



Oxfordshire Aggregates Archaeology Resource Assessment

1. Aggregates and Archaeology

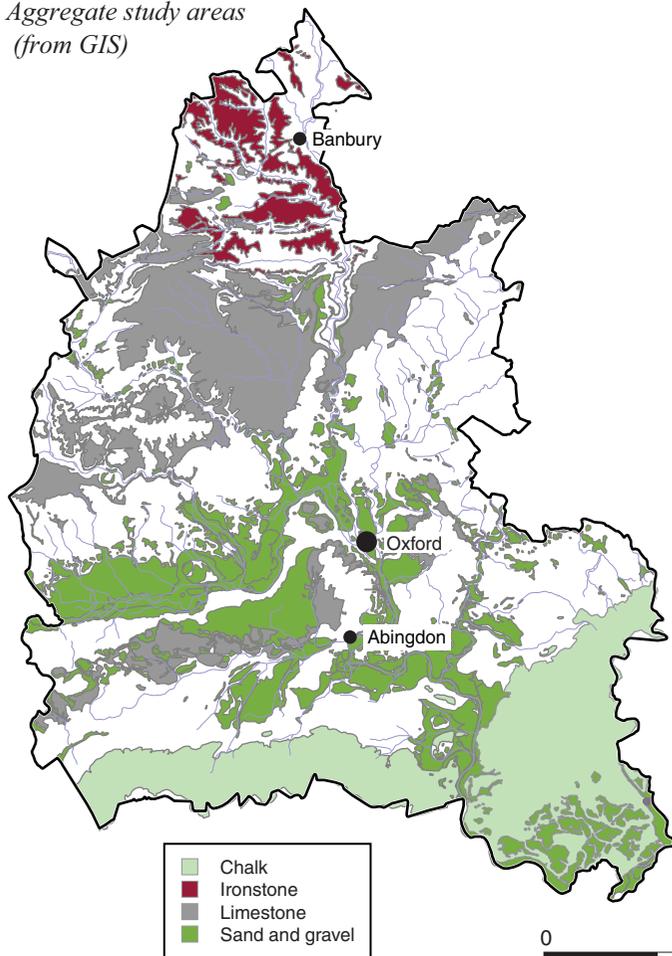
Areas of geology which are exploited as aggregates for the construction industry cover roughly a half of the county. These deposits have a long history of exploitation and have yielded archaeological finds of regional and national importance.

One of the distinctive features of archaeological investigation carried out in Oxfordshire is the large-scale, landscape-based approach which has developed as a response to the extensive nature of gravel extraction in the Thames Valley. The formation of the Oxford Excavations Committee in the 1960s was direct in response to destruction of sites through gravel extraction and a number of different policies and guidance has been formulated since then. The increase in archaeological activity (and the proliferation of Archaeological Excavation Committees) in the early 1970s led to the establishment of the first independent, county-based archaeological unit, the Oxfordshire Archaeological Unit (OAU), in 1973. The role of the unit was to formulate policies and undertake excavation within the whole of the county, replacing the piecemeal and uncoordinated approach which previously

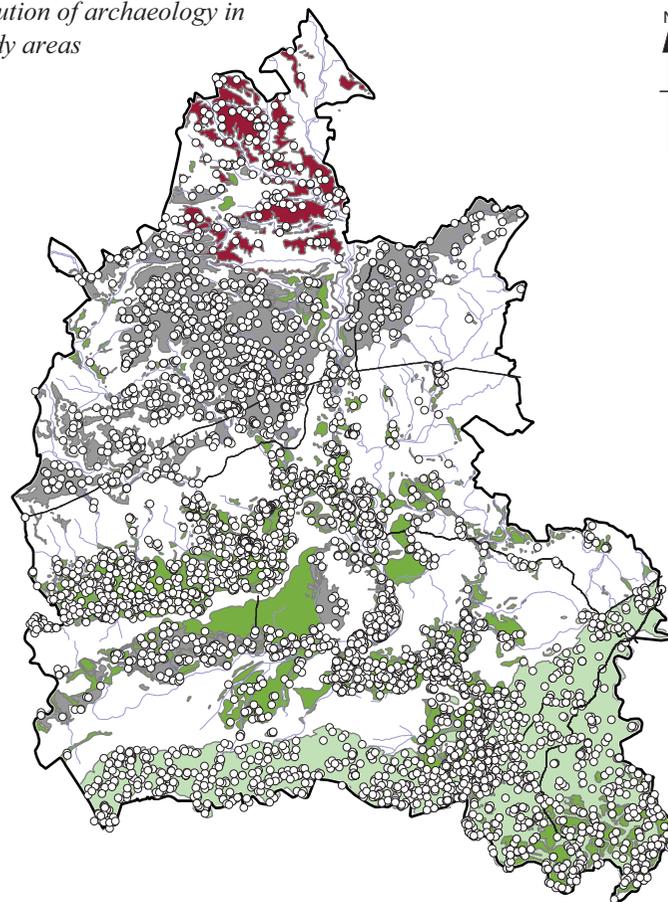
existed. The OAU carried out survey work in the Upper Thames Valley and excavated a number of important prehistoric and Roman sites in this area. The OAU became Oxford Archaeology in 2002 and continues to produce syntheses and surveys of the aggregate producing areas, in addition to bringing backlog sites to publication. An ongoing monograph series Thames Valley Landscapes is concerned with the reporting of excavations within the Thames Valley, whilst the Thames Through Time, funded by the ALSF through English Heritage, covers the whole stretch of the river from the Palaeolithic to the modern period in four volumes.

The work undertaken as The Oxfordshire Aggregates Survey exploited the information held by Oxfordshire County Council in their Historic Environment Record (HER) database. This enabled the archaeology within the areas which produce aggregates to be compared with the rest of the county and its relative importance could be assessed. It came as no surprise to find that in the river valleys, where sand and gravel has been extracted over a long period, there is a high incidence of archaeological sites. Indeed the archaeology in this area is twice as dense as in the rest of the county and includes a number of nationally important sites.

*Aggregate study areas
(from GIS)*



*Distribution of archaeology in
the study areas*





2. The Aggregate Resource

The aggregate producing areas of Oxfordshire can be divided into four regions:

Sand and Gravel is the most heavily exploited aggregate with a total reserve of c 12 million tonnes, of which river terrace deposits form the most important group. These occur at several levels in the major river valleys in the county and are worked extensively in the Thames valley and its tributaries. Some of the largest deposits occur in the west of the county, to the south and east of Carterton, where extensive areas of quarrying including Gill Mill, Hardwick and Stanton Harcourt, occur. The other significant area of quarrying is to the south of Abingdon and the quarries at Sutton Courtney. Sand and gravel also occurs as a bedrock deposit and is currently exploited as a building sand. The most significant deposit of bedrock sand and gravel occurs to the south of Abingdon, where it is extracted at Tubney Wood and Cothill Quarries.

Limestone forms the majority of the material currently exploited as a crushed rock. Most deposits occur in the northern part of the county where a significant proportion lie within the Cotswold Area of Outstanding Natural Beauty, but is still actively quarried at Castle Barn and Rollright. Other limestones of the Great Oolite Group, the Corallian

Group and the Portland Group are not currently worked, although they have been in the past.

Ironstone occurs in the north of the county, where it is known as the Banbury Ironstone Field. It was extensively quarried for ore, mainly for steelmaking in South Wales, until the late 1960s and is currently quarried for aggregate in only two locations in the north of the county: Alkerton and Hornton Grounds.

Chalk falls into two classes: low grade Grey Chalk and higher quality White Chalk, both occurring in the south of the county. The Grey Chalk was formerly worked for cement manufacture in Chinnor, whilst the White Chalk was quarried for agricultural lime at Playhatch. Much of the area of chalk bedrock lies within the North Wessex Downs and the Chilterns Area of Outstanding Natural Beauty and it is not currently extracted.

Whilst hard rock (limestone, ironstone and chalk) quarries tend to be fairly restricted in size, sand and gravel quarries are extensive and can cover large areas. New planning permission is not normally be granted for new limestone and chalk quarries and extensions to existing quarries are usually considered in the light of local and national minerals policies. New gravel quarries are required, however, and potential locations include the areas around Sutton Courtenay, Sutton Wick, Stanton Harcourt and Cassington-Yarnton.

3. Prehistory

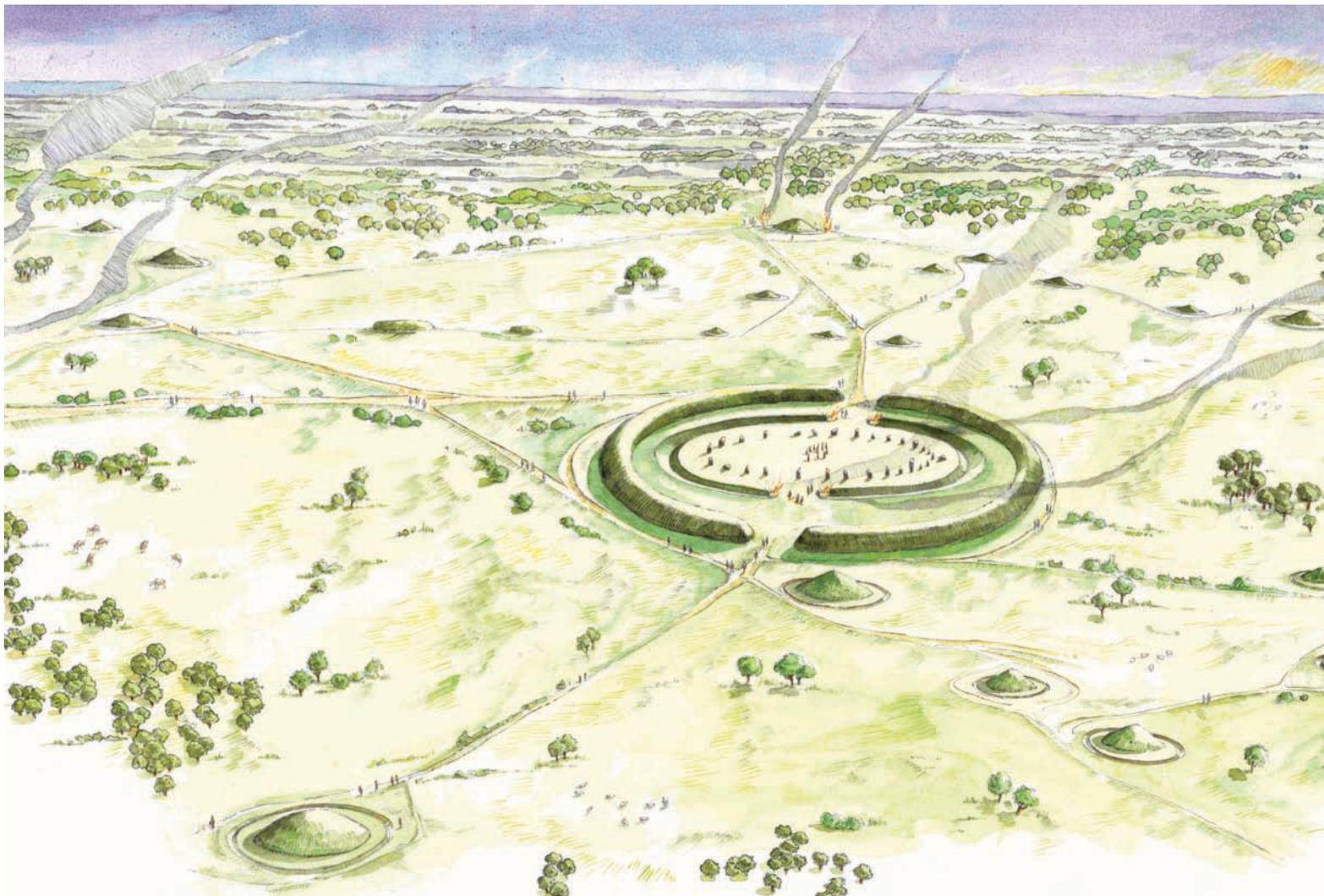
The extraction of sand and gravel has led to the discovery of some significant archaeology of Palaeolithic date, in particular from the Thames Valley in the vicinity of Reading and from the area of gravel between Abingdon and Wallingford. The Wolvercote Channel, to the north of Oxford, has produced a large number of handaxes and a significant deposit of molluscs, mammals and plant remains including elephant, bear, horse and possible bison. A similar assemblage of material has also been recovered from Dix Pit, Stanton Harcourt whilst large collections of artefacts are known from Berinsfield near Dorchester-on-Thames and Gravelly Guy/Smith's Pit, Stanton Harcourt. At Highlands Farm, to the west of Henley, over 250 handaxes have been recorded, whilst finds from Shiplake Crossroads, to the south of Henley, include 48 handaxes and a total of 91 handaxes are recorded from Keylands, Sonning Common.

The Mesolithic period is represented by scatters of flint tools, like that recovered from the quarry at Tubney Wood, where it appears that a range of domestic activities, including hide preparation, woodworking, the working of plants and hunting

were undertaken. Whilst not directly related to the extraction of aggregates, at Windmill Hill, Nettlebed a total of 6,359 Mesolithic artefacts were recovered from excavation in advance of the construction of a reservoir and interpreted as perhaps the result of a number of visits to the site during which a variety of tasks were undertaken. These finds illustrate that the river valleys were important locations for hunter-gatherers, but the wider landscape was also exploited: a large flint scatter on Blewbury Down suggesting that the chalk uplands were also used during this period.

The Neolithic and Early Bronze age periods see the introduction of farming and the construction of monuments and there is good evidence for these from the aggregates producing areas, including Neolithic burial monuments at Radley Barrow Hills, Mount Farm, Berinsfield, Linch Hill, Stanton Harcourt and Newnham Murren, Wallingford and causewayed enclosures at Abingdon and Blewburton Hill. Neolithic houses have been uncovered at Ascott under Wychwood and at Yarnton and settlement may also be indicated by the presence of pits and lithic scatters found across the river gravels. Again, the wider landscape was exploited during this period and whilst the river gravels have the most dense concentration of evidence, sites are known on the





chalk, ironstone and limestone. These include long barrows on the chalk such as that at White Horse Hill and a total of 26 long barrows from the limestone, an extension of the well-known Cotswold-Severn group.

Cursus monuments are found exclusively on the river gravels, clustered around Dorchester and Stadhampton, and examples have been excavated at Drayton and Dorchester-on-Thames. Henges also occur on the gravel at Big Rings, Dorchester on Thames and the Devils Quoits at Stanton Harcourt. The latter contained a stone circle, the only other example from the county being the Rollright Stones close to Chipping Norton on the limestone.

Early Bronze Age round barrows occur across all of the aggregate producing geologies, although they tend to survive as earthworks on the limestone and cropmark ring ditches on the gravels. A total of 26 are recorded from the limestone, but only 2 from the ironstone area. This is in contrast to the 109 from the chalk and 154 from the gravel deposits. The majority of the round barrows on the chalk are from the west of the Thames and include cemeteries at Kingston Warren Down and Sparsholt Down, which can be considered to form part of a larger landscape of barrows which cross the county boundary into Berkshire. The main concentrations of round barrows on the gravels are in

the Thames valley to the west and south of Oxford. A cemetery was excavated at Vicarage Field, Stanton Harcourt in the 1950s and further ring ditches were excavated at Gravelly Guy in the 1980s. The barrow cemetery at Barrow Hills, Radley was subject to a major campaign of excavation in the 1930s, 1970s and 1980s, and the ring ditches slightly further to the south at Corporation Farm and at North Stoke near Wallingford have also been excavated.

Ring ditches and round barrows continued to attract attention in the Middle Bronze Age, when cremations in Deverel-Rimbury pottery were deposited at sites such as Radley Barrow Hills and Stanton Harcourt. Middle Bronze Age cemeteries are also recorded at Long Wittenham, Standlake and Mount Farm, Berinsfield.

The main development on this period was the appearance of land division and field systems, as found on the Berkshire Downs and at Radley, Didcot and Appleford Sidings. A number of house sites are also known and there appears to be a degree of settlement hierarchy, which becomes increasingly complex in the Iron Age.

A large number of probable Iron Age enclosures have been identified from cropmarks, but relatively few have been excavated. Early Iron Age examples include rectangular enclosures at Allen's Pit near Dorchester-

*Devil's Quoits,
Stanton Harcourt
(facing page)*

*Hammerstone and
axe from Cotswold
Community
excavation*



on-Thames and Wigbalds Farm, Long Wittenham, whilst Middle Iron Age enclosures have been excavated in the Windrush Valley, at Mingies Ditch, Hardwick and at Watkins Farm, Northmoor. Banjo enclosures are also found in the lower Windrush valley, an example at Stanton Harcourt is Cursus monuments are found exclusively on the river gravels, clustered around Dorchester and Stadhampton, and examples have been excavated at Drayton and Dorchester-on-Thames. Henges also occur on the gravel at Big Rings, Dorchester on Thames and the Devils Quoits at Stanton Harcourt. The latter contained a stone circle, the only other example from the county being the Rollright Stones close to Chipping Norton on the limestone.

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The greatest concentration of Iron Age hillforts in Oxfordshire is along the Ridgeway and the Berkshire Downs. A scatter of sites is also known across the Cotswolds and on the Corallian ridge and valley forts are recorded at Burroway Brook and Cherbury Camp, as well as the late Iron Age enclosed oppida at Cassington Big Ring, Abingdon and Dyke Hills, Dorchester-on-Thames.

4. The Roman to Medieval Period

The Roman period in the ironstone area is poorly understood, with only a single site at Swalcliffe Lea, having been excavated in piecemeal fashion, revealing evidence for substantial stone buildings and associated activities such as iron working and possibly smelting. Present data indicate a maximum of six certain or possible villas on or very close to the ironstone but the nature of their associated estates is not understood and there is very limited evidence for non-villa settlement.

The limestone area has better evidence including rectilinear and multiple ditched enclosures, possible shrines at Rollright and Chipping Norton and a nucleated settlement at Sansom's Platt, but perhaps the best known sites are the villas, which have unusually early origins when compared with similar sites elsewhere in the county. The Corallian ridge appears to have been fairly intensively settled during this period, with successive phases of settlement and related field boundaries excavated at Watchfield and a major regional religious focus at the cult centre of Frilford/Marcham, associated with a settlement and important late Roman/early Saxon cemetery. There is a probable villa at Stanford

Roman intaglio





in the Vale and a variety of evidence, including aerial photographs, for trackways and enclosures.

The character of the evidence for Roman settlement on the chalk is very distinctive and in some respects quite different from that seen elsewhere in the county, particularly on the Berkshire Downs west of the Goring gap. This region has, however, seen very little excavation but extensive fieldwalking and aerial survey has been undertaken. The most obvious archaeology of this period on the chalk is a series of field systems although their associated settlements are poorly understood.

There are two other notable aspects of the Roman archaeology of the area. One is the evidence for the reuse of hillforts, including the placement of a modest villa-type building within the enclosure at Alfreds Castle and burial as well as potential settlement at a number of others. Shrines appear to be another noteworthy feature of the area and include examples at Lowbury Hill and Churn Hill.

Evidence from the sands and gravels is a major resource for the archaeology of the Roman period in Oxfordshire. There is also a high degree of continuity with later prehistory: sites established in the late Iron Age almost invariably develop seamlessly into the early Roman period. The upper part of the Thames in Oxfordshire appears to have been exploited for

agriculture: at Gill Mill, extensive excavation has revealed good evidence for settlement at a road junction, covering an area of roughly 10ha, whilst at Yarnton, extensive sampling provided a body of evidence for the evolution of a local landscape in the Roman period. Further down the river is the major settlement site of Dorchester-on-Thames, surrounded by a rampart and ditch and with external cemeteries.

The post-Roman landscape sees widespread settlement on the river terraces with associated cemeteries, particularly on the terraces of the Upper Thames Valley and the lower reaches of the Cherwell Valley and the Evenlode. The relationship between settlements and cemeteries is not clear, however. During the 7th and 8th centuries tribal groupings coalesce and the upper Thames Valley becomes a boundary region between Mercia and Wessex. Royal/religious sites emerge, for instance in the vicinity of Drayton/Sutton Courtenay and Dorchester, although settlement evidence is still largely restricted to the river terraces. There is also a growing influence of the institutional control of land by the Church, as opposed to the personal control of land by kings, leading to some landscape reorganisation. By the 9th to 11th centuries, the delineation of estates and subsequent subdivision to parishes results in a recognisable network of

*Roman building
(facing page)*

parishes and nucleated settlements, which develop into the towns and villages of today. This is a difficult process to see archaeologically in the aggregate areas of the county. However, at Yarnton there appears to have been a high degree of continuity of agricultural practices throughout this period. It was possible to trace the development of the Anglo Saxon to medieval period landscape at Yarnton through both textual sources and archaeology carried out in advance of gravel extraction. The evolution of open field farming in the 12th to 13th centuries emphasised communal operations, encouraging nucleation of settlement. This can be seen in the reorganisation of some settlements, some of which are abandoned. A major factor affecting the 14th to 15th centuries was the effect of the Black Death which led to some rural depopulation and diversification. A corollary of any transformation or migration of rural settlement will be the effect it may have had on industrial technological or craft centres (ie windmills, watermills, quarries, pottery, brick and tile manufactories), as these were not normally situated within contemporary urban contexts.. Only one windmill is recorded on the chalk hills. These were more transient in the landscape than watermills, and more susceptible to commercial and economic pressure.

5. Post Medieval and Modern

The archaeological record of the post medieval and modern periods is dominated by buildings, parks and gardens and transport networks. It is unlikely that many of these classes of evidence are at risk from aggregate extraction as they are specifically excluded from aggregate development. Nevertheless, the Thames acted as a major trade route during this period and there is evidence for the use of the river in the form of quays and associated structures such as locks and weirs. Rivers were also used as a source of power for mills including paper mills, woollen mills and corn mills.

Railways were developed in the mid-19th century and of particular relevance to the aggregate producing areas are the railways and tramways built to serve the North Oxfordshire Ironstone Field. These lines branched off the King Sutton to Chipping Norton main line and off the main GWR line to the north. The most extensive lines served the Wroxton Quarries, whilst at Hook Norton, the Earl of Dudley's quarries were linked to the Banbury & Cheltenham Direct Railway by a cable-operated incline from Swerford Road. This network of rail and tramways enabled the distribution of the ore for steelmaking in South Wales.

Some of the riverside meadows were the scenes

of battles during the English Civil War, when Oxford served as Charles I's capital. During the two World Wars some elements of the military infrastructure were constructed in the areas covered by the Aggregates Survey. The airfield at Mount Farm was opened in 1940 as a satellite station for RAF Benson, and was used by the USAF during World War II. It closed shortly afterwards and the land was sold to an aggregates company for gravel extraction. Many of the facilities built in World War I were short-lived, whereas those from the second war continue to be used into this century: the military airfield at Kidlington closed in 1945 but now operates as Oxford (Kidlington) Airport.

During the Second World War numerous pill boxes and other defensive features were constructed as defences against possible invasion. Most notable is the stop-line between Frilford and Fyfield which includes pill boxes, anti tank emplacements and other components designed to halt enemy advances.

Summary

The aggregate producing areas within the county of Oxfordshire cover approximately half of the county. Nearly two thirds of the HER records for the county lie within aggregate producing areas,

the majority occurring in the sand and gravel areas, where they are twice as dense as elsewhere in the county. The archaeology of these areas is the most at risk, as gravel extraction occurs on an extensive scale. Nevertheless, archaeological work in advance of extraction allows the opportunity to address outstanding research questions and the scale of extraction allows analysis at a landscape level.

The extraction of hard rock aggregates such as limestone, ironstone and chalk occurs on a less extensive scale and usually takes the form of extension to existing workings. It is easier to predict where extraction will occur, but the nature of the archaeology of these areas is less well understood than that of the sand and gravel areas. There is a clear need to better understand the archaeology of the ironstone area in particular, where there are few records and potential for unexpected archaeological discoveries.

The nature of the aggregate areas means that comparisons can potentially be made between the archaeology of different environments such as the floodplain, river terraces and uplands and the utilisation of these areas by past populations.

