



The Lambourn Downs: A Report for the National Mapping Programme

Fiona Small

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SURVEY REPORT

Aerial Survey Report Series AER/13/2002

Aerial Survey Report Series AER/13/2002



The Lambourn Downs Report on the Aerial Photographic Transcription and Analysis

Surveyed: April 2002 Aerial Photographic Transcription and Analysis by Fiona Small, Cathy Stoertz and Helen Winton Report by Fiona Small

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THE LAMBOURN DOWNS MAPPING PROJECT

INTRODUCTION

Background to the project

The Lambourn Downs Mapping Project (LDMP) is part of the former RCHME's, now English Heritage's National Mapping Programme (NMP). The aim of NMP is to enhance our understanding about past human settlement, by providing primary information and syntheses for all archaeological sites and landscapes (visible on aerial photographs) from the Neolithic period to the twentieth century. This is to be achieved through mapping, documentation and classification at a common scale and to a common standard, all archaeological sites and landscapes recorded in England on aerial photographs.

The Lambourn Downs Mapping Project represents part (Blocks 2 and 3) of the original parent project; the Berkshire Mapping Project. The first nine maps (Block 1) of the Berkshire Mapping Project which lie to the south of the Lambourn Downs included the following maps: SU35NE, SU36NW, SU36NE, SU36NW, SU36SE, SU46NW, SU46NE, SU46SW and SU46SE.

The project area covers an area of the chalk downland known as the Lambourn Downs and a small area of the adjacent clay vale to the north of the Downs. The survey area comprises 24 complete 1:10,000 scale quarter sheets, covering 600 square kilometres in total.



Figure 1 - Location of the former county of Berkshire and the Lambourn Downs Project area

90						
85	28NE	38NW	38NE	48NW	48NE	58NW
00	28SE	38SW	38SE	48SW	48SE	58SW
80	27NE	37NW	37NE	47NW	47NE	57NW
75	27SE	37SW	37SE	47SW	47SE	57SW
SU ²	25 3	0 3	5 4	0 4	5 5	0 5

Figure 2 - 1:10,000 quarter sheets mapped during the LDMP

DESCRIPTION OF THE STUDY AREA

Territorial extent

The area covered by the project encompasses an area of chalk downland known as the Lambourn Downs, which is located in the north-western region of the former County of Berkshire, as defined in 1974. With the exception of the northern and western regions which overlap into the adjacent counties of Oxfordshire, North Wiltshire and the Unitary Authority of Swindon, the main project area falls entirely within the new Unitary Authority of West Berkshire (formerly the District of Newbury in the County of Berkshire). The area of the survey comprises 24 complete 1:10,000 quarter sheets; 600 square kilometres in total. The six maps marking the northern edge of the survey area contain very little of the chalk downlands, but have been included in the project to give full coverage of the features at Uffington and White Horse Hill and the edge of the chalk escarpment as it drops away abruptly to the north onto the clay vales (The Vale of the White Horse) of South Oxfordshire.

Geology and Topography

The majority of the survey area is dominated by the gently rolling chalk upland landscape with much of the land lying over 180m OD and rising to a maximum height of around 220 m. The Downs form part of the extensive Cretaceous chalk ridge running in an arc from Dorset in the south-west to Yorkshire in the north-east.

The Lambourn Downs are bounded to the south by the Kennet valley, whilst to the east the chalk downland continues uninterrupted into Berkshire Downs and to the west into North Wiltshire. To the north the chalk escarpment ends abruptly with a steep scarp descending to the flat clay vale of South Oxfordshire known as the Vale of the White Horse.



Figure 3 - Uffington hill fort and the Uffington White Horse. (NMR 15073/19 18-OCT-1993)

The flat vale lies at between 60m and 100m OD, dropping to the east but also rising from the base of the scarp to the outcrop of the Jurassic Corallian Limestone in the north.

Two rivers rise in the Lambourn Downs, the Lambourn and the Pang. The Lambourn rises north of Lambourn village and flows south-eastwards to join the Kennet at Newbury. The Pang rises to the south of Compton, flowing first in a southerly and then an easterly direction out of the south-eastern corner of the survey area, joining the Thames at Pangbourne. The River Kennet flows in an easterly direction along the southern edge of the survey area from the old Wiltshire-Berkshire county boundary into the Thames north-east of Reading.

The rivers Lambourn and Pang dissect the Downs, and there are a number of parallel dry valleys running from the higher ground in a southerly direction. Other than the two main rivers there is no surface drainage on the chalk downland. It is only at the foot of the escarpment close to the junction between the permeable chalk and Upper Greensand beds and the impermeable Gault Clay that a line of springs emerge with the characteristic pattern of spring-line villages strung out along the base of the slope.

Geologically the region of the Lambourn Downs is relatively uncomplicated being made up of almost horizontally bedded Cretaceous sedimentary rocks with no major faulting or folding. The main massif of the Downs is formed by an extensive outcrop of Cretaceous chalk composed of three distinct layers, the Lower, Middle and Upper chalk layers. The chalk forms an escarpment which ends abruptly with a steep scarp on its northern side.

At the foot of the chalk scarp the Upper and Lower Greensand beds are exposed in a narrow band, with Cretaceous Gault and Jurassic Kimmeridge Clays to the north.

Much of the chalk downland beyond the scarp slope is capped by clay-with-flints, and there are brown earth deposits in some of the dry valleys. Small deposits of river and valley gravels and alluvium can be found in the valleys of both the Pang and Lambourn, as well as in some of the dry valleys. Alluvium in the valleys of the Kennet and the Lambourn is flanked by river and valley gravels.

Soils

The soils of the survey area fall into four distinct bands. They are recorded by the Soil Survey of England and Wales (1983) as being a mixture of ground-water gley soils, brown earth, rendzinas and surface-water gley soils. In the north-west corner of the area on the clay vale is a band of surface-water gley soils of the DENCHWORTH (712b) and KINGSTON (711j) associations which typically have seasonal waterlogging. To the south-east along the foot of the chalk escarpment is a band of brown earths of the BLOCK (512e) association which are typically shallow gleyic calcareous soils over chalky drift.

The soils which occur on the chalk downland are dominantly rendzinas which are characterised as shallow lithomorphic calcareous soils over chalk, mainly of WANTAGE 1 (342c) and ANDOVER 1 (343h) association, with brown earths of the COOMBE 1 and 2 (511f and 511g) associations occurring in many of the dry valleys. Further to the south-east is a broad band dominated by Brown Earths of the BATCOMBE (582a) and HORNBEAM 2 (582c) associations which are typically fine silts and loams over clayey deposits.

Lastly, in the south-eastern corner of the survey area immediately to the north of Newbury the dominant soil types are surface-water gleys of the WICKHAM 3 (711g) association with smaller areas of surface-water gleys of the FRILSHAM (571j) association which are characteristically drift over chalk, forming a well-drained coarse loamy and shallow calcareous soils present in a number of the valleys leading south into the River Lambourn and the lower half of the course of the River Pang where it leaves the survey area.

Current Land Use

In the west of the Lambourn Downs region there has been a long history of cultivation on the chalk downland, much of the land still being predominantly given over to arable use. In addition to grazing and cultivation, the upland areas are used extensively as gallops for training race horses, the gently rolling terrain and the close proximity to Newbury making the area ideal for this use. There are many small woods and copses on the chalk uplands which break up the open tracts of cultivated land acting as wind breaks in the more exposed upper areas of the Downs. In the southern half of the region the patches of woodland increase in number and density.

On the clay Vale in the northern part of the region the quality of the soils is variable, depending very much on the underlying geology. On the scarp slope and the area of the Corallian ridge the soils are generally good requiring little improvement such as liming. The soils on the Kimmeridge and Gault Clays are generally heavy and clayey in nature with characteristically poor drainage which, coupled with the high water table of the area, makes some areas less favourable for arable cultivation. In winter, despite producing good quality pasture, some of the lower areas are prone to flooding, greatly restricting their capacity for sheep grazing.

The M4 motorway cuts north-west to south-east through the western Lambourn Downs, then runs east-west close to the southern edge of the survey area, skirting to the north of Newbury and heading towards Reading. For much of its western course through the Downs the motorway follows the course of the Roman road, Ermine Street (linking Silchester (Calleva) and Gloucester (Glenium)); both roads utilising the same natural gap through the highest part of the Lambourn Downs.

The pattern of settlement across this part of the Downs consists of a few small towns such as Wantage, Didcot and Hungerford on the low-lying peripheries of the upland area with numerous small villages, hamlets and farms scattered at regular intervals across the landscape between these larger centres of population. Outside the area of the survey there are two larger towns of Newbury to the south-east and Swindon to the west.

The Lambourn Downs are a predominantly rural area and, consequentially, there is very little industrial activity. The only industry to have impacted upon the landscape is gravel extraction to the south of the survey area; large areas of the gravel terraces flanking the Kennet having already been extracted and permission has been granted for other areas to be extracted in due course. This activity occurs on the peripheries of the immediate survey area and has very little impact on the Lambourn Downs themselves.

Within the chalk downlands there is evidence of extensive small-scale marl extraction visible as numerous pits and depressions in many fields across the chalk. These pits were not recorded in the course of this survey.

ARCHAEOLOGICAL SCOPE OF THE REPORT

The aim of National Mapping Programme is to enhance our understanding about past human settlement, by providing primary information and syntheses for all archaeological sites and landscapes (visible on aerial photographs as cropmarks or soilmarks and earthworks) from the Neolithic period to the twentieth century.

As part of the NMP, the Lambourn Downs Mapping Project recorded all archaeological monuments seen on aerial photographs, both plough-levelled and upstanding remains, dating from the earliest times to 1945, including industrial and military features.

For the purpose of this survey the following definitions were used:

Plough levelled features

All cropmarks and soilmarks representing filled "negative" features (i.e. ditches and pits) or levelled earthworks will be recorded. For the purpose of the NMP the term cropmark will be taken to be inclusive of soilmarks.

Earthworks

All earthwork sites visible on aerial photographs have been recorded, whether or not they have been previously surveyed; every care has been made to depict the condition of the earthworks as seen on the most recent photography. Large extant earthworks such as hillforts, which are shown with hachures on the current 1:10,000 base maps, have been depicted with hachures on the project overlays. Previously surveyed earthworks, which can be identified on photographs, have been copied, from existing survey plans if possible, or from the base maps. Where photographic evidence showed significantly different or additional detail the earthworks have been depicted as seen, using the NMP bank and ditch conventions.

Earthworks appearing on the OS base map which have not been photographed, or which are completely obscured by vegetation, have not been shown, but have been identified on the Map Note Sheet. Destroyed earthworks have been represented by the appropriate NMP convention.

Ridge-and-furrow

Areas of ridge and furrow have been recorded using a standard convention to indicate the area covered by the earthwork ridges (see Appendix 3); both destroyed and surviving ridge and furrow have been transcribed and recorded. A distinction between fields of ridge and furrow visible as earthwork and those visible as cropmarks has been made by recording in two separate layers in AutoCAD. Longer furlong boundaries and linear earthworks such as headland banks have been shown in stipple as earthworks (see above), but individual strip fields have not been depicted.

Water meadows

Areas of water meadows have been recorded. They are sometimes represented on the base map, but their depiction is insufficiently accurate. In order to give a representation of the feature a convention has been used to indicate the area covered by meadows. Individual ditches have not been depicted, just a sufficient number to give an impression of shape and form. Water meadows only occurred in valley of the River Kennet. These have been recorded on the ditch layer in the AutoCAD mapping.

Buildings

Only buildings, which appear as earthworks, or as cropmarks or soilmarks representing earthworks or buried foundations have been recorded, using the convention appropriate to the form of remains. Standing buildings have not normally been recorded, although those, which form part of industrial or military complexes, have been noted.

Industrial archaeology

Areas of industrial archaeology such as early mining and other industrial processes have been recorded using the appropriate NMP conventions (see Appendix 3) where they have been recognized as pre-dating 1945. In general, marl pits on the chalk downland, gravel pits on the valley floors, and stone quarries have not been recorded, unless they were thought to be medieval or earlier in origin.

Military archaeology

It is within the scope of interest of the NMP to record military features where they pre-date 1945. Monuments of this category (e.g. Roman and medieval military features and those relating to the Civil War, and the First and Second World Wars) have been transcribed and recorded unless they have already been mapped by the OS. Hachured monuments on the OS base maps have not been copied onto the overlays unless they appeared to be significantly different on aerial photographs, and then they were depicted using standard NMP conventions - stippling for banks and solid lines for ditches. Buildings within military complexes have not been recorded, nor have isolated military sites such as pillboxes, but their presence has been noted on the Map Note Sheet. Large area features such as WWII air fields have been recorded as a defined area with major hardstandings and runways marked

Field boundaries

Recently removed field boundaries which were seen as cropmarks on aerial photographs were not plotted or recorded where they were present on the 1:10,000, 1:10,560 or the First Edition OS maps. Extensive field systems within this category were noted on the Map Note Sheet.

Geological and geomorphological marks

Geological and geomorphological features visible on aerial photographs have not been plotted, although their presence has sometimes been noted on the MNS e.g. where the presence of former river channels helped to define limits of an archaeological site, or where the nature of the marks was such that they could be confused with those of archaeological origin.

The standard conventions used in the graphical depiction of all transcribed features are illustrated in Appendix 3.

SOURCES

Specialist Oblique Aerial Photographs

National Monuments Record Air Photographs (NMRAP)

This was the main source of oblique photography for the project and consists of both black and white and colour photographs and transparencies. Prior to the start of the project the NMR listed 3993 oblique photographs for the survey area derived from a variety of sources, including RCHME reconnaissance, Cambridge University Committee for Air Photography, the Crawford Collection, the Riley Collection, the Allen Collection, John Boyden, Mick Aston, John Gadd and the Royal Aircraft Establishment. During the course of the project further RCHME/EH reconnaissance in the area produced a considerable number of additional photographs and new sites. All available photographs in the collection were consulted.

Cambridge University Committee for Air Photography (CUCAP)

Oblique photographs held by NMRAP were supplemented by that of CUCAP who have taken a large number of specialist, often low-level, oblique photographs. An initial search of the card index indicated CUCAP holds 451 oblique photographs for the survey area. All relevant CUCAP oblique photographs were consulted, whilst those not held by NMRAP were borrowed by post as and when they were required.

Babtie Environmental Division

Babtie Environmental Division curates and maintains a small collection of oblique photographs for the County Council of the former county of Berkshire. The collection is based exclusively on photographs copied from the NMRAP and CUCAP collections. Therefore, it was not necessary to consult this collection.

Oxfordshire SMR

Oxfordshire SMR holds a small collection of oblique aerial photographs which were consulted at the SMR in Oxford.

Other local sources

The Greenaway Collection: this contains black and white oblique photographs taken by D and J Greenaway primarily for research purposes. These were not consulted for the survey.

Eleanor Goodburn: The total number of 35mm colour photographs is unknown, and none are catalogued. Although access to these photographs had been offered, their use for the NMP was considered to be limited. These were not consulted

Vertical aerial photographs

National Monuments Record Air Photographs (NMRAP)

NMRAP listed 148 sorties comprising 7843 vertical photographs for the project area, primarily from the RAF and the OS, but with a small number from other sources e.g. Meridian Airmaps and United States Army and Air Force. Prints for the majority of frames were held. The photographs date from 1940 onwards but most are post-war. A limited number of vertical photographs are indexed as part of the specialist collection, from the Crawford Collection, the Ordnance Survey, the NMR, Clyde Surveys, the Royal Aircraft Establishment and United States Air Force. The latter source generally covered the sites of USAAF WWII airfields. All sources were examined.

Cambridge University Committee for Aerial Photography (CUCAP)

High quality vertical photography taken by CUCAP in the Lambourn Downs area at infrequent

intervals between 1965 and 1988 were assessed. None of the vertical photographs were taken for archaeological purposes and consequently they were of varying degrees of usefulness.

Babtie Environmental Division

Babtie Environmental Division curates and maintains a collection of vertical photographs originally belonging to the County Council for the former county of Berkshire. Following subdivision of the county the collection is still maintained by Babtie for the six newly created unitary authorities. These photographs were consulted at their offices at School Green, Shinfield in Reading. There were eight sets of black and white or colour vertical photographs for the former Count of Berkshire, at a variety of scales (most 1:10,000 or larger):

1948 (a photomosaic made up from RAF vertical photographs)
1964 (Fairey Survey taken in September)
1969 (Fairey Survey taken March-May)
1971 (Fairey Survey taken in April)
1976 (Fairey Survey taken in April)
1981 (Clyde Surveys)
1986 (J A Storey and Partners)
1991 (Aerofilms)

All the photographs were initially consulted and assessed at the offices of Babtie Environmental Division in Reading, to supplement the plotting from oblique and vertical photographs in Swindon. Of these the 1969 and 1976 Fairey Survey proved to be the most useful sets.

Vertical photographs from the five sets of cover up to 1976 were consulted in the course of the survey of the Berkshire Downs undertaken in 1976 - 1977, and fuller details about each set can be found in Richards (1978, 7-8).

Oxfordshire SMR

Oxfordshire SMR holds a collection of vertical photographs for the county. Those covering the survey area were consulted at the SMR at the Central Library in Oxford.

Wiltshire County Council SMR

Wiltshire County Council holds a comprehensive collection of vertical photographs for most of the county which were consulted at the Council offices in Trowbridge.

NB. The area of the Unitary Authority of Swindon falls within the former boundaries of the County of Wiltshire, but all SMR records and photographs are still maintained by Wiltshire County Council in Trowbridge.

Other sources

The Borough Councils may hold additional photography; none has ever been found to be useful in the course of archaeological work in the county so they were not consulted during the course of the survey.

Archival sources

A number of archival sources were consulted in order to gather information that may assist in or support the identification and interpretation of archaeological features on aerial photographs.

National Monuments Record (NMR)

Copies of the most up-to-date record maps were borrowed from the map library and consulted during transcription and recording. Printouts to accompany the record sheets were obtained

through NewHIS, by quarter sheet within the survey blocks. Once the information has been recorded in NewHIS the NMR will undertake a programme of validation and checking of new and amended records.

NMR Excavation Index

The NMR Excavation Index was consulted block by block via NewHis.

Babtie Environmental Division

Babtie Environmental Division maintains and curates the SMR for West Berkshire District Council. Print-outs of relevant SMR data were requested for the first two blocks and supporting visits made to consult the SMR as necessary. For the last two blocks the record maps were consulted at the SMR.

Wiltshire County Council SMR

Only a small strip of the western side of the survey area fell into Wiltshire. Because of the size of this area all SMR record maps and monument records were consulted at the SMR in Trowbridge.

Oxfordshire County Council SMR

The northern third of the survey area lies within Oxfordshire. All SMR record maps and monument records were consulted at the SMR in Oxford.

Ordnance Survey 1st edition 6" maps

Through earlier mapping projects the importance and usefulness of the 1st and 2nd edition 6" maps have increasingly been recognised. These early OS maps are a convenient source of information about earthwork remains, industrial sites and former field boundaries which have since been removed. They have been utilised in the previous aerial surveys of Salisbury Plain, the Marches Uplands and the Thames Valley, and were again consulted during the course of this most recent NMP project.

Other documentary sources

Excavation and survey reports and local journals such as Berkshire Archaeological Journal and Oxoniensia were consulted prior to the mapping and referred to during the course of the mapping process to aid the interpretation and dating of sites seen on aerial photographs. These have been recorded within the Bibliography. NMP projects are not designed to include exhaustive studies or critiques of non-photographic sources.

PREVIOUS TRANSCRIPTION WORK

Transcription of archaeological information from aerial photographs has taken place on a number of occasions, in different parts of the former County of Berkshire.

Babtie Environmental Division

Babtie Environmental Division maintains and curates the SMR for West Berkshire District Council. Transcription onto film has been routinely carried out by a number of employees working for the SMR at a scale of 1:10,000, with supplementary plots at 1:2500. Copies of these plots were made available to RCHME, and were consulted during the course of the project; the SMR has undertaken to copy the appropriate SMR number information onto the copies supplied.

The Berkshire Downs Survey

In 1976-1977 the former Berkshire Archaeological Unit undertook a rapid but comprehensive survey of the archaeology of the Berkshire Downs. The brief for the project was to carry out an extensive survey of the chalk downland in the former county of Berkshire, within one year. Aerial photographs were a major source used for the survey, and all cropmarks and soilmarks were plotted onto 1:10,560 base maps. This work was supplemented by study of the SMR and fieldwork.

The transcriptions have been incorporated within the SMR and were consulted at the offices of Babtie Environmental Division, and the results of the survey have been published (Richards 1978).

Air Photo Services

A number of transcriptions have been carried out at a scale of 1:2500 by Air Photo Services. This work was undertaken for a variety of clients in response to commercial development and copies of all transcriptions and reports have been supplied to Swindon.

Other transcription and survey work

Other surveys carried out in the area include: Linear Earthworks on the Berkshire Downs by Steve Ford in1981, the Maddle Farm Project (Gaffney and Tingle, 1989) and Oxford University's ongoing survey of the Ridgeway Hillforts.

According to the County Archaeologist, Pete Fasham, no other transcription work from aerial photographs has been carried out in West Berkshire.

METHODOLOGY AND STRATEGY OF RECORDING

The LDMP was mapped using a combination of digital mapping methods using AutoCAD and images derived from Aerial 5.11 and conventional mapping on an permatrace overlay and then the final drawn map digitized using AutoCAD.

Transcription and recording

This comprised four principal elements:

1. A digital transcription of the archaeology

The transcription was based on the detailed examination and interpretation of all photographs practicably available in the collections identified by the quantification assessment reports (see section 5 above). Sites were transcribed using manual transcription methods supported by the use of AERIAL 4.20 and AERIAL 5.1, and the resulting rectified image imported directly into AutoCAD Map or transcribed to an overlay and digitised into AutoCAD. AERIAL is a computer rectification program developed by the Department of Mathematics at Bradford University. Control information was derived from paper copy OS 1:10,000 scale base maps. A level of accuracy of + 5-15m was normally expected. In both cases the depiction of archaeological features followed the standard table of conventions and line widths shown in Appendix 4, and the guidelines described above.

On completion of each map sheet the Hob UID (unique identifier) for the relevant NewHIS site records was added as attached Object Data to the digital version of the map in AutoCAD.

2. A computerised database

During the course of the project there has been a changeover from the MONARCH database to modular recording system running in a windows environment. The database has been modified and renamed as NewHIS. There has been little change, however, in the methods of recording and the form of the records created.

Following the results of the NMP review, recording practices have changed significantly within Aerial Survey, the major change being a considerable reduction in the amount of morphological recording carried out. Whilst it was established that Aerial Survey would have their own specialist module in this Monument Recording Module (MRM) this system was not up and running in time for the LDMP. An interim recording module and interface has, therefore, been designed for Aerial Survey. This new system works in a Windows environment and allows access to both NewHIS and the interim module in a linked, single screen environment.

3. A Map Note Sheet

Map Note Sheets were used for comments and observations relating to each quarter sheet. The note sheet recorded any information about the geology, soils or other physical factors which may be relevant to the understanding of a particular map, along with details of supporting material consulted, details of map authorship and schedule of completion.

4. Site Record Form

Site Record Forms were used for recording source and information relating to individual sites along with any important observations about the history or interpretation of the site which would be of use during the subsequent NewHIS recording.

PROJECT TIMETABLE AND STAFF RESOURCES

The mapping was scheduled for completion by mid November 1999. This timetable was based on calculations made regarding the length of time that would be needed to be spent on each map sheet, and staffing levels. However, due to initial problems in delivery of aerial photographs and commitments to other projects by two of the team members during the first half of the project, the timetable was reassessed and the deadline re-scheduled to 31st March 2000.

Mapping of all the sheets and input to NewHIS database and the Aerial Survey recording module was successfully completed by 31st March.

The Project team comprised the project co-ordinator (Fiona Small) and two team members, Helen Winton and Cathy Stoertz.

PROJECT MANAGEMENT

Dr Bob Bewley, head of Aerial Survey, English Heritage, is the co-ordinator of all projects which form part of the National Mapping Programme. The project was the overall responsibility of Simon Crutchley (Team Leader, Aerial Survey). Project Co-ordinator (Fiona Small) was responsible for arranging the ordering of maps, photographs and supporting material, organising the flow of work, overseeing the quality control procedures and monitoring and reporting on progress of the project. A system of quality control, as defined in the NMP Specification, was implemented to ensure a consistent standard of interpretation, transcription and description.

PROJECT RESULTS AND ANALYSIS

The project area of the LDMP has been the subject of a number of different types of survey. The results of some of these earlier surveys have been collated to form parts of the Sites and Monuments Record of Berkshire, Oxfordshire and Wiltshire, and the National Monuments Record (NMR). All these records have been consulted during the course of the LDMP with the aim to both update with any new information and amend any existing records, where necessary. For the purpose of this report, a NEW site is one, which has no previous NMR record existing.

As a result of the survey a number of aspects relating to the findings were analysed and the results discussed below.

NewHIS (NMR) Record Summaries

As a result of the project, the following numbers of new NMR records were created and updated for each quarter sheet:

Quarter Sheet	Old Total of Records	Amended Records	New Records	New Total of Records	Percentage Increase %
SU28NE	55	11	36	91	39.6%
SU28SE	82	19	27	109	24.8%
SU38NE	53	13	65	118	55%
SU38NW	63	11	36	99	36.4%
SU38SW	52	40	31	83	37.3%
SU38SE	57	42	42	99	42.4%
SU27NE	46	21	40	86	46.5%
SU27SE	57	14	23	80	28.8%
SU37NW	53	13	38	91	42%
SU37NE	20	5	52	72	72%
SU37SW	35	4	26	61	42.6%
SU37SE	25	3	37	62	59.7%
SU48NW	50	13	25	75	33.3%
SU48NE	58	2	25	83	30%
SU48SW	33	20	30	63	47.6%
SU48SE	49	15	24	73	33%
SU58NW	57	13	32	89	36.9%
SU58SW	48	37	55	103	53.4%
SU47NW	40	9	26	66	39.4%
SU47NE	39	6	18	57	31.6%
SU47SW	36	7	38	74	51.4%
SU47SE	17	6	16	33	48.5%
SU57NW	37	6	31	68	54.6%
SU57SW	38	4	30	68	44.1%
TOTAL	1100	334	803	1903	42% Total Increase

Prior to the survey 1101 individual NMR records had been recorded within the NewHIS database.

Resulting from the survey, with the addition of the 803 new NMR sites discovered from aerial photographs, there were a total of 1903 sites recorded for the entire survey area. This final number of records includes sites unsupported by aerial photographic evidence such as

documented archaeological sites, find spots, buildings and excavation sites. This represented a total increase in the number of NMR records of 42% for the whole survey area.

Within the 803 new NMR records recorded there were approximately 1412 individual new sites recorded. This included such sites as individual round barrows or lynchets recorded within one NMR record. These would represent one single NMR NewHIS record, but could refer to, for example, ten round barrows or a block of numerous lynchet banks.

The majority of the new sites were represented by six main types of site, mostly Bronze Age, Prehistoric, Medieval, Medieval/Post Medieval and of unknown date. These included Bronze Age round barrows (92); field systems (61) and enclosures (39) of Prehistoric date; blocks of Medieval ridge and furrow (48); ridge and furrow (63) and lynchet banks (95) of either Medieval or Post Medieval date; and numerous fragments of linear features including ditches, banks, boundaries and lynchets of unknown date (107). These are discussed in more detail below.

For the entire project a total of 334 NMR records were amended in some way. This figure includes those sites which were not included in the transcriptions because they could not be identified on the available photographs. These included three sites considered to be non-archaeological in origin (two fungus rings which had been identified as ring ditches and an enclosure which is now considered to be a modern agricultural feature). Records which referred to find spots, excavations and standing buildings which would or could not benefit from aerial survey were not included.

Period Summaries

Large proportions of the new sites recorded during the LDMP were Medieval or Post Medieval in date. These accounted 35.9% of all sites for the whole survey area and were primarily associated with agricultural activity.

Period	Total records	Percentage
Neolithic	8	0.77%
Prehistoric	204	19.7%
Bronze Age	193	18.7%
Iron Age	41	4%
Roman	25	2.4%
Medieval	76	7.4%
Medieval/Post	220	21.3%
Medieval		
Post Medieval	75	7.3%
Modern	16	1.5%
Unknown	175	16.9%

Of the 220 sites recorded as either Medieval or post Medieval in date. 101 were records of lynchet banks and 62 were records of ridge and furrow.

The next numerous group were sites which were broadly classified as Prehistoric in date, including sites thought to be from the Prehistoric or Roman periods. There were 204 such records, of which 77 were of field systems, 52 were enclosures and 18 were settlement sites. There were 198 records of Bronze Age date, all but 5 of which were represented by round barrows of varying forms.

There were also 175 records for which there was no known period classification, the largest proportion of which were represented by 70 records of linear features such as ditches, banks

and various boundaries. There were also 42 records of enclosures and 34 lynchets, all of unknown date.

The table below shows the number of individual records for each 1:10,000 map sheet classified by period. The figures in the table represent the combined total of updated and new records while those in brackets refer to the number of new records only. A further break down of the records within each period group is listed in Appendix 1.

Мар	Neolithic	Prehistoric	Bronze Age	Iron Age	Roma n	Medieval	Post Medieval	Med/ P.Med	Modern	Unknown
SU28NE	1	4 (3)	9 (7)	2	-	15 (12)	4 (4)	1 (1)	-	8 (6)
SU28SE	-	10 (5)	29 (12)	1	5	3 (3)	1 (1)	3 (2)	2 (2)	4 (4)
SU27NE	-	15 (9)	18 (14)	-	1	3 (3)	3 (3)	10 (8)	2 (2)	2
SU27SE	1	1	7 (3)	-	1	3 (3)	6 (6)	9 (9)	3 (3)	5 (2)
SU38NW	1	10 (8)	5	-	3 (1)	14 (12)	9 (9)	26(24)	-	14 (14)
SU38NE	-	3 (3)	4 (1)	-	1	1	3 (3)	23(23)	1 (1)	5 (4)
SU38SW	3	15(11)	12 (5)	-	1	-	1 (1)	8 (8)	-	7 (6)
SU38SE	-	27(20)	12 (5)	6 (4)	1	1 (1)	-	9 (7)	-	8 (6)
SU37NW	1 (1)	14(13)	12 (9)	1	-	-	-	9 (9)	2 (2)	4 (4)
SU37NE	-	10 (9)	4 (2)	-	-	1	3 (3)	35(35)	-	3 (3)
SU37SW	-	-	4 (1)	-	1	1	3 (3)	4 (4)	1 (1)	16 (16)
SU37SE	-	7 (6)	5 (4)	-	4 (4)	2 (1)	4 (4)	1 (1)	-	17 (17)
SU48NW	-	3 (3)	5 (2)	-	-	-	2 (2)	16(15)	-	3 (3)
SU48NE	-	3 (2)	4 (3)	-	-	2 (2)	3 (3)	6 (6)	-	9 (9)
SU48SW	-	18(14)	11 (8)	4 (2)	-	-	2	4 (2)	-	5 (4)
SU48SE	1	11 (6)	6 (2)	-	-	1 (1)	1 (1)	9 (9)	-	9 (4)
SU47NW	-	8 (8)	8 (2)	1 (1)	-	4 (2)	-	-	-	13 (11)
SU47NE	-	3 (1)	2	1 (1)	-	2 (1)	3 (3)	-	-	13 (12)
SU47SW	-	5 (4)	7 (5)	2	3 (3)	-	6 (6)	2 (2)	1 (1)	15 (15)
SU47SE	-	5 (4)	3	-	-	1	9 (9)	3 (3)	-	-
SU58NW	-	12(11)	1	1	-	14 (10)	1	7 (5)	-	-
SU58SW	-	9	21 (10)	20(20)	1	7 (7)	-	8 (8)	2 (1)	5 (3)
SU57NW	-	9 (8)	1	1	2 (1)	1	1 (1)	12(12)	2 (2)	7 (7)
SU57SW	-	1 (1)	2 (1)	1	-	1	10 (10)	15(15)	-	3 (2)

The high number of Medieval, post Medieval and modern sites being recorded is mainly due to the fact that these types of sites were not considered to be important in earlier surveys. It is only as the last traces of these once abundant features are being destroyed that their importance has been realised. This is particularly true for sites from the first and second World Wars such as airfields, slit trenches and anti-aircraft batteries which have only relatively recently been considered as sites of historical importance and worthy of being recorded. Another factor is that in a project of this scale the extent of features such as ridge and furrow and water meadows can only really be appreciated and assessed from aerial photographs.

Thematic Summaries

All the sites recorded during the LDMP were categorised into a number of thematic groups: Agriculture and subsistence, Defence, Domestic, Industrial, Religious ritual and funerary, Communication, Gardens parks, and a group for sites which could not be assigned to a particular thematic group.

Of the groups represented, sites which were categorised as ritual and agricultural were the most

numerous. The thematic groupings were as follows:

Agricultural sites	442 records	
Ritual sites	105 records	
Domestic sites	63 records	*
Communication features	54 records	
Defensive/Military sites	29 records	
Industry/extraction	12 records	
Garden features	3 records	
*(including 12 banjo enclosures)		

In addition to these there were a further 230 records which represented sites of unknown date or unknown function which could not be assigned to a specific thematic group. These included 113 linear features (ditches, banks, and boundaries), 112 enclosures, 5 mounds and one record of a pit of unknown date. There were also three records which were previously classified as archaeological sites. Two are now thought to be natural fungus rings and the third is attributed to modern agricultural practices.

The linear features have been discussed at the end of this section.

There were some problems encountered in the division of the sites into single thematic groups where particular sites were multi-phase and could be legitimately associated with one or more thematic group, or simply it could not be decided for certain which group a site belonged in. Sites have only been put into that thought to be the dominant thematic grouping.

Agricultural sites

Of the sites recorded during the course of the survey, agricultural sites were the most numerous. These included field systems, lynchet banks, ridge and furrow, plantation features, single sections of probable field boundaries as well as water management features such as water meadows, leats, fishponds, a duck decoy pond and numerous drains. These were also the most extensive features with the remains of field systems covering approximately 244.5 square km, 40.8% of the entire survey area. These field systems were of particular interest, especially their diversity of form, dates of usage and their relationship to one another and potential associated settlement sites.

Prehistoric coaxial bank-defined systems of small rectilinear fields and numerous lynchet banks which covered c.137 square km (22.8% of the survey area).

Large ditched systems of enclosures of unknown date which cover c.30 square km (5% of the survey area)

Medieval and post Medieval fields of ridge and furrow associated with the villages along the spring line on the clay vale to the north of the edge of the chalk escarpment. These were seen to cover c.77.5 square km (12.9% of the survey area).

Coaxial Field Systems

The majority of the co-axial field systems were recorded in the north-western and north-eastern regions of the survey area, much on the higher parts of the Downs, typically between 150m and 225m OD. The field systems occur in blocks with interspersed by breaks in the pattern where there are little or not field banks. However, it is not entirely clear whether these are indeed areas where the remains have been ploughed out rather than true gaps and it is quite possible that many of these patches of field system did join up

A considerable amount of fieldwork has been carried out on these systems over the last 30 years which has concluded that many of the field systems may have developed from the Late Bronze Age onwards. However, the major phase of expansion and use of these field systems was in the Romano-British period between 1st and 4th centuries AD (Fowler, 1981; Gaffney and Tingle, 1989, and Bowden, Ford and Mees, 1991-3). This is illustrated by the high density of villa sites and associated settlements dating from this period, indicating a pattern of villa estates across this region of the Berkshire Downs.

Following the decline and withdrawal of Roman influence in Britain there was a decline in the need for intensive agricultural production to feed the Roman army. Many of these field systems on the Downs fell out of use and remained as largely uncultivated grassland, with the exception of some examples of Medieval and Post Medieval re-use, until the 20th century.



Figure 4 - Two areas of coaxial field systems on the Lambourn Downs. N.B. The southwestern region may be associated with the Roman villa at Stancombe Down

The majority of the field systems to the north were mapped from RAF vertical photographs taken between 1939 and 1946, the latter year being the most useful and informative. Many of the field systems had already been damaged by ploughing at this stage, but some areas still survived as substantial earthworks in the areas surviving as unimproved grassland. Continued deep ploughing with the creation of larger and larger fields has reduced many of these field systems to isolated fragments of field bank and lynchet visible only as subtle earthworks and soilmarks on aerial photographs. Effectively, in just over half a century, virtually all traces of these ancient field systems have been obliterated.

In contrast, the evidence is far more fragmentary in the central and southern regions, with dispersed fragments of field bank and lynchets forming in many cases no recognisable pattern. This corresponds with a marked change in the soil types with a dominance of the heavier clay

with flints. The soil type is directly related to the sensitivity of the soil to cropmark formation, but the fact that these soils were subject to earlier intensive farming in the 20th Century would also have contributed to a poorer survival of archaeological remains.

The photographic evidence from the 1940's shows many areas in the south already under intensive arable cultivation with signs of prolonged use even then, while areas to the north were still surviving as open grassland.

In the southern region there is a prevalence of woodland. Much of this has been cleared through time, but it is probable that this would have been a heavily wooded landscape in Prehistory. If this were the case there would have been more of an emphasis on mixed farming, with some cereal cultivation in cleared areas, but also mixed animal husbandry in which pigs would have played an important part.

In the post Roman period, woodland was allowed to re-establish in many cleared areas. Areas surviving as woodland today may simply be masking any remains of Prehistoric field systems, rendering them invisible to aerial survey. The question we must ask is whether there is a true polarisation in the distribution of Prehistoric and farming practices affecting the distribution of field systems, or whether this is a result of differential survival and detection of remains.



Figure 5 - Plough damaged coaxial field systems at SU 283834. (NMR 15613/08 07-APR-1997)

As far as dating these field systems goes, the Roman date for these field systems (as mentioned above) owes a lot to the work on the Berkshire Downs (Bowden, Ford and Mees, 1993) and on the Maddle Farm Project (Gaffney and Tingle, 1989).

Through intensive field walking of the area around the Maddle Farm villa and the contemporary settlement at Knighton Bushes it was possible to date large tracts of the field systems to the same period (2nd – 4th Centuries AD) as the villa. This was possible because of the practice of manuring which carried with it quantities of broken pottery presumed to have been discarded in

the manure heap from the villa settlement.

The presence of such vast quantities of Romano-British pottery may not mean that these fields were only cultivated in this period. The apparent absence of earlier pottery does not exclude the possibility of earlier cultivation or manuring. Earlier pottery is far more friable than Iron Age and Romano-British pottery. It will generally survive while sealed in unploughed contexts, but once brought to the surface will rapidly disintegrate and disappear from the cultivated soil. This was illustrated when 2 Ha of ancient grassland adjacent to the Neolithic site of Robin Hood's Ball on Salisbury Plain were ploughed in 1983. Over 3000 early Neolithic and Beaker pottery sherds were brought to the surface, many of which immediately began to disintegrate (Richards, 1985).

Analysis of the pottery from excavation indicates that despite evidence of cultivation originating in the Late Bronze Age, the majority of lynchets on the Berkshire Downs were formed in the Romano-British period (Bowden, Ford and Mees, 1991-3). This further supports the theory of the earlier Bronze Age and Iron Age field systems being re-used and extended in response to increased demand in the Roman period (Bradley and Richards, 1978, Richards, 1978). All things considered, it is likely that during earlier phases when the soil was newly cultivated and agricultural practices were less intensive, there would have been little requirement for additional fertilization. Only in the later Romano-British periods did the soils, much depleted by centuries of use, need to be manured to increase and sustain the yields.

As mentioned above, many of the areas appear to have remained uncultivated from the Prehistoric period until the 20th century. However, there are instances of Medieval and Post Medieval re-usage of Prehistoric field systems noted throughout this area and also on Salisbury Plain.

Large Ditched Field Systems

The second type of field system recorded during the course of the survey took the form of large conjoined single ditches typically enclosing areas of between 200m x 600m and 400m x 1000m. These survived as cropmarks and appeared to be entirely separate from the systems of banked co-axial fields described above. They were found in three locations within the survey area:

a) Around the site of Wayland's Smithy Neolithic long barrow, centred at SU 2820 8564.
b) To the north and west of the Iron Age enclosure of Alfred's Castle, centred at SU 2650 8280.
c) To the south of the course of Grim's Ditch, centred at SU 475 840.

Each of these three groups of enclosures had a very different form and layout, but all shared similar locations on high, gently undulating ground on the northern edge of the chalk escarpment.

Linear or 'ranch' boundaries, which in some cases can be traced for miles, have been recorded throughout the higher parts of the Berkshire Downs. These boundaries divide the countryside up into blocks, some appearing to form a boundary between two areas of coaxial field systems. However, they are frequently found to cut through field systems, indicating the fields have fallen out of use prior to, or as a result of the construction of the ditch. (Bonney, 1979) In contrast, here on the Lambourn Downs, at no point do either the banked coaxial fields or the large ditched enclosures encroach on each other, perhaps implying they are contemporaneous, either laid out at roughly the same time, or that one was laid out while the other was still in use (Small (forthcoming)).

a) The field system around Wayland's Smithy.

The field system centred on Wayland's Smithy Neolithic long barrow (at SU 2820 8564) is situated on a small plateau between 205m and 215m OD. The system consists of the fragmented remains of up to six conjoined rectilinear enclosures which are located on either side of a trackway. The trackway is aligned NE-SW, parallel to and slightly to the north of the line of the current Ridgeway path. Four of the enclosures are situated on the western side and two on the eastern side of the track. Wayland's Smithy is situated in the centre of the system, just to the north-west of the track. The enclosures all appear to have roughly the same dimensions, the most complete enclosure measuring 210m x 600m. This group of enclosures is very rectilinear and grid-like in comparison with the other two ditched systems.

To the south-east of the system the cropmark remains of a probable Iron Age/Romano-British settlement have been recorded, supported by numerous finds of this date. The southern-most ditch of the south-eastern of the six enclosures of the Wayland's Smithy field system can be traced running towards this settlement; although only circumstantial this evidence may suggest that the field systems and settlement are contemporary.

The ditches which make up these enclosures had been noted and recorded in the past, but do not appear to have been identified as associated enclosures or a fields system until this most recent survey.





b) Field system at Alfred's Castle

Located in a shallow bowl between 170m and 200m, on the northern edge of the chalk escarpment are the cropmark remains of a series of irregular single ditched enclosures which form a system of large fields. There are the fragmentary remains of at least nine of these enclosures which cover approximately 3km2 of gently rising land centred at SU 2650 8280, immediately to the north and west of the small earthwork Iron Age enclosure known as Alfred's Castle.

The southern enclosures are rectilinear with their long axes on a north-south alignment. The northern two enclosures are less regular in form and appear to have been added onto the

southern enclosures and subsequently sub-divided. The ditch which forms the north-western corner of the system was seen to deviate around the remains of a probable Bronze Age round barrow now visible only as a cropmark ring ditch. This indicates that the barrow was still extant at the time the ditches were dug and that the system of enclosures post-date the barrow, but by how much it is impossible to tell from the aerial photographic evidence alone.

Alfred's Castle is situated at the south-eastern corner of this system of enclosures and is itself located in the southern end of one elongated enclosure which appears to be associated with the system.

Oxford University (Lock and Gosden, 1997, 1999 and 2000) has carried out a study of the Iron Age Hillforts of the Ridgeway region over a number of years, and has undertaken excavations at Alfred's Castle during the summers of 1998, 1999 and 2000. Initially, excavation was concentrated within the castle enclosure where, amongst other features, the foundations of a late 1st- early 3rd Century AD Roman villa were found. In the latter two seasons the scope of the excavations was extended to the ditched systems which had been identified on aerial photographs.

The elongated enclosure to the north of Alfred's Castle was partially excavated in 1999 and found to be defined by a large flat-bottomed ditch with a smaller V-shaped re-cut ditch within its fill. The dating evidence from these two trenches has been very poor with only a few possible late Iron Age sherds being found within the fill of the ditch. At the end of the 2000 season of excavation part of the ditched system identified from aerial photographs was located and sectioned, again revealing parallel U-shaped and V-shaped ditches.



Figure 7 - Alfred's Castle, the ditched field system and Roman villa sites

It is thought that the system of ditches was started in the Late Bronze Age, (some aligned on the existing Early Bronze Age barrows). They were then re-cut after the original ditches had silted up, (Lock and Gosden 2000) and possibly endured into the Late Iron Age-Roman period when

they were incorporated into part of landscape of villa estates which have been identified in this area.

Excavations within Alfred's Castle revealed evidence of occupation from the late Bronze Age/ Iron Age below the level of the Villa. Amongst the finds were a large number of spindle whorls and loom weights indicating that wool was being processing on the site, and possibly indicating an emphasis on sheep rearing here during the later Prehistoric periods. The system of large ditched enclosures and the absence of small coaxial field systems further strengthens this theory.

Situated on the south-western edge of the system of enclosures are the remains of the late 3rd to early 4th Century villa of Starveall Farm (SU 2596 8153). This villa has been excavated revealing evidence of an earlier 1st century Romano-British homestead. The villa was a high status halled house with a pavillioned porticus, hypercaust heating and a possible bath suite (Phillips, 1981). Unlike other villa estates in the area there are no coaxial field systems associated with the villa. It is possible that the system of large enclosures or fields immediately to the north-east were part of the estate for this villa which may have replaced the earlier villa located within Alfred's Castle.

c) Systems of ditches south of Grim's Ditch.

In the north-eastern region of the survey area the edge of the chalk escarpment is defined by the course of the linear earthwork boundary known as Grim's Ditch, parts of which have been dated to the late Bronze Age. On the rising chalk immediately to the south of this boundary there are the earthwork and cropmark remains of numerous linear ditches. Some are straight while others are very irregular in their courses, but all are single ditches and appear to be the fragmented remains of a system of boundaries and enclosures. Not unlike the other two areas of ditched enclosure systems described above, there are no banked co-axial field systems coinciding with them which does reflect the same pattern of mutual respect of both forms of land division.



Figure 8 - The fragmented ditches south of Grim's Ditch

A sequential anomaly with the ditches in the vicinity of Grim's Ditch has been noted. Most of the co-axial field systems on the Berkshire Downs, or at least their major phase of use, have been dated to the late Iron Age/Romano-British period. On the basis of consistent mutual exclusivity,

the coaxial field systems and the ditched systems were thought to be roughly contemporary.

However, the ditches to the south of Grim's Ditch can be traced in several locations crossing the course of the late Bronze Age ditch (points X, Y, and Z). At no point do they deviate from or incorporate any part of Grim's Ditch which, even today survives as a substantial earthwork. The only conclusion to be drawn from this is that at least some parts of the linear ditched system pre-date the construction of Grim's Ditch. There is evidence of a possible enclosure (A) at SU 4688 8440 which does appear to use part of Grim's Ditch as its northern side and would seem to post-date it. The western ditch (B) of this possible enclosure has been identified as a possible late Bronze Age linear feature by earlier surveys (Rhodes, 1950). It is apparent that the ditches represent a number of different phases of construction, but it is not possible to tell over how long. It is possible that the above mentioned enclosure could have been formed unintentionally by the intersection of a series of non-contemporary ditches.

There is evidence of a possible enclosure (A) at SU 4688 8440 which appears to use part of Grim's Ditch as its northern side and would seem to post date it. The western ditch has been identified as a possible late Bronze Age linear feature by earlier surveys (Rhodes, 1950). It is apparent that the ditches represent a number of different phases of construction, and it is entirely possible that the enclosure could have been formed by the intersection of a series of non-contemporary ditches.

Within the system of fragmented linear ditches and enclosures there are three distinct smaller rectilinear enclosures (C, D and E) located at SU 4649 8393, SU 4742 8398 and SU 4760 8425. These enclosures, if associated with the ditches, could represent settlements or specialised enclosures for stock management.

The county boundary between Oxfordshire and Berkshire which also marks the boundary between the parishes of Chilton and West IIsley follows the course of Grim's Ditch, but none of the other parish boundaries respect or follow any of the ditches associated with the ditched system to the south.

Ridge and Furrow

Medieval and Post Medieval ridge and furrow formed a large group of records, as well as physically covering one fifth of the survey area. Most was, however, confined to the clay vale to the north of the chalk escarpment. Here, there would have been a virtually unbroken swathe of open fields of ridge and furrow with numerous drainage ditches and headland banks.

Of the total 130 records, 129 were newly created records of ridge and furrow. The actual number of records is not representative of the true extent of the remains because each record could consist of a single isolated field of ridge and furrow, or any number of units up to a large continuous block of fields covering a number of hectares.



Figure 9 - Ridge and Furrow within Prehistoric field systems west of Baydon (Centred at SU 2778)

There were the remains of a number of Medieval and Post Medieval settlements noted amongst the fields of ridge and furrow, and the traces of settlement earthworks were noted on the peripheries of several of the modern day villages. However, from the aerial photographic evidence alone, it is not possible to identify with which settlement the various blocks of ridge and furrow were originally associated.

On the Downs only a few isolated fields of ridge and furrow were identified. These were mostly only visible as cropmarks or soilmarks in the now heavily ploughed fields. The true extent of the Medieval and Post Medieval cultivation on the higher ground is not clear, but there is very little evidence on the aerial photographs.

There were a number of examples of Medieval and Post Medieval re-usage of the coaxial field systems which have been noted throughout this area and also on Salisbury Plain. For the most part this later re-use was relatively small scale and with the ridge and furrow generally being confined within the banked enclosed fields of the earlier field systems, though ignoring some of the smaller divisions. Some of the best examples were found around SU2633 7949, south of Russley Park at Peaks Down and also at SU2760 7789 immediately to the west of the village of Baydon.

Water Meadows

In addition to the three types of field system there were extensive systems of Post Medieval water meadows encountered in the southern half of the survey area along the banks of the rivers Kennet, Lambourn and Pang. These were visible as dendritic systems of earthen ridges known as carriers (or carriages) and furrows (or drains) which were constructed on all available land along the banks of the rivers. (McOmish. D, et al 2002).

Figure 10 - Water Meadows along the River Kennet

The purpose of these ditch systems was to flood the meadows with river water to promote earlier growth of the grass and provide an earlier and greater crop for sheep fodder. This ensured fodder early in the spring at lambing time and enough grass to provide hay to be fed to the sheep during the winter.

Sheep played an important part in the agricultural economy of the Downs, their manure being vital for the fertilization of arable land. The use of water meadows enabled greater numbers of sheep to be kept, and thus a greater amount of manure to be produced and more cereal crops to be grown. Water meadows started to be used widely from around 1650-1750, and continued into the late 19th century, some surviving in use into the early 20th century. Many of these water meadows still survive as earthworks where the fields have remained as river-side meadow, although many have become overgrown with scrub (McOmish.D, et al 2002).

In addition to these conventional water meadows, in the Kennet valley in the vicinity of Ramsbury there are records of similar systems used for watercress cultivation in the 19th and 20th centuries. Watercress cultivation around Ramsbury has been recorded from the 1890's up until 1970, and there are records from the 1930's of around 15,000 lbs of watercress per week being sold to the London Markets from beds at Ramsbury, Froxfield and Shalbourne (VCH Wilts vol.12. 1983). Some of these watercress meadows have been recorded, but could not be differentiated from the earlier water meadows.

Ritual Sites

There were 105 site records classified as ritual sites. These comprised 201 individual sites including 8 Neolithic long barrows, 190 Bronze Age round barrow records (representing a total of 311 individual barrows of varying types), 1 Roman barrow and 2 Roman temples.

All but 1 of the 8 long barrows had been previously recorded. Of these, four survived as earthworks in varying states of preservation with only the long barrow (Wayland's Smithy) surviving to any great extent. The remaining long barrows, including the most recently discovered site, were recorded as cropmarks with only faint traces of a residual plough-levelled mound in the case of two of these.

However, of the 311 individual Bronze Age round barrows (266 classified simply as round barrows, 31 as bowl barrows, 4 disc barrows, 9 bell barrows and one saucer barrow), 171 were updated records of known barrows and 140 were barrows with no previous NMR record. Also

there were 37 additional barrows with NMR records which could not be located on the available photographs.

Of the 140 'new' barrow records, 136 were visible as cropmarks, with only 4 detected as earthworks. The latest photographic evidence for these four was a 1972 OS vertical photograph. The other three came from vertical photographs taken in 1964 by the OS, 1955 and 1946 by the RAF.

In contrast, of the 171 barrows with an existing NewHIS record, only 52 had been recorded as earthworks, and 14 barrows which had been recorded as earthworks in the past were seen only as cropmarks during this most recent survey, presumably due to subsequent plough damage.

Two possible Roman temples were recorded. One (SU58SW6) was seen as an earthwork enclosure situated within an extensive Iron Age or Roman field system on Lowbury Hill at SU 5401 8225. This site was thought to be domestic rather than ritual in function following excavation in 1913-14. A subsequent excavation in 1992 with the discovery of an inner enclosure, combined with a reassessment of coin assemblages, led to the site being reclassified as a temple (Fulford, 1992). The enclosure appears to be on a different alignment from the field system within which it is located, appearing to cut the course of field banks and truncating fields, and is, therefore, presumed to post-date the field system.

Figure 11 - Two probable rural Roman temples located at SU 5401 8225 and SU 5224 8407

Within the enclosure a number of mounds and other undulations were recorded. Following a field survey of the site (RCHME, 1992) it was concluded that these were the spoil heaps from an earlier 1913-14 excavation.

The second probable temple site (SU58SW5) was seen as a cropmark centred at SU 5224 8407. The site appeared as a double ditched rectangular enclosure, similar in size to the Lowbury Hill site, within which were the possible remains of a building thought to be the temple. Attached to the NW side of the enclosure is a second smaller enclosure or annexe and surrounding the site are the fragmented remains of further ditches. The site lies within a larger incomplete ditched enclosure.

Figure 12 - The probable Roman temple site visible as a soil mark at SU 5224 8407

A third potential temple site was recorded by the NMR, but was not detected on aerial photographs during this survey.

Adjacent to both temple sites were the remains of round barrows. The barrows to the north of the temple site at SU 5224 8407 are presumed to be Bronze Age barrows. However, the barrow adjacent to the temple on Lowbury Hill has been found to be Saxon, post-dating the temple.

Rural temples are a recognised phenomenon serving the dispersed rural settlements. Within the survey area there are a large number of villas and settlements located at regular intervals across the downland, each thought to be the centre of an estate farm. However, no further potential temple sites have been identified to support this idea in this area.

Domestic sites and settlements

There were 63 NMR records of domestic sites. These represented sites of entire settlements comprising numerous enclosures and internal features such as hut circles, trackways and pits, as well as isolated examples of single settlement enclosures and single dwellings such as hut circles, buildings and building platforms. The majority of these sites belong to various prehistoric periods, but few have been excavated and positively dated to a specific prehistoric period. The sites were categorised as follows:

Unknown Prehistoric	Settlements	18
	Hut circles	2
	D-shaped enclosures	3
Iron Age	Banjo enclosures	12

Romano-British	Settlements Villas Potential Roman settlements (no villa located)	2 8 2
Medieval	Settlements Shrunken village Platform Manor house Moats	7 3 1 1 2
Medieval/Post Medieval	Settlement Shrunken village Moat	4 3 2
Unknown	Building	1

Iron Age Settlement

There were a number of potential Iron Age settlement sites recorded during the course of this survey. Due to the lack of supporting field work, these sites have been identified and an Iron Age date suggested purely on the basis of comparison with similar sites which have been dated through excavation.

Figure 13 - Cropmark remains of possible unenclosed Iron Age settlement within the curve of the former canal at SU 2953 8998. (NMR 15761/11 12-AUG-1997)

Because of this, these sites have been classified above as settlements of unknown Prehistoric date.

On the north-western edge of the survey area, located at SU2953 8998, within the curve of the

remains of the former canal, the cropmark remains of a possible unenclosed Iron Age settlement were discovered through aerial photography in 1997. This site appears as a cluster of over twenty hut circles, ditches, enclosures and pits representing a number of phases of construction.

It has been noted that the settlement bears a striking resemblance to the Middle Iron Age settlement at Claydon Pike, near Lechlade, Gloucestershire which is located 9 miles to the north-west, outside the survey area (Miles & Palmer, 1982).

Figure 14 - Plan of a possible Iron Age settlement at SU2953 8998 Figure 15 - Plan of an unenclosed Iron Age settlement at Claydon Pike, Lechlade after Miles and Palmer 1982

In addition to these examples of possible unenclosed Iron Age Settlement there are also the settlements within the 9 hillforts within the survey area. All of the forts recorded have long periods of occupation, some with origins well into the Bronze Age. Four remain unexcavated, and of these, only Membury has evidence of occupation in the form of a single hut circle of unknown date visible as a cropmark within the ramparts. The remaining hillforts all have some evidence of occupation, some from the Iron Age period, but Segsbury and Alfred's Castle are the only ones to reveal any evidence of domestic structures from the Iron Age. Segsbury has the cropmark remains of seven probable Iron Age hut circles within the fort enclosure.

There were 12 sites which were dated positively through morphology to the middle - late Iron Age. They were all examples of a distinctive form of late Iron Age site known as 'Banjo'enclosures.

Figure 16 - The range of Banjo enclosure forms encountered on the Lambourn Downs: a)

adjacent complex banjo enclosures at SU3917 8276 and SU 3956 8301; b) and c) banjo enclosures on SU38SE; d) and e) simple classic banjo enclosures on SU47SW The function of this category of site is still not entirely clear, but a number of excavated examples have revealed evidence of settlement activity.

Figure 17 - The cropmark remains of a 'banjo enclosure' and embanked enclosures of a later coaxial field system at SU 391 827. (NMR 15647/16 10-APR-1997)

The sites recorded in the Lambourn Downs were all found concentrated in the central zone of the survey area, some in close proximity to one another. They were in several forms, some simple, others complex enclosures of some considerable size, which may be indicative of different functions.

They were all located at between 130m and 180m OD with their entrances down slope or into dry valleys. All were located on the upper chalk with access to both heavy clayey soils and lighter soils, which in itself may indicate that they or the settlements with which they were associated with were located to exploit two different soil types in the pursuit of mixed farming (Winton, (forthcoming)).

Romano-British Settlement

There is abundant evidence of settlement from the Romano-British period throughout the area. There are seven buildings identified as villas, a possible villa and two non-villa settlements, where there were numerous high status finds, but no actual villa building could be located. Whether these sites were occupied by people of Roman or indigenous origin is virtually impossible to say. However, many of the villa buildings occupy the same site as earlier Iron Age settlements, possibly indicating romanisation of a farmstead by the indigenous occupants.

The earliest villa is located within the earthwork Iron Age enclosure known as Alfred's Castle (centred at SU27738228). This earthwork enclosure itself lies within the cropmark remains of

an elongated ditched enclosure which appears to be associated with an extensive system of ditched enclosures or fields (See above). Oxford University has excavated the majority of the hillfort site during 1998, 1999 and 2000 as part of the Hillforts of the Ridgeway Project.

During the 2000 season the Roman building was also completely excavated and confirmed to be the remains of an early villa erected in the late 1st or early 2nd century. The site appears to have been destroyed or allowed to collapse by the late 3rd century with evidence of no further occupation or activity on the site.

This villa is earlier in date than all the other known villas in the immediate vicinity, which date from the 2nd to 4th centuries.

Figure 18 - Russley Park villa enclosure, (left) and Maddle farm villa and Knighton Bushes settlement enclosure (right)

The villa appears to have been of relatively high status, furnished with glass windows, imported 1st century pottery and coins from the late 3rd century. Beneath the floors numerous (14 or so) child/infant burials were also found.

Beneath the Roman building abundant evidence of late Bronze Age/Iron Age occupation was also in evidence in the form of numerous pits, post holes, traces of a stake-wall round house, quantities of pottery, artefacts, bone and metal. Amongst the artefacts were a large number of clay spindle whorls and loom weights which indicate a possible emphasis on sheep herding and wool processing here through the later Prehistoric periods.

Situated to the south-west is the later villa of Starveall Farm (SU 2596 8153). This villa has been excavated and occupation dated from the late 3rd to early 4th centuries, with evidence of an earlier 1st century possible Romano-British homestead. It was a high status halled villa house with hypercaust heating, a work hall, a pavilioned porticus and a possible bath suite (Philips, 1981). Unlike other villa estates in the area there are no coaxial field systems associated with the villa. If they prevailed into the Romano-British period, it is possible that the system of large enclosures or fields immediately to the north-east could have formed part of the estate for this villa. It has been suggested that the Starveall Farm villa may have replaced the earlier villa located in the centre of Alfred's Castle.

Further aerial reconnaissance carried out by English Heritage during the summers of 2000 and 2001 has revealed much of the detail of the north-eastern two thirds of the settlement at Starveall Farm which had not previously been mapped or recorded. To the north-east of the

villa complex the cropmark remains of two large quarry pits were also noted. These may also be associated with the construction of the villa.

The villa sites within the Lambourn Downs area have mostly been identified through high concentrations of building material and associated Roman finds located in the plough soil. Many of these sites would not have been identified as such through the aerial photographic evidence. The villa sites at Maddle Farm and Stancombe Down lie within the coaxial field systems associated with the villa and it is not immediately obvious from the aerial photographs where either villa is located. This does suggest that there could be numerous similar villa sites scattered across the Downs lying undetected.

Figure 19 - Cropmark remains of the villa and associated enclosures at Starveall Farm with plan of buildings detected by Philips excavation and surveys in 1981.

There is considerable evidence that a majority of the population during the Roman period still lived in circular houses as they had prior to the Roman invasion. Some settlements do show the shift from circular houses to a more rectangular simple 'villa' style of construction on the same site, but generally most settlement construction remained unchanged. This makes it hard to separate and attempt to date many of the settlement remains on the basis of form alone. This has meant that the majority of settlements of hut circles recorded during this survey have been recorded as simply Prehistoric in date.

Also, those settlements which appear to be romanised in their construction were often little more sophisticated in function than the round houses they replaced. It is thought that in many cases they continued to house extended or multiple family units from the indigenous population with communal areas and communal land, rather than representing a grand house occupied by a single romanised or Roman land owning family.

Medieval Settlement

There were 14 records associated with settlement from the Medieval period. Included in this group are the two moated sites classified as defensive sites, but most probably domestic in function. The sites are recorded as follows:

Settlement 7 Shrunken Village 3 Moats 2

Platform 1 Manor House

Of these, 7 sites were located on the clay vale to the north and one site was situated on the spring line at the base of the chalk escarpment. Of the remaining 6 sites three were sited on the chalk and three were located close to or in the valleys of the rivers Lambourn and Kennet. This shift of settlement from the Downs to the lower regions in the periods following the decline of the Roman occupation of Britain is a recognised pattern and is discussed below.

1

Six of the 7 sites classified as Settlements were sites which could be classified as Deserted Medieval Villages. These included the deserted settlements of Littlcote (SU 300 706), Wooley (SU 4099 7957), and Langley (SU 498 766). The three shrunken villages represent the remains of Medieval settlement on the edges of the current villages of Idstone (SU2575 8414), West Challow (SU 369 887) and Woolstone (SU 2925 8756).

The two moated sites were both located in the north-western part of the survey area on the clay vale at SU 2938 8961 and SU 2554 8775. Both are thought to represent moated Medieval farmsteads.

The site recorded as platforms consisted of four sub-rectangular mounds thought to be building platforms. They were in a linear arrangement amongst the remains of the Medieval ridge and furrow, centred at SU 2771 8850.

Post Medieval/Medieval Settlement

There were nine sites for which it was uncertain whether they were Medieval or Post Medieval in date. These were classified together as probable Medieval/Post Medieval settlement sites. These include two moated enclosures also recorded within the defended site category.

The sites in this group were recorded as follows:

Settlement	4
Moat	2
Shrunken Village	3

In common with the sites classified as Medieval settlements, the majority of the sites within the Medieval/Post Medieval settlement group were found to be located on the clay vale to the north (4 sites) or at the base of the chalk escarpment on the spring line (2 sites). Three sites were located on the chalk. These were: the shrunken settlement around Farnborough village at SU 4342 8196, a deserted settlement close to the village of Oare at SU 5044 7392 and a settlement of earthworks, building platforms, boundaries and a hollow way centred at SU 3174 7534 which was destroyed by the construction of the M4.

The other shrunken village remains included those located at Charlton (SU48NW 81) at SU4094 8853 and East Lockinge (SU48NW 37) at SU 4287, both comprising tofts and crofts amid the remains of the ridge and furrow.

The two moated sites were located in close proximity to one another on the clay vale in the north-eastern region of the survey area. One (SU58NW 23) was located at SU 5317 8613 to the south of Blewbury farmhouse, the other (SU58NW 12) at SU 5257 8810 adjacent to Manor Farm. This second moat has been suggested to be an 18th century ornamental feature.

Possible Domestic Sites of Unknown Date

In addition to these dated sites, there were 112 isolated enclosures and groups of enclosures of unknown function recorded throughout the area. They were of varying size, shape and complexity and it is probable that the majority were probably associated with small farmstead sized settlements. However, none of these have been excavated to ascertain a positive date and function so have been grouped separately. Based on morphological parallels, many of these enclosures and probable settlements are thought to have their origins in the later prehistoric and Romano-British period at a time when it is known there was a marked increase in the population of Britain.

Until the post Roman period there was an abundance of settlement upon the Downs. This seems surprising in some ways because of the lack of surface water on chalk land. However, these communities appear to have managed well enough by collection of water in man-made dewponds. There are a few relatively recent square examples of dewponds surviving across the region which were

constructed for providing grazing stock with water. Only one such example has been recorded within the survey area.

Figure 20 - Two possible Prehistoric enclosed settlements at a) SU 3792 8558 and b) SU 3839 9773; both feature numerous pits, possible hut circles and ditches, and are enclosed within a single ditched enclosure.

Following the end of the Roman period there was a migration of settlement from the chalk Downs to the river valleys and the clay vale to the north. These settlements were able to exploit the abundant source of water from the rivers Kennet, Lambourn and Pang, and along the spring line at the base of the chalk escarpment. This shift of population was also accompanied by a change in emphasis in the agricultural practices of the region, with increased emphasis on sheep farming on the chalk uplands and intensive cultivation of the heavier clay soils. This shift may well have been driven by the exhaustion of the chalk soils after centuries of cultivation and aided by the widespread introduction of the heavier true plough which enabled ploughing of the heavier clay soils on the lowlands.

In the post Medieval period the number of sheep the land could carry was increased further by intensive fodder cultivation in systems of water meadows along the banks of the rivers.

Communication

In total there were 54 records of features which could be classified as communication features. These were grouped into trackways, roads and hollow ways. Simple trackways formed the largest group, and were generally recorded as either cropmark remains defined by two parallel side ditches or incised tracks which were found criss-crossing up the scarp of the Downs, many of which were braided and recut.

There were 16 prehistoric trackways recorded, 1 roman trackway, 1 Medieval, 7 Medieval/Post Medieval, 1 Post Medieval, and 6 of unknown date.

At least three of the post Medieval tracks were associated with small quarries, and there were a number of trackways which were identified within Prehistoric field systems which were defined by the boundaries of the adjacent fields through which they ran.

Few of these were recorded individually, but a particularly good example of this can be seen at Fognam Down which is centred at SU 293804 (Fig.21). Here there is an area of small rectangular fields (SU28SE7) which have clearly defined field roads or tracks. The clearest of these is followed by the line of the county boundary between Wiltshire and Berkshire. This boundary continues southwards beyond the known extent of the field system, but it is probable that the track also continued to the south. This area of fields has been dated through pottery finds to the Roman period and may well be associated with the site of a small probable Roman settlement, also located by finds, immediately to the west.

There were also five hollow ways recorded. Four were either Medieval or post Medieval, while one was thought to be definitely post Medieval in date.

Finally, there were 7 individual records of sections of Roman road. All of these were fragments of Ermine Street, which followed a north-westerly route through the Downs and Cotswolds from Silchester (Calleva) to Gloucester (Glenium), passing through Speen (Spinis), Wanborough (Durconovium) and Cirencester (Corinium). (Roads 41a-41c, Margary, 1967)

Figure 21 - Romano-British field system and trackway at Fognam Down.

Much of the course of the road is still followed by a current minor road, and where the present day road has deviated slightly from the original course, faint traces are occasionally visible in the adjacent fields. No other substantial Roman roads were detected in the higher parts of the Downs despite the high concentration of Roman settlements which have been found there. None of these settlements was very large, most having been identified as villa estates with associated settlements, probably for those working on the land.

The Downs are crossed by numerous trackways, some with probably very early origins. It is highly likely that there was a network of smaller paths and tracks linking these farm estates and leading down to the larger tracks and the main metalled roads through the Downs. Many such

tracks may well be undetected because they are still in use today or may have simply left no visible trace as is the case with many modern footpaths and rights of way through farmland, many of which have their origins in earlier routes between settlements and farms. As with earlier surveys (RCHME, 1995 and Small, 1999) no substantial evidence has been found to support an ancient date for the route known as the Ridgeway path. Early pathways up and down and along the ridge are characteristically braided and recut paths where numerous routes have developed over time. Only a few examples of tracks have been found along the ridge, and these and examples of linears and fields systems presumed to be of prehistoric date are clearly cut the by course of the current Ridgeway path and are presumed to predate the route.

On the western edge of the survey area there are the cropmark remains of a substantial re-cut double-ditched trackway with probable prehistoric to Roman origins which appears to be aligned on a narrow combe which drops down into Bishopstone village. The fragmented ditches of a large possible Iron Age ditched system of enclosures (SU28SE 89) to the east of this trackway were seen abutting both side ditches of this track, indicating the track and the field system were contemporary features. There is also a possibility that the track and field system are associated with the Roman villa at Starveall Farm.

To the west of the main track a second branch also appears to be connected to a probable Romano-British settlement which lies immediately outside the western edge of the survey area.

By their very nature, routes of communication can have long life span making it hard to date trackways or attribute them to one single period in history without the aid of excavation.

Gardens, parks and urban spaces

As with other parts of the Downs, this is a largely agricultural area and there were very few sites which fell into this thematic category. Within the survey area the only two towns of any notable size were Wantage and Didcot, both of which lie to the north of the chalk escarpment in the Vale of the White Horse. The only other settlements were the villages confined to the valleys of the

rivers Kennet, Lambourn and Pang and the string of small villages situated along the bottom of the escarpment on the spring line. A number of these towns and villages do have Medieval and Post Medieval origins and there were traces of earlier phases of settlement evident around the fringes.

There are a number of large Post Medieval houses and estates throughout the region, but only a few features associated with formal gardens and parkland were recorded. These comprised the traces of one avenue and two garden features.

The avenue was associated with Ramsbury Manor House and was seen as the earthworks of two parallel banks measuring 230m in length and centred at SU 2536 7112. On later photographs they appeared to have been ploughed flat.

The garden features are associated with two Post Medieval houses. One group represent the earthworks of the formal gardens of Snelsmore House which are centred at SU 4665 7021 and include terraces and a circular feature thought to be a bed which is surrounded by further beds. The other recorded features were three banks, which were thought to be garden features associated with Arlington Manor. These were seen to the south of the house at SU 4673 7105.

Also, there were two probable garden features which were recorded to the west of Russley Park House. The features appeared as adjacent square raised platforms, each defined by a ditch and a single internal rectilinear enclosure (SU28SE 27). Both have been identified in earlier surveys as potential plantations. This theory is backed up by the positioning of the features corner on to the house, coupled with the presence of an avenue of trees leading from the house towards the enclosures.

In addition to these features there were a number of enclosures which could be interpreted as potential plantation or tree ring enclosures, but due to lack of early map evidence have been recorded as enclosures. Tree ring enclosures frequently occur as circular or sub-circular single-ditched enclosure which would have enclosed small clumps of trees arranged in the landscape for visual effect.

Industrial sites

The survey area is predominantly rural and, consequently, there is very little industrial activity in evidence. The only features which could directly be attributed to industrial activity are the few records of Post Medieval quarries. These would most probably have been used for some building, especially for foundation and wall fills, and for hardcore for metalling trackways.

There is some evidence of use of the harder layers of chalk being used for building stone in a number of the Roman villas. Such examples are the villas at Alfred's Castle and at Maddle Farm, and immediately to the east of the site of Starveall Farm villa are the cropmark traces of two possible quarry pits which may have been the source of building material for the villa buildings.

Along the courses of the Rivers Kennet and Lambourn there are the sites of a number of post Medieval mills, but no trace of leats and associated features not already recorded on the current OS maps were evident from aerial photographs.

Defence/Military Sites

Thirty-one records were attributed to features associated with defence. These ranged from the Prehistoric to the Second World War and included:

- Bronze Age hill top enclosure
 Iron Age hillforts
 cross-dykes (unknown Prehistoric)
 late Prehistoric cross-dyke
 Medieval moats
 Medieval ringwork
- 2 Medieval/post Medieval moat.
- 3 slit trenches
 5 Airfields
 1 Target
 1 Anti-aircraft Battery
 1 Rifle Butt
 1 Searchlight Battery
 1 Military Camp

The majority of the hillforts are found located along the northern edge of the Downs in commanding positions overlooking the Thames Valley. These hill forts form a chain of defended sites right the way along the western and northern edge of the Downs from Westbury in the far south-west (outside the survey area) to Segsbury camp to the south-west of Wantage. To the east of Segsbury Camp there are no further hillforts situated on the Ridgeway, but the edge is marked by a fragmented linear earthwork of Bronze Age date known as Grim's Ditch.

Many of these forts, including Segsbury, Uffington and Liddington* (immediately to the west of the survey area) have been found to have their origins in Late Bronze Age pre-hillfort enclosures which were, after an apparent gap in usage, re-used and more elaborately fortified in the early Iron Age.

Alfred's Castle has settlement evidence from the Late Bronze Age from the site, pre-dating the enclosure which may itself have origins in the Late Bronze Age while Rams Hill (SU 3142 8635) has even earlier origins well into the Bronze Age (Lock and Gosden, 1995, 1997 & 1999).

Some have traces of contemporary occupation, and some have evidence of later re-use and occupation, but all appear to have had a long period of usage. The interior of Segsbury Camp (SU 3850 8448) has the remains of over 20 hut circles, while Uffington (SU 2996 8633) had signs of intensive activity, but no sign of any hut circles. This coupled with the fact that it is surrounded by numerous prehistoric ritual monuments may indicate a more ritual purpose (Lock and Gosden, 1995 & 1997).

Figure 23 - The cropmark remains of Rams Hill Bronze Age – Iron Age fortified enclosure at SU 3142 8635. (NMR 18010/10 19-MAR-1998)

Hardwell Camp (SU 2874 8675) is located on the steep slope of the Chalk escarpment overlooking the clay vale, just over 1km WNW of Uffington Castle. The majority of this site is masked by trees and very little is known about the site.

There are six other hillforts within the Lambourn Downs area. Membury Fort to the south-west (SU 30217532), Borough Hill (SU 439 725), Bussock Camp*(SU 467 724) and Grimsbury Castle (SU 5110 7226) forming a string in the south-east, Perborough Castle (SU 505 7797) to the east and Blewburton Hill (SU 5455 8610) to the north-east. If they were associated with one another and belonged to the same Iron Age tribe they would appear to form a ring of defended sites around the region of the Lambourn Downs. Membury has cropmark traces of a single hut circle within the hillfort, but the site has not been excavated. It is thought that the earthwork ramparts are late Iron Age in date. Bussock Camp and Perborough are both unexcavated and have been simply classified as Iron Age.

Grimsbury has been excavated and the date of construction placed in the early Iron Age, with occupation in the middle Iron Age. Blewburton is located on the north-eastern edge of the survey area on a low chalk hill on the very edge of the clay vale. The site has been excavated and found to have Bronze Age, if not earlier settlement evidence. The settlement continued into the early Iron Age with the construction of a stockaded camp in 7th-6th centuries BC, followed by the construction of the hillfort in the 6th-5th centuries BC.

In addition to these hillforts, there were also the fragmentary remains of the linear earthwork boundary known as Grim's Ditch which marks the transition between the chalk escarpment and the clay vale to the north. This feature consists of a V-shaped Ditch and bank, the fragmented course of which can be traced for 16.75 km in the eastern half of the survey area between Lattin Down, south-east of Wantage, and to the south of Streatley at the Goring Gap. What work that has been carried out on the feature indicates a date of between 8th-5th centuries BC.

The earthwork itself is not thought to have been substantial enough to be an effective defensive feature, but may well have acted as a socio-political boundary between the Thames valley and the Downs (Ford, 1982). There is a possibility that the handful of prehistoric cross-dykes identified within the survey area also form part of a wider landscape and its divisions. However, it has been suggested that they may have functioned as agricultural divisions between distinct areas of land use (Ford, 1982).

In total contrast to the prehistoric remains of defensive sites there were 5 WWII airfields recorded. Harwell and Hampstead Norreys were RAF bases opened in 1937 and 1940 respectively, while the other three (Ramsbury, Membury and Welford) were occupied by the United States Airforce (USAAF) from 1942.

Harwell Airfield was noted but not mapped during the course of the survey. This was due to the absence of aerial photographs as a result of former restrictions on the site. This airfield was opened in February 1937 and occupied by No.226 Squadron of the RAF. This was the base for the Wellington-equipped Operational Training Unit No.15 between April 1940 and April 1944, then replaced by Albermarle and later Stirling glider tugs for the D-Day landings. All flying ceased in December 1945, and the site is now used by the Atomic Research Establishment.

Hamstead Norreys Airfield (SU45827740) was a satellite of Harwell. It was operated between 1940 and 1945 by the No.12 Fighter Group at Watnall and No.13 Operational Training Unit. The site was abandoned by the RAF at the end of the war and is now disused.

Ramsbury, located at SU269703, five miles to the east of Marlborough was the base for the USAAF 8th AF during 1942 with 64th TCG (Troop Carrier Group) flying C-47's. Then the RAF used it for training until the USAAF's 437th glider towing TCG returned between February 1944 and November 1945. The site was used for flight training until March 1946, after which it was allowed to return to agricultural use, only a few buildings remain.

Membury airfield (SU 308753) lies immediately to the east of Membury hillfort. The airfield was opened in August 1942 and was the base for the USAAF 8th AF who used it for their PR (Photo-Reconnaissance) B-17's. These were replaced by Spitfire Vbs. It was taken over by the US 9th AF in February 1944, first residents being the 436th TCG flying C-47's, supporting the Normandy landings and then the assult on Arnhem. The Americans departed in 1945 and the airfield reverted to RAF usage until 1954. The airfield is now the site of the Membury Motorway service station.

Welford Airfield (SU415745) was opened in June 1943 and taken over by the 9th USAAF in September of the same year. From December 1943 – January 1944 it was occupied by the 434th TCG, replaced by the 435th, supporting D-Day and Arnhem. They departed in February 1945, and all flying ceasing in that October. This was an extensive site with the runways and extensive buildings and accommodation within the woods to the north. The site is still used as a depot/logistics base by the USAF.

The other modern features recorded within this category were also associated with WWII defensive activities, most associated with the airfields in their vicinity. These included an antiaircraft battery and slit trench associated with Membury Airfield, rifle butts and a searchlight battery associated with Hampstead Norreys Airfield and a military practice target at SU2961 8321. Two further slit trenches were found on the southern edge of Upper Wood to the south of Ashdown Park, and there were traces of slit trenches and huts from a military camp close to the airfield at Ramsbury.

*The following sites were not mapped: a) Bussock Camp and Borough Hill were not visible on

aerial photograph; and b)Liddington lies outside the survey area.

Linear Features

Outside the thematic characterisation of sites one other category of site deserves special mention. This group comprised the 114 records of linear features. These were generally lengths of ditch or bank, mostly fragmentary, which could not confidently grouped with other features or classified as fragmented enclosures or field systems. Many remain undated (70 records) or simply classified as Unknown Prehistoric (15 records) because so few of these features have been excavated. The linear features which do have more definite dates have generally been dated through earlier fieldwork. These include the more substantial and extensive ditched boundaries which have been dated to the Late Bronze Age.

It is inherently difficult to date and assess the sequencing of linear features from aerial photographs alone, especially where the remains are visible as cropmarks and effectively only seen in two dimensions. For there to be any constructive analysis of the dates and chronological sequence of these features, there will have to be some complementary fieldwork and excavation carried out.

The linear features were recorded as follows:

Late Bronze Age	7	Late prehistoric	2	Post Medieval	2
Iron Age	1	Medieval	3	Unknown	70
Unknown Prehistoric	15	Medieval/Post Medieval	14		

Six of the seven Late Bronze Age linears were v-shaped ditches of substantial size identified as probable boundary ditches dividing up the prehistoric landscape of the Lambourn Downs. These ditches were originally identified as substantial boundary earthworks located along or near to ridges. Some of these boundaries have become incorporated into the largely later Romano-British co-axial field systems. Unfortunately, due to the sparse and largely disjointed nature of the remains of these ditches, it is hard to visualise them forming a cohesive system of land division on the Lambourn Downs.

It is possible that where there is an absence of man made boundaries, natural features and prominent topographic elements were substituted as land divisions or boundary markers (Ford, 1982).

Bradley (1978) suggested that these boundaries represented a change to a pastoral economy in the Late Bronze Age. However, more recent environmental (snail) analysis has indicated that there was no sudden change in land use immediately after the division of the land. The linear boundaries appear to divide the land into a series of valley based territories, in a similar way to Medieval parishes, allowing access to a range of land use types(Ford, 1982).

The seventh late Bronze Age ditch is Grim's Ditch which can be traced for approximately 17km east-west along the edge of the chalk escarpment in the north of the survey area. This has been discussed above.

CONCLUSION

As a direct result of this survey of the Lambourn Downs from aerial survey, the number of known archaeological sites within the survey area has been greatly increased. Prior to this survey there were 1100 individual sites recorded on the NMR NewHIS database. A further 803 new sites were added to the record, representing an overall increase of 42% for the whole survey area, bringing the total number of sites recorded to 1903. This equated to approximately 1.3 new sites per square kilometre.

Of these 803 newly recorded sites, 76.3% dominated by sites from four period groups: Medieval/post Medieval (21.3%), Prehistoric (19.7%), Bronze Age (18.7%), and Unknown (16.9%).

The majority of the largest group of records is made up of records of Medieval/post Medieval ridge and furrow (mostly located on the clay vale to the north of the chalk escarpment) and numerous lynchet banks.

The new sites in the group broadly described as Prehistoric were mostly made up of the remains of extensive coaxial field systems (61 new records), 29 rectangular enclosures, and numerous fragments of enclosures and linear features such as lynchets and trackways.

The survey doubled the number of Bronze Age sites, adding 99 new to the 100 known records. Of these, 94 were barrows (comprising 1 bowl barrow, 89 round barrows, and 4 bell barrows).

The prehistoric group of records were mostly represented by the remains of the extensive coaxial field systems, A large proportion of these field systems had been recorded prior to the project, but the survey was able to add an immense amount of detail to their known extents, linking up isolated areas and identify numerous further areas and fragments of isolated field bank in areas where plough damage has made identification and detection by any method other than aerial photography impossible.

A considerable amount of work has been carried out on the field systems located around the Roman villa at Maddle Farm and the adjacent Romano-British settlement at Knighton Bushes (Gaffney and Tingle 1998). The results of this extensive survey and sampling exercise indicated that the major phase of use of the field systems in this area dated from this period and were associated with the two sites, possibly operating as a villa estate. Based on the results of this work it is thought probable that the same may be true of the other similar areas of coaxial fields on the Lambourn Downs, especially where villas and or Romano-British settlements have been located within the cultivated areas.

In addition to the coaxial embanked field systems, three areas of ditched enclosures were also identified on the chalk uplands. These took the form of large conjoined single ditches typically enclosing areas of between 200m x 600m and 400m x 1000m. These survived as cropmarks and appeared to be entirely separate from the systems of banked co-axial fields described above. They were found in three locations within the survey area:

a) Around the site of Wayland's Smithy Neolithic long barrow, centred at SU 2820 8564.b) To the north and west of the Iron Age enclosure of Alfred's Castle, centred at SU 2650 8280.c) To the south of the course of Grim's Ditch, centred at SU 475 840.

Each of these three groups of enclosures had a very different form and layout, but all shared similar locations on high, gently undulating ground on the northern edge of the chalk escarpment. Notably, at no point do either the banked coaxial fields or the large ditched

enclosures encroach on each other, perhaps implying they are contemporaneous, either laid out at roughly the same time, or that one was laid out while the other was still in use. The evidence does indicate that the latter is more likely an explanation based on what small amount of dating there has been of these systems.

The remains of numerous settlements dating from the later Bronze Age to Iron Age – Romano British periods were found scattered across the Lambourn Downs amongst the areas of cultivation, and in some cases earlier sites (such as 'Banjo' enclosures, Middle-late Iron Age) located beneath the remains of later IA-RB field systems. However, there is very little evidence of any later settlements on the Downs, with all subsequent settlement activity appearing to be concentrated in the river valleys.

Suggested fields for further research:

The relationship of the two forms of field system to each other, with particular emphasis on dating the three areas of ditched field systems.

Investigate the relationship of the field systems to linear boundaries.

Investigate the relationship of the field systems to Roman villas within or within close proximity to the field systems.

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APPENDIX 1 - Period Summaries for Existing and New Sites

The following tables show a break down of the numbers of individual site types identified by assigned period. These represent a simplified index of the NMR records. NB. Existing Records are sites which were known prior to this survey.

Site Type	Existing Records	New Records	Total
Prehistoric Sites			
Bank	0	3	3
Boundaries	0	2	2
Boundary Bank	0	1	1
Cross Dyke	3	0	3
Circular Enclosure	0	1	1
Curvilinear Enclosure	1	5	6
D-shaped Enclosure	1	2	3
Ditch	0	4	4
Enclosure	5	7	12
Field Boundary	0	8	8
Field System	30	61	91
Hut Circle	0	2	2
Linear Ditch	1	0	1
Linear Earthwork	3	3	6
Lynchet	1	13	14
Mound	1	0	1
Oval Enclosure	1	2	3
Rectangular Enclosure	2	29	31
Rectilinear Enclosure	1	0	1
Settlement	5	13	18
Sub-circular Enclosure	1	0	1
Trackway	1	11	12
Triple Boundary	0	2	2
Total	57	169	226
Neolithic			
Long Barrow	7	1	8
Bronze Age			
Disc Barrow	4	0	4
Bowl Barrow	16	1	18
Round Barrow	72	89	161
Bell Barrow	4	4	8
Field System	0	1	1
Hilltop Enclosure	0	1	1
Boundary Ditch	3	3	6
Sub-rectangular Enclosure	1	0	1
Total	100	100	200

Iron Age

Banjo Enclosure Field System Hillfort Linear Earthwork	5 0 8 1	7 1 0 0	12 1 8 1
Total	14	8	22
Roman			
Barrow Enclosure Road Settlement Temple Trackway Villa Total	1 5 0 2 0 6 14	0 1 7 2 0 1 1 12	1 6 7 2 2 1 7 27
Medieval			
Bank Ditch Enclosure Field Boundary Headland Lynchets Manor House Moat Pillow Mound Platform Quarry Ridge and furrow Ringwork Settlement Shrunken Village Trackway	1 0 0 2 1 2 1 0 0 1 1 8 1 1	0 2 1 1 5 0 1 0 1 49 0 2 0 0	1 2 1 1 7 1 3 1 1 50 1 10 1
Total	19	65	84
Medieval/ Post Medieval			
Bank Boundary Ditch Field Boundary Fish Pond Hollow Way Linear Feature Lynchet Moat Mound	0 0 0 0 1 0 2 1 1	4 7 2 7 2 3 1 99 0 0	4 7 2 4 1 101 1 1

Quarry Rectangular Enclosure Ridge and Furrow Settlement Shrunken Village Square Enclosure Stack Stand Trackway Woodland Boundary	1 0 1 0 1 0 2 1	3 62 5 1 0 1 5 1	4 3 62 6 1 1 7 2
Total	11	206	217
Post Medieval			
Avenue Boundary Clay Pit Cultivation Terrace Decoy Pond Dewpond Ditch Drain Field Boundary Garden Feature Hedge Bank Hollow Way Lynchet Plantation Bank Quarry Rectangular Enclosure Ridge and Furrow Trackway Tree Ring Water Meadows Water Mill	0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 1 1 1 1 4 2 0 1 3 3 5 2 17 8 1 19 0	1 1 1 1 1 1 1 1 1 2 1 1 3 3 5 2 17 10 1 9 1
Total	5	72	77
Modern			
Anti-aircraft Battery Rifle Butts Searchlight Battery Slit Trench Target WWII Airfield Agricultural Feature Fungus Ring	0 1 0 0 0 1 2	1 1 3 1 6 0 0	1 2 1 3 1 6 1 2
IOTAI	4	13	17

Date Unknown

Bank	0	19	19
Boundary	0	2	2
Boundary Bank	0	4	4
Boundary Ditch	0	14	14
Building	0	1	1
Circular Enclosure	0	1	1
Curvilinear Enclosure	2	3	5
Ditch	1	27	28
Enclosure	3	4	7
Field Boundary	0	1	1
Field System	0	3	3
Highworth Circle	0	1	1
Hollow Way	0	1	1
Irregular Enclosure	0	1	1
Linear Earthwork	0	1	1
Linear Feature	0	1	1
Lynchet	1	33	34
Mound	2	1	3
Oval Enclosure	0	2	2
Pit	0	1	1
Platform	0	1	1
Rectilinear Enclosure	2	16	18
Ring Ditch	4	1	5
Square Enclosure	1	0	1
Sub-circular Enclosure	1	0	1
Sub-rectangular Enclosure	0	1	1
Trackway	0	6	6
Total	17	146	163

APPENDIX 2 - Thematic Summaries of Existing and New Sites

majority of new sites transcribed were related to agricultural and subsistence activities, specifically associated with the medieval and post medieval periods. The main site types encountered included Lynchets (153 records), ridge and furrow (129 records), water meadows (19 records) and field systems (66 records). In addition to these agricultural sites there were 113 enclosures from a number of different periods and 190 Bronze Age round barrows. The new and old sites recorded are listed below by broad thematic category:

Site Type	Old Sites	New sites	Total
Cultivation Terrace	0	1	1
Decoy Pond	0	1	1
Dew Pond	0	1	1
Ditch	1	0	1
Drain	0	1	1
Field Boundary	0	13	13
Field System	30	65	95
Fish Pond	0	2	2
Headland Bank	0	1	1
Hedge Bank	1	0	1
Pillow Mound	1	0	1
Plantation Bank	0	3	3
Platform	0	1	1
Ridge and Furrow	1	129	130
Stack Stand	0	1	1
Tree Ring Enclosure	0	1	1
Water Meadow	0	19	19
Woodland Boundary	0	1	1
Total	34	240	274
Defence			
Defence Air Field	0	6	6
Defence Air Field Anti-aircraft Battery	0	6 1	6 1
Defence Air Field Anti-aircraft Battery Cross-dyke	0 0 3	6 1 0	6 1 3
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort	0 0 3 8	6 1 0 0	6 1 3 8
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure	0 0 3 8 1	6 1 0 0 0	6 1 3 8 1
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure Moat	0 0 3 8 1 2	6 1 0 0 1	6 1 3 8 1 3
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure Moat Rifle Butt	0 0 3 8 1 2 0	6 1 0 0 1 1	6 1 3 8 1 3 1
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure Moat Rifle Butt Ringwork	0 0 3 8 1 2 0 0	6 1 0 0 1 1 1	6 1 3 8 1 3 1 1
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure Moat Rifle Butt Ringwork Searchlight Battery	0 0 3 8 1 2 0 0 0	6 1 0 0 1 1 1 1	6 1 3 8 1 3 1 1 1
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure Moat Rifle Butt Ringwork Searchlight Battery Slit trench	0 0 3 8 1 2 0 0 0 0	6 1 0 0 1 1 1 1 3	6 1 3 8 1 3 1 1 3
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure Moat Rifle Butt Ringwork Searchlight Battery Slit trench Target	0 0 3 8 1 2 0 0 0 0 0 0	6 1 0 0 1 1 1 3 1	6 1 3 8 1 3 1 1 3 1
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure Moat Rifle Butt Ringwork Searchlight Battery Slit trench Target Total	0 0 3 8 1 2 0 0 0 0 0 0 1 4	6 1 0 0 1 1 1 1 3 1 15	6 1 3 1 3 1 1 3 1 29
Defence Air Field Anti-aircraft Battery Cross-dyke Hillfort Hilltop Enclosure Moat Rifle Butt Ringwork Searchlight Battery Slit trench Target Total Domestic	0 0 3 8 1 2 0 0 0 0 0 0 0 14	6 1 0 0 1 1 1 1 3 1 15	6 1 3 1 1 1 1 3 1 29

Agriculture and Subsistence

Banjo Enclosure Building Hut Circle Manor House Moat Platform Roman Villa Settlement Shrunken Village	5 0 1 2 0 7 16 1	7 1 2 0 1 1 1 20 1	12 1 2 1 3 1 8 36 2
Total	32	36	68
Gardens, Parks and Urban Spaces			
Garden feature Avenue	0 0	2 1	2 1
Total	0	3	3
Industrial/Extraction			
Quarry Clay Pit Watermill	1 1 1	9 0 0	10 1 1
Total	3	9	12
Religious, Ritual and Funerary			
Bell Barrow Bowl Barrow Disc Barrow Long Barrow Roman Barrow Roman Temple Round Barrow	4 16 4 7 1 2 72	4 1 0 1 0 89	8 17 4 8 1 2 161
Total	106	95	201
Transport and Communication			
Hollow Way Road Trackway	1 0 10	5 7 31	6 7 41
Total	11	43	54
Water Supply and Drainage			
Dewpond Drain Decoy Pond Dew Pond	0 0 0	1 1 1	1 1 1

Fish Pond Water Meadow	0 0	2 19	2 19
Total	0	24	24
Unassigned Enclosures			
Enclosure Circular Enclosure Curvilinear Enclosure Highworth Circle Irregular Enclosure Oval Enclosure Rectangular Enclosure Ring Ditch Square Enclosure Sub-circular Enclosure Sub-rectangular Enclosure	7 0 3 0 1 11 4 2 1 2	13 2 8 1 1 4 52 1 0 0 1	20 2 11 1 5 63 5 2 1 3
Total	31	83	114
Unassigned Features			
Bank Boundary Boundary Bank Boundary Ditch Ditch Linear Ditch Linear Earthwork Mound	1 0 4 4 1 4 4	26 12 5 17 34 0 4 1	27 12 5 21 38 1 8 5
Total	18	99	117
Non-Archaeological Features			
Fungus Ring Agricultural Feature	2 1	0 0	2 1
Total	3	0	3

APPENDIX 3 - NMP Mapping Conventions for 1:10,000 scale mapping

All cut features e.g. Ditches, hollow ways pits etc Using Ditch layer in AutoCAD

Earthwork or Cropmark Banks (at 1:10,000 scale only) using Bank and Bankout layers in AutoCAD

Buildings, walls etc Using stonework layer in AutoCAD

Ridge and furrow see as cropmarks, or seen as earthworks and known to be ploughed level. Using the Rigdotslevel and Rigarrlevel layers in AutoCAD.

Ridge and furrow seen as earthworks on the latest available aerial photographs. Using the Rigdotsewk and Rigarrewk layers in AutoCAD

Large area features, such as airfields, depicting the extent of the feature (using the Extent of area layer in AutoCAD), and the main features (using the Structure or Stonework layers in AutoCAD).

Large cut features, such as quarries, ponds, using the Large cut feature layer in AutoCAD

Water meadows: Units are defined by the extant feature. If not bounded by banks, ditches or any other feature with a specific convention. Within each area the main drains are depicted as ditches together with a sufficient number of subsidiary drains to give an impression of the form.

APPENDIX 4 - AutoCAD Layers

Layer Name	Colour	Linetype
BANK All bank outlines (created on "bankout" layer) filled with stipple,"dots", at a scale of 2.25 and an angle of 53°	1 (red)	CONTINUOUS
BANKOUT Outline of banks	1 (red)	CONTINUOUS
DITCH Negative features such as ditches, pits and small ponds	3 (green)	CONTINUOUS
EXTENT OF AREA Depicting the extent of large area features e.g. airfields, Military camps and mining/extraction	8 (grey)	CONTINUOUS
GRID Grid at 1km intervals on one OS 1:10,000scale quarter sheet,	7 (white)	CONTINUOUS
LARGE CUT FEATURE Depicting large cut features such as large quarries and ponds	5 (blue)	ISO02W100
RIGARRLEVEL Arrow depicting direction of rigs in a single block of ridge and furrow seen as cropmarks or earthworks known to have been levelled by the plough	6 (magenta)	ISO03W100
RIGARREWK Arrow depicting direction of rigs in a single block of ridge and furrow seen as earthworks on the latest available photogra	4 (cyan) phs	CONTINUOUS
RIGDOTSLEVEL Outline of a block of ridge and furrow , seen as earthworks or cropmarks, but known to have been ploughed level.	6 (magenta)	DOTX2
RIGDOTSEWK Outline of a block of ridge and furrow , seen as earthworks on the latest available photographs	4 (cyan)	DOTX2
STONEWORK Used to depict stonework e.g. walls, cairns, standing stones and concrete building platforms	8 (grey)	CONTINUOUS
STRUCTURE Used to depict features which do not easily fit into other categories because of their form e.g. tents, radio masts, painted camouflaged airfields	9(grey)	CONTINUOUS

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Hachures - Earthwork features

Ridge and furrow - Cropmark

0

Clay Sands Gault Greensand Lower Upper Middle Chalk Corallian beds Kimmerage Ferruginous Greensand Lower Chalk Reading Beds London Clay Upper Chalk

Upper Cretaceous

Lower

Cretaceous

Jurassic

Oxford Clay

Eocene

Drift

All archaeological features on the Lambourn Downs visible on aerial photographs

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