrewas	A scheduled Early Bronze Age round barrow identified from aerial photography on a slight rise beside the River Tame in the grounds of the National Memorial Arboretum. Excavation of a small test pit within the scheduled area revealed the remains of half a beaker from a possible ditch, and evidence of Roman activity nearby.	SM		Later prehistoric	Declining	National	On Heritage at Risk register; within national memorial arboretum
1018		Field System, North-East of Row Hill, Hanbury	Earthwork remains of medieval ridge and furrow identified on aerial photography from 1981, only a small patch in the north end now surviving as clear earthworks on Lidar, though more extensive earthworks survive outside the HER polygon. A low bank also identified may represent part of a flood defence system which appears to be later than the ridge and furrow earthworks. Field boundaries which pre-date the ridge and furrow were also evident.			Multi-period	Poor	Regional	Mixed arable & pasture regime
1078		Barrows, Ring Ditch and Linear Features, King's Bromley	A series of cropmark features including several possible Bronze Age barrows, a double ring ditch, and linear boundaries of possible Iron Age date as they include pit alignments. Probably the continuation of cropmarks to the north (see PRN 01500).			Later prehistoric	Unknown	Regional/ National	Under arable
1080		Multiperiod Cropmarks Complex, North-West of Alrewas Hayes, Alrewas	A series of cropmark features including post-medieval field boundaries, enclosures of uncertain and possible late prehistoric date, other linear features (including a possible trackway), a possible Bronze Age barrow and a geological feature.			Multi-period	Unknown	Regional	Under arable

Proj ID	NHLE	Name	Summary	Designation	Grade	Period	Condition	Potential significance	Notes
1081	1002964	Causewayed Enclosure, Fradley	The remains of an incomplete, triple ditched oval enclosure c.4.25ha in area, interrupted by numerous causeways and of probable Neolithic date. It is visible as cropmarks, with linear features cutting the enclosure possibly being later field boundaries or service trenches.	SM		Later prehistoric	Unknown	National	Under arable
1196		Cropmark Complex, South of Crawley, King's Bromley	An extensive cropmark complex to the south of Crawley, Kings Bromley, including includes prehistoric enclosures, Bronze Age barrows, Iron Age enclosures, trackways and field systems (pit alignments and ditches), medieval enclosures and post-medieval field systems. Probably related to further extensive cropmarks to the south of Bourne Brook (PRNs 01500 and 01503) and to the west of the Lichfield Road (PRN 01498).			Multi-period	Unknown	Regional/ National	Under arable
1197		Cropmark Complex, East of Shaw Lane, King's Bromley	A cropmark complex to the east of Shaw Lane, King's Bromley, including probable late prehistoric enclosures and pits, Bronze Age barrows, a possible Iron Age enclosure (formed of pit-alignments), a possible medieval enclosure and possible post-medieval (or earlier) trackways and field boundaries. The complex is likely to be related to features to the east side of the Lichfield Road (PRN 01497) and possibly those to the south of the Bourne Brook (PRN 01500).			Multi-period	Unknown	Regional/ National	Under arable
1198		Cropmark Complex, South of Bourne Brook, King's Bromley	A complex of cropmarks to the south of the Bourne Brook, King's Bromley, including Bronze Age barrows, probable Iron Age field systems (pit alignments and field boundaries), a possible late prehistoric enclosure and post-medieval field boundaries. Possibly related to PRNs 01497 and 01498 to the north and PRN 01330 to the south of Shaw Lane.			Multi-period	Unknown	Regional/ National	Under arable

Proj ID	NHLE	Name	Summary	Designation	Grade	Period	Condition	Potential significance	Notes
1199		Cropmark Complex, West of Common Lane Farm, King's Bromley	A multi-period cropmark complex to the west of Common Lane Farm, King's Bromley. The complex includes Bronze Age barrows possible Iron Age pit alignments and other late prehistoric boundaries and trackways, as well as post-medieval field systems.			Multi-period	Unknown	Regional/ National	Under arable
1201		Cropmark Complex, Eastfields, Kings Bromley	A prehistoric cropmark complex identified to the southeast of Eastfields, Kings Bromley. The complex includes a possible Bronze Age barrow cemetery, an Iron Age field system (defined by pit alignments, and other late prehistoric features including enclosures, a dyke, a trackway and boundaries. These features are, in part, overlain by a medieval gravel pit and post-medieval field system. Other linear features and pits of unknown date have also been recorded in the area.			Multi-period	Unknown	Regional/ National	Under arable
1460		Branston Machine Gun Factory / Branston Pickle Factory	A former 1st World War machine gun factory with associated defence structures. The construction of the factory began in 1917 and closed in 1919. It was converted for the production of Branston Pickle in circa 1920 and during the Second World War was used as a gas mask store and ordnance depot. It subsequently returned to food manufacture. A series of air raid shelters protected the site during the Second World War.			Modern	Declining	Local/ Regional	Historic buildings not in use
1494		Cropmark Complex, East of Bagnall Farm, Alrewas	A complex of cropmarks of Prehistoric and post medieval date identified on aerial photography to the east of Bagnall Farm. The features identified include a Prehistoric pit circle, an Iron Age farmstead and field system and enclosures and drainage features of post medieval date.			Multi-period	Unknown	Regional/ National	Under arable

Proj ID	NHLE	Name	Summary	Designation	Grade	Period	Condition	Potential significance	Notes
1816		RAF Lichfield / Fradley Airfield	The site of the former RAF Lichfield, opened on August 1st 1940. It became one of the busiest airfields in the country between 1942 and 1945. After the war it was used as an RAF flying school until it was closed in 1958. Since used for light industry and storage and now largely redeveloped and built over, although some original airfield buildings survive.			Modern	Unknown	Regional	Surviving buildings may be at risk of further development
2027		Enclosure, South of Ashby Sitch, King's Bromley	A rectangular cropmark enclosure of possible Roman date, identified to the south of Ashby Sitch, King's Bromley.			Roman	Unknown	Regional	Under arable
2063		Water Meadow, Rocester	Extensive area of former water meadow identified on aerial photography and historic mapping. Lidar shows good survival of earthworks across most of the polygon, though some have been plough-levelled.			Multi-period	Fair	Local	Mixed arable & pasture regime; public footpaths run through
2385		Roman Road Agger, Bean's Covert, Branston	A section of the agger to Ryknild Street Roman road (PRN 05156), which survives through Bean's Covert copse as an earthwork averaging 10 metres wide and 0.5 metres high.			Roman	Fair	Regional	In plantation, potential tree root damage
2386		Roman Road Agger and Ditch, South of Bean's Covert, Branston	A section of the agger to Ryknild Street Roman road (PRN 05156), identified as a ploughed down earthwork up to 18 metres wide and 0.3 metres high in a ploughed field to the south of Bean's Covert. A tennis court, car park and changing room have been laid out over the earthwork.			Roman	Unknown	Regional	Partly built over
2521	1003279	Cropmark complex, Aston upon Trent	Cropmark complex including cursus, Neolithic/Iron Age barrows, probable henge, Iron Age/Romano British field systems, settlements and ditches at Aston upon Trent.	SM		Multi-period	Unknown	National	Under arable

Proj ID	NHLE	Name	Summary	Designation	Grade	Period	Condition	Potential significance	Notes
2527	1007034	Cropmark complex (site of), Hicken's Bridge, Aston upon Trent	A hengiform monument with three concentric ditches, two circular features to the west and a rectangular enclosure with rounded corners immediately to the north, possibly a Roman camp, were recorded as cropmarks, with other linear features. Related to the Aston cursus complex. A large part of the henge field was destroyed by construction of a reservoir, resistivity and trial trenching on the land to the north and east of the reservoir show that 60% of the hengiform feature and other linear features survive.	SM		Later prehistoric	Part destroyed	National	Part destroyed by a pond; remainder under arable
2654	1140125	Coalbrookdale footbridge, former Egginton Park, Egginton	Cast iron pedestrian footbridge of 1812 made by the Coalbrookdale Company for the former Egginton Hall estate to cross the weir at the southern end of the lake. Note: the NHLE grid reference is misplaced.	LB	II*	Industrial	Very bad	National	On Heritage at Risk register
2695	1096534	Anchor Church, Ingleby	Artificial cave system with six cells, of legend the home of an Anchorite hermit, though there is no documentary reference until the mid-17th century. It was altered and enlarged in the 18th century by Sir Robert Burdett as a romantic landscape feature and dining area.	LB	II	Multi-period	Declining	Regional	Interior suffering from graffiti and smoke damage
2902		Ridge and furrow between Sudbury and the Dove, Sudbury	An extensive area of ridge and furrow recorded as earthworks in fields to the south of Sudbury Park lake. There are numerous blocks and alignments. Some is levelled, but the west end appears well preserved.			Medieval	Declining	Local	Mixed arable & pasture regime
2904		Ridge and furrow, south of Leathersley Lane, Sudbury	Extensive area of medieval ridge and furrow earthworks recorded from aerial photographs. Well-preserved remains survive in the eastern half, the western side have been levelled.			Medieval	Declining	Local	Mixed arable & pasture regime

Proj ID	NHLE	Name	Summary	Designation	Grade	Period	Condition	Potential significance	Notes
2931	1000685; 1280604	Swarkestone Old Hall (remains of), Derby Road, Swarkestone	Ruins of part of the old hall at Swarkestone, possibly 16th century in origin, with later alterations. Now forms part of a garden wall in the (grade II registered) grounds of Swarkestone Hall.	RP; LB	II*	Post-medieval	Poor	National	On Heritage at Risk register
2944	1019060	Swarkestone Lowes Barrow Cemetery and Field System	Six ploughed-down barrows, with further features including a curvilinear ditch and a double row of pit alignments, suggestive of the focus of an Iron Age settlement. Two barrows have been excavated, one of MBA date with secondary Anglo-Saxon inhumations, and one with a primary EBA barrow superimposed by a secondary barrow of MBA date, the mounds sealing a Beaker occupation level (27006).	SM		Multi-period	Poor	National	Under arable
2967	1011436	Twyford Henge and Round Hill Bowl Barrow	Scheduled Late Neolithic henge, within which is a centrally placed Bronze Age barrow. The henge is plough-levelled but the barrow survives as an earthwork. The Heritage at Risk register records damage from animal burrowing.	SM		Later prehistoric	Poor	National	Problems from animal burrowing
3033	1088352	Weston Hall and site of homestead moat, Weston Upon Trent	Unfinished country house, probably begun in 1633, within a moated site (now destroyed) which probably contained an earlier building. The house is now a pub.	LB	II*	Multi-period	Poor	National	On Heritage at Risk register
3142	1334544	St Mary's Church (formerly St John's), Marston on Dove	13th century and later church, probably on the site of an earlier church mentioned in Domesday Book. Unfortunate 19th-century restoration, but the church has an early font and bell.	LB	I	Multi-period	Poor	National	On Heritage at Risk register

ArcHeritage
54 Campo Lane, Sheffield, S1 2EG

tel: +44 (0)114 2728884
email: archeritage@yorkat.co.uk

www.archeritage.co.uk