The Aggregate Landscape of Somerset: Predicting the Archaeological Resource

Aggregates Levy Sustainability Fund
English Heritage Project Number 3994

Interim Report for Aerial Survey Component
Eastern Mendip Block 1: ST 66 41 to ST 71 46

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SOMERSET
County Council

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SUMMARY

The Aggregate Landscape of Somerset: Predicting the Archaeological Resource is an English Heritage funded survey of the aggregate mineral producing areas within the county of Somerset. The Aggregates Levy Sustainability Fund (ALSF) was introduced in 2002 to provide funds to address a wide range of problems in areas affected by aggregate extraction.

The aerial survey component is targeted at two specific areas: an area of Limestone extraction in the Eastern Mendips and an area of the Levels situated on the Burtle Beds. Both areas will be surveyed using the National Mapping Programme methodology developed by English Heritage.

This interim report focuses on first area of Block 1 to be surveyed: a 5km by 5km block in the south west of the study area: ST 66 41 to ST 71 46. The area covered by this report is situated mainly in the parishes of Cranmore and Wanstrow, with smaller areas of the parishes of Evercreech, Downhead, Batcombe, Doulting and Stoke St Michael.

The results from the aerial survey have greatly enhanced our knowledge of the archaeology of the area, particularly from the medieval and post medieval periods. 65 new records were added to the Somerset HER and 20 were amended. The majority of these records refer to medieval and post medieval agricultural practices. This aerial survey has provided evidence which demonstrates that the East Mendip Hills was not always under permanent grassland but that it experienced periods of intensive arable agriculture. There is also evidence for small scale aggregate extraction in the post medieval period in the vicinity of the now enormous quarries at Merehead and Asham Wood. These quarried are recorded to their 1940s extent which clearly demonstrates the post war expansion of the aggregates extraction industry in this area and its effect on the landscape.

A factor that may have influenced the results of this survey is the lack of oblique photography, carried out at times which are most suitable for the observation of archaeological sites, in East Mendip. While a great deal of information has been gained from the predominantly vertical photography, there may be much more to add from a future programme of specialist archaeological oblique photography in this area.

ACKNOWLEDGMENTS

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MAPPING CONVENTIONS

Convention	Layer	
	Ditch	Used for drawing all negative features seen as cropmarks and earthworks, e.g. ditches, hollow ways and pits
	Bank	Used when drawing upstanding earthworks or levelled features
	Structure	Used for structures e.g. a concrete pillbox or wooden posts
	Pits & Quarries	Used for extraction pits, bomb craters and other cut features

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1. INTRODUCTION

The Aggregate Landscape of Somerset: Predicting the Archaeological Resource is an English Heritage funded survey of the aggregate mineral producing areas within the county of Somerset. The Aggregates Levy Sustainability Fund (ALSF) was introduced in 2002 to provide funds to address a wide range of problems in areas affected by aggregate extraction.

This aerial survey is part of a wider project looking at a number of aggregate producing areas in Somerset. The overall aim of the project is to enhance the archaeological record of the aggregate mineral producing areas of the county by collecting and integrating information from the following sources:

- Relevant geological information.
- The Somerset County Historic Environment Record.
- The National Monuments Record.
- Published and unpublished text and map information relevant to the geology, archaeology and history of the area.
- Aerial photography and LiDAR information where available.

The Somerset Sites and Monuments Record database and Geographic Information System is being used to assimilate and present the recovered data. This corpus of data will then inform strategic and local management policies and act as a basis for further academic research and for strategic and development control planning advice (Somerset ALSF Archaeological Survey Project Design).

The aerial survey component is targeted at two specific areas:

Block 1, in the Eastern Mendips: Block 1 is located at the eastern end of the Mendip hills, a limestone massif extending from Frome in the east to Brean Down in the west, an area of Limestone extraction including the large quarries of Merehead, Whatley, Moons Hill and Asham. The survey covers a 10km by 10km area, from Chesterblade in the south west to Buckland Dinham in the north east and therefore includes the area between Ordnance Survey (OS) National Grid References (NGR) ST 66 41 to ST 76 51

Block 2, in the Levels: the survey area is located on the Burtle Beds which have been quarried for sand deposits and covers a 5km by 6km area, from Burrowbridge in the south west to Moorlinch in the northeast. The survey area includes the island of Sowy and areas of peat moor around it, including the Sedgemoor battlefield covering the area between OS NGRs ST 34 30 to ST 39 36

This interim report focuses on first area of Block 1 to be surveyed: a 5km by 5km block in the south west of the study area: ST 66 41 to ST 71 46. The area covered by this report is situated mainly in

the parishes of Cranmore and Wanstrow, with smaller areas of the parishes of Evercreech, Downhead, Batcombe, Doulting and Stoke St Michael.

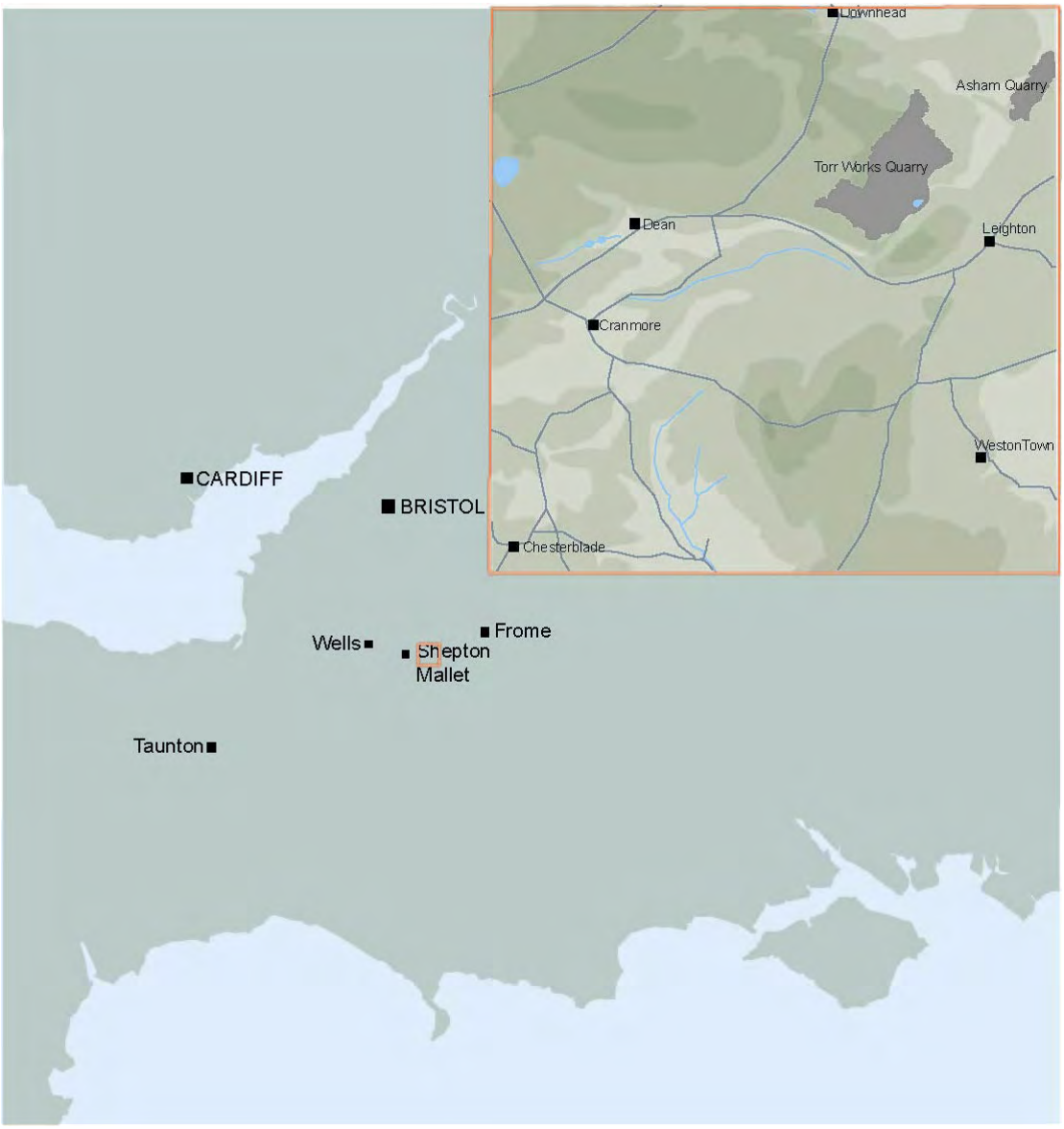

Figure 1: Location of study area

1.1 Aims of the Aerial Survey

The main aim is to incorporate aerial photographic data for the aggregate producing areas into the County HER and trial the effectiveness of LiDAR and IFSAR data in identifying sites of archaeological potential (Somerset ALSF Archaeological Survey Project Design Objective 6.5).

The specific aims are as follows:

1. To use National Mapping Programme (NMP) methodology in appropriate areas to produce digital mapping and textual descriptions of all archaeological sites using the Somerset HER GIS and database and to assess non-NMP methodologies for different landscapes and levels of survey.

A decision was taken to record all areas of the survey to NMP standard.

2. To assess the usefulness of digital vertical aerial photographs in the Somerset Historic Environment Record (HER) GIS for archaeological survey.

While these photographic layers of 1946 and 2001 were useful as reference tools, they could not be used directly for mapping of archaeological sites. The NMP mapping process requires very accurate rectification of photographs over specific areas. A wide range of photographs were consulted and the optimum example from which to map an archaeological site, even if from the same date as the HER GIS layer, was not always from the same sortie.

3. To assess the usefulness of LiDAR data, in conjunction with conventional aerial photography, for archaeological survey.

In the time frame of the project so far, information from a LiDAR survey of the Mendip hills has not yet been available.

5. To produce a short report summarising the methodology and results of the project.

The interim results given here will later be incorporated into a final report. Information on the aerial survey component of this project has also been disseminated via the Somerset County Council and English Heritage internet sites.

1.2 NMP Methodology

The NMP methodology entails the interpretation, mapping and recording of all archaeological sites from the Neolithic to the twentieth century from aerial photographs (see Appendix 1 for more information). Good vertical coverage was available of the survey area from the 1940s to 1990s, from RAF, Ordnance Survey and Meridian photography. Oblique photography was less full and limited to certain sites, due to the restrictions on flying around Bristol airport.

All available aerial photographs from the National Monuments Record, Somerset HER and Cambridge University Collections were consulted. In addition to aerial photographs, books, journal articles and map sources were consulted. The map sources included: the first edition and current Ordnance Survey and maps produced by the Geological Survey of Great Britain (Sheet 281) and Soil Survey of England and Wales (Sheet 5). Photographs were rectified using Aerial and archaeological features were mapped on to the Somerset HER GIS in MapInfo. NMP drawing conventions were used throughout. The new sites and additions to old sites were recorded on to the Somerset HER Access database.

1.3 Summary of Results

The East Mendip hills have immense archaeological potential. Below ground, the cave systems contain importation information for the Palaeolithic and Mesolithic periods. Above ground, a wide variety of monuments are known, including early prehistoric funerary monuments, hillforts, Roman villa sites and shrunken medieval settlements.

The findings from the area covered in this report reflect some of the archaeological themes already recognised for the East Mendip hills. The Prehistoric enclosure of Dinies Camp is located in the north of the area near Downhead and shrunken medieval sites are known at Chesterblade, Dean and Leighton.

The results from the aerial survey have greatly enhanced our knowledge of the archaeology of the area, particularly from the medieval and post medieval periods. In addition to the information added to existing records by clarifying the form or extent of known sites, descriptions of the changing state of monuments were given, for example, in the case of the prehistoric enclosure at the Merehead Quarry (PRN 24775). 65 new records were added to the Somerset HER and 20 were amended. The majority of these records refer to medieval and post medieval agricultural practices.

This area of the East Mendips hills has long been viewed as predominantly pastoral but the results from the aerial survey show a number of medieval and post medieval field systems used for arable farming. There is also evidence for aggregate extraction in the post medieval period. A number of small quarries, a result of local exploitation of Limestone have been recorded. The now enormous quarries at Merehead and Asham Wood are records their 1940s extents which clearly demonstrates the post war expansion of the aggregates extraction industry in this area.

The nature of the source material and the fact that much of this area is under permanent pasture means that the findings are biased towards archaeological sites visible as earthworks. If the aerial survey were conducted in isolation the picture of the archaeology of the area might be distorted. Therefore, these results need to be considered in the wider context of complementary forms of survey**.**

2. GEOLOGY OF THE SURVEY AREA

The study area is predominantly situated on Carboniferous Limestone and Jurassic Limestone. Silurian Andesitic Lava and Tuff outcrop to the northwest of Downhead. Devonian Red Sandstone is found in the highest area to the north of Cranmore, which rises to a height of 285km above sea level.

Free draining silty clay loam soils are found on the Limestone which tend to be shallow in depth (Smith in Atthill 1976: 37). This soil type is associated with grassland and coniferous woodland (Soil Survey of England and Wales 1983). The current appearance of the majority of the survey area is typical of Limestone geology with large areas under permanent grassland. Woodland is found on the higher areas, for example, in the southeast at Breach Wood, in the centre at Monk Wood and the northeast at Asham Wood.

Acidic, free draining soils are associated with the Sandstone area to the north of Cranmore. This soil type is typically associated with permanent grassland and areas of coniferous and deciduous woodland (Soil Survey of England and Wales 1983), which is reflected in the survey area. Grassland and the woodland areas, such as Cranmore plantation, Great Grains Wood and Battlefields Wood are found on the Red Sandstone in the northwest of the study area, which rises to a height of 285km above sea level.

Areas of deeper loamy soils, interspersed with clayey soils are present on the Jurassic clay and limestone in the southeast of the survey area around Wanstrow. These soils are freer draining on the higher ground, wetter in the lowlands and prone to seasonal waterlogging.

Springs are located in the south of the area in a line from the northwest of Chesterblade to the north of Weston Town.

3. LANDSCAPE CHARACTER

The landscape is one of rolling hills and incised valleys. The pattern of settlement reflects the topography and the geology, with villages located in the valley bottoms near to areas of free draining soils on the lower slopes which are easily worked. The nature of the landscape means that the areas of settlement feel very isolated from each other. It also places restrictions on communications, with few roads crossing the hill tops.

The visibility of archaeological sites is affected by the geology, soils and land use. While the free draining soils found on Limestone geology might be expected to show cropmarks on aerial photographs favourably (Wilson 2000: 69), much of the area is under permanent grassland rather than arable. As a result, the archaeology of the area is predominantly recognised through earthwork remains preserved in modern pasture rather than from cropmarks which would be visible in arable crops for example, but cannot be clearly seen in grass. The soils can be very thin in the upland areas which may result in earthworks and cropmarks being more ephemeral in nature and harder to observe on aerial photographs. Overall, if aerial photographic evidence only is used to find sites, the conditions in this area are likely to affect the survey, resulting in a skewed picture of the archaeology. There will be a bias towards sites surviving as earthworks, rather than those which might show only as cropmarks or soilmarks.

Currently, the survey area is predominantly under pasture. In the medieval or post medieval periods, large areas around settlements were under arable as is shown by the evidence of ridge and furrow and strip lynchets. The predominance of evidence from aerial photographs relating to cultivation of the land in the medieval and post medieval periods may explain the lack of visibility of Prehistoric and Roman sites, as these sites may potentially have been masked by the later agricultural activity.

Areas of ridge and furrow seen as earthworks on the 1940s aerial photographs have in some cases disappeared completely by the 1970s. This suggests that these areas have been subject to ploughing in the intervening period causing the earthworks to be eroded. The Mendip Hills have undergone alternative periods where they have been either under pasture or used for arable cultivation. The medieval evidence demonstrates the intensive use of the land in this period, after which it was predominantly left under pasture for sheep farming. A drive for land improvement in the Mendips took place in the post medieval period, primarily between 1770 and 1870. During this time, much of the area was enclosed and various works took place to make the land more productive, such as drainage schemes and liming of the soil (Williams 1976: 105).

The agricultural depression of the 1880s had a longer term effect on the Mendips than was seen in other areas of the country. It was a time of decline in farming and rural depopulation, as people moved to towns around the Mendips, such as Frome and Shepton Mallet, in search of work (ibid: 118). The next phase of ploughing up of pasture in areas of the Mendips did not take place until the Second World War (ibid: 121). The post war period saw a phase of agricultural intensification but, in the present day, the area is again predominantly under pasture.

This sequence of alternate ploughing and pasture would affect the survival of earthwork sites. While they might have survived the land improvements of the late eighteenth and nineteenth centuries to a large extent, agriculture in the modern age may have eroded them to the point that they could no longer be recognised from the air.

The sequence described above is demonstrated in the area owned by the Paget estate around Dean and Cranmore. Extensive ridge and furrow and lynchets are found in this location. A process of land improvement in the post medieval period led to irrigation systems being created in some fields, while others were drained, and a programme of tree planting in order to absorb excess water. These trees were felled in the 1960s and 1970s in order for the land to be used for arable farming (de Viggiani 1988: 2) and the land is now once again under pasture.

4. PREHISTORIC AND ROMANO-BRITISH – UP TO AD 410

Little evidence for human exploitation of the eastern Mendips in the period from the Neolithic to the Romano-British can be added from the aerial survey due to a number of reasons. Sites may be masked or eroded by later activity, for example, medieval and post medieval ploughing and quarrying. The area has predominantly been under pasture from around 1900 to the present day, therefore very little cropmark evidence is available from the aerial photographs, which date from 1940s onwards. Generally the results would be expected to be biased towards earthwork sites which are first seen in the landscape from the Neolithic period. However, sites may also be masked by tree cover.

The Mendip region is known for Prehistoric deposits in caves, including burials, dating from the Upper Palaeolithic to the Romano-British, for example Gough's (New) Cave in the Cheddar Gorge and Tom Tivey's Hole, situated in the northeast of the survey area near Leighton (PRN 24774). Other information on the earlier Prehistoric periods comes from flint scatters found through field walking and excavation.

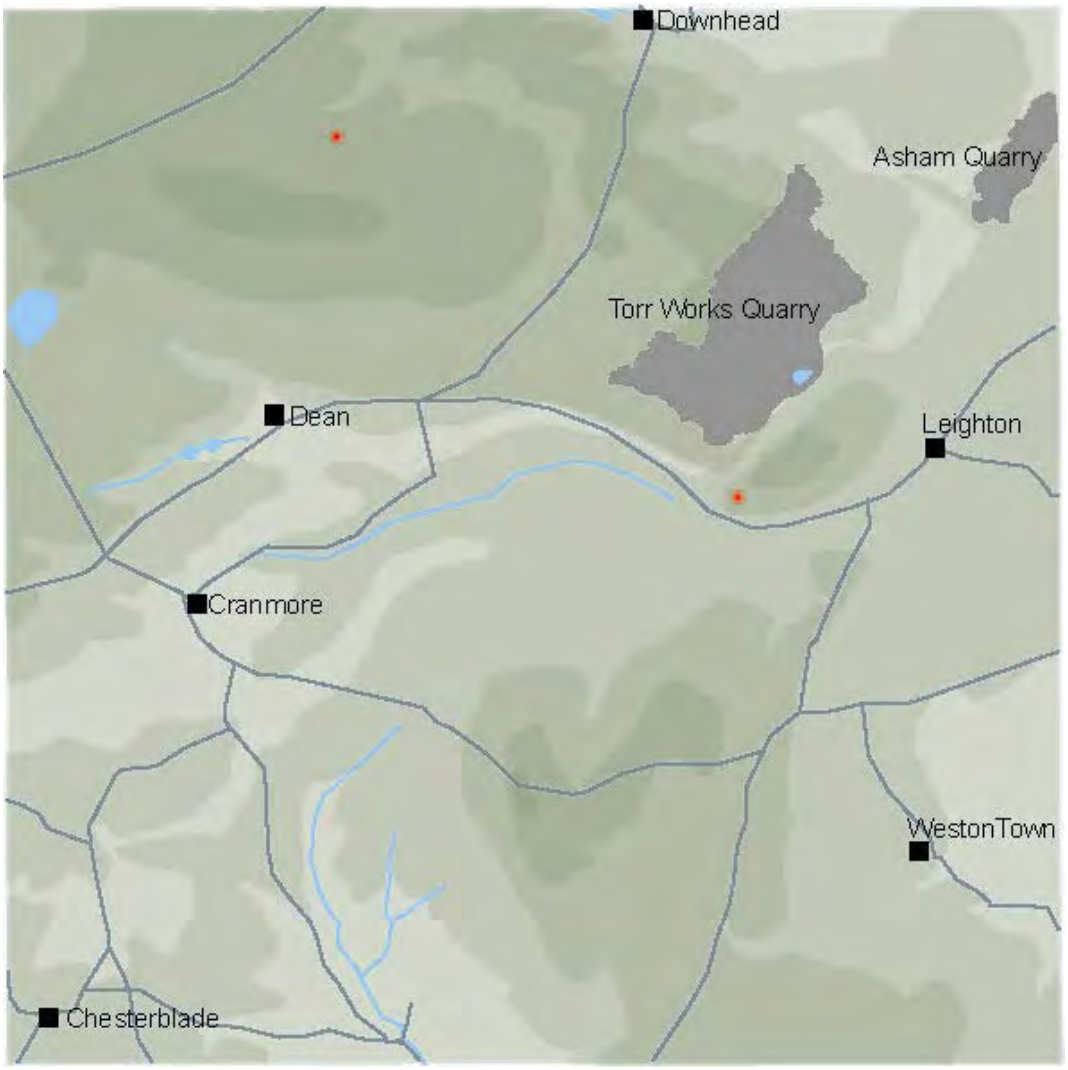

Figure 2: Prehistoric Sites

The earliest site in the area which should be visible on aerial photographs is a possible Neolithic long barrow (PRN 11284) located to the southwest of Dean. The interpretation of the site is disputed but unfortunately, due to the tree cover, no new information could be added from the aerial survey.

A group of Bronze Age round barrows are situated just outside the survey area to the west of Cranmore (PRNs 23426, 25372, 23324-8). Other barrows are located within the survey area: south of Waltyning Cottage (PRN 12046) and within Asham Wood (PRN 12162 and 12163). The site of the Waltyning Cottage barrow was unclear and the other examples were obscured by tree cover.

Two earthworks thought to date to the Iron Age are located in the survey area: Dinies Camp to the west of Downhead, a possible hillslope enclosure; and a possible promontory fort to the north of Stubbs Wood, Merehead, near the southern edge of the Torr Works Limestone quarry (PRN 24775). While these sites are already recognised, the potential of aerial survey to monitor the condition of monuments is demonstrated in both cases. Two fragmentary blocks of medieval or post medieval ridge and furrow were recorded within and adjacent to the northern edge of Dinies Camp, which may have caused some erosion of the monument. The damage caused by the quarry works to the possible promontory fort at Merehead can be observed on aerial photographs between 1946 and 1983, as through this period the quarry maintenance depot is place in the centre of the earthwork. The aerial photographs provide a valuable visual record of the effects of the quarry works on their surroundings (see figure 2 for site locations).

Small enclosures, possibly Iron Age in date, have been found through fieldwork in Asham Wood (PRN 12157) but again, tree cover on the aerial photographs meant that nothing could be recorded for these monuments.

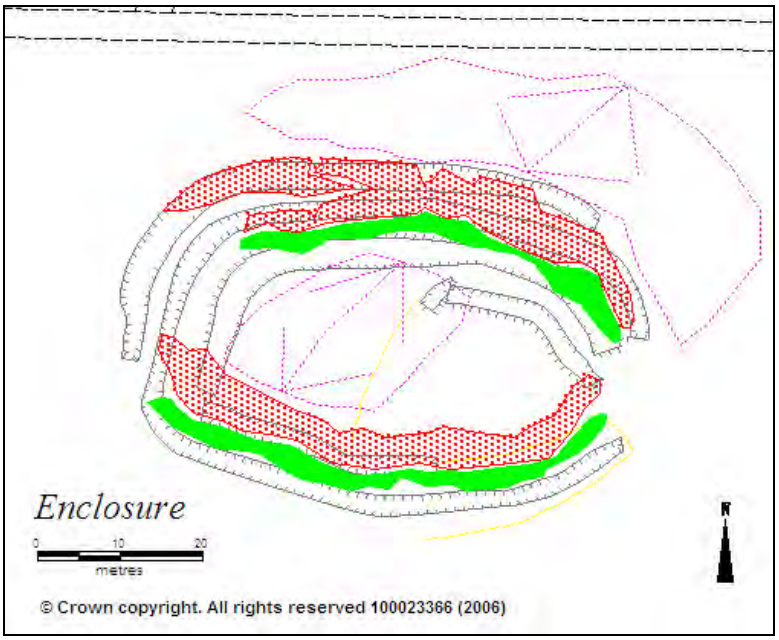

Figure 3: Dinies Camp (PRN 23428)

This lack of visibility of evidence on aerial photographs continues into the Romano-British period. The route of a Roman road is recognised running through the survey area from Cranmore in the northwest to Wanstrow in the southeast (PRN 25357). This road is part of a route running from the western Mendip and the Charterhouse lead mining complex through to Old Sarum in Wiltshire. The road crosses the major Roman route, the Fosse Way, to the west of the survey area near Shepton Mallet. While these two roads may have been facilitating the operations of the lead mines to the west, their presence in the east Mendips may have affected settlement patterns here. A villa site was discovered through excavation at Manor Farm, Chesterblade (PRN 23485) and the remains of roman buildings at Southill House, West Cranmore (PRNs 12044 and 23329). In each case no surface features were visible on the aerial photographs.

Discussion of the Results from the Prehistoric to Romano-British Periods

The limited number of sites identified through the period from the Neolithic to the end of the Romano-British period makes it difficult to drawn any conclusions about relationships between them. It may be that the siting of the possible Iron Age enclosures near to Bronze Age burial mounds in Asham Wood is significant, implying some continuity of use of the area.

The Bronze Age barrows found in the survey area reflect a theme seen in the Mendip hills. At least 300 Bronze Age burial mounds are located along the ridge, frequently on high ground, in different sized groups and sometimes linear arrangements. Examples of linear barrow cemeteries occur at Priddy in west Mendip, Beacon Hill, to the west of the survey area and Small Down, to the south of the survey area (Somerset HER). The barrows within the study area are generally located in higher areas of the local topography, presumably for greater visibility of these monuments. It may be that the Asham Wood barrows, although they are now obscured by tree cover, may have been visible in the landscape in the past.

Iron Age occupation in the east Mendip area is known from a variety of evidence: hillfort sites such as Tedbury Camp, to the east of Mells and Small Down Camp in Evercreech; cave deposits; excavated finds; and unenclosed settlement, such as at Cannards Grave, Shepton Mallet (Somerset HER). The Asham Wood enclosures suggest that a variety of settlement, enclosed and unenclosed should be present in the area. The method of their discovery makes that point that the aerial survey results should be considered along with complementary forms of survey in order to get a complete picture of the area from the Prehistoric to Romano-British periods.

The siting of the Roman buildings may be significant as regards later settlement in this area, as in each case, later villages are located on the same sites implying continuity of occupation. Roads and tracks probably connected to the Roman road running through the survey area and may be also preserved in the modern pattern. This may be accounted for by the topography of the area, as there are limited sites available for the positioning of roads or tracks.

5. MEDIEVAL – AD 43 TO 1540

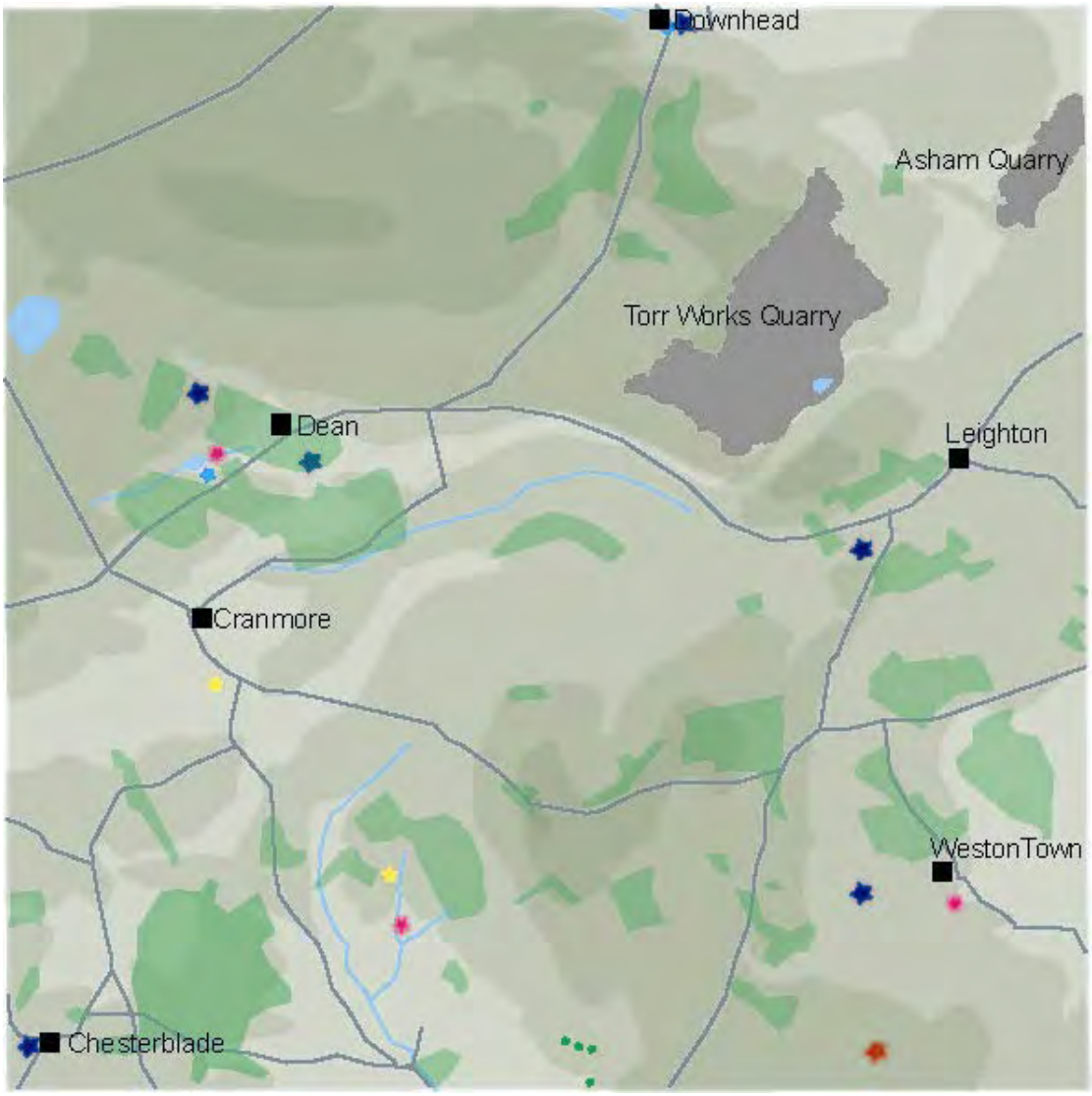

Figure 4: Medieval sites
(Green shaded areas = ridge and furrow and lynchets. Stars: dark blue = shrunken settlements, green = pillow mounds, pink = fish ponds, red = castles, light blue = hollow ways, yellow = small area of shrunken settlement)

Settlement

Villages in the Mendips seem to have developed in many different forms and there are no examples in the study area of the classic medieval planned village. Dean appears to have a planned element. An area of regularly laid out burgage plots with an access road between them and a possible area of housing plots is located in the southwest of the village with a preserved strip field system behind them. The deserted element of Leighton also contains an area of regularly laid out plots. This suggests that there the religious or royal landowners who between them owned much of the land in East Mendip carried out some redevelopment of the villages. No newly

planned villages seem to have been imposed on the area as in seen, for example, on some of the estates owned by Glastonbury Abbey (Aston 1988: 76).

The settlement pattern in the survey area appears to have been set in the Anglo-Saxon period, partly probably for reasons of topography. As mentioned above, Weston Town is a suggested Anglo-Saxon addition to Wanstrow, implying that this settlement existed prior to the Norman Conquest. The *–ley* element in Leighton suggests that the village was established as a result of woodland clearance in the Anglo-Saxon period (Costen 1988: 41). As suggested in the previous chapter, the settlement pattern in this area may have had earlier origins. The discovery by excavation of Roman buildings at Chesterblade and Cranmore suggests that the most likely areas for settlement in this hilly area had already been identified well before the medieval period.

A number of examples of shrunken settlement thought to date to the medieval period have been previously identified in the study area and information has been added to their records through the aerial survey. Areas of earthworks indicating former house plots and platforms are found around nearly all of the main villages (see figures 3 to 6). These form and location of these sites is as follows:

Possible housing platforms and house plots are situated to the southwest of Chesterblade (PRN 23512)

Housing plots, field systems and the remains of a possibly medieval road around Dean (PRN 23332)

Possible housing plots and field systems at Dean Bottom (PRN 18879)

A hollow way and possible housing plots to the east of Downhead (PRN 23429)

Housing plots and platforms to the southwest of the present centre of Leighton (PRN 24780)

A new entry was added to the Somerset HER for earthworks mapped and recorded to the north and south of Weston Town (PRN 18845), which appear to be housing plots, and a hollow way was recorded to the south of Downhead (PRN 18887).

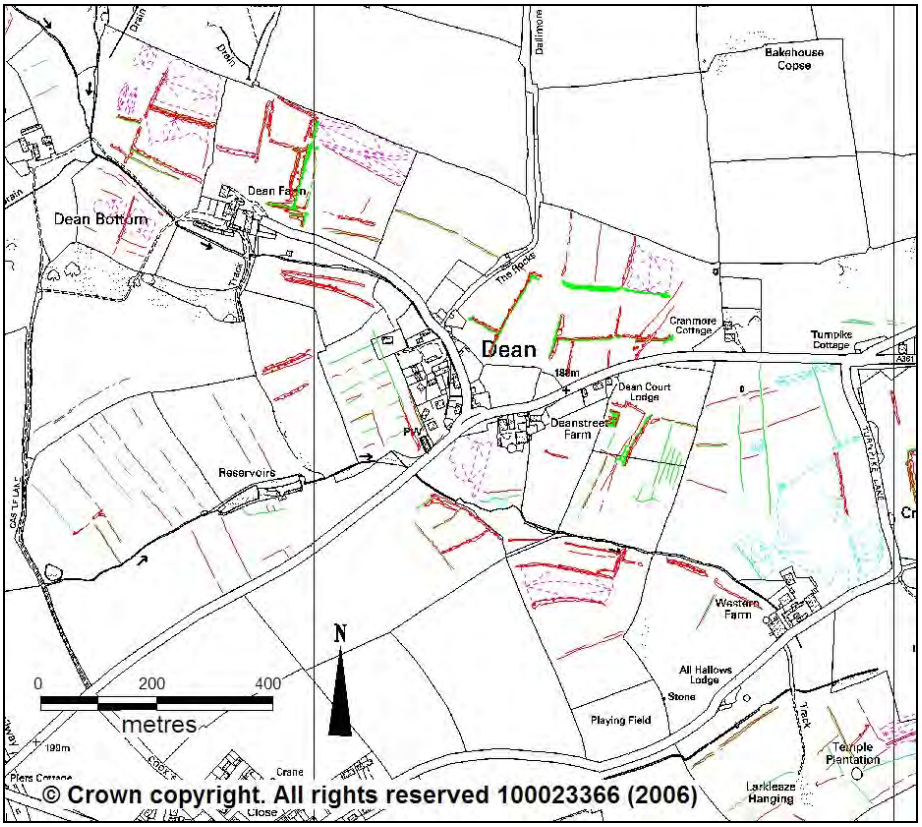

Figure 5: Earthworks, field boundaries and ridge and furrow around Dean

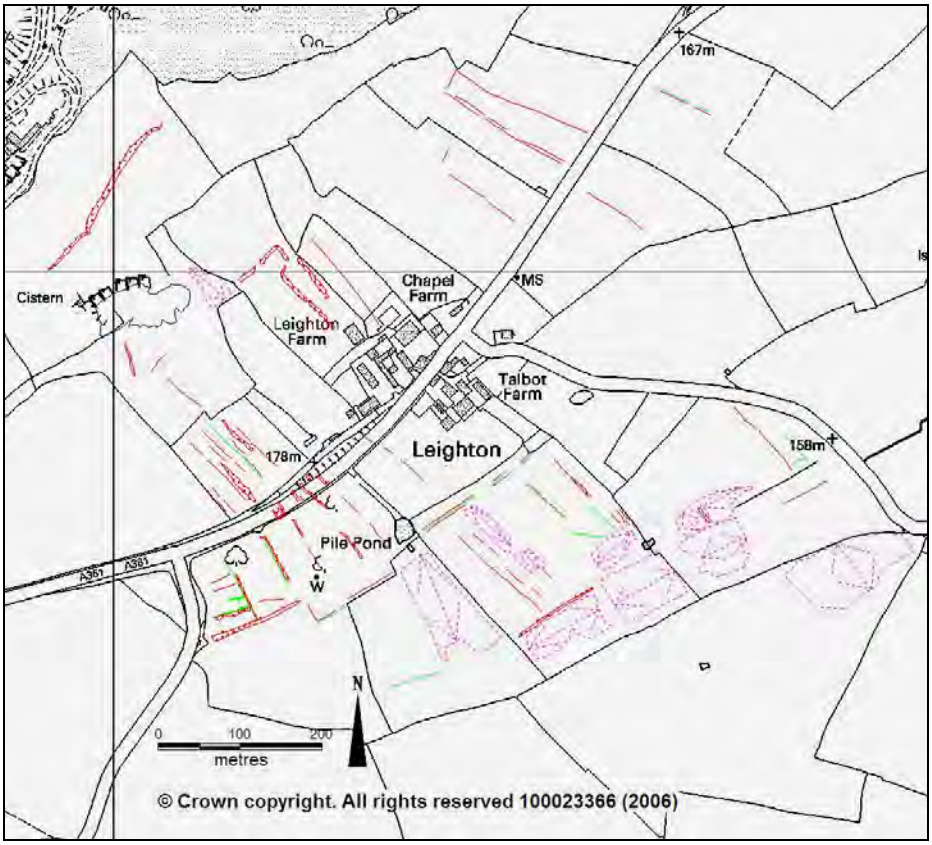

Figure 6: Earthworks and ridge and furrow around Leighton

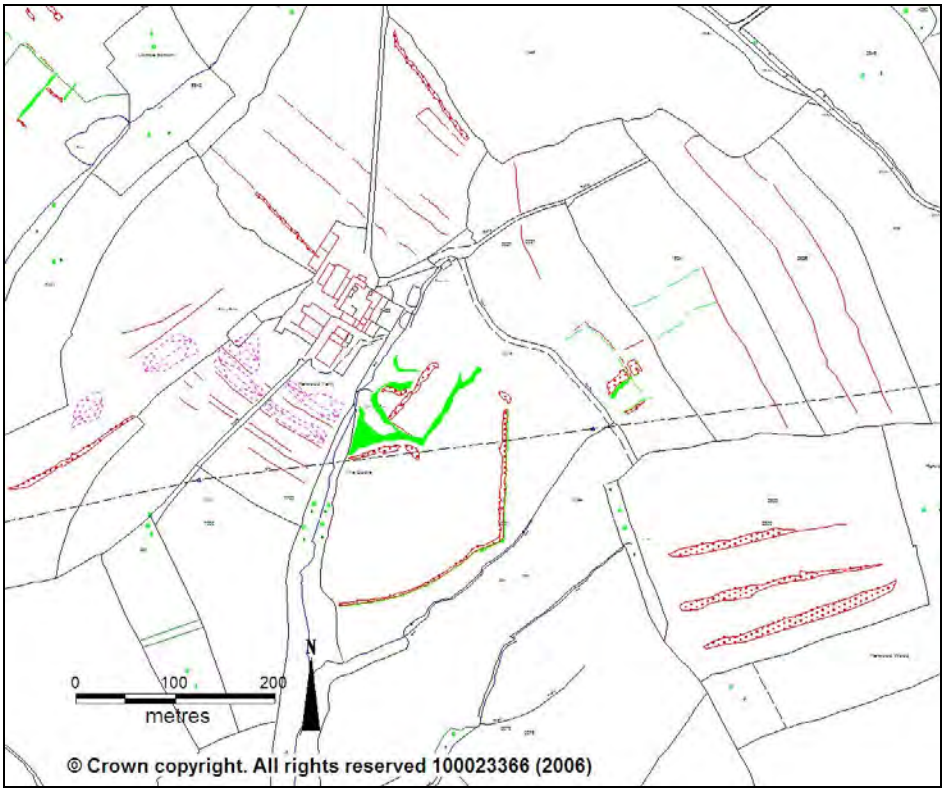

Figure 7: Earthworks and strip field boundaries around Harwood Farm

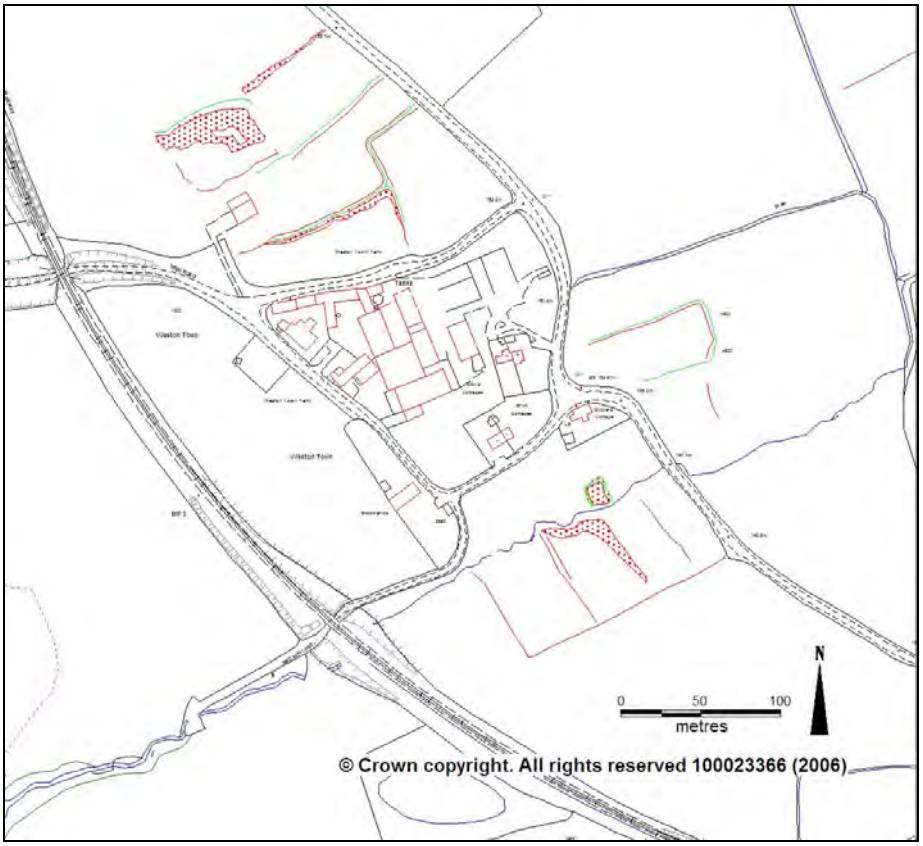

Figure 8: Earthworks around Weston Town

Earthworks of a very different kind of settlement are located to the east of Breach Wood, Wanstrow: a possible motte and bailey castle (PRN 24787). The earthworks comprise a mound with linear banks leading of either side of it ending in a D-shaped enclosure (see figure 7). The linear earthworks and enclosure may be the remains of an inner and outer bailey. If this interpretation is correct, the castle may have been sited here because of its proximity to Wanstrow. It is currently one of the larger villages in the area and may have been important in the medieval period. The name of the settlement immediately to the west of Wanstrow, Weston Town, suggests that it may be a secondary occupation site for the town created during the Anglo-Saxon period (Neale 1976: 77). This implies that Wanstrow may have been important enough in this area to warrant a physical reminder of the new Norman landlords, who in rural daily life would probably feel fairly distant.

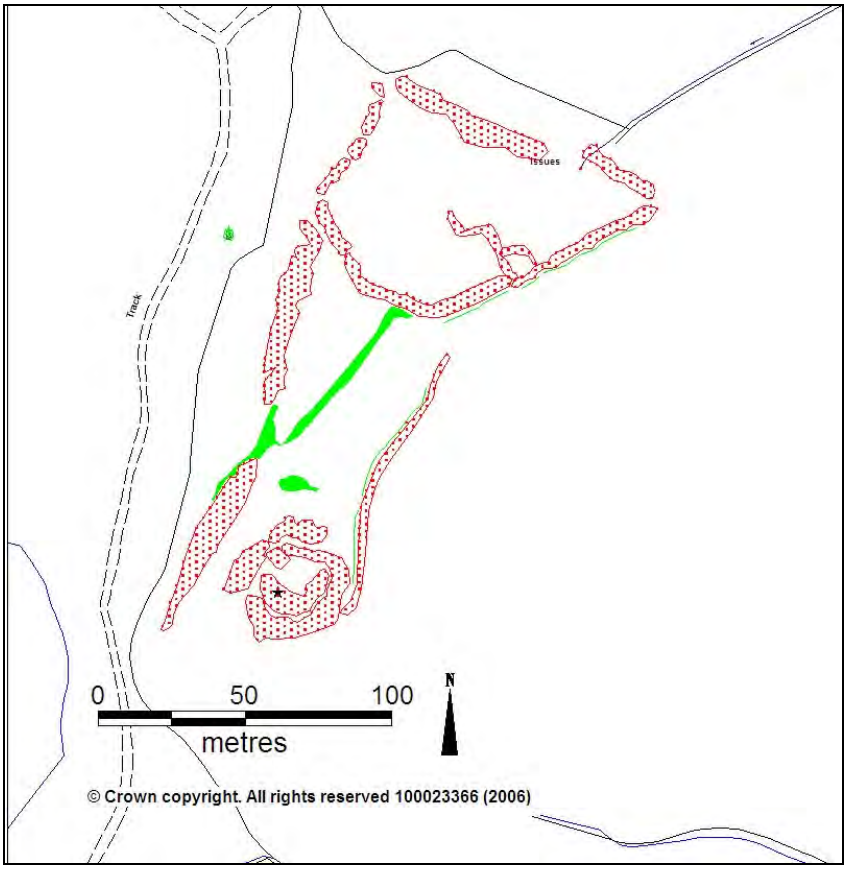

Figure 9: Possible castle site, east of Breach Wood

Agriculture

Evidence for open field systems was observed on aerial photographs, preserved in relict ridge and furrow and narrow rectangular fields indicating the strip farming system used in medieval open fields. Possible open fields can be found Chesterblade, Dean, Weston Town, Wanstrow, Leighton and around Harwood Farm southeast of Southill House (see figure 2 to 6 above for examples). Cultivation terraces or strip lynchets used to exploit land on hill slopes for agriculture are found to the east of Cranmore Hall and to the north and east of Chesterblade. A very impressive flight of

lynchets is located on slopes to the south of Higher Alham, just outside the survey area, but demonstrating that this was, at one time, a common method of cultivation in this area.

These areas of cultivation may indicate the location of medieval population centres, as land ploughed for arable would have been situated close to a village or hamlet as it requires regular care and attention (Aston 1988: 84). In many cases the lynchets and ridge and furrow are located close to existing villages suggesting that the pattern of settlement in this area has not changed significantly since the medieval period.

The only large area of ridge and furrow not situated close to a current village is that around Harwood Farm (see figure 5), suggesting that there may have been a larger area of settlement around here in the past. Earthworks interpreted as a possible drainage feature and field boundary are located immediately to the east of Harwood Farm. The fact that the other extensive areas of ridge and furrow are located close to extant villages suggests that a settlement may have also existed in this area. The earthworks adjacent to Harwood Farm might be reinterpreted as the remains of a settlement site.

A comparatively smaller area of ridge and furrow is located to the east of the site of the medieval grange belonging to the hospital of St John in Bath (PRN 15533) at Higher Alham. A group of seven probable pillow mounds, or artificial rabbit warrens, were identified less than a kilometre (860m) to the east of the farm and may have been associated with the grange (PRN 18838).

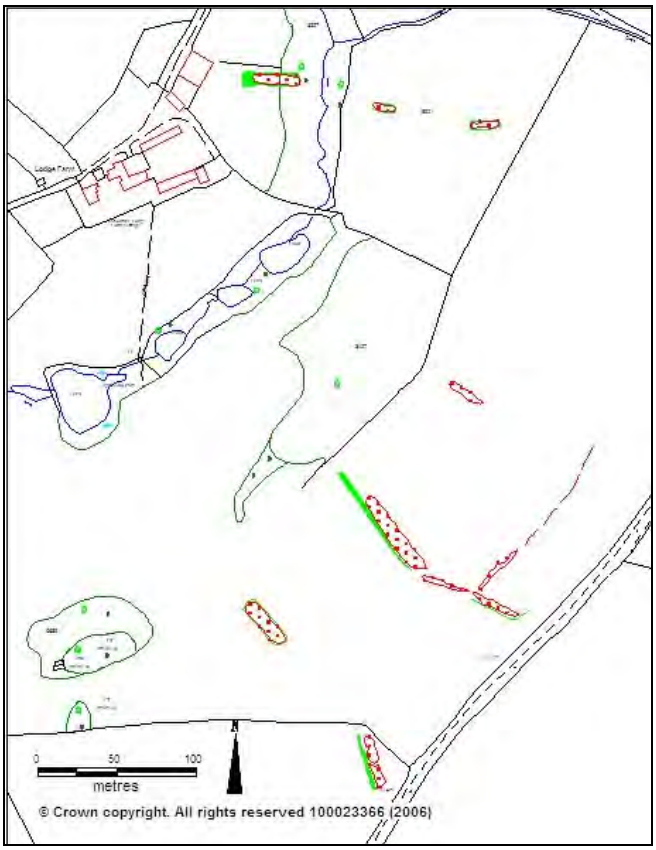

Figure 10: Pillow mounds, Higher Alham

Ridge and furrow also appears to be associated with the shrunken settlement of Downhead (Somerset HER) in the northeast of the survey area. Four fragmentary blocks (PRN 18885) are situated immediately to the west of the Torr Works quarry and further fragments of ridge and furrow and field boundary can be seen within the quarry itself on photographs predating it's post Second World War expansion (PRN 18888). A document of 1398 listing a widow's dower refers to holdings in two common fields to the south, which are located in the current area covered by the quarry (Stokes 2000: 22), which appears to confirm that the earthworks seen on the aerial photographs are the remains of that system.

Further evidence of medieval activity can be seen through the presence of fishponds found at Dean (PRN 23340), to the west of Wanstrow (PRN 24786) and suspected at The Goole, east of Chesterblade (PRN 23339), which possibly indicate the sites of former manor houses. Little information could be added through the aerial survey on the Dean ponds, owing to the existing detail on the modern map, or to The Goole site, because of tree cover. However, an extensive system of leats was mapped and recorded attached to the Wanstrow fishponds. The fishponds are located to the north of Manor Farm in Wanstrow. Buildings dating from the 17th century are located on this site (NMR 202961), but the date of the nearby St Mary's church (14th to 15th century) (NMR 202937) suggests that the fishponds were associated with an earlier manor house.

The reasons for the location of the fishponds at Dean and The Goole are less clear. Dean appears to have a central planned element of regularly laid out plots and it may be that the fishponds were associated with the instigators of this planning in some way. Also it may be buildings such as a manor house have since disappeared from what is now a hamlet but appears to have been much larger in the past. The Goole fishpond is situated between the area of ridge and furrow around Harwood Farm to the north, and the medieval farm belonging to the hospital of St John in Bath at Higher Alham to the south. It may have been associated with either of these sites.

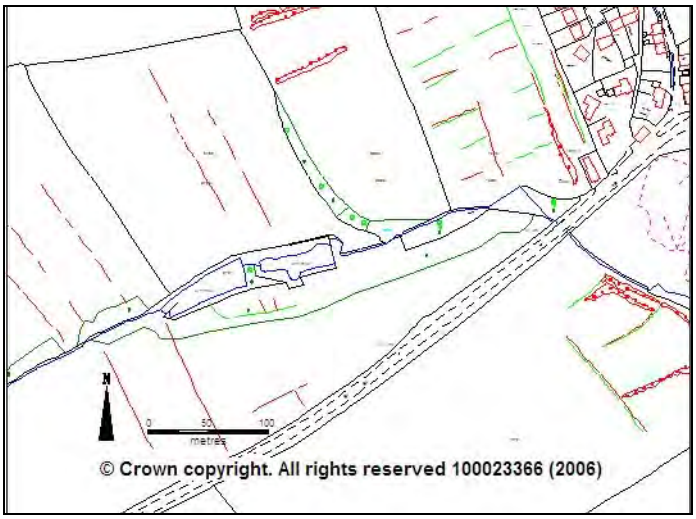

Figure 11: Fishponds to the west of Dean

Figure 12: Fishponds and associated leats to the north of Wanstrow

Discussion of the Medieval Results

The preponderance of shrunken settlements and relict strip farming systems suggests that at some point in the medieval period the area was more populated than is indicated by the current pattern of dispersed settlement. Land is being exploited on a scale not seen again until the late 18th century. A large area of the Mendips was owned by royalty or religious houses in this period, chief among them being Glastonbury Abbey and the Bishop of Bath and Wells, but also including Bath Abbey, Hinton Charterhouse and the hospital of St John in Bath.

The woods and hills of Mendip were a useful source of grazing land, fuel and timber for their landowners, but, as seen from the aerial survey results, as much of this hilly area as possible appears to have been exploited for arable. Relict open field systems are found on the flatter areas of ground and cultivation terraces or strip lynchets are found on the hillsides. As possibly indicated by Harwood Farm, villages can change size or shift over time for a variety of economic and social reasons.

The presence of strip lynchets found in the south of the survey area could be explained by the shortage of flat land but may be a manifestation of the land hunger of the 12th and 13th centuries, a time of population rise (Aston 1988: 87). Aston suggests another reason for their distribution in some areas looking at the example of Westbury-sub-Mendip. This parish has more strip lynchets than its neighbouring parishes possibly because the available flatter land was occupied by a deer park belonging to the Bishop of Bath and Wells (ibid: 87). The same may be true in Evercreech, in

which, in the south of the parish, another of the Bishop's deer parks is situated, and where there are a number of flights of lynchets in the hilly areas in the north of the parish.

The social and economic changes that followed the dissolution of religious houses around 1540 may be the cause of some of the shrunken settlement. There may have also been a change of agricultural regime, with more land turned over to pasture for sheep, resulting in a smaller workforce being needed for the area (Aston 1988: 80). New landowners and a creeping process of enclosure of common lands were starting to change the appearance and layout of the countryside (Neale 1976: 100). A move for wool manufacturing to be carried out as a centralised, rather than a cottage, industry probably contributed to rural depopulation as people moved to work in the towns of Frome and Shepton Mallet, which were growing in prosperity through the production of West Country broadcloths (Atthill 1976: 163).

6. POST MEDIEVAL – 1540 TO 1900

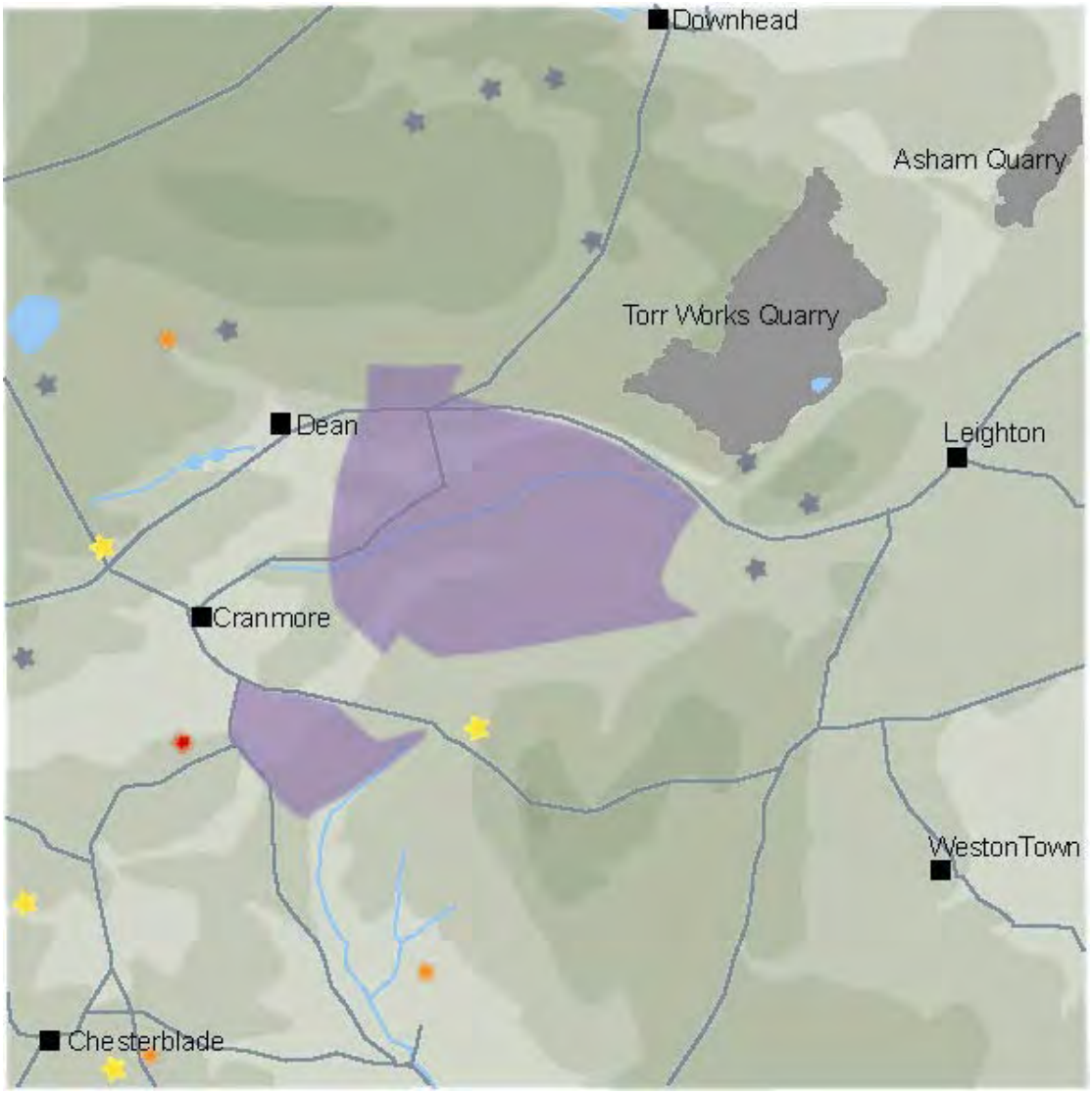

Figure 13: Post medieval sites

(Purple shaded areas = parks. Stars: yellow = water meadows; orange = suspected water meadows; grey = quarries, red = tree enclosure ring)

The two main groups of new sites recorded for the post medieval period are related to agriculture and industry. Seven examples of the upland version the water meadow, the catchwork water meadow (Brown 2005: 84), are found in the south and west of the survey area (PRNs 18824, 18825, 18833, 18837, 18853, 18871 and 18874).

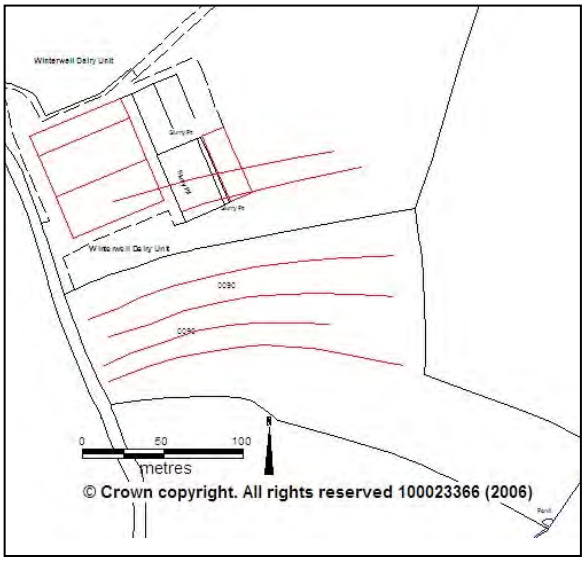

Figure 14: Water meadow north of Chesterblade

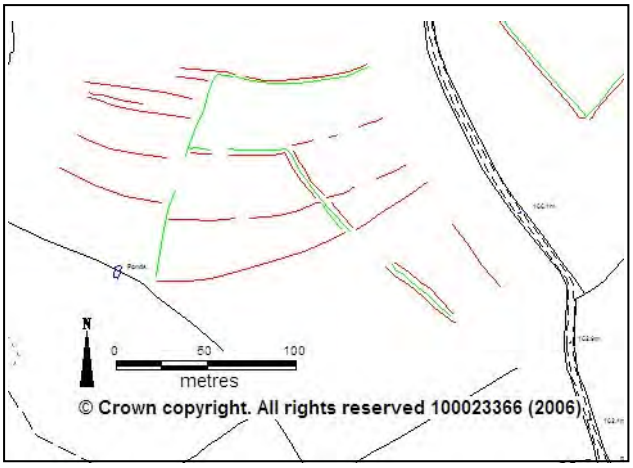

Figure 15: Water meadow south east of Chesterblade

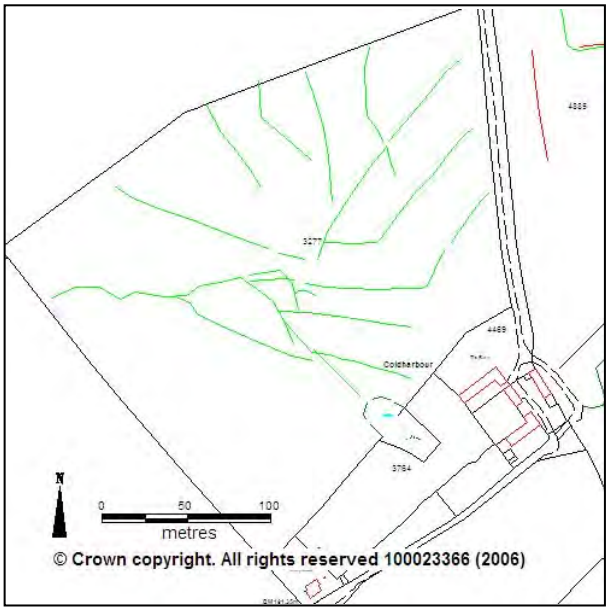

Figure 16: Water meadow north of Coldharbour

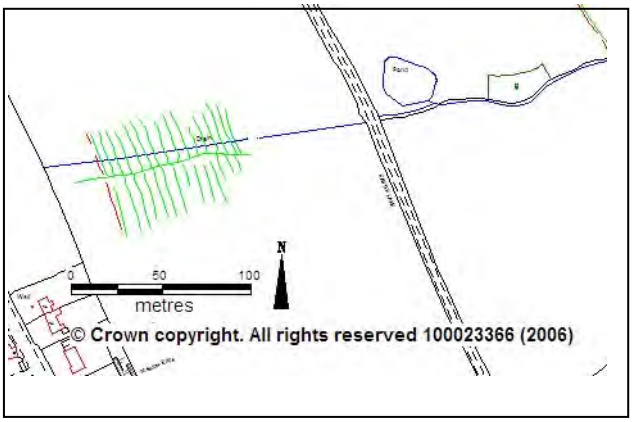

Figure 17: Water meadow west of Dean

Water meadows were used in order to irrigate and improve areas of farmland. Areas with possible surface drainage features, probably also land improvement works, were recorded through the study area. These features take a variety of forms, from one or two field gutters to a complex of parallel drains (see figures 11 to 14 for examples).

Landscaped parks associated with large country houses are a distinctive feature of the 18th century. Garden features were mapped and recorded in two post medieval parks surrounding Southill House (PRN 23337) and Cranmore Hall (PRN 23338). The earthworks recorded for each site may reflect several phases of landscaping, as styles changed during the 18th century from formal to the English landscape style. At Southill House, areas of formal planting were recorded within the park and inside a walled garden. A tree enclosure ring was identified outside the

previously recognised extent of the park but connected to it by a pathway suggesting that the park may have been larger when it was first laid out.

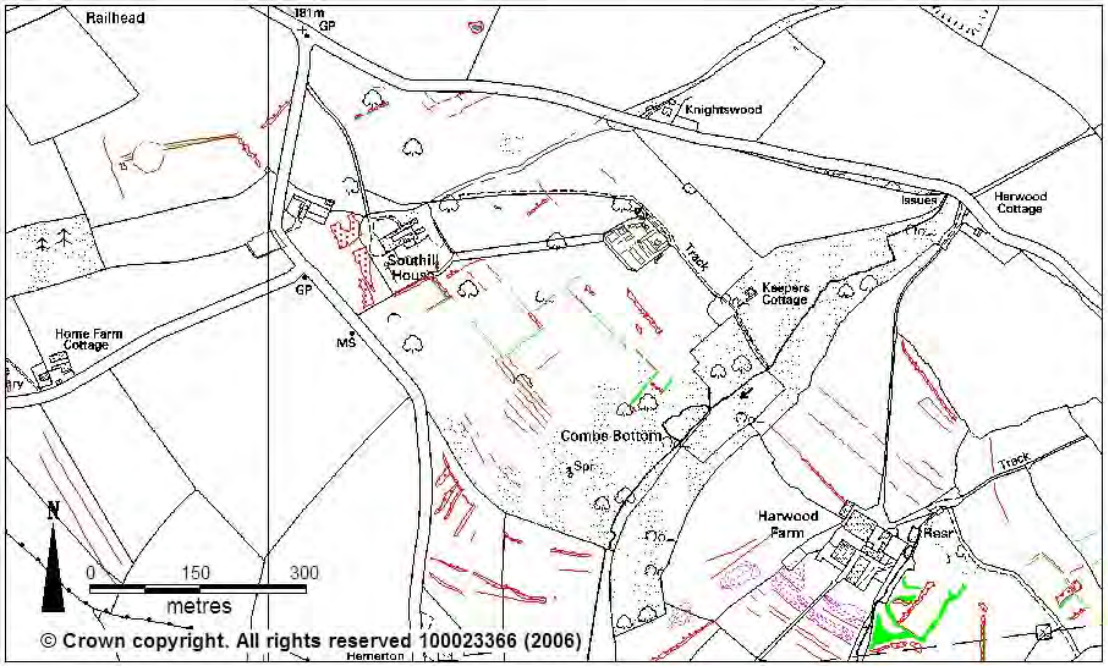

Figure 18: Tree enclosure ring and remains of formal gardens in Southill Park

Areas of probable formal gardens and paths were identified within the park around Cranmore Hall. A drive or roadway was identified running through the south of the property towards Coldharbour. Field systems were also recorded to the west of Cranmore Hall, which appear to overlie an area of medieval ridge and furrow, implying that the field systems are later in date.

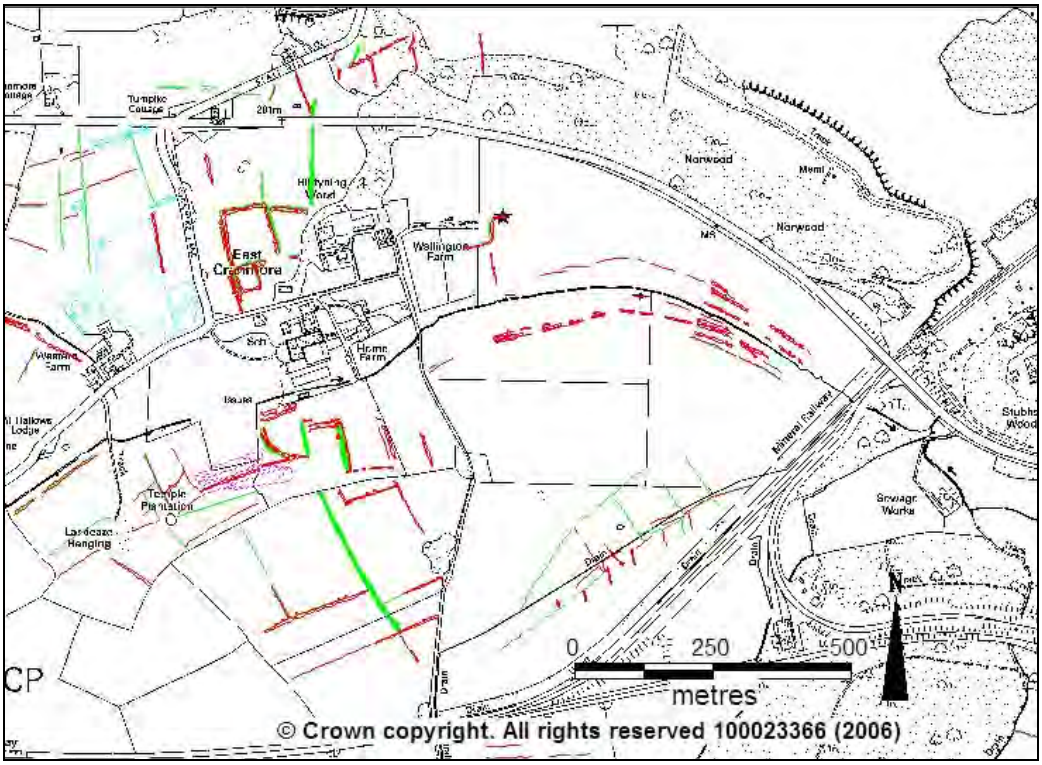

Figure 19: Remains of formal gardens and field boundaries in Cranmore Park

The other main category of site mapped and recorded from the aerial photographs in this area that probably originated in the post medieval period is the stone quarry. Limestone quarries, exploited for roadstone, are situated: to the north of Leighton (PRNs 18864 and 18865); at Merehead (PRN 18866) where the later Torr Works quarry, started in the 19th century, is mapped to its extent in the 1940s; to the west of West Cranmore (PRN 18870); at Waterlip (PRN 18872); north of Dean (PRN 18873); and south of Downhead (PRN 18886). Quarries situated on the Andesitic Lava and Tuff, quarried for aggregate, are situated to the northwest of Downhead (PRN 18882, 18883 and 18884).

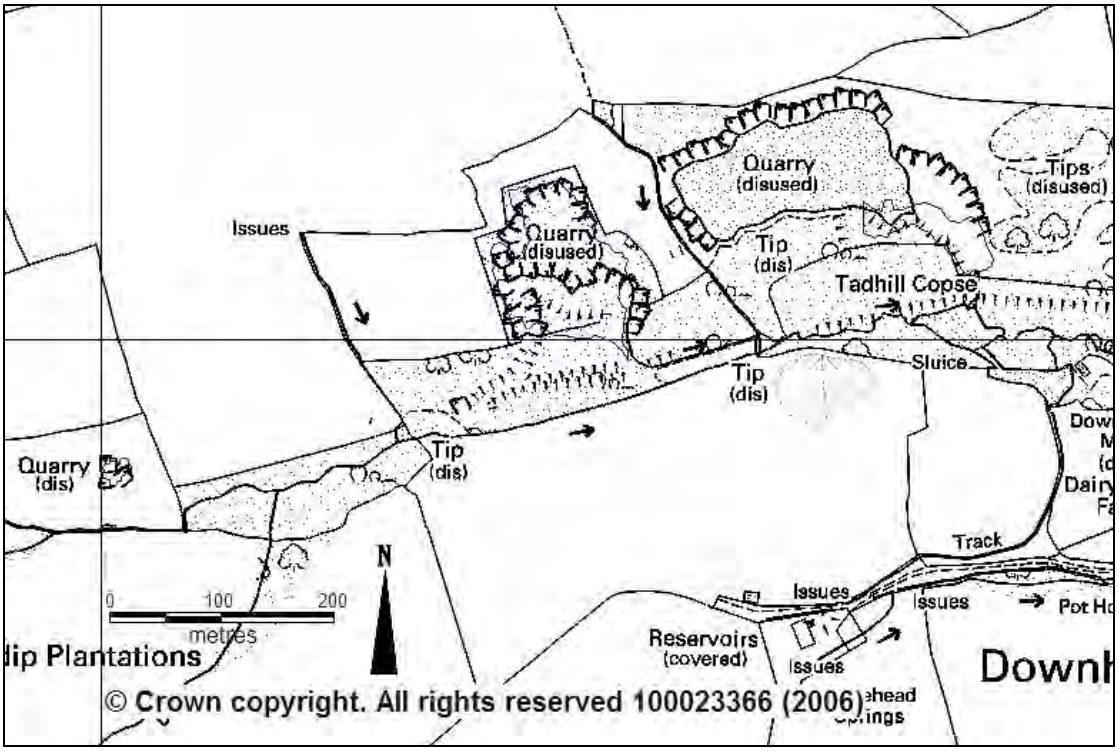

Figure 20: Andesitic Lava and Tuff quarries northwest of Downhead

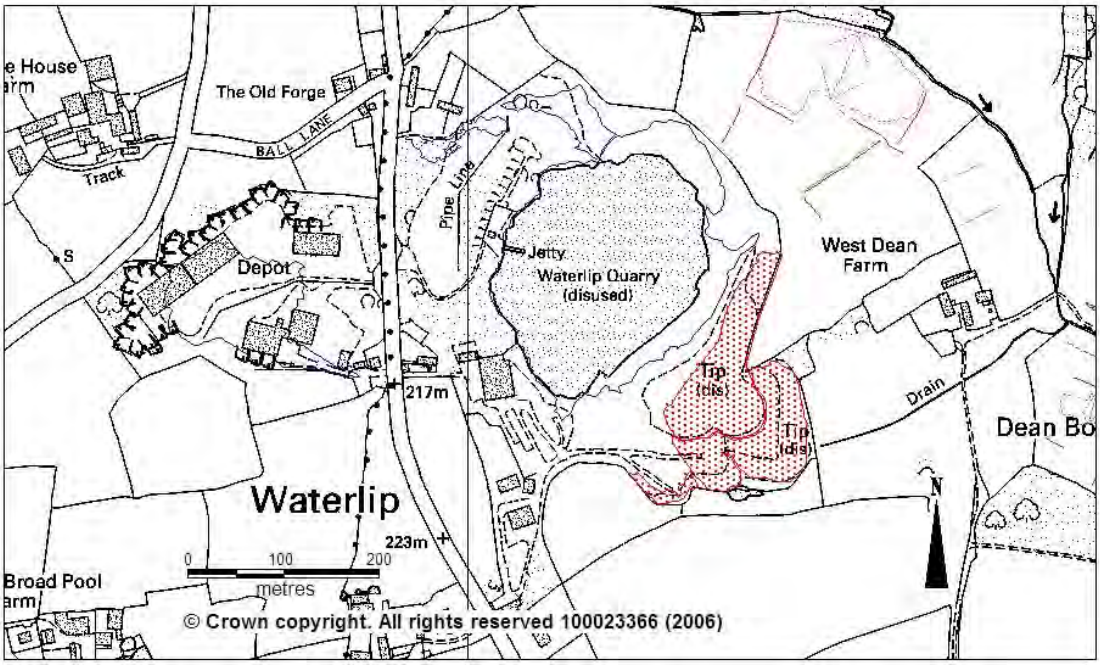

Figure 21: Limestone quarry, Waterlip

Discussion of the Post Medieval Results

The post medieval period saw dramatic changes to land ownership and the appearance of the countryside. A gradual process of enclosure saw the break up of a system of open fields and common land, on which animals were grazed. Enclosure could happen over a large area regularised by an Act of Parliament, or in a piecemeal fashion, where local agreements could lead

to areas as small as a couple of strips in an open field being joined together. One way in which relict open fields can be recognised in the survey area is because the latter form of enclosure had been carried out at some point. Fossilised strip fields exist as modern boundaries with the intervening boundaries defined by banks within them. Examples are seen around Cranmore and Dean (PRNs 18852 , 18855 and 18877).

The process of enclosure was accelerated in the late 18th century when a period of agricultural improvement began in the Mendips, spurred on by a rising population and the shortage of imported food caused by the blockades during the Napoleonic wars (Williams 1976: 105). The Mendip hills were targeted together with the Levels and the western hills near Exmoor in a move to transform former common grazing land into productive farming lands. Enclosure was part of this process, ensuring that old common rights were rationalised.

In 1770, East and West Cranmore became the first area of Mendip to acquire an Act of enclosure (ibid: 105). There were two main landowners in this area: the Pagets at Cranmore Hall, East Cranmore and the Strode family at Southill House, West Cranmore. The area of land over which many of the catchwork water meadows are found was owned by the Paget family. From 1814 onwards, the Pagets began a programme of improvements on their land, including drainage and tree planting (de Viggiani 1988: 2). They were probably responsible for the construction of the water meadows and other drainage features in the Cranmore area (PRNs 18854 and 18858).

The various surface drainage features which can be found in many forms through the study area, may have been the result of experimental land improvement works by landowners during this period. Many areas of pasture were turned over to the intensive farming of wheat, oats and potatoes up until the 1820s and 1830s. After this time, pasture for grazing of animals became more important to the local economy again, but with a change of emphasis. The wool industry had declined in the Mendips and dairy farming had become more widespread (Williams 1976: 111).

The settlement patterns in the area become more dispersed in the post medieval period. New farmsteads are constructed, which date from the 17th and 18th centuries, for example, Honeycliff farmhouse (PRN 538139), Alham House (PRN 526552 and Batcombe Lodge (PRN 526544). It is possible that the depopulation of settlements, resulting in the deserted areas of many of the villages, continues in this period.

Another change to the appearance of the countryside is the creation of the parks associated with Cranmore Hall and Southill House, large areas of private land imposed on the former pattern of fields, wood and common. The Pagets of Cranmore carried out a number of improvements to the park and their surrounding land between the 1820s and 1860s which are indicated by the earthworks recorded for the aerial survey in the park : a model farm, Home Farm, was constructed on the estate, which may explain the field boundaries found to the west of the Hall; a new coach road was constructed and new drives and roadways were laid out on the estate; rides were created in Monk Wood and Norwood; the Norwood ride travelled up the Limestone hills above the estate and led on to a boating lake with a boat house; and Cranmore Tower, a folly, was constructed on the highest point of land on the estate to the north of Dean (de Viggiani 1988: 62).

The features constructed in and beyond Norwood are now in the area encompassed by the Torr Works quarry and the hill which provided a scenic viewpoint for the Pagets has been levelled.

While employment was declining in agriculture towards the end of the 19th century (Williams 1976: 118), the quarrying industry was starting to expand. The number of quarries that originated in this period recorded in the survey fact reflects this fact. Quarrying initially began on a small scale in Norwood and West Cranmore for the repair of local roads. Quarrying began on a slightly larger scale at Waterlip, owned by the Strode family, in the 1860s. Stone was transported initially by a tramway to Cranmore station on the new East Somerset Railway (de Viggiani 1988: 76), which runs across the centre of the survey area from east to west. Stone was quarried for roadstone or for processing for lime. Lime kilns were situated throughout the study area, for example, at Waterlip, Leighton and Weston Town (Cole 1989: 21) but could not be identified from the aerial photographs.

The post medieval period saw enormous changes to the appearance of the survey area which can be illustrated through the aerial survey results. Settlement patterns became more dispersed, as is indicated by the location of new farmsteads and the shrunken elements to many of the existing villages. However, the actual centres of settlement did not greatly change. Agricultural practices changed, a move probably advanced by the enclosure process. The period saw a period of first intensification and then decline in agriculture. The land improvements, such as the catchwork water meadows, of the late 18th and early 19th centuries are fossilised in the landscape along with the earlier medieval field systems. The decline of agriculture at the end of the 19th century occurred in parallel with the rise of the quarrying industry, which continues into the modern period.

7. MODERN – 1900 TO 1945

Figure 22: Modern Sites

(Stars: grey = quarries, yellow = bomb craters)

The modern period is marked by the expansion of quarrying. The Limestone quarries in the north of the survey area at Merehead (PRN 18866) and in Asham Wood (PRN 18890) are mapped and recorded from aerial photographs to their extent in the 1940s. While they were larger endeavours than any previous quarrying in the survey area, a comparison of the 1940s outline with the quarries' current extents demonstrates clearly how quickly they have expanded since the Second World War. The rapid expansion of the quarries and its effect on the surrounding landscape can be observed very clearly on the historical aerial photographs dating from the 1940s to the 1990s. Figure 23 below shows the outline of the Torr Works, or Merehead Quarry, drawn to its 1940s extent in blue in the bottom right hand corner of the picture, against the modern day outline.

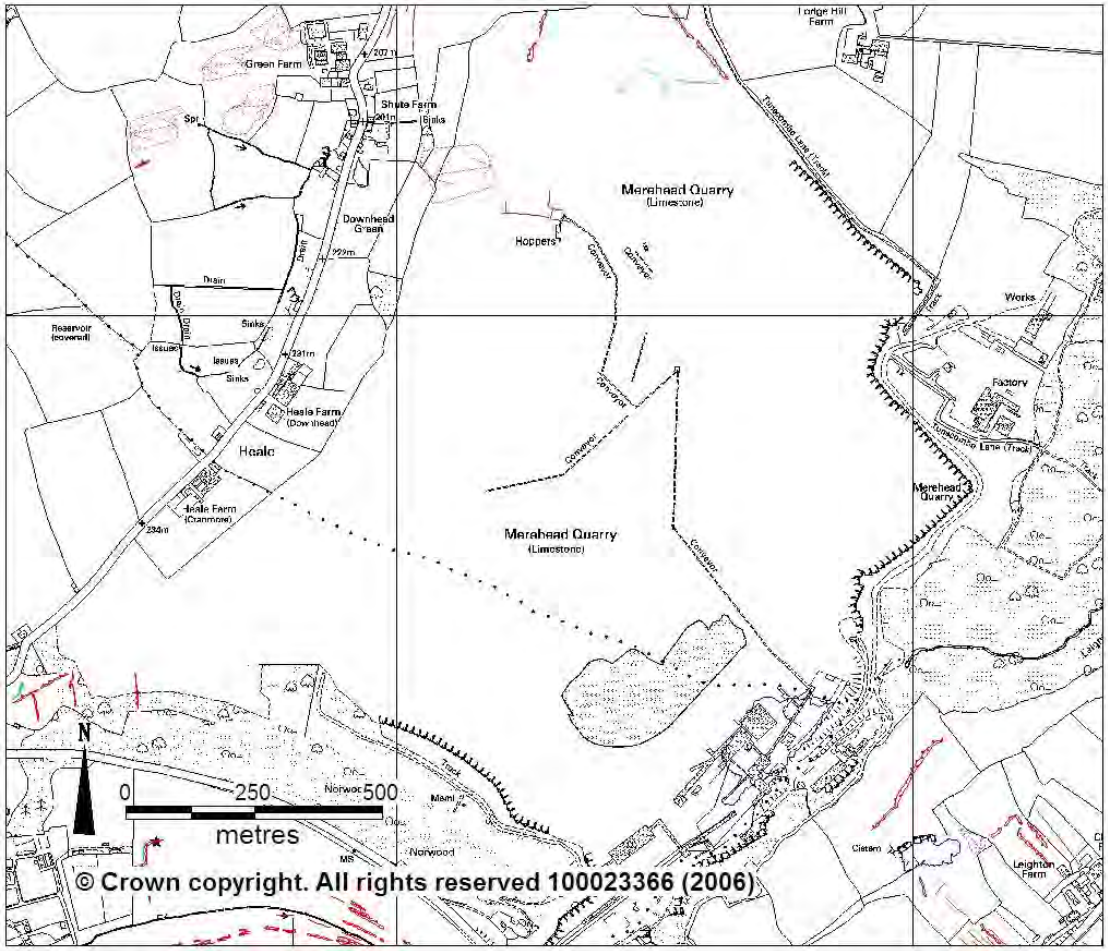

Figure 23: The outline of the Merehead quarry to its 1940s extent over the modern quarry outline

The other results for the modern period are related to the Second World War. Two lines of bomb craters, recognised by a sub-circular crater with spoil thrown up around it, were mapped and recorded: three in Wanstrow to the northwest of Weston Town (PRN 18848); and two in Cranmore to the north of Southill Park (PRN 18857) both in a line running from north to south. Enemy bombers frequently offloaded surplus bombs over the Mendips when returning from raids on, for example, Bristol or Bath, before flying over the coastal anti-aircraft defences (de Viggiani 1988: 119). The positioning of the bomb craters suggests that the aircraft were flying due south across the Mendip hills as the bombs were dropped.

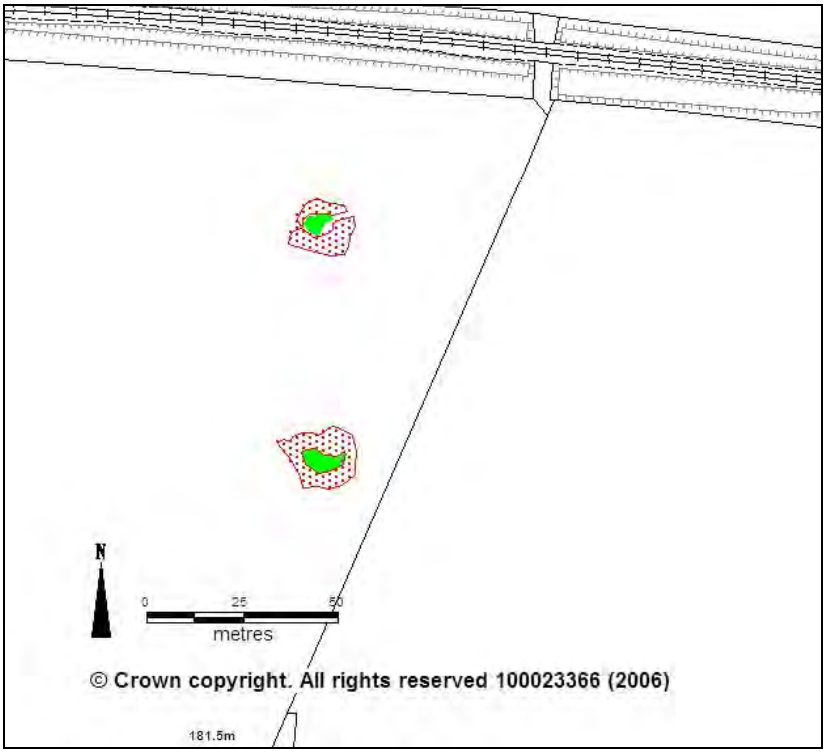

Figure 24: Bomb craters to the north of Cranmore

Discussion of the Modern Results

The results from the aerial survey have been able to present a very clear picture of the effects of quarrying on the surrounding area. Comparison of historical aerial photographs dating from the 1940s on, demonstrates clearly the loss of large areas of Asham Wood and Norwood, as well as substantial amount of Downhead parish, due to the expansion of the quarries. The quarry at Merehead, later the Torr Works quarry began its initial expansion after 1934. The new owners, Roads Reconstruction, were responding to the need for improvement of roads due to the new popularity of driving (de Viggiani 1988: 109).

There are few signs of utilisation of the area by the armed forces during the Second World War on the aerial photographs. The two large houses in the area are known to have been pressed into use: Cranmore Hall as a maternity hospital for evacuee mothers (de Viggiani 1985: 1) and Southill House as a base for the Auxiliary Unit Scout Patrol (PRN 25685). Cranmore Tower was also utilised by the Home Guard and the Royal Corps of Signals (ibid: 14). The only visible sign on the aerial photographs of Second World War activity, the bomb craters recorded in this area, do present an interesting insight into the habits of the enemy bomber crews, however, rather an alarming insight for the inhabitants at the time.

8. CONCLUSIONS

The aerial survey component of *The Aggregate Landscape of Somerset: Predicting the Archaeological Resource* has contributed greatly to the knowledge of this area of east Mendip, particularly for the medieval and post medieval periods. The majority of the 65 new records created for this area are concerned with agricultural developments in these two periods and change the picture of Mendip as a consistently pastoral area. The intensive use of both the flatter land and the hill sides during the medieval period, seen together with the number of shrunken settlements suggests that this was a busy and populous area. Information on the post medieval schemes of land improvement in the second period of agricultural intensification adds to this picture of an area where people had to be innovative to make the land productive.

The other main theme that has come across in the aerial survey results is the quarrying and its effect on the surrounding landscape. The erosion of monuments and disappearance of field systems emphasises how large a part of our information of this area may be missing. The open field system of Downhead and some of the information for the post medieval landscape park of Cranmore is now irretrievably lost inside the Torr Works quarry at Merehead. The historic aerial photographs can, by presenting a frozen moment in time, fill in some of the gaps in knowledge.

There are possible shortfalls in the aerial survey results caused by the fact that much of this area is under permanent pasture. While the free draining soils associated with Limestone geology might be expected to show cropmarks favourable, the lack of arable in this area mitigates against this. Another problem is the lack of oblique photography which is carried out at times which are most suitable for the observation of archaeological sites, either as cropmarks or earthworks. The reason for this is the restriction zone around Bristol airport. While a great deal of information has been gained from the predominantly vertical photography, there may be much more to add from a future programme of specialist archaeological oblique photography in this area.

The difficulties of finding sites in a predominantly pastoral and intermittently wooded landscape are demonstrated by the survey results and emphasise a need for their use together with complementary forms of survey. However, the aerial survey alone has greatly increased our understanding of this area of the east Mendips.

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APPENDIX 1 - NMP METHODOLOGY

1.1 Introduction

The aim of NMP is to enhance the understanding of past human settlement, by providing primary information and synthesis for all archaeological sites and landscapes from the Neolithic period to the twentieth century.

NMP aims to do this to a consistent standard by interpretation, mapping, classification and description of all archaeological sites and landscapes in England which are visible on aerial photographs. This comprehensive synthesis of the information available on aerial photographs is intended to assist planning, protection and research of the historic environment.

The specific aims of NMP are:

1. To produce a georeferenced digital transcription of the form and extent of all archaeological features visible on aerial photographs for the whole of England.

2. To record the location, indexed classification, archaeological description and analysis, and main sources of all archaeological sites visible on aerial photographs. Additional morphological recording for those sites for which meaningful morphological comparisons can be made.

3. To provide a synthesis of the archaeology in each project area in the form of a report on the character, diversity, association and distribution of archaeological sites and landscapes.

1.2 Sources

Aerial Photographs

1. National Monuments Record

Enquiry & Research Services

National Monuments Record

English Heritage

Kemble Drive

Swindon SN2 2GZ

Tel: 01793 414 600

2. Cambridge University Unit for Landscape Modelling (formerly CUCAP)

University of Cambridge
Unit for Landscape Modelling
Sir William Hardy Building
Tennis Court Road

Cambridge CB2 1QB
Tel: 01223 764377

3. Somerset County Council HER
Historic Environment Service
County Hall
Taunton TA1 4DY
Tel: 01823 355426

Documentary Sources

Local Historic Environment Record monument records: The relevant Monument and Event records from the HER have been used as an aid to interpretation.

National Monuments Record (NMR): The relevant Monument and Event (including Excavation Index) records from AMIE have been used as an aid to interpretation.

Historic maps: These included Ordnance Survey first and second edition 25" maps from the late 19th and early 20th centuries. The 1955/6 edition Ordnance Survey Archaeology Division 1:10,560 field sheets (the precursors to the current NMR record maps) have also been consulted and have proved valuable in identifying removed field boundaries and structures.

1.3 Digital Transcription/mapping

Archaeological maps are produced by tracing archaeological information from georeferenced aerial photographs onto a suitable digital map base.

Rectification of aerial photographs

Rectified and georeferenced digital images are produced by transforming oblique and vertical photographs using AERIAL5. Where no digital image is available the relevant photograph(s) is/are scanned of each archaeological site to be mapped.

Control information is taken from digital copies of OS 1:10,000 scale maps and the relevant scanned photograph(s) are normally be rectified to an average level of accuracy of + <2m to the map. This gives an overall accuracy of plotted features, to true ground position, within +5-15m.

A digital terrain model function is used to compensate for steep or undulating terrain.

Mapping of archaeological features

Archaeology is traced off the georeferenced and rectified photographs using MapInfo. Archaeological features are depicted on different layers mainly on the basis of form (e.g. bank, ditch etc) irrespective of preservation as this is recorded in the database.

Although NMP has a standard set of colours for different layers they have been set up, on the basis of form (e.g. bank, ditch) so that they can be viewed in any colour or in a GIS environment where colours and symbols may relate to interpretation e.g. period, type etc. Symbols and fancy line types are avoided to facilitate transfer between GISD packages. Exceptions to this are ridge and furrow which is drawn in a semi-conventional manner because it would be too time consuming to map every rig and furrow. Therefore blocks are outlined and the direction of groups of rigs are shown with an arrow.

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