

BARBURY CASTLE ENVIRONS AIR PHOTO SURVEY AND ANALYSIS

SPECIAL PROJECT REPORT

Mike McQueen



BARBURY CASTLE ENVIRONS: AERIAL PHOTOGRAPH SURVEY & ANALYSIS

Mike McQueen

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SUMMARY

The project comprised an interpretation, transcription and analysis of all archaeological features visible on aerial photographs, with a possible date range from prehistory to the 20th century. This was carried out to English Heritage National Mapping Programme (NMP) standards for a 4km² area surrounding Barbury Castle hillfort.

The project was a training exercise for a student placement from Bristol University (Mike McQueen) and provides comparative and contextual data for similar projects in the area, such as the Avebury World Heritage Site, Lambourn Downs and Thames Valley NMP projects, and the Liddington Environs Project.

The main air photograph sources consulted were at the English Heritage National Monuments Record Swindon, Cambridge University's Unit for Landscape Modelling, and Wiltshire County Council.

A number of key environmental factors have influenced the activities carried out in the area over time including the geology, topography, availability of water and the climate. This project report looks at a number of themes that have emerged from the survey as evidenced on aerial photographs, starting with the dominant feature of Barbury Castle hillfort and then looking at farming, settlement, defence, administration, remembrance of the dead, communications and recreation.

CONTRIBUTORS

Mike McQueen carried out the interpretation, transcription, recording and analysis, and wrote the report. Sharon Bishop provided the training, NMP quality assurance and edited the report.

ACKNOWLEDGEMENTS

I am extremely grateful to Helen Winton of the Aerial Survey & Investigation team for agreeing to accept me on a placement in her unit and to Sharon Bishop for her time and patience in guiding me through the processes involved in undertaking this study.

I am grateful to the staff of NMR Enquiry and Research Services (Air Photographs) for their assistance and for providing the coversearches and photographs. I would like to thank Claire Young of Wiltshire County Council's Archaeology Section for her assistance in providing access to and scans of some of the Council's air photographs.

This project was carried out in collaboration with Cambridge University's Unit for Landscape Modelling (ULM): their contribution being the loan of material from the Cambridge University Committee for Aerial Photography (CUCAP).

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The image on the front cover is looking west along the line of the Upper Chalk escarpment of Barbury Hill from the field systems on Burderop Down towards Barbury Castle hillfort (SU1576/38 NMR 15833/24 29-Oct-1997 ©English Heritage (NMR)).

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ARCHIVE LOCATION

The National Monuments Record Centre
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Swindon
SN2 2GZ

DATE OF SURVEY

The survey was carried out between the 1st June and the 28th August 2009.

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INTRODUCTION

The Barbury Castle Environs aerial survey and analysis project was carried out during a student placement with the Aerial Survey & Investigation section of English Heritage. It included interpretation and transcription of all archaeological features visible on aerial photographs, with a possible date range from prehistory to the 20th century, to English Heritage National Mapping Programme (NMP) standard for a 4km² area surrounding Barbury Castle Iron Age hillfort, which is located to the south of Swindon, Wiltshire (Fig 1). The area is bounded by SU 140 750 (SW corner) and SU 160 770 (NE corner).

The NMP applies a systematic methodology to the interpretation and mapping of archaeological features visible on aerial photographs or other airborne remote sensed data. The main aim of NMP is to enhance our understanding about past human settlement by providing primary information and synthesis for archaeological sites and landscapes to assist research, planning, and protection of the historic environment.

By January 2009 more than forty NMP projects had been completed covering more than 39% of England (further details can be found at www.english-heritage.org.uk/aerialsurvey). The project provides comparative and contextual data for other NMP projects in this area, of which the Avebury WHS, Liddington Environs and Lambourn Downs projects all covered rolling chalk downland similar to the study area.

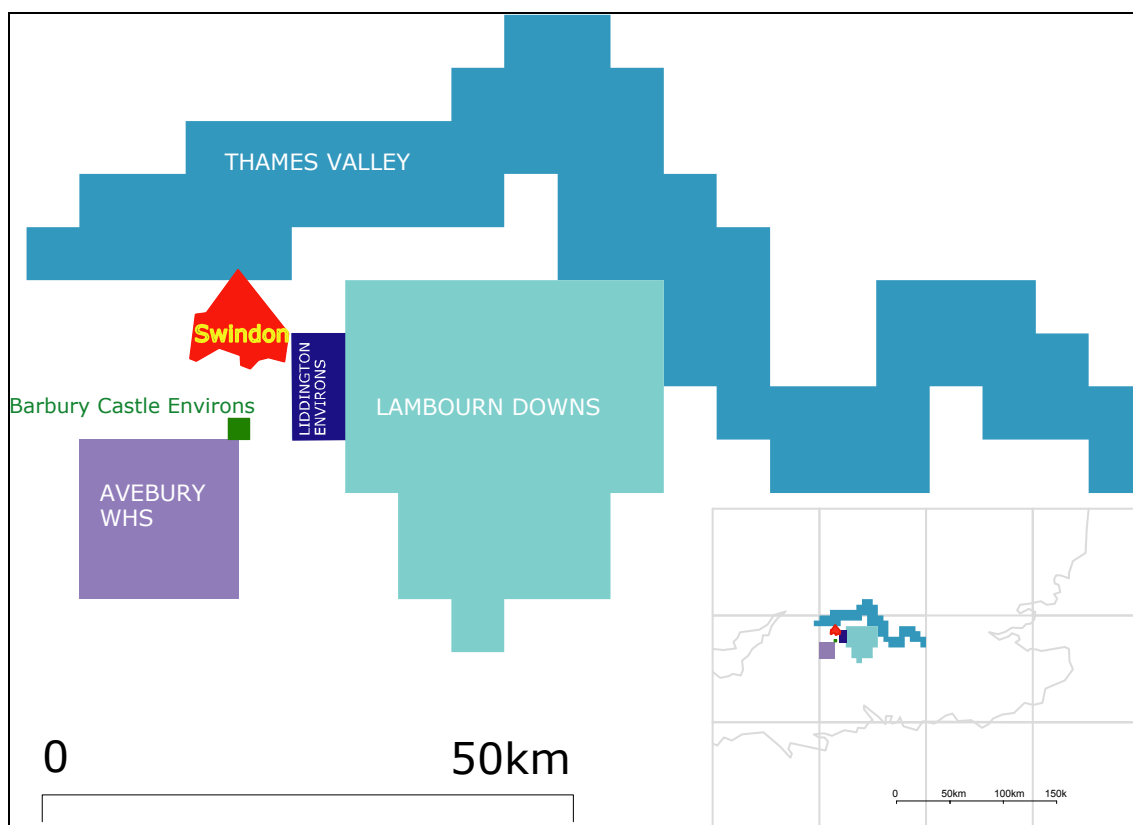


Fig 1: The location of the project area in relation to other NMP projects in the immediate vicinity

The author, Mike McQueen, is studying part time for a Masters degree in Landscape Archaeology at Bristol University. As part of the course students are encouraged to undertake a placement to gain practical experience. This placement was chosen because it would provide excellent training in analysing, mapping and reporting on the archaeology visible in aerial photographs, which are a key tool in carrying out archaeological analysis of landscapes.

The main source for this study is aerial photographs taken of the area from the 1930s onwards, including the collections at the English Heritage National Monuments Record (NMR) in Swindon, Cambridge University Committee for Aerial Photography (CUCAP) and the Wiltshire and Swindon History Centre (see Appendix 1). This information was supplemented by maps and records from the English Heritage AMIE Database and the Wiltshire County Council SMR record, and relevant published material.

Barbury Castle is located on an escarpment which runs along the northern edge of the Marlborough Downs which are part of the North Wessex Downs Area of Outstanding National Beauty of rolling chalk downlands. The current Management Plan (North Wessex Downs 2004) includes the following objectives for Celebrating the Past in the Wessex Downs Area:

Objectives

Objective 5: To develop a better understanding of the landscape evolution of the North Wessex Downs in order to identify, conserve and enhance important cultural landscapes

Objective 6: To develop a better understanding of settlement structure and architecture in order to ensure an improved standard of future development in terms of both sympathetic location and design

Objective 7: To enhance the protection and appropriate management of archaeological and historic sites and features as central to the character of the North Wessex Downs and to enhance the setting of those that contribute to landscape character and identity.

(North Wessex Downs 2004)

The study area contains good physical evidence of activity from the Bronze Age onwards, although finds of a mace head and flint tools show that the area was being used in the Mesolithic and Neolithic.

Barbury Castle is part of a chain of hillforts running along the line of the Ridgeway in Wiltshire and Berkshire. It is the only one that became a multivallate, developed hillfort which was intensively used and is a very good example of its type. All of the Ridgeway Hillforts were geophysically surveyed by the Wessex Hillforts Project which was initiated in 1996 (Payne et al 2006). The seven Ridgeway Hillforts to the east of Barbury Castle were within the areas mapped by the Liddington Environs and Lambourn Down NMP projects (Knight 2001; Small 2002).

This report examines a number of themes:

- Barbury Castle hillfort
- Farming, and in particular the impact of sheep
- Settlement
- Second World War
- Administration
- Places of significance
- Communications
- Recreation

As a result of the project 16 existing monument records in the area were updated and a further 38 were created in the English Heritage National Monument Record database.

BACKGROUND

The character of the project area

In its analysis of the character of country, the Countryside Agency located the Project Area within Character Area 116 which it defined as high, large scale rolling chalk downland with sparse woodland cover. The downland is dissected by numerous dry valleys and is sparsely populated (Countryside Agency, 1999). The area around Barbury Castle is owned by Swindon Borough Council and is now maintained as Barbury Castle Country Park (Fig 2). The Park is a popular recreational centre. The remainder of the study area is principally farmland and horse gallops.

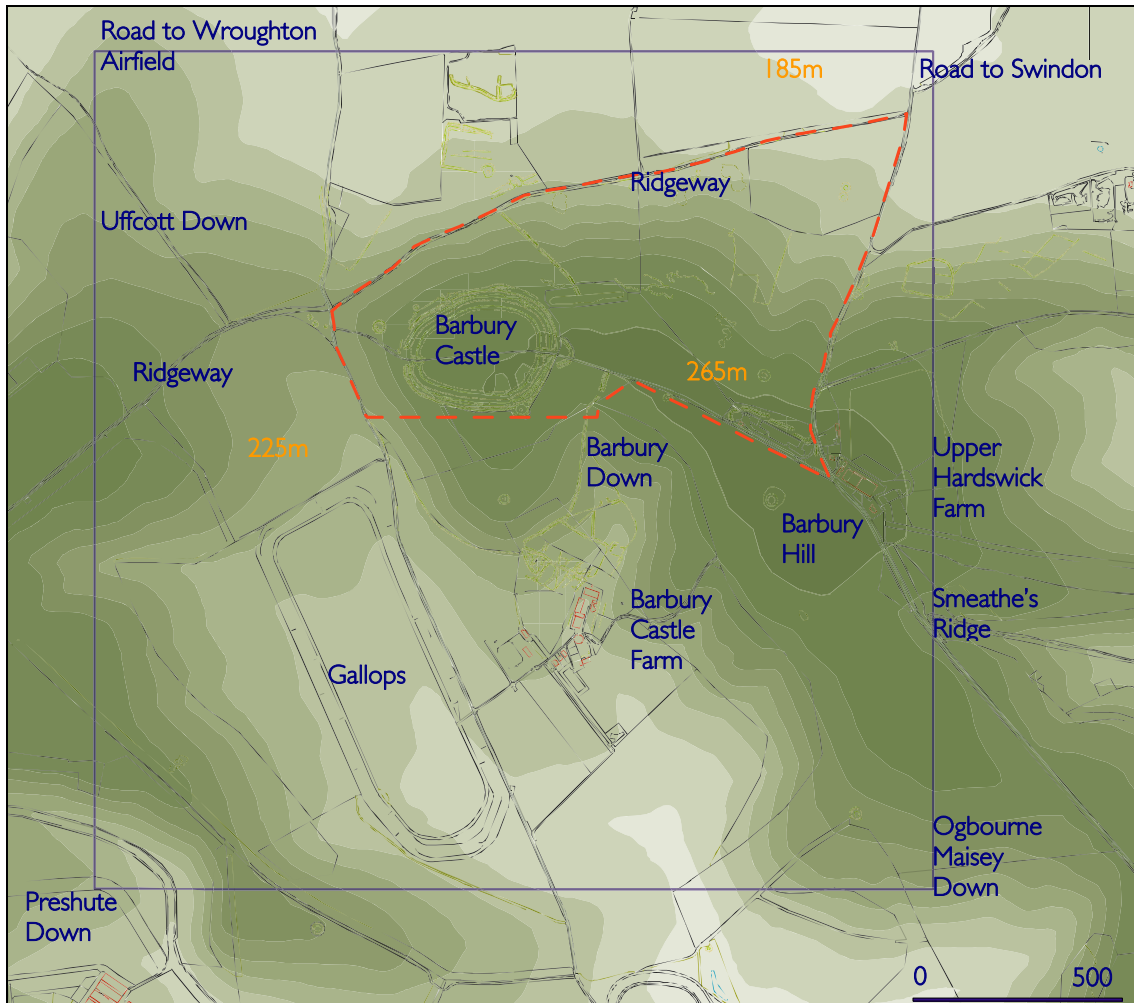


Fig 2: The topography of the study area
The study area is shown by the blue box. Contours are at 10m intervals with the highest at 265m. The red dashes show the extent of Barbury Castle Country Park. The background map is © Crown Copyright. All rights reserved. English Heritage 100019088. 2009

A prominent chalk ridge forms a steep north facing escarpment across the northern side of the study area (Fig 2 and 3). The highest point on this ridge is Barbury Hill which has a maximum height of 268m. To the north is an area of relatively flat ground which extends for several kilometres until dropping down into the Thames Valley. Running south from

the scarp edge is a series of lower ridges and dry valleys, known as coombes. The coombes were created by permafrost action in the Pleistocene, which would have made the chalk impermeable and allowed streams to flow over it (Geddes 2005, 64).



*Fig 3: Burderop Down and Barbury Hill, looking west to Barbury Castle
NMR SU1576/40 NMR 15833/26 29-Oct-1997 © English Heritage (NMR)*

Geology and soils

The survey area's geology is dominated by Middle Chalk. The ground on the ridges above 240-250m is Upper Chalk. Along the top of the ridge of Barbury Down and in a few small patches along the ridge to the north of Preshute Down, the Upper Chalk is capped by Clay with Flint. The flatter area to the north of the scarp is Lower Chalk.

Extensive quarrying for flints has been carried out over time in the area at the point where seams formed between the Upper and Middle Chalk, especially in and around Barbury Castle (Bowden 1998, 1). Quarrying of clay has also taken place and this was used to line dewponds, to make bricks, and to improve water retention in fields with very chalky soils. Chalk was quarried mainly to extract marl for use on fields with heavier clay soils. This quarrying activity has left numerous pits which have not been recorded as part of this study.

During the Pleistocene melt water streams deposited gravel at the base of the coombes (Geddes 2005, 64). In several NMR records for the area of the coombe to the west of Barbury Castle Farm there are references to damage being caused to monuments by gravel extraction.

In some parts of the Marlborough Downs there are scatters of sarsen stones on the surface of the ground (Geddes 2005, 61). There are no surface scatters in the study area but it is likely that there were stones below the surface. Sarsen stones were often used as building materials, including in the ramparts of Barbury Castle (Bowden 1998, 4).

Chalk with overlying clay produces a soil called Carstens which is often very flinty. Until the introduction of motorised tractors this soil would have been difficult to plough. There is less evidence of field systems where there is Clay with Flint and its main use over time may have been as grassland and woodland. In his study of prehistoric field systems on the Berkshire Downs, Rhodes found that by area only 9 per cent lay on Clay with Flints although this occupied 35 per cent of the area (Rhodes 1950, 6).

Over time in the chalk areas arable farming causes Redzina soils to develop which are alkaline and low in nitrogen. They quickly lose their fertility when used for arable farming (Williamson 2003, 125). To maintain fertility the soils have to be heavily manured and, until the recent introduction of chemical fertilisers, the main source of this manure in the area was sheep dung.

Chalk soils tend to be thin and on steep ground this makes them susceptible to erosion. In a number of the field systems within the study area lynchets developed against a field bank constructed across the slopes to slow down the rate of soil erosion (the field systems on Burderop Down still survive as substantial earthworks).

Water

It is possible that in the past the water table may have been higher and that streams may have flowed out of the sides of the coombes. Today there are no streams, rivers or naturally occurring areas of surface water in the study area and there is little evidence of wells having been dug. The nearest streams are the Og 2-3km to the east, and the Winterbourne 2-3km to the west of the study area. Animals on the Downs, particularly cattle, may have had to be walked to these streams, possibly on a daily basis, to drink from them.

Dewponds were constructed to provide the necessary water for livestock in the 19th century and perhaps earlier (see Farming, below). Within the project area they would have been the main source of water for animals. In recent years the supply of water has changed. There is now piped water, wells have been drilled and bowsers have been brought in to fill tanks in more remote fields. The dewponds have been allowed to go out of use. A number have been completely filled in and aerial photographs taken in the 1990s show that none of the rest are being maintained.

Suitability of the study area for aerial photographic analysis

The whole area is covered by vertical aerial photographs. There are excellent photographs taken by the US Army Airforce (USAAF) in 1943 and 1944 (although the former are partially obscured by clouds) and good photographs taken by the Royal Air Force (RAF) in 1940, 1942 and 1946. There are later photographs from the RAF (1960 and 1967), Fairey Surveys Ltd (1971) and the Ordnance Survey (1973, 1974 and 1998). The Wiltshire County Council aerial photographs are from census surveys carried out in 1971, 1981, 1991 and 2001. Pan Government Agreement aerial photographs from 2002 and infra red photographs from 2008 were used in the AutoDesk mapping package and Google Earth was consulted for up to date vertical cover.

The oblique photographs are mainly of readily identifiable archaeological features in the area, such as the hillfort and the Burderop Down field systems. They include a number, collected by OGS Crawford, taken in the 1920s and 1930s.

Archaeological survey using aerial photographs is particularly effective in rural areas, where virtually the whole of the area is covered with grassland or arable fields. Therefore the Project Area should be ideal for aerial photographic analysis as it is mainly covered by free draining chalk soils and when these are used for arable farming they offer good potential for cropmarks and for soil marks (Wilson 2000, 58). Much of the area has been used for pasture for long periods, and there has been no large scale industrial activity, so there is a good chance that earthwork features will survive.

There are some small areas of woodland to the north and east of Barbury Castle which may obscure earthwork features. There is potential for archaeological prospection in these areas using airborne remote sensing techniques such as Lidar (Light Detection and Ranging) (Devereux 2005). However, no data was available for this project.

Cropmarks and soil marks are less likely to be seen in the areas of Clay with Flint because they are not free draining and therefore differential plant growth is less likely to occur. Formation of cropmarks of sub surface features in the bottom of coombes may be hindered by build up of colluvium as a result of soil erosion on the upper slopes. In an excavation at Down Barn, Fowler found early second millennium BC material under deep colluvial deposits (Fowler 2000, 222).

Archaeological features may have been destroyed or obscured by deep ploughing on the thin soils; extraction of gravel, flint, clay and marl; improvement work being carried out to level the land (such as in the areas used for horse gallops) or where the land is being allowed to revert to scrub or woodland (as on the ridge to the west of the gallops since the 1990s).

These factors may help explain a number of areas where, aside from post medieval dewponds, there are few earlier archaeological features visible on aerial photographs. This particularly applies to: the large coombe in which the gallops lie; the area to the north of Burderop Down; the ridge to the west of the gallops; and the high ground of Barbury Down and Barbury Hill to the east of Barbury Castle.

Accurate rectification of aerial photographs in some parts of the study area was quite difficult due to a lack of suitable clear control points. This is a reflection of the fact that the area is relatively empty of features such as roads and buildings. Different period OS maps also show that even modern field boundaries appear to have changed over time.

Previous archaeological investigation

Barbury Castle

At Barbury Castle excavations were carried out in the 1800s but limited information has been recorded from them (Bowden 1998, 1). Material was recovered from Second World War digging inside and around the hillfort by the military. A detailed survey of the interior of the hillfort was produced at the request of Swindon Borough Council, partly to assist the preparation of a long term management plan (Bowden 1998). A geophysical survey of the interior of the hillfort was carried out as part of the Wessex Hillforts Project along with surveys of a number of other hillforts along the Ridgeway (Payne 2006). The evidence from these excavations and surveys show that the hillfort was intensively used in the Iron Age. Although the surface of the interior appears very uneven on aerial photographs the only archaeological features that can be distinguished relate to Second World War activity.

Other surveys and excavations

NMR Monument Records confirm that analytical earthwork and field walking surveys were carried out in a number of locations around the study area by the Swindon Work Programme in October 1983 and by B and R Phillips in the 1990s on behalf of Swindon Archaeological Society. The finds from this activity have provided possible dates for some of the features surveyed.

A number of the barrows in the area were excavated by antiquarians but few records remain of what they found. The enclosures north of Barbury Castle were excavated by Maskelyne in 1886. He found Roman Samian pottery and also medieval pottery which led him to propose that originally the enclosures were constructed and used as settlement sites in the Roman period and then re-used in the medieval period for settlement or stock enclosures (Maskelyne 1887).

Across the gallops to the west of Barbury Castle Farm excavations were carried out by the Trust for Wessex Archaeology ahead of the construction of an oil pipeline in 1986 (Smith 1986). The excavations identified a number of potential field lynchets and banks and also a number of finds were recorded including a burial of a Roman woman. No evidence of any of these features was visible on the aerial photographs consulted.

Early archaeological finds

A possible Mesolithic axe head has been found near Barbury Castle. Neolithic flint tools and scrapers have been found west of Barbury Castle. The presence of readily accessible flints in the area may mean that the tools and scrapers were being manufactured where they were found or they may indicate some hunting or temporary / periodic occupation activity. However there is no visual evidence from aerial photographs of any occupation of the study area before the Bronze Age.

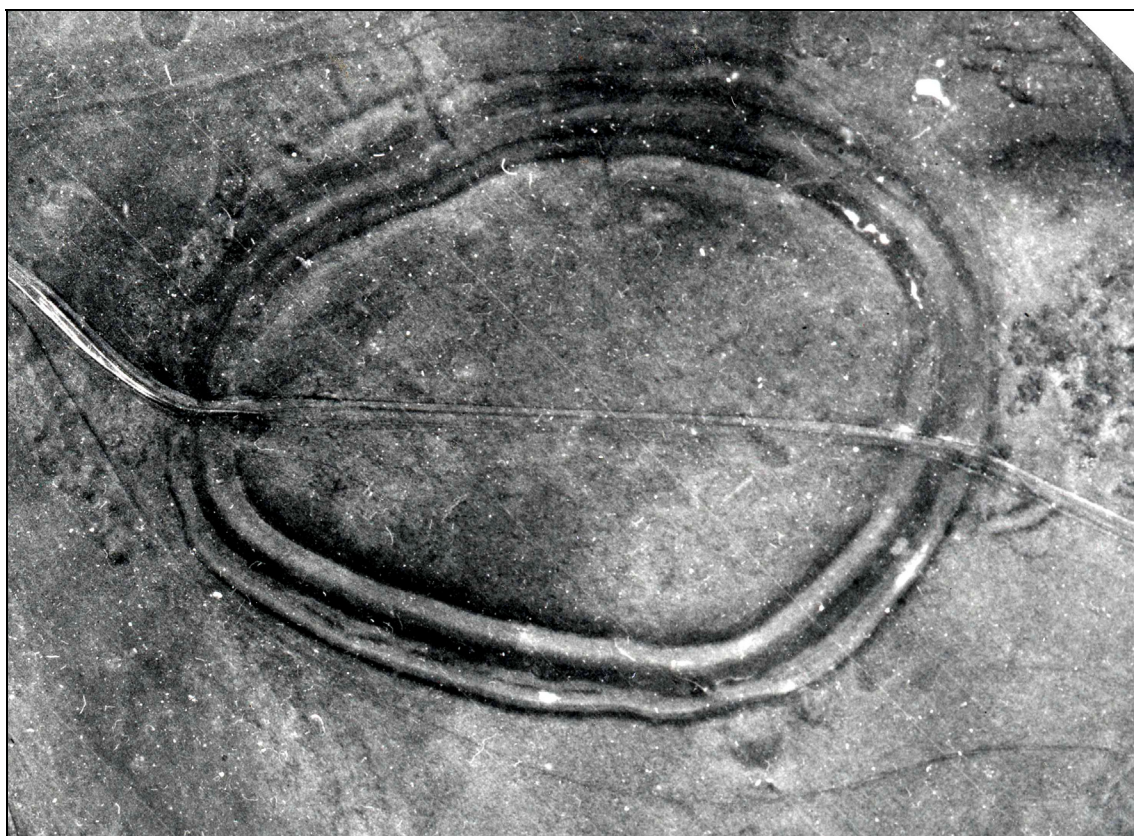
Summary

Previous investigation appears to have focused on the prehistoric to Roman period. With the exception of work carried out on the deserted medieval hamlet at Barbury Castle Farm, little attention has been given to the post Roman landscape in archaeological terms. Apart from the Wiltshire Victoria County History entries for the parishes in the area little historical research has been carried out on the area around Barbury Castle to date.

BARBURY CASTLE HILLFORT

Introduction

The most significant monument in the study area is Barbury Castle hillfort, which dominates the area (Fig 4). The name is thought to come from the Old English 'Beran byrig' meaning Bera's burh or fortified place (Dunscombe 1984, 12).



*Fig 4: Barbury Castle before it was altered during the Second World War
NMR SU 14 76/39 CCC 5214/08527 09-December-1931 English Heritage (NMR)
Crawford Collection*

Barbury Castle was built at the highest point of the western end of Barbury Hill. It was aligned in an east to west direction along the line of the ridge, with steep slopes on each side except in the east where the ridge top forms a plateau. The hillfort is intervisible with three other hillforts in the area: Liddington and Uffington to the west along the line of the chalk escarpment and Martinsell to the south west.

The white chalk of the newly constructed ramparts would have helped to make the hillfort highly visible. The whole of the inside of the hillfort could be seen by anyone approaching along the Ridgeway from the west. The hillfort would have appeared as a potent symbol and demonstrated that it was controlled by a powerful leader or group of people. This symbolisation of the power of the hillfort may have had a ritual aspect, maintaining the tradition of monumental structures built in the Bronze Age such as the nearby round barrows (Bowden 1985, 76).

Previous survey and analysis

The morphology, development and potential use of Barbury Castle hillfort is covered in some detail in *The Wessex Hillforts Project* (Corney 2006a, 98-103) and in Mark Bowden's *Barbury Castle Archaeological Survey Report* (Bowden 1998). These earthwork and geophysical surveys complemented each other (Bowden 1998, 8) and showed that Barbury was more heavily used compared to some of the other hillforts along the Ridgeway. The earthwork survey identified up to thirty-five possible hut circles, which tended to be clustered towards the east of the hillfort, (Bowden 1998, 6) and the geophysical survey found another possible five (Payne 2006, 102). The geophysical survey found that the whole of the interior contained thousands of pits, which were probably used to store grain for sowing in future years (grain for consumption was usually stored in granaries) (Brown 2009, 147).

Features visible at Barbury Castle

The use of aerial photographs taken in the 1930s and early 1940s allowed the outline of the hillfort to be mapped before it was altered by military activity towards the end of the Second World War (Fig 5).

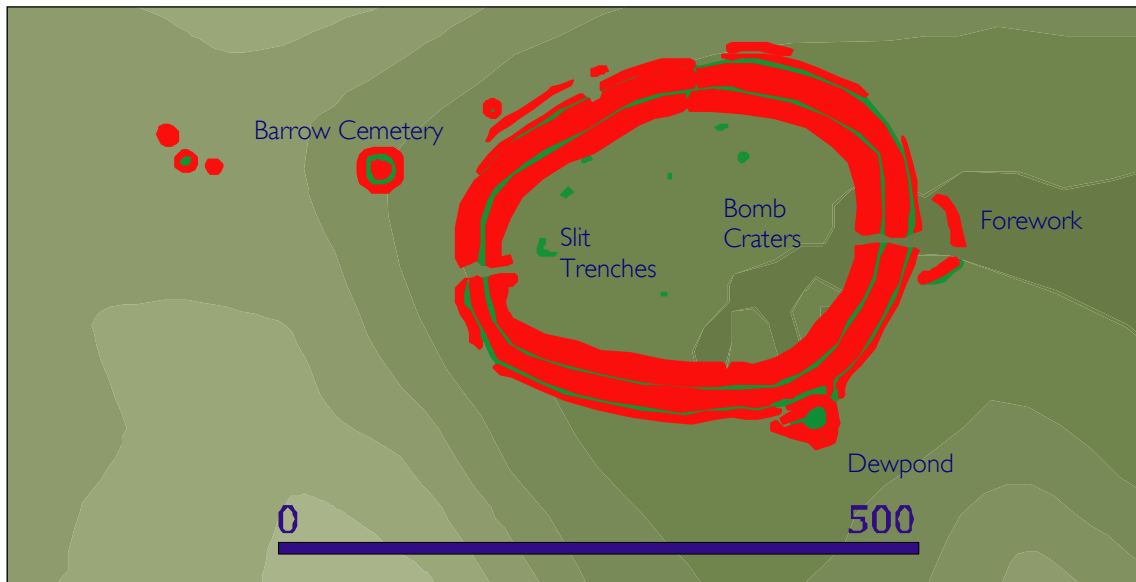


Fig 5: Barbury Castle with features visible on aerial photographs

The hillfort was built near, and possibly on, a Bronze Age barrow cemetery (Fig 5) which suggests that this was already a significant ritual point in the landscape. The positioning of the hillfort may partly have been intentional to maintain the ritual importance of the area or it could have been to mark a territory already defined by the location of the barrows (Brown 2009 29).

At the eastern end of the hillfort are the remains of a forework (Fig 5). The odd angle of this forework and the fact that it appears to be overlain by the construction of the hillfort ramparts and ditches led Bowden to suggest that it could have been the remains of a Bronze Age enclosure (Bowden 1998, 4). Bowden also suggested that the outer bank and ditch on the north side of the hillfort may also be the remains of a Bronze Age

enclosure (Bowden 1998, 7). By the 1930s the northern side of the forework had been largely flattened by ploughing and quarrying but its shape was still just visible (Fig 4).

Barbury has relatively elaborate entrances at the east and west and both appear to have been kept open. This may be unusual as second entrances at Liddington (at the west end) and Uffington (at the east) were closed between 400-300 BC (Brown 2009, 137). The eastern entrance at Barbury would have been approached over the flat ground of the ridge top and the forework in front of it may have made it the 'principal' entrance, with higher symbolic importance (Bowden 2005, 160). Although the ramparts in-turned at the western entrance, it was less elaborate and this may be because the inside of the hillfort itself was visible to people approaching along the Ridgeway from the west. Both entrances were badly damaged by widening work carried out towards the end of the Second World War (Bowden 1998, 16).

The ramparts of the hillfort are substantial. Based on the pattern at other hillforts it is likely that the inner rampart was constructed first (Bowden 1998, 22). This probably took place in the Early / Mid Iron Age and at this stage Barbury Castle would have been similar in form to other hillforts along the line of the Ridgeway, such as Liddington and Uffington to the east. At a later date Barbury Castle was 'developed' into a multivallate hillfort by the addition of a full second rampart outside of the original (Bowden 1998, 22). Such developments at other hillforts such as Danebury, suggest this may have been around 400BC, in the Middle Iron Age (Bowden 1984, 77). The outer rampart shows signs of severe damage from quarrying, which suggests it may have been faced with desirable materials, such as sarsen stones (Bowden 2005, 159).

Developed hillforts are relatively rare in Wessex compared to univallate forms of hillfort (Corney 2006a, 99). Second ramparts were not built at Liddington and Uffington and they may have no longer been in use when this happened at Barbury. The building of an additional rampart may have signified a period of greater tension which required an improved defensive capability, although it is not clear why Barbury needed to be defended but not other nearby hillforts, or it could have been constructed as a statement of power by the local population. Hillforts were not a single social development through the Iron Age but a building tradition with variations in response to different local conditions at different times.

When the American troops were widening the entrances in the Second World War, A D Passmore saw evidence of layering which indicated that the height of the ramparts had been increased. Two burials found during the widening work have been dated to the early medieval period and may indicate that the ramparts were heightened at this time (Bowden 1998, 11). These enhancements and burials suggest that hillfort may also have been occupied for a period and the Battle of Beranburgh (the Saxon name for Barbury Castle) is believed to have taken place nearby in 556 AD (Dunscombe 1984, 12).

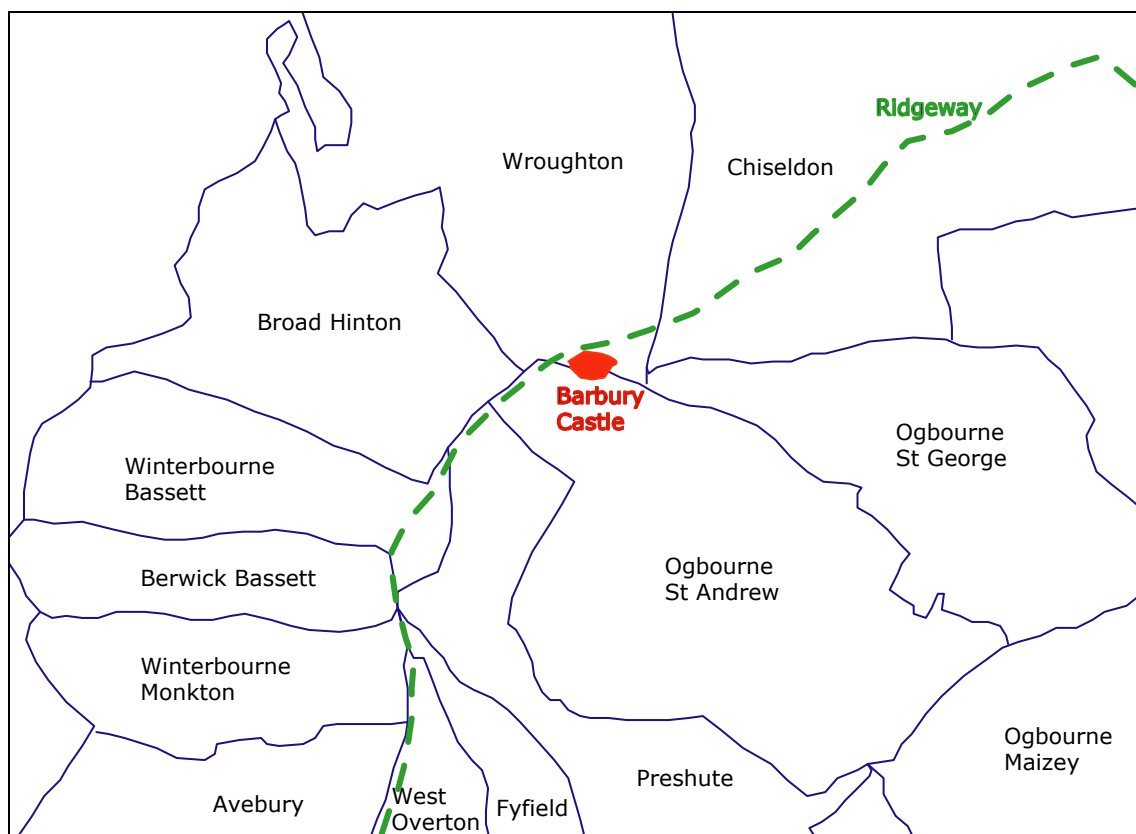
There is evidence from aerial photographs of military activity in the hillfort during the Second World War, including bomb craters and slit trenches. The hillfort was used by the British Home Guard and the US Army (see Second World War, below).

Barbury's position in the broader area

The available evidence suggests that the area around Barbury Castle has always been a relatively sparsely populated area, primarily used for farming. However, in the Iron Age the local population appear to have needed to demonstrate it was an important place by investing great effort in building the original hillfort and, in particular, substantially developing it around 400 BC. Its importance had probably already declined even before the Romans arrived and it then reverted back to its traditional role as a marginal area.

There are a number of possible reasons for this heightened profile in the Iron Age including the possible intersection of territorial areas and the control of communication across the area. It may also have reflected the particular power and cohesion of the tribe or tribes living in the area. There is evidence from archaeological finds that status, prestige and display were very important to a possible 'warrior-based' society at this time (Brown 2009, 193).

Six parish boundaries intersect in the area around Barbury Castle (Fig 6) and one passes through its centre (this was also the boundary between the Saxon Hundreds of Blagrove and Selkley). This may reflect an older territorial division of the area and it is possible that the hillfort was deliberately located at a point where a number of different tribal territories met.



*Fig 6: Parish boundaries in the North Marlborough Downs
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100019088. 2009*

Mark Bowden has suggested that hillforts on the Marlborough Downs, such as Barbury Castle, “occupy positions on the edges of the high ground, overlooking the vales on either side” and appear to be a “deliberate choice of this liminal positioning, exploiting and perhaps in some way controlling the resources of both the uplands and the lowlands” (Bowden 2005, 161). Barbury’s construction may therefore have been associated with inter-territory and inter-group connections, as was also suggested at Uffington Castle (Miles et al 2003, 127). The layout of the parish boundaries in the early medieval period shows that the ridge line was still being used as a dividing line between communities, albeit that the area was crucial in supporting the mixed farming regime they were pursuing.

Barbury Castle was well positioned to control communication in the local area (Fig 7) and in particular movement along the Ridgeway (see Communications below). Hillforts may have been built to control inter regional routes of trade (Brown 2009, 197). Barbury would have controlled passage east to west along the Ridgeway and also access to the Marlborough Downs from the Upper Thames Valley and Cotswolds to the north. Barbury and Liddington may have been deliberately paired to control access along the valley of the River Og, an important route south through the Marlborough Downs (Brown 2009, 203).

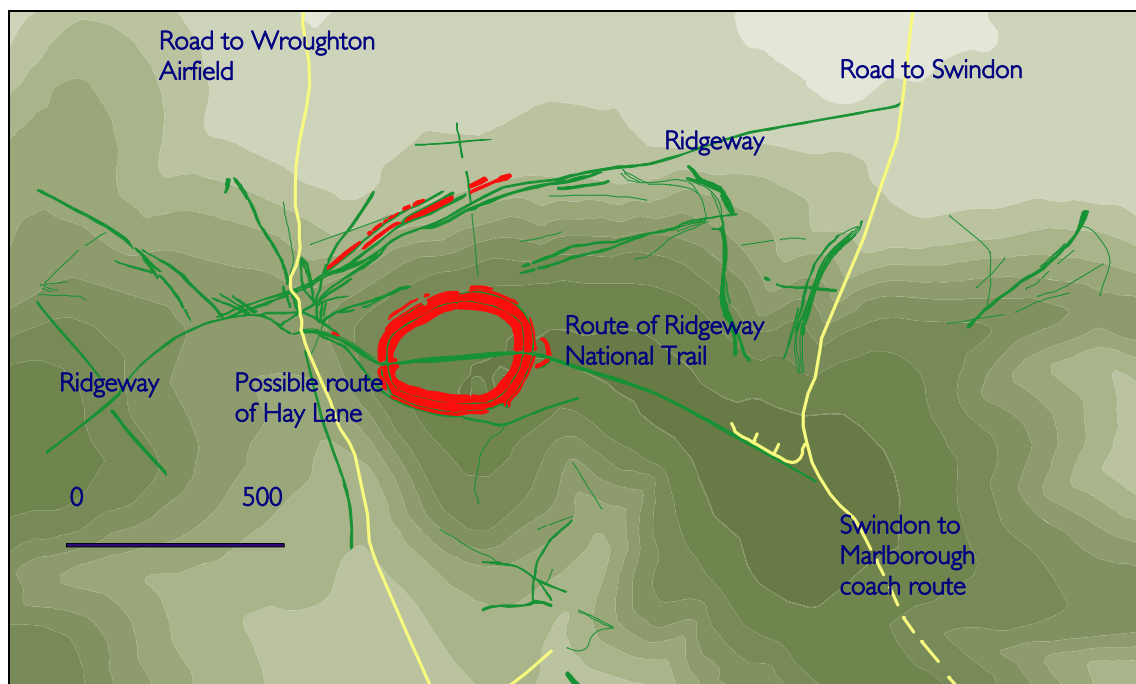


Fig 7: Barbury Castle in relation to local trackways

The large number of pits found inside the hillfort by the geophysical survey meant that the grain for many farmers could probably have been stored. Although not all of the pits would have been in use at the same time, their number suggests that Barbury may have been a key focal point for the population of a large surrounding area. Fowler believes that this area extended as far as All Cannings in the south (Fowler 2000, 226). It is likely to have extended to the Og valley in the east and to the line of small hillforts along the next scarp edge (Bincknoll, Ringsbury and Blunsdon) to the north.

Barbury would also have been a convenient point to bring together the large herds of cattle and, particularly, sheep which were being kept on the Marlborough Downs in the Mid Iron Age (see Farming below). This could have happened to keep them safe during periods of local conflict or to carry out activities such as breeding, lambing and slaughtering at certain times in the year.

Communal effort seems to have been important in prehistoric society and the development of the hillfort could have been carried out as an expression of the strength and cohesion of the local community (Brown 2009, 195). The effort required to build both phases and to maintain the banks and ditches would have been considerable, even if the work was only carried out intermittently and fitted around other activities.

Conclusion

In comparison with other local hillforts Barbury Castle was the only one to be developed into a multivallate hillfort. It was also intensively used and prominently sited. This suggests it was of great significance to the local population and may have met a range of their needs including providing security, safe storage of grain and animals, control of movement and trade and possibly settlement. It would also have been a clear demonstration of the power and cohesion of the local community living in the area and could possibly have helped to meet some of their spiritual needs.

Without evidence from excavation it is not possible to say from the ground, geophysical and aerial surveys if Barbury Castle was occupied on a permanent basis for any period of time. Located at 260m and in a very exposed position, it may only have been used on a seasonal basis, possibly for trading, to hold feasts and ceremonies or at key points in the agricultural calendar.

FARMING

Introduction

Without human interference the study area would almost certainly be covered in woods. Environmental evidence collected by Gingell suggests that the Marlborough Downs were largely cleared of woods by the Late Neolithic (Gingell 1992, 148). Fowler found that by the Early Bronze Age much of the downland to the south was open as a result of arable and pastoral activity and that the remaining areas of trees and bushes tended to be confined to areas of Clay with Flint (Fowler 2000, 217). The construction and use of field systems, and the rotation system thought to have been used, would have maintained the cleared areas when in arable or when grazed.

Since the Bronze Age the survey area has been used almost exclusively for farming. The aerial survey has identified aspects of both arable and the predominant pastoral agriculture, such as linear boundaries, stock enclosures, sheep folds, dewponds and a number of field systems.

Pastoral agriculture

Introduction

Sheep are more suited than cattle to feed off the short grass sward that grows on chalk downland (Brown 2009, 128). As well as providing meat, milk and wool, sheep were needed to fertilise the soils. They were folded onto open fields after the harvest and during fallow periods to help manure them to maintain their fertility (Williamson 2007, 95). The Wiltshire Horned sheep was specifically bred to produce milk, meat and manure and not kept for wool (they were bred to only drop their dung at night when they had been brought onto the fields) (Smith 2005, 193).

Evidence of pastoral activity in the area includes land division features, dewponds to provide water and stock enclosures / sheep folds. There is little evidence of settlement activity associated with tending the animals.

Land division

By 500 BC the central Downs were probably exhausted and the climate was poor so the area may largely have been abandoned for arable farming (Fowler 2009, 54). The short grassed downland was well established and there was limited woodland. Linear ditched boundary systems began to be constructed throughout the Wessex chalklands from the later Bronze Age and early Iron Age, possibly to control the grazing of animals or, on a larger scale, defining social boundaries (McOmish et al 2002, 56, 64). Many of these linear earthworks were focused on hillforts on the Downs and defined areas of 6-7km in length and 2-3km in width (Kirkham 2005, 150).

A possible example in the Project Area runs north to south across the ridge of Barbury Down east of Barbury Castle (Fig 8). An interesting feature of this ditch is that it appears to have created two zones. To the west were the hillfort and a Bronze Age barrow cemetery. To the east were possible field systems and on the ridge top an area which appears to have been empty of any man made structures. This possibly suggests that the ditch may have had some ritual significance.

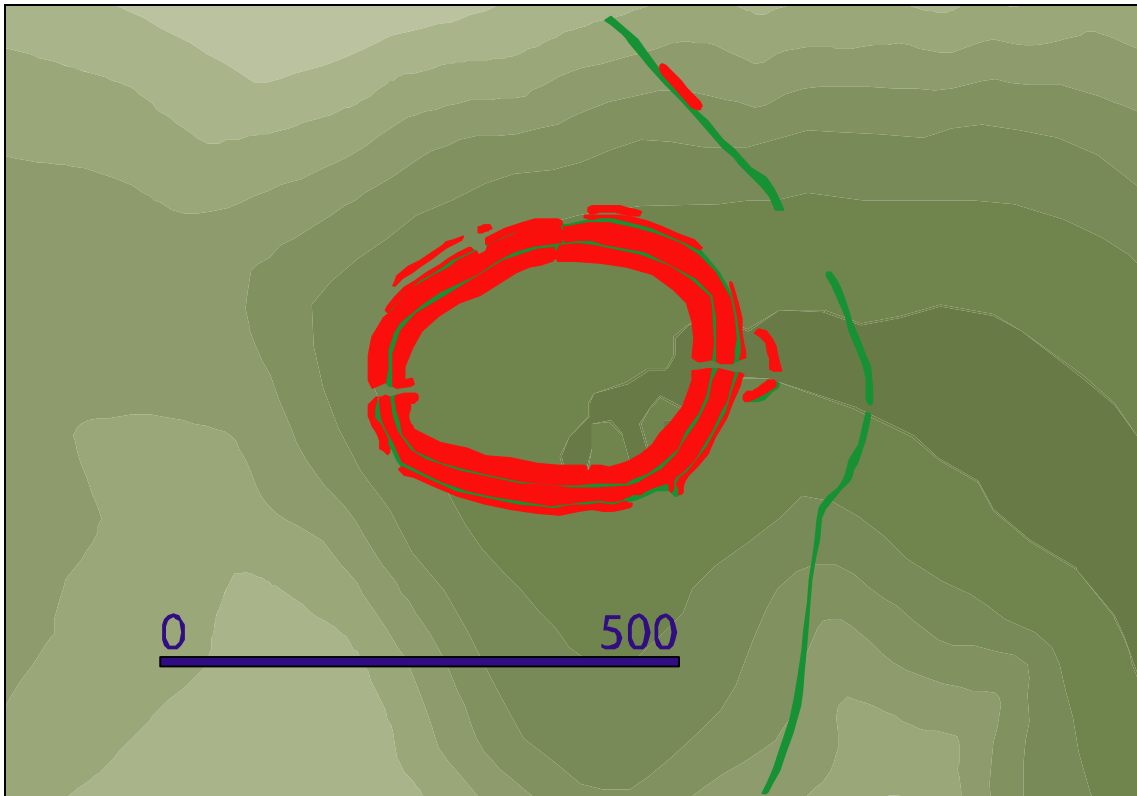


Fig 8: Linear boundary to the east of Barbury Castle

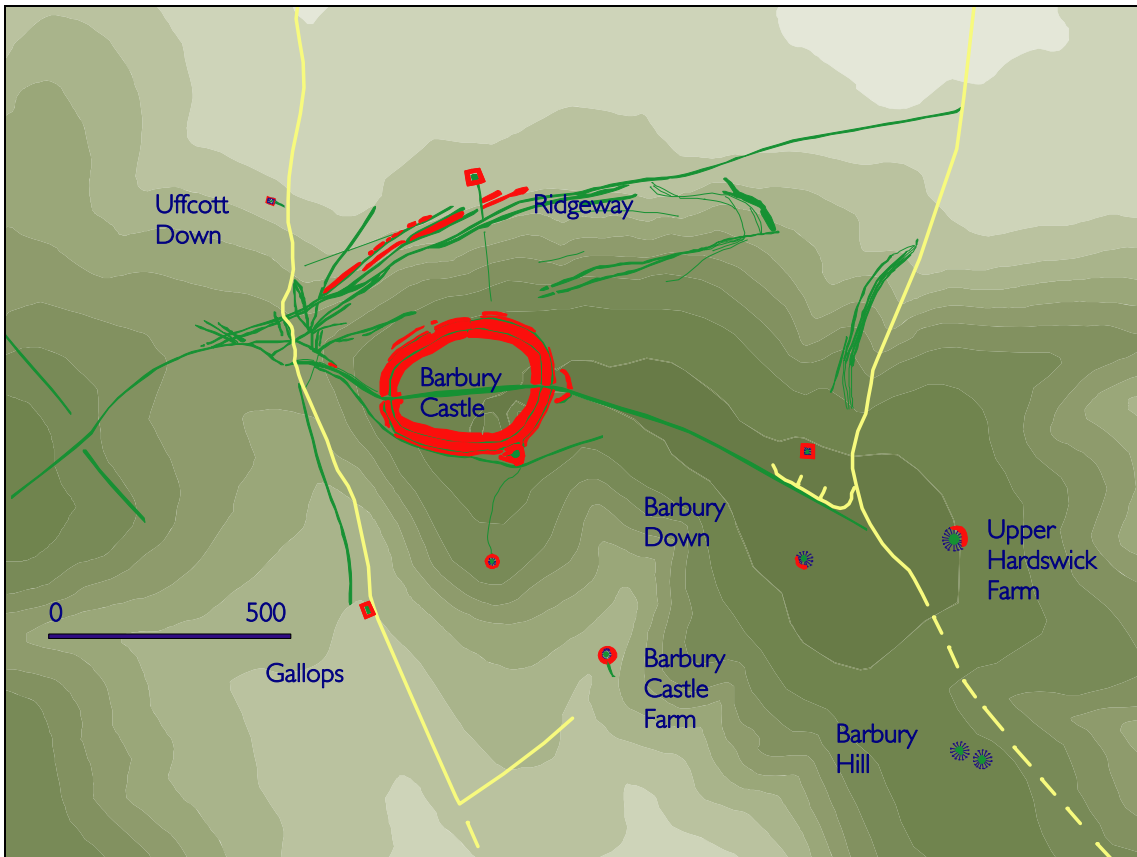


Fig 9: Dewponds in the project area

Dewponds

Eleven dewponds have been identified by the project (Fig 9) but were not previously recorded. They take two main forms: square and round. The different shapes could possibly be due to their construction and maintenance by different families operating in the area. The Cruse family of Imber on Salisbury Plain were known for their square ponds (Bowden 1998, 12) and the Smith family of Market Lavington were also well known pond builders (Smith 2005, 198).

The dewponds were generally surrounded by banks and inside the ground was scarped down to a central pond. For example, the circular pond at Upper Hardswick Farm was 36m in total diameter but the central pond was only 20m diameter. The exterior of the square pond north of Barbury Castle was 30m wide but the pond was only 12m wide. This helped widen the catchment area when it rained. The ponds themselves were usually lined with clay, concrete, rammed chalk or pitch. The sides were made up to protect the lining from damage by the animals (Smith 2005, 199).

There is no evidence of a pattern to the distribution of square and circular ponds. However, it is noticeable that most of the ponds would have been near to trackways or roads (see Fig 9) and may therefore have been used to help water animals being driven across the area. Many sheep droves existed across the Marlborough Downs. Some were used by the local villages to move sheep on and off the Downs, while others were long distance route ways to take sheep to markets (Smith 2005, 193). The Ridgeway crosses the area and was probably used as a long distance drove way. There are a number of pathways and tracks that branch off from it, including the track through Barbury Castle which then carried on towards Smeathe's Ridge.

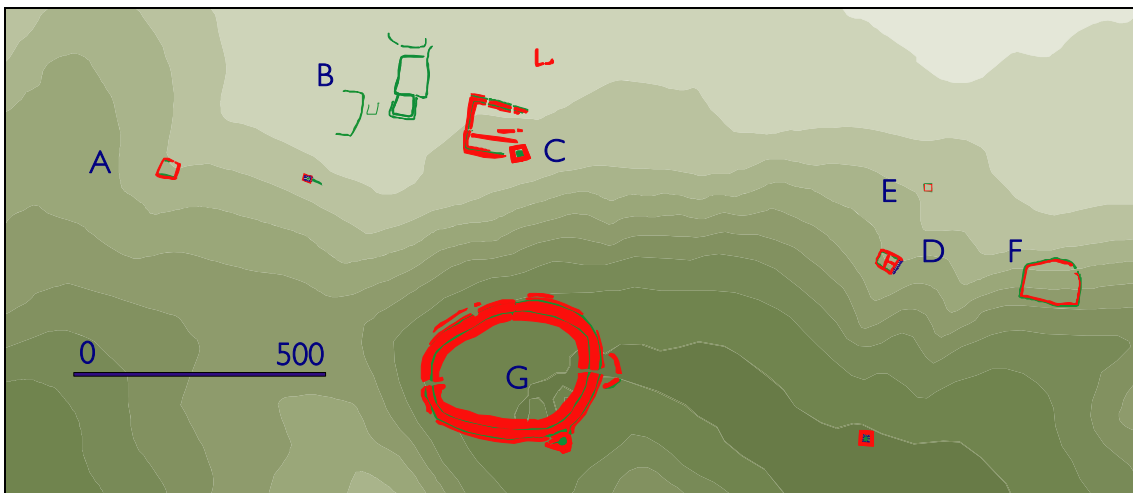
Some ponds were probably of an early date, possibly even going back to the Mid Bronze Age (Smith 2005, 199). It is likely that the deserted medieval settlement at Barbury Castle Farm would have needed a pond. The large pond immediately to the south-east of Barbury Castle existed in 1752 (Bowden 1998, 12). Most of the dewponds were probably constructed or improved in the 19th century when new breeds of sheep were introduced to be fattened for meat and were kept on the Downs permanently. The dewponds meant it was no longer necessary to move the sheep long distances daily to find water (Smith 2005, 199). A number of the ponds, such as the ones on the gallops and near to Upper Hardswick Farm, may also have been used by horses in training in the area.

Stock enclosures / Sheepfolds

Stock enclosures and sheepfolds were needed during lambing, counting and slaughter and, at times, for safety. An ideal arrangement would involve 3 folds: for ewes, wethers (castrated males) and hogasters (yearlings). Typically in Wiltshire the sheepfolds were sub square or sub-rectangular, defined by a small bank and outer ditch and ranging in size from 30sqm to 200sqm. They may have had a shepherd's hut next to or inside them. Usually there were no gaps or entrances in the banks and ditches. Flanking banks to aid herding of sheep are a common feature (Smith 2005, 194).

Enclosures are difficult to date unless they overlie or are overlain by features that have been dated through excavation. Dating is especially difficult where the only evidence is cropmarks. Even with excavation there may be few dateable finds. Where there are finds the results may be inconclusive as the enclosures may have been re-used for different purposes, or because earlier pottery may have been turned up by later construction. Dating therefore tends to be based on comparison with other morphologically similar sites.

Seven possible individual or groups of sheepfolds were identified by the aerial survey (Fig 10). These take a number of forms. Some may have been purpose built (A and E), some may be the result of modification of former stock enclosures or settlement sites (B, C and D), possibly including Barbury Castle (G), and one may only ever have been a plantation enclosure (F).



*Fig 10: Possible sheep enclosures and dewponds north of Barbury Castle
The group of Middle Iron Age / Roman (possibly re-used in the medieval period) ditched enclosures (B) show as cropmarks on aerial photographs (Fig 11).*

The size and shape of the enclosure on Uffcott Down (A) suggests that it was built as a sheep pen in the medieval period.

To the north of Barbury Castle there is a complex of ditched enclosures (B in Fig 10 and Fig 11). This complex extends to the north outside of the Project Area where there are cropmarks indicating two more possible enclosures. The rounded rectangular shapes suggest that the enclosures were built in the Iron Age / Roman period as settlement or stock enclosures. It is possible these were reused and modified in the medieval / post medieval period (medieval pottery was found by Maskelyne when he excavated the area). The arrangement of the curved ditch and the extending ditch from the rectangular enclosure (Fig 11) appears to create a trackway and funnel to control the movement of animals in and out. The same could be said for the double ditched arrangement of the smaller enclosure attached to southern side of the large enclosure. There is no evidence in the NMR records of other double ditched rectangular enclosures on the Marlborough Downs.



*Fig 11: Cropmarks of enclosures north of Barbury Castle
Detail from NMR SU 1476/66 NMR 21550/36 15-APR-2002 ©English Heritage (NMR)*

Similarly, the large, banked enclosure (C in Fig 10) may have started out as a Roman settlement site (see Settlement below) but may have been re-used in the medieval period and later as a stock enclosure for both sheep and cattle. This may be why a dewpond was built into the southeast corner.

A number of possible sheepfolds are located on Burderop Down (D, E and F in Fig 10). The two enclosures on the western side of Burderop Down are difficult to date because they do not overlie any other feature. The enclosure to the south (D) lies between and abuts a possible Iron Age/Roman field system to the west and a medieval field system to the east. It had internal divisions, which suggests it could have been an early small farmstead, with structures and a yard, perhaps associated with the field systems. Alternatively they could be medieval or post-medieval sheepfolds, possibly with a hut for the shepherds. The enclosure to the north (E) had a narrow uninterrupted bank and ditch which, from other examples on the Downs, may suggest it was used as a sheep pen and was of medieval date.

A D-shaped enclosure (F) clearly overlies the Iron Age / Roman field system on Burderop Down and therefore must be of a later date. From its form and location it is possible that this could have been a medieval or post medieval stock enclosure. The enclosure is recorded on early OS maps as a plantation enclosure, and a few trees still survive on its

banks. Old OS maps and early aerial photographs show that the bank and ditch was uninterrupted (the gap in the northeast corner shown above was made by agricultural practices since the Second World War).

Barbury Castle (G in Fig 10) may also have been used as a large sheep enclosure at different times in its history (Smith 2005, 194). This may explain why there are few other large sheepfolds in the area and why the large pond was built on the outer rampart in the southeast corner (Fig 5 and see Dewponds above). The pond was made into a dewpond in the 19th century and there is a trackway across the rampart from the pond into the centre of the hillfort.

From the 13th century sheepcotes were often built on upland pastures to shelter the sheep in the winter and in bad weather (Smith 2005, 197). They had long and narrow but substantial footings (in the Cotswolds they were 23-65m long and 6-8m wide) and often they were near to dewponds. Sheepcotes were found by Fowler on Fyfield and Overton Down (Fowler 2009, 74 and 157) but there is no evidence of any in the project area. This may be due to the fact that any remains left are too slight to identify from aerial photographs or that the sheep were being kept outside the area in the winter, inside structures within the hillfort (the evidence for which has been obscured by all of the other activity within it) or in the farm buildings at Barbury Castle Farm.

Summary

The study area appears to have been used for grazing of animals, and in particular sheep, for the last 4,000 years. This has happened over most of the area and has helped to maintain the characteristic grassland appearance of an area of chalk downland. Animal grazing has also provided the area with archaeological features such as Iron Age boundary ditches, Iron Age to post medieval stock enclosures and sheep folds and post medieval dewponds.

Arable farming

Introduction

There is evidence of extensive and long term use of the Marlborough Downs for arable farming, especially of the central coombes from the Mid Bronze Age onwards (Gingell 1992, 153). On chalk, arable farming is not sustainable in the long term (Fowler 2000, 234) as the soil suffers from nitrogen deficiency. This is why using sheep to manure the soil was so important. The thin soil is also susceptible to erosion, especially on sloping ground where ploughing increases the rate of soil creep (Allen 2007, 28-29).

In the Bronze Age the climate was warmer than today and arable farming was able to extend onto the high downland areas (Fowler 2000). There have been long periods when the climate was cooler and wetter, such as the Mid Iron Age and for most of the medieval and post medieval, which made arable farming more marginal in the area (Fowler 2000).

These factors have aided the preservation of field systems on chalk downland. The long periods of pastoral farming have meant that earlier field systems have not been ploughed out. Trying to prevent further soil erosion led farmers in the past to resort to building up

banks along fence lines and field edges, against which lynchets have developed, in some cases to a substantial size and this has helped them to survive.

Aerial photographs are a useful tool for identifying the patterns of field systems, which may be difficult to comprehend at ground level because of their scale. In this project a number of field systems have been identified in the study area (Fig 12), some of which had not been identified before (for example the central system on Burderop Down) and some which have been mapped in more detail than on the Ordnance Survey maps (for example the systems on Uffcott Down).

Without field walking or excavation evidence it is difficult to date field systems, particularly only using aerial photographs. This is partly due to the fact that the same area may have been re-used a number of times but with different ways of ploughing or using the land. Features such as lynchets may have taken many years to build up and may therefore show that the field was being used, possibly on and off, for a very long time (Bowden 1991-3, 110). Dating can be suggested by morphological comparisons and by looking at the context of the field systems in the landscape.

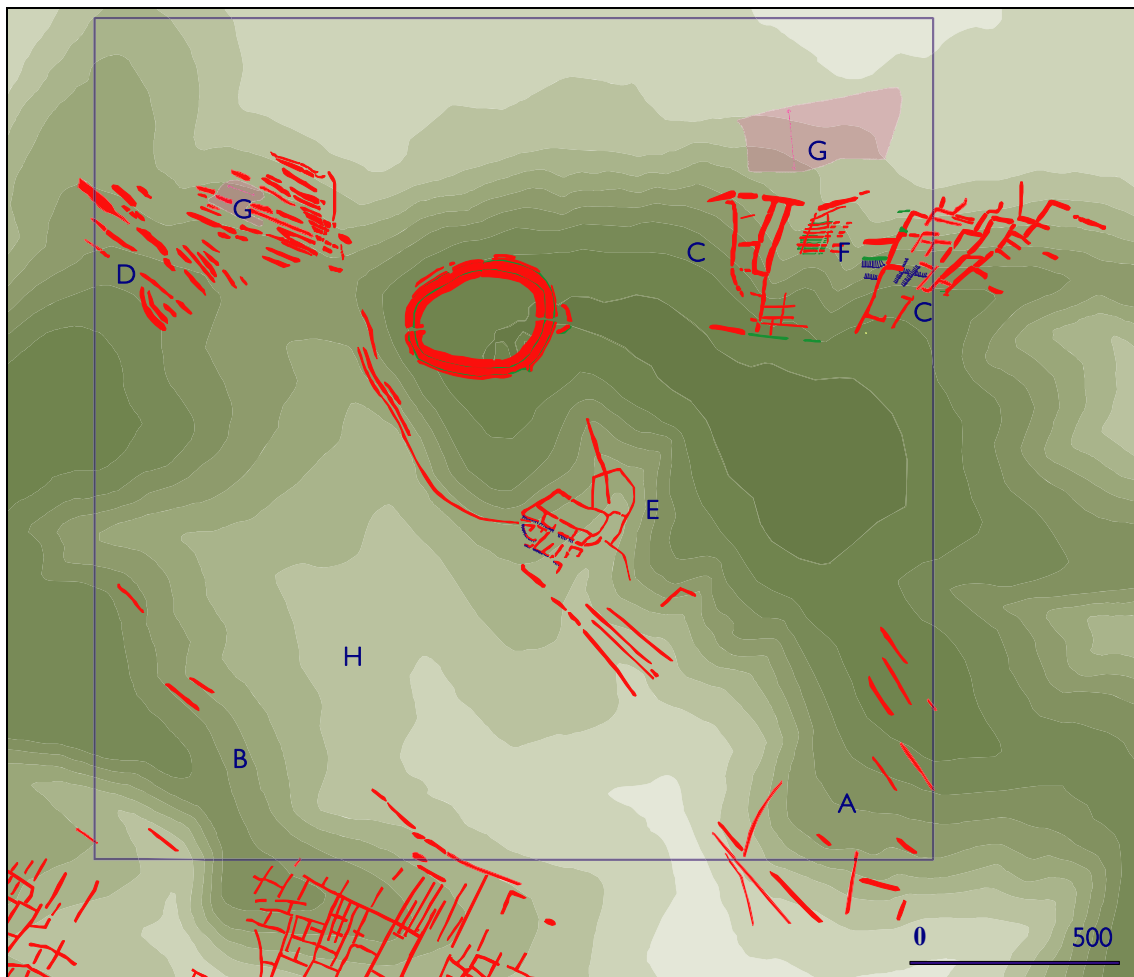


Fig 12: Possible field systems in the project area

Field systems in the survey area

The field systems appear to fall into 5 groups:

1. Coaxial systems with prominent lynchets forming square and rectangular fields best shown on Ogbourne Maisey Down (A), Preshute Down (B) and Burderop Down (C) (in the last two areas the remaining lynchets appear to be fragments of a former coaxial system)
2. Systems with banks/lynchets following the lines of the contours best shown on Uffcott Down (D)
3. Field system around Barbury Castle Farm (E)
4. Systems with ridge and furrow running down a slope best shown at the centre of Burderop Down (F)
5. Narrow ridge and furrow with slighter banks and ditches set more closely together as shown north of Burderop Down and on Uffcott Down (G).



Fig 13: Looking east across the field systems on Burderop Down. Two areas of coaxial field systems are visible at the top and bottom of the photograph. Between them is an area of narrow ridges and furrows which are aligned down slope on the steep eastern side of the coombe (the track marks cutting across this area are possible former coach tracks – see Communications below). Detail from NMR SU 1476/66 NMR 21550/36 15-APR-2002 © English Heritage (NMR)

Coaxial fields

Coaxial field systems with lynchets are usually dated to the Mid Bronze Age through to the Roman period and they are often generically referred to as 'Celtic' field systems (Lawson 2007, 268). They characteristically comprise arrangements of parallel and perpendicular banks that combine to form groups of small fields with a common axis. These small square or rectangular fields were suited to cross ploughing with the light ard in use for most of this period (Dark 1997, 94). Several examples were mapped by the

aerial survey on Burderop Down (C) and field systems on Ogbourne Maisey Down (A) and Preshute Down (B) were extended.

The field systems identified at the southern end of the study area (A and B) are possible extensions of larger field systems further to the south which have been recorded as Late Bronze Age field systems. Alternatively they may be the remnants of medieval contour ploughing perhaps carried out by the occupants of the medieval settlement at Barbury Castle Farm.

There are two coaxial field systems on Burderop Down (C on Fig 12, and Fig 13). They have mainly rectangular shaped fields up to 160m long and 20m wide. They are orientated on a line south-south-west to north-north-east down the north facing edge of the upper chalk escarpment. They may originally have been built in the Bronze Age but their size and shape suggests they were built or substantially modified in the Iron Age / Roman period. In this period the climate was warmer allowing an expansion of arable farming. The population living in the area may have reached a maximum at this time (Fowler 2009, 67). The production of surplus grain is thought to have been needed to feed the growing urban populations and the relatively large standing Roman army in Britain (Gaffney 1989, 241). There is evidence that in the Roman period new field systems were created and Bronze Age and early Iron Age ones brought back into use (Dark 1997, 95).

The Berkshire Field Research Group carried out excavations of a number of lynchets in 'ancient' fields on the Berkshire Downs. They found that long narrow parallel sided fields, with or without sub-divisions, were Roman in origin. They also found that square or irregular shaped fields could be of Roman date (Bowden 1991-3, 130). The Roman field systems had virtually obliterated any earlier field systems.

The aerial photographs show no evidence of coaxial field systems in the south facing coombe to the south west of Barbury Castle (H on Fig 12). However, during the construction of an oil pipeline through the area, four linear ditches and possible lynchets of a field system were found (Smith 1986). It is therefore possible that this area did once contain field systems but they have been destroyed by ploughing, gravel extraction, and / or by 'improvement work' carried out to create the horse gallops in the area.

Contour fields / Strip lynchets

An area of long strips with lynchets following the contours is located on Uffcott Down (D on Fig 12). A new plough with coulter and mouldboard was introduced in the late 9th to 10th century. This made ploughing the land easier and, because of the way it was carried out, led to ridges and furrows developing. Large plough teams were needed to pull the new plough and it was easier to plough long thin strips rather than small square or rectangular fields (Fowler 2000, 236). Medieval strip lynchets following the contours are common on the fringes of areas of chalk (McOmish et al 2002, 114). The Uffcott Down fields may have been being farmed by the occupants of the medieval settlement at Barbury Castle Farm (Crowley 1993, 147).

However, it should be noted that Iron Age and Roman pottery sherds were found in 1972 by the Swindon Archaeological Society, and previously by Owen Meyrick, in the

field system at Uffcott Down (see Wilts CC SMR SU 17 NW 203). This may mean that the medieval field system reused, or was laid out over, an earlier field system.

Barbury Castle Farm

There is some evidence of field systems around the deserted medieval settlement at Barbury Castle Farm (E on Fig 12). Close to the settlement were three enclosed fields, possibly used for pasture for the animals when they were brought into the settlement. Further out there is evidence of lynchets which also follow the contours.

It is likely that the people living in the settlement would also have had fields on the area of the gallops (H on Fig 12) but evidence of these has been destroyed by possible gravel extraction, later ploughing and /or improvement work carried out to create the horse gallops.

Around AD 1316 marginal arable farming areas around Fyfield, such as a farmstead at Raddun, were abandoned after a number of years of poor harvests due to bad weather (Fowler 2009, 117). The hamlet at Barbury Castle Farm may also have been largely abandoned at this time for the same reason. By the 16th century Barbury Castle Farm was recorded as being a single farmstead and in AD 1585 a flock of sheep of 500 sheep were being kept by which time 50% of the farm was pasture (Crowley 1998, 147).

Down slope ridge and furrow

The banks defining a field system on the central area of Burderop Down are orientated at right angles to the contour so that they run up and down rather than along the steeply sloping side of the coombe (F on Fig 12). The banks are set more closely together (6-8m apart compared to 30m) and are narrower (3m compared to 13m) than the banks of the coaxial field system to the west on the other side of the coombe. The field system appears to be medieval in date because at the base of the slope the banks overlies older lynchets which are aligned with the field system to the west but at the top of the slope they are overlain by tracks which are believed to be post medieval in date. Within the banks there is evidence of ditches which may represent a later period of use of the area.

Narrow ridge and furrow

In the 20th century work was carried out to improve the fields (Gingell 1992, 153) and this led to the development of narrow ridge and furrow, often the result of using steam ploughing systems, and there is a possible examples of this in the study area north of Burderop Down and on part of Uffcott Down (G on Fig 12).

Conclusions and the future

There are a range of different field systems evident in the study area (Fig 12) but it is difficult to suggest dates, especially where some have been re-used at different times.

The Avebury WHS NMP project (Crutchley 2005, 39) found the area of Preshute Down, to the south of the study area discussed here, to be more densely covered with field systems. The lower level of activity evident in the study area could mean that less arable farming took place here, due to the more extensive coverage of heavier clay soils and the steeper topography. However, it is also likely that much of the evidence for field systems

has been removed by activities such as modern ploughing, gravel extraction or levelling of the land for the horse gallops.

Since the Second World War there has been extensive ploughing for arable in parts of the area. This has resulted in the destruction of many sites such as barrows and field systems. For example, two barrows on Burderop Down were visible in aerial photographs as earthworks in the 1940s but by the 1990s were only visible as cropmarks.

Much of the study area is now covered by Countryside Stewardship Schemes and it is also within an Area of Outstanding Natural Beauty. These are intended to limit the environmental damage caused by the agriculture being undertaken in the area. For example, Burderop Down is now only used for pasture. The area of Barbury Castle Country Park is covered by a management plan to protect the wildlife, fauna and archaeology within it. The area to the north of Barbury Castle is part of the extent of the Great Western Community Forest around Swindon, although there currently appear to be no plans to plant new woodland in the immediate vicinity.

SETTLEMENT

Introduction

There is little evidence from earthwork or cropmark remains that the project area has ever been heavily populated. The few examples of settlement in the area include the Iron Age Hillforts and a deserted medieval settlement (Fig 14). Even Barbury Castle is only likely to have been occupied for short periods or on a seasonal basis (see Barbury Castle Hillfort above).

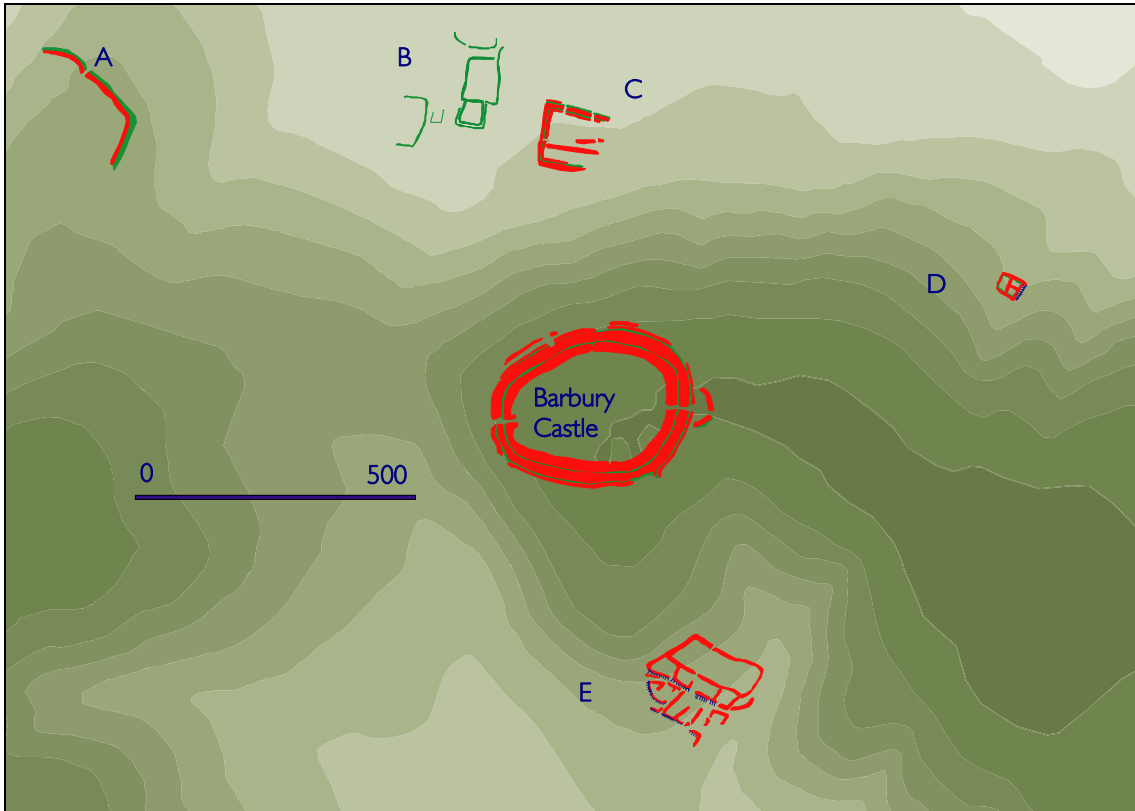


Fig 14: Possible settlement activity in the project area

A lack of intensive long term, permanent occupation is common to the high downland areas of Wessex. It may be due to a range of factors, including:

- Lack of streams or springs which would have meant that ponds and dewponds would have had to be built to meet local water needs.
- Steep topography, general height and exposure.
- Long periods of limited arable farming and suitability for pasture.

Bronze Age

The presence of Bronze Age field systems in the area, suggest that people may have been living nearby. Gingell found evidence of Mid Bronze Age open settlements on Preshute Down (Gingell 1992, 22) but there is no evidence from aerial photographs of these types of settlement sites within the study area.

McOmish believes there was a move to enclose settlements possibly from 850 BC onwards (McOmish 2005, 134). As noted in the Barbury Castle section above, Bowden has suggested that the forework at the eastern entrance of the hillfort may have been an enclosure (Bowden 1998, 4), although there is no evidence to identify if this was used for settlement or as a stock enclosure.

On Ogbourne Maisey Down, to the south of the study area, a D-shaped settlement enclosure built on top of an existing field system has been dated from pottery finds to the Late Bronze Age. There is a possible example of this type of enclosure in the study area on Burderop Down (E on Fig 10) where a D-shaped enclosure overlies a field system. However, it is more likely that this was constructed as a medieval stock enclosure or as a post-medieval plantation enclosure (see Farming above) as it overlies an Iron Age / Roman field system.

Another possible Bronze Age or Iron Age enclosure is located on Uffcott Down (A on Fig 14). A line of bank and ditch has been mapped which forms a reverse L-shape. The earthworks appear to have extended around the end of a promontory ridge which projects from the chalk escarpment, forming a large oval enclosure. The ridges of the later medieval field system on Uffcott Down appear to end before reaching the southern edge of the enclosure. There are possible Iron Age field systems recorded on Uffcott Down to the west of the enclosure. This would have been a less exposed site for occupation than the hillfort on the ridge.

Possible Iron Age settlements

The fact that there were extensive field systems on Burderop Down which were probably being used in the Iron Age suggests that people were living nearby. Occupation could have fluctuated between living in the hillfort or in the enclosures to the north of it (Fig 11) or possibly even further north towards Wroughton. There may also have been a settlement at Barbury Castle Farm as finds of Iron Age and Roman pottery were made during excavation and metal detecting.

Use of Barbury Castle may have substantially declined towards the end of the Iron Age as it did at developed hillforts such as Danebury. At this point there appears to have been a move to the occupation of smaller settlements (Brown 2009, 207).

The ditched enclosure group (B) to the north of Barbury Castle is morphologically comparable to, for example, Middle Iron Age/Roman settlement groups in the West Midlands (Bishop 2009, 22) but may be an isolated example in Wiltshire. The enclosures were partially excavated by Maskelyne but he found no evidence of structures (Maskelyne 1887)

Possible Roman enclosure north of Barbury Castle

The rectangular enclosure with rounded corners north of Barbury Castle (C on Fig 14) may represent the adoption of more Romanised forms by the inhabitants of the Middle/Late Iron Age farming settlement group only visible as cropmarks nearby. Originally the enclosure probably had four sides made up of a double bank and ditch but the eastern side has been levelled and was not visible on aerial photographs. Along the northwest edge of the enclosure there is an additional bank and ditch but the purpose of

this is not clear. Maskelyne excavated the site in 1886 and found sherds of Roman pottery, including Samian ware, at the bottoms of the ditches (Maskelyne 1887).

Maskelyne noted that there were three terraces running east to west across the inside of the enclosure, parts of which are visible on aerial photographs, and he found the remains of a wall but could not be certain if it was from a building, such as a villa. There is no evidence of structures on the aerial photographs but there would have been space for settlement structures on the terraces.

Roman pottery has been found at the deserted medieval village site at Barbury Castle Farm which may have come from manuring of field systems in the area (Fig 15). It could be an indication that the area was occupied in the Roman period although there are no obvious remains of Roman structures on the site.

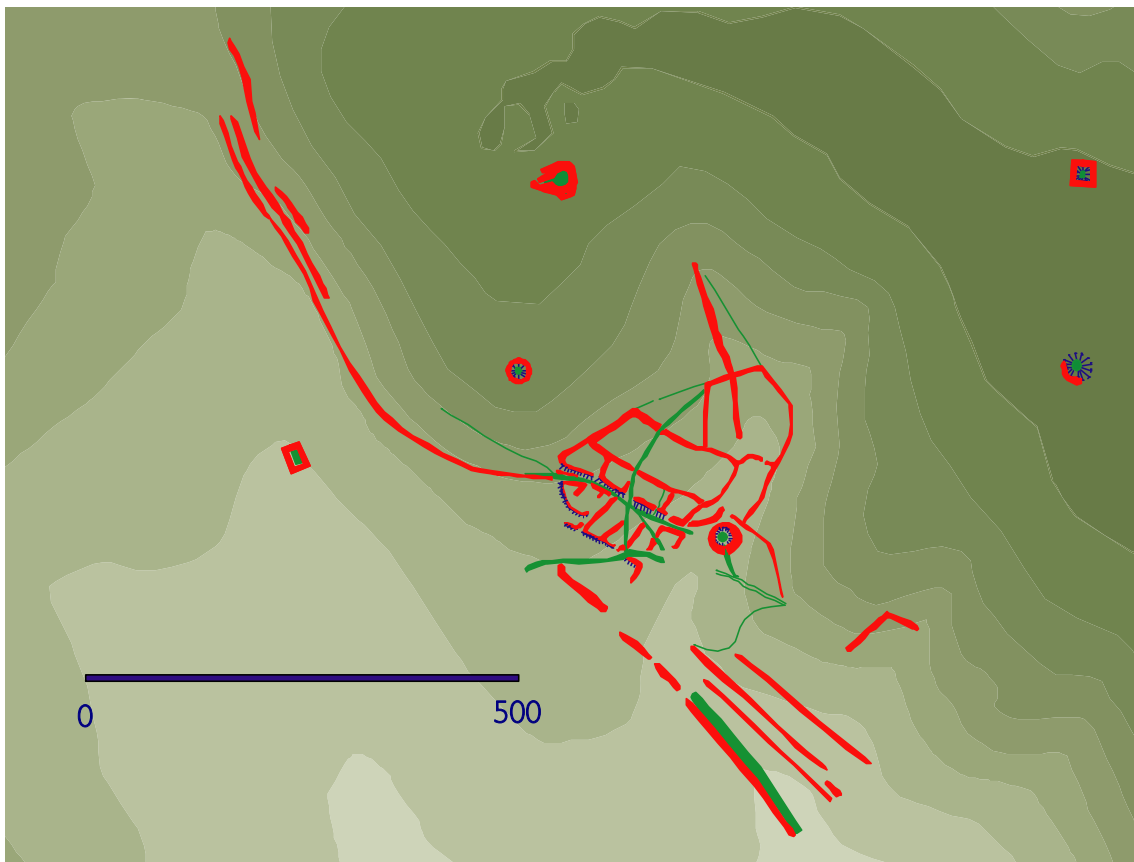


Fig 15: Barbury Castle Farm deserted medieval village and nearby dewponds

Medieval

Early medieval finds have been made in the area and most of the settlements in the surrounding area, including the villages of Wroughton (Crowley 1980), Chiseldon (Crittall 1970), and Ogbourne St Andrew (Crowley 1993), were apparently well established in the pre-conquest period. The heightening of the ramparts and insertion of burials suggests the hillfort was brought back into use for a period (Bowden 1998, 11).

There is a possible medieval farmstead site on Burderop Down (D on Fig 14). This enclosure has internal divisions which could be the remains of buildings and a farm yard.

On its western side it abuts an Iron Age / Roman field system and on its eastern side it abuts a medieval field system.

Earthworks at Barbury Castle Farm clearly define the tofts, crofts and smaller closes of a deserted medieval village (Fig 15). The village was set into a small coombe on the eastern side of a larger valley and lies within the parish of Ogbourne St Andrew. In AD 1294 the village was under the control of Avebury Priory and there were 5 villeins, who held 4 yardlands and 2 cottagers, with pasture for 300 sheep (Brown 2005, 186 and Crowley 1993, 147).

The Marlborough Downs were hit hard by very poor summer weather in the period 1314-17 (Fowler 2009, 117). Ogbourne St Andrew was badly hit by the plague in 1334 (Crowley 1998, 146). These factors together with a gradual shift in emphasis to pastoral farming led to Barbury Castle Farm becoming a single farm by the 16th century. 500 sheep were being kept in 1585 by which time 50% of the farm was pasture (Crowley 1998, 147). The farm building at Barbury Castle Farm was built in the 18th century (Crowley 1993, 141).

Conclusions

The evidence suggests a limited number of settlement sites and indicates that the study area may never have been heavily occupied. All of the settlements appear to have been closely associated with the agricultural use of the surrounding landscape. With much of the area being given over to pasture for long periods there would have been little need for large numbers of people to live there permanently to look after the livestock.

Even today the only permanent settlement in the area is limited to Barbury Castle Farm, Upper Hardwick Farm and at the Barbury Castle café.

ADMINISTRATION

Introduction

The intersection of a number of modern administrative units in the study area reflects the historic division of the wider Marlborough Downs into parcels of land with a range of resources. Each parcel provides access to downland, valley sides and valley bottoms to support a mixed agricultural economy. This is particularly reflected in the strip nature of many of the parishes on the Downs. The study area provided the downland element of these parcels, where their boundaries are recognisable on aerial photographs as boundary ditches, banks and marker stones.

The ownership of the land in the area has also had an impact on how it has developed, with the people and organisations controlling the area mainly interested in taking resources out of the area rather than investing heavily in it. The main exception to this was the development of Barbury Castle, especially the additional effort applied to turn it into a multivallate hillfort (something which did not happen at other nearby hillforts).

Administration of the area

Bronze Age to Roman Period

As stated in Pastoral Agriculture above, linear boundaries were possibly built in the Mid Iron Age built to control sheep flocks and cattle herds and may in places have re-incorporated Bronze Age linears as well as building new ones (Bowden 2005, 158). Fowler has stated that a number of large linear boundaries were built from Barbury Castle (Fowler 2000, 226-227) possibly as territorial boundaries, but the aerial photographs provide limited evidence to support this proposition.

The Roman period may have been the first where use of the downland and the valleys was integrated with the development of possible villa estates (Miles et al 2003, 263). This could have been the forerunner of the development of the strip parishes identified below. Sites of Roman villas have been found to the north of the study area in Wroughton and Chiseldon.

Medieval period

In the early medieval period Barbury was on the boundary between the Blagrove and Selkley Hundreds (Draper 2006, 69). Six parishes intersect in the study area (Fig 6) and their boundaries were probably established by the 7th/8th century (Draper 2006, 69). Old boundary markers are visible along the ridge north of Preshute Down in the southwest corner of the study area, separating the parishes of Preshute and Ogbourne St Andrew. The route of the trackway running through the centre of Barbury Castle also forms the parish boundary between Wroughton and Ogbourne St Andrew.

The parishes, and even the tithings within them, were organised into long units stretching from the high chalk downland into river valleys where there were heavier clay soils. Settlements tended to be located at the point where the chalk gave way to Greensand and Gault which was where regular spring lines appeared. This division of the land may have been driven by a dependence on a mixed arable / livestock farming regime. It is still not clear if this was planned or just evolved (Fowler 2000, 11 and Chapter 16).

Ownership of the land

Monastic influence was strong in the area up until the dissolution of the monasteries (Brown 2005, 182-184). Hyde Abbey owned land at Burderop and the village at Barbury Castle Farm was held by the Priory of Avebury (Brown 2005, 186). The abbey of Bec-Hellouin controlled most of Ogbourne St George and Ogbourne St Andrew from AD 1122 onwards (Brown 2005, 185).

After the dissolution of the monasteries most of the area was under the control of lords such as the Duke of Pembroke. The landscape of the North Marlborough Downs was therefore dominated by large absentee landlords up until the 18th century (Fowler 2000, 238) who exploited the area for profit and invested as little as possible. The decisions they made had a significant impact on the land use of the area.

Some investment in the area has occurred in recent years. An international standard 3 day event course and a point-to-point course have been developed at Barbury Castle Farm. A car park and other facilities have been provided at the Country Park.

SECOND WORLD WAR

Introduction

Aerial photographs taken during and shortly after the Second World War show extensive military use of the survey area (Fig 16). They offer valuable insight into the range and spatial relationship of different aspects of the wartime landscape; from defence and dispersal to training and testing.

Features observed

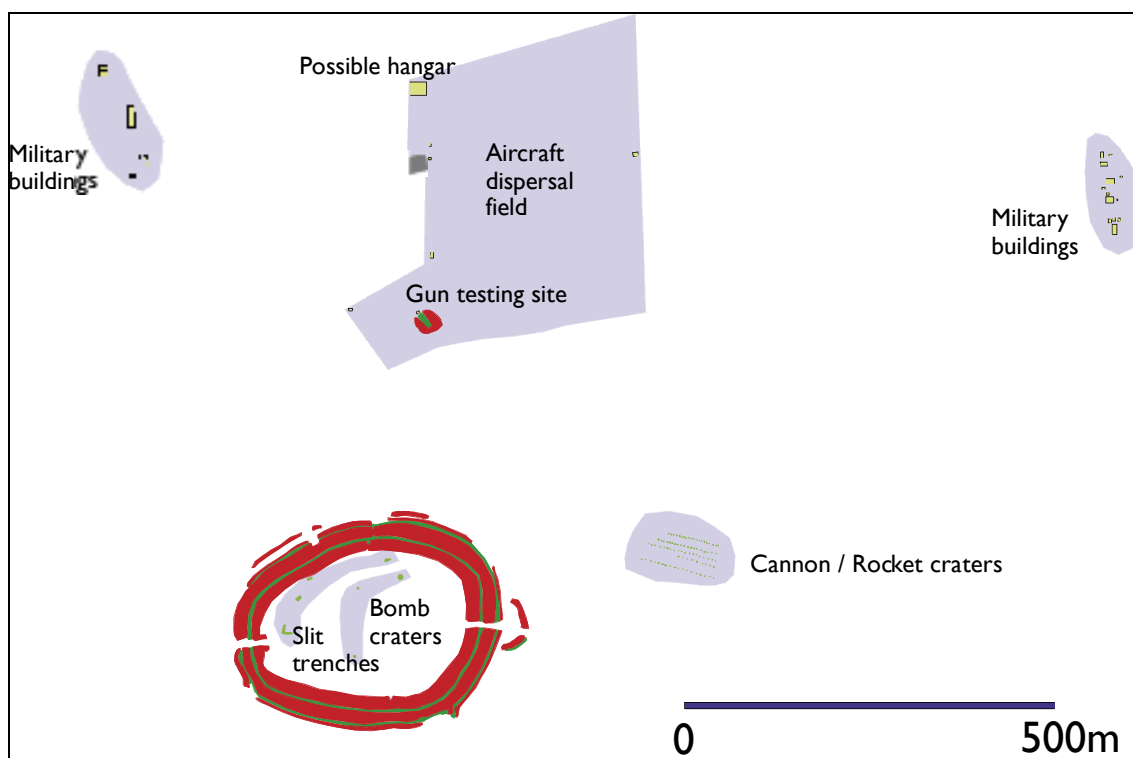


Fig 16: Second World War sites in and around Barbury Castle

Anti aircraft gun emplacements and trenches were built in and around Barbury Castle. These were manned by a Home Guard unit at the start of the war (Bowden 1998, 15) but later they were replaced by US Army personnel. The entrances of Barbury Castle were widened to allow the large Queen Mary lorries used at RAF Wroughton airfield through them. The western entrance was further widened by the US military towards the end of the war but the reason for this is not clear (Bowden 1998, 16). This widening work damaged both entrances.

In May 1944 there were 573 aircraft on site at Wroughton Airfield and they were being dispersed over a wide area including just below Barbury Castle (Fig 17) (Berryman 2002, 215). Wroughton was involved in preparing Horsa and Hotspur Gliders for use in the D-Day invasion (Dunscombe 1997, 42).



*Fig 17: The aircraft dispersal field
The field includes a Gun Testing Site in the southwest corner and the aircraft may include Horsa or Hotspur gliders used in the D-Day invasion. Detail from NMR US/7PH/GP/LOC209 5004 08-MAR-1944 English Heritage (NMR) USAAF Collection*

A Gun Testing Site (Fig 16 & 17) was created by cutting a deep trench in the chalk, with the material extracted being used to build up banks on two sides. Aircraft were pulled to the site from the airfield and their tails were then lifted by a gantry into the air. They then fired their machine guns into the chalk bank to check they were correctly aligned (Dunscombe 1997, 40). This facility went out of use later in the war when new butts were constructed on the edge of the airfield.

There are a number of military buildings in two groups which may have been used for additional accommodation or storage.

To the east of Barbury Castle are five lines, up to 100m long, of small craters at 5m intervals. These appear to have been the result of testing firing rockets or cannon from the air. There are also two areas of slightly larger bomb craters: 2 or 3 craters are located within Barbury Castle (Bowden 1998, 16) and an extensive area of bomb craters near to a Starfish decoy site to the south of the study area show that it worked in fooling German bomber crew.

PLACES OF SIGNIFICANCE

Introduction

The significance of the positioning of Barbury Castle has already been discussed above. There is also evidence of other places of significance in the area, particularly from the burial and remembrance of the dead.

Early Bronze Age round barrows

Compared to other downland areas the North Marlborough Downs are relatively lightly covered by early Bronze Age barrows (Cleal 2005 116, Fig. 11.1) and this applies in particular to the project area (Fig 18). Cleal suggested that barrow groups were often associated with overlooking earlier monuments, rivers or winterbournes (Cleal 2005, 120-121) but none of these factors apply here. Barrows are often located near to settlements (Darvill 2006, 39) and in his study of West Overton and Fyfield, Peter Fowler noted that many barrows were positioned next to field systems (Fowler 2009, 49). There are perhaps too few barrows in the Project Area to confirm if these observations apply within it.

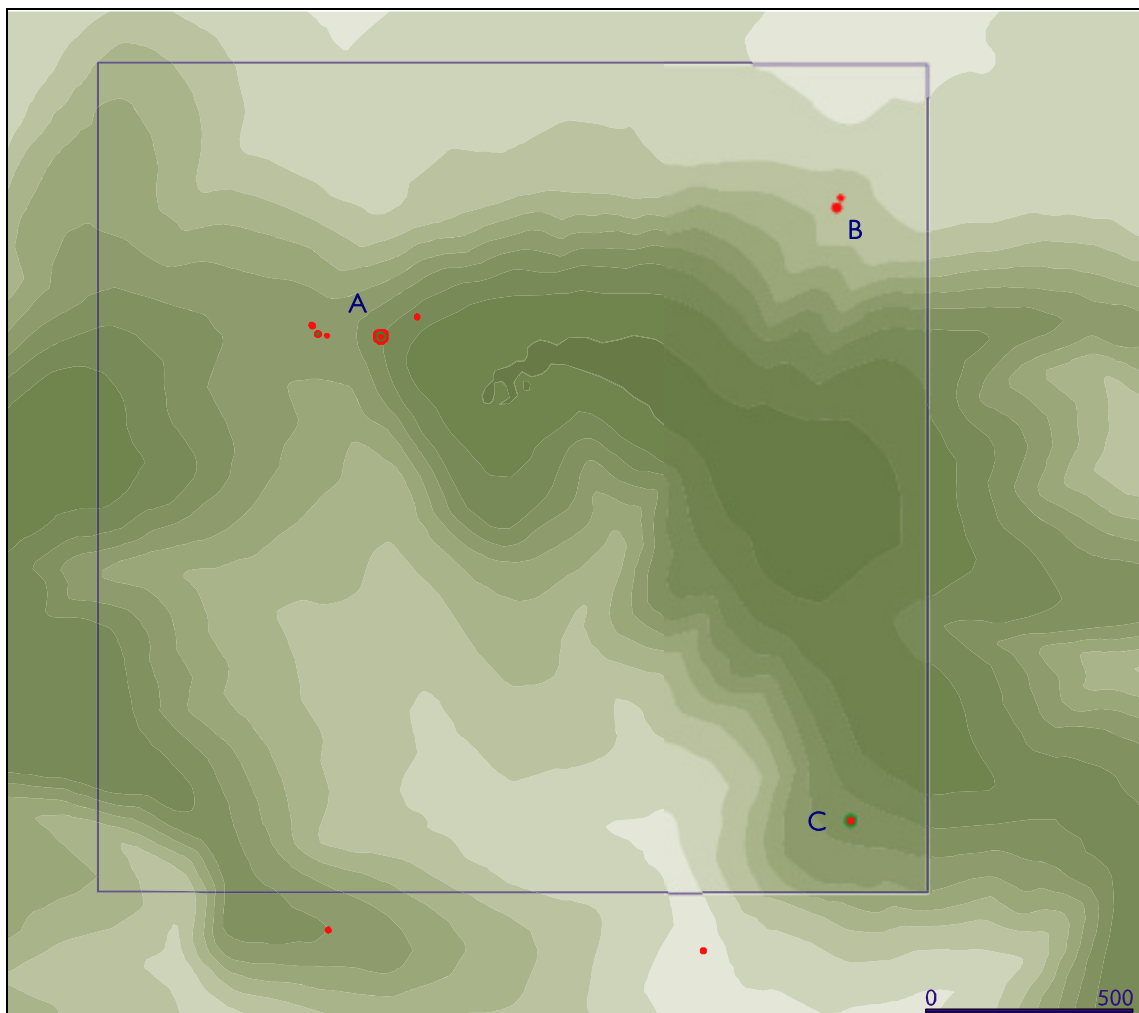


Fig 18: Early Bronze Age barrows in the study area

Immediately west of Barbury Castle is a barrow cemetery (A on Fig 18) of mainly bowl barrows but with a relatively large disc barrow. This low point in the escarpment could have been a significant meeting place in the Bronze Age either for communities living to the north and south or for people passing through the area along or over the ridgeline. Their positioning on the saddle between two ridges means that they would only have been visible from the higher ground on the ridges on either side. This could suggest the ridgeline was an important route way in the early Bronze Age and may have been a boundary between different territories. The barrows perhaps marked this division of the land (Brown 2009, 29).

Within Barbury Castle there is slight earthwork evidence of a possible further three barrows (Bowden 1998, 6). The remains of these barrows were too slight to have been identified on aerial photographs. Colt Hoare also recorded a barrow to the south west of Barbury Castle and a pair of barrows to the west of the gallops. The single barrow is now recorded as a dewpond and the other barrows may have been destroyed by gravel quarrying.

Of the barrows visible as earthworks in aerial photographs taken in the 1940s a number have since been severely damaged (the bowl barrows (A) to the west of Barbury Castle) or flattened by ploughing (the two (B) to the north of Burderop Down). Only the disc barrow, the small bowl barrow near to the ramparts of Barbury Castle and the barrow (C) in the southeast corner of the study area are still relatively well preserved.

Later burials

A Roman female burial was found when the oil pipeline was dug in 1986 (Smith 1986). Anglo Saxon bodies were found in the ramparts of Barbury Castle when the entrances were being widened in the Second World War (Bowden 1998, 11). There are no cropmarks or earthworks marking these burials on aerial photographs.

Memorial stone

Plaques to commemorate two local writers, Richard Jefferies and Alfred Williams, were attached in 1938 to a partially dressed sarsen stone which replaced an OS Triangulation Pyramid on Burderop Down (Crittall 1970, 66).

COMMUNICATIONS

Introduction

There are no modern through roads across the area, however, there are a number of earlier route ways across the study area (Fig 7). Today the two minor roads from Wroughton effectively end at Barbury Hill (one continues as a track up to and past Barbury Castle Farm) but may reflect former courses of Hay Lane and the Swindon to Marlborough coach road.

Aerial photographs show evidence of these route ways in the form of mainly ditches. In some areas, particularly to the west of Barbury Castle, they show that the line of these route ways changed over time, possibly as older sections became too rutted or muddy to use.

The Ridgeway

Ordnance Survey maps show the Ridgeway running from east to west across the northern part of the study area, along the scarp edge rather than on top of the ridge, although it is much abraded. It is often described as an ancient route way but this is still being debated. It is possible that the Ridgeway may have been an 'informal route' 5000 years ago (Fowler 2009, 34). Some parts were possibly in use between circa AD 600, after Celtic field systems over which it passes were abandoned, and the 10th Century when it was mentioned as a herepath in Saxon Charters (Fowler 2000, 22). The Ridgeway was used as the boundary between firstly the Hundreds of Blagrove and Selkley and then of the parishes to the north and those to the south (Fowler 2000, 256-257).

The Ridgeway is likely to have originated as a drove-way with number of parallel and overlapping routes running along the ridge line. Bell and Lock have carried out computer modelling of movement along the Ridgeway (Miles et al 2003, 131). Their analysis found that from Barbury Castle, via Liddington and Uffington Castle, through to Segsbury Camp the Ridgeway represented the route of 'least cost', particularly for the movement of animals as it avoided having to cross the generally north-south running dry valleys. Some of the sheep and cattle on the drove-ways were probably being moved to market. Others may have been looked after by families who were continually on the move existing on a transhumance basis (Fowler 2000, 256).

Had the Ridgeway existed as a route way in the Iron Age it would have been under the 'control' of Barbury Castle as it passes directly below it (the modern National Trail runs through the centre of the hillfort).

Drove-ways

Other probable drove-way routes going north south and east-west intersect with the Ridgeway. As these drove-ways were used to move sheep and cattle there would have been a need for dewponds along their length and the study area is well provided with them (see Farming above).

Hay Lane

During the Roman period a north to south route way, today known as Hay Lane, connected Cunetio (modern day Mildenhall) and Cricklade (Maskelyne 1887, 188). This route way ran to the west of Barbury Castle, possibly using some of the trackways there.

The Swindon to Marlborough 'coach road'

Along the western edge of Burderop Down are multiple trackways down Barbury Hill which head towards Wroughton (Fig 7). The road nearby was the main coach route between Swindon and Marlborough in the 18th century (Watts 2003, 122). These trackways may have been used as alternative routes when the main coach route was difficult to pass or by livestock which were not allowed to walk on it to avoid churning it up. A similar example of multiple tracks occurs on the eastern slope of Overton Down on the old Marlborough to Bath coach route (Fowler 2009, 81). The trackways may have gone out of use after the coach route was upgraded to a turnpike road in AD 1762 after which it should have been maintained in reasonable condition (Watts 2003, 123).

The coach route was superseded in 1819 by a new Swindon to Marlborough turnpike road via the Og valley to the east of the study area (Watts 2003, 123).

RECREATION

Sporting activities

Areas of the Marlborough Downs, like many other downland areas in Wiltshire, have been used for horse gallops for at least 200 years (Fowler 2000, 253). Horse gallop circuits are visible on aerial photographs along the top of the ridge to the north of Preshute Down and in the area to the west of Barbury Castle Farm. In the late 19th century there were a number of stables to the south of the study area at Ogbourne Maisey Down and Rockley (Rockley House was leased as a training stables in 1848) and in the early 20th century part of the land of Barbury Castle Farm was let out as training gallops (Crowley 1993, 147). It is probable that work was carried out to smooth and flatten the ground to ensure the gallops were safe for horses and this may have damaged or removed archaeological features.

Point-to-point races were held for many years around Barbury Castle and in 1991 a permanent course was created on the land to the west of Barbury Castle Farm (Watts 2003, 164). A horse trials event, The Barbury International, is held at the site every year (www.barburyhorsetrials.co.uk).

Motor bike scrambling used to take place on a track just outside the study area to the east of Burderop Down next to the field system (Blackford 1984, 105) and the circuit is still visible on aerial photographs.

Barbury Castle country park

A country park was formally established in 1971 by Swindon Borough Council in the area around Barbury Castle. The construction of a new car park and toilet facilities in the 1980s has encouraged a large increase in the number of visitors to the area (fortunately the aerial photographs show that these were built on an area that did not appear to contain archaeological features). A wide range of leisure activities are carried out in the park including: picnicking, walking, kite flying, running, mountain biking and trail biking. This has had an impact on Barbury Castle, with damage to the ramparts from walkers.

The country park area is covered by a management plan (Bowden 1998, 2) which has led to controlled agricultural use of the area, restoration and protection of the hillfort and interpretive signage being added. Part of the area is also a local nature reserve.

A café was opened to the east of the car park in 1990s.

CONCLUSION

The survey area of rural rolling chalk downland is ideal to be examined by aerial photo survey because it has free draining chalk soils mainly covered by arable or pasture, very little woodland, little industrial activity and few modern buildings or structures such as roads. There are also a large number of aerial photos available for the area. A range of earthwork and crop mark features have been observed, from Bronze Age barrows to Second World War slit trenches. Relatively blank areas, such as the large coombe to the west of Barbury Castle Farm, are probably due to the geology (clay with flint areas) or the actions of man (gravel extraction, ploughing or land improvement to create horse gallops).

Communities living on and around the downland have tried to exploit all the resources available to them, pursuing mixed farming which required access to a range of soil types. The underlying chalk has meant the survey area has always been marginal for arable farming and therefore it has mainly been used for pasture. Grazing animals helped create and maintain the distinctive rolling grassland. Sheep were kept not only to provide meat, milk and wool but were a key source of manure for the arable fields. Their presence is indicated by linear boundary ditches, dew ponds and sheep folds. Arable farming only occurred when the climate was suitable or there was population pressure (or both). Field systems represent different periods of use from the Bronze Age onwards and are visible on aerial photographs defined by banks, lynchets or by ridge and furrow. Since the Second World War mechanised ploughing and the availability of chemical fertilisers have allowed much of area to be put under arable. This has led to the levelling of monuments such as field systems and barrows.

Barbury Hill appears to have been an important place from at least the Bronze Age. The hillfort was positioned close to route ways along and across the line of the escarpment. A barrow cemetery suggests that by the Bronze Age the area was a significant place perhaps for communal gathering and a possible meeting point of territories. During the Iron Age this appears to have been formalised by the construction of the hillfort. Its importance as a centre was demonstrated when a second rampart was added around 400 BC. The large number of pits within it shows that it may have been being used as a central grain store by the communities living across a wide area.

There is little visible evidence that the area has ever been heavily occupied. Barbury Castle may only have been sporadically or seasonally occupied. From the Bronze Age to the Roman period archaeological evidence suggests just two or three small settlement enclosures or farmsteads. There was a small medieval village at Barbury Castle Farm but this was largely abandoned in the 14th century when it became a single farm. Even today very few people live in the area.

Since the early medieval period most of the area has been owned by absentee landlords such as monasteries or Lords. The decisions they made on how the land should be exploited have helped shape the landscape. In particular their choice to use the area principally for pasture not only maintained the rolling grass downland but helped to preserve many of the archaeological features as earthworks. In a sense this tradition is continuing today with Swindon Borough Council having designated the area around Barbury Castle as a country park and closely managing the area to preserve the fauna, plant life and the archaeology.

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English Heritage Aerial Survey section: <http://www.english-heritage.org.uk/aerialsurvey>

Wiltshire and Swindon SMR Record: <http://history.wiltshire.gov.uk/index.php>

North Wessex Downs AONB: <http://www.northwessexdowns.org.uk/>

APPENDIX I: SOURCES OF AERIAL PHOTOGRAPHS

The National Monuments Record was the main source of oblique and vertical aerial photographs for the study. The NMR listed 258 oblique and 255 vertical photographs for the study area from a range of sources. All were consulted by the study. Of particular use were vertical photographs taken by the US Army Airforce (USAAF) and the Royal Air Force (RAF) during and shortly after the Second World War.

NMR Enquiry and Research Services
English Heritage
National Monuments Record Centre
Kemble Drive
Swindon
SN2 2GZ
Tel: +44 (0)1793 414600

The project was carried out in collaboration with Cambridge University's Unit for Landscape Modelling (ULM) – formerly Cambridge University Committee for Aerial Photography (CUCAP) – 66 oblique photographs for the study area were consulted.

Unit for Landscape Modelling (ULM)
University of Cambridge
Sir William Hardy Building
Tennis Court Road
Cambridge
CB2 1QB
Tel: +44 (0)1223 764377

Wiltshire County Council Sites and Monuments Record (SMR) – a small collection of vertical photographs were consulted at the SMR offices in Chippenham.

Wiltshire and Swindon History Centre
Cocklebury Road
Chippenham
SN15 3QN
Tel: +44 (0)1249 705500

APPENDIX 2: METHODOLOGY AND ARCHAEOLOGICAL SCOPE OF THE SURVEY

The objective of the National Mapping Programme (NMP) is to enhance our understanding of past human activity by identifying, interpreting and transcribing archaeological features dating from the Neolithic to the 20th century that are visible as cropmarks, soilmarks or earthworks on aerial photographs. The background, philosophy and approach to English Heritage's National Mapping Programme are explained in *Understanding England's Historic Landscapes: An Aerial Perspective* (Bewley 2001).

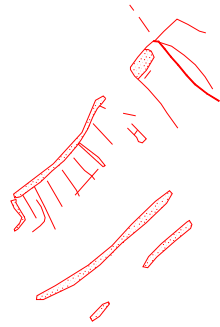

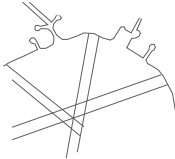
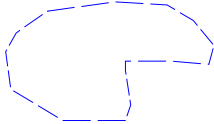
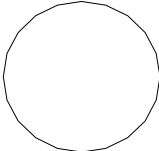
For this study area 587 aerial photographs from English Heritage's National Monument Record (NMR) and the University of Cambridge's Unit for Landscape Modelling were consulted. Photographs with relevant archaeological features were scanned and then rectified using AERIAL 5.29 Photograph Rectification program designed by John Haigh at the University of Bradford. The base map used for rectification was the 1:2,500 scale Ordnance Survey vector map; accuracy was therefore to within +/- 2metres. Contour data using digital terrain models created from height data supplied for Pan Government Agreement (PGA) through Next Perspectives™ was used for each rectification to compensate for height differences across undulating terrain.

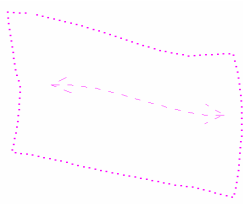
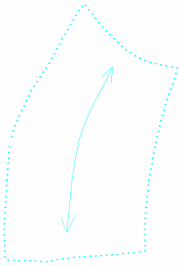
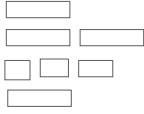

The archaeological features on each rectified photograph were interpreted and traced using AutoDesk Map 2008 software, producing a single digital map file for the project. Archaeological detail was transcribed using the appropriate layers and conventions (see below). Accompanying monument records for each site mapped by the Barbury Castle Environs project have been added to English Heritage's National Monuments Record database. Each record is linked by a unique identifier (UID) reference number to a monument polygon, defining the geographical extent of the record. The main elements of the monument record comprise location, indexed interpretation, textual description and main sources, including the aerial photograph which best illustrates the site. All data and documentation relating to the project will be archived at the National Monuments Record.

Cropmarks and soil marks of cut features, such as ditches, and built-up features, such as banks, have been mapped. The remains of quarrying were not mapped; nor were certain cropmarks if they prove to be the remains of removed field boundaries that appear on earlier editions of OS maps. Areas of ridge-and-furrow were mapped indicating the extent and direction of the furrows. All 20th century wartime features have been mapped.

As a result of the project the 16 existing monument records in the area were updated and a further 38 were created.

The mapping and monument records are available on application to the NMR as digital data or print-outs. The basic monument records and this report are available on the NMR Pastscape website and the English Heritage website respectively.

Layer name	Colour	Linetype	
BANK	1 (red)	CONTINUOUS	
BANKFILL	1 (red)	FILL: DOT SCALE: 2.25 ANGLE: 53	
DITCH	3 (green)	CONTINUOUS	
DITCHFILL	3 (green)	FILL – SOLID	
EXTENT OF AREA	8 (grey)	DASHEDX2	
LARGE CUT FEATURE	5 (blue)	ACAD_ISO02W100	
MONUMENT POLYGON	7 (white)	CONTINUOUS	

Layer name	Colour	Linetype	
RIGARRLEVEL ACAD_ISO03WI00	6 (magenta)		
RIGDOTSLEVEL	6 (magenta)	DOTX2	
RIGARRREWK	4 (cyan)	CONTINUOUS	
RIGDOTSEWK	4 (cyan)	DOTX2	
STRUCTURE	9 (grey)	CONTINUOUS	
TRAMWAY	200 (purple)	TRACKS	
<u>Other Layers:</u>			
(VIEWPORT)	7 (white)	CONTINUOUS	
(SHEET)	7 (white)	CONTINUOUS	
GRID7	(white)	CONTINUOUS	
RASTER	7 (white)	CONTINUOUS	

APPENDIX 3: HOW I BENEFITED FROM THE PLACEMENT

During my placement I have had to make use of a number of new software packages including Aerial 5.29, AutoCAD Map 2008 and Adobe Illustrator 10 to map, analyse and report on archaeological information on aerial photographs. I have also used the English Heritage National Monuments Record database to find, update and add archaeological records for the archaeological features identified and I have made use of English Heritage's Web GIS system to identify sites.

My ability to identify sites and understand their possible function and date has been greatly improved by the practical experience and from the support provided by staff in the Aerial Survey and Investigation section, particularly Sharon Bishop. I have also benefited from the rigorous approach taken in the Section to the preparation of the Project Report. I am very pleased that this is to be published as a Research Department Report.

A particular highlight of the placement was actually being able to go up on a survey flight under the supervision of Damian Grady.

To complete my MA course I will have to prepare a dissertation. I am very hopeful that this placement will help me to identify a suitable topic to study and provide me with additional skills to help me to carry out the research on it and to produce a high quality report for submission to the university.



ENGLISH HERITAGE RESEARCH DEPARTMENT

English Heritage undertakes and commissions research into the historic environment, and the issues that affect its condition and survival, in order to provide the understanding necessary for informed policy and decision making, for sustainable management, and to promote the widest access, appreciation and enjoyment of our heritage.

The Research Department provides English Heritage with this capacity in the fields of buildings history, archaeology, and landscape history. It brings together seven teams with complementary investigative and analytical skills to provide integrated research expertise across the range of the historic environment. These are:

- * Aerial Survey and Investigation*
- * Archaeological Projects (excavation)*
- * Archaeological Science*
- * Archaeological Survey and Investigation (landscape analysis)*
- * Architectural Investigation*
- * Imaging, Graphics and Survey (including measured and metric survey, and photography)*
- * Survey of London*

The Research Department undertakes a wide range of investigative and analytical projects, and provides quality assurance and management support for externally-commissioned research. We aim for innovative work of the highest quality which will set agendas and standards for the historic environment sector. In support of this, and to build capacity and promote best practice in the sector, we also publish guidance and provide advice and training. We support outreach and education activities and build these in to our projects and programmes wherever possible.

We make the results of our work available through the Research Department Report Series, and through journal publications and monographs. Our publication Research News, which appears three times a year, aims to keep our partners within and outside English Heritage up-to-date with our projects and activities. A full list of Research Department Reports, with abstracts and information on how to obtain copies, may be found on www.english-heritage.org.uk/researchreports

For further information visit www.english-heritage.org.uk

